U.S. Department of Housing and
Urban Development
451 Seventh Street, SW
Washington, DC 20410

www.hud.gov
espanol.hud.gov

APPENDIX/EXHIBITS

National Environmental Policy Act
Draft Environmental Assessment
U.S. Department of Housing and
Development Title 24 Code of Federal
Regulation Part 58

Cameron Parish Policy Jury
Cameron Gravity Drainage District #3
Pump Station Elevation Project
Louisiana Office of Community Development
Community Development Block Grant
Disaster Recovery
Louisiana Resilient Infrastructure Program
Project # 12LDRC7702

Appendix – Exhibits

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
GLOBAL POSITIONING SYSTEM (GPS) Point Locations

EXHIBIT A

Cameron Parish Pump Station Drainage Improvements
GPS Point locations

Structures	Lat	Long
Pump Station A	29.7964076	93.3258753
Ditch # 1	29.7948486	93.3230915
Ditch # 2	29.7950169	93.3224546
Ditch # 3	29.7958085	93.3221755
Ditch # 4	29.7958641	93.3230699
Ditch # 5	29.7962669	93.324331
Ditch # 6	29.7960315	93.324888
Ditch # 7	29.7965655	93.3252297
Ditch # 8 - none identified		
Ditch # 9	29.7967222	93.3253409
Ditch # 10 - none identified		
Ditch # 11	29.7947901	93.321741
Ditch # 12	29.7937497	93.3221843
Ditch # 13	29.7943085	93.3220519
Pump Station C	29.7919575	93.3223617
Flood Gate Structure B	29.7953661	93.3205492
Bank Stablization	29.7954086	93.3207602
Box Culvert Removal/Replacement	29.7954836	93.3207435
Outflow pipes removal/replacement	29.7953381	93.3208197
Replace existing storm drainage	29.7954919	93.3205668
Control Structure C - reclaimed shoreline	29.7953714	93.3205557
Hwy 27/Marshall - pipe culvert w/intakes	29.7970447	93.3242962

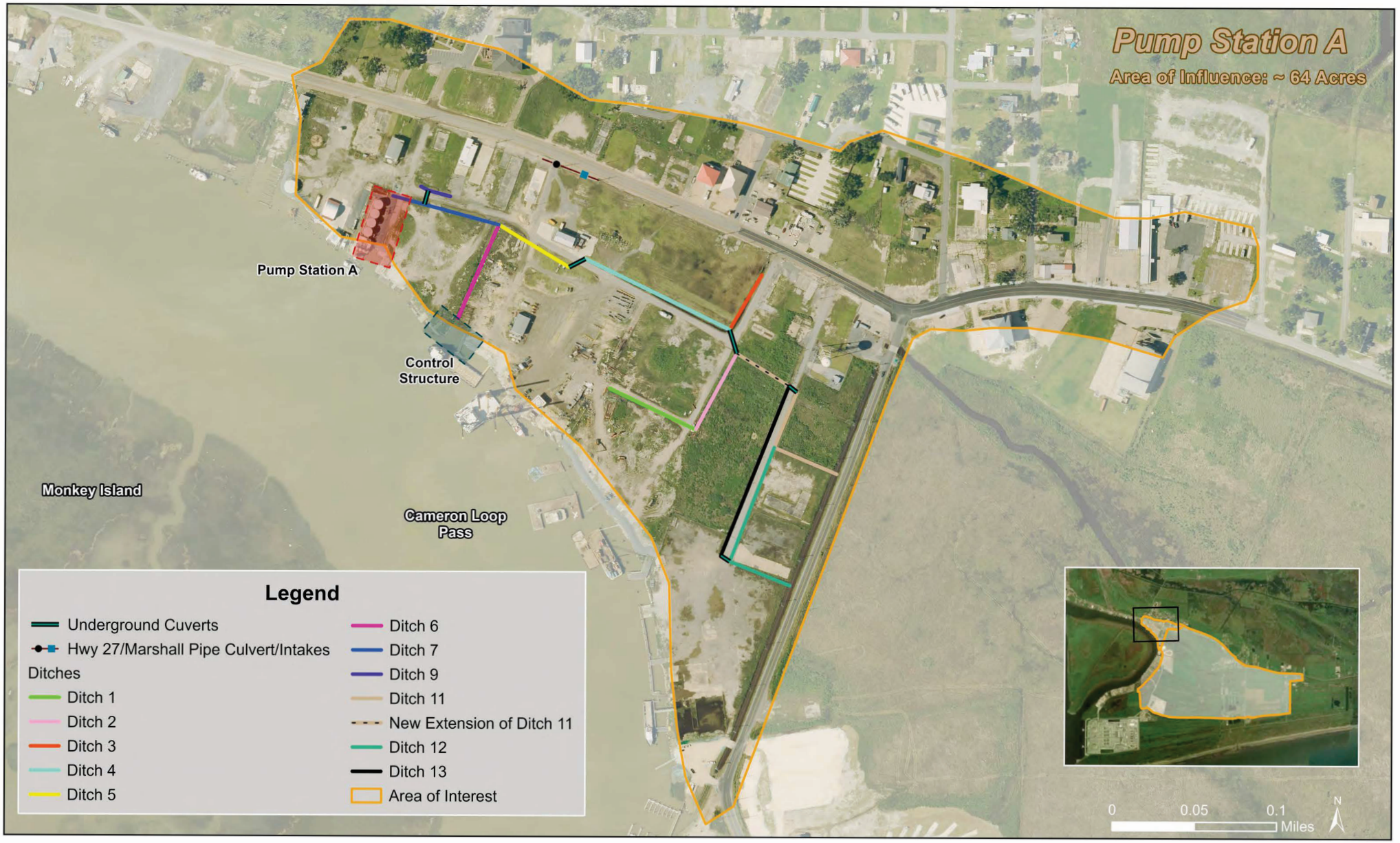
CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
VICINITY AERIAL MAP

EXHIBIT B


East Fork
WAKEFIELD RD
LA 27
LA 82
LA 1141
Cameron
Monkey Island
LA 1141
BOURG RD
DAVIS RD
PRIVATE SHELL RD
LA 1142
BOBBIES LN
BROUSSARD BEACH RD
FIELD RD
Texas
Louisiana
Legend
Area of Interest
0
0.5
1
Miles
N

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
PUMP STATION A AREA OF INFLUENCE AERIAL MAP

EXHIBIT C



* Control Structure indicated above is related to berm area of work for work completed prior to grant application and referenced under CUP #P20220077 & USACE PGP #MVN-2020-00671-WILL as Control Structure C (see Permit Design Sheet 19 of 24).

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
PUMP STATION C AREA OF INFLUENCE AERIAL MAP

EXHIBIT D


Pump Station C
Control Structure B
Control Structure B
Pump Station C
Legend
Bank Stablization
Flood Gate Structure
Modified Box Culvert
Box Culvert Removal/Replacement
Outflow Removal/Replacement
Replace Existing Storm Drainage
0
0.5
1
Miles
N

LOUISIANA DEPARTMENT OF ENERGY AND NATURAL RESOURCES (LDNR)
OFFICE OF COASTAL MANAGEMENT (OCM)
COASTAL USE PERMIT (CUP) #P20220077 TIME EXTENSION
CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENTS

EXHIBIT E

P.O. BOX 1280
CAMERON, LA 70631
(337) 775-5718
(337) 775-5567 FAX
WWW.CAMERONPJ.ORG

November 17, 2022

Lonnie G. Harper & Assoc. Inc.
Attn: Derek LaFosse
2746 Highway 384
Bell City, LA 70630

CUP: P20220077

Cameron Parish Police Jury – Adjacent to Highway 27, Cameron, Section 31, 14S, R09W (proposed top install two (2) control pumps, one (1) water control structure, sixteen (16) various sized culverts, and improvements approx. 3,800 linear feet of drainage to prevent flooding from high tide events and improve day-to-day drainage for the Town of Cameron), Cameron Parish, Louisiana.

Dear Mr. LaFosse:

This letter is to advise you that the Cameron Parish Police Jury has no objections to the above captioned permit. You may proceed with the work detailed in your permit application as long as drainage is not compromised to complete the project. Please be advised that work cannot commence until all Federal and State permits have been obtained.

We request that a copy of your permit application and letter of no objection from the Police Jury be maintained on the job site at all times.

Sincerely,

Kara Bonsall

Kara Bonsall, Coastal Zone Administrator
CAMERON PARISH POLICE JURY

DEPARTMENT OF ENERGY AND NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

P.O. BOX 44487
BATON ROUGE, LOUISIANA 70804-4487
(225)342-7591
1-800-267-4019

COASTAL USE PERMIT/CONSISTENCY DETERMINATION

C.U.P. No.: **P20220077 (Extended)**

C.O.E. No.: **MVN-2020-00671-WLL**

NAME: **CAMERON PARISH POLICE JURY**
P.O. BOX 1280
CAMERON, LA 70631
Attn: Kara Bonsall

LOCATION: **Cameron Parish, LA**
Lat. 29 47' 44.47"N / Long. -93 19' 30.27"W (See plats for additional project coordinates); Section 31 T14S R9W; Cameron, 70631

DESCRIPTION: Proposal to install two (2) water control pumps, one (1) water control structure, sixteen (16) various sized culverts, and digging approximately 3,750 linear feet of ditches. Approx. 5390 cys of material will be excavated and hauled offsite, with approx. 404 cy of fill material brought in.

This extended permit supersedes the original permit which was issued March 10, 2023.

In accordance with the rules and regulations of the Louisiana Coastal Resources Program and Louisiana R.S. 49, Sections 214.21 to 214.41, the State and Local Coastal Resources Management Act of 1978, as amended, the permittee agrees to:

1. Carry out, perform, and/or operate the use in accordance with the permit conditions, plans and specifications approved by the Department of Energy and Natural Resources.
2. Comply with any permit conditions imposed by the Department of Energy and Natural Resources.
3. Adjust, alter or remove any structure or other physical evidence of the permitted use if, in the opinion of the Department of Energy and Natural Resources, it proves to be beyond the scope of the use as approved or is abandoned.
4. Provide, if required by the Department of Energy and Natural Resources, an acceptable surety bond in an appropriate amount to ensure adjustment, alteration, or removal should the Department of Energy and Natural Resources determine it necessary.
5. Hold and save the State of Louisiana, the local government, the department, and their officers and employees harmless from any damage to persons or property which might result from the use, including the work, activity, or structure permitted.
6. Certify that the use has been completed in an acceptable and satisfactory manner and in accordance with the plans and specifications approved by the Department of Energy and Natural Resources. The Department of Energy and Natural Resources may, when appropriate, require such certification to be given by a registered professional engineer.
7. All terms of the permit shall be subject to all applicable federal and state laws and regulations.
8. This extended permit, or a copy thereof, shall be available for inspection at the site of work at all times during operations.
9. The applicant will notify the Office of Coastal Management of the date on which initiation of the permitted activity described under the "Coastal Use Description" began. The applicant shall notify the Office of Coastal Management by entering a commencement date through the online system, or by mailing said information to OCM.
10. Unless specified elsewhere in this extended permit, this extended permit authorizes the initiation of the coastal use described under "Coastal Use Description" for four (4) years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. If the coastal use is not initiated within this four (4) year period, then this extended permit will expire and the applicant will be required to submit a new application. Initiation of the coastal use, for the purposes of this permit, means the actual physical beginning of the use of activity for which the permit is required. Initiation does not include preparatory activities, such as movement of equipment onto the coastal use site, expenditure of funds, contracting out of work, or performing activities which by themselves do not require a permit. In addition, the permittee must, in good faith, and with due diligence, reasonably progress toward completion of the project once the coastal use has been initiated.
11. The following special conditions must also be met in order for the use to meet the guidelines of the Coastal Resources Program:

a. This extended permit does not convey any property rights, mineral rights, or exclusive privileges; nor does it authorize injury to property.

b. All structures built under the authorization and conditions of this permit shall be removed from the site within 120 days of abandonment of the facilities for the herein permitted use, or when these structures fall into a state of disrepair such that they can no longer function as intended. This condition does not preclude the necessity for revising the current permit or obtaining a separate Coastal Use Permit, should one be required, for such removal activities.

c. That should changes in the location or the section of the existing waterways, or in the generally prevailing conditions in the vicinity be required in the future, in the public interest, Permittee shall make such changes in the project concerned or in the arrangement thereof as may be necessary to satisfactorily meet the situation and shall bear the cost thereof. This condition does not preclude the necessity for revising the current permit or obtaining a separate Coastal Use Permit, should one be required, for project modifications.

d. Permittee is subject to all applicable state laws related to damages which are demonstrated to have been caused by this action.

e. All fill material shall be clean and free of contaminants and shall not contain hazardous materials such as asbestos or asbestos residue, shingles, tires, oil/grease residue, exposed rebar, protruding objects, etc.

f. All fill and/or dredged material to be hauled off-site shall be disposed of at a State approved facility.

g. Wildlife Diversity Program: No impacts to rare, threatened or endangered species or critical habitats are anticipated from the proposed project. No state or federal parks, wildlife refuges, wildlife management areas or scenic rivers are known at the specified site or within ¼ mile of the proposed project. The Wildlife Diversity Program (WDP) reports summarize the existing information known at the time of the request regarding the location in question. WDP reports should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. If at any time WDP tracked species are encountered within the project area, please contact our biologist at 225-765-3554.

h. The permittee shall ensure that all sanitary sewage and/or related domestic wastes generated during the subject project activity and at the site, thereafter, as may become necessary shall not be discharged into any of the streams or adjacent waters of the area without authorization from DH and/or DEQ or, in the case of total containment, shall be disposed of in approved sewerage and sewage treatment facilities, as is required by the State Sanitary Code and DEQ regulations. Such opinion as may be served by those comments offered herein shall not be construed to suffice as any more formal approval(s) which may be required of possible sanitary details (i.e. provisions) scheduled to be associated with the subject activity. Such shall generally require that appropriate plans and specifications be submitted to DH for purpose of review and approval prior to any utilization of such provisions.

i. Permittee is subject to all applicable state laws related to damages which are demonstrated to have been caused by this action.

j. Permittee shall allow representatives of the Office of Coastal Management or authorized agents to make periodic, unannounced inspections to assure the activity being performed is in accordance with the conditions of this permit.

k. Permittee shall comply with all applicable state laws regarding the need to contact the Louisiana One Call (LOC) system (1-800-272-3020) to locate any buried cables and pipelines.

l. This extended permit authorizes the initiation of the Coastal Use described under "Coastal Use Description" for four (4)

years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. Initiation of the Coastal Use, for purposes of this extended permit, means the actual physical beginning of the use or activity for which the permit is required. Initiation does not include preparatory activities, such as movement of equipment onto the Coastal Use site, expenditure of funds, contracting out of work, or performing activities which by themselves do not require a permit. In addition, Permittee must, in good faith and with due diligence, reasonably progress toward completion of the project once the Coastal Use has been initiated.

The expiration date of this extended permit is five (5) years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. If the Coastal Use is not completed within this five (5) year period, an extension may be granted pursuant to the requirements contained in the Rules and Procedures for Coastal Use Permits (LAC 43:I.723(D)).

Upon expiration of this extended permit, a new Coastal Use Permit will be required for completion of any unfinished or uncommenced work items and for any maintenance activities involving dredging or fill that may become necessary. Other types of maintenance activities may also require a new Coastal Use Permit.

m. This determination does not eliminate the need to obtain a permit from the United States Army, Corps of Engineers or any other Federal, state or local approval that may be required by law. The drawings submitted with your referenced application are attached hereto and made a part of the record.

********** End of Conditions **********

By accepting this extended permit the applicant agrees to its terms and conditions.

I affix my signature and issue this extended permit this 4th day of December, 2024.

THE DEPARTMENT OF ENERGY AND NATURAL RESOURCES

Kyle F. Balkum, Administrator
Office of Coastal Management

This agreement becomes binding when signed by Administrator of
the Office of Coastal Management Permits/Mitigation Division, Department of Energy and Natural Resources.

Attachments

Final Plats:

1) P20220077 Final Plats 03/08/2023

cc: Martin Mayer, COE w/attachments
Dave Butler, LDWF w/attachments
Channing Hayden, Jr., PortLC w/attachments
Kim Montie, CamPDED w/attachments
Tianna Dunaway, CamPDED w/attachments
Jordan Cobbs, OCM w/attachments
Sarah Droddy, OCM/FI w/attachments
Cameron Parish w/attachments

LOUISIANA DEPARTMENT OF ENERGY AND NATURAL RESOURCES (LDNR)
OFFICE OF COASTAL MANAGEMENT (OCM)
COASTAL USE PERMIT (CUP) #P20220077 ORIGINAL PERMIT
CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENTS

EXHIBIT F

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

P.O. BOX 44487
BATON ROUGE, LOUISIANA 70804-4487
(225)342-7591
1-800-267-4019

COASTAL USE PERMIT/CONSISTENCY DETERMINATION

C.U.P. No.: **P20220077**

C.O.E. No.: **MVN- 2020- 00671- WLL**

NAME: **CAMERON PARISH POLICE JURY**
c/o LONNIE G. HARPER & ASSOC. INC.
2746 HWY 384
BELL CITY, LA 70630
Attn: Derek Lafosse

LOCATION: **Cameron Parish, LA**
Lat. 29 47' 44.47"N / Long. -93 19' 30.27"W (See plats for additional project coordinates); Section 31 T14S R9W; Cameron, 70631

DESCRIPTION: Proposal to install two (2) water control pumps, one (1) water control structure, sixteen (16) various sized culverts, and digging approximately 3,750 linear feet of ditches. Approx. 5390 cys of material will be excavated and hauled offsite, with approx. 404 cy of fill material brought in.

In accordance with the rules and regulations of the Louisiana Coastal Resources Program and Louisiana R.S. 49, Sections 214.21 to 214.41, the State and Local Coastal Resources Management Act of 1978, as amended, the permittee agrees to:

1. Carry out, perform, and/or operate the use in accordance with the permit conditions, plans and specifications approved by the Department of Natural Resources.
2. Comply with any permit conditions imposed by the Department of Natural Resources.
3. Adjust, alter or remove any structure or other physical evidence of the permitted use if, in the opinion of the Department of Natural Resources, it proves to be beyond the scope of the use as approved or is abandoned.
4. Provide, if required by the Department of Natural Resources, an acceptable surety bond in an appropriate amount to ensure adjustment, alteration, or removal should the Department of Natural Resources determine it necessary.
5. Hold and save the State of Louisiana, the local government, the department, and their officers and employees harmless from any damage to persons or property which might result from the use, including the work, activity, or structure permitted.
6. Certify that the use has been completed in an acceptable and satisfactory manner and in accordance with the plans and specifications approved by the Department of Natural Resources. The Department of Natural Resources may, when appropriate, require such certification to be given by a registered professional engineer.
7. All terms of the permit shall be subject to all applicable federal and state laws and regulations.
8. This permit, or a copy thereof, shall be available for inspection at the site of work at all times during operations.
9. The applicant will notify the Office of Coastal Management of the date on which initiation of the permitted activity described under the "Coastal Use Description" began. The applicant shall notify the Office of Coastal Management by entering a commencement date through the online system, or by mailing said information to OCM.
10. Unless specified elsewhere in this permit, this permit authorizes the initiation of the coastal use described under "Coastal Use Description" for two (2) years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. If the coastal use is not initiated within this two (2) year period, then this permit will expire and the applicant will be required to submit a new application. Initiation of the coastal use, for the purposes of this permit, means the actual physical beginning of the use of activity for which the permit is required. Initiation does not include preparatory activities, such as movement of equipment onto the coastal use site, expenditure of funds, contracting out of work, or performing activities which by themselves do not require a permit. In addition, the permittee must, in good faith, and with due diligence, reasonably progress toward completion of the project once the coastal use has been initiated.
11. The following special conditions must also be met in order for the use to meet the guidelines of the Coastal Resources Program:

a. This permit does not convey any property rights, mineral rights, or exclusive privileges; nor does it authorize injury to property.

b. All fill material shall be clean and free of contaminants and shall not contain hazardous materials such as asbestos or asbestos residue, shingles, tires, oil/grease residue, exposed rebar, protruding objects, etc.

c. All fill and/or dredged material to be hauled off-site shall be disposed of at a State approved facility.

d. That should changes in the location or the section of the existing waterways, or in the generally prevailing conditions in the vicinity be required in the future, in the public interest, Permittee shall make such changes in the project concerned or in the arrangement thereof as may be necessary to satisfactorily meet the situation and shall bear the cost thereof. This condition does not preclude the necessity for revising the current permit or obtaining a separate Coastal Use Permit, should one be required, for project modifications.

e. Permittee is subject to all applicable state laws related to damages which are demonstrated to have been caused by this action.

f. Wildlife Diversity Program: No impacts to rare, threatened or endangered species or critical habitats are anticipated from the proposed project. No state or federal parks, wildlife refuges, wildlife management areas or scenic rivers are known at the specified site or within ¼ mile of the proposed project. The Wildlife Diversity Program (WDP) reports summarize the existing information known at the time of the request regarding the location in question. WDP reports should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. If at any time WDP tracked species are encountered within the project area, please contact our biologist at 225-765-3554.

g. All structures built under the authorization and conditions of this permit shall be removed from the site within 120 days of abandonment of the facilities for the herein permitted use, or when these structures fall into a state of disrepair such that they can no longer function as intended. This condition does not preclude the necessity for revising the current permit or obtaining a separate Coastal Use Permit, should one be required, for such removal activities.

h. The permittee shall ensure that all sanitary sewage and/or related domestic wastes generated during the subject project activity and at the site, thereafter, as may become necessary shall not be discharged into any of the streams or adjacent waters of the area without authorization from DH and/or DEQ or, in the case of total containment, shall be disposed of in approved sewerage and sewage treatment facilities, as is required by the State Sanitary Code and DEQ regulations. Such opinion as may be served by those comments offered herein shall not be construed to suffice as any more formal approval(s) which may be required of possible sanitary details (i.e. provisions) scheduled to be associated with the subject activity. Such shall generally require that appropriate plans and specifications be submitted to DH for purpose of review and approval prior to any utilization of such provisions.

i. Permittee is subject to all applicable state laws related to damages which are demonstrated to have been caused by this action.

j. Permittee shall allow representatives of the Office of Coastal Management or authorized agents to make periodic, unannounced inspections to assure the activity being performed is in accordance with the conditions of this permit.

k. Permittee shall comply with all applicable state laws regarding the need to contact the Louisiana One Call (LOC) system (1-800-272-3020) to locate any buried cables and pipelines.

l. This permit authorizes the initiation of the Coastal Use described under "Coastal Use Description" for two (2) years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. Initiation of the Coastal Use, for purposes of this permit, means the actual physical beginning of the use or activity for which the permit is required. Initiation does not include preparatory activities, such as movement of equipment onto the Coastal Use site, expenditure of funds, contracting out of work, or performing activities which by themselves do not require a permit. In addition, Permittee must, in good faith and with due diligence, reasonably progress toward completion of the project once the Coastal Use has been initiated. If the Coastal Use is not initiated within this two (2) year period, an extension may be granted pursuant to the requirements contained in the Rules and Procedures for Coastal Use Permits (Title 43:I.723.D.). Please note that a request for permit extension MUST be made no sooner than one hundred eighty (180) days and no later than sixty (60) days prior to the expiration of the permit.

The expiration date of this permit is five (5) years from the date of the signature of the Secretary or his designee on the original permit which was March 10, 2023. If the Coastal Use is not completed within this five (5) year period, an extension may be granted pursuant to the requirements contained in the Rules and Procedures for Coastal Use Permits (LAC 43:I.723(D)).

Upon expiration of this permit, a new Coastal Use Permit will be required for completion of any unfinished or uncommenced work items and for any maintenance activities involving dredging or fill that may become necessary. Other types of maintenance activities may also require a new Coastal Use Permit.

m. This determination does not eliminate the need to obtain a permit from the United States Army, Corps of Engineers or any other Federal, state or local approval that may be required by law. The drawings submitted with your referenced application are attached hereto and made a part of the record.

********** End of Conditions **********

By accepting this permit the applicant agrees to its terms and conditions.

I affix my signature and issue this permit this 10th day of March, 2023.

THE DEPARTMENT OF NATURAL RESOURCES

Kyle F. Balkum, Administrator
Office of Coastal Management

This agreement becomes binding when signed by Administrator of
the Office of Coastal Management Permits/Mitigation Division, Department of Natural Resources.

Attachments

Final Plats:

1) P20220077 Final Plats 03/08/2023

cc: Martin Mayer, COE w/attachments
Dave Butler, LDWF w/attachments
Jordan Cobbs, OCM w/attachments

Cameron Parish w/attachments

CAMERON PARISH POLICE JURY w/attachments

U.S ARMY CORP OF ENGINEERS (USACE)
PROGRAMMATIC GENERAL PERMIT (PGP)
PERMIT # MVN-2020-00671-WLL
CATEGORY II
CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENTS

EXHIBIT G

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

June 13, 2023

Regulatory Division
Western Evaluation Branch

SUBJECT: MVN-2020-00671-WLL

Cameron Parish Police Jury
P.O. Box 1280
Cameron, LA 70631

Dear Gentlemen,

The proposed work, to conduct drainage improvements and maintenance to an existing developed industrial area in the community of Cameron in Cameron Parish, Louisiana (29.7956, -93. 3250), is authorized under a **Category II Programmatic General Permit** provided that all conditions of the permit are met.

The following special conditions are made part of this authorization:

1. All work shall be done in accordance with the approved plans and shall be confined to the permitted work area(s) represented within the attached drawings. If the project requires modifications to the authorized plan, the permittee shall contact this office to obtain a permit amendment and/or review and decision on the plans, prior to commencement of those alterations.

2. The permittee shall properly install adequate erosion/siltation control measures around construction areas that require land based earthwork (i.e. excavation and/or deposition of fill materials, land contouring, machinery rutting, fill maneuvering and redistribution, etc.), to aid in preventing project related sediments, debris and other pollutants from entering adjacent wetlands or waters. Acceptable measures include but are not limited to the proper use and positioning of temporary silt fences, straw bales, fiber/core logs, wooden barriers, seeding or sodding of exposed soils, or other approved EPA construction site storm-water runoff control and best management practices. Control techniques shall be installed prior to the commencement of earthwork activities and maintained until the project is complete and/or the subject areas are stabilized. Should unforeseen circumstances or environmental conditions hinder implementation of these requirements in part or in full, the permittee shall immediately contact and notify CEMVN of the situational specifics, for our review, direction, and/or possible approval to modify the subject requirements.

3. The permittee is aware that future site visits and inspections may be conducted to the project area by this office and/or other resource agencies in order to assess project compliance with this authorization and requirements associated herewith. If it is

determined by this office that construction activities resulted in permanent impacts or disruption to vegetated wetland resources not permitted under this authorization, you shall implement appropriate measures, as directed by this office, to bring your activity into compliance.

4. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains, to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Your project involves dredging and/or placement of fill; therefore, you shall contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your activities with local floodplain ordinances, regulations or permits. Work activities and any associated drainage plans and/or drainage affects associated with the project shall comply with all applicable laws and ordinances administered by local governing bodies such as the (Parish Government, Police Jury, Drainage Authority, Flood Plain Administration), and/or other applicable agency requirements. Should it be determined that the project is or would create unacceptable and unnatural inundation or flooding conditions on adjacent properties, the permittee will be required to remediate the situation as directed by the applicable governing body or bodies. Should there be any changes required in the project design by other governing bodies, the permittee shall coordinate with this office to obtain a permit amendment and/or review and decision on the plans, prior to commencement of those alterations.

5. The project shall not diminish or degrade the natural hydrologic conditions of jurisdictional wetland areas not otherwise considered and authorized herein.

6. The permittee shall adhere to the attached Manatee Special Conditions.

7. The permittee is advised of the requirements set forth in the attached Memorandum for Record and the associated special conditions. All responsibilities and compliance related to the subject conditions are hereby directed to and have oversight by the USACE Navigation Office, Operations Manager, ODC, Mrs. Tracy Falk, with this District. Should you have any questions on the requirements and restrictions stipulated, you shall contact the specified Operations Manager, who may be reached at 504-862-2971 or tracy.a.falk@usace.army.mil.

8. Unless otherwise considered and approved herein, earthen material, aggregate, debris, or any form of fill material to be hauled off site shall be deposited and contained within an upland area, an established and legal landfill, and/or permitted site to be deposited in conformance with the terms and conditions of the associated authorization for the site.

This authorization has a blanket water quality certification from the Louisiana Department of Environmental Quality (DEQ); therefore, no additional authorization from DEQ is required.

Prior to commencing work on your project, you must obtain approvals from state and local agencies as required by law and by terms of this permit. These approvals include, but are not limited to, a permit consistency determination or determination of "no direct or significant impact (NDSI) on coastal waters" from the Louisiana Department of Natural Resources, Office of Coastal Management and a water quality certification from the Louisiana Department of Environmental Quality.

This approval to perform work is valid for 5 years from the date of this letter.

Permittee is aware that this office may reevaluate its decision on this permit at any time the circumstances warrant.

Should you have any further questions concerning this matter, please call Michael Herrmann of this office at (504) 862-1954 .

Sincerely,

Darrell S. Barbara

Digitally signed by Darrell S. Barbara
Date: 2023.06.13 17:33:33 -05'00'

For: Martin S. Mayer
Chief, Regulatory Division

Attachments:

CEMVN-ODC April 18, 2023

MEMORANDUM FOR RECORD: Chief, Regulatory Branch, ATTN: Michael Herrmann

SUBJECT: MFR IN ACCORDANCE WITH EC 1165-2-220, APPENDIX G

APPLICANT: Cameron Parish Police Jury
APPLICATION NUMBER: MVN-2020-00671-WLL

1. The Operations Manager for the Calcasieu River has reviewed the application from Lonnie G. Harper and Assoc. Inc to install (2) water control pumps, (1) water control structure, (16) culverts and excavating approximately 3,800 LF of ditches to improve drainage in the surrounding area on the northeast side of Cameron Loop in Cameron Parish, Louisiana.

2. It has been determined that the subject application is within the Calcasieu River navigation servitude but is outside of the navigation fairway limits. This request has no impact to the usefulness of the project and will not be injurious to the public interest.

   The scope of this analysis for Section 408 evaluation is limited to the federal limits of the Federal Navigation Channel.

3. CEMVN-ODC has no objections to the subject request provided the following navigation conditions are included as part of the Section 10 permit documents as well as the standard Section 408 permit conditions as per EC 1165-2-220, APPENDIX K (enclosed):

PROJECT- SPECIFIC CONDITIONS:

a. There shall be no unreasonable interference with navigation on the Calcasieu River by the existence or use of the activity authorized herein.

b. Any damage to the bank of the federal channel/lock forebay resulting from the applicant's activities is repaired at the applicant's expense and to the satisfaction of the Corps of Engineers.

c. Mud or debris cannot be discharged into the federal channel.

d. The applicant will, at his or her expense, install and maintain any safety light, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on authorized facilities or on equipment used in performing work under the authorization.

e. If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, the applicant is advised to notify the appropriate Captain of the Port so that a Notice to Mariners, if required, may be provided about one month before you plan to start work. Contact information for the local Captain of the Port's offices may be located at https://homeport.uscg.mil under "port directory". ". In addition, a copy of your permit approval and drawings should be mailed to LT Mache Mason, Waterways Management Division, Marine Safety Unit, Lake Charles, LA 70601, or emailed to mache.o.mason@uscg.mil. Telephone inquiries can be directed to Mache Mason- 337-912-0073.

f. The applicant understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said work shall cause unreasonable obstruction to the free navigation of the navigable waters, the applicant will be required upon due notice from the Corps of Engineers, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

4. The above Section 408 special conditions and standard conditions enclosed are enforceable by the USACE Navigation Manager for the Calcasieu River as per Appendix G, EC 1165-2-220. The point of contact for enforcing such Section 408 conditions in the Section 10 permit is Tracy Falk, at 504-862-2971 or DLL-CEMVN-ODC@usace.army.mil.

5. If there are any questions regarding these conditions, please contact Michael Sullivan at 504-862-2373 or DLL-CEMVN-ODC@usace.army.mil.

SULLIVAN.MICHAEL.DAVID.1249725729

Digitally signed by SULLIVAN.MICHAEL.DAVID.1249725729
Date: 2023.04.18 14:14:15 -05'00'

for Tracy Falk
Operations Manager
Operations Division

Enclosure (Standard 408 conditions)

U.S. Army Corps of Engineers
New Orleans District
Section 408
EC-1165-2-220 Appendix K
Standard Terms and Conditions

LIMITS OF THE AUTHORIZATION

1. This permission only authorizes you, the requester, to undertake the activity described herein under the authority provided in Section 14 of the Rivers and Harbors Act of 1899, as amended (33 USC 408). This permission does not obviate the need to obtain other federal, state, or local authorizations required by law. This permission does not grant any property rights or exclusive privileges, and you must have appropriate real estate instruments in place prior to construction and/or installation.
2. The time limit for completing the work authorized end on 5 years from the date of the Regulatory permit if a Regulatory permit is required. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
3. Without prior written approval of the USACE, you must neither transfer nor assign this permission nor sublet the premises or any part thereof, nor grant any interest, privilege or license whatsoever in connection with this permission. Failure to comply with this condition will constitute noncompliance for which the permission may be revoked immediately by USACE.
4. The requester understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the work herein authorized, or if, in the opinion of the Secretary of the Army or an authorized representative, said work will cause unreasonable conditions and/or obstruction of USACE project authorized design, the requester will be required upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim can be made against the United States on account of any such removal or alteration.

INDEMNIFICATION AND HOLD HARMLESS

5. The United States will in no case be liable for:
    a. Any damage or injury to the structures or work authorized by this permission that may be caused or result from future operations undertaken by the United States, and no claim or right to compensation will accrue from any damage; or
    b. Damage claims associated with any future modification, suspension, or revocation of this permission.
6. The United States will not be responsible for damages or injuries which may arise from or be incident to the construction, maintenance, and use of the project requested by you, nor for damages to the property or injuries to your officers, agents, servants, or employees, or others who may be on your premises or project work areas of the federal project(s) rights-of-way. By

accepting this permission, you hereby agree to fully defend, indemnify and hold harmless the United States and USACE from any and all such claims, subject to any limitations in law.

7. Any damage to the water resources development project or other portions of any federal project(s) resulting from your activities must be repaired at your expense.

REEVALUATION OF PERMISSION

8. The determination that the activity authorized by this permission would not impair the usefulness of the federal project and would not be injurious to the public interest was made in reliance on the information you provided.
9. This office, at its sole discretion, may reevaluate its decision to issue this permission at any time circumstances warrant, which may result in a determination that it is appropriate or necessary to modify or revoke this permission. Circumstances that could require a reevaluation include, but are not limited to, the following:
    a. You fail to comply with the terms and conditions of this permission;
    b. The information provided in support of your application for permission proves to have been inaccurate or incomplete; or
    c. Significant new information surfaces which this office did not consider in reaching the original decision that the activity would not impair the usefulness of the water resources development project and would not be injurious to the public interest.

CONDUCT OF WORK UNDER THIS PERMISSION

10. You are responsible for implementing any requirements for mitigation, reasonable and prudent alternatives, or other conditions or requirements imposed as a result of environmental compliance.
11. Work/usage allowed under this permission must proceed in a manner that avoids interference with inspection, operation, and maintenance of the federal project.
12. In the event of any deficiency in the design or construction of the requested activity, you are solely responsible for taking remedial action to correct the deficiency.
13. The right is reserved to the USACE to enter upon the premises at any time and for any purpose necessary or convenient in connection with government purpose, to make inspections, to operate and/or to make any other us of the lands as may be necessary in connection with government purposes, and you will have no claim for damages on account thereof against the United States or any officer, agent or employee thereof.
14. USACE shall not be responsible for the technical sufficiency of the alteration design nor for the construction and/or installation work.
15. You must submit a copy of “as-built” drawings within 30 days of completion of work showing the new work as it relates to identifiable features of the federal project. USACE may request that survey and photographic documentation of the alteration work and the impacted project area to be provided before, during, and after construction.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LA 70118-365

June 1, 2022

CEMVN
Regulatory Division

SUBJECT: Programmatic General Permit

A PROGRAMMATIC GENERAL PERMIT FOR USE IN THE NEW ORLEANS DISTRICT WITHIN THE BOUNDARIES OF THE LOUISIANA COASTAL ZONE

Under authorization granted by applicable sections of Parts 320 through 332 of Title 33, Code of Federal Regulations, and delegated authority from the Commander, US Army Corps of Engineers, the District Commander at New Orleans has determined that it is in the public interest to extend the programmatic general permit (**PGP**) to authorize those activities that result in minimal adverse impacts within the boundaries of the Louisiana Coastal Zone, as specified by the terms and conditions of this PGP.

Specific Legislation requiring Department of the Army permits for work of this nature:

Section 10 of the Rivers and Harbors Act of 3 March 1899 (33 USC 403).

Section 404 of the Clean Water Act (33 USC 1344).

Waters of the United States are defined in Part 328 of Title 33, Code of Federal Regulations.

Special aquatic sites means wetlands, mudflats, vegetated shallows, coral reefs, sanctuaries and refuges, and riffle and pool complexes, as defined at 40 CFR 230.40 through 230.45.

This PGP does not authorize dams in navigable waters of the United States pursuant to Section 9 of the Rivers and Harbors Act of 3 March 1899 (33 USC 401) or transportation of dredged material for ocean disposal pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act (33 USC 1413).

GENERAL EXCLUSIONS

I. The following work will not be eligible under this PGP. Applications for this work will be processed in accordance with 33 CFR Part 325:

(1) Work outside the boundaries of the Louisiana Coastal Zone.

(2) Activities which are not covered under the Louisiana Coastal Resources Program as implemented by the Louisiana Department of Natural Resources, Office of Coastal Management (LDNR, OCM).

(3) No activity is authorized under this PGP which may adversely affect the continued existence, or which will destroy or adversely modify the critical habitat, of a threatened or endangered species, or a species proposed for such a designation, as identified under the Federal Endangered Species Act.

(4) Work or structures within 1,500 feet of any mainline flood control and hurricane damage risk reduction levees, structures, etc. constructed and/or maintained with federal funds without prior coordination with, and the concurrence from, CEMVN. Work that might alter US Army Corps of Engineers Civil Works projects will not qualify for this general permit until Permission pursuant to 33 USC 408 is granted by the District Commander.

(5) Structures or work in or that would impinge upon the value (habitat, hydrology, etc.) of any National Wildlife Refuge, National Forest, areas administered by the National Park Service of the US Department of the Interior, areas administered by the Louisiana Departments of Natural Resources or Wildlife and Fisheries, or other similar publicly held areas administered by federal, state, or local governmental authority unless special permission from these agencies is submitted during the review of, or with, the application for this general permit.

(6) Projects of national or individual concern. This exclusion is invoked on a case-by-case basis and represents, a special class of projects that receive particular attention in Corps decisions on whether to exercise the discretionary authority to require individual applications for work that otherwise meets all of this permit's conditions. While a precise definition is not possible, this category of work normally includes, but is not limited to, the following examples: projects that could cause an unreasonable interference with navigation; significant wetland fills; major power plants, shipping facilities and oil refineries; major commercial, residential or industrial developments; and work that could adversely affect habitats important to migratory birds, endangered or threatened species, estuarine-dependent fishes and shellfishes, or other species of high federal interest; or historic, cultural or archaeological sites listed in the National Register of Historic Places or sites listed in the National Registry of Natural Landmarks; or specific activities for which agencies request, and provide justification for, the requirement of an individual permit review.

(7) The PGP does not authorize dredging or the deposition of dredged and/or fill material for construction of oilfield access roads, drilling locations, pits, ring levees, and associated facilities in jurisdictional waters of the U.S. including wetlands, within the Atchafalaya Basin (as defined by USGS Hydrologic Unit Code: 08080101).

II. The following activities will likely be <u>excluded</u> for consideration under this PGP:

a. Work within 1 mile of offshore navigation fairways and anchorages
b. Commercial sand dredging in the Mississippi River

c. Barge fleeting
d. Mid-stream transfer facilities in the Mississippi River
e. Channel ward extensions of existing facilities in federally maintained waterways
f. Waterway closures (excluding plugs in abandoned canals)
g. New marsh management
h. New water control structures (except open culverts sized and set to maintain natural flow)
i. Contaminated sediment excavation and/or disposal, including but not limited to such activities proposed in Harvey Canal and Calcasieu River
j. Activities that would adversely impact environmentally sensitive areas (e.g., barrier islands, bird rookeries, coral reefs, seagrass beds, etc.)
k. Activities adversely affecting Coastal Wetlands Planning, Protection and Restoration Act (PL 646) projects
l. Projects which would impact the hydrology of adjacent wetlands such that the acreage criteria established in this permit are exceeded

INCLUSIONS

Category I Activities

What follows is a listing of activities which fall under Category I. The format of this general permit has been designed so that all similar activities have been grouped together where the purpose and the nature of that impact is similar. These activities are further limited, **unless otherwise noted**, by the acreage being impacted. CEMVN will verify qualification of specific activities for Category I authorization. The procedures for properly applying for and obtaining approval are found in the section of this document entitled 'Reporting/Acknowledgment Procedures'.

For the purposes of this permit, the acreage limitations established include the area flooded, drained, filled, or excavated, unless otherwise indicated. For activities to comply with Category I, they cannot cause the loss of greater than 0.5 of an acre of special aquatic sites.

1. Oil and gas activities including shell pads for drilling activities, exploration and production structures or extensions thereof, new channels or slips less than 0.5 of a mile in length in open water, and other related activities.

2. Survey activities not including 3D seismic activities.

3. Flowlines/pipelines 25,000 linear feet or less in length. Includes minor activities associated with pipeline abandonment.

4. Hazardous condition response activities. For purposes of this general permit, a hazardous condition is a situation which would result in an imminent safety and/or environmental hazard, loss of property, or immediate economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time period needed to

process the application. Applicants will submit sufficient information to document the hazardous condition and scope of work. This authorization is conditional. Within 30 days of the authorization, permittees will be required to submit an application for any work performed, or needed to be performed, to rectify the hazardous situation. The application will be processed in the appropriate manner. Alternatively, if the structures and/or fill installed to remediate the hazard are no longer necessary, the permittee must submit a site restoration plan for review and authorization by CEMVN. Restoration plans must be implemented within 30 days of receipt of CEMVN concurrence, unless otherwise specified **(acreage limits for the initial request do not apply)**.

5. Dredging of existing waterbodies. Excavation cannot exceed 40,000 cubic yards of material.

6. Maintenance of existing structures and fill provided the structures or fill are not put to uses differing from those uses specified or contemplated for it. The activity must be the repair, rehabilitation or replacement of a currently serviceable structure or fill. Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. This does not include maintenance dredging or beach restoration.

7. Miscellaneous structures including mooring buoys and aids to navigation which are approved by and installed in accordance with the requirements of the U.S. Coast Guard.

8. Scientific measuring devices. Devices to measure and record scientific data such as staff gauges, tide gauges, water quality testing, etc.

9. Sealed forms or cells for pile supported structures.

10. Single piles, pile clusters.

11. Trenasse (pirogue ditch) maintenance. The maximum width of the trenasse shall not exceed 6 feet with a maximum depth of 3 feet.

12. Minor road crossings. Placement of fill for a road, including the placement of culverts provided bank full flow is maintained. Includes cattle crossings.

13. Bank stabilization. Activity may not exceed 200 feet in length and greater than 1 cubic yard per linear foot of fill placement below the plane of the ordinary highwater mark or mean high water line whichever applies.

14. Erosion Protection and Restoration along public highways which parallels or is adjacent to waterbody, up to one mile in length provided the work is performed by LA DOTD, parish or municipal highway department. No dredging is authorized (except that material which has sloughed from the embankment), bulkheads must be placed at the existing bank line, and work may include revetment and fill to repair and maintain existing bridge

sites.

15. Wharves, piers, and similar structures, structures in manmade canals, small boat slips, boat ramps, and associated fill and appurtenances. Structures may neither exceed 600 square feet in area, nor extend channel ward more than 10 percent of the waterway bank-to-bank distance, nor cause unreasonable interference to navigation. Boat slips/ramps up to 30 feet by 15 feet in area.

16. Artificial reefs constructed for the purpose of enhancing fishing opportunities.

17. Categorical Exclusions: Activities which are undertaken, funded, authorized, regulated, or financed, in whole or in part, by another federal agency or department where that agency or department has determined, pursuant to the Council on Environmental Quality Regulation for Implementing the Procedural Provisions of the National Environmental Policy Act, that the activity work or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment, and the Office of the Chief of Engineers has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

18. Work not specifically excluded which clears, grades, fills or excavates no greater than 0.5 of an acre of special aquatic sites, as deemed applicable by CEMVN.

Category II Activities

What follows is a listing of all of the activities which fall under Category II. The format of this general permit has been designed so that all similar activities have been grouped together where the purpose and the nature of that impact is similar. These activities are further limited, **unless otherwise noted**, by the acreage being impacted. For activities to comply with Category II the impact is limited as follows:

Non-oil and gas related activities may result in the loss of no greater than 2.0 acres of tidal or 3.0 acres of non-tidal, special aquatic sites. Oil and gas related activities may result in the loss of no greater than 3.5 acres tidal or non-tidal special aquatic sites.

1. Oil and gas activities, including board roads, ring levees, exploration and production structures or extensions, new oil and gas canals and slips, parallel/perpendicular slips, etc.

2. Seismic surveys **(acreage limits do apply)**.

3. Any flowlines, pipelines and utility lines up to 50,000 linear feet in length, and all aerial transmission lines. Must utilize the least damaging, practicable route and construction method, otherwise an individual permit will be required. Power transmission lines must

comply with regulations found at 33 CFR Part 322.5(i).

4. Cleanup of hazardous and toxic waste. For toxic and hazardous waste, the activity must be sponsored by a government agency with established legal or regulatory authority or be court ordered **(acreage limits do not apply)**.

5. Oil spill cleanup. Activities will be subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), and work must be done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR part 112.3. Work must also comply with any State Contingency plan and the Regional Response Team must concur with the action **(acreage limits do not apply)**.

6. Dredging of existing waterbodies. Excavation cannot exceed 100,000 cubic yards of material (volume limits do not apply to activities being conducted for the purpose of wetland restoration, and; up to 250,000 cubic yards allowed for removal of silt accumulations around existing docks, barge fleets and mooring areas in the Mississippi River with disposal beyond the minus 55-foot contour).

7. Outfall structures. Provided the effluent is in compliance with regulations issued under the National Pollutant Discharge Elimination System (Section 402 of the Clean Water Act).

8. Wharves, piers, and similar structures, structures in manmade canals, small boat slips, boat ramps, and associated fill and appurtenances. Structures may exceed 600 square feet in area, but may neither extend channel ward more than 20 percent of the waterway bank-to-bank distance, nor cause unreasonable interference to navigation. Boat slips/ramps up to 60 feet by 25 feet in area.

9. Erosion Protection and Restoration along public highways which parallels or is adjacent to waterbody, one mile in length and greater provided the work is performed by the LA DOTD, parish or municipal highway department. No dredging is authorized (except that material which has sloughed from the embankment), bulkheads must be placed at the existing bank line, and work may include revetment to repair and maintain existing bridge sites.

10. Bank stabilization. Activities that are greater than 200 linear feet in length, but do not exceed 500 linear feet, or where fill placement exceeds 1 cubic yard per running foot below the plane of the ordinary highwater mark or mean high water line whichever applies. District Engineer may grant a waiver to this limitation for proposed activities up to 1000 feet if determined to have minimal individual and cumulative adverse environmental effect.

11. Categorical Exclusions. Activities which are undertaken, funded, authorized, regulated, or financed, in whole or in part, by another federal agency or department where that agency or department has determined, pursuant to the Council on Environmental Quality

Regulation for Implementing the Procedural Provisions of the National Environmental Policy Act, that the activity work or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually or cumulatively have a significant effect on the human environment, and the Office of the Chief of Engineers has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

12. Small weirs, flumes and similar scientific measuring devices provided aquatic organism movement is minimally impeded.

13. Wetland restoration and creation activities. Activities specifically designed which have a beneficial effect on wetlands and/or aquatic resources, as determined applicable by CEMVN. Limits on the volume of dredged material and acreage of fill area do not apply. Mitigation banks/areas excluded.

14. Work not specifically excluded which clears, grades, fills or excavates no greater than 2.0 acres of tidal, or 3.0 acres of non-tidal, special aquatic sites, as determined applicable by CEMVN.

REPORTING/ACKNOWLEDGMENT PROCEDURES

A. COMPLETE APPLICATION

Requests for authorization under the PGP require the applicant to submit an application to the DNR, OCM; **an electronic version of the application can be found** at http://www.dnr.la.gov. The applicant's submittal must include a fully completed joint application form and project plans showing all work for which a permit is being requested. LDNR, OCM will electronically forward the application to CEMVN.

A "**complete**" application consists of the following:

(1) A completely filled out joint on-line application form.

(2) Vicinity Map - You may use an existing road map or U.S. Geological Survey topographic map. This map should include:

(i) Location of activity site (draw an arrow showing the exact location of the site on the map).

(ii) Latitude, longitude, and section, township and range, if known.

(iii) Names, descriptions and location of landmarks.

(iv) Name of and distance to nearest town, community, or other identifying locations, including parish.

(v) Names or numbers of all roads in the vicinity of the site.

(vi) North arrow.

(vii) Appropriate dimensions (length x width x depth) or drawings to scale.

(3) Plan view and cross section drawings of the proposed work which include:

(a) Primary dimensions of the activity.

(b) Appropriate dimensions (length x width x depth) or drawings to scale.

(c) Volume (cubic yards), source, and type of dredged/fill material(s).

(d) Mean low and highwater marks.

(4) A statement that the proposed project is consistent with the approved state coastal zone management program.

For the following application types to be considered "complete", additional information may be required:

1) New oil/gas well or reinjection well applications that would result in adverse impacts to special aquatic sites must have undergone an interagency Geologic Review Meeting. The least damaging practicable alternative identified therein may qualify for PGP authorization provided it complies with the criteria of the PGP.

2) Residential subdivisions or an individual single-family home within an existing subdivision must include a subdivision layout.

3) Activities on state operated wildlife management areas or federal refuges must include a written approval from the management area/refuge manager.

4) Projects where the permitted activity requires site restoration upon abandonment of the activity must include signed statements from the affected landowners that they have no objection to the required restoration and that they agree not to develop the restoration areas without prior approval from CEMVN.

5) Projects where a Corps jurisdictional determination is necessary in order to assess the potential impacts of the proposed work.

Proposals not considered "complete" will be placed "on-hold" until such time as **all** required information is obtained.

B. PROCEDURE

1. Category I activities:

Within 10 working days of CEMVN receiving a complete application, it will determine whether the requirements of Category I are met and advise the applicant if the application is complete or if additional information is needed. CEMVN will finalize a permit decision upon completion of all requisite reviews.

2. Category II activities:

Within 10 working days of CEMVN receiving a complete application, it will notify the applicant that the project will be evaluated as a Standard Permit or forward a copy of the application and drawings to the National Marine Fisheries Service, US Environmental Protection Agency, and Louisiana Department of Wildlife and Fisheries for review. These agencies will have 5 working days to submit comments or request additional review time not to exceed 20 working days total. Concurrences may be forwarded to CEMVN via telephone or electronic mail, non-concurrences must be made in writing with an information copy sent to the applicant which includes a description of the impact(s) considered to be more than minimal*. Lack of a response from these resource agencies within the appropriate time frame will be considered as no objection or no position by those agencies.

To the extent practicable and subject to completion of all requisite reviews within 15 days thereafter, CEMVN will either:

a) issue an authorization letter (with any necessary special conditions), to the permittee, or;

b) issue an authorization letter with modifications as recommended by the resource agencies or CEMVN, or;

c) issue a notice to the applicant that the project will be evaluated as a Standard Permit.

To the extent practicable, LDNR, OCM will be notified at the same time the applicant is notified of CEMVN's determination in all of the above situations.

* CEMVN's non-concurrence with the reviewing resource agencies objections and/or recommendations will be made in writing by the District Commander (or his designee) to the respective agency.

C. MITIGATION

Appropriate compensatory mitigation will be required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been attained. The objective of compensatory mitigation is to replace wetland functions, values and services impacted by implementation of the permitted activity. Compensatory mitigation may include, but is not limited to, contracting with a mitigation bank to provide the credits to fully offset the impact; acquisition of credits from the Louisiana Department of Natural Resources' In-lieu Fee Program for the creation, restoration or enhancement of wetlands, or; the permittee's implementation of a wetland mitigation project determined to be acceptable by CEMVN and LDNR, OCM (i.e., permittee responsible mitigation).

CEMVN is obligated to ensure the appropriateness and adequacy of compensatory mitigation in accordance with the 2008 Final Rule on Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Part 332 and 40 CFR Part 230. CEMVN recognizes that although the State supports a goal of achieving no net loss of coastal wetlands as specified in the April 1997 Louisiana Coastal Wetlands Conservation Plan, differences in regulations and policies promulgated by the state and federal programs may not facilitate alignment of compensatory mitigation requirements in all instances. When CEMVN determines potentially affected resource values to be of sufficient concern so as to ensure the compliance of a prospective PGP with Corps mitigation policy, CEMVN will coordinate such findings with LDNR, OCM with the intent to implement compensatory mitigation requirements that are consistent with state and federal regulations. Should CEMVN and LDNR, OCM achieve concurrence on compensatory mitigation requirements, CEMVN will finalize the decision on the PGP accordingly. In the event concurrence on the compensatory mitigation requirement is not achieved, CEMVN will either stipulate its compensatory mitigation requirements in the PGP authorization or pursue evaluation of the activity in accordance with Standard Permit application procedures, whichever is appropriate. Although it is recognized that the complexity of compensatory mitigation coordination may increase process time, CEMVN will adhere to the procedural timeframe defined above to the extent practicable.

CEMVN also recognizes the interest of the State in locating compensatory mitigation for those actions located outside the Louisiana Coastal Zone, but within the Louisiana Coastal Wetlands Conservation Plan Area (LCPA), within the LCPA. CEMVN is committed to facilitate mitigation site selection within the LCPA to the extent that adherence to Corps national mitigation policy is not compromised.

CEMVN and LDNR, OCM will assess mitigation performance instituted pursuant to PGP implementation as needed, or when requested by either agency.

D. GENERAL CONDITIONS

1. Activities authorized under this general permit shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single and complete project shall be treated together as constituting one single and complete project. All planned phases of multi-phased projects shall be treated together as constituting one single and complete project. This general permit shall not be used for any activity that is part of an overall project for which an individual permit is required.

2. No activity is authorized under this general permit which may adversely affect significant cultural resources listed or eligible for listing in the National Register of Historic Places until the requirements for Section 106 of the National Historic Preservation Act are met. Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources, all work must cease and the permittee must notify the State Historic Preservation Office and the Corps of Engineers (CEMVN). We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. The authorization is suspended until it is determined whether or not the activity will have an adverse effect on cultural resources. The authorization may be reactivated or modified through specific conditions if necessary, if it is determined that the activity will have no adverse effect on cultural resources. The Programmatic General Permit (PGP) authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.

3. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.

4. If the **authorized** activity involves the installation of aerial transmission lines, submerged cable, or submerged pipelines across navigable waters of the United States the following is applicable:

> The National Ocean Service (NOS) has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Your notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.

5. For pipelines under an anchorage or a designated fairway in the Gulf of Mexico the following is applicable: The NOS has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, and to the Director, National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282. The plans must include the location, configuration and actual burial depth of the completed pipeline project.

6. All activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

7. Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of this permit in accordance with 33 CFR 325.7.

8. Irrespective of whether a project meets the other conditions of this permit, the Corps of Engineers retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

9. Any individual authorization granted under this permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest.

10. CEMVN may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

11. Activities authorized under the PGP must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of the PGP.

12. The permittee shall allow the District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

13. This general permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized herein.

14. In issuing authorizations under this permit, the federal government will rely upon information and data supplied by the applicant. If, subsequent to the issuance of an authorization, such information and data prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

15. For activities resulting in sewage generation at the project site, such sewage shall be processed through a municipal sewage treatment system or, in areas where tie-in to a municipal system is not practical, the on-site sewerage system must be approved by the local parish sanitarian before construction

16. Any modification, suspension, or revocation of the PGP, or any individual authorization granted under this permit, will not be the basis for any claim for damages against the United States.

17. Additional conditions deemed necessary to protect the public interest may be added to the general permit by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impacts and compliance with the PGP.

18. The PGP is subject to periodic formal review by CEMVN and the Louisiana Department of Natural Resources, Office of Coastal Management (LDNR, OCM) in coordination with the Environmental Protection Agency, the National Marine Fisheries Service, and the Louisiana Department of Wildlife and Fisheries. Comments from reviewing agencies will be considered in determination as to whether modifications to the general permit are needed. Should the District Commander decide not to incorporate a change proposed by a reviewing agency, after normal negotiations between the respective agencies, the District Commander will explain in writing to the reviewing agency the basis and rationale for his decision.

19. CEMVN retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

20. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

21. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

22. You must install and maintain, at your expense, any safety lights, signs and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on your authorized facilities. Any inquiries concerning a U.S. Coast Guard Private Aids to Navigation marking determination may be directed to the Eighth Coast Guard District (dpw), Hale Boggs Federal Building, 500 Poydras St., Suite 1230, New Orleans, Louisiana 70130, at (504) 671-2330 or via email to: D8oanPATON@uscg.mil. For general information related to Private Aids to Navigation, you may visit the Eighth CG District web site at: http://www.atlanticarea.uscg.mil/district-8/district-divisions/waterways/PATON

23. If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of this permit approval and drawings can be emailed to: D8MarineInfo@uscg.mil, or mailed to the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Suite 1230, New Orleans, Louisiana 70130. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2118.

24. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party as described in General Condition 25 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

25. If you sell the property associated with this permit, you must provide this office with a copy of the permit and a letter noting your agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

26. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. If your project involves dredging and/or placement of fill, you must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your activities with local floodplain ordinances, regulations or permits. Project designs and any associated drainage plans associated with the undertaking shall comply with all local Parish Government, Drainage Authority, Flood Plain Administrator, and/or other applicable agency requirements. Should it be determined by any of these agencies that the project is creating unnatural inundation conditions on adjacent properties, the permittee will be required to remediate the situation, as directed by these agencies. Should there be any changes required in

the project design, the permittee shall coordinate with this office to obtain a permit amendment and/or review and decision on the plans, prior to commencement of those alterations.

27. In issuing authorizations under this permit, the federal government does not assume any liability for: damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

28. All work shall be done in accordance with the approved plans and confined to the permitted work area(s) represented within the attached drawings. If the project requires modifications to the authorized plans, the permittee shall contact this office to obtain a permit amendment and/or review and decision on the plans, prior to commencement of those alterations. The permittee is responsible for ensuring that any contractors and/or workers associated with project construction and implementation, are equally aware of the authorized plans, conditions, and/or restrictions associated with this approval.

29. The permittee shall properly install adequate erosion/siltation control measures around construction areas that require land-based earthwork (i.e., excavation and/or deposition of fill materials, land contouring, machinery rutting, fill maneuvering and redistribution, etc.), to aid in preventing project related sediments, debris and other pollutants from entering adjacent wetlands or waters. Acceptable measures include but are not limited to the proper use and positioning of temporary silt fences, straw bales, fiber/core logs, wooden barriers, seeding or sodding of exposed soils, or other approved EPA construction site storm-water runoff control and best management practices. Control techniques shall be installed prior to the commencement of earthwork activities and maintained until the project is complete and/or the subject areas are stabilized.

E. AUTHORIZATIONS

No work may be performed under the PGP unless and until:

(1) CEMVN has reviewed the application and has issued a written authorization or, in exceptional cases, a verbal authorization.

(2) All required local, state and other federal permits, licenses, authorizations, and certifications are obtained. This includes, but is not limited to:

(a) A Coastal Use Permit, consistency determination, or finding of No Direct Significant Impact signed by the Secretary of the Louisiana Department of Natural Resources or his designee, and

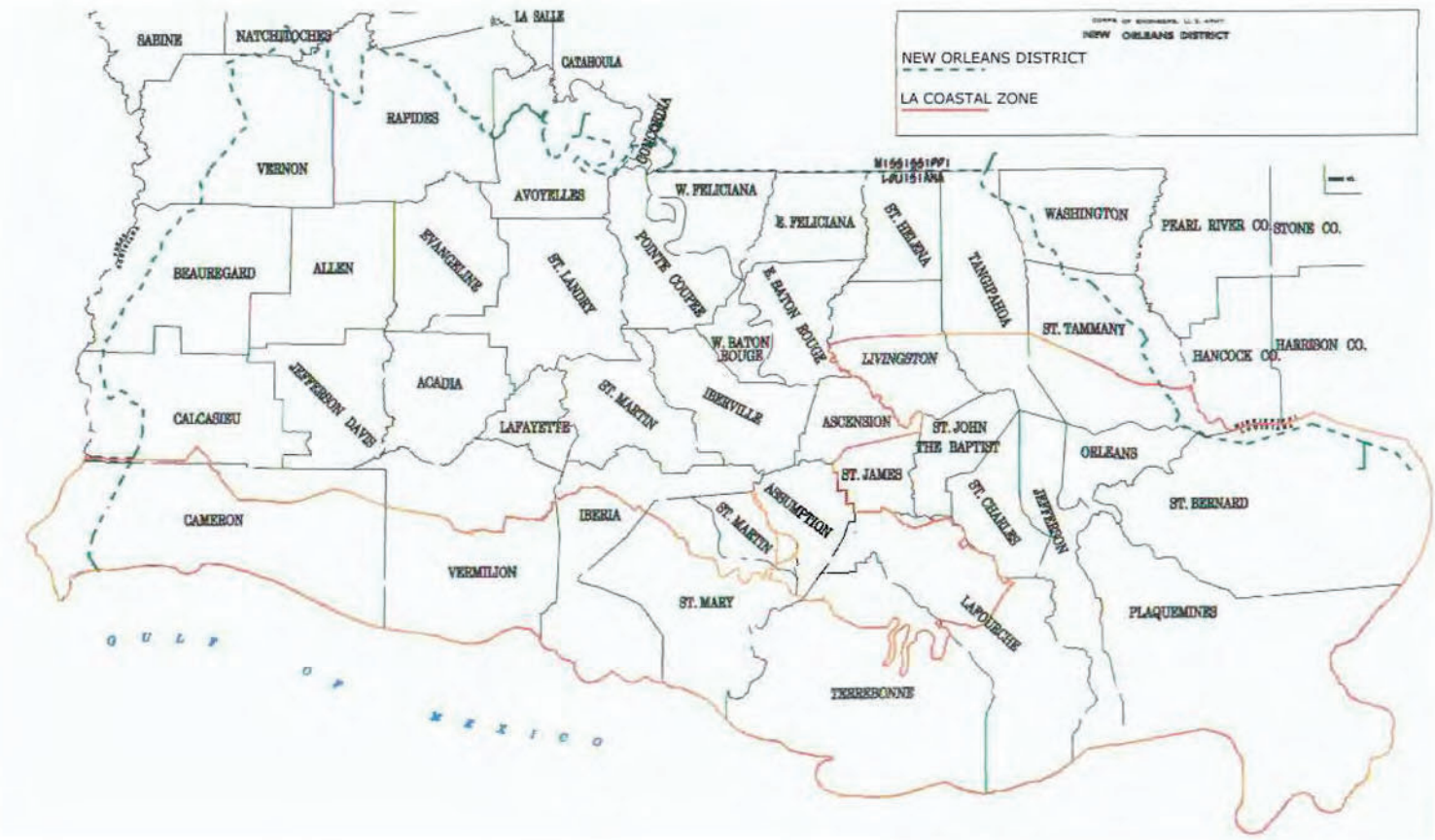
The PGP expires on ***June 1, 2027***, unless otherwise modified or reissued.

Individual authorizations granted to applicants under this PGP are valid for 5 years from the date of the authorization letter.

BY THE AUTHORITY OF THE SECRETARY OF THE ARMY:

Martin S. Mayer
Chief, Regulatory Division

Attachment 1



DEPARTMENT OF THE ARMY PERMIT

Permittee _____

Permittee No. _____

Issuing Office _____

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Project Location:

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on _____. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort of if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(☐) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(☐) Section 404 of the Clean Water Act (33 U.S.C. 1344).

(☐) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

2. Limits of the authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

(REVERSE OF ENG FORM 1721)

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

_____ _____

(PERMITTEE) *(DATE)*

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

_____ _____

(DISTRICT ENGINEER) *(DATE)*

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) *(DATE)*

* U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).

- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at “no wake/idle” speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.

- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: “CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT”. A second temporary sign measuring 8½ " X 11” shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: “CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION”.

- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service’s, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

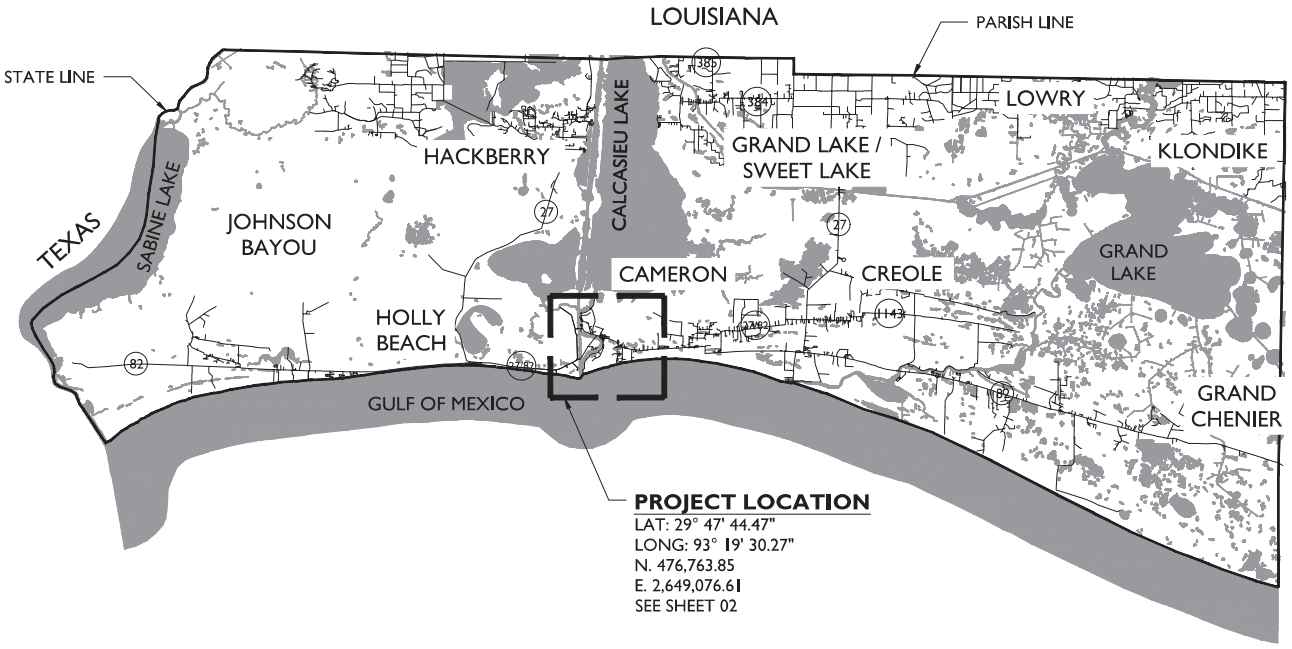
PERMIT DESIGNS
FOR
CUP #P20220077 AND USACE PGP #MVN-2020-00671-WILL
CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENTS

EXHIBIT H

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022
01/03/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

VICINITY MAP

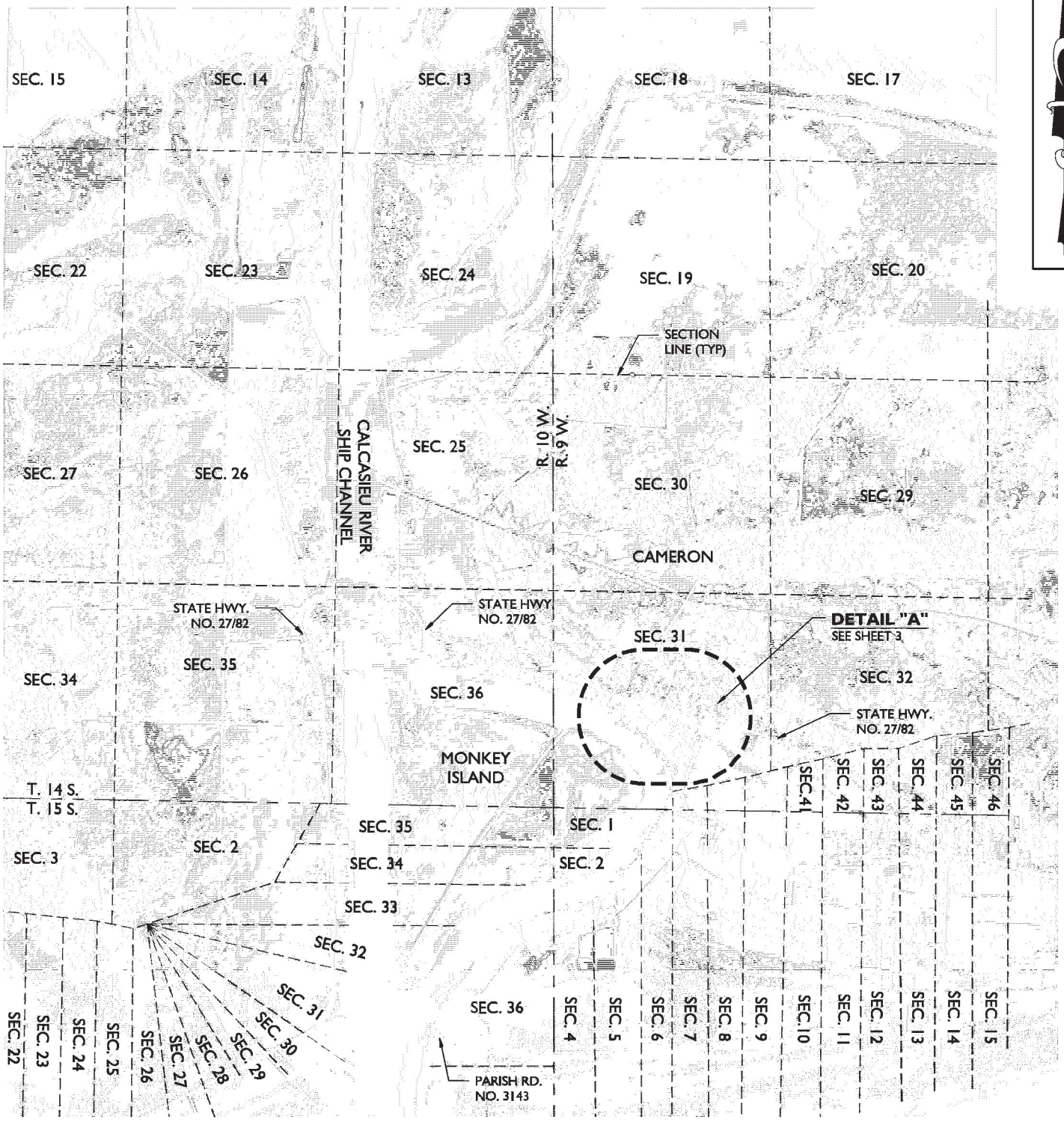
0 12
SCALE IN MILES

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022
01/03/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

PROJECT LOCATION

0 3,500
SCALE IN FEET

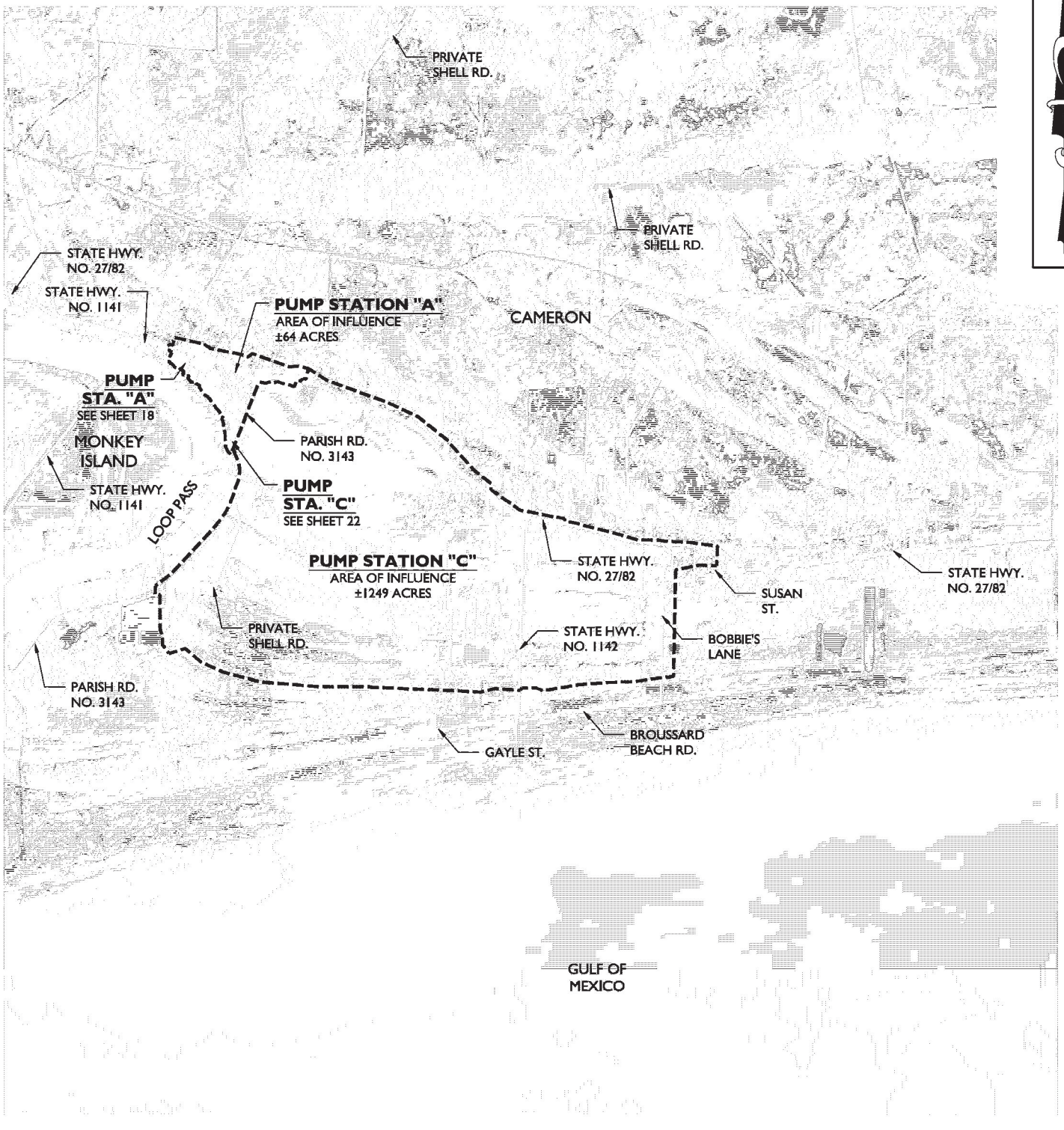
PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022
01/03/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

SHEET 02A OF 24



PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

PROJECT LOCATION

0 2,000'
SCALE IN FEET

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 02/10/2022 02/27/2023
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "A"

0 300
SCALE IN FEET

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

TEMPORARY ACCESS

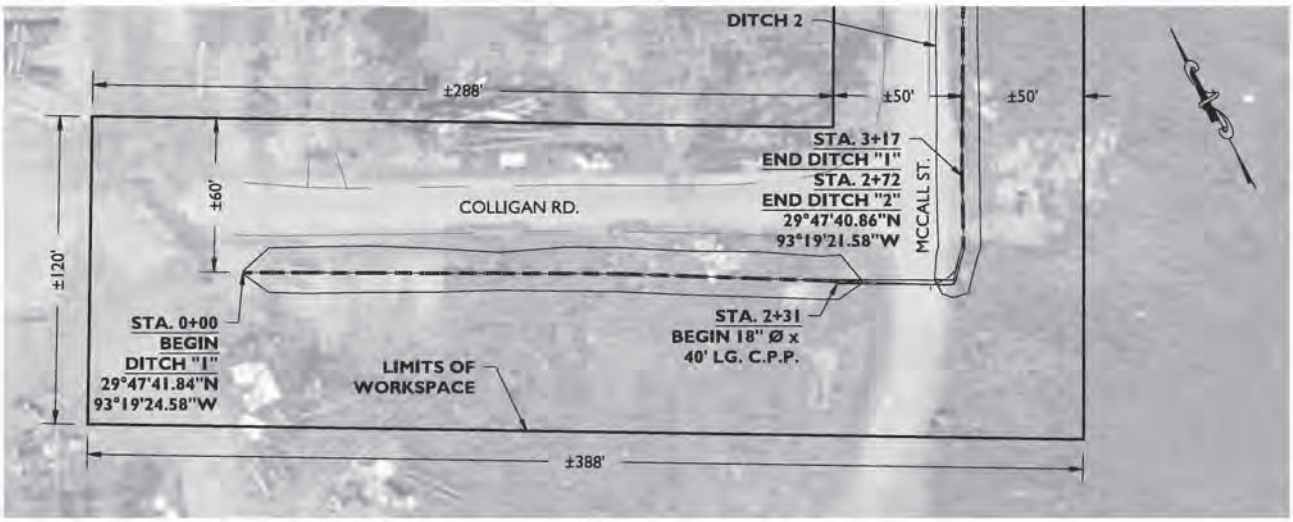
0 300
SCALE IN FEET

PROJECT NO. 01/3479/2022

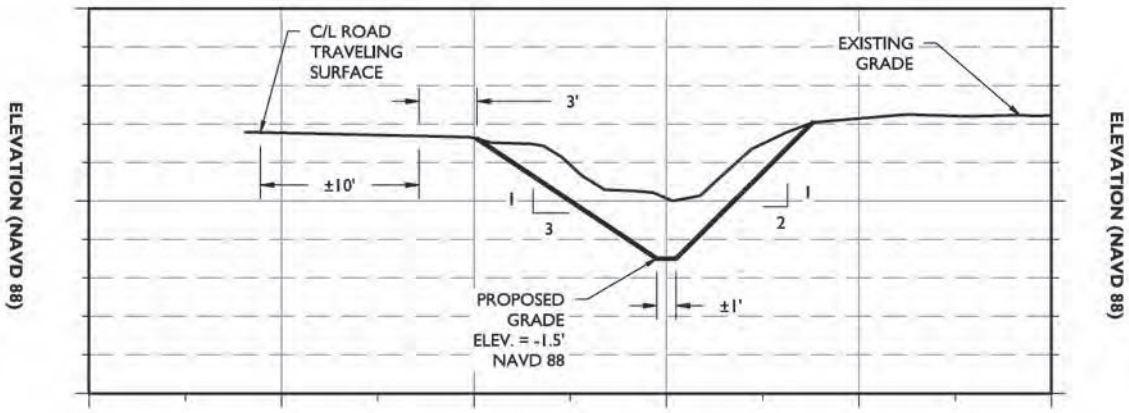
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "F"



DITCH 1 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 1 PLAN & SEC.

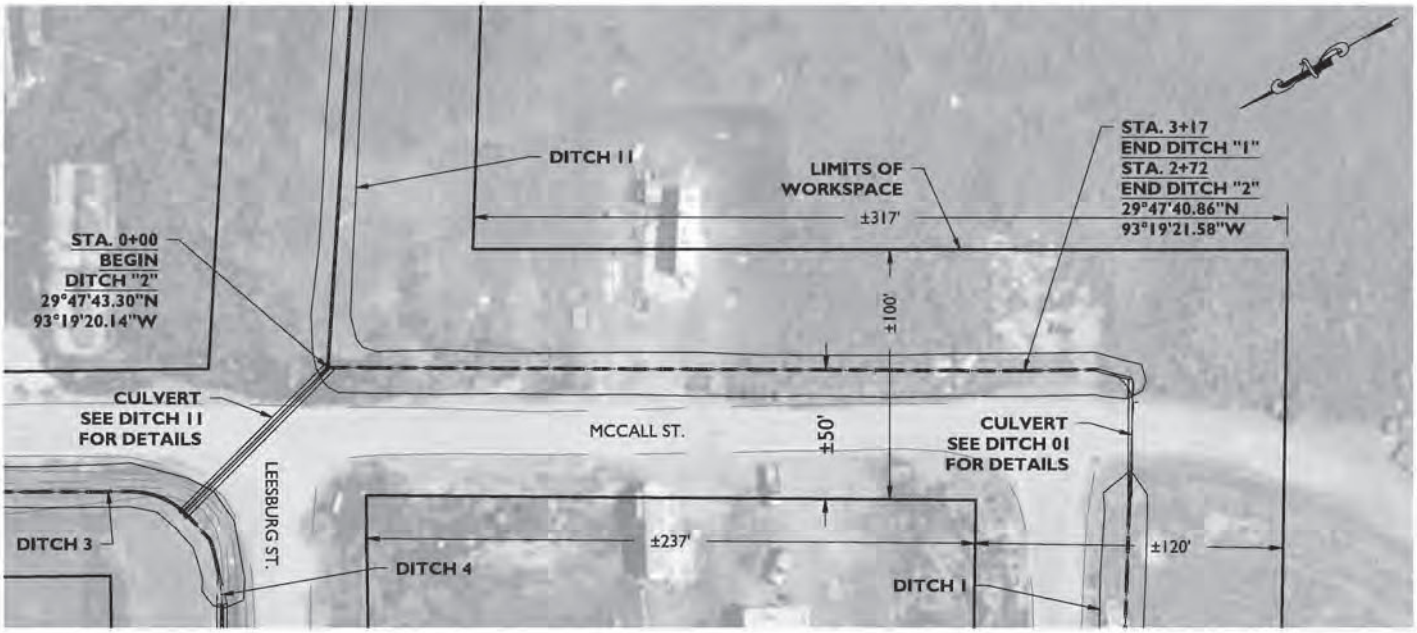
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

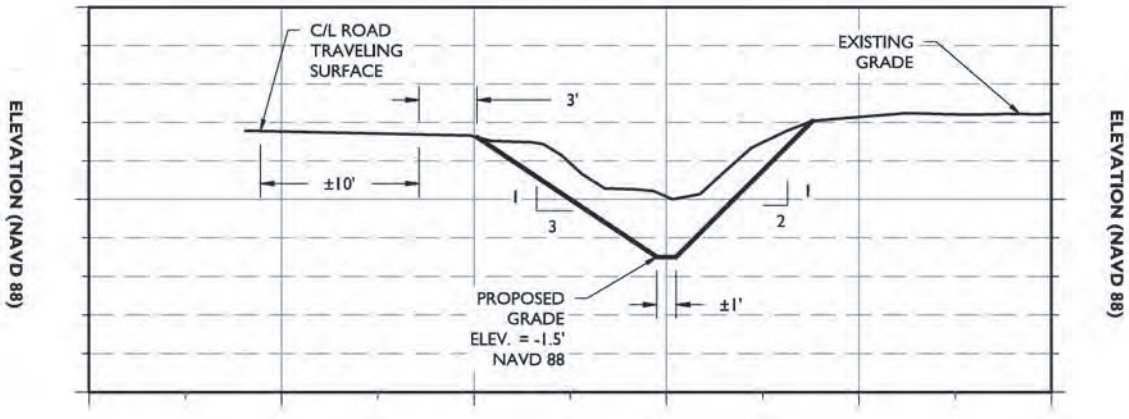
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "G"



DITCH 2 CROSS SECTION

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 2 PLAN & SEC.

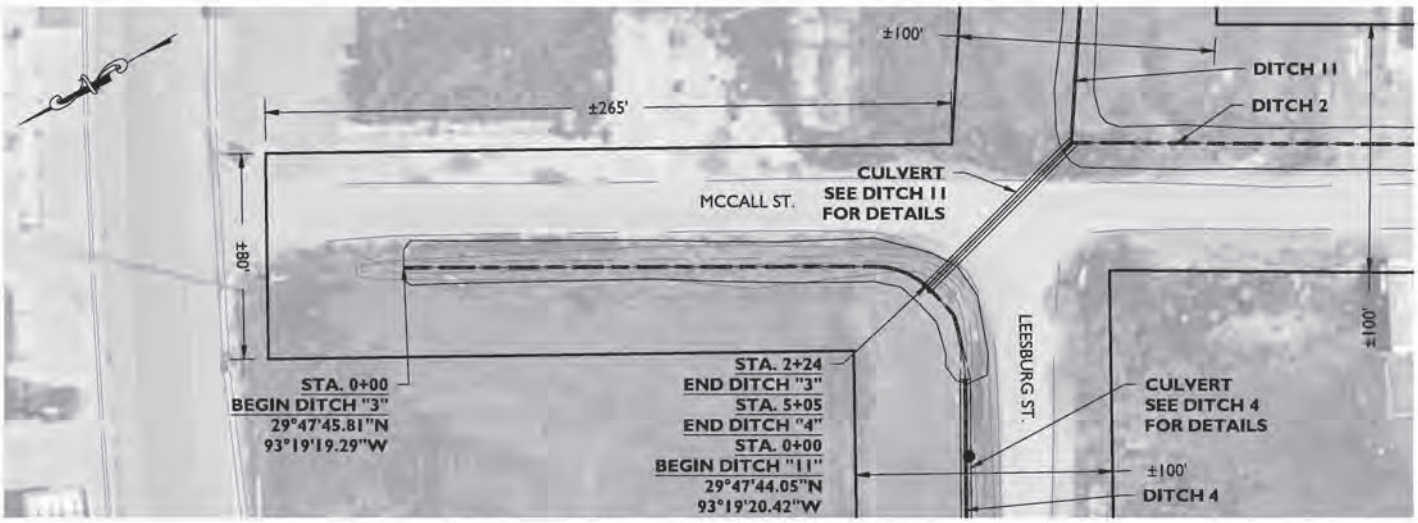
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

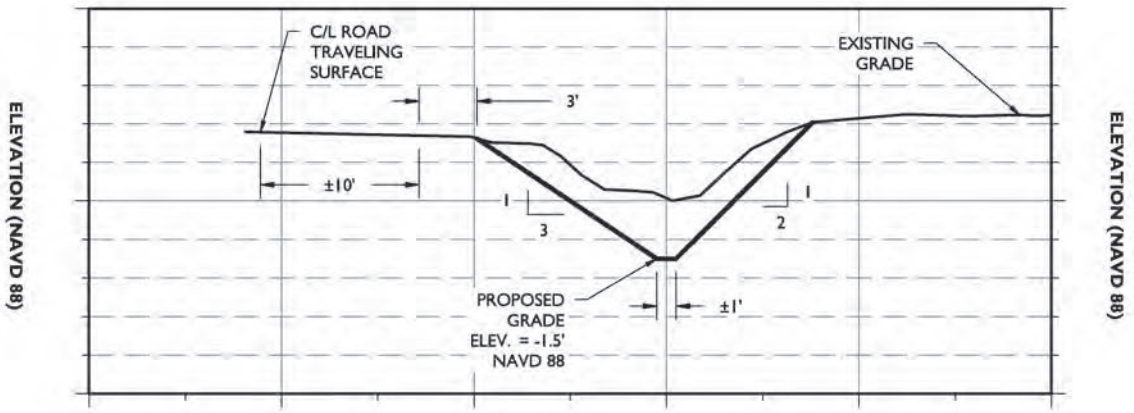
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "H"



DITCH 3 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 3 PLAN & SEC.

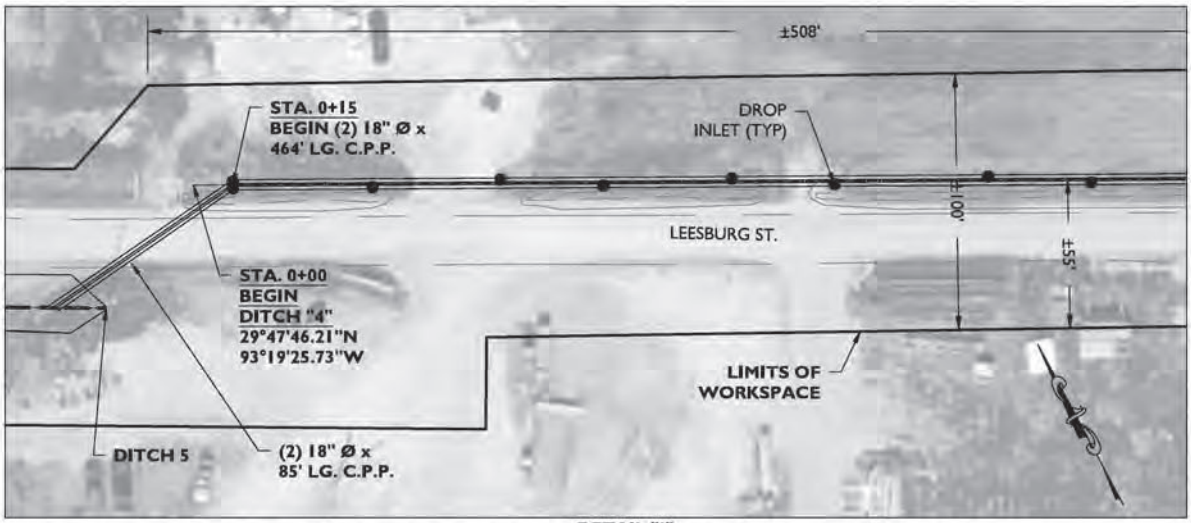
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

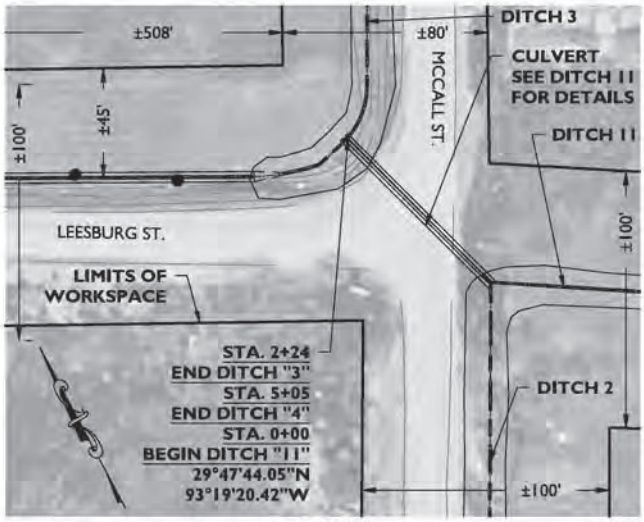
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

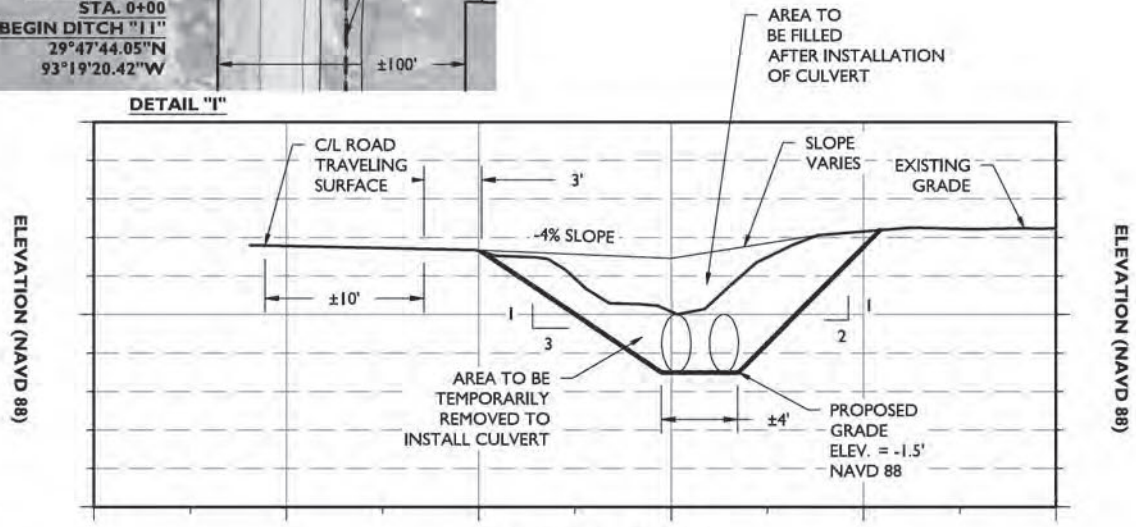
CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "J"



DETAIL "I"



DITCH 4 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 4 PLAN & SEC.

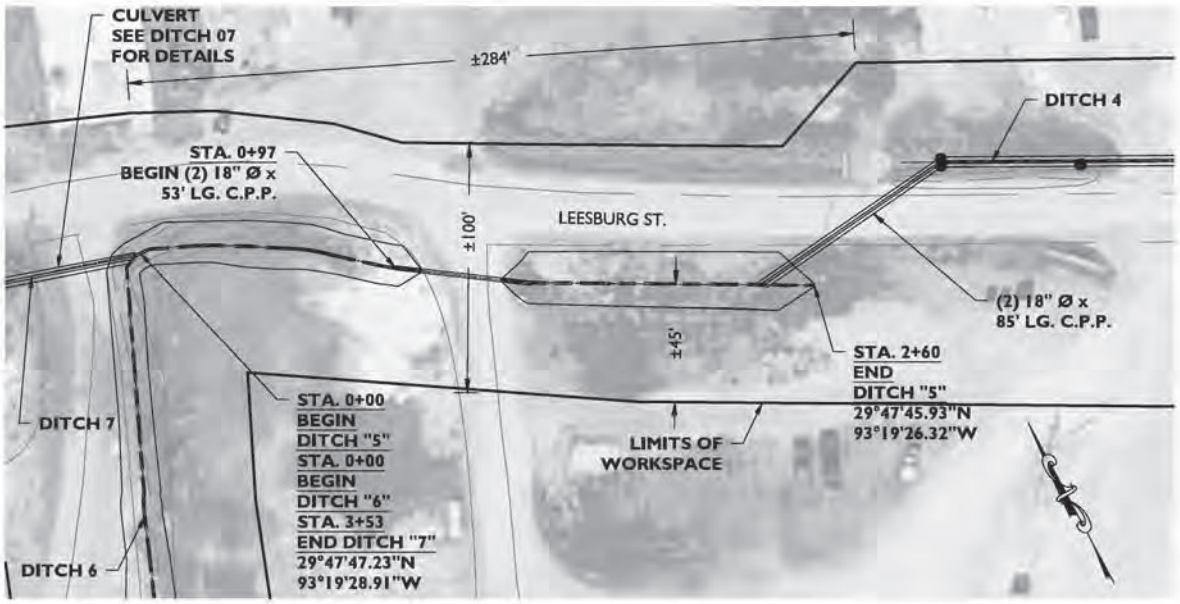
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

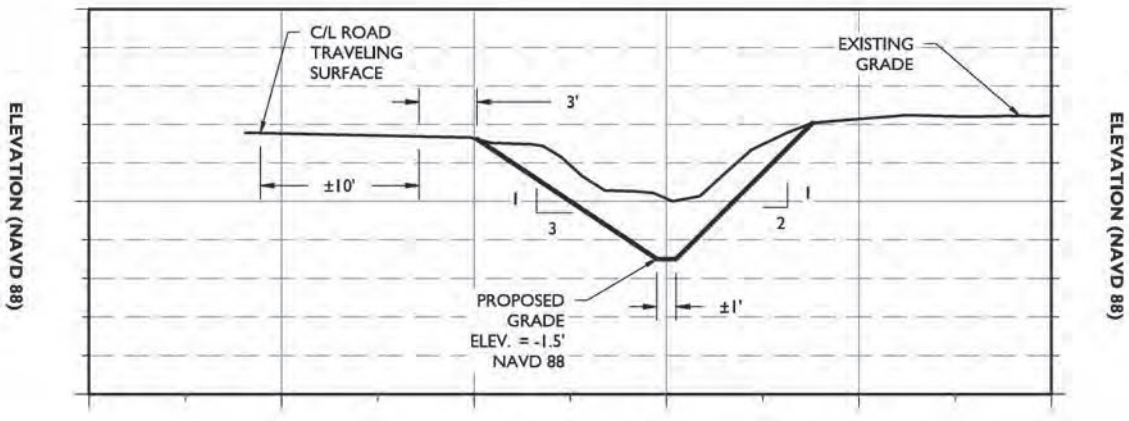
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "K"



DITCH 5 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 5 PLAN & SEC.

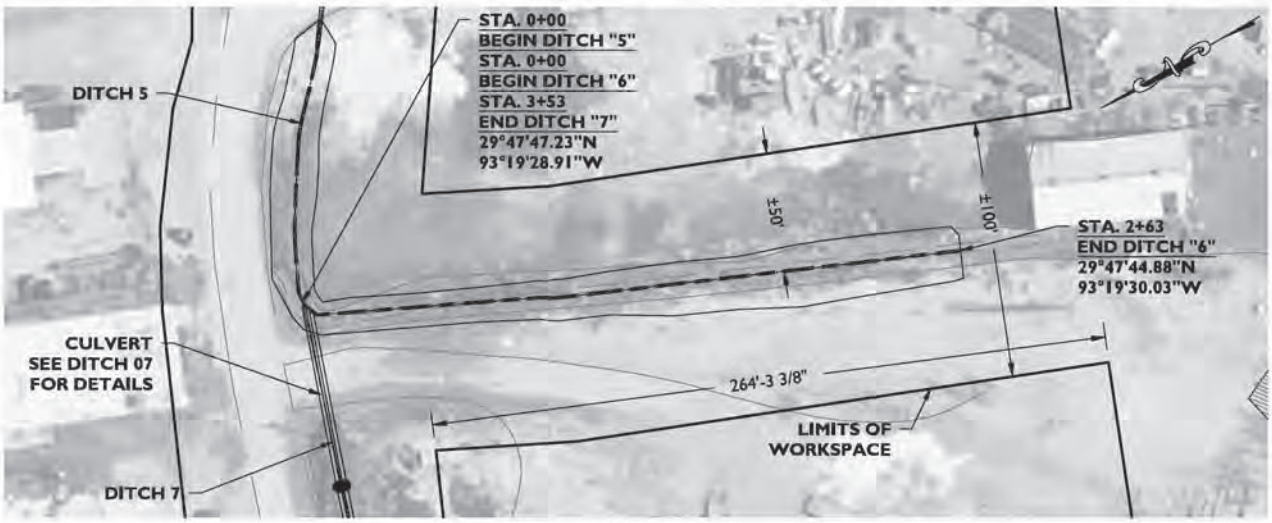
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

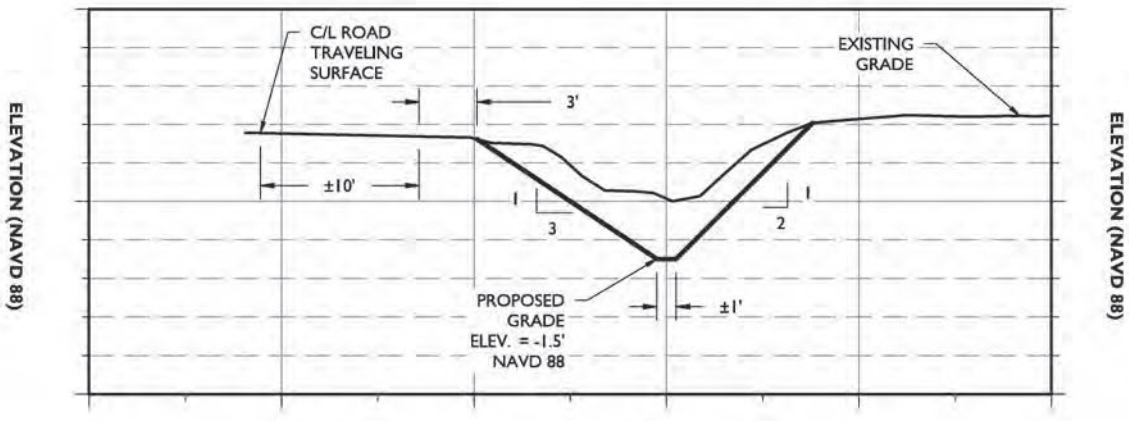
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "L"



DITCH 6 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 6 PLAN & SEC.

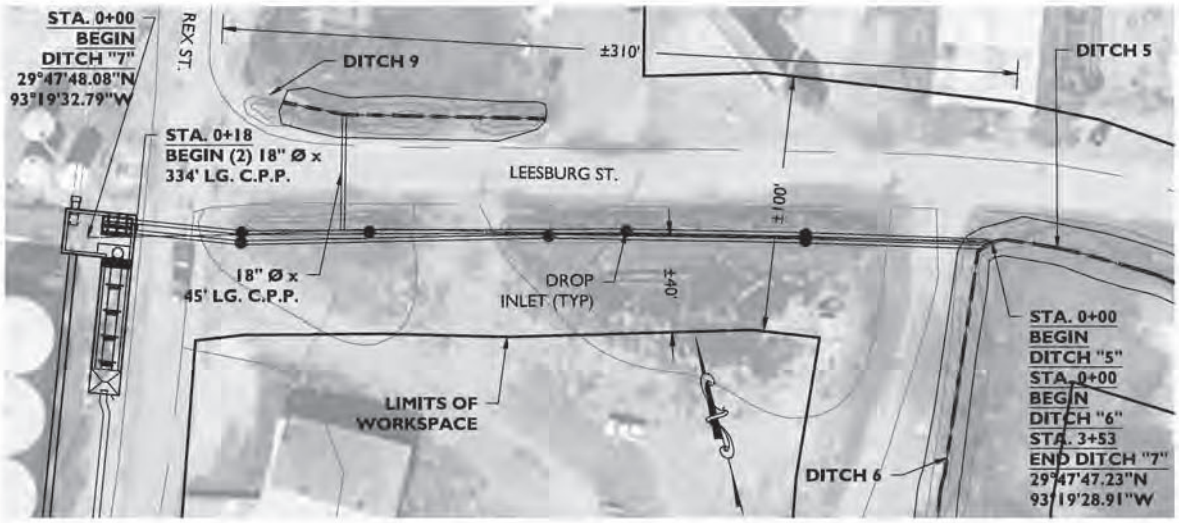
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

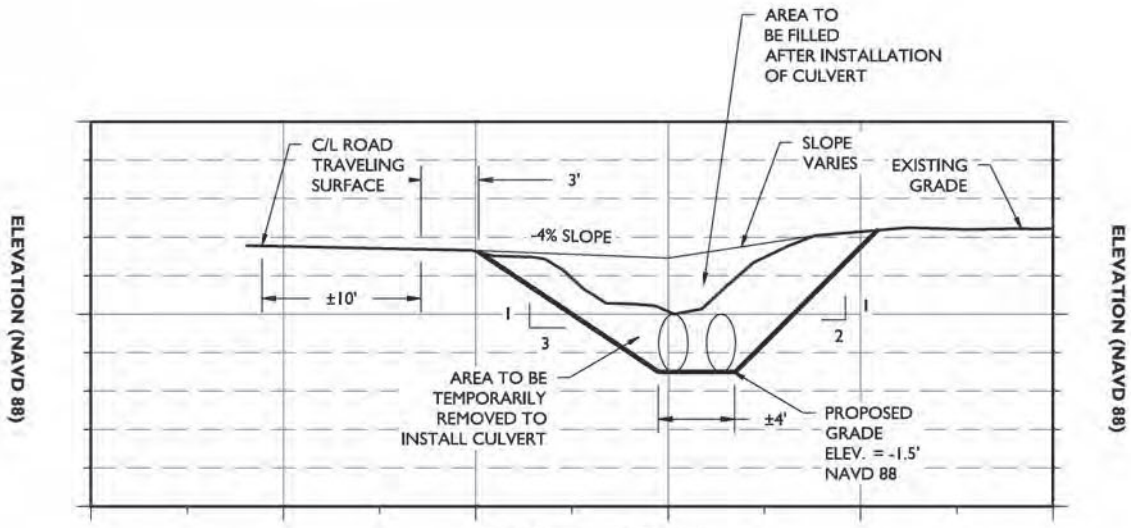
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "M"



DITCH 7 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS
ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 7 PLAN & SEC.

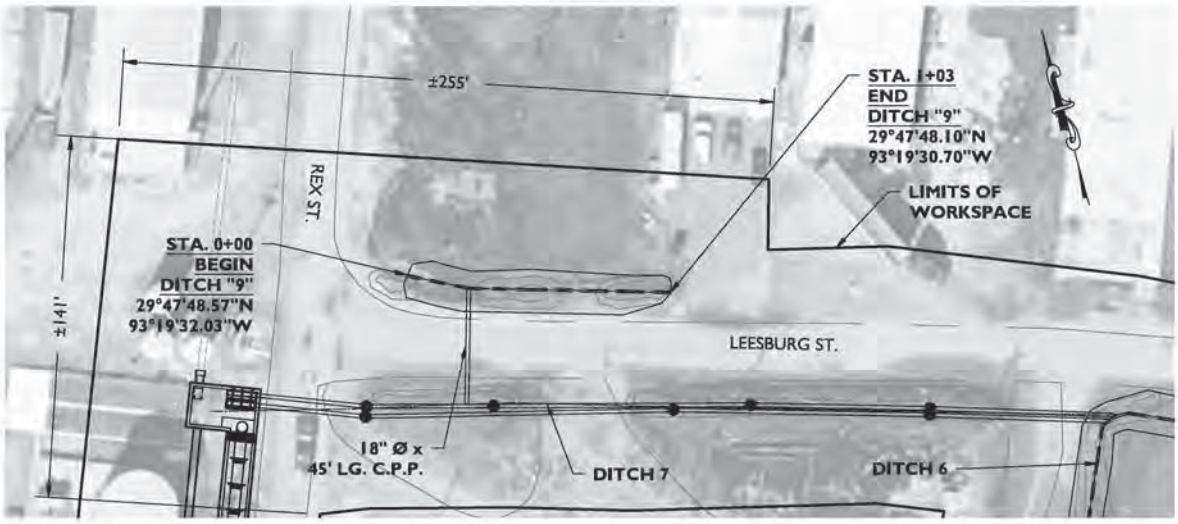
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

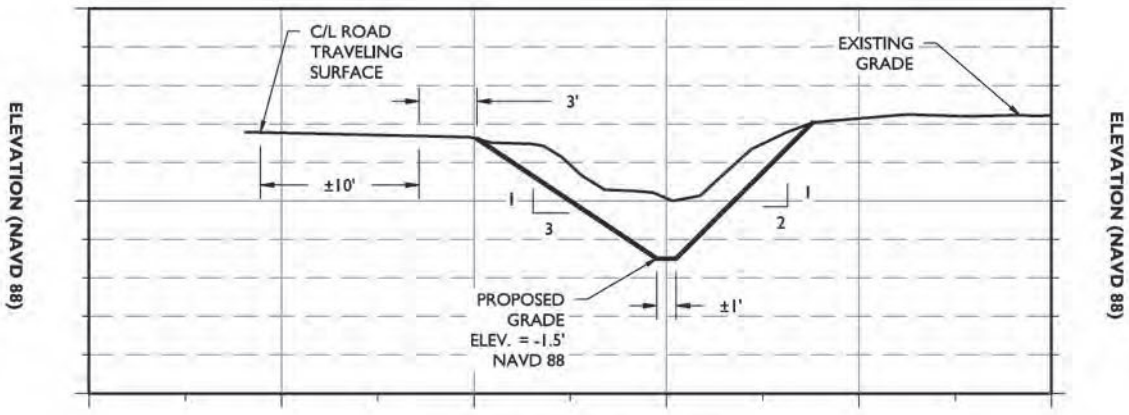
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "N"



DITCH 9 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 9 PLAN & SEC.

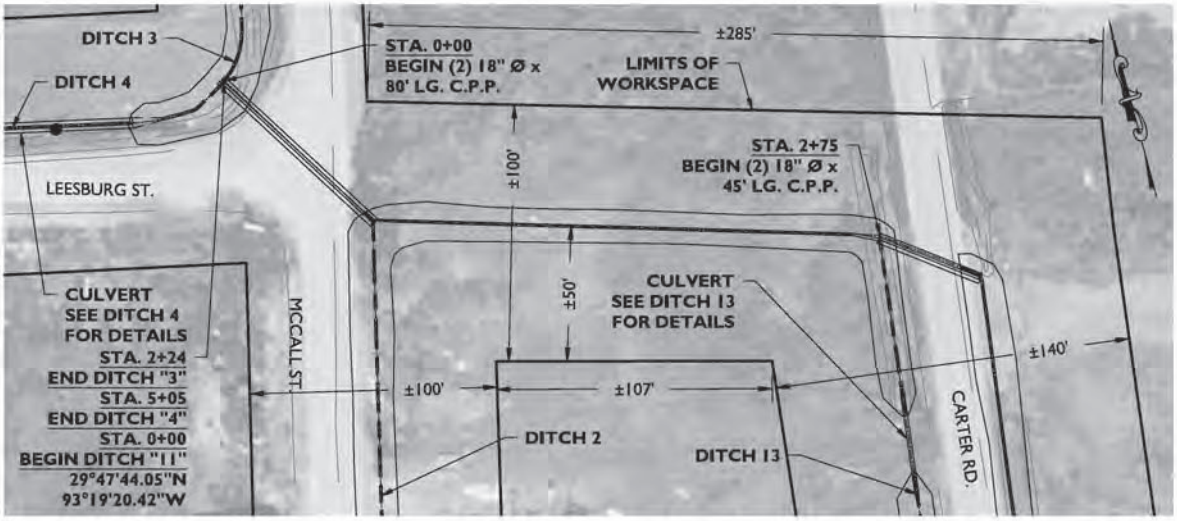
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

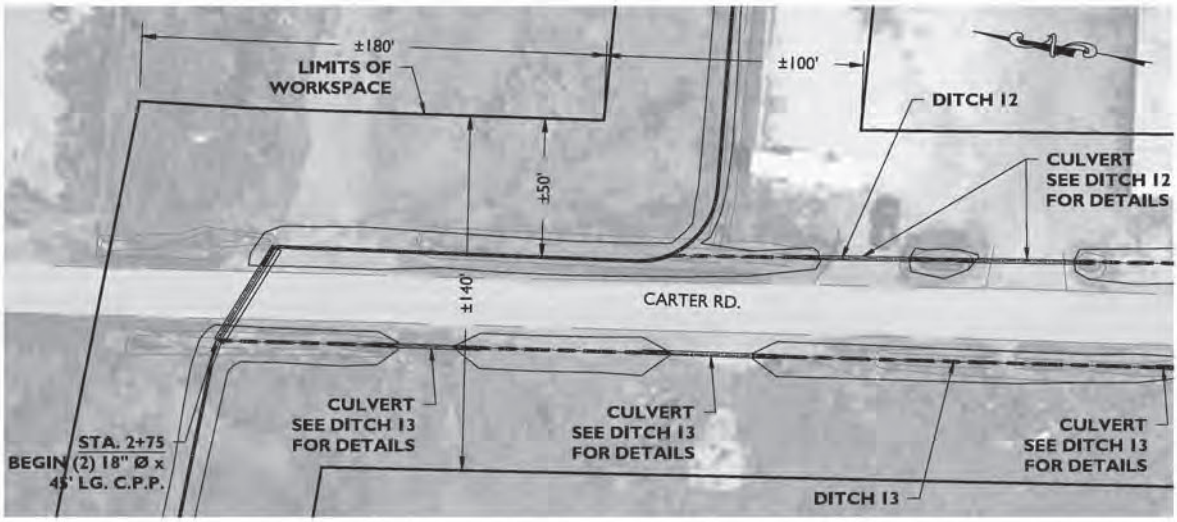
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "O"



DETAIL "P"

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS
ADJACENT TO LA 27
CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 11 PLAN & SEC.

0 75
SCALE IN FEET

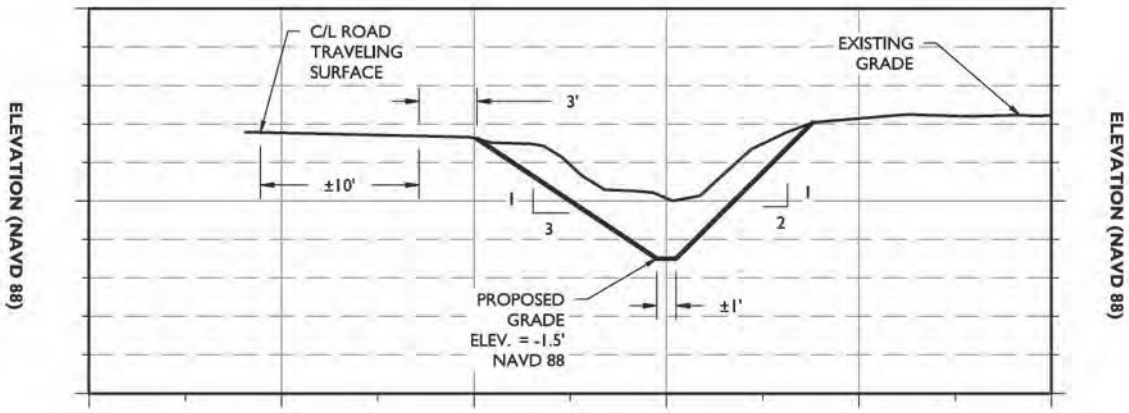
PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

DETAIL "Q"



DITCH 11 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 11 PLAN & SEC.

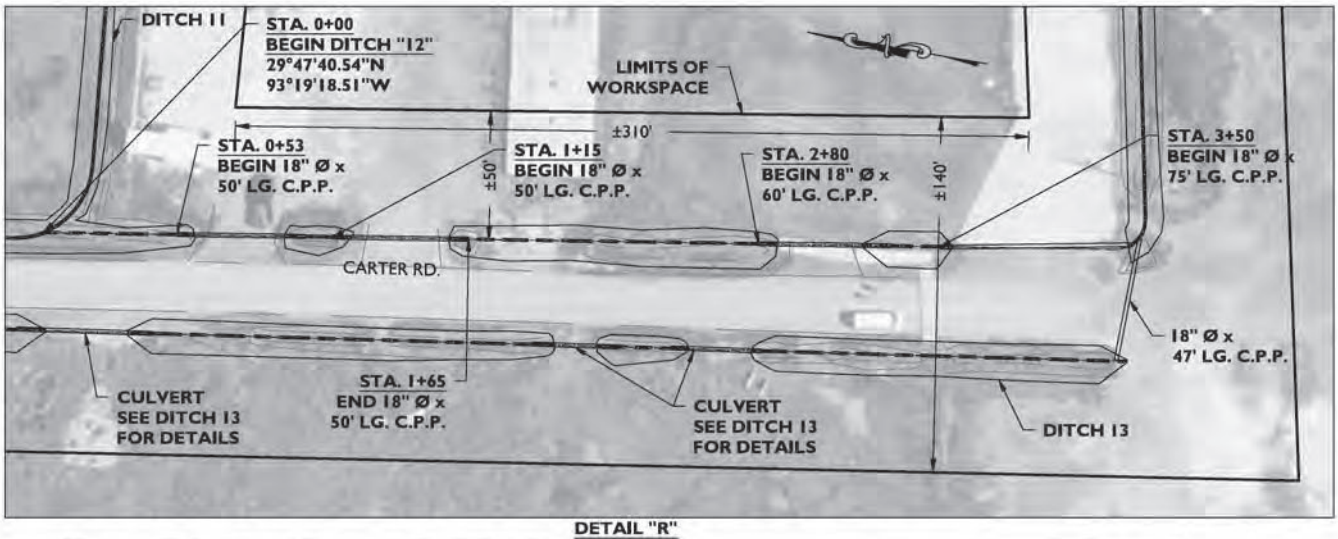
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

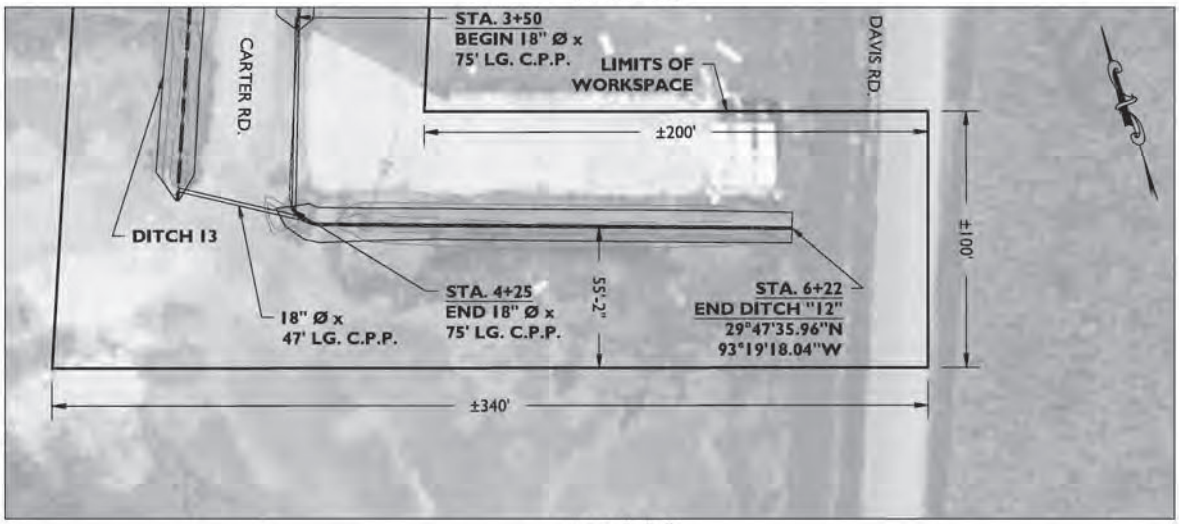
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

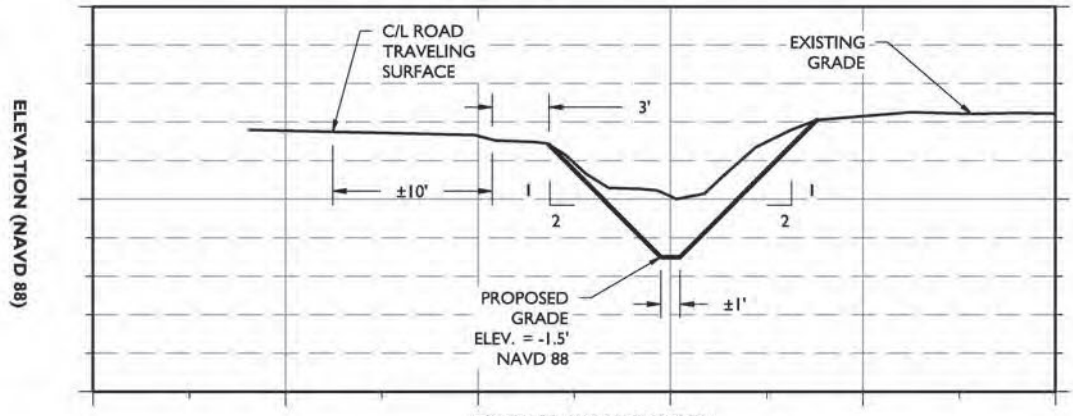
CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "R"



DETAIL "S"



DITCH 12 CROSS SECTION

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 12 PLAN & SEC.

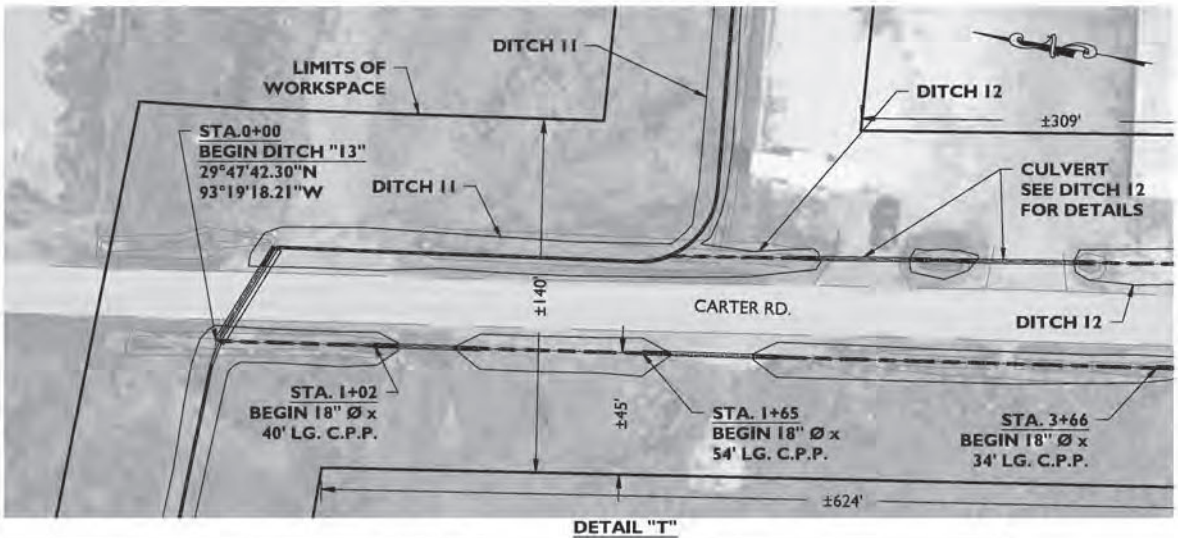
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

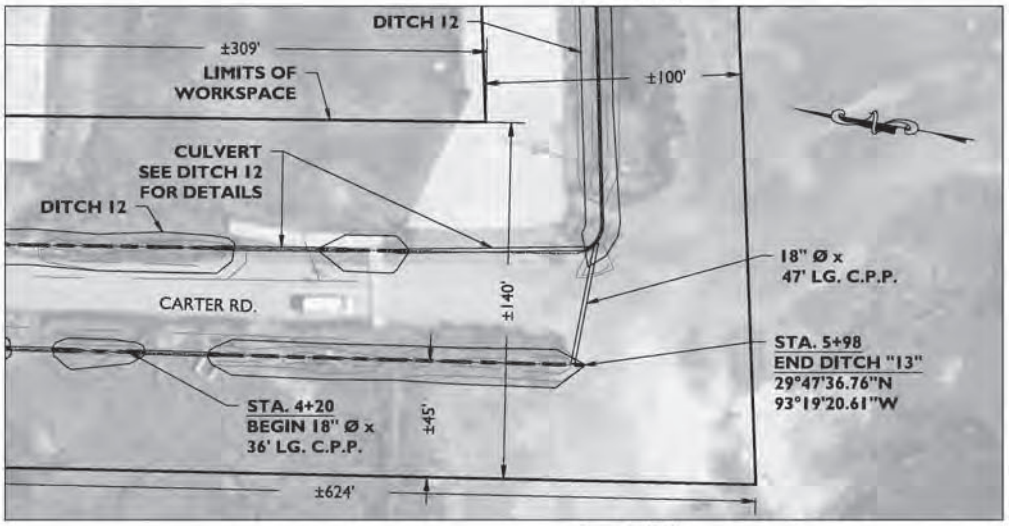
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022

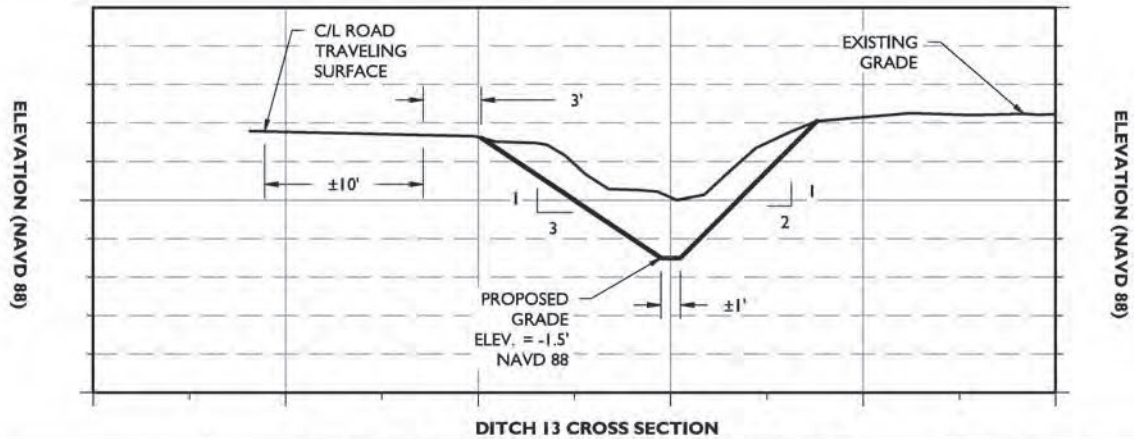
CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



DETAIL "T"



DETAIL "U"



DITCH 13 CROSS SECTION

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DITCH 13 PLAN & SEC.

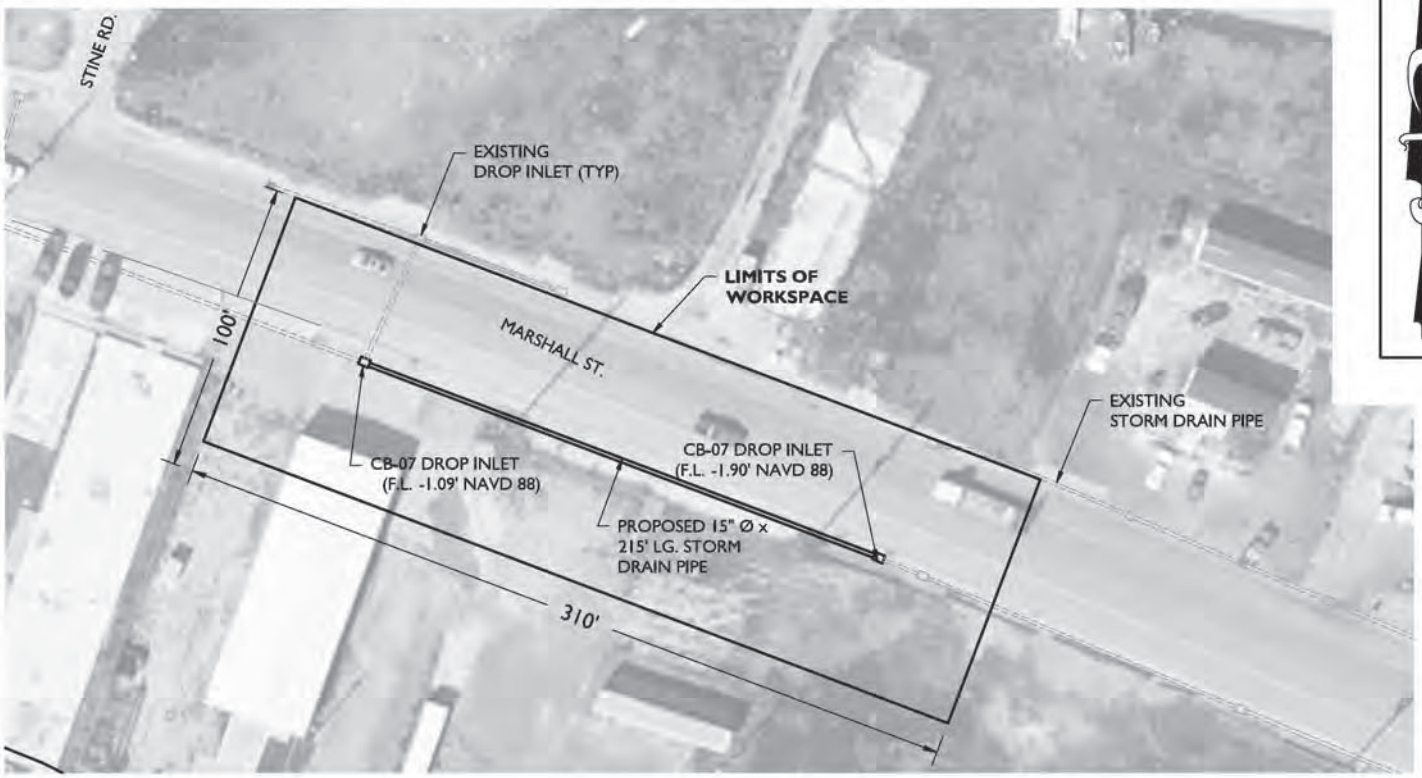
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 02/10/2022
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



NOTE:

PROPOSED 15" DIAMETER PIPE TO CONNECT TO EXISTING LA DOTD SUB-SURFACE DRAINAGE, SHALL BE APPROVED BY DOTD PRIOR TO CONSTRUCTION.

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "A"

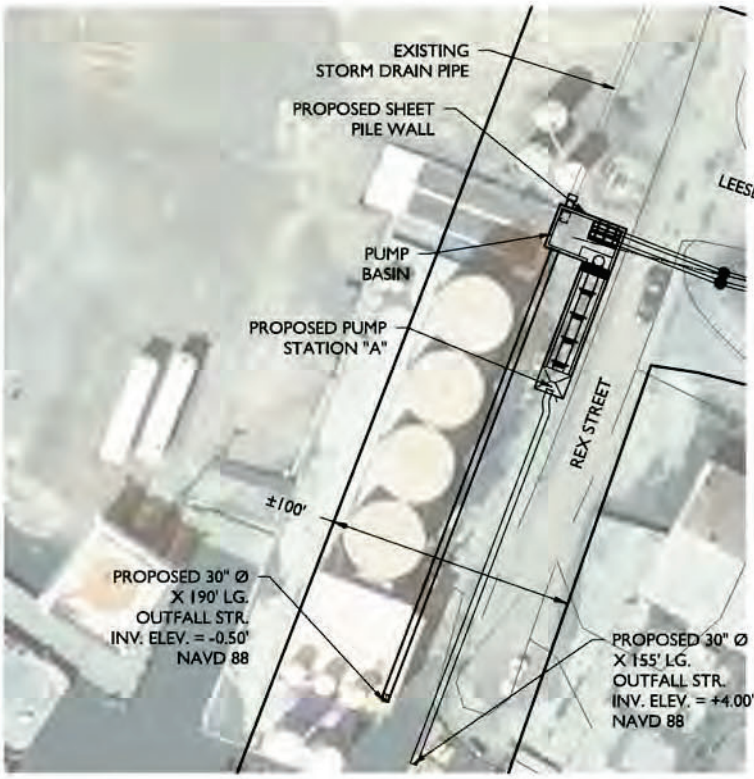
0 75
SCALE IN FEET

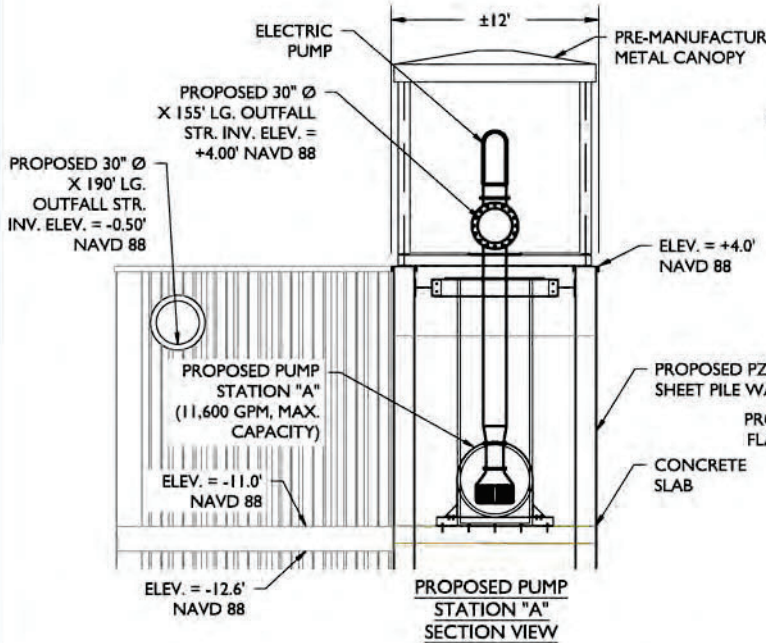
PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

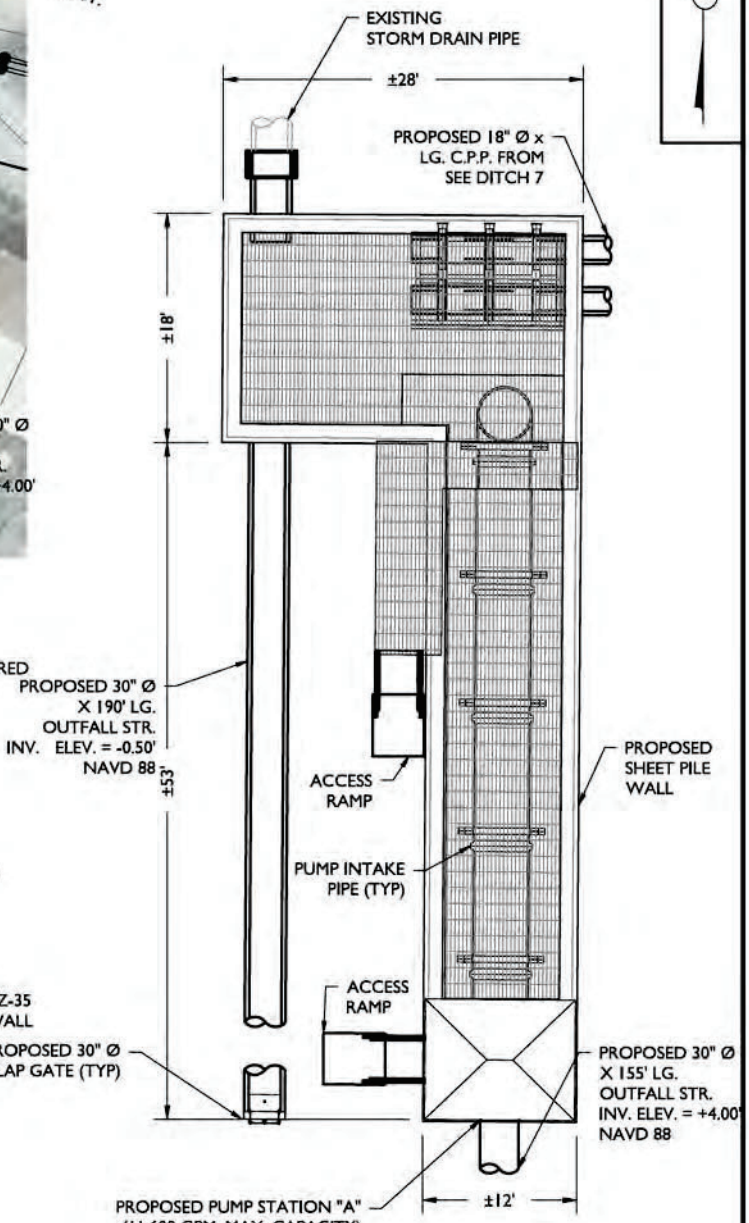
REVISED: 02/10/2022
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.





PROPOSED PUMP
STATION "A"
SECTION VIEW



PROPOSED PUMP
STATION "A"
PLAN VIEW

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS
ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "B"

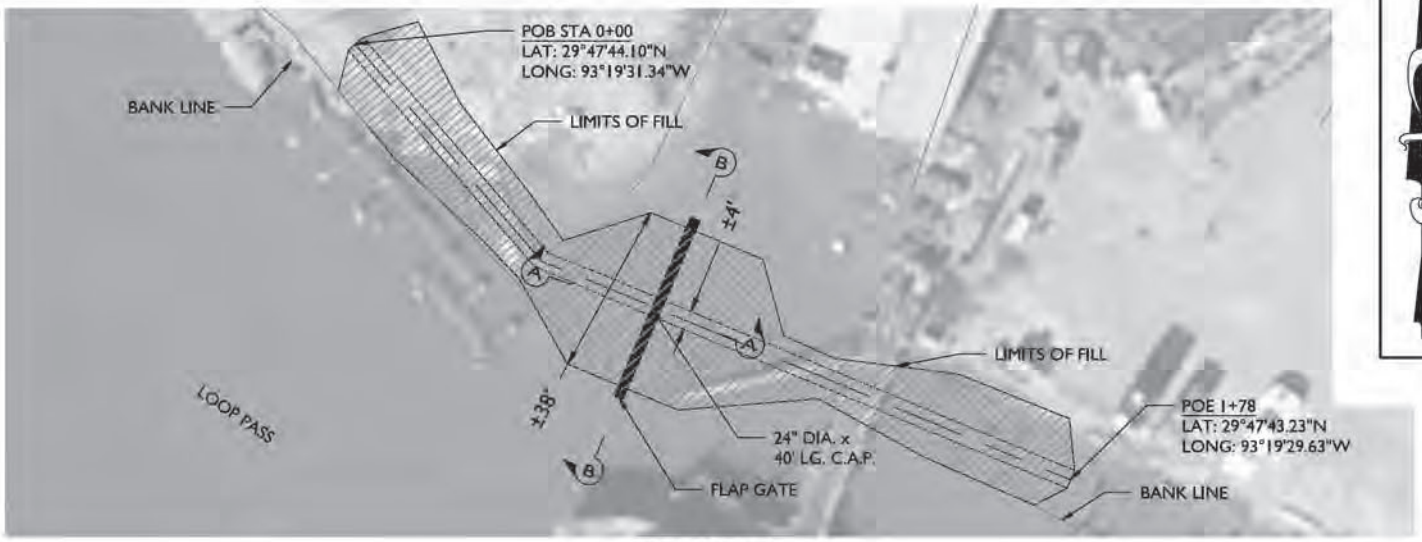
0 75
SCALE IN FEET

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

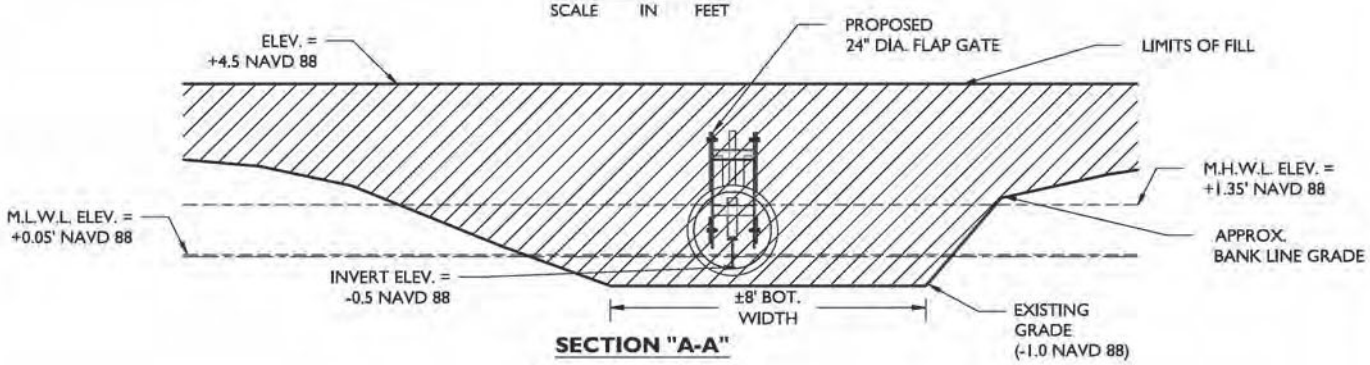
REVISED: 02/10/2022
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



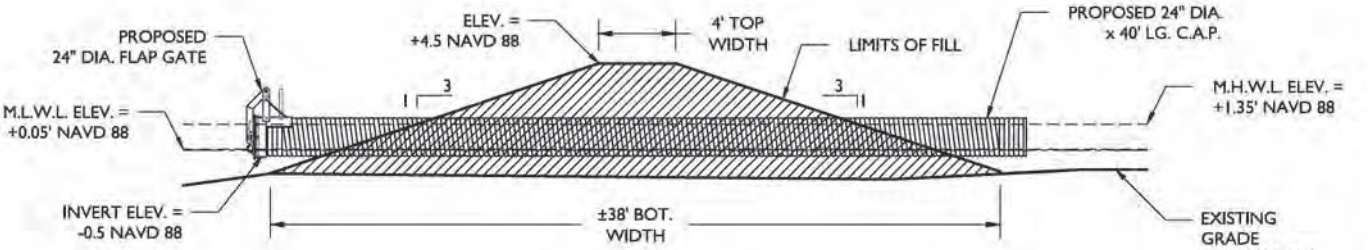
DETAIL "F"

0 40
SCALE IN FEET



SECTION "A-A"

0 5
SCALE IN FEET



SECTION "B-B"

0 10
SCALE IN FEET

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "C"

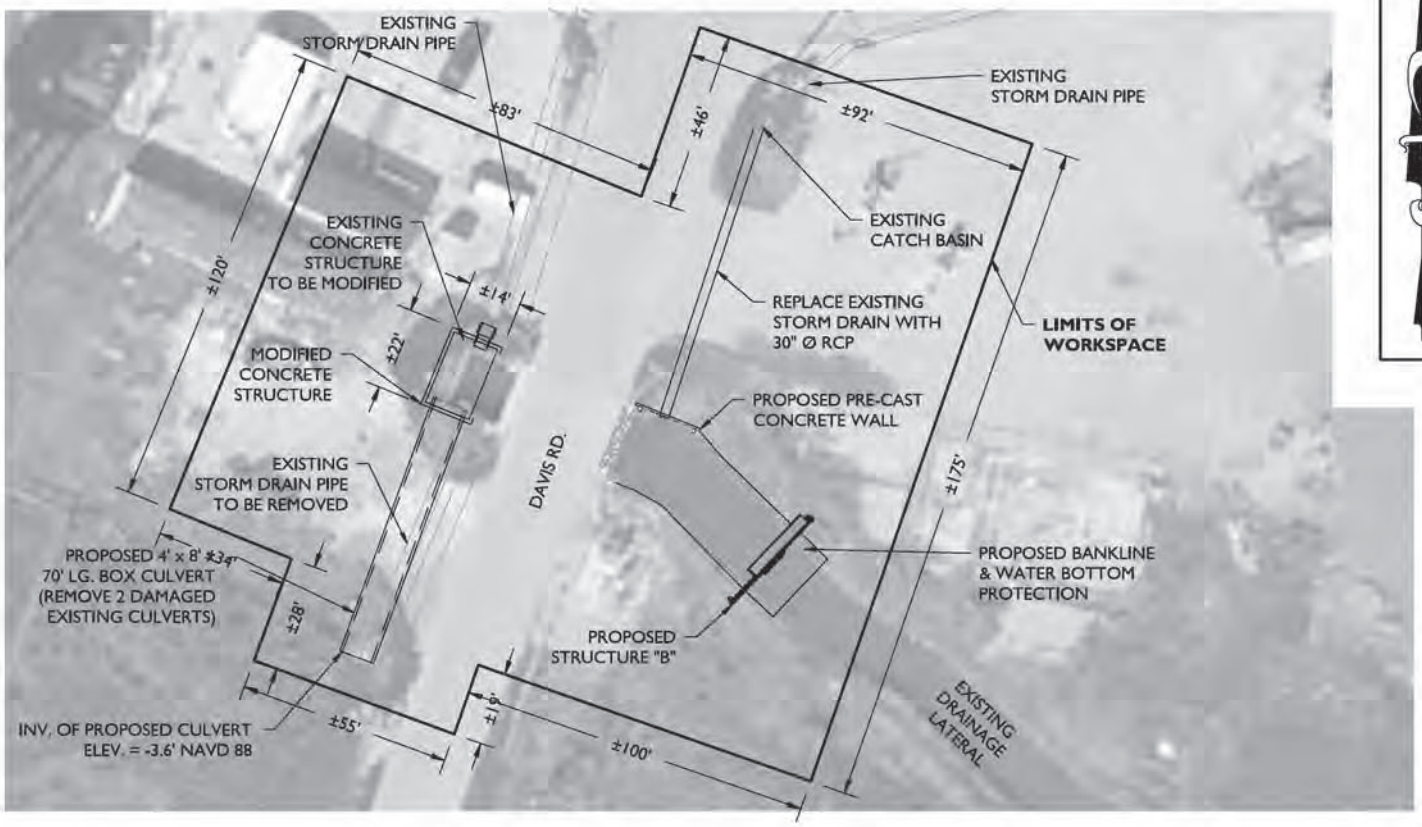
0 AS NOTED
SCALE IN FEET

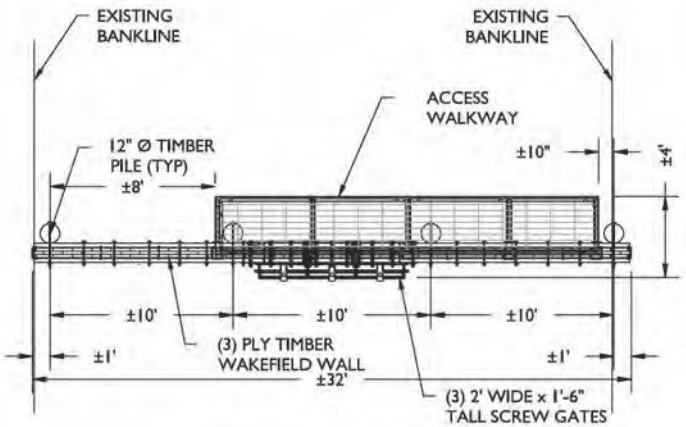
PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

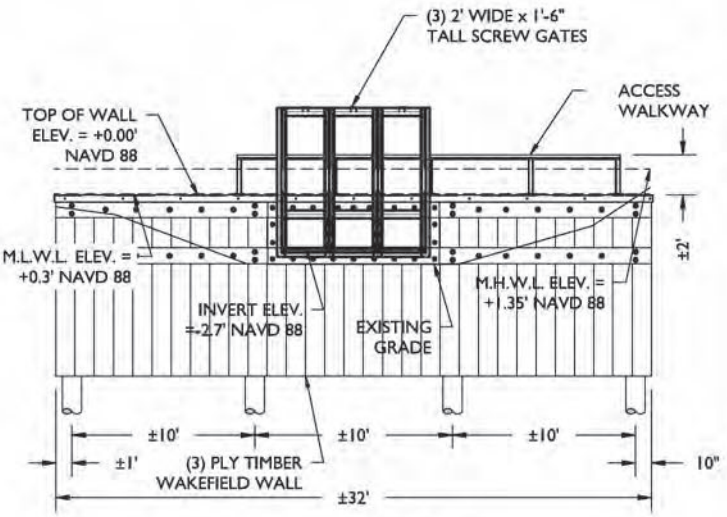
REVISED: 02/10/2022 02/01/2023
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.





PROPOSED WATER CONTROL STRUCTURE "B"
PLAN VIEW



PROPOSED WATER CONTROL STRUCTURE "B"
ELEVATION VIEW

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27
CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "D"

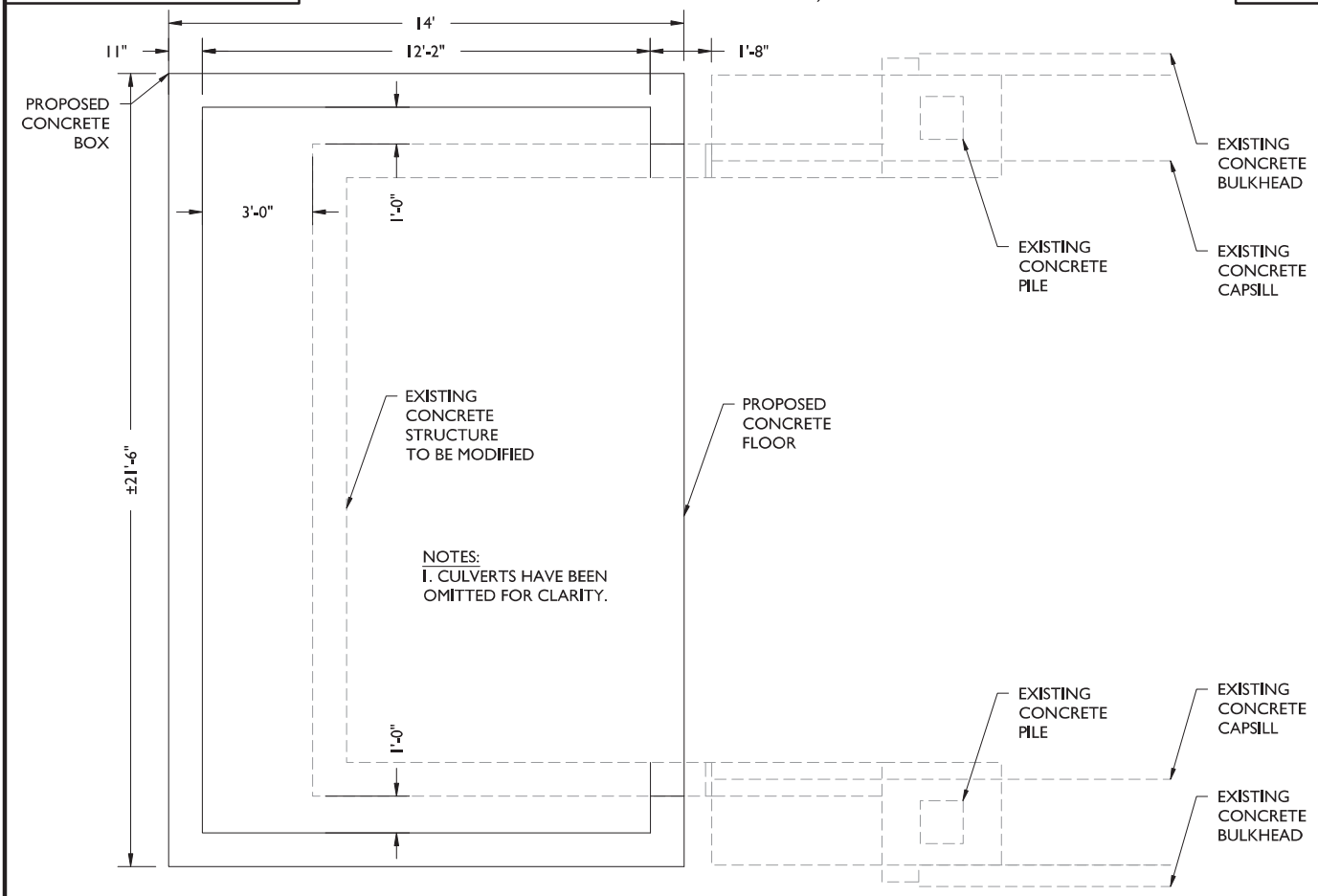
0 50
SCALE IN FEET

PROJECT NO. 01/3479/2022

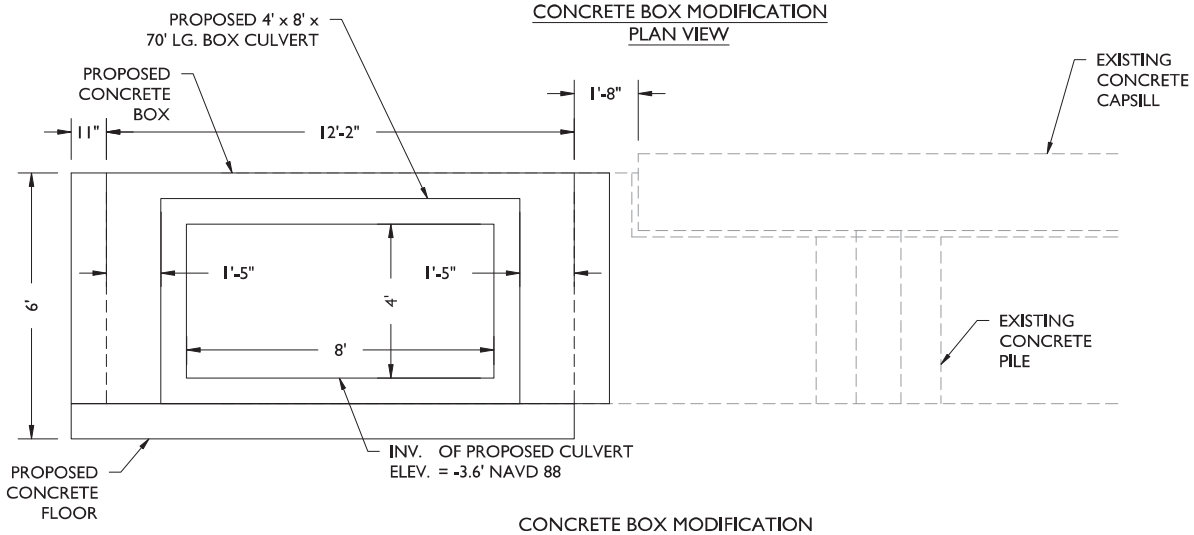
NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 02/10/2022
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



CONCRETE BOX MODIFICATION
PLAN VIEW



CONCRETE BOX MODIFICATION
ELEVATION VIEW

PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

BOX PLAN & SECTION

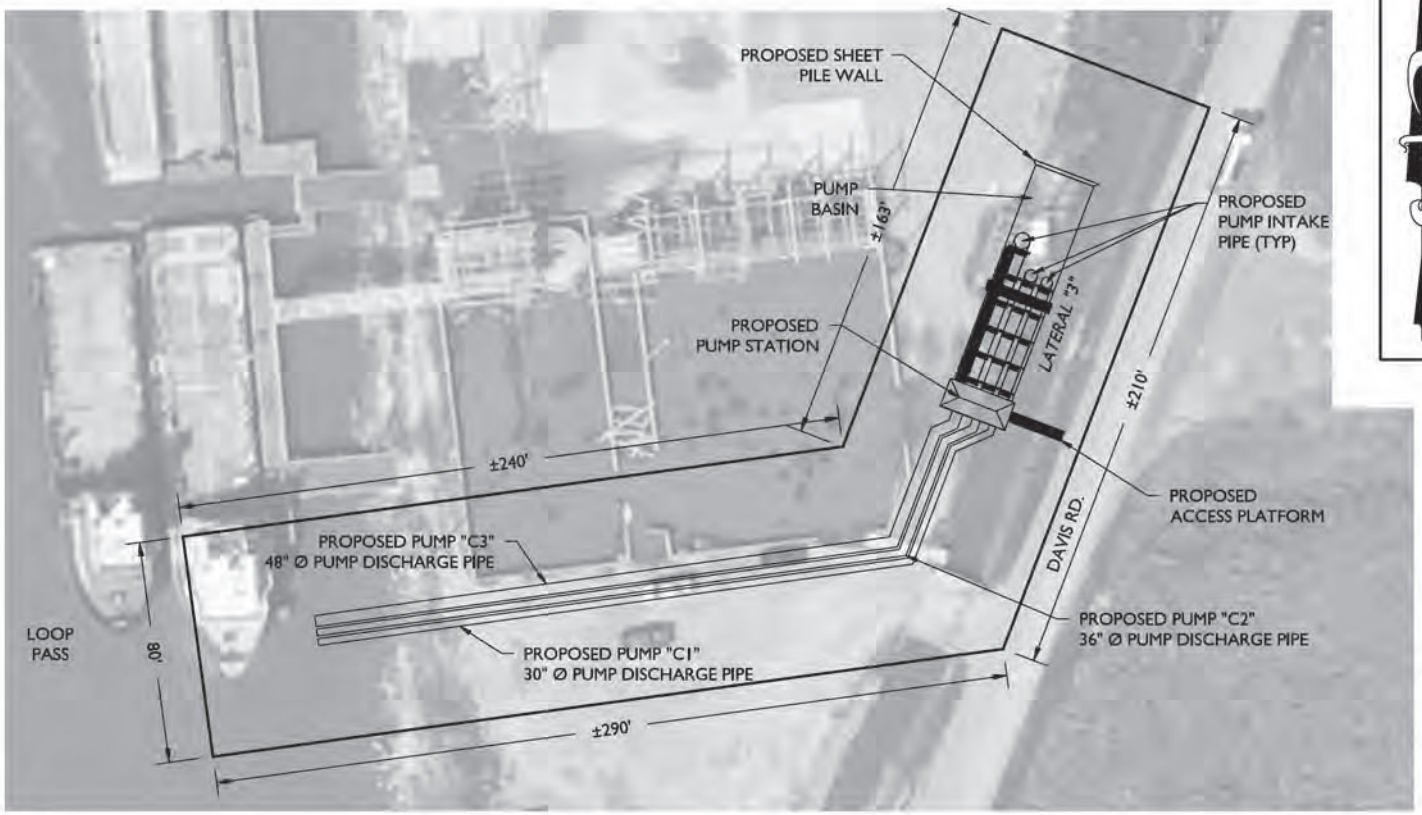
0 5
SCALE IN FEET

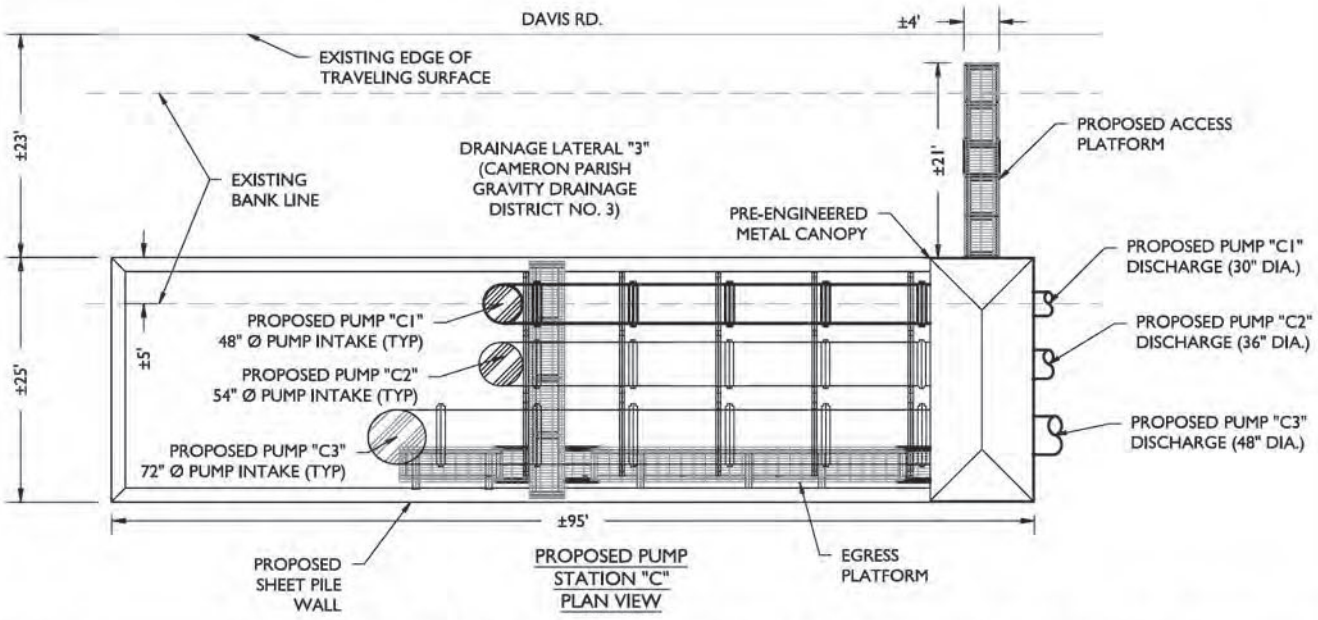
PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 02/10/2022 02/01/2023
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.





PREPARED BY:

LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "E"

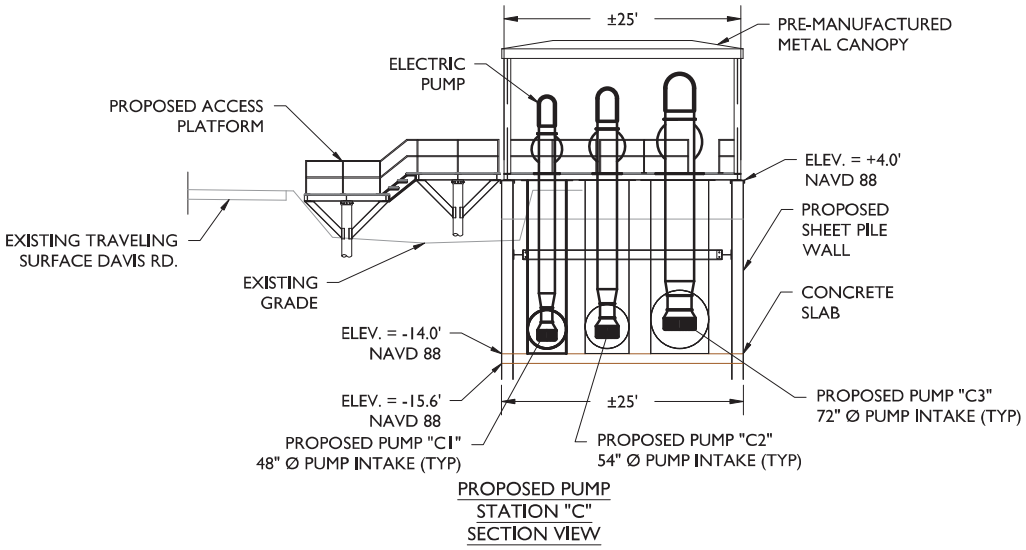
0 70
SCALE IN FEET

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022
02/01/2023

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.



PROPOSED PUMP STATION "C" SECTION VIEW

DITCH NAME	TOTAL OPEN DITCH LENGTH	AVG. OPEN DITCH TOP WIDTH	CULVERT DETAILS	
	LENGTH (FT)	LENGTH (FT)	LENGTH (FT)	DIAMETER (IN)
DITCH 1	277	16.95	40	18
DITCH 2	272	16.47	0	0
DITCH 3	224	15.74	0	0
DITCH 4	26	19.14	1098	18
DITCH 5	207	17.94	53	18
DITCH 6	263	20.33	0	0
DITCH 7	0	0	668	18
DITCH 9	103	16.81	45	18
DITCH 11	565	16.32	250	18
DITCH 12	387	15.88	235	18
DITCH 13	387	14.25	211	18

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

GENERAL NOTES

PROJECT NO. 01/3479/2022

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 05/25/2022
02/01/2023

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

GENERAL NOTES:

1. THE APPLICANT REQUESTS AUTHORIZATION TO PERFORM MAINTENANCE AND CONSTRUCTION DREDGING OF ELEVEN (11) DRAINAGE DITCHES ALONG VARIOUS ROADS IN THE CAMERON AREA, TO INSTALL TWO (2) WATER CONTROL PUMPS AND ONE (1) WATER CONTROL STRUCTURE TO MAINTAIN ROAD DITCH LEVELS, AND TO INSTALL TWO (2) CATCH BASINS AND A TWENTY TWO (22) VARIOUS SIZED SUBSURFACE DRAINAGE PIPE IN THE CAMERON AREA.
2. APPROXIMATELY 180 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "1" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
3. APPROXIMATELY 160 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "2" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
4. APPROXIMATELY 130 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "3" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
5. APPROXIMATELY 500 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "4" BY HYDRAULIC DREDGE, STORED ON THE ADJACENT ROADWAY, CULVERTS INSTALLED, AND BACKFILLED WITH STORED MATERIAL.
6. APPROXIMATELY 150 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "5" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
7. APPROXIMATELY 150 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "6" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
8. APPROXIMATELY 320 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "7" BY HYDRAULIC DREDGE, STORED ON THE ADJACENT ROADWAY, CULVERTS INSTALLED, AND BACKFILLED WITH STORED MATERIAL.
9. APPROXIMATELY 70 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "9" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
10. APPROXIMATELY 390 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "11" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
11. APPROXIMATELY 350 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "12" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
12. APPROXIMATELY 340 CUBIC YARDS OF NATIVE MATERIAL WILL BE REMOVED FROM THE EXISTING ROAD DITCH "13" BY HYDRAULIC DREDGE AND TRUCK HAULED OFF-SITE TO A DISPOSAL AREA.
13. IN ORDER TO INSURE THE SAFETY OF ALL PARTIES, THE PERMITEE WILL CONTACT THE LOUISIANA DOTTIE SYSTEM(1-800-272-3020), A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY ACTIVITY.
14. LIMITS OF WORKSPACE FOR ALL DITCHING AND CULVERT WORK IS 50' FROM CENTER OF PROJECT FEATURE.
15. THE APPLICANT REQUESTS AUTHORIZATION TO INSTALL A NEW CULVERT (DETAIL "F") ALONG AN EXISTING DRAINAGE DITCH TO LIMIT UPLAND FLOODING FROM THE THE LOOP PASS INTO THE TOWN OF CAMERON. ONE 24 INCH x 40 FOOT CULVERT WITH A FLAP GATE SHALL BE INSTALLED ALONG THE EXISTING DRAINAGE DITCH.
16. APPROXIMATELY 350 CUBIC YARDS OF FILL SHALL BE TRANSPORTED BY TRUCK ALONG PUBLIC ROADS TO THE CENTERLINE OF THE ACCESS ROUTE. THE TRUCK SHALL TRAVEL ALONG THE ACCESS ROUTE TO THE JOB SITE AND BACK DUMP FILL ADJACENT TO THE EXISTING DRAINAGE DITCH. CONSTRUCTION EQUIPMENT SHALL BE USED TO SPREAD THE FILL.
17. THE CONTRACTOR SHALL RESTORE THE ACCESS ROUTE AND SURROUNDING AREA TO PRE-PROJECT CONDITIONS PRIOR TO APPROVAL OF PROJECT.
18. LAND OWNER LIST ATTACHED.

PREPARED BY:
LONNIE G. HARPER
& ASSOCIATES, INC.
2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

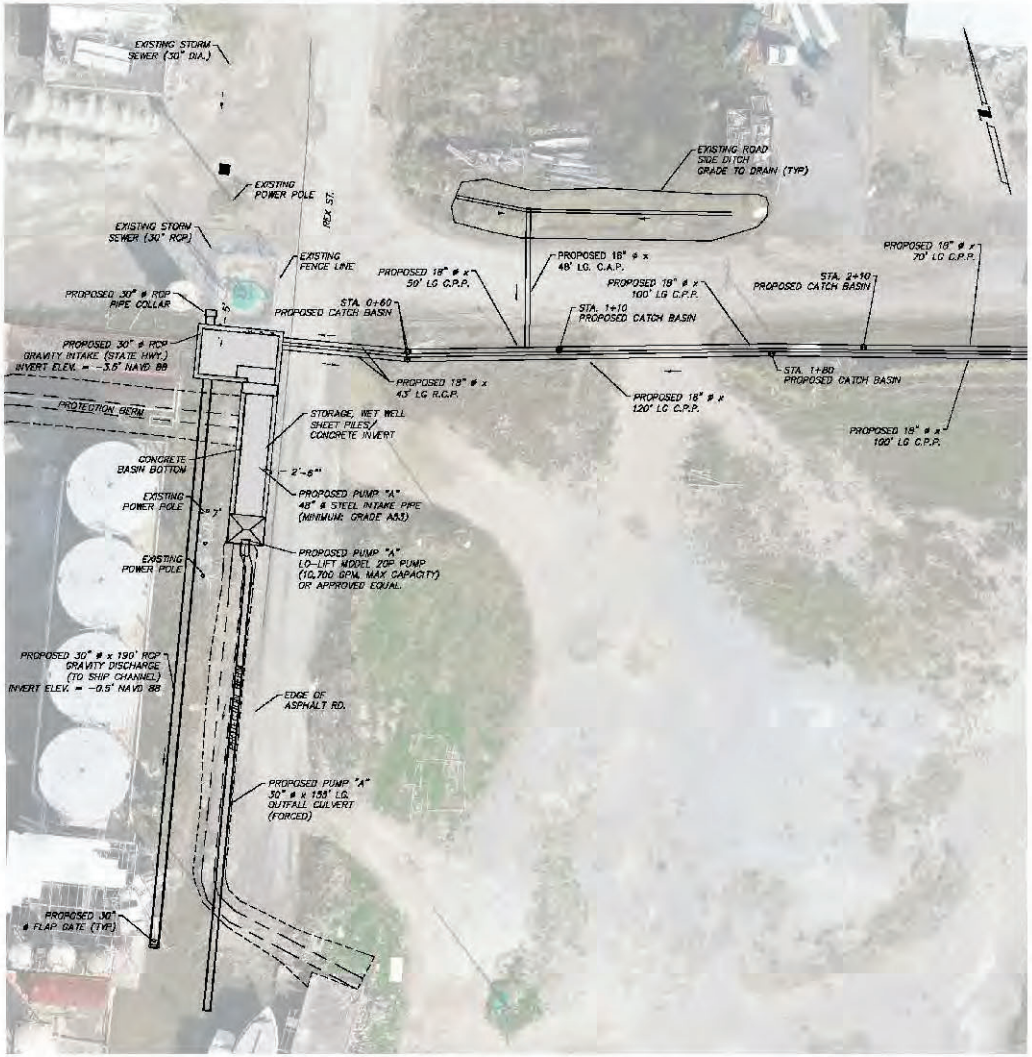
DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

GENERAL NOTES

PROJECT NO. 01/3479/2022



SCALE: 1 INCH = 20 FEET

20 0 20 40

PUMP "A" CONTROL OPERATION PLAN (PRELIMINARY TO BE FIELD VERIFIED)

STAGE NO.	PUMP STATUS (MODEL 20P)	WSE (FT. NAVD 88)	DESCRIPTION
0	OFF	E BELOW -3.00	PUMP "A" OFF LOW WATER CONDITION
1	ON	E ABOVE 0.00	PUMP "A" ON
0	OFF	E BELOW -3.00	PUMP "A" OFF LOW WATER CONDITION

NOTE:
OPERATIONAL PLAN SHALL BE RE-EVALUATED IF EQUIPMENT OTHER THAN LO-LIFT MODEL 20P, IMPELLAR C, 700 RPM ELECTRIC MOTOR (50HP) IS UTILIZED.

SHEET NUMBER 003

PARISH CAMERON PARISH
FEDERAL PROJECT N/A
STATE PROJECT N/A

DESIGNED LPH
DETAILED LPH
CHECKED
APPR. LPH
DATE APR 2022

NO. DATE REVISION OR CHANGE (BRIEF DESCRIPTION) BY

PUMP "A" SITE PLAN

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27 IN CAMERON, LA

LONNIE G. HARPER & ASSOC., INC.

SCALE: 1 INCH = 15 FEET

15 0 15 30

PUMP "C" OPERATION – BASIN 2 – PRELIMINARY PLAN

STAGE OPERATIONAL PLAN

PUMP DESIGNATION	STAGE 0	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 0
PUMP C1 MODEL 20P	OFF	ON	ON	ON	ON	OFF	OFF
PUMP C2 MODEL 2420	OFF	OFF	ON	ON	ON	ON	OFF
PUMP C3 MODEL 3626	OFF	OFF	OFF	ON	OFF	OFF	OFF
WSE (FT NAVD 88)	E BELOW –2.50	E AT –1.00	E AT –0.50	E ABOVE –0.50	E AT –2.00	E AT –2.25	E BELOW –2.50
DESCRIPTION AND DISCUSSION	ALL PUMPS OFF LOW WATER CONDITION	PUMP C1 ON	PUMP C1 ON, PUMP C2 ON	ALL PUMPS ON	PUMP C1 ON PUMP C2 ON	PUMP C2 ON	ALL PUMPS OFF LOW WATER CONDITION

NOTE:
OPERATIONAL PLAN SHALL BE RE–EVALUATED IF EQUIPMENT OTHER THAN SPECIFIED IS UTILIZED.
1. LO–LIFT MODEL 20P, IMPELLAR C,700 RPM ELECTRIC MOTOR (50HP)
2. LO–LIFT MODEL 2420, IMPELLAR 1.0P,710 RPM ELECTRIC MOTOR (60HP)
3. LO–LIFT MODEL 3626, IMPELLAR 0.8P, 700 RPM ELECTRIC MOTOR (200HP)

SHEET NUMBER 013

PARISH: CAMERON PARISH | FEDERAL PROJECT: N/A | STATE PROJECT: N/A

DESIGNED LFH | CHECKED LCH | DETAILED APH | CHECKED LFH | DATE APR 2022

NO. | DATE | REVISION OR CHANGE ORDER DESCRIPTION | BY

PUMP "C" SITE PLAN

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27 IN CAMERON, LA

LONNIE G. HARPER & ASSOC., INC.

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
PROJECT REVIEW RESPONSE FROM SOLICIATION OF VIEWS

EXHIBIT I

JEFF LANDRY
GOVERNOR

COURTNEY J. BURDETTE
SECRETARY

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF THE SECRETARY

June 6, 2025

Ellen Ibert, MAHR, RPA, EHP Specialist
Royal Engineers and Consultants, LLC
2339 Langham Ct.
Lake Charles, LA 70607
eibert@royal.us

RE: 250528/0670

Cameron Parish Police Jury (CPPJ) - Pump Station (Drainage Control Improvements) Project (Project # 12LDRC7702)
U.S. Housing and Urban Development (HUD) - Louisiana Office of Community Development (OCD) - Community Development Block Grant – Disaster Recovery (CDBG-DR) - Louisiana Resilient Community Instructure Program (RCIP) Funding
Cameron Parish

Dear Ms. Ibert:

The Louisiana Department of Environmental Quality (LDEQ) has received your request for comments on the above referenced project.

After reviewing your request, the Department has no objections based on the information provided in your submittal. However, for your information, the following general comments have been included. Please be advised that if you should encounter a problem during the implementation of this project, you should immediately notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

Please review all items below that may affect your project/s success:

1. Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.
2. **If the project concerns flood control in residential and business areas that modify infrastructure and/or drainage:**
    a. **Modeling for areas of interest, as well as both upstream and downstream connecting waterways, is preferred to evaluate potential impacts of increased flow on up/downstream flooding, hydrology, and water quality**
    b. **Receiving channels should be designed and sized with consideration of natural channel design methodologies and principles, as improper design can result in increased velocities and channel degradation (scouring), erosion, bank instability, and water quality degradation**
        i. **Increased stream velocities can jeopardize residential properties, pipelines, bridges, and other infrastructure, and may cause increased pollutant loads (e.g., sediment, metals, low oxygen levels) to waterways through channel(s) realignment and configuration. The reestablishment of floodplains, naturally vegetated banks, meanders, and original lengths and slopes for stabilization can reduce such potential issues.**
        ii. **Natural channel design and other nature-based solutions should be considered to address these, and storm water issues, before entry to downstream waters**

1. **https://watershed.la.gov/nature-based-solutions**
2. **https://www.epa.gov/green-infrastructure/green-infrastructure-design-and-implementation**

   c. **Detention pond design and operating practices, including but not limited to high flow releases over long durations, can affect channels as described above**
   d. **Flood control projects should be evaluated in combination with other flood mitigation projects proposed or ongoing in the watershed**

3. **If the project involves bridge and/or lateral/inline structures (e.g., culverts, weirs, sluice/lift gates)**
   a. **Design to allow water to flow freely at the structure without restrictions during all flow regimes to preserve the natural functions of the stream channels, maintain appropriate channel dimensions, and flow regimes**
      i. **Consequences of improper design and maintenance can lead to debris build-up against structures restricting flow, leading to decreases in velocity, reaeration, and dissolved oxygen levels**
4. If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.
   a. The applicant must follow regional/local permitting requirements for sewage and storm water management
5. If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.
6. All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact Debbie Bissett (Debbie.Bissett@la.gov) or Melissa Reboul (Melissa.Reboul@la.gov) with the LDEQ Water Permits Division at (225) 219-3590 to determine if your proposed project requires a permit.
7. If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit is required. An application form or Notice of Intent will need to be submitted if the sludge management practice includes preparing biosolids for land application or preparing sewage sludge to be hauled to a landfill. Additional information may be obtained on the LDEQ website at https://deq.louisiana.gov/page/sewage-biosolids or by contacting Ronda Burtch with the LDEQ Water Permits Division at (225) 219- 3213 or Ronda.Burtch@la.gov.
8. If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps directly regarding permitting issues. If a Corps permit is required, part of the application process may involve a water quality certification from LDEQ.
9. All precautions should be observed to protect the groundwater of the region.
10. Please be advised that water softeners generate wastewaters that may require special limitations depending on local water quality considerations. Therefore if your water system improvements include water softeners, you are advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.
11. Please refer to the following regulations as they may apply to your project: LAC 33:III.Chapter 28 (Lead-Based Paint Activities); LAC 33:III.Chapter 27 (Asbestos Training and Accreditation requirements); LAC 33:III.5151, Emission Standard for Asbestos (for any renovations or demolitions); and LAC 33:III.1305.Control of Fugitive Emissions (prevention of Particulate Matter from becoming airborne).
12. If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact

(SPOC) at (225) 219-3640 or SPOC@la.gov is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

13. **The proposed project is located within the LDEQ defined water unit LA030401_00. According to the LDEQ 2024 Integrated Report, this unit has water quality impairments for dioxin and PCB's in fish tissue, bacteria, and furan. According to LDEQ's Water Quality Management Plan, total maximum daily load pollution control allocations are in effect for PCBs in fish. Nonpoint source controls should follow (6) above, as disturbance and sedimentation can worsen water quality.**
14. **If any changes to the seawalls, guardrails, pilings, or other structures involves any treated wood elements, the treated timber must be reused, recycled, or properly disposed of at permitted facilities.**

    If the project will involve the removal or disturbance of any soils which may have contaminant concentrations that exceed the Limiting Screening Option Standards established by the LDEQ Risk Evaluation/Corrective Action Program (RECAP) Regulation, these materials may be considered a waste and disposed of at a permitted facility, or might be managed as part of a Solid Waste Beneficial Use or Soil Reuse Plan in accordance with LAC 33:VII.Chapter 11. Alternately, a site-specific RECAP Evaluation might be conducted and submitted to the LDEQ.
15. **The following comments are provided by the Underground Storage Tanks Division (USTD) and are in response to SOV No. 250528/0670:**

    A file review indicates the following Agency Interest (AI) Number is located in the vicinity of your project in Cameron Parish, LA, and has active underground storage tanks (USTs) on the property:

    AI No. 76842; Darla K Food Mart Inc.; 453 Marshall St.

    A file review indicates the following AI Numbers are located in the vicinity of your project in Cameron Parish, LA and at one time contained USTs on the properties that have been removed from the LDEQ database:

    AI No. 72731; Cameron Exxon; 409 Marshall St.
    AI No. 71639; Savers Grocery Inc.; 2574 Marshall St.
    AI No. 75689; Cam Mart Food Store; 490 Marshall St.
    AI No. 3267; Cameron Cuttings and Recycle Facility; 224 Carter Rd.

    Confirmed releases have been reported at AI Numbers 72731 and 75689. The Incident Numbers related to these releases have been closed by the LDEQ.

    If the project will involve the disturbance of any soils in former UST areas which may exceed the Screening Option Standards established by the LDEQ Risk Evaluation/Corrective Action Program (RECAP) Regulation, these materials may be considered a waste and disposed of at a permitted facility, or might be managed as part of a Solid Waste Beneficial Use or Soil Reuse Plan in accordance with LAC 33:VII.Chapter 11. Alternately, a site-specific RECAP Evaluation might be conducted and submitted to the LDEQ.

JEFF LANDRY
GOVERNOR

COURTNEY J. BURDETTE
SECRETARY

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF THE SECRETARY

If any underground storage tanks are encountered during the project, they must be in compliance with the regulations found in LAC 33:XI of the Environmental Regulatory Code. If any contaminated soil or groundwater is encountered, the findings should be reported to LDEQ.

Currently, Cameron Parish is classified as attainment with the National Ambient Air Quality Standards and has no general conformity determination obligations.

Please send all Solicitation of Views (SOVs) requests and questions to SOVs@la.gov.
For Air Planning & Assessment questions/inquiries, please contact Chance Henderson at 225-219-3056 or Chance.Henderson@la.gov.
For Water Planning & Assessment question/inquiries, please contact Kori Blitch at 225-219-3499 or Kori.Blitch@la.gov.
For Remediation question/inquiries, please contact Keith Horn at 225-219-3717 or Keith.Horn@la.gov.
For Underground Storage Tank questions/inquiries, please contact Chris Means at 225-219-3652 or Chris.Means@la.gov.

Sincerely,

mcjimenez

Marissa Jimenez
Environmental Scientist Manager
Louisiana Department of Environmental Quality
Office of the Secretary

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
HARPER HYDROSTATIC/HYDROLOGY REPORT
FOR
LNDR-OCM CUP

EXHIBIT J

ENGINEERING DESIGN REPORT

HYDROLOGY AND HYDRAULICS & CONSTRUCTION DRAWINGS

Proposed Forced Drainage System
Cameron, LA

(Preliminary)

Cameron Parish Police Jury
Cameron, Louisiana

April 2022
Version 0.3

Prepared for:

The Cameron Parish Police Jury
Attention: Mrs. Kara Bonsall, Certified Floodplain Manager
kbonsall@cameronpj.org

Prepared by:

Lonnie G. Harper & Associates, Inc.
2746 Hwy 384
Bell City, La 70630
337.905.1079

_____
Authored: Leonard Harper, PE

_____
Approved: Lonnie G. Harper, PE, PLS
Principal

Lonnie G. Harper & Associates, Inc.
CIVIL ENGINEERING AND LAND SURVEYING CONSULTANTS

Contents

Project Overview

This project's purpose is to incorporate a forced drainage system in the town of Cameron, LA. The current (and projected, future) tidal conditions inhibit gravity drainage. Refer to Attachment 1 for conceptual drawings and Attachments 14 and 15 for construction drawings of the planned improvements. The proposed improvements are summarized as follows:

(1) Install a wet well and stormwater pump south of the intersection of LA 27 and Rex Street. Direct discharge into this proposed facility is from both the existing storm sewer (DOTD) along LA 27 and surface drainage between LA 27 and the Calcasieu River Loop Pass (CRLP). The proposed outfall from this forced drainage system is the CRLP. (Herein, referred to as Pump "A")

(2) Provide internal ditching for surface drainage and stormwater storage between LA 27 and the CRLP (Attachment 15).

(3) Install a water control structure south of the intersection of LA 27 and Davis Road in the drainage lateral maintained by the Cameron Parish Gravity Drainage District No. 3 (CPGDD3). (Herein, referred to as Structure "B")

(4) Install underground drainage structures along LA 27 to create a connection within the existing storm drainage system along LA 27.

(5) Clean the underground drainage system along LA 27 and within the town of Cameron to clear the system of debris and siltation.

(6) Install a stormwater pump in the CPGDD3 lateral near its terminus along Davis Road. The proposed outfall from this system is the CRLP. (Herein, referred to as Pump "C")

(7) Provide perimeter protection to the system via low-level berm adjacent to the loop pass.

The purpose of this report is to present the design basis for the Construction Drawings associated with the planned improvements (Attachment 1, Conceptual Drawings; Attachments 14 & 15, Construction Drawings).

Design Policy Documents

Several state and federal documents are utilized in preparing the conceptual drawings and referenced throughout this report:

(1) ("DOTD Hydraulics Manual") Louisiana Department of Transportation and Development (DOTD), *2011 Hydraulics Manual.* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Public_Works/Hydraulics/Documents/Hydraulics%20Manual.pdf

(2) ("DOTD Specs") DOTD. *Louisiana Standard Specifications for Roads and Bridges, 2016.* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications/Standard%20Specifications/2016%20Standard%20Specifications%20for%20Roads%

20and%20Bridges%20Manual/00%20-%202016%20-%20Standard%20Specification%20(complete%20manual).pdf

(3) ("*HEC-24*") FHWA. *Hydraulic Engineering Circular No. 24, Highway Stormwater Pump Station Design (FHWA-NHI-01-007). February 2001.* US Department of Transportation, Federal Highway Administration, Washington, D.C., 2001.

(4) ("*TR-55*") USDA. *TR-55, Urban Hydrology for Small Watersheds.* US Department of Agriculture, National Resource Conservation Service, Washington, D.C., 1986.

(5) ("*HDS-2*") FHWA. *Hydraulic Design Series No.2, Highway Hydrology, Second Edition (FHWA-NHI-02-001). 2002.* US Department of Transportation, Federal Highway Administration, Washington, D.C., 2002.

Basic Design Controls

HEC-24 and the DOTD Hydraulics Manual outline basic design controls for the planned facility:

Design Storm Frequency

(DOTD Hydraulics Manual, pg. 10-1; HEC-24, pg. 5-8)

The return period suggested for pump station design by both documents is **50-year**. A component of stormwater pump station design is duplicity. In the event one of the pumps in the system is inoperable, the other pumps should be capable of draining the system. The designer found little guidance regarding design storm characteristics for this duplicity check. A **5-year** return period is utilized for this duplicity check.

As discussed in further detail herein, portions of the study area include large, slowly developing watersheds. Customarily, these watersheds are evaluated for a **100-yr**, 24-hr storm event. Also, this storm event closely matches a recent significant regional rainfall event (as described, herein).

Drainage Basin Characteristics

This section summarizes the drainage basins for the study area (both pre-project and post-project) including discussions of data sources, outfall characteristics, and drainage area delineations. Attachment 1 includes schematics of each of the drainage basins for both pre-project and post-project conditions. Attachment 2 are as-built drawings of the roadway and storm sewer construction provided by DOTD, Attachment 3 are planned improvements at the intersection of LA 27 and Davis Road. **Note: at the time of this study, a majority of the underground drainage structures contain debris and aren't accessible to collect current survey data. Survey data collected is augmented with as-built project drawings of the drainage infrastructure.**

Data Sources

To inform the drainage basin definitions, several data sources were utilized including historic LiDAR, historic topographic/bathymetric survey data, historic local project documentation, and current survey data.

Historic LiDAR

The National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management (OCM), as part of the Digital Cost Act S.1069, website provides coastal data and tools for the use in coastal management. This data can be downloaded at:

https://coast.noaa.gov/dataviewer/#/imagery/search/

LiDAR utilized in this evaluation was a section taken from the "2017 USGS Lidar DEM: Chenier Plain, LA". This data can be downloaded at:

https://coast.noaa.gov/htdata/raster2/elevation/LA_Chenier_DEM_2017_8598/

Historic Topographic/Bathymetric Survey Data

LHA has previously conducted boundary and topographic surveys and structure inspections in the project vicinity. Data from the following surveys has been utilized in this evaluation:

- Cameron Parish Gravity Drainage District No. 3
  - LHA Project 2011-22 Existing Water Control Structures Report (2020)

- Kiewit
  - LHA Project 2019-75 Davis Road Intersection

- Venture Global Calcasieu Pass
  - Task 01 – Parcels Z2-Z4 & AA
  - Task 10 – Parcels E, F & G
  - Task 16 – Parcel D
  - Task 24 – Parcels L & M
  - Task 26 – Parcels I, J & K
  - Task 30 – Parcel N
  - Task 31 – Parcels A, B & C
  - Task 32 – Parcel O
  - Task 36 – Parcel Q
  - Task 38 – Parcels R, S & T

Historic Local Project Documentation

LHA has previously conducted numerous public works projects in the project vicinity. Data from these projects is utilized as part of this evaluation. A sample of these is as follows:

- Cameron Parish Gravity Drainage District No. 3
  - LHA Project 2006-03 Post-Rita Restoration of Bolo Pump Station

- Cameron Parish Police Jury
  - LHA Project 2000-04 Bridge Replacement on Parish Road 3143

Current Survey Data

As part of this project, LHA has collected additional topographic survey and structure data within the study area. This data is reflected in Attachment 1 (Conceptual Drawings) and Attachments 13 & 14 (Construction Drawings).

Existing Underground Storm Sewer System – LA 27

Surface drainage along LA 27, within the project limits, is accomplished by an existing storm water collection and underground distribution system. The system has four (4) segments, as depicted on the conceptual drawings, and detailed below. Reference stationing along LA 27 is depicted in Attachment 1.

Segment A

Segment A extends from Sta. 98+00 to Sta. 103+65 along LA 27. The outfall of Segment A is the CRLP at LA 1171 (the old ferry landing), located near Sta. 98+00 (24" RCP, Inv. -4.2' NAVD88).

Segment B (Basin 1)

Segment B extends from Sta. 106+00 to Sta. 113+42 along LA 27. The outfall of Segment B is the CRLP at Rex Street, located near Sta. 108+70 (30" RCP, Inv. -3.8' NAVD88).

Segment C (Basin 2)

Segment C extends from Sta. 115+00 to Sta. 125+22 along LA 27. The outfall of Segment C is the CPGDD3 lateral at Davis Road, located near Sta. 125+22 (42" RCP, Inv. -4.5' NAVD88). This area of the CPGDD3 lateral is characterized by an existing open concrete box structure west of the Davis Road concrete bridge. This concrete box is open on the east side to drainage lateral flow, excepts discharge from storm sewer Segment C on the north side, and has two (2) outfall culverts to route lateral and stormwater flow to the south.

Segment D (Basin 2)

Segment D extends from Sta. 125+55 to Sta. 136+35 along LA 27. The outfall of Segment D is the CPGDD3 lateral at Davis Road, located near Sta. 125+55 (30" RCP, Inv. -4.2' NAVD88).

Existing Drainage Lateral - Cameron Parish Gravity Drainage District No. 3

(Refer to Drainage Maps, Attachment 1)

Storm Sewer Segments C & D (Basin 2) currently outfall into an existing drainage lateral maintained by CPGDD3 (Lateral "3"). As depicted in Attachment 1, this lateral begins approximately 6000' east of the intersection of LA 27 and Davis Road. The lateral drains west towards Davis Road, turns south along the west side of Davis Road, and outfalls into the Calcasieu River Loop Pass at a point approximately 1800' south of the intersection of LA 27 and Davis Road. Currently, drainage is accomplished via gravity flow, with an outlet-controlled drainage structure near the outfall.

Pre-Project Drainage Basins

(Attachment 1)

The study area is divided into five (5) drainage basins as depicted in Attachment 1 (Basins 1, 2, 3, 4, and 5).

Drainage Basin 1

Basin 1 (also referred to, herein, as storm sewer Segment B) drains an ±6.6-acre portion of the study area within the town of Cameron, LA. As depicted, drainage collection and distribution are via a subsurface (gravity) stormwater sewer system along Louisiana Highway 82 (LA 82), maintained by the DOTD. The outfall for this segment of storm sewer is the Calcasieu River Loop Pass (CRLP) via a 30" reinforced concrete pipe with approximate invert elevation of -3.75' NAVD88. The outfall structure is adjacent to Rex Street. Much of Drainage Basin 1 is developed property.

Drainage Basin 2

Basin 2 (also referred to, herein, as storm sewer Segments C and D) drains an ±22.0-acre portion of the study area within the town of Cameron, LA. As depicted in Attachment 1, drainage collection and distribution are via a subsurface (gravity) stormwater sewer system along Louisiana Highway 82 (LA 82), maintained by the DOTD. This drainage basin is characterized by two (2) outfalls into a drainage lateral south of the LA 27/Davis Road Intersection. This drainage lateral, designated as Lateral "3", is maintained by Cameron Parish Gravity Drainage District No. 3. The easternmost outfall is located east of Davis Road and is characterized by a 30" reinforced concrete pipe with approximate invert elevation of -4.2' NAVD88. The second outfall is located west of Davis Road and is a 42"

reinforced concrete pipe with approximate invert elevation of -4.5' NAVD88. Much of Drainage Basin 2 is developed property.

Drainage Basin 3

Basin 3 drains an ±215-acre portion of the study area. Lateral "3" traverses the basin and provides storm water conveyance. The outfall of Basin 3 is the Calcasieu River Loop Pass (CRLP) via a 48" diameter culvert, with outlet control in the form of a hydraulically controlled flap gate.

Drainage Basin 4

Lying south of Basin 3, Basin 4 drains an ±1,045-acre portion of the study area. Lateral "4" traverses the basin and provides storm water conveyance. Additional conveyance for the basin is provided by ditching along LA 82. The outfall of Basin 4 is the Calcasieu River Loop Pass (CRLP) via a gravity outfall structure, a pump station, and an outfall channel. Gravity drainage outfall for the basin is provided via a 24" diameter culvert, with outlet control in the form of a hydraulically controlled flap gate. This structure connects Lateral "4" with the existing outfall channel west of Davis Road. In addition to gravity drainage, an auxiliary pump provides forced drainage for Basin 4. The pump station is located east of Davis Road, with discharge into the existing outfall channel west of the roadway.

Drainage Basin 3/Drainage Basin 4 Interaction

Portions of the drainage area boundary between Basins 3 and 4 are as low as +1.2' NAVD88. This area is depicted in Attachment 1. Because of this, the two drainage basins interact as the water level (basin stage) increases above a +1.2' elevation.

Drainage Basin 5

Lying south of Basin 1 and Basin 2 and west of Basin 3, Basin 5 drains an ±21.9-acre portion of the study area adjacent to the CRLP. A majority of this basin sheet flows towards conveyance ditching along roadways. An existing outfall ditch east of Rex Street provides for discharge to CRLP. The balance of the drainage area sheet flows towards and outfalls directly to the CRLP.

Post-Project Drainage Basin Modifications

(Attachment 1)

Attachment 1 provides post-project details for each drainage basin. The below discussion summarizes post-project modifications to each basin.

Drainage Basin 1

Proposed improvements to Drainage Basin 1 include the installation of a wet well and stormwater pump south of the intersection of LA 27 and Rex Street. This pump station is

referred to as Pump "A", herein. This structure augments the gravity drainage outfall for the basin. The outfall structure for the pump will discharge into the CRLP in a similar location as the adjacent gravity outfall. The installation of a culvert (30" RCP) is planned under Rex St. to provide connection to the conveyance system proposed for Basin 5. This structure provides for two-way flow in the event mechanical failure occurs with either of the proposed pump stations (Pump "A" or Pump "C"). In the event both pump stations become inoperable, the structure provides for gravity flow from Basin 1, through Basin 5, and into the gravity outfall of Basin 2 (3). Additionally, an auxiliary gravity outfall culvert (30" RCP) is provided from the proposed Pump "A" wet well.

In addition to this structure associated with Pump "A", a connection of the underground storm sewer system (along LA 27) is proposed between Basin 1 and Basin 2 (herein referred to as Structure D). This connection facilitates two-way flow between the two basins in the event mechanical failure occurs with either of the proposed pump stations (Pump "A" or Pump "C"). In the event both pump stations become inoperable, this connection provides for gravity flow from Basin 1, through Basin 2, and into the gravity outfall of Basin 2 (3).

Drainage Basins 2 and 3

Part of the modifications planned for Basin 2 and Basin 3 is the construction of a water control structure in Lateral "3" east of Davis Road. The structure (Structure "B") is characterized by a fixed-crest weir (timber sheet pile wall) and improvements to adjacent gravity drainage structures. Structure "B" provides:

(1) Isolation of Lateral "3" west/south of its location. The segment of Lateral "3" west/south of the structure will be utilized for storm water storage to facilitate Basin 2 and Basin 5 drainage. It's normal pool elevation (-2.5' NAVD88) will be regulated by Pump "C".
(2) Separation between Pump "C" and the marsh complexes associated with Basin 3. Regulatory restrictions will limit the elevation to which drainage basins, which include wetland areas, can be pumped. This structure isolates these environmentally sensitive areas from the forced drainage associated with Pump "C".
(3) Provides for backflow (From Basin 2 to Basin 3) for high intensity rainfall events in Basins 2 and 5. Because discharge will concentrate more quickly for Basins 2 and 5 than for Basin 3 (much shorter times of concentration), the fixed crest weir component of the structure (elevation = +1.25' NAVD88) allows for flow from Basin 2 to Basin 3 during these peak events.
(4) Improvements to the adjacent gravity drainage structures (replacing two existing culverts with a larger concrete box culvert) increases flow potential in the lateral to provide for pumping operations.

Because the portion of Lateral "3" west/south of Structure "2" is isolated from Basin 3, this area becomes part of Drainage Basin 2 for post-project evaluation.

In addition to the construction of Structure "B", proposed improvements to Drainage Basins 2 and 3 include the installation of a wet well and stormwater pump near the terminus of Lateral "3". This pump station is referred to as Pump "C", herein. This structure augments the gravity drainage outfall for the basin. The outfall structure for the pump will discharge into the CRLP as depicted in Attachments 1 and 14.

Drainage Basin 4

No improvements are planned for this drainage basin. Of note are the relatively high stage elevations in Basin 4 for the 100-yr, 24-hr storm simulation run (in excess of +3.0' NAVD88). Further investigation of this watershed is warranted but is not part of the scope of this effort.

Drainage Basin 5

Proposed improvements to Drainage Basin 5 include re-grading of existing roadside ditches, installation of new culverts, and the excavation of new ditching to:

(1) Promote drainage in the basin
(2) Provide connection between Pump "A" and Pump "C"
(3) Increase the stormwater storage potential for the system
(4) Maintain gravity drainage between Basins 1, 2, and 5

As depicted in Attachments 1 and 15, the existing roadside ditches along Leesburg Street will be re-graded. Near the east end of the basin, new ditching will be constructed to provide connection to Drainage Basins 2 and 3.

In addition to the above-described drainage improvements, a low-level berm is planned adjacent to the Calcasieu River Loop Pass. This berm provides perimeter protection to the system against high-tide events. The elevation of this berm (+4.0' NAVD88) is established based on the projected highest yearly normal tide for the 50-yr design life (as discussed in further detail, herein).

Rainfall and Tidal Assessment

This section summarizes the basis for the rainfall events and tidal conditions utilized in this study.

Rainfall Assessment

National Oceanic and Atmospheric Administration (NOAA)

The National Weather Service in association with The National Oceanic and Atmospheric Administration (NOAA) manage a database of rainfall events throughout the country. A product of this effort is the precipitation frequency estimate tool:

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=al

This tool is utilized to extract design rainfall events for the project area. Figure 1 is a summary of the data provided by this tool for Cameron, LA.

Included in its database, NOAA provides estimates of temporal rainfall distributions for typical storm events. This data informs rainfall patterns and intensity throughout typical storm events. This data can be viewed and downloaded at:

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=pa

Figure 2 provides a plot of typical rainfall distribution (24-hr storm, 50% occurrence probability, all cases). Attachment 6 provides rainfall distribution and volume estimates for this assessment.

AMS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Annual exceedance probability (1/years)								
	1/2	1/5	1/10	1/25	1/50	1/100	1/200	1/500	1/1000
5-min	**0.617** (0.494-0.763)	**0.762** (0.608-0.945)	**0.868** (0.689-1.08)	**1.00** (0.768-1.28)	**1.10** (0.828-1.44)	**1.20** (0.873-1.60)	**1.29** (0.905-1.78)	**1.41** (0.953-2.01)	**1.50** (0.990-2.18)
10-min	**0.904** (0.723-1.12)	**1.12** (0.890-1.38)	**1.27** (1.01-1.58)	**1.47** (1.13-1.88)	**1.62** (1.21-2.10)	**1.76** (1.28-2.35)	**1.89** (1.33-2.61)	**2.07** (1.40-2.94)	**2.19** (1.45-3.19)
15-min	**1.10** (0.882-1.36)	**1.36** (1.09-1.69)	**1.55** (1.23-1.93)	**1.79** (1.37-2.29)	**1.97** (1.48-2.57)	**2.14** (1.56-2.87)	**2.31** (1.62-3.18)	**2.52** (1.70-3.59)	**2.67** (1.77-3.89)
30-min	**1.68** (1.34-2.07)	**2.05** (1.63-2.54)	**2.33** (1.85-2.91)	**2.72** (2.09-3.50)	**3.02** (2.27-3.95)	**3.32** (2.42-4.47)	**3.63** (2.55-5.04)	**4.05** (2.75-5.80)	**4.38** (2.89-6.37)
60-min	**2.27** (1.82-2.81)	**2.83** (2.26-3.51)	**3.27** (2.60-4.08)	**3.90** (3.01-5.05)	**4.39** (3.32-5.78)	**4.91** (3.59-6.63)	**5.45** (3.84-7.59)	**6.20** (4.21-8.89)	**6.79** (4.49-9.87)
2-hr	**2.87** (2.31-3.52)	**3.61** (2.90-4.45)	**4.22** (3.37-5.22)	**5.07** (3.95-6.55)	**5.77** (4.39-7.55)	**6.50** (4.79-8.74)	**7.27** (5.16-10.1)	**8.34** (5.71-11.9)	**9.20** (6.12-13.3)
3-hr	**3.24** (2.62-3.96)	**4.15** (3.35-5.09)	**4.91** (3.94-6.05)	**6.00** (4.70-7.73)	**6.88** (5.27-9.00)	**7.83** (5.80-10.5)	**8.84** (6.30-12.2)	**10.3** (7.04-14.6)	**11.4** (7.60-16.4)
6-hr	**3.88** (3.17-4.72)	**5.07** (4.13-6.18)	**6.10** (4.94-7.47)	**7.62** (6.04-9.03)	**8.90** (6.88-11.6)	**10.3** (7.69-13.8)	**11.8** (8.47-16.2)	**13.9** (9.64-19.7)	**15.7** (10.5-22.4)
12-hr	**4.54** (3.74-5.48)	**5.98** (4.91-7.24)	**7.27** (5.94-8.85)	**9.26** (7.43-12.0)	**11.0** (8.56-14.3)	**12.8** (9.69-17.2)	**14.9** (10.8-20.5)	**17.9** (12.5-25.3)	**20.4** (13.8-28.9)
24-hr	**5.26** (4.37-6.32)	**7.00** (5.79-8.42)	**8.57** (7.05-10.4)	**11.0** (8.93-14.2)	**13.1** (10.3-17.0)	**15.5** (11.8-20.6)	**18.0** (13.2-24.7)	**21.8** (15.3-30.6)	**24.9** (16.9-35.1)

Figure 1. Rainfall Quantity Estimates, NOAA (Cameron, LA)

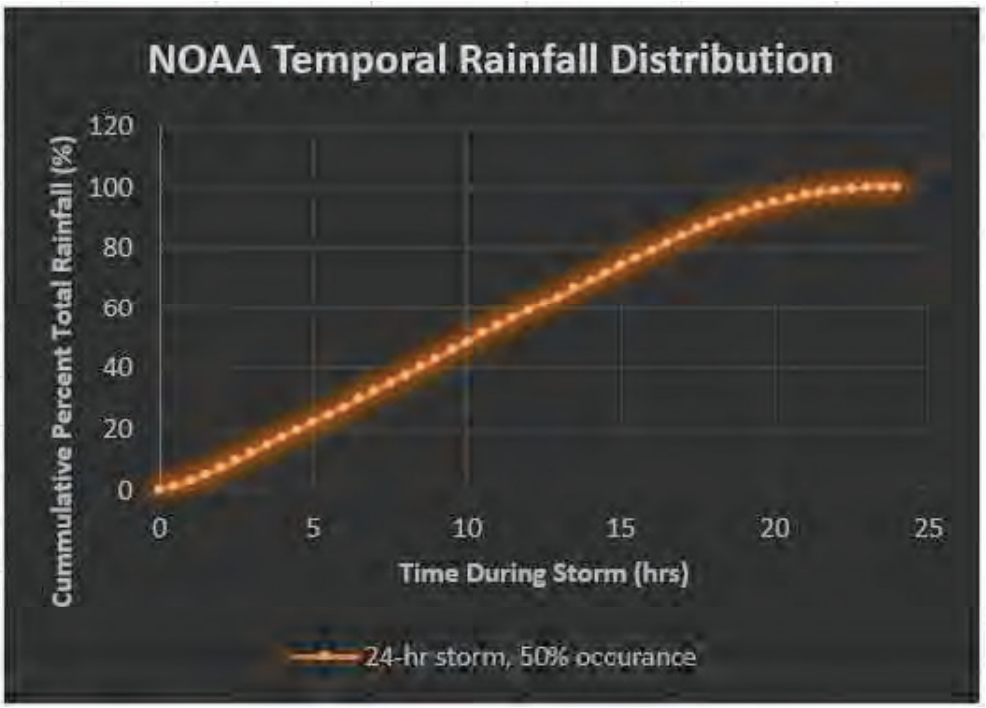


Figure 2. Rainfall Distribution Estimates, NOAA (24-hr storm, 50% occurrence probability, Cameron, LA)

Recent Regional Rainfall Events

Over the past few years, large rainfall events have been common in Southwest Louisiana. Of note is the rainfall event of May 17, 2021. Over a 16-hour period, the Lake Charles Regional Airport recorded 13.2" of rainfall. (Source: https://www.ncdc.noaa.gov/cdo-web/quickdata)

When compared to the NOAA statistical events (Figure 1, above), this rainfall is at or above the 1/100 year (e.g. 100-yr) annual exceedance probability event.

DOTD Intensity-Duration-Frequency (IDF) Curves

(DOTD Hydraulics Manual, pg. 3-6)

To evaluate peak discharges associated with the storm sewer components of the study area, DOTD IDF Curves are utilized.

Tide Condition Assessment

NOAA Gage, Station ID: 8768094 – Calcasieu Pass

Tide Data

This NOAA gage is located immediately west of the study area. It monitors various meteorological and water characteristics, including water surface elevation (tide elevation). Data for this gage can be viewed and downloaded from:

https://tidesandcurrents.noaa.gov/stationhome.html?id=8768094#info

Historic tide data can be downloaded with various statistical/tidal datums. A conversion* to a geodetic datum (NAVD88) is also provided on the website.

*Note: this conversion to geodetic datum from the statistical/tidal datums is only updated periodically – when the geodetic control for the station is re-occupied. As part of recent survey work in the area, our firm estimates the conversion from the tidal datum of MLLW to the geodetic datum of NAVD88 to be -1.29'.

Discounting significant tropical storm events, Figure 3 provides a yearly trend of maximum high tide events as measured at Station 8768094. All elevations expressed in NAVD 88.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Max. High Tide	2.04	2.03	2.15	2.08	2.54	2.63	3.49	2.78	2.72	3.5

Figure 3. Maximum Yearly High Tide, 8768094 (ft NAVD88)

Note: portions of LA 27 and Davis Road, within the study area, are at elevations below the current yearly high tide elevations. Attachment 13 provides a schematic representation of the study area that is at or below elevation +2.0' NAVD88.

Relative Sea Level Rise

To estimate design tide condition (50-yr design life), local estimates of sea level rise are considered. Several of NOAA's tide gage stations provide a prediction of sea level rise based on data collected. While gage 8768094 does not provide this data, nearby Station 8770570 (Sabine Pass North, TX) provides this prediction at 6.16 mm/yr (or 1.08' for 50-year design life). Figure 4 provides this information from NOAA Station 8770570.

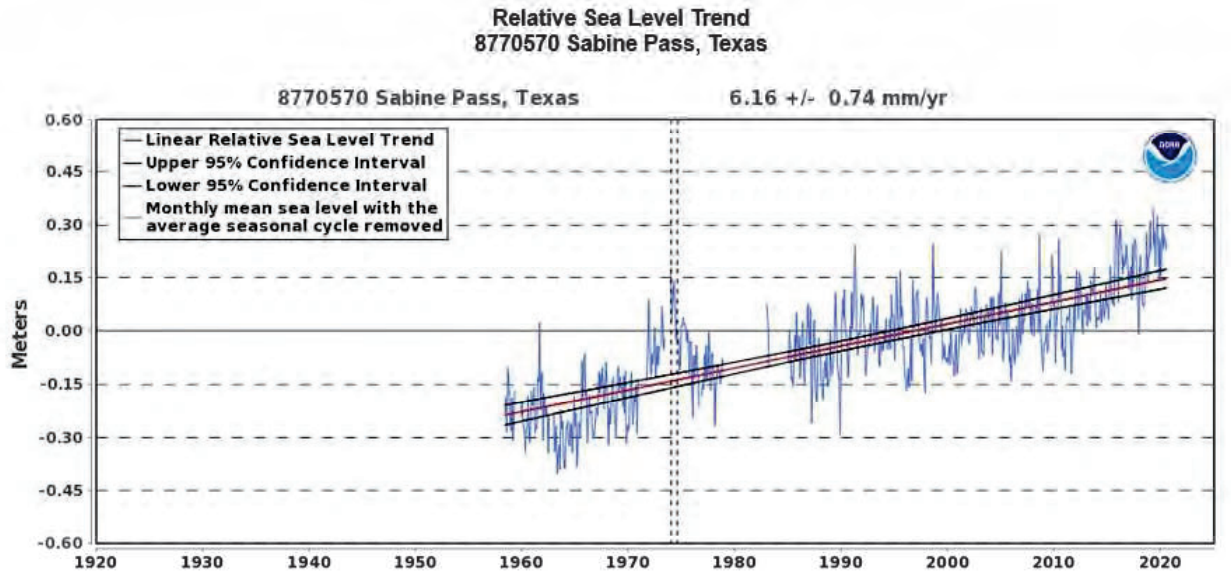


Figure 4. Relative Sea Level Rise Trend, NOAA

Hydrology

Storm Sewer (Basin 1 and Basin 2)

Drainage areas for the storm sewer components of this project are generally characterized as small (<20 acres), developed (very low permeability) areas. Times of concentration, therefore, are relatively small (15 – 20 minutes). As discussed, herein, the drainage collection system is comprised of catch basins along LA 27.

System Times of Concentration and Peak Discharges, Rational Method

(Attachment 4, Time of Concentration and Peak Discharge, Rational Method)

As is customary with drainage systems of this type, the Rational Method is utilized to estimate system Times of Concentration (t_c) and Peak Discharge (Q_p). Attachment 4 provides detailed calculations for each drainage area at 5-yr and 50-yr design storms. This is accomplished by:

(1) Delineating drainage areas and acquiring their characteristics using LIDAR, survey data, drone imagery, and as-built drawings (refer to Drainage Maps, Attachment 1).

(2) Preparing a Time of Concentration (t_c) estimate for each drainage area based on hydraulic length (HL), slope (S), and runoff coefficient (C). (Attachment 4, *Inlet Discharge Estimate*)

(3) Preparing a discharge estimate for each element based on runoff coefficient (C), rainfall intensity (i), and drainage area (DA). (Attachment 4, *Inlet Discharge Estimate*)

(4) Preparing a system-wide discharge and time of concentration estimate based on cumulative discharge/effective time of concentration estimates. (Attachment 4, *System Discharge and Time of Concentration Estimate*)

Calculations are provided in Attachment 4 for each of the segments of the system for both 5-yr and 50-yr design storms. The results are summarized in Figure 5.

Storm Sewer Segment	Drain Area	Peak Discharges		Time of Conc.
		Q_5	Q_{50}	t_c
	(acres)	(cfs)	(cfs)	(min)
Storm Sewer Segment B, Rex Street (Basin 1)	6.6	26.7	36.1	15.8
Storm Sewer Segment C, Davis Road (Basin 2)	10.7	42.7	58.0	17.9
Storm Sewer Segment D, Davis Road (Basin 2)	11.3	44.8	60.8	17.3
Basin 2 (Cumulative)	22.0	87.5	118.8	17.6

Figure 5. Discharge and Time of Concentration Estimates, Rational Method

Surface Collection and Distribution (Basin 3, Basin 4, Basin 5)

Hydrology, for a typical upland drainage evaluation, involves methodologies for converting expected rainfall quantities and distributions into predicted rainfall run-off amounts. This conversion is a function of many factors including watershed slope, surface characteristics, and watershed size. These predicted run-off amounts then represent the hydraulic load (discharge) on a system over time. This distribution is referred to as a run-off hydrograph. Several methodologies are available to prepare system hydrographs, with the most common being the National Resource Conservation Service (NRCS) methodology. This methodology is detailed in the NRCS National Engineering Handbook, Chapter 16:

https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17755.wba

The drainage basins for this study area are low-lying coastal drainage areas with very mild (negligible) drainage slopes. Traditional time of concentration calculations result in exceptionally large values. Because of the tidal nature of the system outfalls, the basins remain inundated, periodically. In a practical sense, the study area is a series of shallow pools (or detention ponds) with water levels dictated by tidal fluctuation. Because of this characteristic, the total rainfall anticipated in the study area is used as the hydraulic load on the system (i.e., total rainfall distribution over time = inflow to system over time).

Design Storm Selection

Design Storm Frequency

As suggested by the DOTD Hydraulics Manual and HEC-24, a return period of 50-years is suggested for pump station design. A 5-year storm event is utilized for a resiliency/duplicity check for the system.

As discussed in further detail herein, portions of the study area include large, slowly developing watersheds. Customarily, these watersheds are evaluated for a 100-yr, 24-hr

storm event. Also, this storm event closely matches a recent significant regional rainfall event (as described, herein).

Design Storm Duration

A customary approach in selecting design storm duration is to select a duration that is similar to the times of concentration for the subject drainage areas. For this project, times of concentration for the storm sewer components (Basin 1 and Basin 2) are substantially different than that of the remainder of the system (Basin 3, Basin 4, and Basin 5). Because of this characteristic, several storm durations are evaluated in this assessment:

(1) **50-year, 60-min**: the volume of water as a function of storm time associated with this event closely aligns with the Q_{50} storm sewer discharges for Basins 1 and 2. Figure 6 provides a summary of this assessment.

Storm Sewer Segment	Drain Area (DA)	Storm Time Incr. (T)	[1]Max. Rainfall Incr. (R)	[2]Rainfall Volume/ Time (RVT)	Q_{50}
	(acres)	(min)	(in)	(cfs)	(cfs)
Storm Sewer Segment B, Rex Street (Basin 1)	6.6	3	0.287	38.2	36.1
Storm Sewer Segment C, Davis Road (Basin 2)	10.7	3	0.287	61.9	58.0
Storm Sewer Segment D, Davis Road (Basin 2)	11.3	3	0.287	65.4	60.8
Basin 2 (Cumulative)	22.0	3	0.287	127.3	118.8
[1]See Attachment 6 [2]RVT = [DA x (43,560 ft^2/ac) x R x (1/12 ft/in)] ÷ [T x (60 s/min)]					

Figure 6. Rainfall Volume Per Unit Time, Design Storm = 50-year, 60-min

Note: this assumes that all of the rainfall in these basins immediately enter the underground system. This is a conservative assumption that both simplifies the storm water routing procedure and increases the factor of safety for pumping design. From a practical perspective, the efficiency of the surface collection system (catch basins) will restrict the flow of water into the underground distribution system.

(2) **100-year, 24-hr**: this is a customary storm event for large, slowly developing watersheds (Basin 3 and Basin 4). Also, this storm event closely matches a recent significant regional rainfall event (as described, herein).
(3) **5-year, 60-min**: this storm is used as a resiliency/duplicity check for the design.
(4) **1-year, 6-hr**: this storm is used to assess pump operation/cycle times during common rainfall events.

Hydraulics

To estimate the system response to a rainfall event, a time-step routing procedure is utilized. For each time step the following are estimated:

(a) Input into each basin in the form of rainfall (distributed within the storm time, according to NOAA statistical distribution, Attachment 6)
(b) Input into each basin in the form of hydraulic exchange from adjacent basin(s).
(c) Output of each basin in the form of tidal outfall structures (outlet controlled).
(d) Output of each basin in the form of forced drainage (pumping).
(e) Output of each basin in the form of hydraulic exchange from adjacent basin(s).
(f) Basin stages (or water elevation) as a net result of system inputs/outputs.

Rainfall Distribution

A detailed discussion of rainfall distribution is provided in earlier sections. Data utilized for this is sourced from NOAA (Attachment 6).

Tidal Conditions

A detailed discussion of tidal conditions is provided in earlier sections. Data utilized for this is sourced from NOAA. The design tide condition (50-yr design life) is projected using the anticipated relative sea level rise.

Hydraulic Exchange, Adjacent Basins

As stage (water level) rises in adjacent basins, exchange is anticipated between Basins 4 and 3 (above stage +1.2'). To model this exchange, a stage/weir length table is established to estimate weir flow exchange between basins at each stage. As stage in both adjacent basins reach these critical values, they are modeled as a single basin.

Tidal Outfall Structures

Tidal outfall structures are the primary outfall mechanism for the existing system. They are characterized by a flap on the downstream (or tidal) side. This flap is controlled by the head condition across the structure. As the upstream stage (drainage basin stage) exceeds the tidal elevation, the flap is forced open and positive flow occurs thru the structure. Likewise, as the tidal elevation exceeds the upstream stage, the flap is forced closed, and no flow occurs in the structure. This feature restricts backflow/saltwater exchange from the tidal waterway into the

drainage basins. **Tidal conditions play a major role in the effectiveness of tidal outfall structures.**

Flow through these structures is predominately consistent with typical culvert flow under differential head conditions. Several publications provide guidance on modeling culvert flow, with the following general guidelines:

(a) With un-submerged inlet and outlet, flow is consistent with open-channel flow (manning's equation, partially filled culvert)
(b) As the inlet and/or outlet become submerged, flow is consistent with orifice and/or weir flow.

Forced Drainage (Pump) Structures

(Attachment 5)
The performance (discharge) of a pump is predominantly a function of motor horsepower, physical head, and system losses. Based on the pump characteristics and internal basin stage, the pump's discharge curve is utilized to estimate discharge. LoLift-style pumps are commonly used in applications similar to this project. Attachment 5 provides pump discharge curves for commonly available LoLift-style pumps.

Stage/Storage Tables

(Attachment 1)
As indicated in earlier sections, topographic/bathymetric data is sourced from LiDAR, as-built drawings, and ground surveys. These datasets are utilized to create ground surface models (depicted as colorized shading in Attachments 1) and subsurface storm sewer volume estimates. At each water stage, a basin can store a particular volume of water based on the shape of the ground surface and the characteristics of the underground storm sewer system. This capacity is expressed in the form of stage (elevation)/storage (volume) tables. Attachment 1 includes Stage/Storage Tables for each basin.

Perimeter Protection

(Attachment 1)
As indicated in earlier sections, perimeter protection for the drainage system is proposed in the form of a low-level berm (+4.0' NAVD88). As indicated in Attachment 1, the berm is constructed adjacent to the Calcasieu River Loop Pass.

Hydrology & Hydraulics Model, Existing Drainage Infrastructure

Upon inspection of the projected tidal elevations (Design Year = 50), no gravity flow will occur during typical yearly high-tide conditions (September - October). When projected for future sea level rise, yearly high-tide daily tidal ranges are +2.7' to +4.8' NAVD88. This elevation is above the elevation of LA 27 and Davis Road (+1.8' to +4.0' NAVD88) in the study area.

Hydrology & Hydraulics Model, Proposed Drainage Improvements

Utilizing the Hydrology & Hydraulics (H&H) Model discussed herein, the post-project conditions are evaluated utilizing the following conditions:

(a) Design Year = 50 (projected tidal conditions)
(b) Typical yearly high-tide condition (09/21/20 – 10/05/20), projected to Design Year 50 based on anticipated sea level rise.
(c) Several design storms including 50-year, 1-hour duration and 100-year, 24-hour duration.
(d) Resiliency/duplicity check for Pump "A" (Basin 1) out of operation (5-year, 1-hour).
(e) Resiliency/duplicity check for one of the Pump "C" (Basin 2) pumps out of operation (5-year, 1-hour).

Post-Project Condition 100-year, 24-hour Design Storm

(Attachment 7 - detailed routing calculations)

As outlined in earlier sections, this design storm is customary for large, slowly developing watersheds (Basins 3 and 4). Also, this design storm closely matches recent large rainfall events in the region (as described, herein). The results are summarized in Figure 7. From inspection of the results:

(1) Maximum estimated basin stage for Basins 1, 2, and 5 is +1.8' NAVD88. Attachment 12 depicts the approximate limits of surface inundation at this water elevation.
(2) Maximum pump discharges for Basin 1 (10,600 gpm) and Basin 2 (54,200 gpm) are dictated by this design storm.
(3) Contributions from Basins 3, 4, and 5 have a significant impact on the pump discharge (54,200 gpm) and pump time (155.1 hrs) for Basin 2.
(4) The existing pump station for Basin 4 is currently operated on a temporary basis. This simulation includes the continuous operation of this pump.
(5) Pump time and time to return to pre-storm stage for all basins are significant (Basin 2 – 3 days; Basin 2, 3, and 5 – 8 days; Basin 4 – 9 days).
(6) Maximum estimated basin stage for Basins 3 and 4 is +3.1' NAVD88. This elevation exceeds that of the roadways within these basins, including portions of Davis Road. While an evaluation of forced drainage need in these basins are not a part of this effort, consideration should be given to pump improvements in Basins 3 and 4.

H&H Routing Summary
2070 Design Tide Conditions

[A] Davis Road Elevation, south of LA 27 Intersection
[C] Q_{50}, Basin 1 (Rex Street Storm Sewer) = 36.1 cfs
[D] Q_{50}, Basin 2 (Davis Road Storm Sewer) = 118.8 cfs

(Design Storm)			**100-yr**	**50-yr**	**5-yr**	
Case			**100-yr 24-hr Storm**	**50-yr 1-hr Storm**	**5-yr 1-hr Storm** (Resiliency) (Basin 1 Pump Out)	**5-yr 1-hr Storm** (Resiliency) (Basin 2 "Pump C" Out)
Basin#	**Rainfall (in**		**15.50**	**4.39**	**2.83**	**2.83**
1	Begin Basin Stage	(ft)	-3.0	-3.0	-3.0	-3.0
	Max. Basin Stage	(ft)	1.6	2.0	2.0	1.6
	Peak Inflow (SS)	(cfs)	5.6[C] (2,500 gpm)	38.2[C] (17,200 gpm)	24.6[C] (11,000 gpm)	24.6[C] (11,000 gpm)
	Time to Drain	(hrs)	69.5	3.9	57.4	2.8
	Pump Model		20P, C, 700 RPM	20P, C, 700 RPM	(Disabled)	20P, C, 700 RPM
	Pump Max. Q	(gpm)	10,600	10,600	(Disabled)	10,600
	Pump Time	(hrs)	64.7	3.9	(Disabled)	2.8
2	Begin Basin Stage	(ft)	-2.5	-2.5	-2.5	-2.5
	Max. Basin Stage	(ft)	1.8	2.0	1.6	1.8
	Peak Inflow (SS)	(cfs)	16.2[D] (7,300 gpm)	109.9[D] (49,500 gpm)	70.9[D] (31,900 gpm)	70.9[D] (31,900 gpm)
	Time to Drain	(hrs)	156.4	53.7	26.7	25.8
	Pump A Model		20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM
	Pump A Max Q.	(gpm)	10,600	10,600	10,600	10,600
	Pump A Time	(hrs)	137.9	34.4	8.8	9.1
	Pump B Model		2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM
	Pump B Max Q.	(gpm)	14,800	14,800	14,800	14,800
	Pump B Time	(hrs)	155.1	52.5	26.7	25.8
	Pump C Model		3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	(Disabled)
	Pump C Max Q.	(gpm)	28,800	28,800	28,800	(Disabled)
	Pump C Time	(hrs)	101.9	2.9	2.5	(Disabled)
3	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	186.5	82.9	56.6	57.0
4	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	201.7	98.2	71.9	72.2
	Pump Model		1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM
	Pump Max. Q	(gpm)	11,600	11,600	11,600	11,600
	Pump Time	(hrs)	201.7	98.2	71.9	72.2
5	Begin Basin Stage	(ft)	-1.5	-1.5	-1.5	-1.5
	Max. Basin Stage	(ft)	1.6	2.0	1.6	1.6
	Time to Drain	(hrs)	125.3	21.7	58.3	58.8

Figure 7. Routing Calculation Summary, 100-yr/24-hr Design Storm

Post-Project Condition 50-year, 1-hour Design Storm

(Attachment 8 - detailed routing calculations)

As outlined in earlier sections, this design storm closely simulates the Q_{50} discharge flows for the storm sewers (Basin 1 and Basin 2). The results are summarized in Figure 8. From inspection of the results:

(1) Maximum estimated basin stage for Basins 1, 2, and 5 is +2.0' NAVD88. Attachment 13 depicts the approximate limits of surface inundation at this water elevation.
(2) Maximum pump discharges are: Basin 1 (10,600 gpm) and Basin 2 (54,200 gpm).
(3) The existing pump station for Basin 4 is currently operated on a temporary basis. This simulation includes the continuous operation of this pump.
(4) Pump time and time to return to pre-storm stage for Basins 2, 3, 4, and 5 are significant (approximately 2-4 days).

H&H Routing Summary
2070 Design Tide Conditions

[A] Davis Road Elevation, south of LA 27 Intersection
[C] Q_{50}, Basin 1 (Rex Street Storm Sewer) = 36.1 cfs
[D] Q_{50}, Basin 2 (Davis Road Storm Sewer) = 118.8 cfs

(Design Storm)			100-yr	50-yr	5-yr	
Case			100-yr 24-hr Storm	50-yr 1-hr Storm	5-yr 1-hr Storm (Resiliency) (Basin 1 Pump Out)	5-yr 1-hr Storm (Resiliency) (Basin 2 "Pump C" Out)
Basin#	**Rainfall (in)**		**15.50**	**4.39**	**2.83**	**2.83**
1	Begin Basin Stage	(ft)	-3.0	-3.0	-3.0	-3.0
	Max. Basin Stage	(ft)	1.6	2.0	2.0	1.6
	Peak Inflow (SS)	(cfs)	5.6[C] (2,500 gpm)	38.2[C] (17,200 gpm)	24.6[C] (11,000 gpm)	24.6[C] (11,000 gpm)
	Time to Drain	(hrs)	69.5	3.9	57.4	2.8
	Pump Model		20P, C, 700 RPM	20P, C, 700 RPM	(Disabled)	20P, C, 700 RPM
	Pump Max. Q	(gpm)	10,600	10,600	(Disabled)	10,600
	Pump Time	(hrs)	64.7	3.9	(Disabled)	2.8
2	Begin Basin Stage	(ft)	-2.5	-2.5	-2.5	-2.5
	Max. Basin Stage	(ft)	1.8	2.0	1.6	1.8
	Peak Inflow (SS)	(cfs)	16.2[D] (7,300 gpm)	109.9[D] (49,500 gpm)	70.9[D] (31,900 gpm)	70.9[D] (31,900 gpm)
	Time to Drain	(hrs)	156.4	53.7	26.7	25.8
	Pump A Model		20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM
	Pump A Max Q.	(gpm)	10,600	10,600	10,600	10,600
	Pump A Time	(hrs)	137.9	34.4	8.8	9.1
	Pump B Model		2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM
	Pump B Max Q.	(gpm)	14,800	14,800	14,800	14,800
	Pump B Time	(hrs)	155.1	52.5	26.7	25.8
	Pump C Model		3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	(Disabled)
	Pump C Max Q.	(gpm)	28,800	28,800	28,800	(Disabled)
	Pump C Time	(hrs)	101.9	2.9	2.5	(Disabled)
3	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	186.5	82.9	56.6	57.0
4	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	201.7	98.2	71.9	72.2
	Pump Model		1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM
	Pump Max. Q	(gpm)	11,600	11,600	11,600	11,600
	Pump Time	(hrs)	201.7	98.2	71.9	72.2
5	Begin Basin Stage	(ft)	-1.5	-1.5	-1.5	-1.5
	Max. Basin Stage	(ft)	1.6	2.0	1.6	1.6
	Time to Drain	(hrs)	125.3	21.7	58.3	58.8

Figure 8. Routing Calculation Summary, 50-yr/1-hr Design Storm

Post-Project Condition 5-year, 1-hour Design Storm – Basin 1 Pump Disabled

(Attachment 9 - detailed routing calculations)

As outlined in earlier sections, it is common practice in storm water pump station design to ensure duplicity is inherent in the system (as particular pump components become disabled, the remaining infrastructure should be capable of removing water from the basins). As discussed herein, the emergency spillway structure for Basin 1 (Pump "A") provides for a gravity drainage connection to Basin 2 (via ditching thru Basin 5). Similarly, the planned underground connection of the existing storm sewer systems along LA 27 provide a gravity connection from Basin 1 to the outfall of Basin 2. This configuration allows for gravity drainage of the entire system (when tidal conditions allow).

This simulation includes a duplicity check of the proposed pumping equipment when the Basin 1 pump becomes disabled. The design storm utilized for this evaluation is a 5-yr, 1-hr storm. The results are summarized in Figure 9. From inspection of the results:

(1) Maximum estimated basin stage for Basins 1, 2, and 5 is +2.0' NAVD88. Attachment 13 depicts the approximate limits of surface inundation at this water elevation.
(2) The proposed maximum pumping capacity (54,200 gpm) for Basin 2 is adequate for the pumping need for this simulation, with a maximum pump cycle time of about 27 hrs.
(3) The existing pump station for Basin 4 is currently operated on a temporary basis. This simulation includes the continuous operation of this pump.

H&H Routing Summary
2070 Design Tide Conditions

[A] Davis Road Elevation, south of LA 27 Intersection
[C] Q_{50}, Basin 1 (Rex Street Storm Sewer) = 36.1 cfs
[D] Q_{50}, Basin 2 (Davis Road Storm Sewer) = 118.8 cfs

(Design Storm)			100-yr	50-yr	5-yr	
Case			**100-yr 24-hr Storm**	**50-yr 1-hr Storm**	**5-yr 1-hr Storm** (Resiliency) (Basin 1 Pump Out)	**5-yr 1-hr Storm** (Resiliency) (Basin 2 "Pump C" Out)
Basin#	**Rainfall (in)**		**15.50**	**4.39**	**2.83**	**2.83**
1	Begin Basin Stage	(ft)	-3.0	-3.0	-3.0	-3.0
	Max. Basin Stage	(ft)	1.6	2.0	2.0	1.6
	Peak Inflow (SS)	(cfs)	5.6[C] (2,500 gpm)	38.2[C] (17,200 gpm)	24.6[C] (11,000 gpm)	24.6[C] (11,000 gpm)
	Time to Drain	(hrs)	69.5	3.9	57.4	2.8
	Pump Model		20P, C, 700 RPM	20P, C, 700 RPM	(Disabled)	20P, C, 700 RPM
	Pump Max. Q	(gpm)	10,600	10,600	(Disabled)	10,600
	Pump Time	(hrs)	64.7	3.9	(Disabled)	2.8
2	Begin Basin Stage	(ft)	-2.5	-2.5	-2.5	-2.5
	Max. Basin Stage	(ft)	1.8	2.0	1.6	1.8
	Peak Inflow (SS)	(cfs)	16.2[D] (7,300 gpm)	109.9[D] (49,500 gpm)	70.9[D] (31,900 gpm)	70.9[D] (31,900 gpm)
	Time to Drain	(hrs)	156.4	53.7	26.7	25.8
	Pump A Model		20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM
	Pump A Max Q.	(gpm)	10,600	10,600	10,600	10,600
	Pump A Time	(hrs)	137.9	34.4	8.8	9.1
	Pump B Model		2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM
	Pump B Max Q.	(gpm)	14,800	14,800	14,800	14,800
	Pump B Time	(hrs)	155.1	52.5	26.7	25.8
	Pump C Model		3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	(Disabled)
	Pump C Max Q.	(gpm)	28,800	28,800	28,800	(Disabled)
	Pump C Time	(hrs)	101.9	2.9	2.5	(Disabled)
3	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	186.5	82.9	56.6	57.0
4	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	201.7	98.2	71.9	72.2
	Pump Model		1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM
	Pump Max. Q	(gpm)	11,600	11,600	11,600	11,600
	Pump Time	(hrs)	201.7	98.2	71.9	72.2
5	Begin Basin Stage	(ft)	-1.5	-1.5	-1.5	-1.5
	Max. Basin Stage	(ft)	1.6	2.0	1.6	1.6
	Time to Drain	(hrs)	125.3	21.7	58.3	58.8

Figure 9. Routing Calculation Summary, 5-yr/1-hr Design Storm

Post-Project Condition 5-year, 1-hour Design Storm – Singe Basin 2 Pump Disabled

(Attachment 10 - detailed routing calculations)

As outlined in earlier sections, it is common practice in storm water pump station design to ensure duplicity is inherent in the system (as particular pump components become disabled, the remaining infrastructure should be capable of removing water from the basins). This simulation includes a duplicity check of the proposed pumping equipment when one (the largest) of the three Basin 2 pumps becomes disabled. The design storm utilized for this evaluation is a 5-yr, 1-hr storm. The results are summarized in Figure 10. From inspection of the results:

(1) Maximum estimated basin stage for Basins 1, 2, and 5 is +1.8' NAVD88. Attachment 12 depicts the approximate limits of surface inundation at this water elevation.
(2) The proposed pumping capacity for Basin 1 (10,600 gpm) and the remaining pumping capacity for Basin 2 (25,400 gpm) is adequate for the pumping need, with an maximum pump cycle time of about 26 hrs.
(3) The existing pump station for Basin 4 is currently operated on a temporary basis. This simulation includes the continuous operation of this pump.

H&H Routing Summary
2070 Design Tide Conditions

[A] Davis Road Elevation, south of LA 27 Intersection
[C] Q_{50}, Basin 1 (Rex Street Storm Sewer) = 36.1 cfs
[D] Q_{50}, Basin 2 (Davis Road Storm Sewer) = 118.8 cfs

(Design Storm)			100-yr	50-yr	5-yr	
Case			**100-yr 24-hr Storm**	**50-yr 1-hr Storm**	**5-yr 1-hr Storm** (Resiliency) (Basin 1 Pump Out)	**5-yr 1-hr Storm** (Resiliency) (Basin 2 "Pump C" Out)
Basin#	**Rainfall (in)**		**15.50**	**4.39**	**2.83**	**2.83**
1	Begin Basin Stage	(ft)	-3.0	-3.0	-3.0	-3.0
	Max. Basin Stage	(ft)	1.6	2.0	2.0	1.6
	Peak Inflow (SS)	(cfs)	5.6[C] (2,500 gpm)	38.2[C] (17,200 gpm)	24.6[C] (11,000 gpm)	24.6[C] (11,000 gpm)
	Time to Drain	(hrs)	69.5	3.9	57.4	2.8
	Pump Model		20P, C, 700 RPM	20P, C, 700 RPM	(Disabled)	20P, C, 700 RPM
	Pump Max. Q	(gpm)	10,600	10,600	(Disabled)	10,600
	Pump Time	(hrs)	64.7	3.9	(Disabled)	2.8
2	Begin Basin Stage	(ft)	-2.5	-2.5	-2.5	-2.5
	Max. Basin Stage	(ft)	1.8	2.0	1.6	1.8
	Peak Inflow (SS)	(cfs)	16.2[D] (7,300 gpm)	109.9[D] (49,500 gpm)	70.9[D] (31,900 gpm)	70.9[D] (31,900 gpm)
	Time to Drain	(hrs)	156.4	53.7	26.7	25.8
	Pump A Model		20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM	20P, C, 700 RPM
	Pump A Max Q.	(gpm)	10,600	10,600	10,600	10,600
	Pump A Time	(hrs)	137.9	34.4	8.8	9.1
	Pump B Model		2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM	2420, 1.0P, 710 RPM
	Pump B Max Q.	(gpm)	14,800	14,800	14,800	14,800
	Pump B Time	(hrs)	155.1	52.5	26.7	25.8
	Pump C Model		3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	3626, 0.8P, 700 RPM	(Disabled)
	Pump C Max Q.	(gpm)	28,800	28,800	28,800	(Disabled)
	Pump C Time	(hrs)	101.9	2.9	2.5	(Disabled)
3	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	186.5	82.9	56.6	57.0
4	Begin Basin Stage	(ft)	0.0	0.0	0.0	0.0
	Max. Basin Stage	(ft)	3.1	1.9	1.5	1.5
	Crit. Basin Stage[A]	(ft)	2.3	2.3	2.3	2.3
	Time to Drain	(hrs)	201.7	98.2	71.9	72.2
	Pump Model		1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM	1816, 0.8P, 1160 RPM
	Pump Max. Q	(gpm)	11,600	11,600	11,600	11,600
	Pump Time	(hrs)	201.7	98.2	71.9	72.2
5	Begin Basin Stage	(ft)	-1.5	-1.5	-1.5	-1.5
	Max. Basin Stage	(ft)	1.6	2.0	1.6	1.6
	Time to Drain	(hrs)	125.3	21.7	58.3	58.8

Figure 10. Routing Calculation Summary, 5-yr/1-hr Design Storm

Pump Configuration and Operational Plan - Preliminary

This section describes the proposed pump configuration(s) and pump operational plan(s) assumed for this evaluation. **This plan should be considered preliminary. Once the system is in operation, testing should be performed to adjust the operational plan, accordingly.**

Pump Configuration (s)

(Attachment 14 - detailed construction drawings)

This section outlines the pump configurations for Pump "A" (Rex Street) and Pump "C" (Davis Road).

Pump "A"

As described herein and detailed in Attachment 14, Pump "A" is characterized by:

(1) A single vertical 20" pump mounted in a storage/wet well (Lo-Lift Model #20P used for this simulation).
(2) The pump is housed in a ductile iron intake pipe (48" diameter), with debris screen at the entrance. This configuration ensures that flow near the pump bell will be relatively smooth and free of significant debris.
(3) An outfall pipe diameter of 30" is chosen to minimize head losses and discharge velocities (at the pump outfall).

Pump "C"

As described herein and detailed in Attachment 14, Pump "C" is characterized by:

(1) Three (3) vertical pumps (20", 24", and 36") mounted in a storage/wet well (Lo-Lift Models #20P, #2420, and #3626 are used for this simulation).
(2) The pumps are housed in ductile iron intake pipes (48", 54", and 72" diameter), with debris screens at the entrances. This configuration ensures that flow near the pump bells will be relatively smooth and free of significant debris.
(3) Outfall pipe diameters of 30", 36", and 48" are chosen to minimize head losses and discharge velocities/scour potential (at the pump outfall).

Preliminary Pump Operational Plans

(Attachment 14 - detailed construction drawings)

Pump operation for this project is automated. The controls for the pumps detect water surface elevations within the basins and adjust pump operation, accordingly. This section outlines a preliminary pump operational plan, based on our evaluation. **This plan should be considered preliminary. Once the system is in operation, testing should be performed to adjust the operational plan, accordingly.**

Pump "A"

The planned configuration for Pump "A" allows for stormwater storage in both the storm sewer associated with Basin 1 and the open ditching associated with Basin 5. With this large potential for storage, our evaluation suggests a relatively high "pump-on" stage elevation for this pump of +1.50' NAVD88. **Once the system is in operation, testing should be performed to adjust the operational plan, accordingly.** Figure 11 summarizes the Preliminary Pump Operation Plan for Pump "A" and provides cycling time estimates for several design storms.

Pump Operation - Basin 2 (Davis Road) - Preliminary Plan												
Stage Operational Plan												
		Operational Stages										
		Stage 0	Stage 1	Stage 2	Stage 3	Stage 0						
		Increasing Stage			Decreasing Stage							
Pump Model #20P		OFF	OFF	ON	ON	OFF						
WSE (ft NAVD88)		E < -3.00	E > -3.00 E < 1.50	E > 1.50	E > -3.00	E < -3.00						
Description and Discussion		Pump Off. Low Water Condition.	Pump Off.	Pump On.	Pump On.	Pump Off. Low Water Condition.						
Anticipated Cycle Times for Design Storms (hrs)												
		Stage 0	Stage 1	Stage 2	Stage 3	Stage 0				**Total Pump Cycle Times**		
100-yr, 24-hr	Begin Time	0.0	4.5	4.5		69.5				**(hr)**	**(days)**	
	Pump	0.0	0.0	65.0		0.0				65.0	2.7	
50-yr, 60-min	Begin Time	0.0	0.2	0.2		2.4				**(hr)**	**(days)**	
	Pump	0.0	0.0	2.2		0.0				2.2	0.1	
1-yr, 6-hr	Begin Time	0.0	3.8	3.8		6.0				**(hr)**	**(days)**	
	Pump	0.0	0.0	2.2		0.0				2.2	0.1	

Figure 11. Pump "A" Preliminary Pump Operational Plan

Pump "C"

The planned configuration for Pump "C" allows for stormwater storage in the storm sewer associated with Basin 2, the open ditching associated with Basin 5, and the drainage lateral adjacent to Davis Road. With this large potential for storage, our evaluation suggests cycling

the smaller two pumps on at a relatively low basin elevation, with the larger pump cycling on later in the storm event. **Once the system is in operation, testing should be performed to adjust the operational plan, accordingly.** Figure 12 summarizes the Preliminary Pump Operation Plan for Pump "C" and provides cycling time estimates for several design storms.

Pump Operation - Basin 2 (Davis Road) - Preliminary Plan											
Stage Operational Plan											
		Operational Stages									
		Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 0		
		Increasing Stage				Decreasing Stage					
Pump A Model #20P		OFF	ON	ON	ON	ON	ON	OFF	OFF		
Pump B Model #2420		OFF	OFF	ON	ON	ON	ON	ON	OFF		
Pump C Model #3626		OFF	OFF	OFF	ON	ON	OFF	OFF	OFF		
WSE (ft NAVD88)		E < -2.50	E > -2.50 E < -1.00	E > -1.00 E < -0.50	E > 1.00	E > -2.00	E < -2.00 E > -2.20	E < -2.20 E > -2.50	E < -2.50		
Description and Discussion		All Pumps Off. Low Water Condition.	Pump A, On.	Pump A, On. Pump B, On.	All Pumps, On.	All Pumps, On.	Pump A, On. Pump B, On.	Pump B, On.	All Pumps Off. Low Water Condition.		
Anticipated Cycle Times for Design Storms (hrs)											
		Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 0	**Total Pump Cycle Times**	
100-yr, 24-hr	Begin Time	0.0	0.8	1.7	5.3		104.2	137.8	157.1	**(hr)**	**(days)**
	Pump A	0.0	0.9	3.6	98.9		33.6	0.0	0.0	137.0	5.7
	Pump B	0.0	0.0	3.6	98.9		33.6	19.3	0.0	155.4	6.5
	Pump C	0.0	0.0	0.0	98.9		0.0	0.0	0.0	98.9	4.1
50-yr, 60-min	Begin Time	0.0	0.2	0.3	0.4		3.2	35.3	52.7	**(hr)**	**(days)**
	Pump A	0.0	0.1	0.1	2.8		32.1	0.0	0.0	35.1	1.5
	Pump B	0.0	0.0	0.1	2.8		32.1	17.4	0.0	52.4	2.2
	Pump C	0.0	0.0	0.0	2.8		0.0	0.0	0.0	2.8	0.1
1-yr, 6-hr	Begin Time	0.0	0.6	0.9	4.0		5.9	28.9	46.9	**(hr)**	**(days)**
	Pump A	0.0	0.3	3.1	1.9		23.0	0.0	0.0	28.3	1.2
	Pump B	0.0	0.0	3.1	1.9		23.0	18.0	0.0	46.0	1.9
	Pump C	0.0	0.0	0.0	1.9		0.0	0.0	0.0	1.9	0.1

Figure 12. Pump "C" Preliminary Pump Operational Plan

Joshua Latino

From: Thomas Van Biersel
Sent: Tuesday, May 24, 2022 11:10 AM
To: Joshua Latino
Subject: RE: P20220077 HMIA info

The applicant has submitted enough supporting evidences to determine that the project will have little or no negative impact of the local hydrology.

Thomas

From: Joshua Latino <[redacted]
Sent: Monday, May 23, 2022 4:52 PM
To: Thomas Van Biersel [redacted]
Subject: FW: P20220077 HMIA info

Hey Thomas,

Did we ever come to a decision on this? If I remember correctly, you were going to scan through the files and let me know if we need to make them condense the files for our consumption. Were you able to take a look at them yet?

From: Joshua Latino
Sent: Wednesday, May 11, 2022 11:34 AM
To: Thomas Van Biersel [redacted]
Subject: FW: P20220077 HMIA info

Hi Thomas, coming to speak with you about these files. If you're at lunch, I will come see you around 1pm.

From: aaron@[redacted]
Sent: Wednesday, May 4, 2022 3:20 PM
To: Joshua Latino [redacted]
Subject: P20220077

Joshua,

Below is a link to a dropbox folder containing the HMIA for permit P20220077. Please let me know if there is an issue with using the link.
I will be your point of contact on this permit from this point forward.

https://www.dropbox.com[redacted]

Thanks,

Aaron Harper
Office [redacted]

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
U.S. DEPARTMENT OF INTERIORS, FISH & WILDLIFE SERVICE (USFWS)
RESPONSE TO EA SOLICIATION FOR VIEWS

EXHIBIT K

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
Phone: (337) 291-3100 Fax: (337) 291-3139

In Reply Refer To: 06/04/2025 18:32:36 UTC
Project Code: 2025-0105485
Project Name: Pump Stations (Drainage Improvement) Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and candidate species, as well as designated and proposed critical habitat that may occur within the boundary of your proposed project and may be affected by your proposed project. The Fish and Wildlife Service (Service) is providing this list under section 7 (c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Changes in this species list may occur due to new information from updated surveys, changes in species habitat, new listed species and other factors. Because of these possible changes, feel free to contact our office (337-291-3109) for more information or assistance regarding impacts to federally listed species. The Service recommends visiting the IPaC site or the Louisiana Ecological Services Field Office website (https://www.fws.gov/southeast/lafayette) at regular intervals during project planning and implementation for updated species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)).

Bald eagles have recovered and were removed from the List of Endangered and Threatened Species as of August 8, 2007. Although no longer listed, please be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 et seq.).

The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance", which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenanagementguidelines.pdf

Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. Onsite personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest occurs or is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: https://www.fws.gov/southeast/our-services/eagle-technical-assistance/. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting any necessary consultation.

Activities that involve State-designated scenic streams and/or wetlands are regulated by the Louisiana Department of Wildlife and Fisheries and the U.S. Army Corps of Engineers, respectively. We, therefore, recommend that you contact those agencies to determine their interest in proposed projects in these areas.

Activities that would be located within a National Wildlife Refuge are regulated by the refuge staff. We, therefore, recommend that you contact them to determine their interest in proposed projects in these areas.

Additional information on Federal trust species in Louisiana can be obtained from the Louisiana Ecological Services website at: https://www.fws.gov/southeast/lafayette

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Marine Mammals

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
(337) 291-3100

PROJECT SUMMARY

Project Code: 2025-0105485
Project Name: Pump Stations (Drainage Improvement) Project
Project Type: Drainage Project
Project Description: Area of Impact is approximately 13 acres and consist of 2 new pump stations, 2 new water control structures, installing on replacement box culvert, installing new culvert pipes with drop intakes, replacing existing with new pipe culverts in existing ditch drainage systems, and grading open ditches (12 ditches proposed for improvements).

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@29.79488355,-93.3225839728596,14z

Counties: Cameron County, Louisiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

BIRDS

NAME	STATUS
Whooping Crane *Grus americana* Population: U.S.A (Southwestern Louisiana) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

BALD & GOLDEN EAGLES INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

MIGRATORY BIRD INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

---

1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*
Species profile: https://ecos.fws.gov/ecp/species/4469

IPAC USER CONTACT INFORMATION

Agency: Parish of Cameron
Name: Ellen Ibert
Address: 105 Chapel Drive
City: Lafayette
State: LA
Zip: 70506
Email eibert@royal.us
Phone: 3372087602

EXHIBIT L
BIOLOGICAL ASSESSMENT
PUMP STATION CONSTRUCTION AREAS

Subject: Cameron Pump Station – Biological Assessment

To:
Ellen Ibert

EHP Specialist, Royal

From:
CSRS

Kelly Faerber, NEPA and Environmental Permitting Lead

Ethan Trahan, Environmental Scientist II

Christian Ordoyne, Environmental Scientist I

Date:
8/18/2025

Attachments:
Attachment 1: IPaC
Attachment 2: Biological Assessment

The purpose of the biological assessment was to evaluate animal and plant species and habitats within the project area for the potential presence of sensitive species in accordance with the Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Magnuson-Stevens Fishery Conservation and Management Act, and Marine Mammal Protection Act.

According to the U.S. Fish and Wildlife Service (USFWS) IPaC system (Attachment 1), the following species are listed for the site:

- Tricolored Bat (*Perimyotis subflavus*) – Proposed Endangered
- West Indian Manatee (*Trichechus manatus*) – Threatened
- Whooping Crane (*Grus americana*) – Experimental Population, Non-Essential
- Monarch Butterfly (*Danaus plexippus*) – Proposed Threatened

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) identifies proposed critical habitat for the following species at the site through its ESA Section 7 Mapper tool:

- Green Sea Turtle (*Chelonia mydas*)
- Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)
- Loggerhead Sea Turtle (*Caretta caretta*)

Site Visit

On August 13, 2025, CSRS personnel conducted a biological assessment of the Cameron Pump Station site which consists of Pump Station "A," Pump Station "C," and a control structure located along Davis Road near Marshall Street in Cameron, Cameron Parish, Louisiana. No federally listed species were observed nor were bald or golden eagles.

Wildlife observed during the visit included yellow-crowned night heron (*Nyctanassa violacea*), common grackle (*Quiscalus quiscula*), common tern (*Sterna hirundo*), red-winged blackbird (*Agelaius phoeniceus*), and laughing gull (*Leucophaeus atricilla*). CSRS personnel also noted a significant construction presence was in the vicinity of the site. Field notes and site photographs are provided as Attachment 2.

Summary and Recommendations

- The bird species observed at the site are native migratory birds protected under the MBTA; therefore, vegetation disturbance should be minimized.
- From the design drawings, it appears that work will be done within Calcasieu Pass. Confirm that the IPaC project boundary matches the actual project boundary
    - Given the proposed work activities in Calcasieu Pass, coordination with NMFS is recommended to assess potential impacts on the three listed sea turtle species.

CSRS

FIELD VISIT CHECKLIST & SITE EVALUATION

Date of Visit: 8/13/25 | **Time:** 12:30 PM

Responsible Entity:

Project Name: Cameron Pump Station

Project Location/Address: Parish Road 3146,

Address, City, St ZIP	Cameron, LA, 70631
County, State	Cameron, LA
GPS Site Location	Latitude: 29° 47' 43.12" N Longitude: 93° 19' 24.51" W

Project Area and Surrounding Area General Description of Existing Conditions: (Explain any present on or applicable **to site**: ☐air quality/odors, ☐water quality concern, ☑noise concern, ☐flooding, ☐drought, ☑extreme auto/pedestrian traffic, ☐vegetation, ☐spills, ☐dumped waste, ☐blocked drainage, ☐livestock, ☐wild animals, ☑construction occurring, ☑non-residential structures, ☐misc.) Attach additional sheets if necessary. NOTES:

Pump Station "C":

- This site was near a heavily trafficked corridor with a large amount of construction and heavy machinery nearby from port activities. No wildlife was observed at or near the site.

Control Structure "B":

- The site has an existing control structure on a concrete pad with a cage surrounding it. The control structure would turn on frequently and produce a loud noise from the turbines turning. Around the site there were Sesbania and Baccharis shrubs that common grackles were utilizing as a resting area. In addition, one yellow-crowned night heron was observed in the nearby canal. On the eastern side of the site, there was a wetland area mostly comprised of Spartina species.

Pump Station "A":

- The site was a concrete pad with rip-rap surrounding it. The area had very sparse vegetation; no wildlife was observed on-site. There were large holding tanks of an unknown substance that have been destroyed from prior hurricanes.

CSRS

Surrounding Land Use - check all that apply:

To the ☑N☐S☐E☐W: mostly mobile homes + campers **Residential SF | MF | MH**	To the ☑N☐S☐E☐W: Commercial Rt | Of | MH	To the ☑N☑S☑E☑W: LNG + Port **Industrial WH | (Mfg) | (Lot)**	To the Courthouse ☑N☐S☐E☐W: **Public/Institutional Sch | Lib | (Gov) | Rel | NP**
To the ☐N☐S☐E☐W: N/A **Recreational**	To the ☑N☐S☐E☐W: (Road) **Transportation/(Utility)**	To the ☐N☐S☑E☐W: Marsh area **Undeveloped**	To the ☐N☐S☐E☐W: N/A **Currently Farmed**
To the ☐N☐S☐E☐W: N/A **Forest**	To the ☐N☐S☐E☐W: N/A **Pasture**	To the Calcasieu ☐N☑S☐E☐W: Pass **Water Body**	To the ☐N☐S☐E☐W: **Other:**

Attachments, if any:

Photographs	☑ YES	☐ NO
Photo Locator Map	☑ YES	☐ NO
Aerial photo	☑ YES	☐ NO

Interviews conducted, if any:

CSRS

FIELD VISIT CHECKLIST & SITE EVALUATION

My visual inspections of the project site and adjacent properties indicated evidence of the following. Description should accompany any items checked.

USFWS Threatened and Endangered Species	
Species	*Status*
Tricolored Bat	Proposed Endangered
W. Indian Manatee	Threatened
Whooping Crane	Experimental Population, Non-essential
Monarch Butterfly	Proposed Threatened
NMFS Species	
Green Sea Turtle	Protected
Kemp's Ridley Sea Turtle	Protected
Loggerhead Sea Turtle	Protected

Endangered/Rare Species/Suitable Habitat– (check all that apply):

☑ **NONE identified on or near project site.**

☐ **Any stand of tall pine trees located near a body of open or flowing water** – a possible indication of native nesting/roosting Bald Eagle habitat No pine trees or nesting areas were observed

☐ **Any bare pimple/pima mound of sand about 20 feet in diameter and rising a few feet above ground level** – No mounds were observed

☑ **Any coastal beach or connecting waterways** – possible resting/nesting places for Indian Manatees or wild turtles Calcasieu Pass; it is heavily traversed by Large shipping vessels; none observed (manatees or sea turtle species)

Ecological Site Information
General site description (residential, commercial, forested, grassland, etc.):
Commercial and Industrial
Water bodies present? If yes, describe (pond, lake, creek, bayou, river, wetland, etc.):
Calcasieu Pass, Dredged Canal, and Wetlands to the East

CSRS

Special or unique vegetation features?
N/A
Special wildlife habitat?
N/A
Observed wildlife:
Yellow-crowned night heron, common grackle, common tern, Red-winged black bird, and Laughing gull
National, state, or locally designated park or natural reserve on or adjacent to project site?
Sabine [redacted] NWR is to the northwest of the sites and is approximately 10 miles away. It is not in close proximity.

Provide any supplementary statement, descriptions, explanations, and/or comments below – you may attach additional pages and photos as appropriate:

Wildlife on site would quickly leave to the high amount of noise and activity taking place in this area.

CSRS

{Signature of field investigator}

Environmental Scientist II

8/13/25

Date of Field Observation

Photographic Record

Taken by: Ethan Trahan (Environmental Scientist II)

Client: Royal Engineers	**Project Number: 223140**
Site Name: Cameron Pump Station Project	**Site Location: Parish Road 3146, Cameron, LA, 70631**

Photograph 1 – Pump Station C	
Date: 8/13/25	
Direction: Southwest	
Description: Heavy construction to the south of the site near the public boat launch mostly comprised of gravel and concrete. Lat: 29.79202 Lon: -93.32227	

Photograph 2 – Pump Station C	
Date: 8/13/25	
Direction: Northwest	
Description: View of the inside of the existing pump station area. The bottom is comprised of a concrete pad that has sunk, which allowed cattails and water to inundate the area. No wildlife was observed. Lat: 29.79204 Lon: -93.32228	

Photograph 3 – Pump Station C	
Date: 8/13/25	
Direction: West	
Description: Cattails and water have inundated the area. Approximate water level was 3-4 inches. Lat: 29.7922 Lon: -93.32233	

Photograph 4 – Pump Station C	
Date: 8/13/25	
Direction: South	
Description: View of the vegetation in between the cemented area. Common vegetation was Mexican-primrose willow, seaside goldenrod, foxtail grass, and Baccharis shrubbery. Lat: 29.79226 Lon: -93.32264	

Photograph 5 – Pump Station C	
Date: 8/13/25	
Direction: South	
Description: View of the western end of the site facing south towards heavy construction and industrial activities. A ship dock is also to the east. Lat: 29.79229 Lon: -93.32274	
Photograph 6	
Date: 8/13/25	
Direction: North	
Description: View of the adjacent area; mostly comprised of flat concrete pads. Lat: 29.79233 Lon: -93.32252	

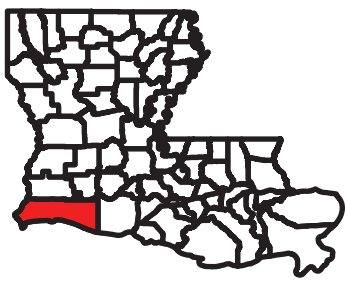
Photograph 7 – Control Structure B	
Date: 8/13/25	
Direction: East	
Description: View of the pump station to the right and the dredge canal to the left. To the left of the photo, a Yellow Crowned night heron was resting near the canal. Also, the pump was very loud. Lat: 29.79534 Lon: -93.32065	

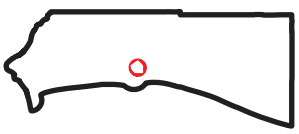
Photograph 8 - Control Structure B	
Date: 8/13/25	
Direction: East	
Description: The site was comprised of Rattlebox Sesbania and Baccharis where Common Grackles were utilizing it as a resting area. Lat: 29.79531 Lon: -93.32059	

Photograph 9 – Pump Station A	
Date: 8/13/25	
Direction: Southeast	
Description: View of the holding tanks with gravel/rip rap surrounding it. The vegetation composition was very sparse. Also, construction activities were to the west of the site. Lat: 29.79671 Lon: -93.3257	
Photograph 10 – Pump Station A	
Date: 8/13/25	
Direction: West	
Description: View of the holding tanks with debris from hurricane damage. There was no vegetation in this area. Lat: 29.79669 Lon: -93.32601	

Biological Assessment- Photo Point Map

Site Exhibit for
Cameron Pump Station
Cameron Parish
Cameron, LA





Legend

- Cameron Pump Station Site Boundary
- Photo Points

Date: 08/14/2025
Project: 223140
Drawn By: EDT

CSRS

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT
SECTION 106 OF NATIONAL HISTORIC PRESERVATION ACT
CONCURENCE WITH NO IMPACTS TO HISTORIC RESOURCES

EXHIBIT M

ROYAL

No known historic properties will be affected by this undertaking. Therefore, our office has no objection to the implementation of this project. This effect determination could change should new information come to our attention.

Carrie Broussard

Carrie Broussard
State Historic Preservation Officer

Date 06/10/2025

May 28, 2025

Ms. Carrie Broussard
State Historic Preservation Officer
Office of Cultural Development
P. O. Box 44247
Baton Rouge, LA 70804

RE: U. S. Housing and Development (HUD), Louisiana Office of Community Development (OCD), Community Development Block Grant - Disaster Recovery (CDBG-DR), Louisiana Resilient Infrastructure Program (RCIP), Cameron Parish Police Jury (CPPJ), Project # 12LDRC7702, Pump Station (Drainage Control Improvements) Project, National Historic Preservation Act, Section 106 Initiation

Dear Ms. Broussard,

The Louisiana Office of Community Development awarded funds to the Cameron Parish Police Jury (CPPJ) RCIP for the Pump Station Project under the CDBG-DR, La RCIP allocations. This project is located in the Town of Cameron, Louisiana. The project aims to mitigate existing flooding concerns in the interests of protecting public safety welfare and improved properties consisting of ponding over roadways and backflow stormwaters into low to moderate income (LMI) residential homes.

This letter represents a commitment under Section 106 of the National Historic Preservation Act (NHPA), as amended (Title 16 U.S.C. §§ 470). In accordance with Section 106 and its implementing regulations (Title 36 CFR §§ 800), CPPJ is beginning consultation with your office concerning this project.

Royal Engineers and Consultants, LLC (Royal) is supporting CPPJ with their HUD OCD CDBG-DR RCIP proposed grant projects and serving as the point of contact for the NHPA compliance as Responsible Entity (RE)) Partner [Title 24 CFR, Subpart A, §§ 58.4(a) & 58.14].

Project Description

This project focuses on controlled drainage improvements. The project consists of: Two (2) new pump stations; two (2) new water control structures; installing one (1)

replacement box culvert; installing new culvert pipes with drop intakes; replacing existing with new pipe culverts in existing ditch drainage systems; and grading open ditches for corrective drainage controls. (See attached permit design sheet 3)

Project Breakdown Description

Two pump stations are identified as Pump Station A and Pump Station C. Design of pump stations is intended to force stormwater drainage from improved drainage systems to outflow culvert discharge pipes leading into the Calcasieu Loop Pass. (See Pump Station A detail design sheet 18 and Pump Station C detail design sheets 22-23)

Two water control structures with related culvert replacements are identified as Control Structure B and Control Structure C as follows:

- Control Structure B (detail design sheets 20-21) consist of removing two (2) damaged box culverts and replacing with one larger box culvert; replacing two (2) culvert outflow pipes from box culvert for discharge into existing drainage canal along Davis Road leading to Pump Station C; installing floodgate in drainage canal; installing concrete walls and bottom within existing canal to stabilize canal banks and bottom commencing from proposed floodgate up to low-water bridge-crossing at Davis Road. Additionally, proposed work includes removal replacement culvert pipe work running from drainage canal along Davis Road toward La. Hwy. 27 to discharge stormwater into proposed stabilized drainage canal downstream from proposed floodgate.

- Control Structure C (detail design sheet 19) consist of installing berm to reclaim lost shoreline and install pipe culvert with flap gate perpendicular to and within berm fill for culvert discharge of stormwater from ditch # 6 with flap-gate on discharge culvert pipe preventing backflow water into ditch # 6.

Twelve (12) drainage ditch system controls are included in proposed work as follows:

- Marshall Street/La. Hwy. 27 (detail design sheet 17) consist of installing new pipe culvert with drainage intakes to connect into existing DOTD subsurface drainage.
- Ditch # 1 (detail design sheet 5) consist of grading open ditch and replacing existing pipe culverts.
- Ditch # 2 (detail design sheet 6) consist of grading open ditch and replacing existing pipe culverts.
- Ditch # 3 (detail design sheet 7) consist of grading open ditch and replacing existing pipe culverts.

- Ditch # 4 (detail design sheet 8) consist of grading and installing new culvert pipe with drop intake drainage and installing one new pipe culvert under Leesburg Street roadway to connect ditch # 4 and ditch # 5.
- Ditch # 5 (detail design sheet 9) consist of grading open ditch and replacing one existing pipe culvert under private road to continue flow to ditch #s 6 and 7.
- Ditch # 6 (detail design sheet 10) consist of grading open ditch leading to Control Structure C.
- Ditch # 7 (detail design sheet 11) consist of grading existing open ditch and installing three (3) new pipe culverts as follows: two (2) new pipe culverts with drop intake drainage leading to Pump Station A proposed for install in Ditch # 7, and one new under roadway pipe culvert install under Leesburg Street connecting drainage system ditch #s 7 and 9.
- Ditch # 9 (detail design sheet 12) consist of grading existing open ditch.
- Ditch # 11 (detail design sheet 14) consist of grading existing open ditch.
- Ditch # 12 (detail design sheet 15) consist of grading existing open ditch and replacing existing pipe culverts under private driveways.
- Ditch # 13 (detail design sheet 16) consist of grading existing open ditch, replacing existing pipe culverts within ditch for private driveways, and installing two (2) new pipe culverts under Carter Road to support connecting drainage between the follow ditches:
    - One new under roadway pipe culvert connecting ditch # 11 to ditch # 13 at ditch 13's turn toward McCall Street.
    - One new under roadway pipe culvert connecting ditch # 12 to ditch # 13 via pipe culvert at dead-end of Carter Road.

Areas of Potential Effects

Based on research of the property performed by Royal in consultation with CPPJ, the Areas of Potential Effect (APEs) are defined as the boundaries shown on the respective detail sheets referenced above. Additionally, attached is a spreadsheet with approximate coordinates provided in degrees and GPS decimal numbers to further your evaluation of footprints. (See Pump Station – APEs Excel file attached)

Identification of Historic Properties

According to the National Register of Historic Places (NRHP) and the Louisiana Office of Cultural Development's Historic Preservation Cultural Resource Map as well as other available aerial map searches, there are no known historic properties, cemeteries, Phase I surveys, or Historic Areas within the APEs for concern.

Concurrently to this notification, the following Federally-recognized Tribal Governmental representatives are being notified about this Pump Station project:

- Alabama Coushatta Tribe of Texas
- Alabama-Quassarte Tribal Town
- Apache Tribe of Oklahoma
- Chitimacha Tribe of Louisiana
- Choctaw Nation of Oklahoma
- Coushatta Tribe of Louisiana
- Eastern Shawnee Tribe of Oklahoma
- Jena Band of Choctaw Indians
- Mississippi Band of Choctaw Indians
- Seminole Tribe of Florida
- Tunica-Biloxi Tribe of Louisiana

Assessment of Effects

Based on the search of NRHP, Louisiana Office of Cultural Development websites, and proposed work contained within existing disturbed right-of-ways, no effects on historic properties are anticipated as a result of the proposed project activities mentioned previously.

In accordance with Title 36 CFR, Subpart B § 800.4(d)(1), Royal, on behalf of CPPJ, seeks concurrence from your office on these findings.

If you have any questions or comments, please contact Ellen Ibert via email at eibert@royal.us.

Respectfully,

Ellen Ibert, MAHR, RPA
EHP Specialist

Attachments: Permit Design Sheets
Pump Station-APEs spreadsheet

P.O. BOX 1280
CAMERON, LA 70631
(337) 775-5718
(337) 775-5567 FAX
WWW.CAMERONPJ.ORG

June 19, 2025

Mr. Ian Thompson
Tribal Historic Preservation Officer
Choctaw Nation of Oklahoma
P. O. Drawer 1210
Durant, OK 74702

Via email: ithompson@choctawnation.com

RE: U. S. Housing and Development (HUD), Louisiana Office of Community Development (OCD), Community Development Block Grant - Disaster Recovery (CDBG-DR), Louisiana Resilient Infrastructure Program (RCIP), Cameron Parish Police Jury (CPPJ), Project # 12LDRC7702, Pump Station (Drainage Control Improvements) Project, National Historic Preservation Act, Section 106 Initiation

Dear Mr. Thompson,

The Louisiana Office of Community Development awarded funds to the Cameron Parish Police Jury (CPPJ) RCIP for the Pump Station Project under the CDBG-DR, La RCIP allocations. This project is located in the Town of Cameron, Louisiana. The project aims to mitigate existing flooding concerns consisting of ponding over roadways and backflow stormwaters into low to moderate income (LMI) residential homes in the interests of protecting public safety welfare and improved properties.

This letter represents a commitment under Section 106 of the National Historic Preservation Act (NHPA), as amended (54 U.S.C § 300101 et seq). In accordance with Section 106 and its implementing regulations (Title 36 CFR §§ 800), CPPJ is beginning consultation with your office concerning this project.

Royal Engineers and Consultants, LLC (Royal) is supporting CPPJ with their HUD OCD CDBG-DR RCIP proposed grant projects and serving as the point of contact for the NHPA compliance as Responsible Entity (RE)) Partner [Title 24 CFR, Subpart A, §§ 58.4(a) & 58.14].

Project Description

This project focuses on controlled drainage improvements. The project consists of: Two (2) new pump stations; two (2) new water control structures; installing one (1) replacement box culvert; installing new culvert pipes with drop intakes; replacing existing with new pipe culverts in existing ditch drainage systems; and grading open ditches for corrective drainage controls. (See attached permit design sheet 3)

Project Breakdown Description

Two pump stations are identified as Pump Station A and Pump Station C. Design of pump stations is intended to force stormwater drainage from improved

drainage systems to outflow culvert discharge pipes leading into the Calcasieu Loop Pass. (See Pump Station A detail design sheet 18 and Pump Station C detail design sheets 22-23)

Two water control structures with related culvert replacements are identified as Control Structure B and Control Structure C as follows:

- Control Structure B (detail design sheets 20-21) consist of removing two (2) damaged box culverts and replacing with one larger box culvert; replacing two (2) culvert outflow pipes from box culvert for discharge into existing drainage canal along Davis Road leading to Pump Station C; installing floodgate in drainage canal; installing concrete walls and bottom within existing canal to stabilize canal banks and bottom commencing from proposed floodgate up to low-water bridge-crossing at Davis Road. Additionally, proposed work includes removal replacement culvert pipe work running from drainage canal along Davis Road toward La. Hwy. 27 to discharge stormwater into proposed stabilized drainage canal downstream from proposed floodgate.

- Control Structure C (detail design sheet 19) consist of installing berm to reclaim lost shoreline and install pipe culvert with flap gate perpendicular to and within berm fill for culvert discharge of stormwater from ditch # 6 with flap-gate on discharge culvert pipe preventing backflow water into ditch # 6.

Twelve (12) drainage ditch system controls are included in proposed work as follows:

- Marshall Street/La. Hwy. 27 (detail design sheet 17) consist of installing new pipe culvert with drainage intakes to connect into existing DOTD subsurface drainage.
- Ditch # 1 (detail design sheet 5) consist of grading open ditch and replacing existing pipe culverts.
- Ditch # 2 (detail design sheet 6) consist of grading open ditch and replacing existing pipe culverts.
- Ditch # 3 (detail design sheet 7) consist of grading open ditch and replacing existing pipe culverts.
- Ditch # 4 (detail design sheet 8) consist of grading and installing new culvert pipe with drop intake drainage and installing one new pipe culvert under Leesburg Street roadway to connect ditch # 4 and ditch # 5.
- Ditch # 5 (detail design sheet 9) consist of grading open ditch and replacing one existing pipe culvert under private road to continue flow to ditch #s 6 and 7.
- Ditch # 6 (detail design sheet 10) consist of grading open ditch leading to Control Structure C.
- Ditch # 7 (detail design sheet 11) consist of grading existing open ditch and installing three (3) new pipe culverts as follows: two (2) new pipe culverts with drop intake drainage leading to Pump Station A proposed for install in Ditch # 7, and one new under roadway pipe culvert install under Leesburg Street connecting drainage system ditch #s 7 and 9.
- Ditch # 9 (detail design sheet 12) consist of grading existing open ditch.
- Ditch # 11 (detail design sheet 14) consist of grading existing open ditch.
- Ditch # 12 (detail design sheet 15) consist of grading existing open ditch and replacing existing pipe culverts under private driveways.
- Ditch # 13 (detail design sheet 16) consist of grading existing open ditch, replacing existing pipe culverts within ditch for private driveways, and installing two (2) new pipe culverts under Carter Road to support connecting drainage between the follow ditches:

- One new under roadway pipe culvert connecting ditch # 11 to ditch # 13 at ditch 13's turn toward McCall Street.
- One new under roadway pipe culvert connecting ditch # 12 to ditch # 13 via pipe culvert at dead-end of Carter Road.

Areas of Potential Effects

Based on research of the property performed by Royal in consultation with CPPJ, the Areas of Potential Effect (APEs) are defined as the boundaries shown on the respective detail sheets referenced above. Additionally, attached is a spreadsheet with approximate coordinates provided in degrees and GPS decimal numbers to further your evaluation of footprints. (See Pump Station – APEs Excel file attached)

Identification of Historic Properties

According to the National Register of Historic Places (NRHP) and the Louisiana Office of Cultural Development's Historic Preservation Cultural Resource Map as well as other available aerial map searches, there are no known historic properties, cemeteries, Phase I surveys, or Historic Areas within the APEs for concern.

Assessment of Effects

Based on the search of NRHP, Louisiana Office of Cultural Development websites, and proposed work contained within existing disturbed right-of-ways, no effects on historic properties are anticipated as a result of the proposed project activities mentioned previously.

Your valuable assistance is appreciated. We look forward to further discussions related to any concerns you may have for protecting and preserving your cultural heritage resources. Please express any of your concerns within the thirty (30) day comment period for this project to afford us time to address concerns and seek resolutions prior to implementing physical work.

If you have any questions or comments, please contact Ellen Ibert via email at eibert@royal.us.

Respectfully,

Ronald Nunez
Parish President

rn/ei

Attachments: Permit Design Sheets
Pump Station-APEs spreadsheet

Ellen Ibert

From: Lindsey Bilyeu <lbilyeu@choctawnation.com>
Sent: Friday, July 18, 2025 11:59 AM
To: Ellen Ibert
Subject: RE: Cameron Parish OCD Project # 12LDRC7702 Pump Station (Drainage Improvements), LA

Ms. Ibert,

The Choctaw Nation of Oklahoma thanks you for the correspondence regarding the above referenced project. This project lies within an area that is of historic interest to the Choctaw Nation of Oklahoma. As a federally recognized Tribe, we wish to exercise our right to enter into government-to-government consultation directly with the federal agency (HUD) as directed in 36 CFR Part 800.3(c) (3), Executive Order 13175, Presidential Memorandum 86 FR 7491, and as stated in HUD policy Section lll B.

The Choctaw Nation is unaware of any Choctaw cultural or sacred sites in the immediate project area. Our office concurs with the finding of "no historic properties affected".

However, we request that the following inadvertent discovery clause be written into the contract for this project:

"In the advent that ground-disturbing work uncovers significant archaeological materials, such as stone arrowheads, ceramics, or early building foundations, or if work uncovers human burials or human remains, ground disturbing activities will immediately be stopped within a 300 foot radius and the materials protected. The State Historic Preservation Officer and the Choctaw Nation of Oklahoma Historic Preservation Department will be contacted as soon as possible, and given an opportunity to provide input before construction resumes.

If any archaeological or cultural materials are discovered during the project undertaking, neither the construction team or the applicant will disclose this information to the general public or the media in any manner. Discoveries of archaeological material will be kept private and confidential. "

If you have any questions, please let me know.

Yakoke (thank you),

Choctaw Nation of Okla

Lindsey D. Bilyeu, M.S.
Program Lead NHPA | Historic Preservation
580-740-9624 | 580-642-8377
lbilyeu@choctawnation.com

EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT
70400 East Highway 60, Wyandotte, OK 74370

August 11, 2025
Cameron Parish Police Jury
PO Box 1280
Cameron, LA 70631

RE: ***Project #12LDRC7702 Pump Station Project, Cameron Parish County, LA***

Dear Ms. Ibert,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Cameron Parish County, LA. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.
Sincerely,

Lora Nuckolls

Lora Nuckolls, Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
(918) 238-5151 Ext:1840
THPO@estoo.net

Ellen Ibert

From: Ellen Ibert
Sent: Tuesday, October 14, 2025 8:23 AM
To: Rhonda Barnes
Subject: RE: Eastern Shawnee Tribe - Project Review - Project #12LDRC7702 Pump Station Project

Thank you, Ms. Barnes, for providing feedback on concurrence and potential pending concerns related to the above-mentioned project.

Our findings of no significant impact effects are conditional with stipulations that inadvertent discoveries of cultural features/artifacts and/or human remains will consist of stop-work order, securing site location, and contacting appropriate authorities to investigate and consult with appropriate stakeholder partners, including the Eastern Shawnee Tribe, to determine next steps for proceeding forward. No work will continue at the respected location until appropriate authorities provide clearance for work to proceed.

Your correspondence supports imposing these stipulations on work and will be utilized to support enforcement actions, accordingly, should the need arise. I appreciate having this reference material in the project files to support our efforts for preserving histories and sacred resources.

Again, thank you, I appreciate it. Do not hesitate to contact me with any questions or concerns.

Respectfully,
Ellen
(337) 208-7602 cell

ELLEN IBERT, MAHR, RPA
EHP Specialist
eibert@royal.us
www.royal.us

From: Rhonda Barnes <rbarnes@estoo.net>
Sent: Friday, October 10, 2025 11:14 AM
To: Ellen Ibert <eibert@royal.us>
Subject: Eastern Shawnee Tribe - Project Review - Project #12LDRC7702 Pump Station Project
Importance: Low

Ms. Ibert
Please see the attached review for: Project #12LDRC7702 Pump Station Project
EST Reference Number: 9622

To Expedite Our Review Process
We Prefer* Electronic Copy
***Please Submit Electronic Copy of 106 Project Files to*:**
THPO@estoo.net

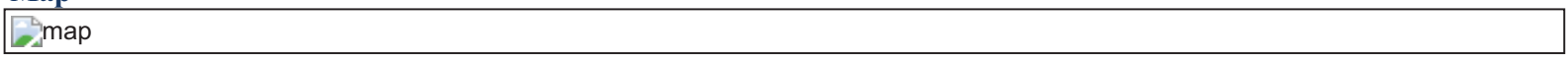
Rhonda Barnes
Cultural Preservation Department 106/NAGPRA
Eastern Shawnee Tribe Of Oklahoma
12755 S. 705 Road *****NEW ADDRESS*****
Wyandotte, Ok. 74370
918-238-5151 Ext 1862
rbarnes@estoo.net

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT
USEPA NEPAssist References

EXHIBIT N

Cameron Drainage

Map



Geographic coordinates:

POLYGON
(30.114421,-93.359092,30.112859,-93.356578,30.111640,-93.354594,30.109189,-93.350725,30.108027,-93.348543,30.107326,-93.346807,30.107345,-93.345056,30.108081,-93.343172,30.109711,-93.340794,30.110122,-93.336895,30.109913,-93.332383,30.109735,-93.327657,30.109550,-93.326186,30.109864,-93.320088,30.109523,-93.317526,30.108838,-93.314205,30.104531,-93.309609,30.103113,-93.305924,30.101462,-93.304236,30.099192,-93.302699,30.095066,-93.301525,30.092091,-93.300962,30.087865,-93.299275,30.084143,-93.297191,30.081270,-93.294977,30.079634,-93.292730,30.076346,-93.287347,30.074864,-93.288978,30.072763,-93.290977,30.069305,-93.294428,30.066512,-93.296755,30.062508,-93.300471,30.059354,-93.303078,30.057207,-93.305407,30.055305,-93.307619,30.052394,-93.310887,30.050838,-93.313215,30.048500,-93.317641,30.045932,-93.321916,30.042720,-93.325117,30.040387,-93.326669,30.038013,-93.327260,30.035208,-93.327408,30.028821,-93.328361,30.021743,-93.329083,30.009431,-93.329619,30.000205,-93.328883,29.995572,-93.329525,29.989994,-93.329620,29.985159,-93.330707,29.980411,-93.331729,2

with buffer 0 miles

Note: The information in the following reports is based on publicly available databases and web services. The National Report uses nationally available datasets and the State Reports use datasets available through the EPA Regions. Click on the hyperlinked question to view the data source and associated metadata.

National Report

Project Area	111.72 sq mi
Within an Ozone 1-hr (1979 standard) Non-Attainment/Maintenance Area?	yes
Within an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2015 standard) Non-Attainment/Maintenance Area?	no
Within a Lead (2008 standard) Non-Attainment/Maintenance Area?	no
Within a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area?	no
Within a PM10 (1987 standard) Non-Attainment/Maintenance Area?	no
Within a CO Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a NO2 Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a Federal Land?	yes
Within an impaired stream?	yes
Within an impaired waterbody?	yes
Within a waterbody?	yes
Within a stream?	yes
Within an NWI wetland?	click here ***May take several minutes***
Within a Brownfields site?	no
Within a Superfund site?	no
Within a Toxic Release Inventory (TRI) site?	no
Within a water discharger (NPDES)?	no
Within a hazardous waste (RCRA) facility?	no
Within an air emission facility?	no
Within a school?	yes
Within an airport?	no
Within a hospital?	no
Within a designated sole source aquifer?	yes
Within a historic property on the National Register of Historic Places?	no
Within a Chemical Data Reporting (CDR) site?	no
Within a Land Cession Boundary?	no

Within a tribal area (lower 48 states)?	no
Within the service area of a mitigation or conservation bank?	yes
Within the service area of an In-Lieu-Fee Program?	yes
Within a Public Property Boundary of the Formerly Used Defense Sites?	no
Within a Munitions Response Site?	no
Within an Essential Fish Habitat (EFH)?	yes
Within a Habitat Area of Particular Concern (HAPC)?	no
Within an EFH Area Protected from Fishing (EFHA)?	no
Within a Bureau of Land Management Area of Critical Environmental Concern?	no
Within an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service?	yes
Within an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service?	no

Save to Excel Save as PDF

Louisiana Report

USFWS IPaC Report

EPA-Water Catchments

May 14, 2025

Catchments (ATTAINS)

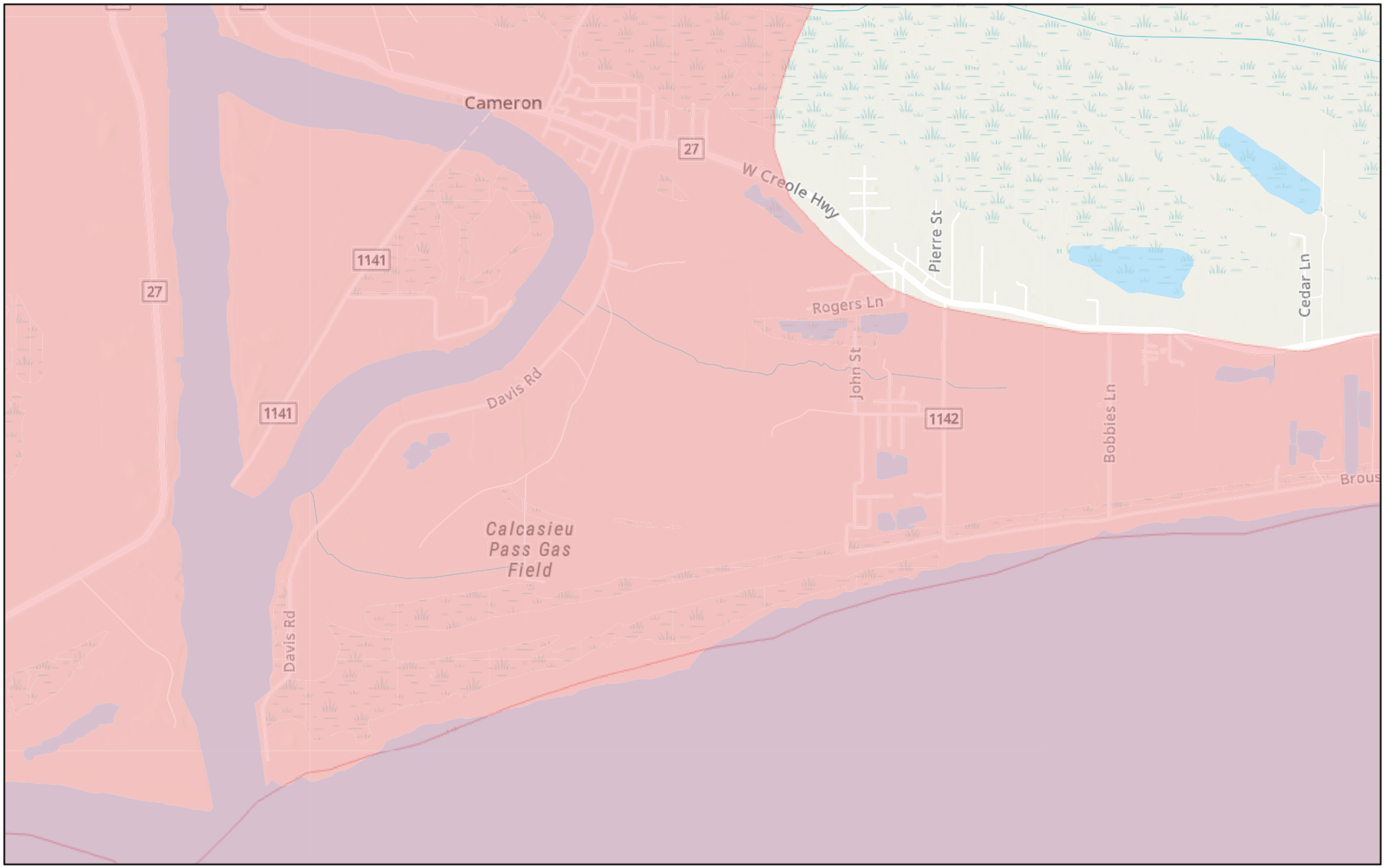
Streams

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

EPA-Impaired Waterbodies



May 14, 2025

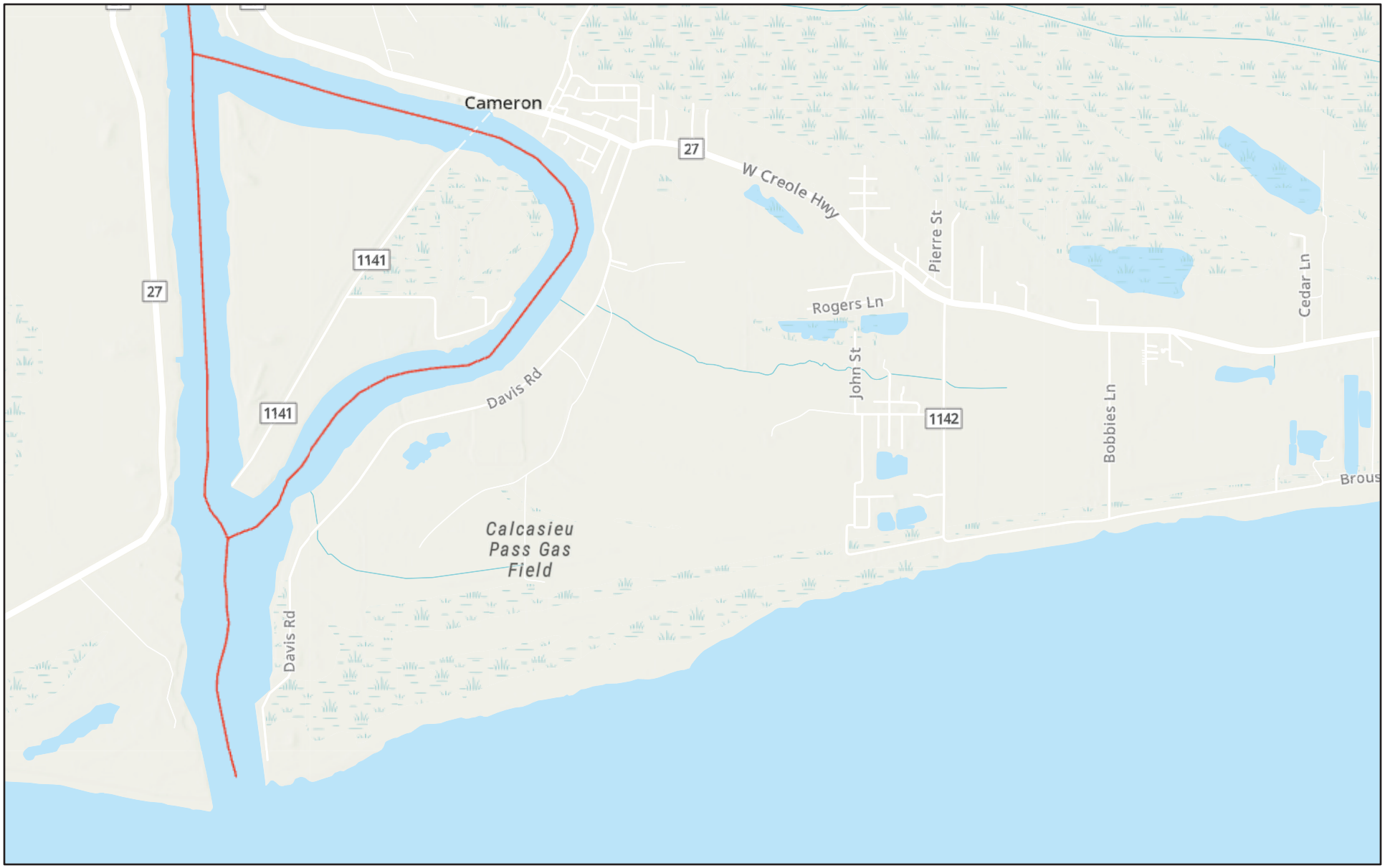
Impaired Waterbodies

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

EPA-Impaired Streams



May 14, 2025

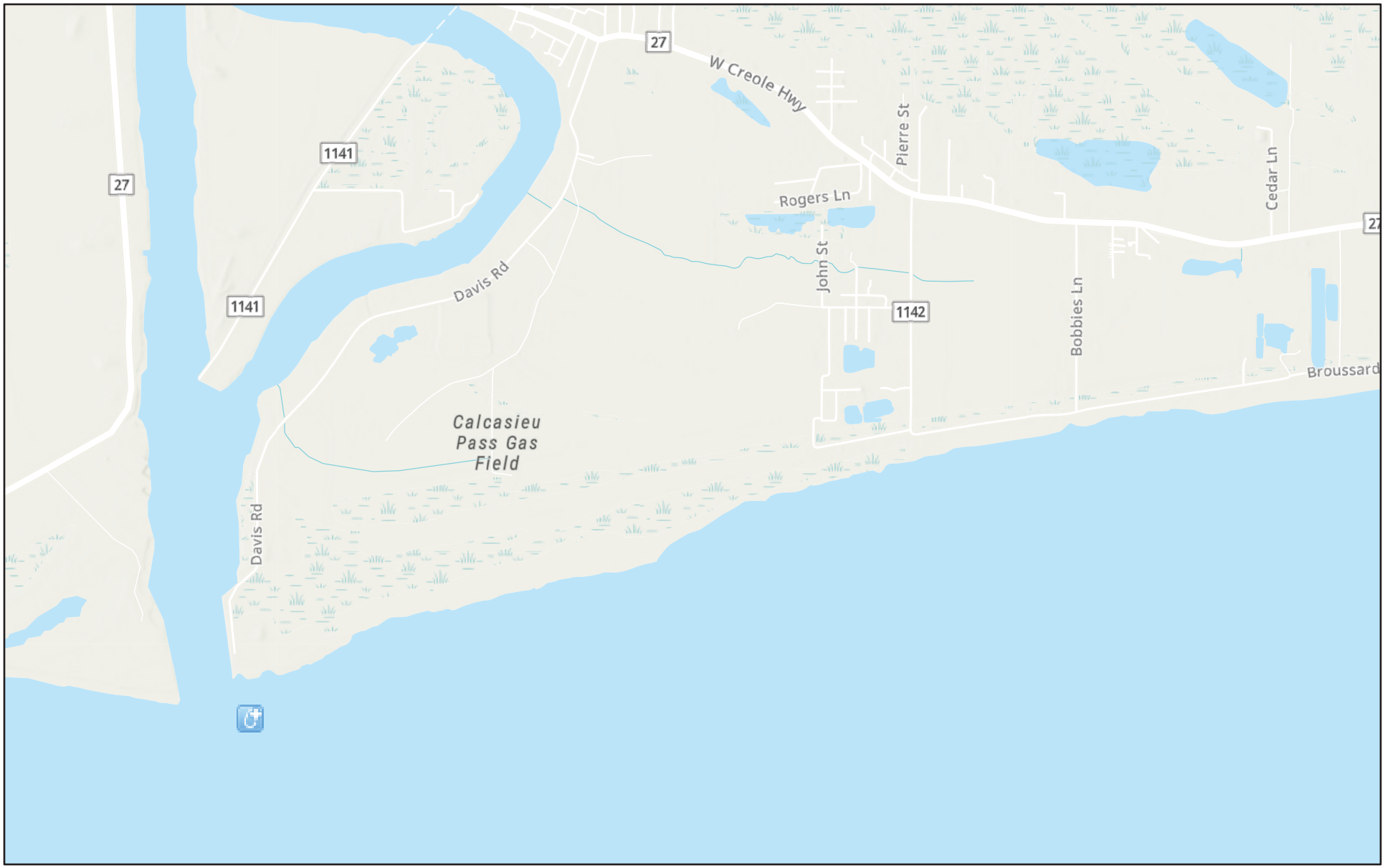
Impaired Streams

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

EPA-Water Monitoring



May 14, 2025

EPA Water Monitors (STORET)

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT
USDA, Natural Resources Conservation Services, Web Soil Survey

EXHIBIT O

Cameron Parish, Louisiana

CR—Creole mucky clay

Map Unit Setting

National map unit symbol: 1vvg8
Elevation: 0 feet
Mean annual precipitation: 43 to 61 inches
Mean annual air temperature: 59 to 77 degrees F
Frost-free period: 259 to 313 days
Farmland classification: Not prime farmland

Map Unit Composition

Creole and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Creole

Setting

Landform: Marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fluid clayey alluvium

Typical profile

H1 - 0 to 17 inches: mucky clay
H2 - 17 to 48 inches: clay
H3 - 48 to 52 inches: sandy loam
H4 - 52 to 96 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: D

Ecological site: R151XY005LA - Brackish Firm Mineral Marsh 55-64 PZ
Hydric soil rating: Yes

Minor Components

Minor components
Percent of map unit: 15 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cameron Parish, Louisiana
Survey Area Data: Version 22, Sep 3, 2024

Cameron Parish, Louisiana

Hb—Hackberry loamy fine sand

Map Unit Setting

National map unit symbol: 1vvgd
Elevation: 0 to 10 feet
Mean annual precipitation: 43 to 61 inches
Mean annual air temperature: 59 to 77 degrees F
Frost-free period: 259 to 313 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hackberry and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hackberry

Setting

Landform: Beach ridges
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy beach sand and/or loamy beach sand

Typical profile

H1 - 0 to 6 inches: loamy fine sand
H2 - 6 to 28 inches: very fine sandy loam
H3 - 28 to 61 inches: loamy fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 12 to 48 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A
Ecological site: R151XY010LA - Sandy Chenier 55-64 PZ
Hydric soil rating: No

Minor Components

Creole
Percent of map unit: 3 percent
Landform: Depressions
Ecological site: R151XY005LA - Brackish Firm Mineral Marsh 55-64 PZ
Hydric soil rating: Yes

Bancker
Percent of map unit: 3 percent
Landform: Depressions
Ecological site: R151XY004LA - Brackish Fluid Marsh 60-64 PZ
Hydric soil rating: Yes

Mermentau
Percent of map unit: 2 percent
Landform: Depressions
Ecological site: R151XY006LA - Clayey Chenier Brackish Marsh 55-64 PZ
Hydric soil rating: Yes

Peveto
Percent of map unit: 2 percent
Ecological site: R151XY010LA - Sandy Chenier 55-64 PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cameron Parish, Louisiana
Survey Area Data: Version 22, Sep 3, 2024

Cameron Parish, Louisiana

Hm—Hackberry-Mermentau complex, gently undulating

Map Unit Setting

National map unit symbol: 1vvgf
Elevation: 0 to 20 feet
Mean annual precipitation: 43 to 61 inches
Mean annual air temperature: 59 to 77 degrees F
Frost-free period: 259 to 313 days
Farmland classification: Not prime farmland

Map Unit Composition

Hackberry and similar soils: 60 percent
Mermentau and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hackberry

Setting

Landform: Beach ridges
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy beach sand and/or loamy beach sand

Typical profile

H1 - 0 to 5 inches: fine sandy loam
H2 - 5 to 27 inches: very fine sandy loam
H3 - 27 to 60 inches: loamy fine sand

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 12 to 48 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A
Ecological site: R151XY010LA - Sandy Chenier 55-64 PZ
Hydric soil rating: No

Description of Mermentau

Setting

Landform: Marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy over clayey backswamp deposits

Typical profile

H1 - 0 to 15 inches: clay
H2 - 15 to 29 inches: silty clay
H3 - 29 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 42 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 35.0
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: D
Ecological site: R151XY006LA - Clayey Chenier Brackish Marsh 55-64 PZ
Hydric soil rating: Yes

Minor Components

Minor components

Percent of map unit: 10 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cameron Parish, Louisiana
Survey Area Data: Version 22, Sep 3, 2024

Cameron Parish, Louisiana

ME—Mermentau clay

Map Unit Setting

National map unit symbol: 1vvgl
Elevation: 0 to 20 feet
Mean annual precipitation: 43 to 61 inches
Mean annual air temperature: 59 to 77 degrees F
Frost-free period: 259 to 313 days
Farmland classification: Not prime farmland

Map Unit Composition

Mermentau and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mermentau

Setting

Landform: Marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coastal clayey and/or loamy alluvium

Typical profile

H1 - 0 to 19 inches: clay
H2 - 19 to 59 inches: very fine sandy loam
H3 - 59 to 69 inches: sandy clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 42 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 35.0
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: D
Ecological site: R151XY006LA - Clayey Chenier Brackish Marsh 55-64 PZ

Hydric soil rating: Yes

Minor Components

Minor components
Percent of map unit: 14 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cameron Parish, Louisiana
Survey Area Data: Version 22, Sep 3, 2024

Cameron Parish, Louisiana

UD—Udifluvents, 1 to 20 percent slopes

Map Unit Setting

National map unit symbol: 1vvgs
Elevation: 0 to 150 feet
Mean annual precipitation: 43 to 61 inches
Mean annual air temperature: 59 to 77 degrees F
Frost-free period: 259 to 313 days
Farmland classification: Not prime farmland

Map Unit Composition

Udifluvents and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udifluvents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and/or clayey dredge spoils

Properties and qualities

Slope: 1 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None

Minor Components

Allemands

Percent of map unit: 4 percent
Landform: Depressions
Ecological site: R151XY008LA - Fresh Fluid Marsh 60-64 PZ
Hydric soil rating: Yes

Aquents

Percent of map unit: 4 percent
Hydric soil rating: No

Bancker

Percent of map unit: 3 percent
Landform: Depressions
Ecological site: R151XY004LA - Brackish Fluid Marsh 60-64 PZ
Hydric soil rating: Yes

Ged

Percent of map unit: 3 percent

Landform: Depressions
Ecological site: R151XY009LA - Fresh Firm Mineral Marsh 60-64 PZ
Hydric soil rating: Yes

Larose
Percent of map unit: 3 percent
Landform: Depressions
Ecological site: R151XY008LA - Fresh Fluid Marsh 60-64 PZ
Hydric soil rating: Yes

Scatlake
Percent of map unit: 3 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cameron Parish, Louisiana
Survey Area Data: Version 22, Sep 3, 2024

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT
Federal Flood Risk Management Standards

8-Step Review, FIRMETTE, Early Public Notice

EXHIBIT P

CAMERON PUMP ELEVATION PROJECT (12LDRC7703)
Pursuant to E.O. 11988 & E.O. 13690 (Title 24 CFR §§ 55.20)
Floodplain/Wetland consideration (Title 24 CFR, Subpart B, §§ 55.7 and §§ 55.9):
FFRMS Impact Evaluation
By: Ellen Ibert, EHP Specialist, Royal

STEP 1
CAM PUMP ELEVATION PROJECT (12LDRC7703) is a stormwater drainage flood-control project proposing to modify existing gravity fed drainage system to a forced drainage flood-control system by incorporating two pumps (Pump Stations A & C) enclosed in pump well-houses (structures) and a box culvert with floodgate in an existing drainage canal (Control Structure B). There is no other structure being proposed for construction under this project. Action is needed to remediate repetitive community flooding from within an existing community gravity-fed drainage system by creating a forced drainage flood-control system in Cameron Parish Gravity Drainage District No. 3 located within the community of Cameron, Louisiana. Cameron participates in the National Flood Insurance Program (NFIP) and is in good standings with NFIP.

The entire footprint of Cameron, Louisiana, is within a Special High-risk Flood Area (SHFA) and subject to Limit of Moderate Wave Action (LiMWA) from the Gulf of America storm-surge events. The proposed action is not within a floodway. Cameron flood-zone risk is identified as zone "AE" and subject to the 1% annual chance of flooding (100 year floodplain) on FEMA NFIP maps with mandatory flood insurance purchase required. Zone AE is the flood-zone area where base flood elevations (BFE) are provided on flood-risk mapping resources. Camera's BFE is identified as 13 feet BFE due to the area being subject to storm-surge events. (See FEMA FIRMETTE 222023C0700H 11/16/2012 attached). This proposed action is classified as a critical action proposed for saving life and improved properties, and subject to the Federal Flood Risk Management Standards (FFRMS).

Pursuant to Title 24 CFR 55.9, a review of the USFWS Wetland Mapper and USACE Programmatic General Permit (PGP) # MVN-2020-00671-WILL for proposed action determined that this action is not proposed within a designated wetlands nor has impacts to wetlands.

Pursuant to Title 24 CFR § 55.12(c)(2), the proposed action was determined as directly related to flood controls, does not impact wetlands, designs are compatible with the beneficial floodplain values, and considered inapplicable to Title 24 CFR §§ 55. However, pursuant to 24 CFR § 55.12(e), policy-level actions described under 24 CFR §§ 50.16 involve site-based decisions for critical action within LiMWA resulting in an evaluation of action defined under 24 CFR §§ 55.20. BFE for this critical action's structures is no less than 16 feet above mean sea level (amsl) and/or to allow for free flow of floodwaters through structures to minimize adverse impacts to structures and beneficial floodplain value. Additionally, forced flood-control drainage pumping is a recognized acceptable

activity in Louisiana for reducing localize flooding under various FEMA grant programs [Louisiana State HM Plan 2024 - https://gohsep.la.gov/divisions/hazard-mitigation-assistance/state-hazard-mitigation-plan/].

STEP 2

The proposed action is an improved forced drainage flood-control system proposed to remediate repetitive flooding concerns and is a priority to the community due to repetitive flood damages within the area (Cameron Parish Hazard Mitigation Plan 2020). Public community citizenry made it known to Cameron Parish Police Jury through public meeting and surveys conducted under the 2020 Cameron Parish Hazard Mitigation Plan study, and thereafter, at Police Jury public meetings that this project is a priority to the citizenry. Funding constraints for remediating flooding and drainage concerns were restrained from implementing improved drainage flood-controls within Cameron by the Police Jury. Parish meeting resolutions resulted in Cameron Parish Police Jury planning a drainage improvement project and proposing work to regulatory agencies for this flood-control system beginning in 2020 (CUP #P20220077 & USACE #MVN-2020-00671-WILL). Potential funding availability resulted in additional public meetings and proposed drainage project work was presented to communities through these public meetings with continued priority for implementing this action expressed by the citizenry. An early public notice (EPN) – 508 compliant - for proposed drainage project funding from HUD-OCD CDBG-DR-RCIP was posted in the Parish Courthouse and on the Cameron Parish Police Jury news website on July 1, 2025. The EPN provided project names, maps of proposed work locations for review, general scopes of work proposed and points of contact for consideration and public comment. A 15-day public comment period was provided with no public comments received from EPN. (See EPN attached)

STEP 3

Practicable alternatives did not include change in location due to the entire community footprint being in a base floodplain area, relocation would result in location being within wetlands and not able to reach project goals, and the project work is functionally dependent on being located within the subject base floodplain areas to meet project goals. Alternative scopes of work were considered to meet needed remediation concern that included the following: 1) completing the entire proposed scope of work as defined and made public under Louisiana Coastal Use Permit #P20220077 (CUP) and USACE Programmatic General Permit (PGP) #MVN-2020-00671-WILL; 2) eliminating one pump station (Pump Station A) and work on associated ditches within Pump Station A's area of drainage influence as defined under CUP & PGP in consult with respective regulatory agencies; 3) no action, which does not provide remediation of repetitive flooding in the community. Completing the entire scope of work defined under permits was preferred and selected because it was determined that eliminating the Pump Station A with associated ditch work would not remediate flooding concerns within Low to Moderate Income (LMI) residential areas of concern as discussed under NEPA EA. Additionally, entire scope of work is designed to have de minimis impacts and is compatible with the beneficial floodplain values of existing floodplains.

STEP 4 [Climate-Informed Science Approach (CISA)]
The structures will be constructed and elevated to the 100 year floodplain required for critical infrastructure to the extent feasibly possible and compliant with local floodplain ordinances. An evaluation of previous studies for existing geological footprint features and climate change predictions with sea level rise, land subsidence, and increased storm event severity were reviewed under NEPA EA. In a world without action, the severity of flooding would not only continue but increase for this community. Actions without Pump Station A and associated ditch works would subject community to continued flooding concerns with a strong potential for increased flooding concern in the predictable future. Actions including the entire proposed work define under permits is a resilient infrastructure approach and would allow community to remediate flooding concerns according to demands resulting from storm events in the predictable future.

A hydrostatic/hydrology study was conducted by Lonnie G. Harper & Associates, Inc. (LHA) in April 2022. Comparable analysis of historic and existing infrastructure as well as natural drainage basin characteristics were evaluated to determine current gravity fed drainage system flow with projected drainage flow of the proposed forced drainage system. Proposed construction work is identified in portions of the natural drainage basins 1; 2-West; 2-East; 3; and 5. Basin 3 is approximately 214.7 acres with majority of acreage open-space floodplains with no new construction proposed except the floodgate (Control Structure B). Basin 3 is also included under H/H study due to Pump Station C and Control Structure B area of influence for drainage is proposed. Basin 4 is included in the H/H study due to basin 4 overlap and drainage to the Calcasieu Loop Pass (CLP); however, the footprint of basin 4 does not include any new construction under this project. All other drainage basins are within developed areas.

For the most part, proposed construction for this project is within previous and existing developed areas to include preexisting buildings, structures, and harden surfaces. Pump Stations A and C are within this defined footprint and are proposed submersible pumps with metal canopy roofing with sheet-metal screening walls that allow flow of waters to freely pass through structure during storm-surge events, resulting in no concern for the obstruction of water flow into the developed areas of the floodplain. All proposed actions are within existing drainage rights-of-way. Control Structure B proposes a box culvert and floodgate on the west side of an undeveloped open-space existing floodplain (Basin 3). The box culvert is on the west side of Davis Road and replaces a preexisting damaged box culvert within a developed area of floodplain. The box culvert is a submersed drainage structure posing no concern for water flow onto floodplain area during storm events. The floodgate is proposed within existing drainage channel on the east side of Davis Road within the drainage channel crossing through the open floodplain that is designated for accepting storm water flows into Basin 3. Floodgate functions to stop backflow of overburdened drainage system at the west of Basin 3 floodplain areas from flowing into the drainage channel and causing the floodplain drainage channel to become overburdened during major rainfall events posing flooding concerns to LMI residents during heavy

rainfalls. Floodgate would be closed only during storm events to stop Pump Station A's area of influence drainage backflow from entering this floodplain drainage channel until pumped forced drainage from Pump Stations A and C relieves the entire drainage system overburden and a safe open floodgate level would be implemented. Floodplain functions and natural beneficial use of floodplains were considered for this work under NEPA EA. The open-space floodplain with floodgate will still receive waterflow from natural processes but no longer be overburdened, causing overflow from floodplain into residential areas to the east of floodplain as currently existing.

Proposed work was determined to comply with local zoning, floodplain ordinances, and has no significant impacts to the existing natural and beneficial use of floodplain areas.

STEP 5

Proposed work includes designs incorporating best management practices and mitigation to minimize potential adverse impacts to lives, property, and natural values within floodplains. This action minimizes flooding events to allow safe passage over current flood-prone roadways for public and first responders in support of potential evacuations or emergency operations. Action also reduces flood damage impacts to improved properties and decreases life threatening events resulting from severe flooding.

Pump Station well-housing units are designed to comply with local floodplain ordinances consisting of elevated pre-manufactured canopy at 25 feet (16 feet required elevation for critical action) and sheet metal screen walls to allow the passage of flowing waters through the submersible pumps housing units. Pump station facilities will require Cameron Parish Police Jury to obtain and maintain flood insurance for the invested value of pump stations and well-housing units, with insured amount being no less than this grant funding amount and any other funding amount for the construction of pump station facilities, for the life of structural assets. Additionally, Pump Stations mitigating controls proposed systems to operate as needed for flood events only. Floodgate closure is proposed only when said flood overburdening to channel becomes a concern and allows the open-space floodplain to still function as a beneficial floodplain for the natural and human environment while floodgate is open or closed. LHA H/H study determined no significant impact upstream or downstream is associated with proposed designed work or operation of systems. Designed scope of work retains the natural and beneficial use of existing floodplains in a feasible manner to protect life and improved properties.

Consult with USFWS determined a biological assessment at construction areas was warranted. CSRS conducted a biological assessment to determine impacts to potential threatened or endangered species on August 18, 2025. There are no essential habitats that overlap the footprints of proposed work areas, and no threatened or endangered species were evident within these areas. CSRS biological study determined that no concerns exist within the footprints or proximity of footprints. Mitigation measures are stipulated on implementing work requiring construction crew to report sitings of threatened or endangered species within work areas to USFWS and LWFS should species appear during

construction. Additionally, rip rap stone will be placed at pump outflows to reduce erosion with natural vegetative growth being allowed to grow within the rip rap stone areas for beneficial use to the marine ecosystem.

This action will result in current roadways for emergency responders being available during heavy rainfall events and relieve existing LMI residents from adverse impacts associated with existing flooding from past events. Current roadways to access medical care, law enforcement, and fire fighters become overburdened with rainfall waters causing roadways to become inaccessible. Existing open-space floodplain channel overflows from overburdened drainage and backs up rainfall waters causing rainwater to not flow to the west as intended resulting in flooding to the east toward LMI residential neighborhoods from the overburdened open-space floodplain. Drainage controls are designed to eliminate the backflow of rainfall toward the LMI residents with floodgate remediating concern resulting in the open-space floodplain to serve its natural beneficial value and use for LMI residential neighborhoods.

STEP 6

This action is considered to have de minimis impacts to floodplain as designed. There is no practicable alternative for work outside a floodplain area within this community. The proposed drainage project is functionally dependent on existing floodplains to provide drainage relief and remediate flooding concerns in the existing community drainage system. Eliminating work within the Pump Station A's *area of drainage influence* alternative was considered for minimizing potential impacts. However, eliminating said work would subject community to continued flooding damages associated with overburdened drainage system's backflows from Station A's drainage into Pump Station C's *area of drainage influence* (inclusive of Basin 3) was subjecting continued flooding for LMI residents from an overburdened channel running through the open-space floodplain. Additionally, eliminating proposed floodgate within said channel of open-space floodplain would subject residents to flood risks from backflow waters flowing from developed floodplain areas west of the open-space floodplain channel. This alternative evaluation was determined not practicable for intended goals of the forced drainage system.

No action alternative evaluations with existing conditions and predictive climate-change data determined no action not practicable or feasible because it subjects the community to continued and increased flooding in the predictable future subjecting the human environment to an adverse impact on the predictable public welfare from the associated threats of endangerment to life and properties. The average flood claimed damages paid within Cameron Parish were over $150,000 in 2014 with 11 to 50 properties damaged being classified as severe repetitive loss properties (La. State HM Plan 2019 Appendix E).

This preferred action is a feasible and practicable alternative without causing significant impacts to floodplains and has a predictable future of reducing repetitive loss claims within Cameron, Louisiana. The costs for implementing this action compared to past flood

damage claims and threats to public safety make this action feasible without resulting in significant impacts to floodplains.

STEP 7
The Cameron Parish Police Jury determined that there is no practicable alternative for locating the project action within the FFRMS floodplains. This is due to: 1) the entire community is within FFRMS floodplains; 2) the project is functionally dependent on the floodplain footprint's natural function; 3) the desire to not displace residents; 4) the need to construct within community footprint an economically feasible project for drainage controls; 5) the ability to mitigate and minimize impacts on human health, improved properties, and floodplain values.

A final notice published on March 5, 2026, for this Draft NEPA EA with Exhibits, inclusive of this floodplain review (Exhibit P of NEPA EA) is provided through a dull Public Notice consisting of a Notice of Intent to Request Release of Funding (NOI/RROF) and Notice of Findings of No Significant Impacts (FONSI) under this draft EA. The public notice is to provide for a 15-day public review and comment period on all NEPA EA documents, inclusive of this FFRMS evaluation and determination. The Public Notice provides reference to contact information and locations for review and consideration of Draft NEPA EA with Exhibits detailing why these improvements are consider de minimis impacts to floodplains, the considered alternatives, and all mitigation measures taken to minimize adverse impacts while preserving the natural and beneficial floodplain values. The NOI/RROF with FONSI determination is published on Cameron Parish Police Jury local journal news website: https://cameronpj.org/news/ and The Cameron Parish Pilot: https://cameronpilot.com/ local legal journal for three consecutive days providing locations to review NEPA EA with Exhibits, and contact information to make comments. The public notice and NEPA EA documents are provided in Portable Digital Format (PDF) 508 compliance files for web-based viewing applications and circulated to NEPA consulting parties for review and comment. Subsequent to the comment period allowed under this public notice, all relevant comments resulting in a need for revising Draft NEPA EA, associated Exhibits of EA or FONSI determination will result in a re-publication of revised NEPA EA documents under a revised public notice. Should no relevant comments be received resulting in a need for modifications or revisions of Draft NEPA EA, associated Exhibits, or FONSI determination, this Draft NEPA EA, Exhibits, and FONSI shall become final, and no additional notification of NEPA EA findings, inclusive of FFRMS findings hereunder, shall be warranted.

Public notice postings, all comments received, and final NEPA EA files related shall be documented and included under the project's NEPA compliance files for final documentation submitted to Louisiana Office of Community Development.

STEP 8
The Cameron Parish Police Jury will ensure that this plan, as described above and within NEPA EA, is executed and includes language in all agreements with participating parties

necessary to ensure implementation. The Parish will also take an active role in monitoring the construction process to ensure no unnecessary impacts occur nor unnecessary risks are taken. A restrictive covenant will be placed on the property title to maintain flood insurance for the life of properties subject to flood insurance.

National Flood Hazard Layer FIRMette

FEMA

93°19'54"W 29°48'5"N

93°19'17"W 29°47'34"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/1/2025 at 1:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

93°19'38"W 29°47'50"N

93°19'W 29°47'19"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/1/2025 at 1:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Categories

- Agendas
- Finance
- Hurricane Laura
- Job Postings
- News
- Police Jury Meetings
- Public Notices
- Schedule
- Uncategorized
- Voting

Archives

- July 2025
- June 2025
- May 2025
- April 2025
- March 2025
- February 2025
- January 2025
- December 2024
- November 2024
- October 2024

Previous Next

Early Notice and Public Review of a Proposed Activity in a Federal Flood Risk Management Standard Designated Floodplain or Wetland

Early Notice and Public Review of a Proposed Activity in a Federal Flood Risk Management Standard Designated Floodplain or Wetland

To: All interested Agencies, include all Federal, State, and Local governmental entities, Groups and Individuals

This is to give notice that Royal Engineers & Consultants, LLC (Royal), on behalf of the Cameron Parish Police Jury, as Responsible Entity under 24 CFR Part 58, has conducted an evaluation as required by Executive Order 11990, in accordance with HUFD regulations at 24 CFR 55.20, Subpart C, Procedures for Making Determinations on Floodplain Management and Protection of Wetlands. The purpose is to determine the potential affect that its proposed activity in the floodplain and wetland will have on the human environment for the Disaster Relief (DR) – Community Development Block Grant (CDBG) – Resilient Community Infrastructure Program (RCIP) through the Louisiana Office of Community Development (OCD), U.S. Department of Housing and Development (HUD) for the following projects bearing grant numbers:

- 12LDRC7701 – Holly Beach Open Pavilion;
- 12LDRC7702 – Town of Cameron Stormwater Control System;
- 12LDRC7703 – Town of Cameron Replacement of Sewer Lift Station Components; and
- 12LDRC7704 – Cameron Parish-Wide Watershed Rain Gauge Monitoring System.

The Cameron Parish Police Jury will be identifying and evaluating practicable alternatives for these projects and the potential impacts on the floodplain/wetland from the proposed action, as required by Executive Order 11988 Floodplain Management, Executive Order 11990 Protection of Wetlands, and in accordance with HUD regulations at 24 CFR 55.20, Subpart C.

CPPJ OCD FFRMS Early PN Final 508 compliant.pdf

Early Notice and Public Review of a Proposed
Activity in a Federal Flood Risk Management Standard Designated Floodplain or Wetland

To: All interested Agencies, include all Federal, State, and Local governmental entities, Groups and Individuals

This is to give notice that Royal Engineers & Consultants, LLC (Royal), on behalf of the Cameron Parish Police Jury, as Responsible Entity under 24 CFR Part 58, has conducted an evaluation as required by Executive Order 11990, in accordance with HUFD regulations at 24 CFR 55.20, Subpart C, Procedures for Making Determinations on Floodplain Management and Protection of Wetlands. The purpose is to determine the potential affect that its proposed activity in the floodplain and wetland will have on the human environment for the Disaster Relief (DR) - Community Development Block Grant (CDBG) – Resilient Community Infrastructure Program (RCIP) through the Louisiana Office of Community Development (OCD), U.S. Department of Housing and Development (HUD) for the following projects bearing grant numbers:

- 12LDRC7701 – Holly Beach Open Pavilion;
- 12LDRC7702 – Town of Cameron Stormwater Control System;
- 12LDRC7703 – Town of Cameron Replacement of Sewer Lift Station Components; and
- 12LDRC7704 - Cameron Parish-Wide Watershed Rain Gauge Monitoring System.

The Cameron Parish Police Jury will be identifying and evaluating practicable alternatives for these projects and the potential impacts on the floodplain/wetland from the proposed action, as required by Executive Order 11988 *Floodplain Management,* Executive Order 11990 *Protection of Wetlands*, and in accordance with HUD regulations at 24 CFR 55.20, Subpart C.

The proposed four (4) project locations and activities are:

1) 12LDRC7701 - Open Pavilion at La. Highway 27 and Parish Road 507 in Holly Beach, Cameron Parish, Louisiana (GPS: 29.77192, -93.459894). Open Pavilion is proposed on property with elevation of 7 feet AMS to be used to host food-truck vendors and scheduled special events. Pavilion is defined as being covered concrete slab with electrical outlets of approximately 177 feet long x 73 feet wide. This area is within a Coastal High Hazard Area (V Zone), subject to Limit of Moderate Wave Action and classified as estuarine marine wetland. This coastline is within the proximity of coastal erosion protection projects. Proposed construction is expected to impact approximately 0.468 acres. The extent of the FFRMS floodplain was determined using a Climate Informed Science Approach (CISA) and freeboard value approach. This work is expected to have minimum impact to wetlands and floodplains using mitigation measures and is within a Special High-Risk Flood Zone.

2) 12LDRC7702 – Stormwater Control System is located withing existing stormwater-controlled ditches through-out the Town of Cameron with one new pump station proposed (GPS 29.7921333, -93.322247) and upsizing some culverts as well as adding culverts under roadways to support discharging stormwater to pump stations. The proposed action for the Town of Cameron Stormwater Control System is as follows: 1) to add one new pump station at the previous mentioned GPS along Davis Road to host three (3) various size pumps to discharge stormwater impacts from residential areas; 2) to modify two (2) existing box culvert to create one new large improved box culvert, strengthen existing drainage canal rip-rap by replacing with concrete floodwall and install flood-control grate control while replacing two (2) existing culvert under Davis Road with 30” RCP 70’ culverts GPS 29.7286806, -93.3205277; 3) install previous destroyed flap/flood gate and add

berm fill to reclaim land lost from GPS 29.7953417, -93.3248972 to 29.7955833, -93.3253722; 3) replace or install 16 to 22 various size subsurface culverts and grade open ditches to improve stormwater control system throughout entire town and consisting of approximately 3,750 linear feet of ditch work; 4) upgrade existing pump station A infrastructure with metal protective sheltering and new pumps as determined to be feasible – this action may not be budgeted for grant funding at GPS 29.8091167, -93.325880. (see permit schematic for Pump Station project). The extent of the FFRMS floodplain was determined using a Climate Informed Science Approach (CISA) and freeboard value approach. This work is expected to have no to minor impacts to Freshwater Emergent Wetlands and is within a Special High-Risk Coastal Flood Zone.

3) 12LDRC7703 – This project is throughout the Town of Cameron and proposes to mitigate saltwater corrosion effect on sewer lift stations' metal components by replacing existing metal components with marine-grade stainless steel components of same size and capacity. The extent of the FFRMS floodplain was determined using a Climate Informed Science Approach (CISA) and freeboard value approach for 12LDRC7703 proposes to mitigate the destructive saltwater exposure by hardening metal components with corrosive resistant marine-grade stainless steel for eleven (11) sewer lift stations throughout the Town of Cameron that will prevent adverse impacts to sewer control system exposure during storm surge or flooding. See sewer lift station aerial map for approximate locations of existing stations being mitigated. The extent of the FFRMS floodplain was determined using a Climate Informed Science Approach (CISA) and freeboard value approach. This work is expected to have no impact to Freshwater Emergent Wetlands and is within a Special High-Risk Coastal Flood Zone.

4) 12LDRC7704 – proposes to install twenty (20) new Rain Gauge and Flood Alert monitoring systems throughout Cameron Parish. The extent of the FFRMS floodplain was determined using a Climate Informed Science Approach (CISA) and freeboard value approach for 12LDRC7704 proposes to install 20 to 50 new Rain Gauge Monitoring and Flood Alert Systems throughout the Watershed within Cameron Parish. Thirty-eight (38) locations are identified for new installation. See Rain Guage project aerial for approximate locations. This work is not expected to have any impacts to the various types of wetlands or floodplains and is associated with Special High-Risk Flood Zones.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplain/wetland and those who have an interest in the protection of the natural environment should be given an opportunity to express their concerns and provide information about these areas. Commenters are encouraged to offer alternative sites outside of the floodplain/wetland, alternative methods to serve the same project purpose, and methods to minimize and mitigate project impacts on the floodplain/wetland. Second, an adequate public notice program can be an important public educational tool. The dissemination of information and request for public comment about floodplain/wetland can facilitate and enhance Federal efforts to reduce the risks and impacts associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the Federal government determines it will participate in actions taking place in floodplain/wetland, it must inform those who may be put at greater or continued risk.

Written comments must be received by Cameron Parish Policy Jury at the following address on or before July 16, 2025 [a minimum 15 calendar day comment period will begin the day after the publication and end on the 16th day after the publication]: Cameron Parish Policy Jury, PO Box 1280 Cameron, LA 70631, and 337-775-5718, Attention: Anita Ellis, Administrative Assistant. A full description of the project may also be reviewed from 9am to 5 pm at 148 Smith Circle, Cameron, LA and at https://cameronpj.org . Comments may also be submitted via email at adminasst@cameronpj.org.

Date: July 1, 2025

Ellen Ibert

From: Katie Armentor <karmentor@cameronpj.org>
Sent: Tuesday, August 12, 2025 10:42 AM
To: Mallory Norris
Subject: Re: [External] Public Notice

We have not received any.

Get Outlook for iOS

From: Mallory Norris <mnorris@royal.us>
Sent: Tuesday, August 12, 2025 9:04:50 AM
To: Katie Armentor <karmentor@cameronpj.org>
Subject: Fw: [External] Public Notice

Good morning, Katie,

Can you please confirm whether any questions or comments have been received regarding the Federal Flood Management Standard Public Notice?

Thanks,
Mallory

MALLORY NORRIS
Associate Project Coordinator
mnorris@royal.us
(337) 456-5351
www.royal.us

From: Mac McNeil <mmcneil@royal.us>
Sent: Sunday, June 29, 2025 3:32 AM
To: Katie Armentor <karmentor@cameronpj.org>
Cc: Mallory Norris <mnorris@royal.us>
Subject: Public Notice

Katie,

See attached Federal Flood Risk Management Standard Public Notice for your review. This needs to be posted at the courthouse and anywhere else you post notifications for 30 days. Basically another box we have to check since we are spending Federal money in a flood zone.

MAC MCNEIL
Senior Professional
mmcneil@royal.us
251-605-0199
www.royal.us

Cameron Parish Police Jury proposed RCIP project aerials
FFRMS Exhibits

Holly Beach Open Pavilion
12LDRC7701


Legend
Proposed Pavilion
0
125
250
US Feet
N

Town of Cameron proposed Drainage Control System Upgrades
12LDRC7702

NOTE: THESE DRAWINGS ARE TO BE USED EXCLUSIVELY FOR ACQUISITION OF REGULATORY PERMITS.

REVISED: 02/10/2022 02/27/2023
02/17/2022
05/25/2022

CAMERON PARISH, LOUISIANA
SECTION 31 T.14S.,R.9W.

PREPARED BY:

LONNIE G. HARPER & ASSOCIATES, INC.

2746 HWY. NO. 384 BELL CITY, LOUISIANA 70643
PHONE: (337) 905-1079 FAX: (337) 905-1076

DRAINAGE IMPROVEMENTS ADJACENT TO LA 27

CAMERON AREA
CAMERON PARISH, LA

APPLICATION BY: CAMERON PARISH POLICE JURY
DATE: 01/27/2022

DETAIL "A"

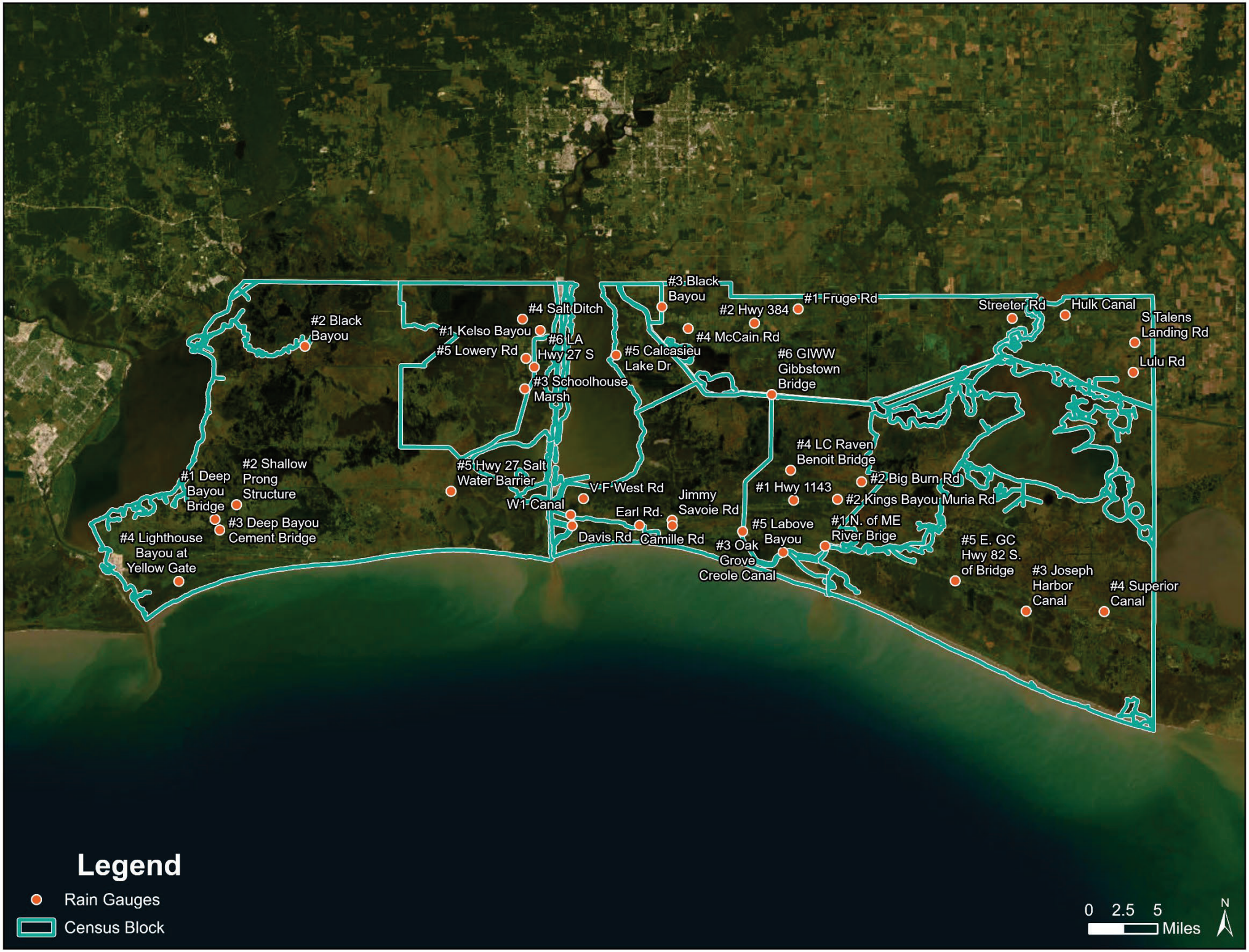
0 300
SCALE IN FEET

PROJECT NO. 01/3479/2022

Town of Cameron proposed
Sewer Lift Station Hardening
12LDRC7703


East Fork
Cameron
Monkey Island
4
1
10
9
8
7
13
15
16
5
6
Legend
Sewer Lift Stations
Census Block
0
1
2
Miles
N

Cameron Parish proposed
Rain Gauge Monitoring & Flood Alert System
12LDRC7704


#3 Black Bayou
#1 Fruge Rd
#2 Hwy 384
Streeter Rd
Hulk Canal
S Talens Landing Rd
#4 Salt Ditch
#2 Black Bayou
#1 Kelso Bayou
#6 LA Hwy 27 S
#4 McCain Rd
#5 Lowery Rd
#5 Calcasieu Lake Dr
#6 GIWW Gibbstown Bridge
Lulu Rd
#3 Schoolhouse Marsh
#4 LC Raven Benoit Bridge
#2 Shallow Prong Structure
#1 Deep Bayou Bridge
#5 Hwy 27 Salt Water Barrier
#2 Big Burn Rd
#1 Hwy 1143
#2 Kings Bayou
Muria Rd
V F West Rd
Jimmy Savoie Rd
W1 Canal
Earl Rd.
#3 Deep Bayou Cement Bridge
#1 N. of ME River Brige
#5 Labove Bayou
Davis Rd
Camille Rd
#4 Lighthouse Bayou at Yellow Gate
#3 Oak Grove Creole Canal
#5 E. GC Hwy 82 S. of Bridge
#3 Joseph Harbor Canal
#4 Superior Canal
Legend
Rain Gauges
Census Block
0 2.5 5
Miles
N

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
Airport Runway Hazards Maps

EXHIBIT Q

Search Facilities by Name or Loc Id...

Advanced Search

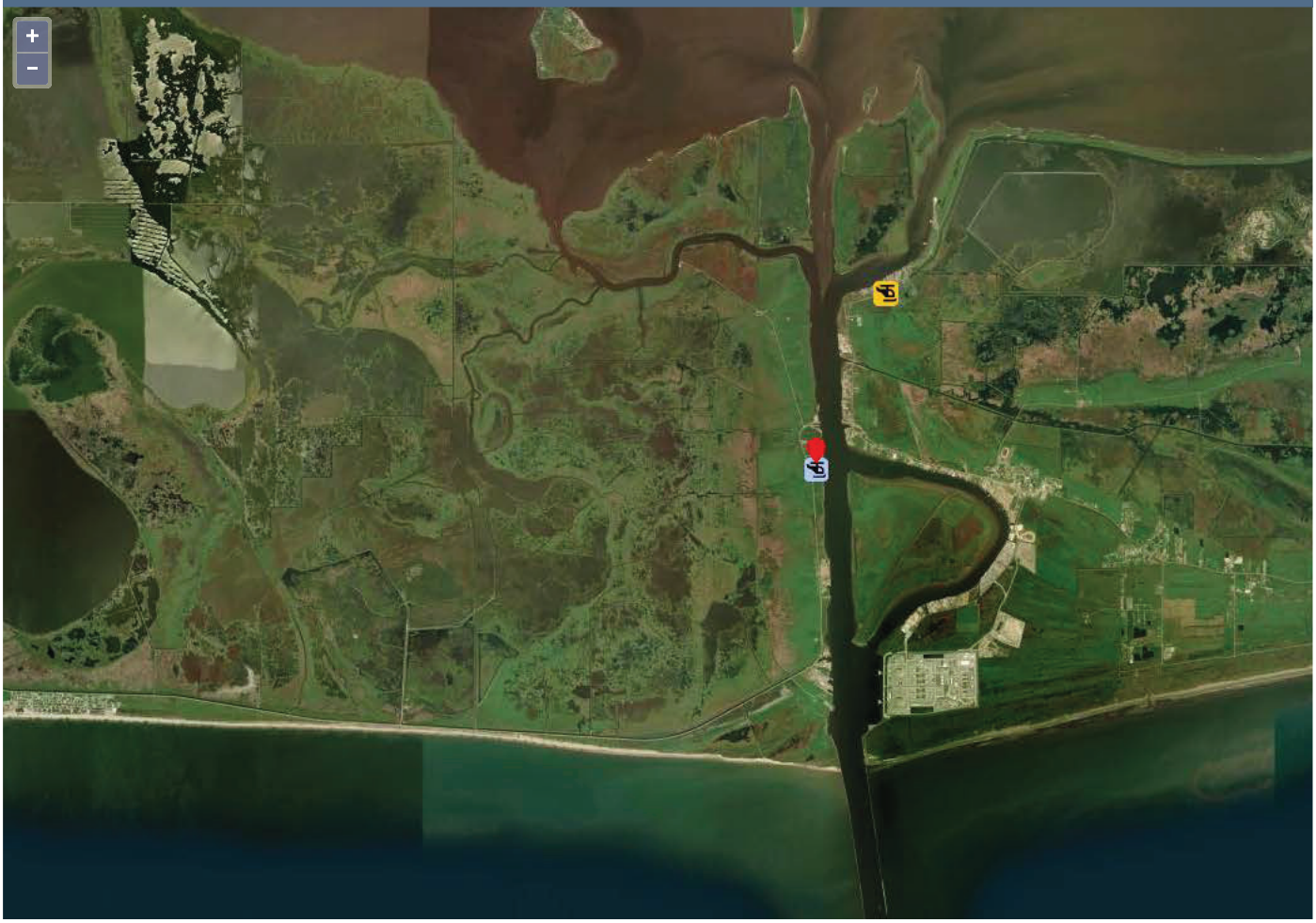
A minimum of three characters is required.

Search Result

(24LS) MIDSTREAM CAMERON WEST

Map | ESRI World Imagery

29°49'26.71"N 93°10'27.35"W



Search Facilities by Name or Loc Id...

Advanced Search

A minimum of three characters is required.

Search Result

(LS75) CAMERON SHORE BASE

Map | ESRI World Imagery

29°49'13.32"N 93°10'47.28"W

CAMERON PARISH POLICE JURY
PUMP STATION DRAINAGE IMPROVEMENT PROJECT
Coastal Barrier Resources Units Map

EXHIBIT R

-->

Because of the federal government shutdown, the CBRS Mapper and its services are not being updated and the agency will not be able t respond to inquiries until appropriations are enacted. For more information please visit https://www.doi.gov/shutdown (https://www.doi.gov/shutdown)