13.0 ALTERNATIVES ANALYSIS

The purpose of this section is to review and analyze potential project alternatives for practicability and to identify the practicable alternative that results in the least amount of damage to the environment as a result of direct and indirect impacts to waters of the U.S.

13.1 Restate Purpose and Need

Local population growth and the natural shortage of the necessary raw materials to produce concrete has resulted in a shortage of available aggregate and concrete production in western San Patricio County, Texas.

The purpose of the proposed project is to provide local municipalities and the general public a source of aggregate and concrete to meet local demand. The applicant proposes to construct a light industrial concrete recycling and production facility along SH 35 near Aransas Pass, Texas, to meet local demand.

13.2 Identify Alternatives

According to the AJD (Appendix A), the approximately 137.97-acre subject area contains 20.9 acres of jurisdictional wetlands (Attachment A, Figure 6). Therefore, the remaining 117.07 acres consists of non-jurisdictional uplands.

No Action Alternatives

The No Action Alternative represents a scenario where a Clean Water Act Section 404 Individual Permit is not required as all project activities would occur outside the limits of any waters of the U.S.

Alternative 1

Alternative 1 is the 'No Build' alternative in which the applicant does not develop a concrete-related, light industrial recycling and production facility.

Alternative 2

Alternative 2 involves the applicant constructing either a concrete recycling facility or a concrete production facility within the subject area. Given the interdependent nature of these operations (i.e. concrete production requires aggregate and recycling concrete aggregate has few uses other than as a component in concrete production) and the similar geographic constraints of transporting the product of one operation to another facility that is capable of completing the process that would not be able to be completed on-site if only one of the processing operations can be completed, the construction of either a concrete recycling facility or concrete production facility within the subject area is being evaluated as a single alternative.

Per the project engineer, the minimum acreage requirements for constructing a concrete recycling facility adjacent to a concrete production facility are such that the two cannot both be constructed within the subject area without impacts to waters of the U.S. However, either of these alternatives could, individually, be constructed and operated within the existing uplands within the subject area without adverse impacts to waters of the U.S. and therefore not require CWA Section 404 Individual Permit authorization from USACE.

Off-Site Alternatives

The City of Aransas Pass is bound to the east by Redfish Bay, the north by commercial and residential development, and to the south by the City of Ingleside, Texas. The City of Aransas Pass has indicated the Master Plan for this portion of western San Patricio County, Texas, is to reserve the undeveloped land to the north of Aransas Pass between Port Bay and SH 35 as open-space and recreational areas (Sylvia Carrillo, pers. comm. 2016; Attachment A, Figure 7). The City of Aransas Pass, Texas, has indicated that the areas to the west of McCampbell Slough along SH 35 towards the Port of Corpus Christi are tentatively planned as an industrial corridor.

Alternative 3

At the time of acquisition by the applicant, the only properties commercially available for sale or lease within the City of Aransas Pass' planned industrial corridor, of at least 125 acres, and along a major thoroughfare in western San Patricio County, Texas, were additional parcels of a larger tract from which the applicant purchased.

Alternative 3 involves the applicant acquiring an additional parcel of the larger tract from which the applicant purchased and constructing all, or portions, of the light industrial concrete facility within the newly acquired tract.

On-Site Alternatives

Alternative 4

Alternative 4 (Attachment B, Sheet 1) involves the applicant constructing both a concrete recycling and production facility within the subject area, including a concrete crusher, pug mill, concrete batch plant, hot mix plant, and concrete laydown yard. Associated facilities to be constructed in support of the concrete-related operations are a truck terminal with a fuel island, machine shop for performing maintenance activities, and concrete-related chemical storage facilities. These facilities are sited and scaled using industry standard factors.

This alternative requires the applicant to receive a CWA Section 404 Individual Permit authorization from USACE for impacts to 20.9 acres of waters of the U.S. (Attachment B, Sheet 1). Alternative 4 would require fill to be placed into all of JD-WET Areas A, B, C, and D.

Alternative 5 (Preferred Alternative)
Alternative 5 (Attachment B, Sheet 2) is the preferred alternative and involves the applicant constructing both a concrete recycling and production facility within the subject area, including a concrete crusher, pug mill, concrete batch plant, hot mix plant, and concrete laydown yard. Associated facilities to be constructed in support of the concrete-related operations are a truck terminal with a fuel island and machine shop for performing maintenance activities. These facilities are sited unconventionally in order to utilize non-jurisdictional uplands to the maximum extent practicable and scaled to the minimum size necessary required to accommodate the equipment that is anticipated on-site.

This alternative requires the applicant to receive a CWA Section 404 Individual Permit authorization from USACE for impacts to 16.11 acres of waters of the U.S. (Attachment B, Sheet 2). Alternative 5 avoids impacts to JD-WET Area A but would require fill to be placed into portions of JD-WET Areas B, C, and D.

13.3 Practicability and LEDPA Analysis (+ Matrix)

Metric 1
Does an alternative allow the project to achieve the purpose of providing a local source of aggregate and concrete production to meet the expressed needs of local municipalities and the general public in western San Patricio County, Texas, at a cost comparable to the surrounding region?

Alternative 1
Alternative 1 is the 'No Build' scenario where neither the concrete recycling nor production facility are constructed within the subject area. The City of Aransas Pass, Texas, has expressed the need for a local supply of concrete as none currently exists in western San Patricio County, Texas. The price of importing these materials has increased to the point where their purchase has become cost-prohibitive, subsequently prohibiting the economic development of these municipalities. According to the City of Aransas Pass, the monetary cost of importing concrete to western San Patricio County, Texas, has become impracticable. This alternative does not achieve the purpose of the project of meeting the need of a supply of locally-sourced aggregate and concrete production in western San Patricio County, Texas, at a cost comparable to the surrounding region.

For these reasons, Alternative 1 does not meet Metric 1. Therefore, Alternative 1 is determined to not be practicable and is removed from further consideration.

Alternative 2
Alternative 2 involves the applicant constructing either a concrete recycling or concrete production facility within the subject area. Constructing either of these facilities independent from the other is being evaluated as a single alternative based on the interdependent nature of these operations and the similarity in geographic constraints of transporting the product of one operation to another facility to complete the other process.

In order to have no adverse impacts to waters of the U.S. within the subject area, the applicant could operate only the concrete recycling facility or the concrete production facility. However, neither one of these facilities alone will practicably meet the needs of western San Patricio County, Texas.

If only the concrete recycling facility is constructed, the aggregate produced will have to be shipped into Nueces County, Texas, through the Cities of Gregory, Portland, and Corpus Christi, Texas, and additionally, crossing the Harbor Bridge where Nueces Bay flows into Corpus Christi Bay in order to reach a facility where the aggregate can be used to produce concrete. The concrete will then need to be transported back along the same route to reach the end users in western San Patricio County, Texas.

If only the concrete production facility is constructed, concrete to be recycled will have to be shipped from western San Patricio County, Texas, along the same route described above to the nearest concrete recycling facility located within the City of Corpus Christi, recycled into aggregate, and returned to the subject area, or taken to another concrete production facility, to be converted into concrete.

Only constructing the concrete recycling facility will meet the purpose and need of providing western San Patricio County, Texas, with a local source of aggregate but does not meet the purpose and need of providing concrete. Similarly, only constructing the concrete production facility will meet the purpose and need of providing western San Patricio County, Texas, with a local source of concrete but does not meet the purpose and need of providing aggregate. The increased monetary cost resulting from transporting either concrete to be recycled, processed aggregate, or new concrete from western San Patricio County, Texas, to Corpus Christi, Texas, and back would continue to make the purchase of new concrete in western San Patricio County, Texas, cost-prohibitive.

For these reasons, Alternative 2 does not meet Metric 1. Therefore, Alternative 2 is determined to not be practicable and is removed from further consideration.

Alternative 3

Alternative 3 involves the applicant acquiring an additional parcel of the larger tract from which the applicant has already purchased and constructing all, or a portion of, the concrete-related, light industrial facility within the newly acquired tract.

At the time of purchase, additional parcels were available for sale at a price comparable to that paid by the applicant to purchase the subject area. The applicant could purchase these additional parcels to construct all, or a portion of, the concrete-related, light industrial facility.

Alternative 3 meets the requirements of Metric 1, meeting the purpose of the project, and is retained for further consideration.

Alternative 4

Alternative 4 involves the applicant constructing the concrete-related, light industrial facility based on the initial site plan. This site plan allows all necessary components of the concrete-related, light industrial facility to be constructed within the subject area.

Alternative 4 meets the requirements of Metric 1, meeting the purpose of the project, and is retained for further consideration.

Alternative 5
Alternative 5 involves the applicant constructing the concrete-related, light industrial facility based on the modified site plan. This site plan allows all necessary components of the concrete-related, light industrial facility to be constructed within the subject area.

Alternative 5 meets the requirements of Metric 1, meeting the purpose of the project, and is retained for further consideration.

Metric 2
Would impacts related to the construction of a concrete-related, light industrial recycling and production facility within any of the parcels available for purchase or lease along SH 35 near Aransas Pass, Texas, result in less damage to the environment than another parcel.

Alternative 3
Alternative 3 involves the applicant acquiring an additional parcel of the larger tract from which the applicant purchased and constructing all, or a portion of, the concrete-related, light industrial facility within the newly acquired tract.

At the time of purchase, additional parcels were available for sale at a price comparable to that paid by the applicant to purchase the subject area.

Desktop review and initial site reconnaissance indicated that these available parcels are predominately at lower elevations than the applicant's parcel. The available parcels to the east of the subject area appear to generally consist of a perennial stream and wetland complex draining directly into McCampbell Slough. Desktop review and initial site reconnaissance indicate that the available parcels to the west of the subject area were not of sufficient acreage to meet the project's needs and generally consist of a potential wetland complex directly associated with McCampbell Slough. Impacts to aquatic resources were assumed to be up to 135 acres if the project were to be sited within any of the available parcels to the east or west of the subject area. Therefore, these parcels were removed from further consideration.

The subject area is situated on a naturally occurring area of higher elevation between the potential wetland complex associated directly with McCampbell Slough to the west and the potential wetland complex associated with a perennial stream flowing directly into McCampbell Slough to the east. As identified in the AJD, jurisdictional wetlands occur at various locations along the eastern and western boundaries of the subject area. These jurisdictional wetlands are assumed to be the up-gradient extents of the previously described potential wetland complexes to the east and west of the subject area, both draining directly into McCampbell Slough to the north. Any changes in the proposed project limits to the commercially available parcels to the east or west of the subject area would likely result in a greater amount of impacts to aquatic resources than siting the project within the subject area.

For these reasons, Alternative 3 does not meet Metric 2. Therefore, Alternative 3 is determined to not be the least environmentally damaging alternative and is removed from further consideration.

Alternative 4

Alternative 4 (Attachment B, Sheet 1) requires the applicant to receive a CWA Section 404 Individual Permit authorization from USACE for impacts to 20.9 acres of waters of the U.S. Alternative 4 would require approximately 63,965 cu. yds. of fill to be placed into all of JD-WET Areas A, B, C, and D. JD-WET Area A is an estuarine emergent wetland and JD-WET Areas B, C, and D are freshwater emergent wetlands.

Alternative 4 does not minimize impacts to waters of the U.S. within the subject area. For this reason, Alternative 4 does not meet Metric 2 and is removed from further consideration.

Alternative 5

Alternative 5 (Attachment B, Sheet 2) requires the applicant to receive a CWA Section 404 Individual Permit authorization from USACE for impacts to 16.11 acres of waters of the U.S. Alternative 5 would avoid impacts to JD-WET Area A and minimize impacts to the larger potential wetland area that comprises JD-Wet Areas B and C at JD-WET Area B. This area would require approximately 33,685 cu. yds. of fill to be placed into all of JD-WET Areas C and D.

Alternative 5 would result in less impacts to waters of the U.S. than Alternatives 3 and 4. For this reason, Alternative 5 meets Metric 2 and is the only remaining alternative.

A summary of the practicability and environmental damage analysis is located in Table 2.

Table 2. Practicability and LEDPA Analysis Matrix.

Category	Practicability	Environmental Impacts
Factor	Metric 1 (Meets Purpose and Need)	Metric 2 (Approximate Amount of Potential WOTUS Impacts)
Alternative 1	No	-
Alternative 2	No	-
Alternative 3	Yes	up to 135 acres
Alternative 4	Yes	20.9 acres
Alternative 5 (Preferred Alternative)	Yes	16.11 acres

13.4 LEDPA Determination

Metric 1

As determined through the Practicability and LEDPA Analysis, Alternative 1 and Alternative 2 would not allow the applicant to achieve the stated purpose and need of the project (Table 2). As such, these two alternatives were deemed to not be practicable and were removed from further consideration. Alternatives 3, 4, and 5 would allow the applicant to achieve the purpose and need of the project and were therefore retained for further consideration (Table 2).

Metric 2

Alternative 3 was determined, through desktop review and site-reconnaissance, to contain approximately 135 acres of potential waters of the U.S. (Table 2). These potential waters of the U.S. are presumed to be the downstream extensions of JD-WET Areas B, C, and D within the subject area. Alternative 3 would have the potential to impact approximately 135 acres of potential waters of the U.S. to these potential wetlands that are situated at lower elevations and geographically closer to both McCampbell Slough and the tributary that drains into McCampbell Slough than those within the subject area.

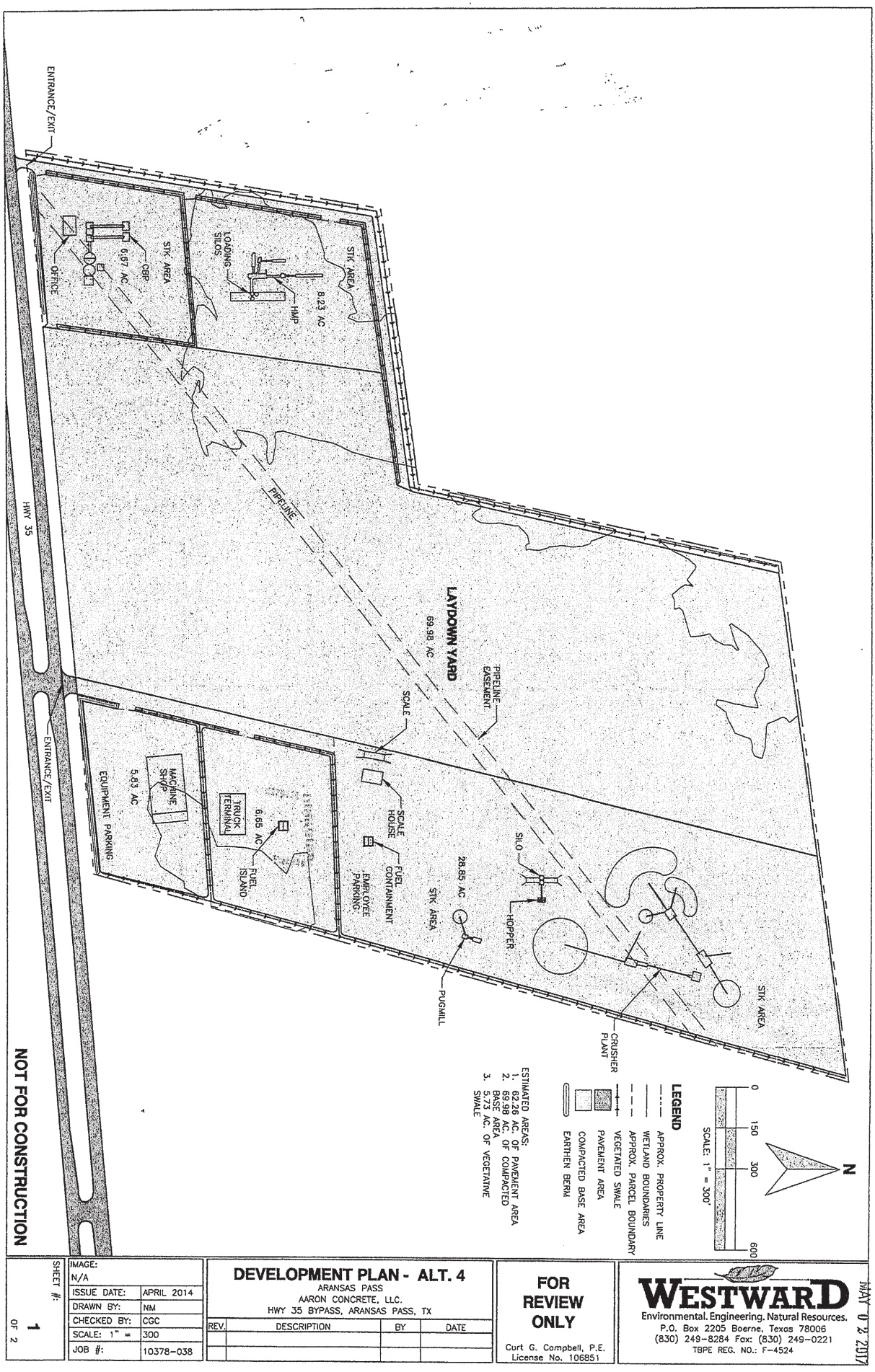
Alternative 4 would require that fill be placed into all portions of JD-WET Areas A, B, C, and D. This alternative would result in impacts to 20.9 acres of waters of the U.S. (Table 2), including an estuarine emergent wetland and three freshwater emergent wetlands.

Alternative 5 would avoid impacts to JD-WET Areas A and B, an estuarine emergent wetland and a freshwater emergent wetland. This alternative would result in the placement of fill into JD-WET Areas C and D, cumulatively 16.11 acres of freshwater emergent wetlands (Table 2).

This metric determined that Alternative 3 and Alternative 4 are not the least environmentally damaging alternatives.

LEDPA

Therefore, Alternative 5, the applicant's preferred alternative, is the Least Environmentally Damaging Practicable Alternative.



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JOB #:	10378-038

DEVELOPMENT PLAN - ALT. 4
ARANSAS PASS
AARON CONCRETE, LLC.
HWY 35 BYPASS, ARANSAS PASS, TX

REV.	DESCRIPTION	BY	DATE

FOR REVIEW ONLY

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P.O. Box 2205 Boerne, Texas 78006
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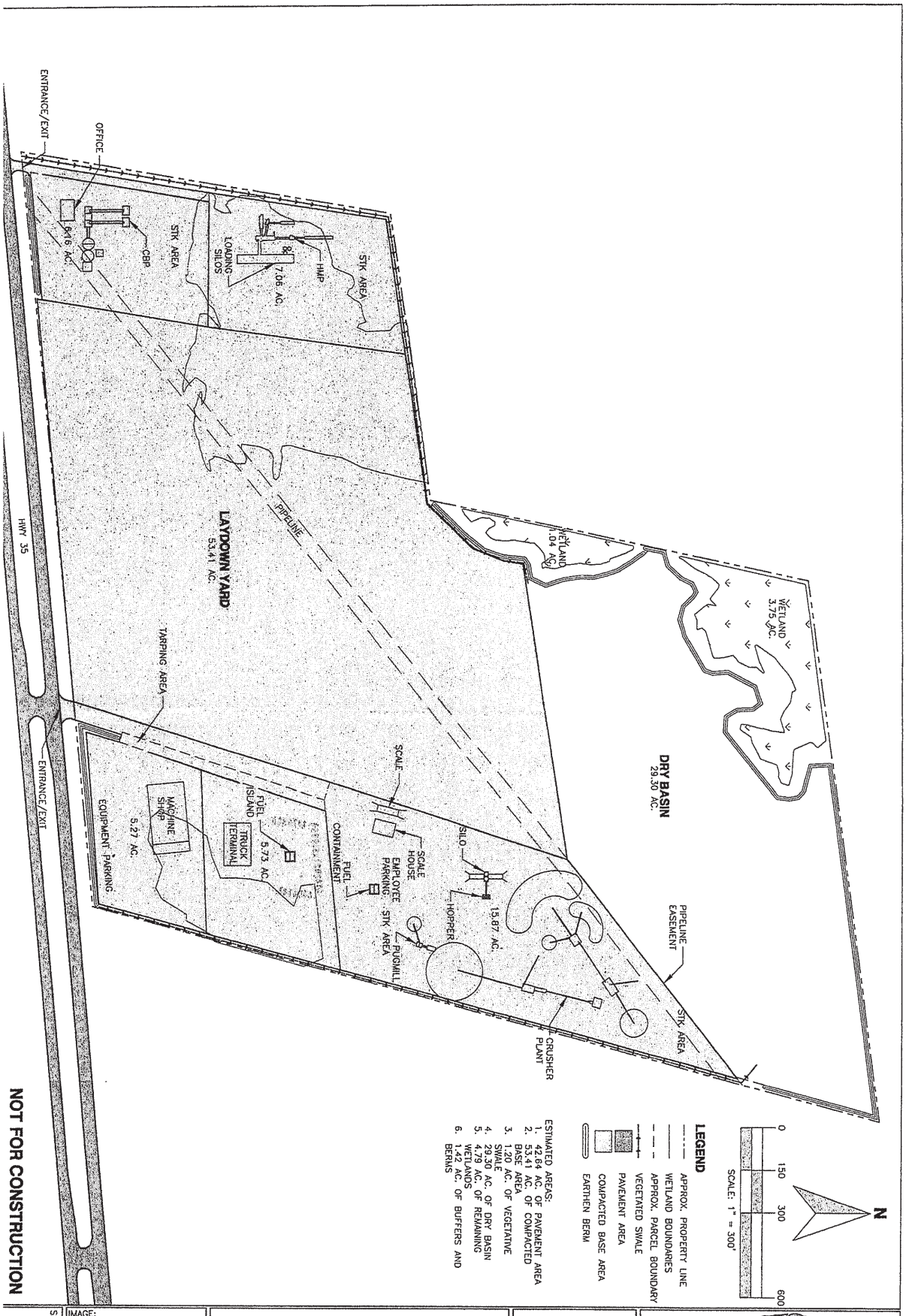
MAY 02 2017



NOT FOR CONSTRUCTION

IMAGE:	N/A
ISSUE DATE:	APRIL 2017
DRAWN BY:	NM
CHECKED BY:	CGC
SCALE: 1" =	300
JOB #:	10378-038

DEVELOPMENT PLAN - ALT. 5
ARANSAS PASS
AARON CONCRETE, LLC.
HWY 35 BYPASS, ARANSAS PASS, TX

REV.	DESCRIPTION	BY	DATE

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