HHNT

HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.

Consulting Engineers

November 13, 2020

Regulatory Division
U.S. Army Corps of Engineers
819 Taylor Street, Room 3A37
P.O. Box 17300
Fort Worth, TX 76102-0300

Re: Vulcan Materials Company, Weatherford Quarry
Palo Pinto and Parker Counties, Texas
Approved Jurisdictional Determination Request
HHNT Project Number: 8021-011

To Whom It May Concern:

On behalf of Vulcan Materials Company (Vulcan), Hodges, Harbin, Newberry & Tribble, Inc., (HHNT) is requesting an Approved Jurisdictional Determination (AJD) of jurisdictional wetlands and streams as well as wetlands and streams that we are proposing are non-jurisdictional. The overall Project Review Area (Review Area) consists of approximately 1,534.81 acres and is located south of Interstate 20 at 1111 Gilbert Pit Rd in Millsap, Texas. The Review Area is located in both Palo Pinto and Parker Counties. (Appendix A, Figure 1). Topography within the Review Area ranges from 840 to 950 feet above mean sea level in elevation (Appendix A, Figure 2). The site consists mostly of undisturbed land, a portion of the rock quarry, and a rock processing area along the eastern and southern portion of the Review Area. An AJD form for the Navigable Waters Protection Rule (NWPR) has been completed and is located in Appendix B of this application. Additionally, an Operations and Maintenance Business Information Link Regulatory Module (ORM2) Aquatic Resources Upload Table has also been completed and is located in Appendix G of this application. The aquatic features in this ORM2 table are listed per Cowardin classification code. Conditions were normal during the delineation and the output from the U.S. Army Corps of Engineers (ACOE) Antecedent Precipitation Calculator has been included in Appendix I. Despite normal conditions, this region of Texas did receive 8.05 inches of rain over the 14 days prior to the delineation. Therefore, there was a sizeable amount of standing water that we would consider atypical. Jurisdiction of wetlands and streams within the Review Area were determined based upon the Clean Water Act regulation 33 CFR 328.3(a) NWPR definition of Jurisdictional Waters of the U.S.

Wetlands and stream boundaries identified within the Review Area were recorded with a Juniper Archer 2 and a Trimble Geo7. All data was post processed to achieve sub-meter accuracy. Upland and wetland data forms for jurisdictional features and non-jurisdictional features are provided in Appendix C. In order to determine stream type, streams and ephemeral channels were scored according to the North Carolina Division of Water Quality Methodology for Identification of Intermittent and Perennial Streams and Their Origins (V. 4.11, 2010). These data forms for jurisdictional and non-jurisdictional streams and ephemeral channels are provided in Appendix E.

The limits of the wetland and streams were identified and flagged within the Review Area consistent with current jurisdictional guidelines as described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) by scientists from HHNT and Halff Associates Inc. on September 14-17, 2020. HHNT conducted a preliminary online delineation to identify potential aquatic resources prior to going on-site. Sources used in the preliminary review include a review of the U.S. Fish and Wildlife National Wetland Inventory, United States Geological Survey (USGS) National Hydrography Dataset, USGS Topography, United States Department of Agriculture Web Soil Survey, and also a review of current and historic aerials.

In addition, Halff conducted transects within the Review Area, according to the 1987 ACOE Wetland Delineation Manual, to verify all wetland and stream features were delineated on the property, and no unique habitats were found. Photos depicting community types found along these transects are provided in Appendix D.

The following is a summary of Aquatic Features located within the Review Area and their jurisdictional status.

Jurisdictional

Wetlands

A total of +/- 1.31 acres of wetlands were delineated on-site. Of these features, approximately 0.52 acre was determined to be jurisdictional and met the criteria of (a)(4) waters (adjacent wetlands) according to the NWPR. These features were adjacent or abutted an (a)(2) water (intermittent stream ERA(i)) that flowed off-site.

Surface Waters

A total of +/- 8.42 acres of surface water features were delineated on-site. Of these features, +/- 6.81 acres were determined to be jurisdictional and met the criteria of (a)(3) waters (lakes, ponds, and impoundments) according to the NWPR. These features flowed into an (a)(2) water off-site.

Tributaries

A feature with a total length of +/-1,396 linear feet was determined to be a jurisdictional tributary and met the definition of an (a)(2) water (intermittent tributary) according to NWPR. This feature (intermittent stream ERA(i)) flows off-site to the north and through a culvert under I-20 into an unnamed tributary of the Brazos River.

Non-Jurisdictional

Wetlands

The remaining +/- 0.79 acre of wetlands was determined to be non-jurisdictional and met the criteria of (b)(1) waters (non-adjacent wetlands) according to the NWPR, as they are not adjacent to any (a)(1)-(a)(4) waters nor or they susceptible to flooding from any (a)(1)-(a)(4) waters.

Lakes, Ponds, and Impoundments
The remaining +/-1.61 acres of surface water features were determined to be non-jurisdictional and met the definition of (b)(8) (artificial ponds or open water) waters according to the NWPR and were determined to be non-jurisdictional. These features did not connect nor were susceptible to flooding from and (a)(1)-(a)(4) waters.

Tributaries- Ephemeral Channels
A total of +/-29,415 linear feet of ephemeral channels were also delineated on-site. These features were determined to be non-jurisdictional and met the definition of (b)(3) waters according to the NWPR. In addition, a total of +/-3,014 linear feet of overland surface flow features connecting ephemeral channels were delineated on-site and were determined to be non-jurisdictional. These were features that conveyed water or were areas of standing water which consistently lacked bed and bank features and did not have any wetland indicators and therefore could not be qualified as ephemeral channels or wetlands. These areas were delineated to show connections between ephemeral channels where bed and bank features were lacking. These features met the definition of (b)(4) waters according to the NWPR (Appendix A, Figures 6 and 7).

In addition to the 8 inches of rain the Review Area received prior to the delineation, the Review Area is also receiving stormwater discharge from their overall mine site. A map depicting the location of the stormwater discharge and the associated culverts can be found in Appendix A (Figure 8). To assist in stormwater control, Vulcan has incorporated mobile pumps which discharge through ephemeral channels ERH and EMA from the pit during heavy rain events. Due to the discharge, the channels displayed a large amount of flowing water but did not have wetland vegetation and/or hydric soils consistent of a permanent or intermittent flow. HHNT conducted data points in these locations in order to determine actual conditions and to determine if areas met all three criteria to for wetlands according to the ACOE Great Plains Regional Supplement. Many of these areas did not meet one or more of the criteria for wetlands or streams and therefore no wetlands or intermittent/perennial streams were delineated in these areas

In summary, approximately +/- 1,396 linear feet of intermittent stream, +/- 0.52 acre of wetlands and +/- 6.81 acres of surface waters were determined to be jurisdictional. Approximately +/- 0.79 acre of wetland, +/- 1.61 acres of non-jurisdictional waters, and +/- 29,415 linear feet of ephemeral channels were determined to be non-jurisdictional according to the NWPR definition of Jurisdictional Waters of the U.S.

At your earliest convenience, we respectfully request that the Approved Jurisdictional Determination be processed for the project and Review Area. Please contact me to schedule a site review, if required.

Should you have any questions regarding the above referenced request please do not hesitate to contact me at rsulkers@hhnt.com and/or (615) 500-1264.

Sincerely,

HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.

Rachael B. Sulkers
Senior Environmental Consultant

RBS/mp

Enclosure

Appendices

Appendix A: Figures
1. Location Map
2. Topographic Map
3. Soils Map
4. National Wetland Inventory Map
5. Floodplain Map
6. Delineation Map Key

6a - 6d. Delineation Map Series
7. Resource ID Map Key

7a – 7d. Resource ID Map Series
8. Stormwater Discharge Map
9. Adjacent Property Owners Map

Appendix B: Applications
1. Navigable Waters Protection Rule AJD Form

Appendix C: Wetland / Upland Data Forms

Appendix D: Transect Data Forms (Halff)

Appendix E: Stream Data Forms

Appendix F: Site Photographs

Appendix G: ORM Aquatic Resources Upload Table

Appendix H: Ownership Information

Appendix I: Antecedent Precipitation

APPENDIX A- FIGURES

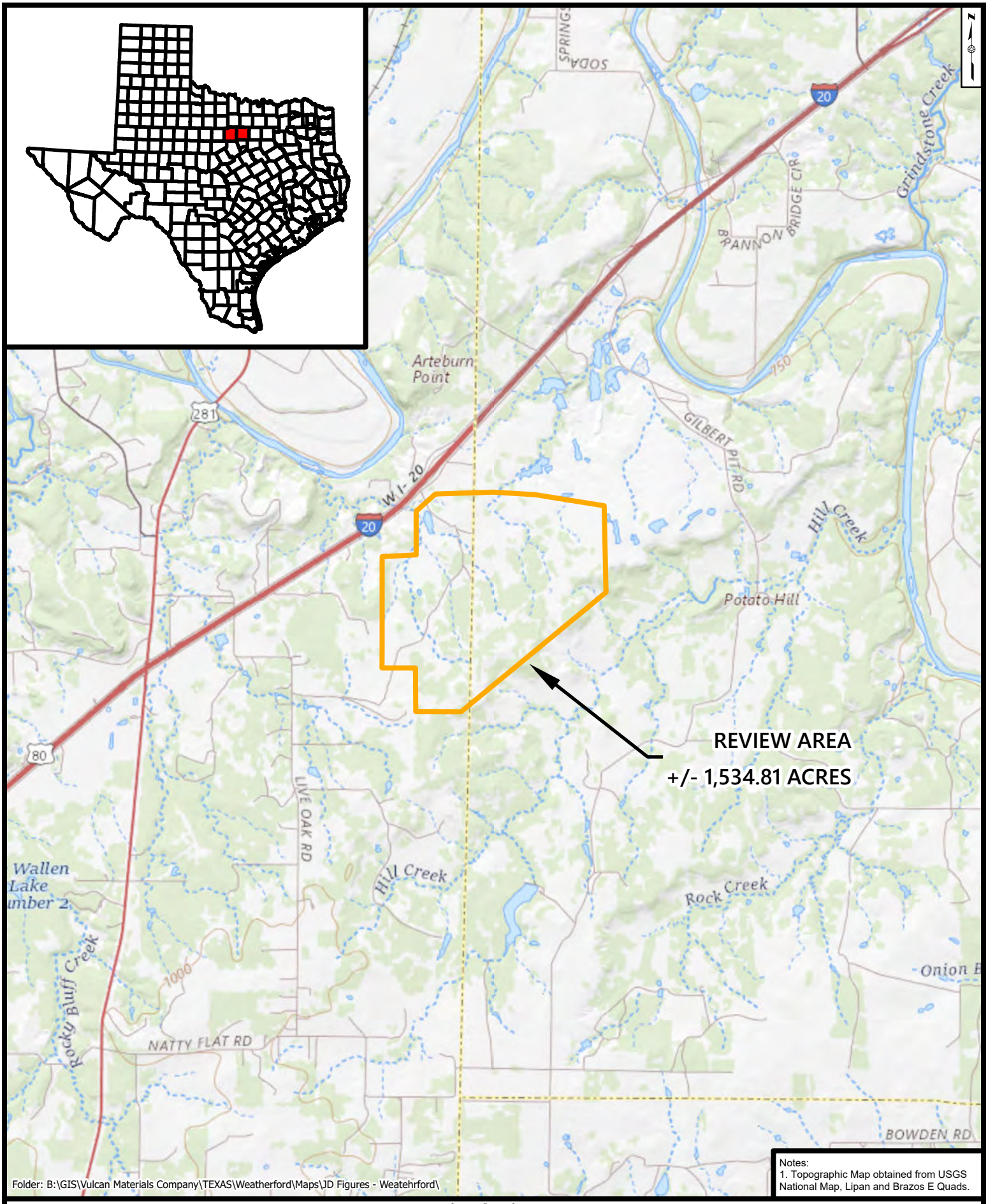
1. Location Map
2. Topographic Map
3. Soils Map
4. National Wetland Inventory Map
5. Floodplain Map
6. Delineation Map Key

6a – 6d. Delineation Map

7. Resource ID Map Key

7a – 7d. Resource ID Map

8. Stormwater Discharge Map
9. Adjacent Property Owners Map



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Notes:
1. Topographic Map obtained from USGS National Map, Lipan and Brazos E Quads.

Figure 1 - Location Map

1 0.5 0 1 Miles

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas
Date: 9/16/2020

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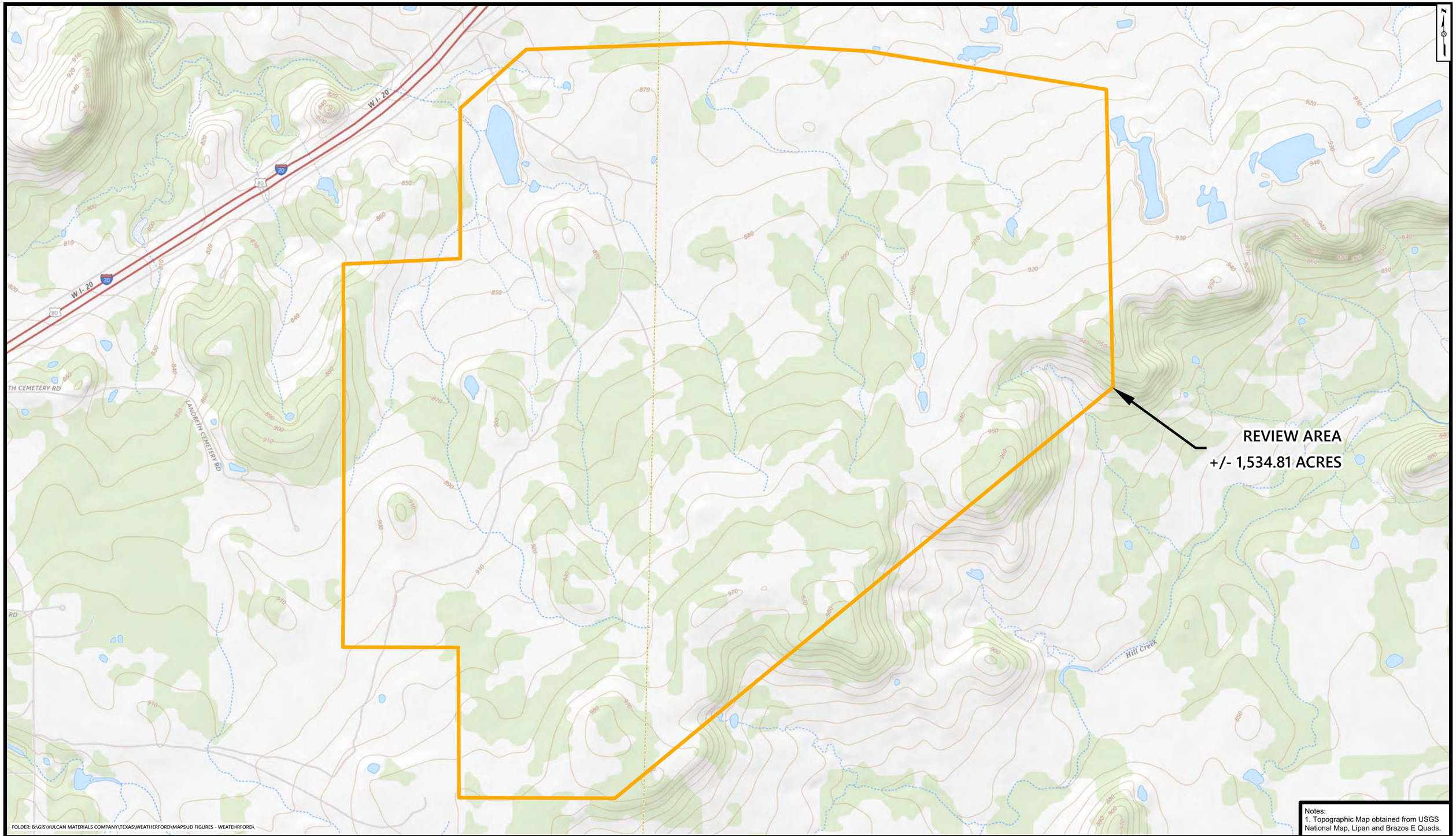
Consulting Engineers



Notes:
1. Topographic Map obtained from USGS National Map, Lipan and Brazos E Quads.

Figure 2 - Topographic Map

1,100 550 0 1,100 Feet

DISCLAIMER:
This drawing and the information contained herein is for general presentation purposes only and is a compilation of shape file(s) provided by various source(s). The source and accuracy of the files(s) has not been verified by HHNT and therefore the drawing is not intended for use as a engineering drawing or for design purposes.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 9/22/2020

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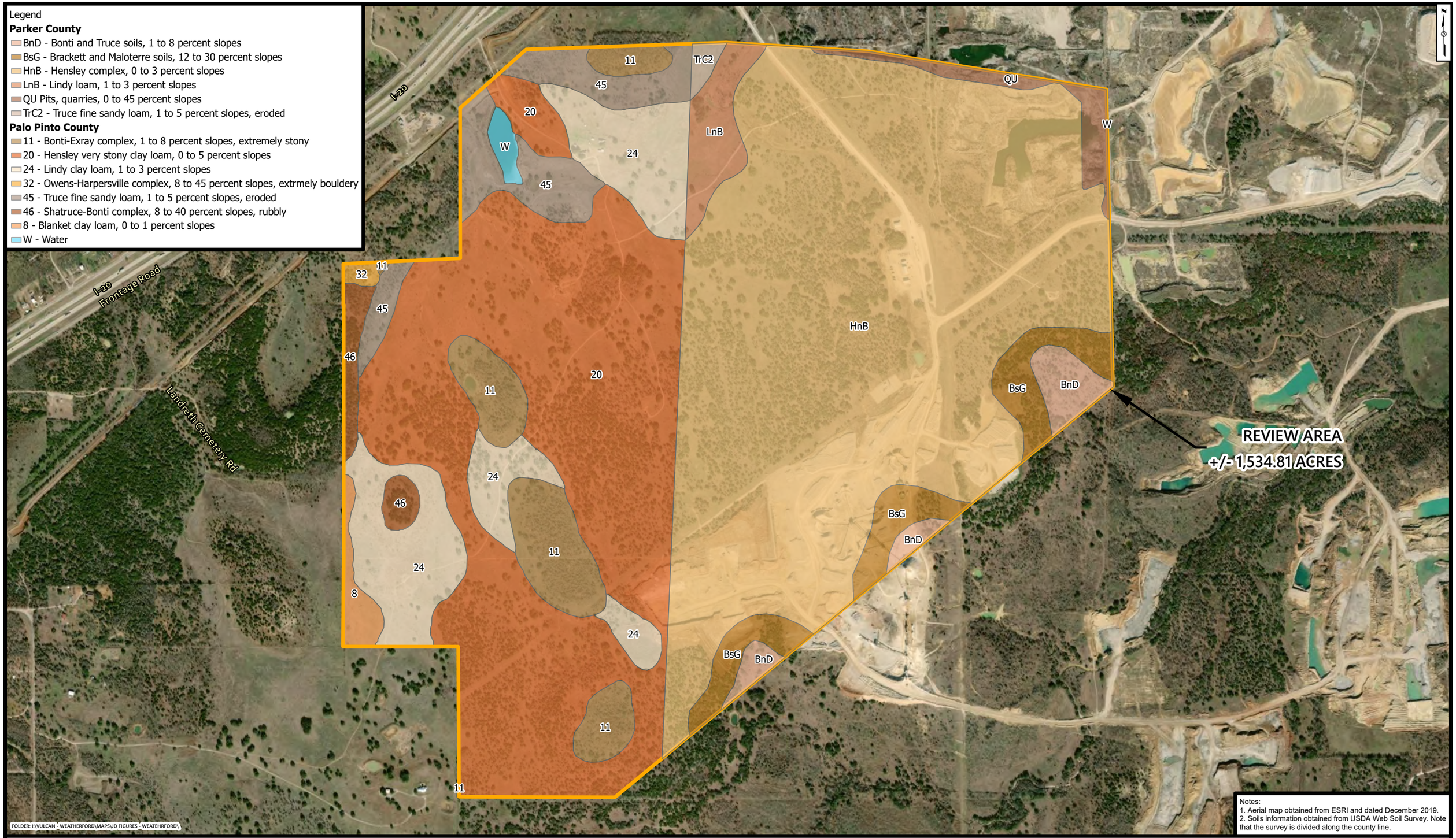
Legend

Parker County

- BnD - Bonti and Truce soils, 1 to 8 percent slopes
- BsG - Brackett and Maloterre soils, 12 to 30 percent slopes
- HnB - Hensley complex, 0 to 3 percent slopes
- LnB - Lindy loam, 1 to 3 percent slopes
- QU Pits, quarries, 0 to 45 percent slopes
- TrC2 - Truce fine sandy loam, 1 to 5 percent slopes, eroded

Palo Pinto County

- 11 - Bonti-Exray complex, 1 to 8 percent slopes, extremely stony
- 20 - Hensley very stony clay loam, 0 to 5 percent slopes
- 24 - Lindy clay loam, 1 to 3 percent slopes
- 32 - Owens-Harpersville complex, 8 to 45 percent slopes, extrmely bouldery
- 45 - Truce fine sandy loam, 1 to 5 percent slopes, eroded
- 46 - Shatruce-Bonti complex, 8 to 40 percent slopes, rubbly
- 8 - Blanket clay loam, 0 to 1 percent slopes
- W - Water



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Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Soils information obtained from USDA Web Soil Survey. Note that the survey is divided along the county line.

Figure 3 - Soils Map

1,100 550 0 1,100 Feet

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Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/13/2020

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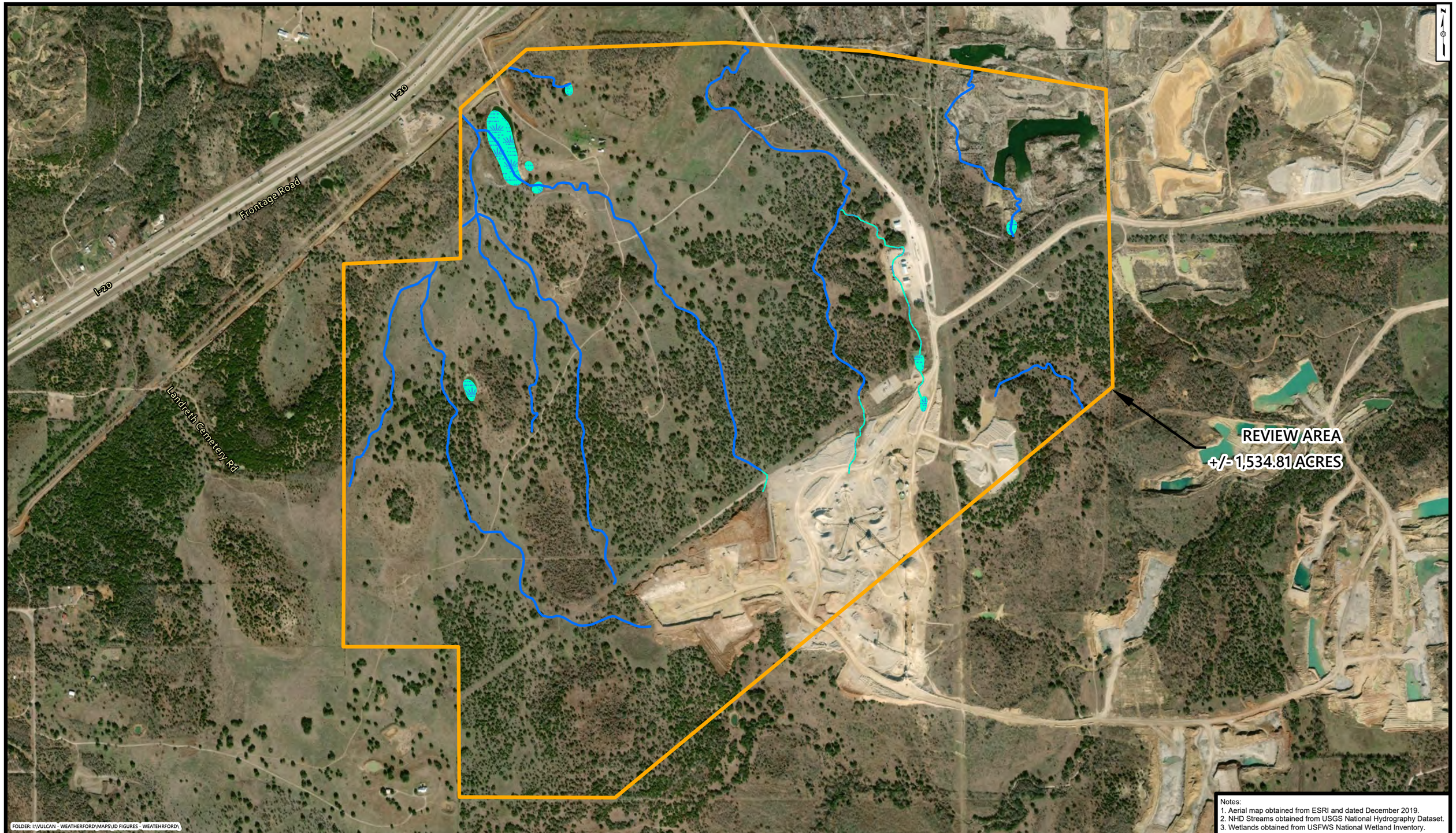
Consulting Engineers



Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. NHD Streams obtained from USGS National Hydrography Dataset.
3. Wetlands obtained from USFWS National Wetland Inventory.

Figure 4 - National Wetland Inventory Map

1,100 550 0 1,100 Feet

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Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/13/2020

Legend
- Review Area
- National Hydrography Dataset Streams
- National Wetland Inventory Wetlands

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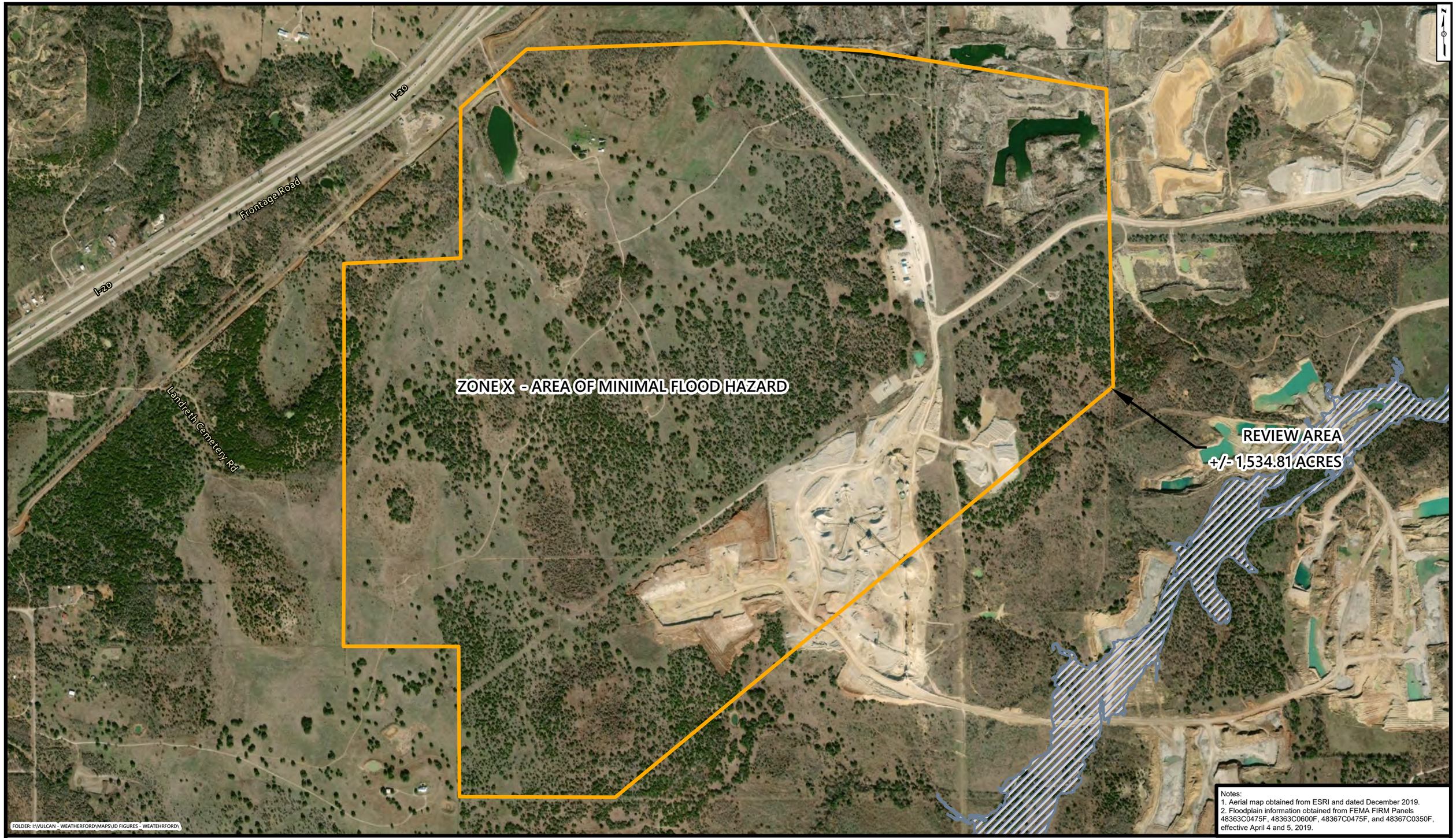

Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Floodplain information obtained from FEMA FIRM Panels 48363C0475F, 48363C0600F, 48367C0475F, and 48367C0350F, effective April 4 and 5, 2019.

Figure 5 - Floodplain Map

1,100 550 0 1,100
Feet

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Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/13/2020

Legend
- 100-Year Floodplain
- Review Area

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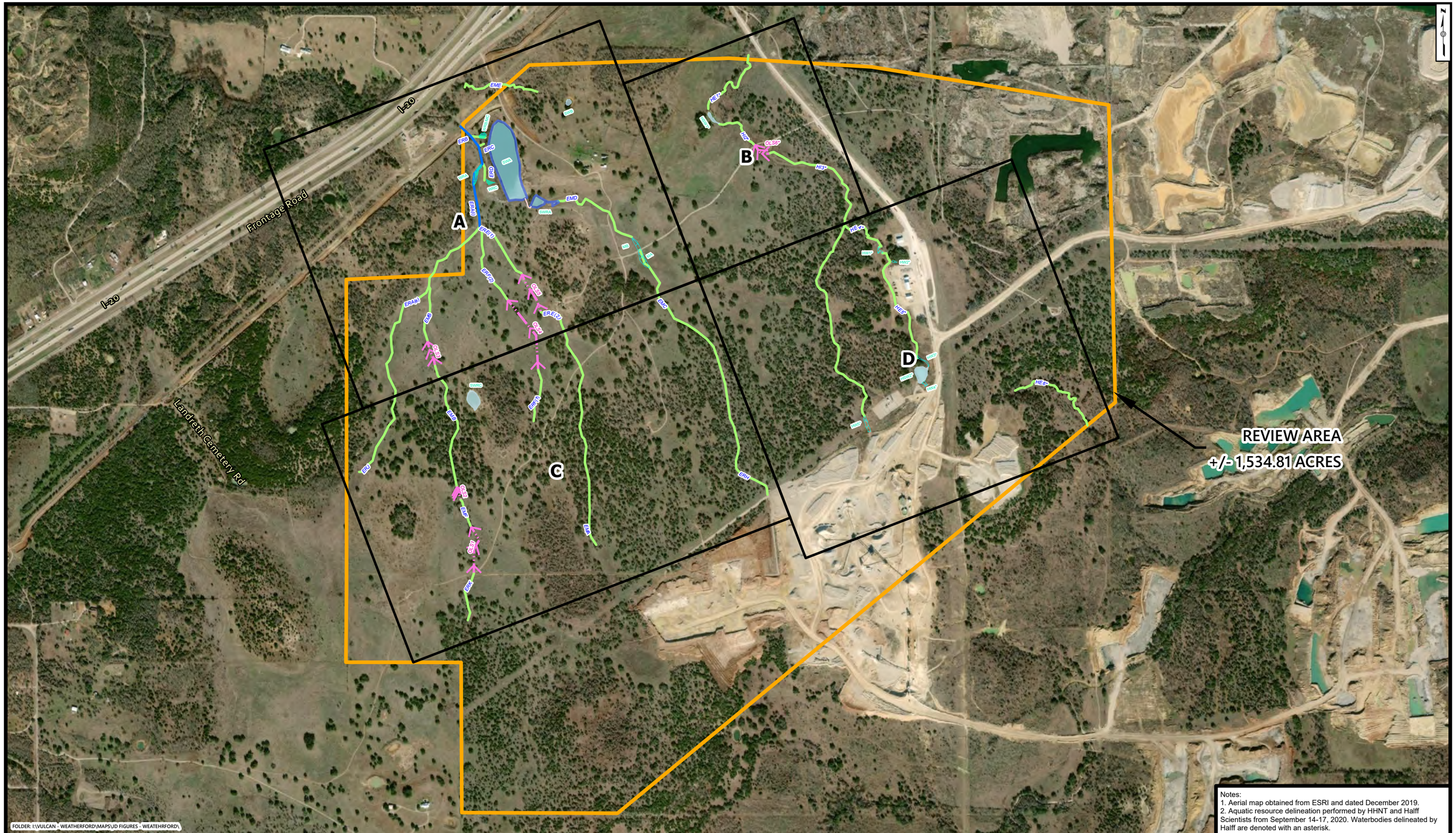

Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Figure 6 - Delineation Map - Key Map

1,100 550 0 1,100 Feet

DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

Legend

Flow Structure

Jurisdictional

Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

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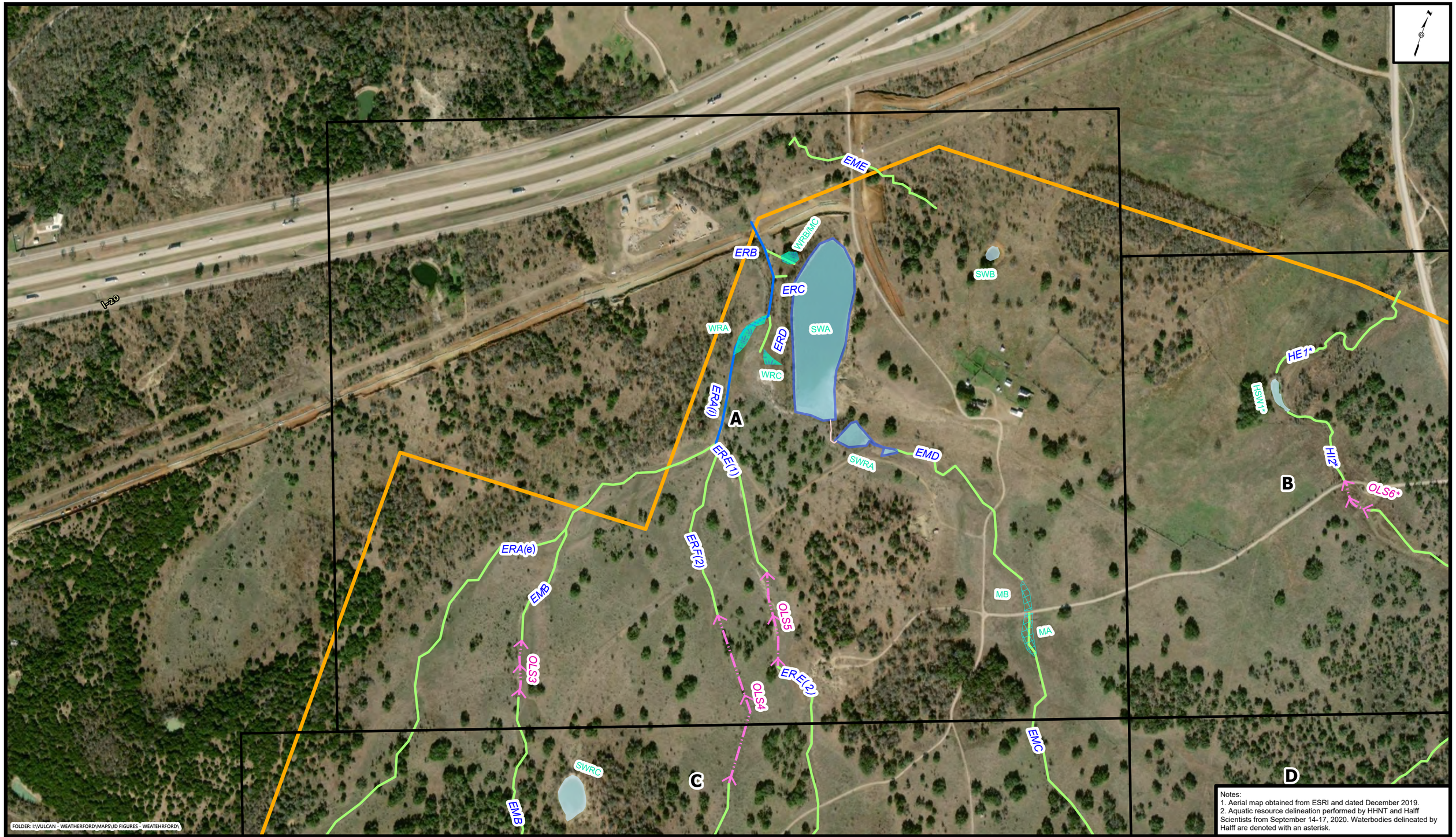

Notes:
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2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Figure 6a: Delineation Map

250 125 0 250 500 750
Feet

DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

Legend

Flow Structure

Jurisdictional
- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional
- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
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- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

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Figure 6b: Delineation Map

250 125 0 250 Feet

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DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

Legend

Flow Structure

Jurisdictional

Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

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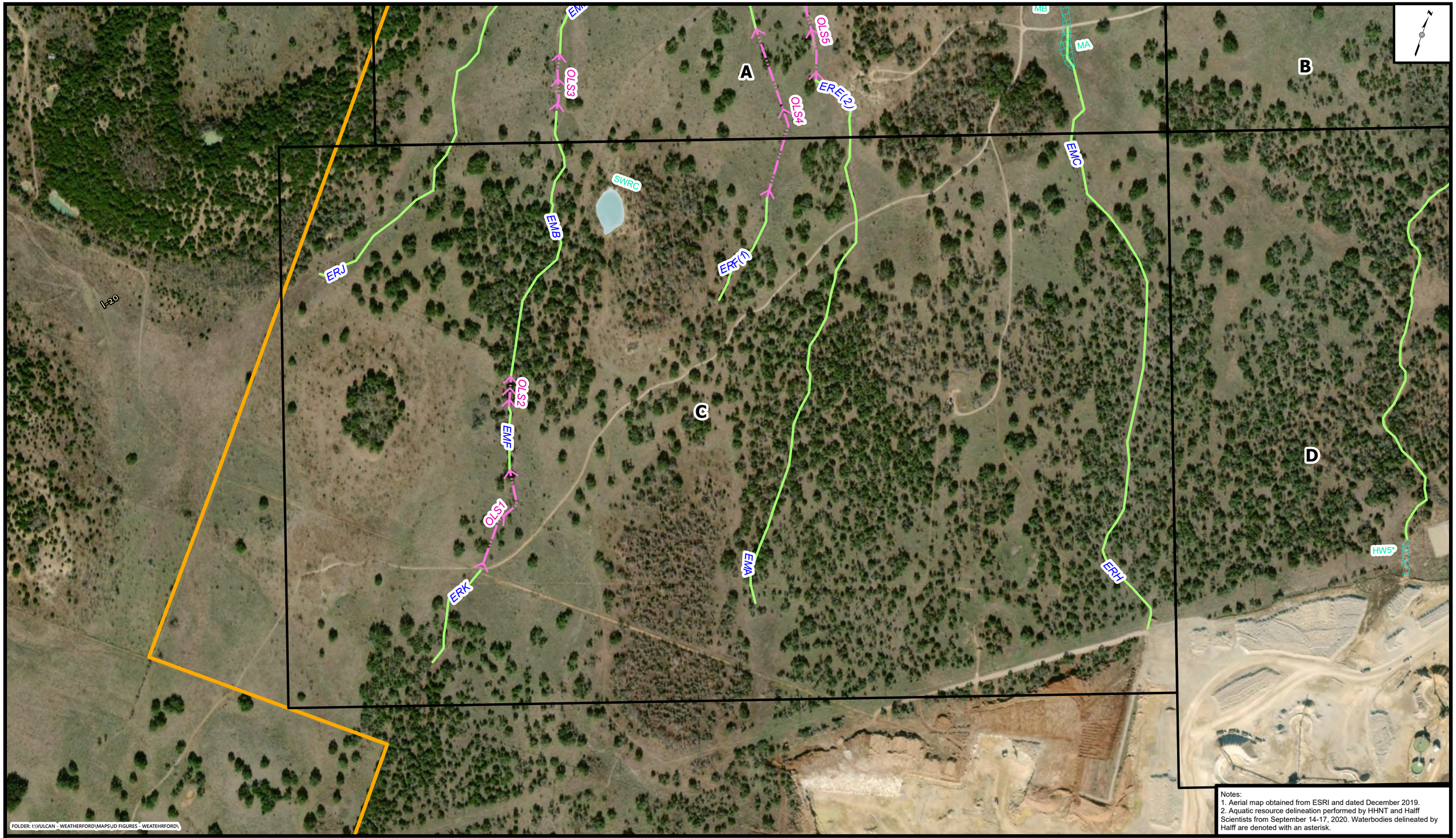

Notes:
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2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

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Figure 6c: Delineation Map

250 125 0 250 500 750 Feet

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DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

Legend

Flow Structure

Jurisdictional

Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

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Figure 6d: Delineation Map

250 125 0 250 500 750
Feet

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DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

Legend

Flow Structure

Jurisdictional
- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional
- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

HHNT
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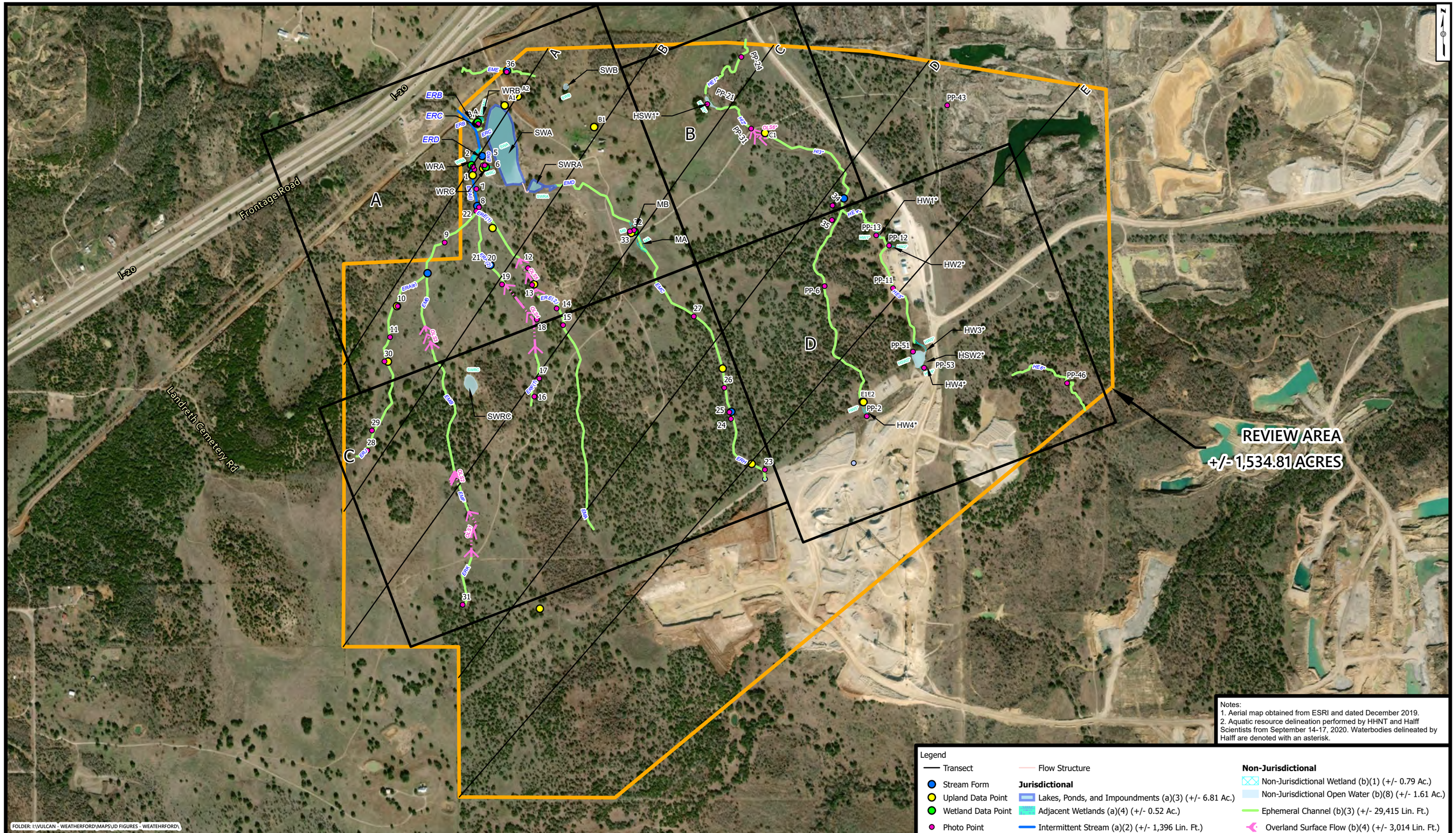

Notes:
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2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Legend

- Transect
- Stream Form
- Upland Data Point
- Wetland Data Point
- Photo Point
- Flow Structure

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

Figure 7 - Resource ID Map - Key Map

1,100 550 0 1,100 Feet

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DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

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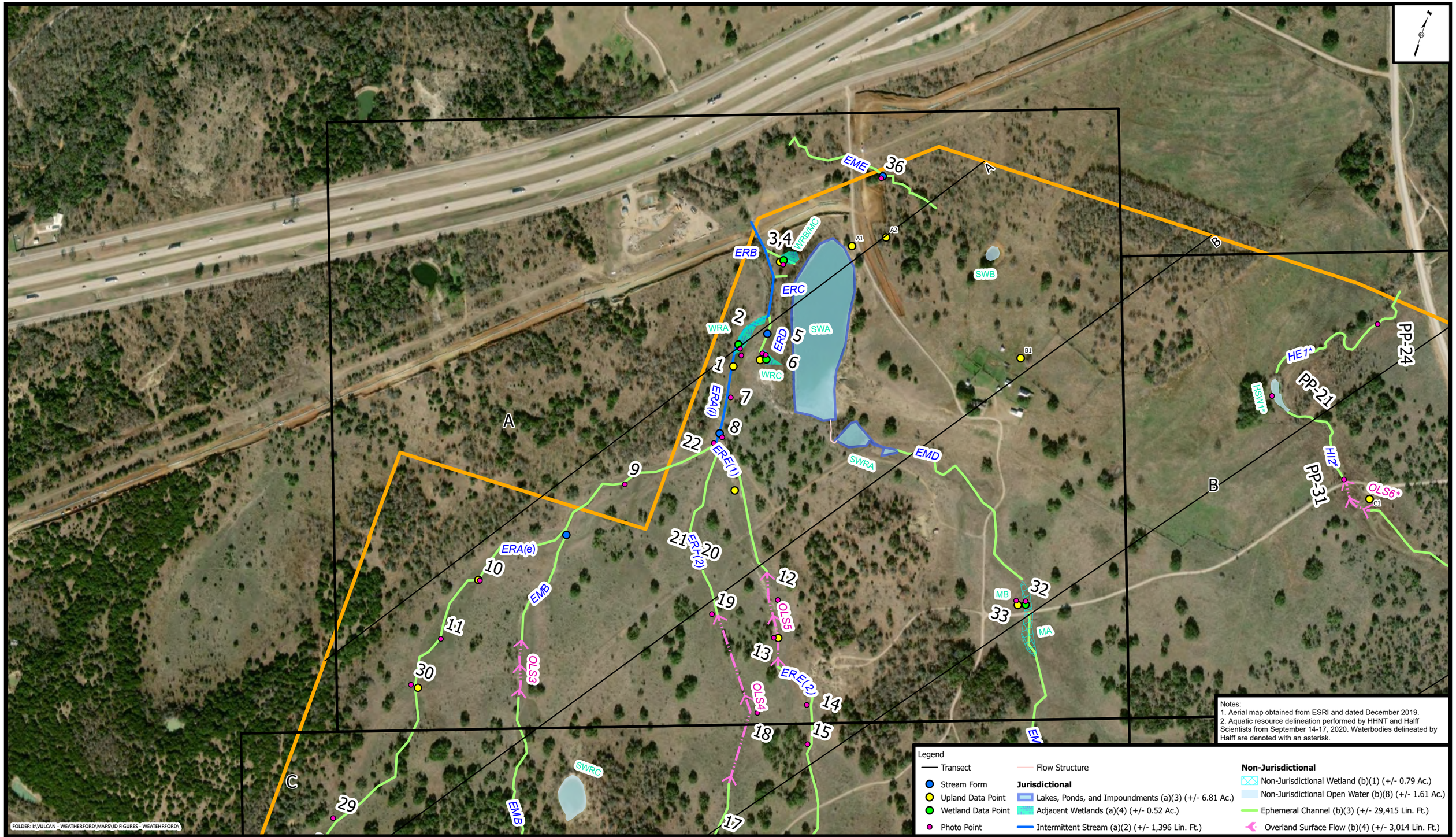

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Legend

- Transect
- Flow Structure
- Stream Form
- Upland Data Point
- Wetland Data Point
- Photo Point

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
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- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

Figure 7a: Aquatic Resources Map

250 125 0 250 500 750 Feet

DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

HHNT
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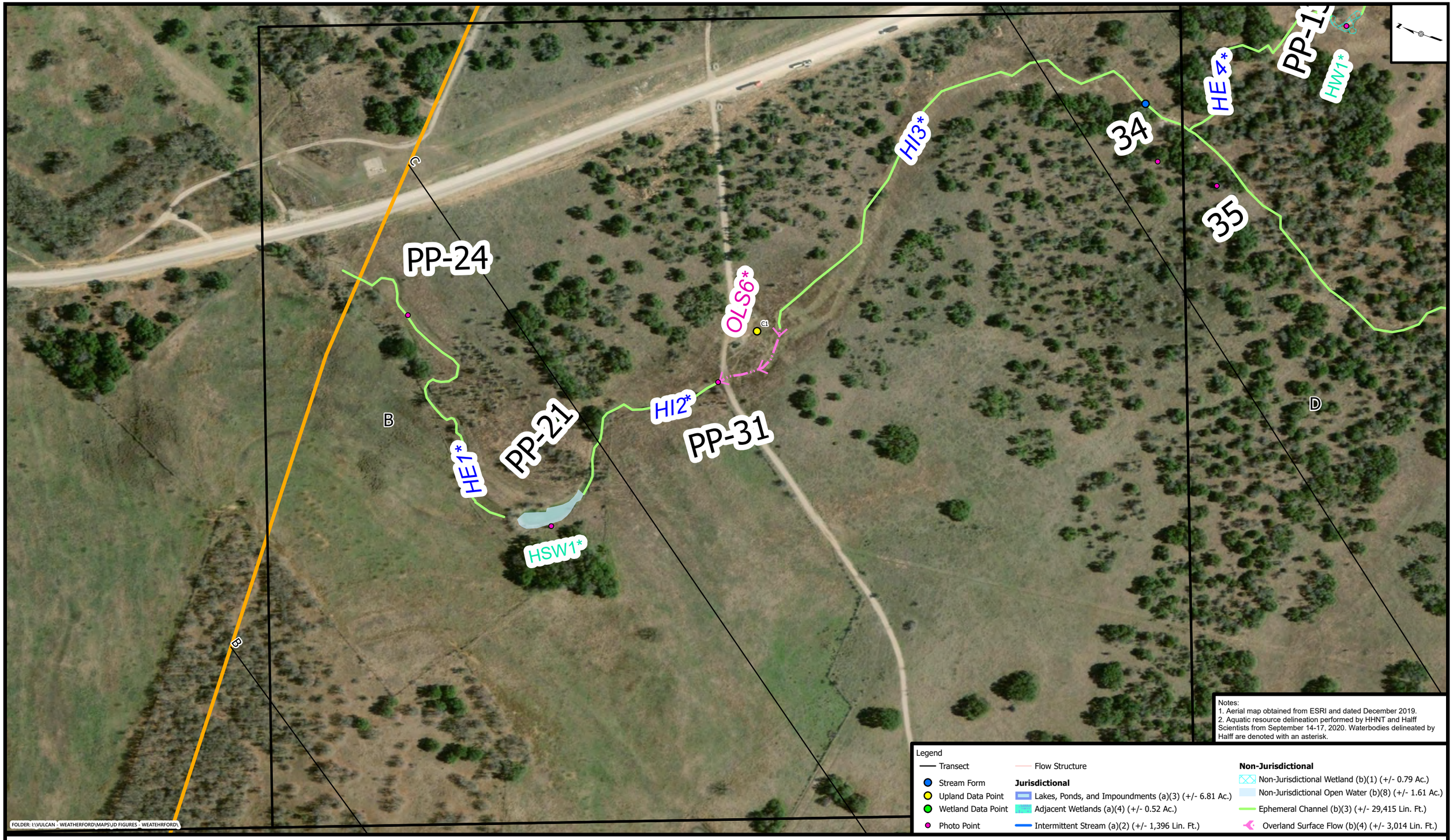

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Legend

- Transect
- Stream Form
- Upland Data Point
- Wetland Data Point
- Photo Point
- Flow Structure

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

Figure 7b: Aquatic Resources Map

250 125 0 250 Feet

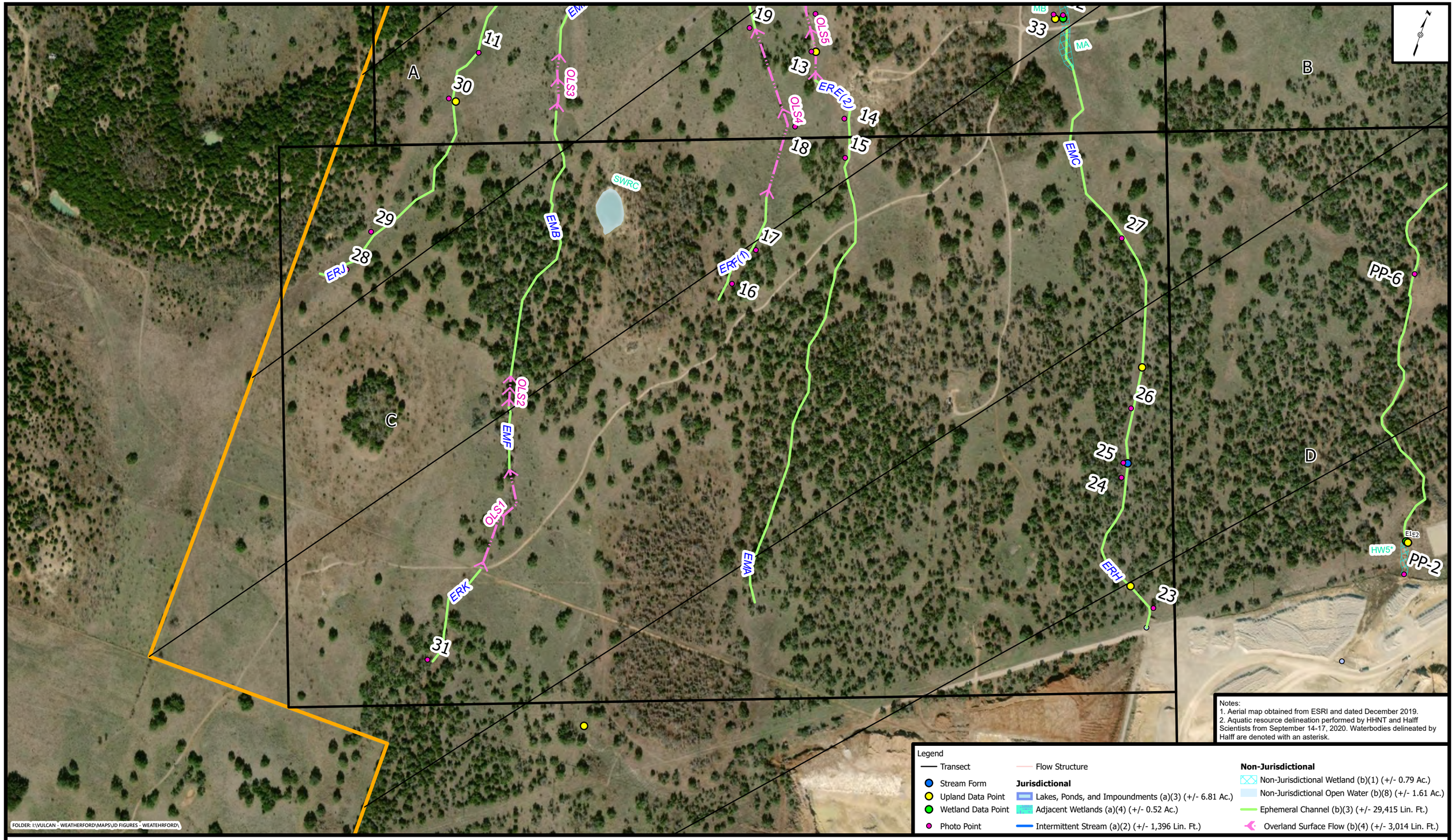
DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

HHNT
Hodges, Harbin, Newberry & Tribble, Inc.
Consulting Engineers



Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Legend

- Transect
- Flow Structure
- Stream Form
- Upland Data Point
- Wetland Data Point
- Photo Point

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

Figure 7c: Aquatic Resources Map

250 125 0 250 500 750 Feet

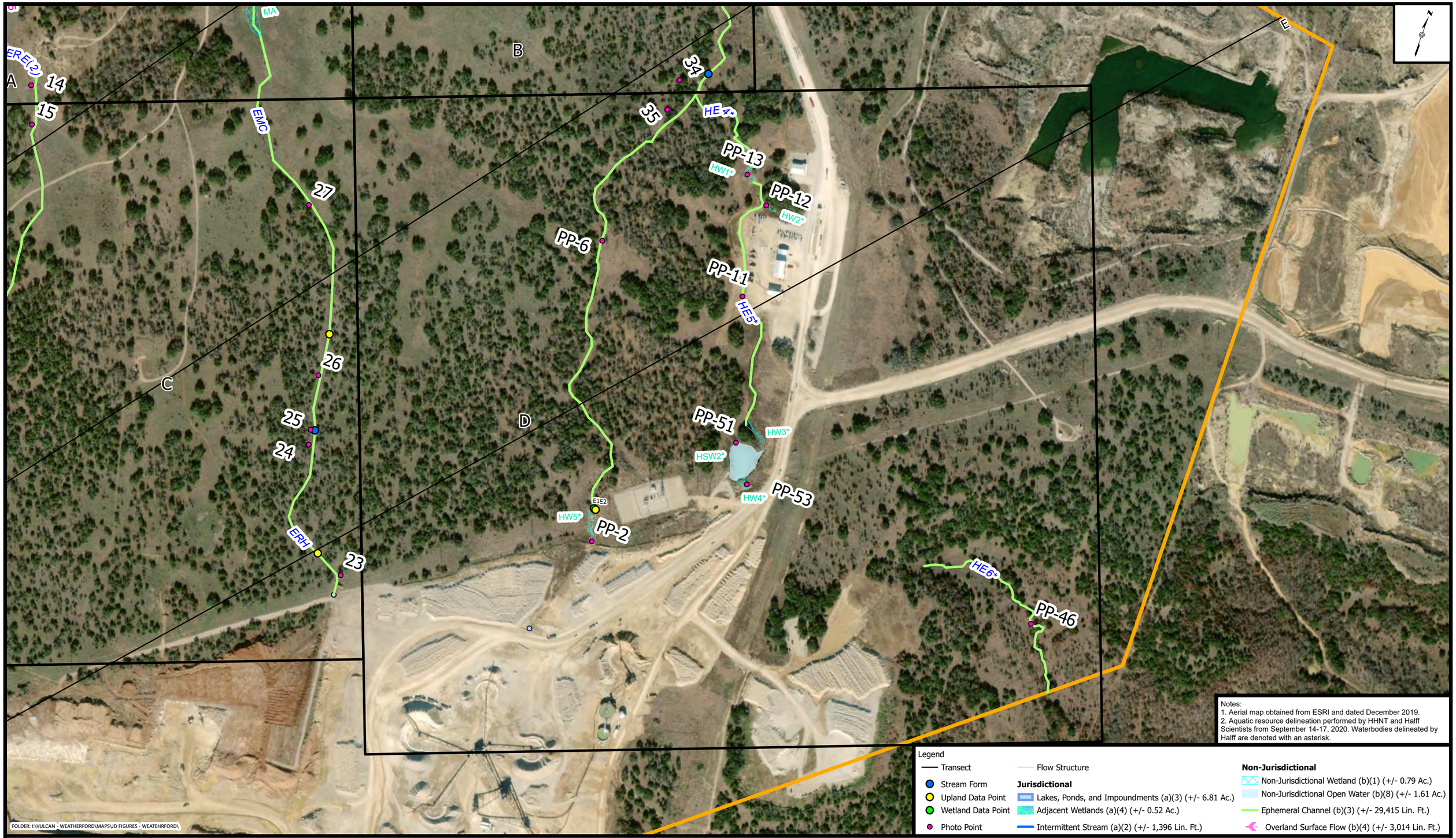
DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

HHNT
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.
Consulting Engineers



Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Legend

- Transect
- Flow Structure
- Stream Form
- Upland Data Point
- Wetland Data Point
- Photo Point

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)

Figure 7d: Aquatic Resources Map

250 125 0 250 500 750 Feet

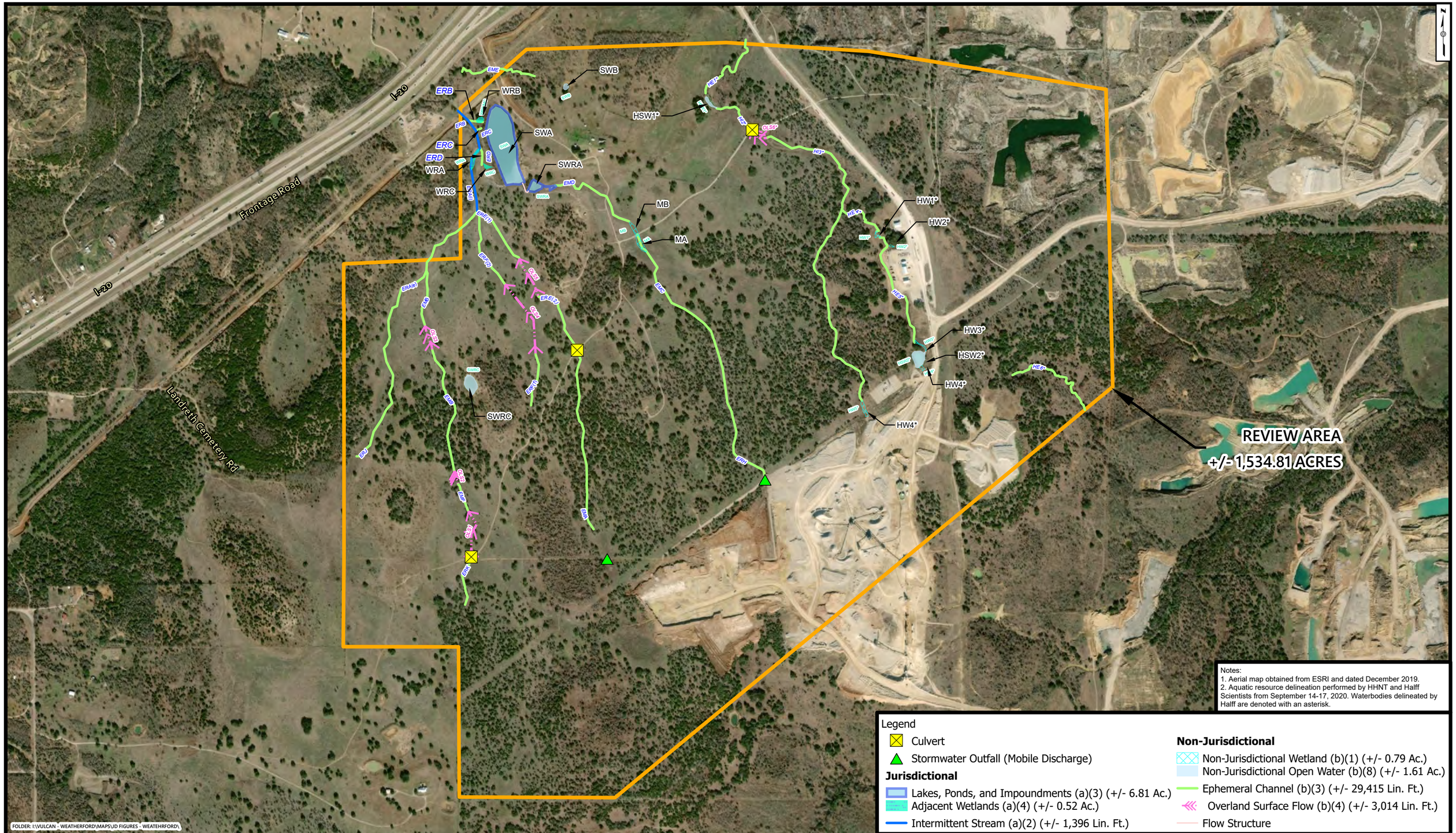
DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/23/2020

HHNT
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.
Consulting Engineers



Notes:
1. Aerial map obtained from ESRI and dated December 2019.
2. Aquatic resource delineation performed by HHNT and Halff Scientists from September 14-17, 2020. Waterbodies delineated by Halff are denoted with an asterisk.

Legend

- Culvert
- Stormwater Outfall (Mobile Discharge)

Jurisdictional

- Lakes, Ponds, and Impoundments (a)(3) (+/- 6.81 Ac.)
- Adjacent Wetlands (a)(4) (+/- 0.52 Ac.)
- Intermittent Stream (a)(2) (+/- 1,396 Lin. Ft.)

Non-Jurisdictional

- Non-Jurisdictional Wetland (b)(1) (+/- 0.79 Ac.)
- Non-Jurisdictional Open Water (b)(8) (+/- 1.61 Ac.)
- Ephemeral Channel (b)(3) (+/- 29,415 Lin. Ft.)
- Overland Surface Flow (b)(4) (+/- 3,014 Lin. Ft.)
- Flow Structure

Figure 8 - Stormwater Discharge Map

1,100 550 0 1,100 Feet

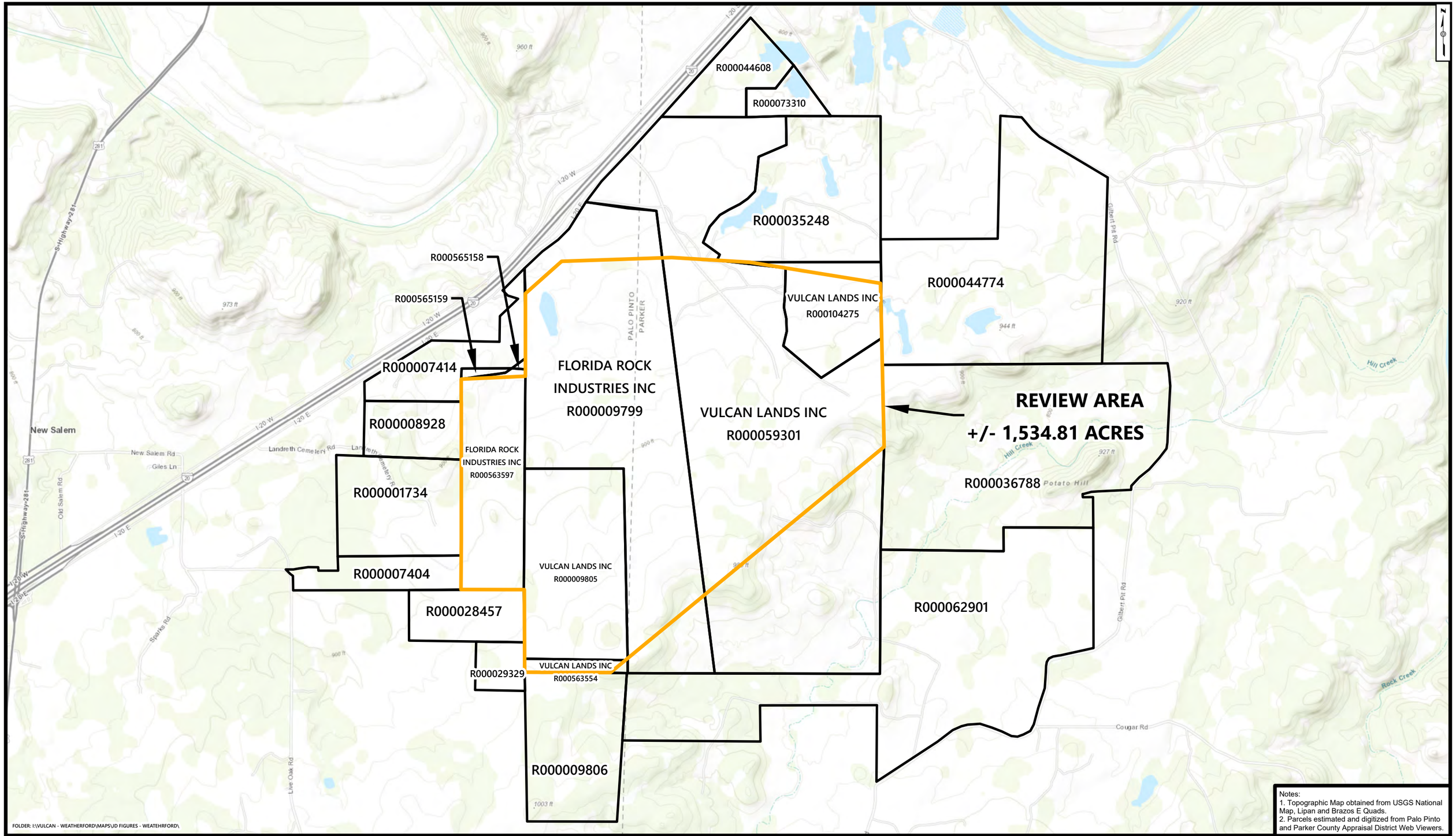
DEPICTED WATERS OF THE U.S. DELINEATION REMAINS AN OPINION OF HHNT UNTIL IT IS FORMALLY VERIFIED IN WRITING BY THE U.S. ARMY CORPS OF ENGINEERS VIA A FORMAL DETERMINATION LETTER.

DELINEATED WETLANDS AND STREAMS HAVE NOT BEEN APPROVED BY ACOE.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 11/12/2020

HHNT
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.
Consulting Engineers



FOLDER: I:\VULCAN - WEATHERFORD\MAPS\JD FIGURES - WEATEHRFORD\

Notes:
1. Topographic Map obtained from USGS National Map, Lipan and Brazos E Quads.
2. Parcels estimated and digitized from Palo Pinto and Parker County Appraisal District Web Viewers.

Figure 9 - Adjacent Parcel Map

2,000 1,000 0 2,000 Feet

DISCLAIMER:
This drawing and the information contained herein is for general presentation purposes only and is a compilation of shape file(s) provided by various source(s). The source and accuracy of the files(s) has not been verified by HHNT and therefore the drawing is not intended for use as a engineering drawing or for design purposes.

Weatherford Quarry
Vulcan Materials Company
Palo Pinto and Parker Counties, Texas

Date: 10/12/2020

HHNT
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.
Consulting Engineers

APPENDIX B - APPLICATIONS

1. Navigable Waters Protection Rule AJD Form

U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 2/9/2020
ORM Number: SWF-2020-00498.
Associated JDs: N/A .
Review Area Location[1]: State/Territory: Texas City: Millsap County/Parish/Borough: Palo Pinto/ Parker
Center Coordinates of Review Area: Latitude 32.61782 N Longitude -98.06463 W

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- ☒ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)[2]

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters):[3]				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
ERA(i)	1,396	linear feet	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	Intermittent stream flowing off-site to the north.

[1] Map(s)/figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
SWA	6.33	acre(s)	(a)(3) Lake/pond or impoundment of a jurisdictional water inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Pond inundated by flooding from (a)(2) intermittent stream ERA(i) in a typical year.
SWRA	0.48	acre(s)	(a)(3) Lake/pond or impoundment of a jurisdictional water inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Pond connected to an (a)(3) pond SWA inundated by flooding from SWA

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
WRA	0.28	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	Wetland abuts to an (a)(2) water, intermittent stream ERA(i).
WRB	0.14	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Inundated by flooding from (a)(2) intermittent stream ERA(i).
WRC	0.10	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Inundated by flooding from (a)(2) intermittent stream ERA(i).

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
ERA(e)	2,277	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel

[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
ERB	186	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERC	73	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERD	225	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERE1	805	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERE2	929	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERF1	728	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERF2	1,040	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERH	2743	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERJ	1,564	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
ERK	640	linear feet	(b)(3) Ephemeral feature, including	Ephemeral Channel

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
			an ephemeral stream, swale, gully, rill, or pool.	
EMA	2337	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
EMB	710	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
EMB2	1,628	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral channel
EMC	1016	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral channel
EMD	1,236	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
EME	1,046	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
EMF	352	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
HE1	1,113	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
HI2	598	linear feet	(b)(3) Ephemeral feature, including an ephemeral	Ephemeral Channel.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
			stream, swale, gully, rill, or pool.	
HI3	4,501	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel.
HE4	700	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
HE5	1,576	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
HE6	1,380	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Ephemeral Channel
SWB	0.12	acre(s)	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Isolated, non-permanent water feature that is not connected to or inundated by any (a)(1)-(a)(3) water in a typical year.
SWRC	0.68	acre(s)	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	Isolated, non-permanent water feature that is not connected to or inundated by any (a)(1)-(a)(3) water in a typical year.
MB	0.14	acre(s)	(b)(1) Non-adjacent wetland.	Isolated wetland not connected to or inundated by flooding from any (a)(1)- (a)(3) water in a typical year.
MA	0.29	acre(s)	(b)(1) Non-adjacent wetland.	Isolated wetland not connected to or inundated by flooding from any (a)(1)- (a)(3) water in a typical year.
HSW1	0.17	acre(s)	(b)(8) Artificial lake/pond constructed or excavated in upland or a non-jurisdictional water, so long as the artificial lake or pond is not an	Open Water drains into an ephemeral channel off-site. An isolated intermittent stream flows into the open water from the southern side. Intermittent stream not connected to a (a)(1) – (a)(3) water.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
			impoundment of a jurisdictional water that meets (c)(6).	
HSW2	0.64	acre(s)	(b)(8) Artificial lake/pond constructed or excavated in upland or a non-jurisdictional water, so long as the artificial lake or pond is not an impoundment of a jurisdictional water that meets (c)(6).	Surface water feature excavated adjacent to mining area and not connected to or inundated by any jurisdictional waters in a typical year.
HW1	0.05	acre(s)	(b)(1) Non-adjacent wetland.	Emergent wetland not connected to or inundated by flooding from any jurisdictional (a)(1)-(a)(3) waters in a typical year. Adjacent to a (b)(3) ephemeral channel.
HW2	0.02	acre(s)	(b)(1) Non-adjacent wetland.	Ephemeral slough not connected to or inundated by flooding from any jurisdictional (a)(1)-(a)(3) waters in a typical year. Adjacent to a (b)(3) ephemeral channel.
HW3	0.07	acre(s)	(b)(1) Non-adjacent wetland.	Emergent wetland not connected to or inundated by flooding from any jurisdictional (a)(1)-(a)(3) waters in a typical year. Adjacent to a (b)(3) ephemeral channel.
HW4	0.05	acre(s)	(b)(1) Non-adjacent wetland.	Emergent wetland not connected to or inundated by flooding from any jurisdictional (a)(1)-(a)(3) waters in a typical year. Adjacent to a (b)(9) surface water feature.
HW5	0.16	acre(s)	(b)(1) Non-adjacent wetland.	Emergent wetland not connected to or inundated by flooding from any jurisdictional (a)(1)-(a)(3) waters in a typical year.
OLS1	652	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connected (b)(3) ephemeral channel ERK to (b)(3) ephemeral channel EMF.
OLS2	187	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connecting (b)(3) ephemeral channel EMF to (b)(3) ephemeral channel EMB.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
OLS3	338	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connecting (b)(3) ephemeral channel EMB to itself.
OLS4	1020	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connecting (b)(3) ephemeral channel ERF1 to (b)(3) ephemeral channel ERF2.
OLS5	553	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connecting (b)(3) ephemeral channel ERE/EMA to itself.
OLS6	265	linear feet	(b)(4) Diffuse stormwater run-off over upland or directional sheet flow over upland.	Overland surface flow connecting (b)(3) ephemeral channel ERE/EMA to itself.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

- ☒ Information submitted by, or on behalf of, the applicant/consultant: Vulcan Materials Company
  This information is sufficient for purposes of this AJD.
  Rationale: N/A or describe rationale for insufficiency (including partial insufficiency).
- ☐ Data sheets prepared by the Corps: Title(s) and/or date(s).
- ☐ Photographs: Select. Title(s) and/or date(s).
- ☐ Corps site visit(s) conducted on: Date(s).
- ☐ Previous Jurisdictional Determinations (AJDs or PJDs): ORM Number(s) and date(s).
- ☒ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B*.
- ☒ USDA NRCS Soil Survey: Appendix A, Figure 3
- ☒ USFWS NWI maps: Appendix A, Figure 4
- ☒ USGS topographic maps: Appendix A, Figure 2

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	Web Soil Survey
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): Antecedant Precipitation information provided in Appendix H shows normal conditions on site during time of the delineation.

C. Additional comments to support AJD: N/A or provide additional discussion as appropriate.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERA27

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.621467 Long: -98.07527 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam, Truce Fine Sandy Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Muhlenbergia capillaris	20	Yes	FACU
2. Ambrosia artemisiifolia	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 20 20% = 8		
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	40 (A)		160 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: ERA27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					sandy loam	no mottles or very small %
								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 2 inches on

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Algae, cracked surface

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERE2 Wetland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%):

Subregion (LRR): LRRJ Lat: 32.624149 Long: -98.071353 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Muhlenbergia capillaris	60	Yes	FACU
2. Allium canadense	20	Yes	FACU
3. Eleocharis acicularis	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)	50% = 45	20% = 18	
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	90 (A)		330 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: ERE2 Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	95	10YR 4/6	5	C	M	loamy	redox at 5%
4+								Bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): Starting at 4 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

Stony

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2"

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERE9 Upland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.622201 Long: -98.069668 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Muhlenbergia capillaris	80	Yes	FACU
2. Eleocharis acicularis	10	No	OBL
3. Allium canadense	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 50 20% = 20		
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: ERE9 Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					clay loam	
4+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 4 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

Stony

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERE14

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.621379 Long: -98.06867 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Recent rainfall events resulted in saturation. This was the only hydrologic indicator noted.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ambrosia artemisiifolia	60	Yes	FACU
2. Muhlenbergia capillaris	20	Yes	FACU
3. Allium canadense	5	No	FACU
4. Euphorbia marginata	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 45 20% = 18		
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: ERE14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					clay loam	no redox
4+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): Starting at 4 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

Very stony

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2"

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 1"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Overland surface water sheet flow

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERH3

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-3

Subregion (LRR): LRRJ Lat: 32.615973 Long: -98.060818 Datum: NAD83

Soil Map Unit Name: Hensley Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis acicularis	25	Yes	OBL
2. Ambrosia artemisiifolia	15	Yes	FACU
3. Muhlenbergia capillaris	15	Yes	FACU
4. Allium canadense	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 30	20% = 12	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	60 (A)		165 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: ERH3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 3/2	100					clayey loam	no mottles
3+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 3 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2"

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERH15

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-3

Subregion (LRR): LRRJ Lat: 32.619269 Long: -98.061987 Datum: NAD83

Soil Map Unit Name: Hensley Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Hydrology present due to presence of overland surface flow as a result of recent rainfall events.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Muhlenbergia capillaris	80	Yes	FACU
2. Ambrosia artemisiifolia	15	No	FACU
3. Eleocharis acicularis	15	No	OBL
4. Croton capitatus	5	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
	115 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 57.5	20% = 23	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	110 (A)		395 (B)

Prevalence Index = B/A = 3.59

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: ERH15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Surface

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Could not take soil samples due to bedrock at surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Overland surface water flow

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERH Upland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%):

Subregion (LRR): LRRJ Lat: 32.617773 Long: -98.061638 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam, Hensley Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Muhlenbergia capillaris	60	Yes	FACU
2. Eleocharis acicularis	20	Yes	OBL
3. Ambrosia artemisiifolia	10	No	FACU
4. Croton capitatus	10	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)	50% = 50	20% = 20	
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	90 (A)		300 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: ERH Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): surface

Hydric Soil Present? Yes _____ No X

Remarks:

Could not take soil samples due to bedrock at surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: ERJ12 Wetland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.619553 Long: -98.075646 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Hydrologic indicator met due to the presence of algae.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Allium canadense	60	Yes	FACU
2. Ambrosia artemisiifolia	40	Yes	FACU
3. Iva annua	20	No	FAC
4. Muhlenbergia capillaris	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	130 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 65	20% = 26	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	130 (A)		500 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	98	10YR 4/6	2			loamy	2% redox
4+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 4 inches onward

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Algae present

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: MA Upland

Investigator(s): M. McKnight, R. Sulkers Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): concave Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.611004 Long: -98.069486 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Hydrologic indicator met due to recent rainfall events resulting in saturation of the soil.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus virginiana	5	Yes	FACU
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)	50% = 2.5	20% = 1	
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Muhlenbergia capillaris	20	Yes	FACU
2. Croton capitatus	15	Yes	NI
3. Opuntia spp (Prickly pear)	10	No	FACU
4. Cylindropuntia leptocaulis	5	No	NI
5. Cooperia drummondi	5	No	FACU
6.			
7.			
8.			
9.			
10.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: _____)	50% = 27.5	20% = 11	
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	35 (A)		140 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: MA Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/3	100					clay loam	no mottles
5+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 5 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

Very stony

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 1"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: MB2 Upland

Investigator(s): M. McKnight, R. Sulkers Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.62396 Long: -98.065693 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Croton capitatus	50	Yes	NI
2. Ambrosia artemisiifolia	10	No	FACU
3. Euphorbia marginata	5	No	FACU
4. Eryngium leavenworthii	5	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: _____) 50% = 35 20% = 14			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	15 (A)		60 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: MB2 Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					clay/loam	no mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: MB2 Wetland

Investigator(s): M. McKnight, R. Sulkers Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): concave Slope (%): 0-5

Subregion (LRR): LRRJ Lat: 32.624008 Long: -98.065559 Datum: NAD83

Soil Map Unit Name: Hensley Very Stony Clay Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis acicularis	60	Yes	OBL
2. Allium canadense	20	Yes	FACU
3. Ambrosia artemisiifolia	5	No	FACU
4. Iva annua	5	No	FAC
5. Euphorbia marginata	2	No	FACU
6.			
7.			
8.			
9.			
10.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 46	20% = 18.4	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	27	x 4 =	108
UPL species	0	x 5 =	0
Column Totals:	92 (A)		183 (B)

Prevalence Index = B/A = 1.989

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: MB2 Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 6/1	100					clay loam	
2-4	10YR 3/2	95	10YR 5/6	5				mottles
4+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 4 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

Stony

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation to surface, drift lines

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRA Upland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.625973 Long: -98.072154 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ambrosia artemisiifolia	65	Yes	FACU
2. Croton capitatus	15	No	NI
3. Urochloa mutica	10	No	FACW
4. Allium canadense	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____) 50% = 47.5 20% = 19			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		300 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	95	10YR 4/6	5			loamy sand	mottles
3+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 3 inches onward

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRA Wetland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): concave Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.626322 Long: -98.072204 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis acicularis	70	Yes	OBL
2. Ambrosia artemisiifolia	15	No	FACU
3. Juncus spp.	5	No	
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 45 20% = 18		
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	15	x 4 =	60	
UPL species	0	x 5 =		
Column Totals:	85	(A)	130	(B)

Prevalence Index = B/A = 1.53

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: WRA Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1	95	10YR 4/6	5			loamy sand	mottles
5+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 5 inches onward

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 2"

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturated soil

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRB2 Wet

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.627805 Long: -98.071943 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus fusiformis	60	Yes	NI
2. Ulmus crassifolia	20	Yes	FAC
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)	50% = 40	20% = 16	
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Iva annua	50	Yes	FAC
2. Paspalum dilatatum	25	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 37.5	20% = 15	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		285 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Quercus fusiformis not factored in to prevalence index because it has no available wetland indicator status. If it were FACU or UPL, the prevalence index indicator would not be met.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					sandy loam	
3-6	10YR 4/1	70	10YR 4/6	30	C	M	sandy loam	
6+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): Starting at 6 inches onward

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 1"

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water flow

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRB Upland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.627764 Long: -98.071996 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ambrosia artemisiifolia	90	Yes	FACU
2. Iva annua	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 50	20% = 20	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1						sandy loam	
3-6	10YR 5/1						sandy loam	rocky pebbles & clay pieces
6+								Bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 6 inches onward

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRC Upland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.626209 Long: -98.07173 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ambrosia artemisiifolia	70	Yes	FACU
2. Muhlenbergia capillaris	20	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)	50% = 45	20% = 18	
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10 YR 4/2		10YR 4/6	5	C	M		
1+								cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Cobble

Depth (inches): Starting at 1 inches onward

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Palo Pinto & Parker Counties Sampling Date: September 16, 2020

Applicant/Owner: Vulcan Materials Company State: TX Sampling Point: WRC Wetland

Investigator(s): R. Sulkers, M. McKnight Section, Township, Range:

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): none Slope (%): 1-5

Subregion (LRR): LRRJ Lat: 32.62625 Long: -98.071622 Datum: NAD83

Soil Map Unit Name: Truce Fine Sandy Loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Cephalanthus occidentalis	5	Yes	OBL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: _____) 50% = 2.5 20% = 1			
1. Eleocharis acicularis	90	Yes	OBL
2. Juncus spp.	15	No	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____) 50% = 52.5 20% = 21			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		95 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	85	10 YR 4/6	15	C	M	loamy	
6+								bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): Starting at 6 inches onward

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1"

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Palo Pinto County Sampling Date: 2020-09-16

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: A1

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): H Lat: 32.628374 Long: -98.070829 Datum: WGS 84

Soil Map Unit Name: 20 - Hensley very stony clay loam 0-5% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Upland herbaceous. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus fusiformis	15	✔	NI
2.			
3.			
4.			
	15%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Prosopis glandulosa	5	✔	FACU
2.			
3.			
4.			
5.			
	5%	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Aristida oligantha	70	✔	NI
2. Heterotheca canescens	20		NI
3. Bromus arvensis	10		FACU
4. Quercus fusiformis	3		NI
5.			
6.			
7.			
8.			
9.			
10.			
	103%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	15 (A)		60 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

Upland herbaceous.

SOIL

Sampling Point: A1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	7.5YR 4/3	98	10YR 5/6	2	C	M	Silty clay	
12 - 16	10YR 5/4	100					Silty clay	5% small limestone pieces
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Palo Pinto County Sampling Date: 2020-09-16

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: A2

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): H Lat: 32.628682 Long: -98.070289 Datum: WGS 84

Soil Map Unit Name: 20 - Hensley very stony clay loam 0-5% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Upland woodland. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Prosopis glandulosa	20	✔	FACU
2. Ulmus crassifolia	20	✔	FAC
3.			
4.			
	40%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Ulmus crassifolia	30	✔	FAC
2. Quercus stellata	5		FACU
3.			
4.			
5.			
	35%	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Sporobolus compositus	50	✔	NI
2. Aristida oligantha	30	✔	NI
3. Bromus arvensis	15		FACU
4. Ambrosia psilostachya	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	95 (A)		330 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

Upland woodland.

SOIL

Sampling Point: A2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	7.5YR 3/4	100					Silty clay loam	10% limestone gravel
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Palo Pinto County Sampling Date: 2020-09-16

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: B1

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): H Lat: 32.627614 Long: -98.067182 Datum: WGS 84

Soil Map Unit Name: 24 - Lindy clay loam, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland scrub-shrub. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Prosopis glandulosa	30	✔	FACU
2.			
3.			
4.			
5.			
	30% = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Aegilops cylindrica	40	✔	NI
2. Ambrosia psilostachya	30	✔	FACU
3. Solanum elaeagnifolium	15		NI
4. Panicum obtusum	10		FAC
5. Bromus arvensis	5		FACU
6. Croton capitatus	5		NI
7.			
8.			
9.			
10.			
	105% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	75 (A)		290 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland scrub-shrub.

SOIL

Sampling Point: B1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	7.5YR 3/4	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Parker County Sampling Date: 2020-09-15

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: C1

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): J Lat: 32.627386 Long: -98.060209 Datum: WGS 84

Soil Map Unit Name: HnB - Hensley complex, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

Upland herbaceous. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches. Additionally, the channel in which the sampling point was collected has an industrial process water discharge associated with it.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Salix nigra	3		FACW
2.			
3.			
4.			
5.			
	3% = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Eleocharis acicularis	50	✔	OBL
2. Iva annua	5		FAC
3. Typha domingensis	5		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	3	x 2 =	6
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	63 (A)		76 (B)

Prevalence Index = B/A = 1.2

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

In addition to the industrial water discharge, hog rooting/wallowing was observed along this sampling location; therefore, hydrology and soil characteristics may be altered, thus allowing opportunistic hydrophytic vegetation to establish.

SOIL

Sampling Point: C1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 6/3	100					Clay	
2 - 4	10YR 2/1	100					Clay	
4 - 8	10YR 3/1	100					Clay	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 8

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ____ Depth (inches): 2

Water Table Present? Yes ____ No ✔ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ✔ No ____ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Presence of surface water and saturation wetland hydrology indicators due to recent precipitation and industrial water discharge.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Parker County Sampling Date: 2020-09-15

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: E1

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): J Lat: 32.618094 Long: -98.056274 Datum: WGS 84

Soil Map Unit Name: HnB - Hensley complex, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔ No ____	
Wetland Hydrology Present?	Yes ✔ No ____	

Remarks:

Emergent wetland. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches. Additionally, the channel in which the sampling point was collected has an industrial process water discharge associated with it.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Typha domingensis	95	✔	OBL
2. Cyperus odoratus	5		FACW
3. Echinochloa crus-galli	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		120 (B)

Prevalence Index = B/A = 1.1

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

In addition to the industrial water discharge, hog rooting/wallowing was observed along this sampling location; therefore, hydrology and soil characteristics may be altered, thus allowing opportunistic hydrophytic vegetation to establish.

SOIL

Sampling Point: E1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 0.5	2.5Y 6/3	100	/				Silty clay	
0.5 - 4	10YR 2/1	70	10YR 5/4	20	C	M	Clay	
0.5 - 4	10YR 3/2	10					Clay	
4 - 16	10YR 3/2	100					Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 2

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Presence of surface water and saturation wetland hydrology indicators due to recent precipitation and industrial water discharge.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weatherford Quarry City/County: Lipan/Parker County Sampling Date: 2020-09-15

Applicant/Owner: Vulcan Materials Company State: Texas Sampling Point: E2

Investigator(s): Boe, B. & Hight, S. Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Undulating Slope (%): 2

Subregion (LRR): J Lat: 32.618084 Long: -98.056238 Datum: WGS 84

Soil Map Unit Name: HnB - Hensley complex, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland herbaceous. While the DAREM calculation indicates a drier than normal hydrologic condition (score of 7), it does not account for precipitation during the month of September. 8.06 inches of precipitation were reported as of September 25, 2020, which well exceeds the 70th percentile of 3.03 inches.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Prosopis glandulosa	5	✔	FACU
2.			
3.			
4.			
5.			
	5% = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Iva angustifolia	70	✔	NI
2. Ambrosia psilostachya	20	✔	FACU
3. Euphorbia bicolor	5		NI
4. Sorghastrum nutans	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	30 (A)		120 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Upland herbaceous.

SOIL

Sampling Point: E2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 11	10YR 2/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 11

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

APPENDIX D – TRANSECT DATA FORMS (HALFF)

Transect: A	**Data Point:** 1	**Wetland:** No	**Community:** Upland herbaceous

Transect: A	**Data Point:** 2	**Wetland:** No	**Community:** Upland woodland

Transect: B	**Data Point:** 1	**Wetland:** No	**Community:** Upland scrub-shrub

Transect: C	**Data Point:** 1	**Wetland:** No	**Community:** Upland herbaceous

Transect: E	**Data Point:** 1	**Wetland:** Yes	**Community:** Emergent wetland

Transect: E	**Data Point:** 2	**Wetland:** No	**Community:** Upland herbaceous

APPENDIX E – STREAM DATA FORMS

Stream: EMB

NC DWQ Stream Identification Form Version 4.11

Date: September 16, 2020	**Project/Site**: Weatherford Quarry	**Latitude:** 32.61782
Evaluator: M. McKnight, R. Sulkers	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.06463
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12.5	**Stream Determination (circle one)** **Ephemeral** **Intermittent** **Perennial**	**Other** *e.g. Quad Name*: Brazos East/ Lipan

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(0.5) 1	2	3
2. Sinuosity of channel along thalweg	0	(0.5) 1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(0.5) 1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	0	(1)	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

N/A

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	0	1 (1.5)	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	(0.5)	1	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

For features that exceeded the threshold of a category but did not meet the conditions of the next highest category, we provided half points. As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

Mostly straight stream with some slight bends. Particle size of substarte varies from sediment to cobble. Bigger particles act as slight grade control. Stream appears to be lightly flowing with some organice debris piles. Some FACU species present along the length of the channel. Weak to moderate presence of aquatic mollusks and amphibians. No evidence of fish or crayfish.

NC DWQ Stream Identification Form Version 4.11

Stream: EME

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.61782
Evaluator: M. McKnight, R. Sulkers	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.06463
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 7.5	**Stream Determination (circle one)** **Ephemeral** **Intermittent** **Perennial**	**Other** *e.g. Quad Name*: Brazos East/ Lipan

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(0.5)	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(0.5)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 1)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

For features that exceeded the threshold of a category but did not meet the conditions of the next highest category, we provided half points.

Extremely weak sinuosity of channel but not completely straight. Weak continuity of bed and bank, slight variation in substrate size along the channel contributes to in-channel structure and grade control. Some leaf litter and organic debris noted along the length of the channel. Moderate presence of FACU plant Muhlenbergia capillaris present in streambed. No other biotic organisms noted.

NC DWQ Stream Identification Form Version 4.11

Stream: ERA

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.61782
Evaluator: R. Sulkers, M. McKnight	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.06463
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 22.5	**Stream Determination (circle one)** Ephemeral **Intermittent** Perennial	**Other** *e.g. Quad Name*: Brazos East/ Lipan

A. Geomorphology (Subtotal = 9)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	**1**	2	3
2. Sinuosity of channel along thalweg	0	**1**	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	**1**	2	3
4. Particle size of stream substrate	0	1	**2**	3
5. Active/relict floodplain	**0**	1	2	3
6. Depositional bars or benches	**0**	1	2	3
7. Recent alluvial deposits	**0**	1	2	3
8. Headcuts	**0**	1	2	3
9. Grade control	0	**0.5**	1	1.5
10. Natural valley	0	**0.5**	1	1.5
11. Second or greater order channel	No = 0		Yes = **3**	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5)					
12. Presence of Baseflow	0	1	**2**	3	
13. Iron oxidizing bacteria	0	1	**2**	3	
14. Leaf litter	1.5	1	0.5	0	N/A
15. Sediment on plants or debris	**0**	0.5	1	1.5	
16. Organic debris lines or piles	0	0.5	**1**	1.5	
17. Soil-based evidence of high water table?	No = **0**		Yes = 3		

C. Biology (Subtotal = 8.5)				
18. Fibrous roots in streambed	3	**2**	1	0
19. Rooted upland plants in streambed	3	**2**	1	0
20. Macrobenthos (note diversity and abundance)	**0**	1	2	3
21. Aquatic Mollusks	0	1	**2**	3
22. Fish	**0**	0.5	1	1.5
23. Crayfish	**0**	0.5	1	1.5
24. Amphibians	0	0.5	**1**	1.5
25. Algae	0	0.5	1	**1.5**
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = **0**			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

Moderately flowing channel with few bends and moderate variation in substrate size, some cobble present as well as sediment. No obvious floodplain, alluvial deposits, or depositional bars. Some cobble clusters contributing to grade control. Roots from FACU plants noted in streambed along channel, some being rooted in the streambed. Strong algae presence, a fair amount of amphibians noted.

NC DWQ Stream Identification Form Version 4.11

Stream: ERD

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.626636
Evaluator: R. Sulkers, M. McKnight	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.071765
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 17	**Stream Determination (circle one)** **Ephemeral** **Intermittent** **Perennial**	**Other** *e.g. Quad Name*: Brazos East/Lipan

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6)					
12. Presence of Baseflow	0	(1)	2	3	
13. Iron oxidizing bacteria	0	(1)	2	3	
14. Leaf litter	1.5	1	0.5	0	N/A
15. Sediment on plants or debris	0	(0.5)	1	1.5	
16. Organic debris lines or piles	0	(0.5)	1	1.5	
17. Soil-based evidence of high water table?	No = 0		Yes = (3)		

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	1	(0)
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	0	(1)	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

Fairly straight channel with some slight bends and weak continuity of bed and bank. Substrate size ranges from sediment to small boulders. Stream appeared to be lightly flowing, indicating some presence of baseflow. Several FACU plant species noted growing in the streambed along the channel. Moderate amount of frogs were seen and algae was present in some parts of the water.

NC DWQ Stream Identification Form Version 4.11 Stream: ERF

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.61782
Evaluator: R. Sulkers, M. McKnight	**County:** Palo Pinto & Parker Counties	**Longitude:** 98.06463
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 18	**Stream Determination (circle one)** **Ephemeral** **Intermittent** **Perennial**	**Other** *e.g. Quad Name*: Brazos East/ Lipan

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6)					
12. Presence of Baseflow	0	(1)	2	3	
13. Iron oxidizing bacteria	0	(1)	2	3	
14. Leaf litter	1.5	1	0.5	0	N/A
15. Sediment on plants or debris	(0)	0.5	1	1.5	
16. Organic debris lines or piles	0	0.5	(1)	1.5	
17. Soil-based evidence of high water table?	No = 0		Yes = (3)		

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	0	1	(2)	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

Fairly straight stream with a few bends and areas of little to no overland flow. Weak continuity of channel bed and bank. Substrate size rangs from sediment to small boulders/cobble acting as grade control. No noticeable floodplain or head-cuts. Soil sample shows evidence of a high water table. Some presence of FACU species Muhlenbergia capillaris noted along the channel. Some mollusks, algae, and amphibians noted.

NC DWQ Stream Identification Form Version 4.11

Stream: ERH

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.61782
Evaluator: R. Sulkers, M. McKnight	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.06463
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 14.5	**Stream Determination (circle one)** **Ephemeral** Intermittent Perennial	**Other** *e.g. Quad Name*: Brazos East/ Lipan

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	[1]	2	3
2. Sinuosity of channel along thalweg	0	[0.5]	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	[1]	2	3
4. Particle size of stream substrate	0	1	[2]	3
5. Active/relict floodplain	[0]	1	2	3
6. Depositional bars or benches	[0]	1	2	3
7. Recent alluvial deposits	[0]	1	2	3
8. Headcuts	[0]	1	2	3
9. Grade control	0	[0.5]	1	1.5
10. Natural valley	[0]	0.5	1	1.5
11. Second or greater order channel	No = [0]		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4.5)					
12. Presence of Baseflow	0	[1]	2	3	
13. Iron oxidizing bacteria	[0]	1	2	3	
14. Leaf litter	1.5	1	0.5	0	N/A
15. Sediment on plants or debris	[0]	0.5	1	1.5	
16. Organic debris lines or piles	0	[0.5]	1	1.5	
17. Soil-based evidence of high water table?	No = 0		Yes = [3]		

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	2	1	[0]
19. Rooted upland plants in streambed	3	[2]	1	0
20. Macrobenthos (note diversity and abundance)	[0]	1	2	3
21. Aquatic Mollusks	0	[1]	2	3
22. Fish	[0]	0.5	1	1.5
23. Crayfish	[0]	0.5	1	1.5
24. Amphibians	0	[0.5]	1	1.5
25. Algae	0	0.5	1	[1.5]
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = [0]			

*perennial streams may also be identified using other methods. See p. 35 of manual.

provided half points. As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

Notes:

For features that exceeded the threshold of a category but did not meet the conditions of the next highest category, we

Fairly straight stream with very few bends. Particle size of substrate varies from sediment to cobble, contributing to some very slight grade control and in-channel structure. Stream appears to be lightly flowing. FACU plants rooted along the channel and in the streambed. Algal mat present as well as algae in the stream.

Stream: HI3

NC DWQ Stream Identification Form Version 4.11

Date: September 16, 2020	**Project/Site:** Weatherford Quarry	**Latitude:** 32.625123
Evaluator: R. Sulkers, M. McKnight	**County:** Palo Pinto & Parker Counties	**Longitude:** -98.057009
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 18	**Stream Determination (circle one)** **Ephemeral** **Intermittent** **Perennial**	**Other** *e.g. Quad Name:* Brazos East/ Lipan

A. Geomorphology (Subtotal = 8.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1 (1.5)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)					
12. Presence of Baseflow	0	(1)	2	3	
13. Iron oxidizing bacteria	0	(1)	2	3	
14. Leaf litter	1.5	1	0.5	0	N/A
15. Sediment on plants or debris	0	(0.5)	1	1.5	
16. Organic debris lines or piles	0	(0.5)	1	1.5	
17. Soil-based evidence of high water table?	No = (0)		Yes = 3		

C. Biology (Subtotal = 6.5)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	0	(1)	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = (1.5) Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:
For features that exceeded the threshold of a category but did not meet the conditions of the next highest category, we provided half points. As there wasn't a canopy with leaves, we excluded the leaf litter category from our review.

APPENDIX F – SITE PHOTOGRAPHS

PHOTO 1: WRA Upland at Flag WRA2

PHOTO 2: WRA Wetland at Flag WRA2

PHOTO 3: WRB Upland at Flag WRB1

PHOTO 4: WRB Wetland at Flag WRB1

PHOTO 5: WRC Upland at Flag WRC3

PHOTO 6: WRC Wetland at Flag WRC3

PHOTO 7: Intermittent Stream at Flag ERA10

PHOTO 8: Ephemeral Stream at Flag ERA11 / ERE1

PHOTO 9: Potential Wetland at Stream Flag ERA17, Does Not Meet 50/20 Rule

PHOTO 10: Potential Wetland at Stream Flag ERA27, Does Not Have Hydric Soil Indicators

PHOTO 11: Looking Downstream at Stream Flag ERA31

PHOTO 12: Photo at Stream Flag ERE7

PHOTO 13: Potential Wetland at ERE9, Does Not Meet 50/20 Rule

PHOTO 14: Potential Wetland at Stream Flag ERE14, Does Not Meet 50/20 Rule

PHOTO 15: _Ephemeral Stream With Overland Flow at Stream Flag ERE16

PHOTO 16: Ephemeral Stream at Flag ERF2

PHOTO 17: Ephemeral Stream at Stream Flag ERF8

PHOTO 18: Ephemeral Channel With No OHWM at Stream Flag ERF11

PHOTO 19: Overland Flow at Stream Flag ERF13

PHOTO 20: Stream Photo at Stream Flag ERF15

PHOTO 21: Loose Stream OHWM and Bed and Bank at Flag ERF16

PHOTO 22: Confluence of Stream ERE and Stream ERG Into Stream ERA

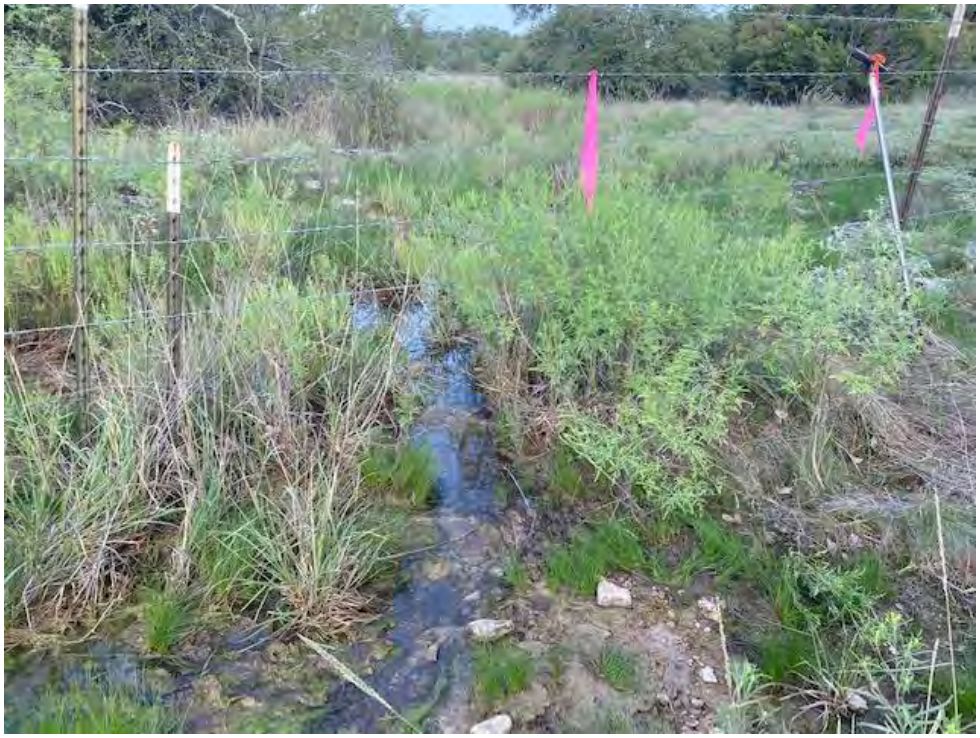


PHOTO 23: Ephemeral Stream at Stream Flag ERH2

PHOTO 24: Potential Wetland at Stream Flag ERH11

PHOTO 25: Stream Form Photo at Stream Flag ERH12

PHOTO 26: Photo at ERH14, Loose OHWM and Bed and Bank

PHOTO 27: Photo at Stream Flag ERH20

PHOTO 28: Photo of Stream at Stream Flag ERJ3

PHOTO 29: Photo at Flag ERJ5, No OHWM or Bed or Bank Features

PHOTO 30: Overland Sheet Flow at Flag ERJ12

PHOTO 31: No OHWM or Bed and Bank Features at Flag ERK7

PHOTO 32: Wetland Data Point at Wetland Flag MB2

PHOTO 33: Upland Data Point at Wetland Flag MB2

PHOTO 34: Intermittent Stream HI3 Facing North (Photo by HHNT)

PHOTO 35: Intermittent Stream HI3 Facing South (Photo by HHNT)

PHOTO 36: Ephemeral Stream at Stream Data Point Taken at Stream Flag EME10

PHOTO PP2: Wetland HW4 Facing South (Photo by Halff Associates)

PHOTO PP6: Intermittent Stream HI3 (Photo by Halff Associates)

PHOTO PP11: Stream HE5 Flowing North (Photo by Halff Associates)

PHOTO PP12: Facing In To Wetland HW2 (Photo by Halff Associates)

PHOTO PP13: Facing In To Wetland HW1_(Photo by Halff Associates)

PHOTO PP21: Surface Water HSW1 Facing East (Photo by Halff Associates)

PHOTO PP24: _Ephemeral Channel HE1 Flowing North_(Photo by Halff Associates)___

PHOTO PP31: Intermittent Stream HI2 downstream of OLSF6 (Photo by Halff Associates)

PHOTO PP43: Previously Mined Area (Photo by Halff Associates)

PHOTO PP46: Ephemeral Channel HE6 Flowing Northwest (Photo by Halff Associates)

PHOTO PP51: _____Surface Water HSW2 Facing South (Photo by Halff

PHOTO PP53: Surface Water HSW2 Facing Northwest (Phot by Halff Associates)

APPENDIX G – ORM AQUATIC RESOURCES UPLOAD TABLE

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	NWPR_Determine_Code	Latitude	Longitude	Local_Waterway
ERA(e)	TEXAS	R6	RIVERINE	Linear	2277	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.622552	-98.07421	Brazos River
ERA(i)	TEXAS	R4	RIVERINE	Linear	1396	FOOT	A2TRIBINT		32.626591	-98.072137	
ERB	TEXAS	R6	RIVERINE	Linear	186	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.627837	-98.072033	
ERC	TEXAS	R6	RIVERINE	Linear	73	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.62755	-98.071904	
ERD	TEXAS	R6	RIVERINE	Linear	225	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.626642	-98.07178	
ERE1	TEXAS	R6	RIVERINE	Linear	805	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.623964	-98.0711	
ERE2	TEXAS	R6	RIVERINE	Linear	929	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.621058	-98.0686	
ERF1	TEXAS	R6	RIVERINE	Linear	728	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.61888	-98.069658	
ERF2	TEXAS	R6	RIVERINE	Linear	1040	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.623408	-98.071626	
ERH	TEXAS	R6	RIVERINE	Linear	2743	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.618566	-98.06197	
ERJ	TEXAS	R6	RIVERINE	Linear	1564	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.618012	-98.075915	
ERK	TEXAS	R6	RIVERINE	Linear	640	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.611985	-98.0725	
EMA	TEXAS	R6	RIVERINE	Linear	2337	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.616846	-98.06771	
EMB	TEXAS	R6	RIVERINE	Linear	710	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.621745	-98.074113	
EMB2	TEXAS	R6	RIVERINE	Linear	1628	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.617932	-98.07324	
EMC	TEXAS	R6	RIVERINE	Linear	1016	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.62271	-98.06477	
EMD	TEXAS	R6	RIVERINE	Linear	1236	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.625227	-98.067222	
EME	TEXAS	R6	RIVERINE	Linear	1046	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.629562	-98.071128	
EMF	TEXAS	R6	RIVERINE	Linear	352	FOOT	B3EPHEMERAL	Yes - would have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion and is therefore also not a (b)(1) exclusion	32.614867	-98.072607	
HE1	TEXAS	R6	RIVERINE	Linear	1113	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.629646	-98.06169	
HI2	TEXAS	R4	RIVERINE	Linear	598	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.628053	-98.061418	
HI3	TEXAS	R4	RIVERINE	Linear	4501	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.623283	-98.057627	
HE4	TEXAS	R6	RIVERINE	Linear	700	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.624432	-98.056271	
HE5	TEXAS	R6	RIVERINE	Linear	1576	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.622039	-98.05487	
HE6	TEXAS	R6	RIVERINE	Linear	1380	FOOT	B3EPHEMERAL	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.618837	-98.04847	
SWA	TEXAS	L2	LACUSTRINF	Area	6.33	ACRE	A3LPIFLOOD		32.627013	-98.070872	
SWB	TEXAS	L2	LACUSTRINF	Area	0.12	ACRE	B8LPIART	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.629015	-98.068334	
SWRA	TEXAS	L2	LACUSTRINF	Area	0.48	ACRE	A3LPIFLOOD		32.625573	-98.069512	
SWRC	TEXAS	L2	LACUSTRINF	Area	0.68	ACRE	B8LPIART	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.61876	-98.072266	
WRA	TEXAS	PEM	DEPRESS	Area	0.28	ACRE	A4WETABUT		32.626534	-98.0721	
WRB	TEXAS	PEM	DEPRESS	Area	0.14	ACRE	A4WETFLOOD		32.627878	-98.071842	
WRC	TEXAS	PEM	DEPRESS	Area	0.1	ACRE	A4WETFLOOD		32.626269	-98.071567	
MB	TEXAS	PEM	DEPRESS	Area	0.14	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.624115	-98.06559	
MA	TEXAS	PEM	DEPRESS	Area	0.29	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.62359	-98.065319	
HSW1	TEXAS	L2	LACUSTRINF	Area	0.17	ACRE	B8LPIART	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.628444	-98.062472	
HSW2	TEXAS	L2	LACUSTRINF	Area	0.64	ACRE	B8LPIART	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.619593	-98.053987	
HW1	TEXAS	PEM	DEPRESS	Area	0.05	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.623844	-98.055668	
HW2	TEXAS	PEM	DEPRESS	Area	0.02	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.623467	-98.055073	
HW3	TEXAS	PEM	DEPRESS	Area	0.07	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.620048	-98.053901	
HW4	TEXAS	PEM	DEPRESS	Area	0.05	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.619261	-98.053852	
HW5	TEXAS	PEM	DEPRESS	Area	0.16	ACRE	B1WETNONADJ	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.617855	-98.056213	
OLS1	TEXAS	U		Linear	652	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.61375000	-98.07222000	
OLS2	TEXAS	U		Linear	187	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.61578000	-98.07284000	
OLS3	TEXAS	U		Linear	338	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.62040000	-98.07400000	
OLS4	TEXAS	U		Linear	1020	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.62087000	-98.06992000	
OLS5	TEXAS	U		Linear	553	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.62269000	-98.06980000	
OLS6	TEXAS	U		Linear	265	FOOT	B4SHEETFLOW	Yes - would NOT have been an (a)(1)-(4) water absent the (b)(2)-(12) exclusion is therefore also a (b)(1) exclusion	32.627273	-98.060343	

APPENDIX H – OWNERSHIP INFORMATION

October 6, 2020

Regulatory Division
U.S. Army Corps of Engineers
819 Taylor Street, Room 3A37
P.O. Box 17300
Fort Worth, TX 76102

Re: Approved Jurisdictional Determination
Property Address: 1111 Gilbert Pit Rd, Millsap, TX 76066
County: Palo Pinto and Parker Counties, Texas
Parcel Number(s): R000009799 , R000095166 , R000059301
Acreage: +/- 1,534.81

To Whom It May Concern,

I own the property described above and I have legal authority to allow access to the property. I consent to any site visit on the property by agents or personnel from Army Corps of Engineers, and/or Hodges, Harbin, Newberry & Tribble (HHNT). Additionally, I am providing authority to Vulcan to apply and receive an Approved Jurisdictional Determination on the Property.

Sincerely,

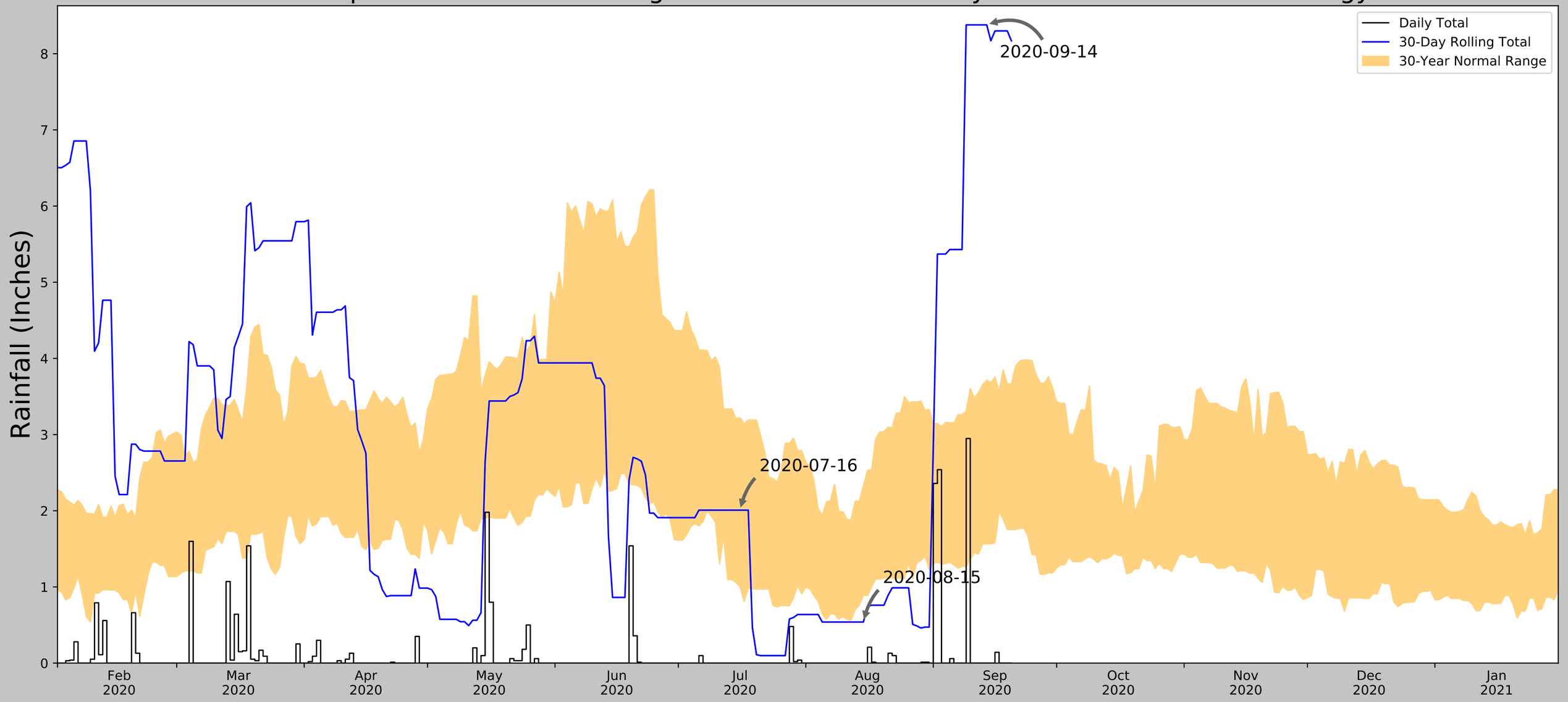
Parker County:
Parcels R000095166, R000059301
Vulcan Lands Inc.
1200 Urban Center Dr.
Birmingham, AL 35242

Palo Pinto County:
Parcel R00000979
Florida Rock Industries
6200 UTSA Blvd.
San Antonio, TX 78249

Encl: Property Map

APPENDIX I – ANTECEDENT PRECIPITATION

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.618876, -98.053756
Observation Date	2020-09-14
Elevation (ft)	919.31
Drought Index (PDSI)	Mild wetness (2020-08)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-14	1.565748	3.712992	8.377953	Wet	3	3	9
2020-08-15	0.888583	2.324803	0.53937	Dry	1	2	2
2020-07-16	1.005512	3.222441	2.007874	Normal	2	1	2
Result							Normal Conditions - 13

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MINERAL WELLS AP	32.7817, -98.0603	930.118	11.256	10.808	5.187	11074	90
LIPAN 4NW	32.5725, -98.0803	988.845	3.557	69.535	1.848	244	0
BRAZOS	32.6489, -98.1336	839.895	5.088	79.415	2.694	34	0