HESS CORPORATION

APPLICATION TO THE NORTH DAKOTA PUBLIC SERVICE COMMISSION FOR A CERTIFICATE OF SITE COMPATIBILITY FOR THE TIOGA GAS PLANT EXPANSION PROJECT

JUNE 2010

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NORTH DAKOTA

In the Matter of the Application of Hess Corporation for a Certificate of Site Compatibility to Construct an Addition to the Tioga Gas Plant in Williams County, North Dakota.	)))))	Case No. PU-10-120

APPLICATION OF HESS CORPORATION
FOR CERTIFICATE OF SITE COMPATIBLITY
FOR AN ADDITION TO THE TIOGA GAS PLANT

Hess Corporation ("Hess"), whose address for purposes of this Application is One Allen Center, 500 Dallas Street, Houston, TX 77002, hereby submits this Application for a Certificate of Site Compatibility ("Application") pursuant to the Energy Conversion and Transmission Facility Siting Act codified at North Dakota Century Code Chapter 49-22 ("Act").

Hess filed a Letter of Intent, which included a request for a waiver or reduction of certain procedures and time schedules, with the North Dakota Public Service Commission ("Commission") on April 13, 2010. On April 23, 2010, the Commission acknowledged the Letter of Intent, shortened the one-year waiting period between filing a letter of intent and a siting application to thirty days, and assessed a filing fee of $100,000.00.

As evidenced in the Letter of Intent, the activity Hess intends to undertake is an expansion of an existing facility, the Tioga Gas Plant (the "Plant") which was constructed in the early 1950's and placed in service in 1954. Because construction of the Plant predated the first enactment of siting legislation in North Dakota in 1975, it has never

been sited. Accordingly, Hess is requesting a certificate of site compatibility for both the existing plant and the proposed addition to the plant. Hess requests that the Commission waive the requirement of filing a mylar map of the study area.

Hess respectfully requests that the Commission (1) waive the requirement of filing a mylar map; (2) hold a hearing for the requested certificate of site compatibility; (3) find that the Plant and the proposed addition is of such design, location and purpose that it will produce minimal adverse effects; and (3) designate and approve the Plant and addition site as identified in this Application, and issue the appropriate certificate of site compatibility.

The matters set forth in Chapter 49-22 of the North Dakota Century Code, Chapters 69-06-04 and 69-06-08 of the North Dakota Administrative Code, and the Commission's Guidelines for Energy Conversion and Transmission Facility Siting are set forth in the "Application to the North Dakota Public Service Commission for a Certificate of Site Compatibility for the Tioga Gas Plant Expansion Project" enclosed with this Application.

Dated this 18th day of June, 2010.

Respectfully submitted,

HESS CORPORATION

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Bismarck, North Dakota 58502-2798
Phone: 701-223-6585

By: _____
JOHN W. MORRISON, ND Bar ID #03502

STATE OF NORTH DAKOTA)
)SS.
COUNTY OF BURLEIGH)

John W. Morrison, being separately sworn, deposes and states that he has read the above and foregoing Application, that he knows the contents thereof, and that the same is true of his own personal knowledge.

JOHN W. MORRISON

Subscribed and sworn to this 18 day of June, 2010.

(SEAL)

BETH WALD
Notary Public
State of North Dakota
My Commission Expires Nov. 28, 2014

Beth Wald, Notary Public
Burleigh County, North Dakota
My Commission Expires 11/28/14

TABLE OF CONTENTS

INTRODUCTION

HESS Corporation is a leading global independent energy company, engaged in the exploration and production of crude oil and natural gas, as well as in refining and marketing refined petroleum products, natural gas, and electricity. In North Dakota, HESS Corporation has maintained production levels at several large company-operated units, including Beaver Lodge and Tioga Madison.

HESS Corporation operates an existing natural gas processing plant (Plant) located near the Town of Tioga, North Dakota that is processing near record volumes. The existing Plant is over 50 years old and local drilling activity has accelerated in recent years, and HESS Corporation wishes to expand the Plant processing capacity to keep pace with additional production. HESS Corporation submits to the North Dakota Public Service Commission (PSC or Commission), a single filing containing a request for waiver or reduction of procedures and time schedules, and an application for a Certificate of Site Compatibility for its Tioga Gas Plant Expansion Project. As the Plant has not previously been sited by the Commission because it was constructed prior to the enactment of the Energy Conversion and Transmission Facility Siting Act (Chapter 49-22, N.D.C.C.), this application encompasses both the existing Plant plus the new expansion area.

This application provides the necessary information as required by the:

- North Dakota Century Code, Energy Conversion and Transmission Facility Siting Act, Chapter 49-22-08; and
- PSC Administrative Code, Chapter 69-06-08-01 Energy Conversion Facility Siting Criteria.

The information presented in this application is organized according to the format prescribed in the PSC Application Guidelines for a Certificate of Site Compatibility, which divides the information into the following four main categories:

- SECTION A: DESCRIPTION
- SECTION B: STUDIES
- SECTION C: NEED FOR FACILITY
- SECTION D: LOCATION

To assist the Commission in its review of HESS Corporation's application, this application also presents information described in Section 49-22-09 of the Century Code, Factors to Consider in Evaluating Applications and Designation of Sites, Corridors, and Routes. This information is placed toward the end of Section D, following the discussion of the Facility Siting Criteria.

SECTION A: DESCRIPTION

1. Type

HESS Corporation's Tioga Gas Plant Expansion Project (Project) is located 1 mile east of the Town of Tioga, North Dakota in Williams County. The location of the Project is shown on the map on the following page. The Plant was constructed in the early 1950s and was put in service in 1954 with a nameplate inlet capacity of processing 120 million cubic feet of gas per day (MMSCFD).

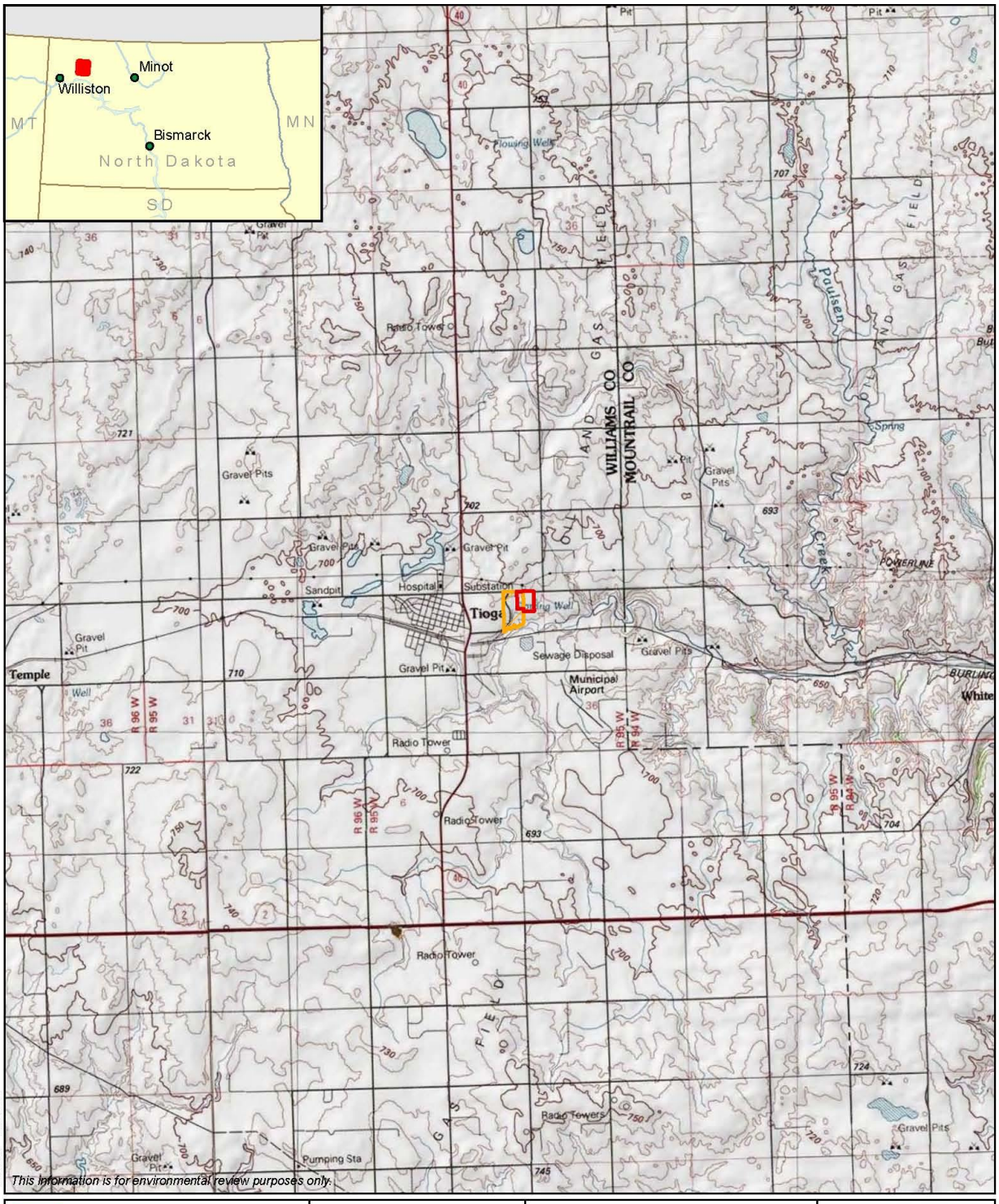
The raw natural gas collected from production wells in the Tioga area contains a mixture of several hydrocarbon gases and liquids other than methane, including ethane, propane, and butane (referred to as natural gas liquids or NGLs). The Plant "processes" the gas by separating out the NGLs and other impurities from the methane before it can be used as a fuel. Once separated, the NGLs are shipped via railroad to industrial consumers and/or distributors for use as fuels.

The Tioga area natural gas also contains water vapor, carbon dioxide, and hydrogen sulfide, which is also removed from the gas stream at the Plant. These impurities are removed prior to the hydrocarbon separation process. The carbon dioxide is released to the atmosphere while the hydrogen sulfide is converted to sulfur following the removal of the water vapor, which is also vented to the atmosphere. Once all of the impurities are removed, the resulting purified methane is transported via HESS Corporation's existing pipeline south to an interconnection with the Northern Border Interstate Pipeline system and the Williston Basin Interstate pipeline for further delivery to markets in the east and south.

The current gas processing technique is called a refrigerated lean oil fractionation. HESS Corporation proposes to change the processing technique from lean oil fractionation to a cryogenic turboexpander process that will be designed for ethane recovery but capable of ethane rejection with a current objective to convert the Plant from a capacity of 120 MMSCFD to a nameplate 250 MMSCFD.

The Project expansion work will occur on land within the existing Plant footprint currently containing gas processing facilities, plus 21 acres of additional land to the east of the existing Plant. The Project will entail the construction of underground piping and above-ground gas processing facilities. The scope of design will include all of the major process systems contained within the Plant battery limits, starting from the inlet gas and condensate pipelines as they enter the Plant. These systems are listed below.

- Inlet gas slug catcher(s);
- Inlet condensate pumping, filtration, and stabilization;
- Inlet gas compression (existing);
- Amine Treating;
- Mole Sieve Dehydration;
- NGL Extraction (including refrigeration);
- MP Residue Gas Compression;
- HP Residue Gas Compression (existing);
- Product Fractionation;
- Product Treating (ethane, propane, butane, gasoline);
- Product Storage, loading, and pipeline transfer systems;


Minot
Williston
Bismarck
North Dakota
MT
MN
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Tioga
Temple
Hospital
Substation
Sandpit
Gravel Pit
Gravel Pits
Sewage Disposal
Municipal Airport
Radio Tower
Radio Towers
Pumping Sta
Well
Flowing Well
Spring
Poulsen Creek
POWERLINE
WILLIAMS CO
MOUNTRAIL CO
GAS FIELD
OIL AND GAS FIELD
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This information is for environmental review purposes only.
Map Document: (O:\000-GIS\GIS\Clients\Hess Corp\Tioga Gas Plant\Project Location 100k.mxd)
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Proposed Project Footprint
Existing Tioga Gas Plant
1:100,000
0 0.75 1.5
Miles
N
Tioga Gas Plant Expansion
Location Map
Williams County, North Dakota
HESS
Revised: 05/18/10
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- Flare Systems;
- Drain System;
- Plant Distributed Control System (including control room relocation);
- Utility Systems (electrical, steam, instrument air, and heat medium); and
- Fire Protection System.

A simplified engineering flow chart showing the facility's process and an overview plot plan drawing showing the layout of the proposed processing equipment are included in Appendix A.

The portion of the expansion work that will occur on the existing Plant footprint coincides with where the existing emergency gas Flare is located. Therefore, the existing Flare will first be replaced with a new Flare which will be re-located in the area acquired on the east side of the Plant. This activity will allow the existing Flare to be demolished after the new Flare is in operation so construction can begin on the proposed Plant.

A plant with maximum operating flexibility including the capability to fully fractionate the recovered liquids will result. The new Plant will be a state of the art facility and will operate more efficiently than the existing Plant.

2. Product

The proposed Plant expansion will produce the same products as does the existing Plant, including pipeline grade natural gas, propane, butane, natural gasoline, and molten sulfur. Ethane will be an additional product that is separated during ethane recovery or will be combined with the natural gas during ethane rejection.

The pipeline grade natural gas will be primarily methane with some ethane during rejection as previously stated. It will be transported via the existing pipelines, while the ethane will be marketed through a separate pipeline during ethane recovery.

Propane and butane will be liquefied as natural gas liquids and sold as currently by rail and/or truck. Some propane and butane is expected to be sold via a new Rich Gas pipeline.

The natural gasoline is composed of C5 and heavier components. It will be transported by existing means of rail and/or truck.

The molten sulfur, which is a product of the conversion of hydrogen sulfide, will also be transported by existing rail lines.

3. Size and Design

A. Gross Design Capacity

The Project is designed with a nameplate inlet capacity of 250 MMSCFD. Appendix A includes a Design Data Report, which discusses the nameplate capacity in more detail.

B. Net Design Capacity

The net design capacity of the proposed Plant on a feed stream basis is 250 MMSCFD less 5 MMSCFD for utility natural gas, or 245 MMSCFD.

C. Estimated Thermal Efficiency of the Energy Conversion Process and the Assumptions Upon Which the Estimate is Based

This is not applicable to the process.

D. The Number of Acres that the Proposed Facility Will Occupy

The size of the existing Plant is 95 acres. The Project expansion work will occur on 11 acres of land within the existing Plant footprint currently containing gas processing facilities, plus 21 acres of additional land abutting the eastern border of the existing Plant. The size of the entire facility after the expansion work will be 116 acres.

E. Provide One Copy of the Design Data Reports Separate from the Application

Appendix A includes a Design Data Report.

4. Time Schedule

A. Certificate of Site Compatibility

HESS Corporation seeks a Certificate of Site Compatibility as soon as possible, preferably by August 2010.

B. Land Acquisition Complete

HESS Corporation purchased 21 acres of land from the Tesoro Corporation on the east side of the existing Plant on which to construct part of the Project. The purchase agreement for this transaction was completed on April 20, 2010; the deed paperwork is currently being finalized. No other land acquisition is necessary for the Project.

C. Construction Start Date

HESS Corporation plans to commence construction activities in a phased approach. The near-term construction component of the Project is the relocation of the existing emergency flare at the Plant. The existing flare must be moved further to the east to allow room for construction of the new processing facilities.

HESS Corporation plans to commence the flare relocation work in two phases; preparatory work inside the existing facility boundaries, and then additional work outside the Plant boundaries. HESS Corporation anticipates beginning construction on preliminary activities in early August 2010. This preliminary work will be contained entirely within HESS Corporation's existing Plant boundaries. HESS Corporation submitted a notification to the Commission on June 4, 2010 regarding this preparatory work.

HESS Corporation anticipates beginning work on the second phase of the flare relocation task, outside the Plant boundaries, in early September 2010. Construction on the main part of the Plant work is anticipated to begin in April 2011.

D. Construction Complete Date

HESS Corporation anticipates completing construction in the 4th quarter of 2012.

E. Test Operations

HESS Corporation anticipates completing test operations in the 2nd quarter of 2013.

F. Commercial Production Data

The proposed Tioga Gas Plant is designed to operate in two modes: 1) ethane recovery mode; and 2) ethane rejection mode. The table below lists the design production rates for each mode. Note that sulfur is a by-product of the gas refining process.

Product	Ethane Recovery Mode	Ethane Rejection Mode
Inlet Gas Rate, MMSCFD	250	250
Percent Ethane Recovery	92	N/A
Residue Gas Production, MMSCFD	147	194
Ethane Production, MBPD	30	N/A
Propane Production, MBPD	17	18
Butane Production, MBPD	8	8
Natural Gasoline Production, MBPD	4	4
Sulfur, LTPD	90	90

G. 100 Percent Capacity Factor

This is not applicable to the process.

H. Any Expansion or Additions

HESS Corporation has no additional expansion plans for the Plant at this time.

SECTION B: STUDIES

Study Area. The Study Area is defined as an approximately 1-mile-wide-plus circular area centered on the location of the Plant. This area is delineated by the black-dashed line shown on the two maps included in Appendix B: Exclusion and Avoidance Areas, and Aerial Photography. The desktop research and resource agency reviews were completed for the Study Area.

Site: The Site is defined as the combined area of the 95-acre footprint of the existing Plant plus the 21 acres adjacent to the eastern border of the Plant. The outlines of the existing Plant footprint and the expansion area are shown by the orange and red colored lines on the two maps in Appendix B. The cultural resource and biological field studies were completed within the area defined as the Site.

HESS Corporation consulted with the following federal and state agencies to identify environmental resource issues in the Project area, and to evaluate the environmental impact of the Project. Copies of HESS Corporation's consultations with agencies and their response are included in Appendix C.

- U.S. Department of Interior, U.S. Fish and Wildlife Service (FWS);
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS);
- U.S. Federal Aviation Administration (FAA);
- North Dakota Game and Fish Department;
- North Dakota Parks and Recreation Department;
- North Dakota State Historic Preservation Office (SHPO);
- North Dakota State Lands Department; and
- North Dakota Department of Health (NDDoH).

A discussion of the results of field surveys for biological and cultural resources follows under the applicable agency discussions below.

1. U.S. Fish and Wildlife Service

The FWS administers several different programs to protect special status plant and animal species under the Endangered Species Act, the Migratory Bird Treaty Act, and the National Wildlife Refuge System. The following paragraphs describe HESS Corporation's coordination efforts with the FWS regarding the Project relative to these programs.

A. Biological Field Surveys

On behalf of HESS Corporation, SWCA Environmental Consultants (SWCA) reviewed the FWS web site for a list of federally protected species and/or critical habitat that may be present within the Study Area. SWCA then conducted a natural resource field survey of the Site to determine the presence or absence of plant and animal species of concern and habitat components required to support species of concern, and delineated

wetlands and tree occurrences on the Site. SWCA completed the field survey work on April 7, 2010. A copy of the survey report is included in Appendix D.

SWCA ecologists noted a distinct difference between the developed and undeveloped areas at the Site. SWCA ecologists completed a survey of the portion of the Site that is currently occupied by the existing Plant. SWCA ecologists documented that the land surface of the footprint area of the existing Plant is in a developed condition, having been previously leveled and covered with gravel (as evidenced in the aerial photograph in Appendix B). SWCA ecologists concluded that this portion of the Site is devoid of any natural resource features.

The summary discussion below pertains to the survey results of the 21 acres of land adjacent to the eastern boundary of the existing Plant, where the Plant facilities will expand. The general description of the land use and surface conditions of this area is a mix of agricultural field plus some industrial development.

Botany Survey Results

Only one vegetated community type occurs on Site, crested wheatgrass. No native vegetation remains in this area due to industrial development and agricultural activities. No unique native plant communities, state- or federally listed sensitive plant species, or trees were identified on Site. Large spots within this area were also devoid of vegetation and/or showed surface disturbance.

Crested wheatgrass was introduced into North America in the 1930s and is now common in the northern Great Plains. It was generally planted to reduce soil erosion on abandoned farmlands, revegetated rangeland, and along dry roadsides, and can provide forage production.

Wetland Survey Results

No wetlands were identified on the Site.

Wildlife Survey Results

Wildlife observed on the Site is common to the area and are typical of agricultural habitats. Species observed during the survey included birds (western meadowlark, American robin, and killdeer), squirrel, coyote, and white-tailed deer. No unique or state- or federally listed sensitive species were identified on the Site.

B. Threatened and Endangered Species

On behalf of HESS Corporation, Merjent, Inc. (Merjent) consulted with the FWS for concerns related to the Project's affects on federally protected species and/or critical habitat. Five species were identified as possibly being present, or that may have critical habitat, within or near the Study Area. This included four endangered species and one threatened species (with designated critical habitat). The identified species are:

- Gray wolf (*Canis lupus*) - federally endangered;
- Interior least tern (*Sterna antillarum*) - federally endangered;

- Pallid sturgeon (*Scaphirhynchus albus*) - federally endangered;
- Piping plover (*Charadrius melodus*) - federally threatened with designated critical habitat in Mountrail County; and
- Whooping crane (*Grus americana*) - federally endangered.

In its consultation request to the FWS, Merjent characterized the habitat preferences and expected Project impact determinations for each federally listed species as follows below. The FWS responded on May 10, 2010 stating they concurred with Merjent's assessment that the Project will not affect federally listed species. A copy of the correspondence with the FWS is included in Appendix B.

Gray Wolf (*Canis lupus*)

Gray wolves were once common throughout most of North America, but now only live in northern forested regions of Minnesota, Wisconsin, and Michigan, and the northern Rocky Mountains of Montana, Idaho, and Wyoming. Occasionally, wolves are sighted in North Dakota and South Dakota. Most wolf experts agree that wolves spotted in North Dakota are probably lone individuals in search of a new home. These individuals are highly mobile and will likely avoid the Project area if present. Therefore, the Project will *not likely affect* the gray wolf.

Interior least tern (*Sterna antillarum*)

Historically, the interior least tern inhabited the major river systems of the Midwestern United States, including the Missouri River, where they will nest in the summer, then migrate to wintering areas in South America. Currently, the terns nest in small remnant colonies throughout their former range. Interior least terns are known to nest along midstream sandbars of the Missouri River. The Project area is more than 8 miles from the Missouri River and the corridor does not support the appropriate habitat; therefore, the Project will have *no effect* on the interior least tern.

Pallid Sturgeon (*Scaphirhynchus albus*)

The pallid sturgeon inhabits the bottom of large, shallow, silty rivers with sand and gravel bars of the Missouri River in North Dakota. The Project does not cross the Missouri River and further, is located more than 8 miles from the river. Therefore, the Project will have *no effect* on the pallid sturgeon.

Piping Plover (*Charadrius melodus*)

In North Dakota, piping plovers are known to nest on midstream sandbars of the Missouri River and along shorelines of saline wetlands, especially where there are salt-encrusted areas of gravel, sand, or pebbly mud wetlands. The Project is more than 8 miles from the Missouri River and, based on field verification, no wetlands occur on-site. In addition, maps of piping plover critical habitat published by the FWS indicate no critical habitat has been designated for the piping plover in the Project area. Therefore, the Project will *not likely affect* the piping plover.

Whooping crane (*Grus americana*)

The whooping crane is a migratory species that inhabits North Dakota during the spring (April) and the fall (August / September). The whooping crane population that occurs in the state is small (slightly over 200). Primary breeding grounds are located in Canada's Northwest Territories and they migrate to Texas. Whooping cranes prefer shallow wetlands associated with cattails, bulrushes, and sedges and feed in cultivated fields. Foraging and roosting stops during migration is possible within the Project area. However as confirmed through field verification, no wetlands occur on-site. If individuals were migrating through the Project area during construction, they are expected to avoid the Project area because of the disturbance and noise. The Project, therefore, will *not likely affect* the whooping crane.

C. FWS Migratory Bird Concerns

One of the FWS' responsibilities under the Migratory Bird Treaty Act is to protect migratory birds, and in particular, to protect nesting birds within the breeding season, which occurs between February 1 and July 15. As construction of the Project is scheduled to begin after the nesting time window, construction will not have an impact on disturbing nesting migratory birds. It is possible, although unlikely, that transient birds could be disturbed or harmed by construction equipment through collisions, but the FWS acknowledges the limitations of avoiding all potential bird impacts in its May 10, 2010 consultation response letter, and concurs that HESS Corporation's construction schedule provides adequate protection for migratory birds.

D. FWS Easement Lands

Under the umbrella of the National Wildlife Refuge System, the FWS manages three types of plant and wildlife conservation programs on private land in North Dakota: a wetland easement, a grassland easement, and a waterfowl production land program. The FWS confirmed that the Project will not affect any of these three conservation land areas.

2. U.S. Farm Service Agency

The Williams County Farm Service Agency (FSA) administers land conservation programs for farmers in the Project area. Land conservation programs such as the Conservation Reserve Program (CRP) and Grassland Reserve Program (GRP) are voluntary programs for agricultural landowners, whereby landowners can receive annual rental payments and cost-share assistance to establish long-term, soil conserving covers on eligible farmland. The USDA FSA provides program administration and implementation services, working cooperatively with the USDA NRCS, which provides technical support to landowners. On behalf of HESS Corporation, Merjent consulted with the Williams County FSA to determine whether the Project will affect CRP or GRP land. The Williams County FSA responded on March 22, 2010, stating that no CRP or GRP contracts in place for lands at the Site (see Appendix C).

3. U.S. Federal Aviation Administration

The Tioga airport is located approximately 1 mile southeast of the Plant. The height of the new flare stacks or buildings associated with the Project may be of concern to the FAA regarding potential airspace obstructions to aircraft traffic. The FAA has jurisdiction over the construction

of objects that exceed certain height thresholds; in this case any structure over 200 feet high, and any structures that may be lower than 200 when they occur close to the airport and fall within the designated glide path slope area from the end of the runway.

HESS Corporation is currently coordinating with the FAA to address airspace obstruction issues that it may have. Consultations are proceeding in a phased approach, focusing first on the proposed tallest structures as the Project is still in the engineering design phase and, therefore, any mitigation measures identified by the FAA can be incorporated into the final Project design. HESS Corporation's first coordination with the FAA occurred on June 3, 2010, regarding the tallest proposed structure at the Plant, an emergency flare, which is currently designed to be 275 feet high and will require using a 375-foot-high construction crane. HESS Corporation submitted the required information for the proposed flare and the crane to the FAA through the agency's internet portal using its Notice of Proposed Construction form. HESS Corporation is awaiting a response from the FAA for this portion of the Project work.

HESS Corporation will continue to consult with the FAA regarding other proposed flares and other building structures that are less than 200 feet, but still within the glide path zone, in July 2010 after the engineering design work is more complete. HESS Corporation anticipates that mitigation measures requested by the FAA will include specific details regarding marking or lighting on tall structures. HESS Corporation will implement the mitigation requested by the FAA.

4. North Dakota Game and Fish Department

On behalf of HESS Corporation, Merjent consulted with the North Dakota Game and Fish Department for concerns related to state protected wildlife species. The Department responded in a letter dated April 7, 2010 that the Project will not affect wildlife or wildlife habitat. A copy of the correspondence with the Department is included in Appendix C.

5. North Dakota Parks and Recreation Department

On behalf of HESS Corporation, Merjent consulted with the North Dakota Parks and Recreation Department - Natural Resource Division, for a review of North Dakota's Natural Heritage biological conservation database regarding any plant or animal species of concern or other significant ecological communities known to occur within the Project area. The Department responded in a letter dated March 29, 2010 that there are no known natural heritage occurrences within the Project area. A copy of correspondence with the Parks and Recreation Department is included in Appendix C.

6. North Dakota State Historic Preservation Office

The North Dakota SHPO oversees the historic and archaeological resources of the state. On behalf of HESS Corporation, SWCA consulted with the SHPO regarding the potential impacts from the Project on cultural resources, and conducted surveys of the Site.

SWCA conducted a Class I Cultural Resources Literature Search on March 1, 2010 at the SHPO's office to identify previously completed cultural resource investigations and previously recorded cultural resources within 1 mile of the Site. Several cultural resource investigations and previously recorded cultural resource sites were identified within the 1-mile circle around the Site. The majority of the previously recorded sites are structures located in the Town of

Tioga, and a couple of cultural material scatters or depression indicating and old foundation. No previously recorded cultural resource sites were identified within the Site boundaries.

SWCA conducted a Class III cultural resource inventory of the Site on April 7, 2010. Similarly to the biological field survey completed at the Site, SWCA archaeologists noted a distinct difference between the developed and undeveloped areas at the Site. SWCA archaeologists completed a survey of the portion of the Site that is currently occupied by the existing Plant and documented that the land surface of the footprint area of the existing Plant is in a developed condition, having been previously leveled, and covered with gravel (as evidenced in the aerial photograph in Appendix B). SWCA archaeologists concluded that this portion of the Site is devoid of any cultural resource features.

SWCA completed a pedestrian survey of the 21 acres of land adjacent to the eastern boundary of the existing Plant, where the Plant facilities will expand in to. The general description of the land use and surface conditions of this area is a mix of agricultural field plus some industrial development. No cultural resources were identified in the Class III survey.

SWCA prepared a Negative Results Report detailing the results of the literature search and the methodology and findings of the field survey. This report is included in Appendix E and entitled *A Class I and Class III Cultural Resource Inventory of the HESS Corporation Tioga Gas Plant Expansion Project, Williams County, North Dakota*, April 14, 2010. No further cultural resource work was recommended in the report.

SWCA submitted the survey report to the SHPO on April 14, 2010 and the SHPO responded on April 19, 2010, concurring with the report recommendations and findings. A copy of the SHPO's response letter is included in Appendix C.

7. North Dakota State Lands Department

The North Dakota State Lands Department administers the state's interests in managing lands it owns and leases out as a revenue generating proposition for the state's schools. These lands are referred to as School Trust Lands and typically occur in sections 16 and 36 of each township; the Project is located in section 26. On behalf of HESS Corporation, Merjent consulted with the Department to confirm that School Trust lands do not occur on the Site. The Department confirmed this conclusion on March 19, 2010. A copy of the correspondence with the Department is included in Appendix C.

8. North Dakota Department of Health

A. Air Quality

The NDDoH administers the state's air quality protection programs. As the Project will involve the construction and operation of new emission sources, HESS Corporation is completing air quality modeling assessments to coordinate with the NDDoH on obtaining the necessary permits for construction and operation of the Project.

The new emission sources associated with the Project include two natural gas fired heaters, piping components, and an emergency flare. Emissions from the new heaters will be partially offset by the shutdown of three existing natural gas fired heaters. The new piping component emissions will be offset by the shutdown of existing process piping components. The new emergency flare will only be used during upset or

maintenance conditions and will meet the U.S. Environmental Protection Agency's (EPA's) New Source Performance Standards for general control devices. Emissions from the existing sulfur recovery unit are expected to remain the same when the Project first begins operating, and then will decline over time as more of the Bakken gas is brought into the plant for processing. The Bakken gas is generally "sweet," meaning it contains minimal or no sulfur content.

HESS Corporation will obtain a NDDoH Air Pollution Control Permit to Construct addressing net emission increases from the Project. This permit is required prior to beginning any construction of a new stationary emission source. The existing plant meets the definition of a major source under the Title V Operating Permit Program, and will continue to be subject to this program once the Project becomes operational. The Title V Operating Permit will be amended as required within 12 months of Project start-up to incorporate the Project emission sources. Authorization to operate the Project emission sources is provided by the Air Pollution Control Permit to Construct until the time the Title V Operating Permit is amended.

B. Hydrocarbon Impact

As part of routine pre-construction geotechnical work, HESS Corporation identified a hydrocarbon impact in soil and ground water adjacent to the east flare stack on its Plant. Upon learning of this issue, HESS Corporation environmental staff made a telephone notification to Carl Anderson, program manager for the NDDoH's Ground Water Protection program. This phone discussion was followed-up with a more detailed written notification on April 15, 2010, to Kris Roberts, NDDoH Environmental Geologist per Mr. Anderson's request. The North Dakota Industrial Commission (NDIC) has since been informed of the issue and the NDIC is aware that HESS Corporation is working with NDDoH on the issue. Recent delineation results indicate this impact extends as a narrow band onto the property directly east of the flare stack. This property has been acquired by HESS Corporation for the expansion project. While evaluation of the impact area continues, preliminary information suggests the impact occurred 20 or more years ago, has undergone natural biodegradation, and is a good candidate for in-situ remediation if necessary. HESS Corporation will work with the NDDoH to resolve the hydrocarbon impact and implement any requisite remediation activities.

C. North Dakota Pollution Discharge Elimination System

Water runoff from rainfall or snowmelt leaving construction sites or operating industrial facilities is referred to as stormwater and can pick up sediment, chemicals, or debris and carry these pollutants into wetlands or stream. The NDDoH, Division of Water Quality regulates stormwater discharges through its North Dakota Pollution Discharge Elimination System (NDPDES) Stormwater Program, which aims to minimize the amount of pollutants in stormwater runoff to protect water quality. The NDDoH implements its Stormwater Program from two perspectives: during construction work at a new facility and then during operation of that facility, referred to as the Construction and Industrial Stormwater Permit Programs, respectively. HESS Corporation will coordinate with the NDDoH to obtain construction and industrial stormwater permits as described below.

NDPDES Construction Stormwater Permit

The NDDoH has developed a "general permit" that can apply to most occurrences of stormwater discharges associated with construction activity. Working under General Permit NDR10-0000 fulfills the construction site stormwater regulatory requirements established by the EPA's stormwater regulations. To qualify for coverage under the General Permit, HESS Corporation will prepare and submit a Notice of Intent (NOI or "application") and a Stormwater Pollution Prevention Plan (SW3P) to the NDDoH. The SW3P is a construction plan that describes Project activities and Best Management Practices (BMPs) that will be used to minimize the effects of erosion caused by construction activities. Coverage under the general permit becomes effective 7 days after these documents are submitted to the NDDoH.

NDPDES Industrial Storm Water Permit

HESS Corporation has an existing individual Industrial Stormwater Permit from the NDDoH for the current Plant operations. Stormwater runoff from the Plant is directed into two on-site settling ponds. Sediment in the stormwater settles to the bottom of the ponds over time, and HESS Corporation's permit authorizes it to discharge the supernatant water to an unnamed tributary of Paulson Creek, as needed, when the ponds reach holding capacity. HESS Corporation will either pursue a modification to its existing Industrial Stormwater Permit, or obtain a new permit for operation of the expanded Plant facilities.

HESS Corporation's Project is unusual from an industrial facility permitting perspective because although the Plant has a valid stormwater permit, it is not clear if the holding capacity of the existing ponds can handle the additional stormwater runoff that will be associated with the land encompassing the expanded facilities. HESS Corporation has discussed this situation with the NDDoH and will send the agency a notification letter advising it of the planned plant expansion work, as required in its current Industrial Stormwater Permit. As the engineering design work progresses, HESS Corporation will evaluate the capacity of the collection ponds and continue discussions with the NDDoH to determine the appropriate permitting approach for the Project. Possible outcomes for the Industrial Stormwater Permit may be that the existing ponds can adequately handle the increased stormwater runoff load, or that the Plant design may need to include a plan to increase the capacity of the collection ponds.

Obtaining and Disposal of Water for Hydrostatic Testing

Up to 65,000 bbl of water are estimated to be needed to complete hydrostatic testing associated with the Plant expansion work. HESS Corporation plans to mix municipal water with methanol for this testing. After the hydrostatic testing is complete, the water will be disposed of by placing it into an existing injection well on-site. HESS Corporation has an authorization from the NDIC for the injection well that allows it to dispose of Plant process water and methanol into the well.

Water Removal From Construction Trenches

Construction will require that water be removed from trenches. The deepest trenches are estimated at 8 feet, and footings will go deeper. Groundwater observed during soil borings was present at 5 feet in some locations. The NDDoH has provided general

guidance that allows disposition of unimpacted ground water to the surface to naturally drain away from the construction area. Any hydrocarbon impacted ground water will be directed to the Plant's existing oil-water waste separator (OWS) facility.

SECTION C: NEED FOR FACILITY

1. Analysis of Need Based on Present and Projected Demand, Including System Studies

The growing demand for domestic supplies of oil and gas has been well documented in recent years. HESS Corporation is an energy development company that is spending significant resources to discover and extract oil in western North Dakota. The location of its Tioga Project is within an area known as the Bakken formation, a vast region below North Dakota, Montana, and a portion of Canada that contains between 3 billion and 4.3 billion barrels of oil, according to the U.S. Geological Survey. Before recently, drilling technology was too inefficient to compete with cheaper foreign oil so little drilling was being done in the area. Recent advances in drilling technology, combined with some promising oil finds in the area, and the economic and political push for oil exploration in the United States has spurred an oil boom in this area of North Dakota.

The expanded Plant will continue to serve the area connected to the Plant gathering system, which will likely expand as drilling activity expands into new geographical area and supports an economic expansion of the gathering system.

2. Description of Feasible Alternative Methods of Serving the Need

HESS Corporation has performed a reasonable and defensible alternatives analysis that involves consideration of engineering, economic, and environmental factors in a multi-disciplinary and iterative fashion. This analysis resulted in the following three alternatives to the Project.

No Action Alternative

In light of the overall increase in Williston Basin production, and our customers' requirements for increased gas processing capacity, a "no action" alternative would result in significant flaring and is an unacceptable alternative to HESS Corporation and its customers.

Alternative Plant Location

Utilization of the existing Plant location will minimize the development of additional land by using the land adjacent and the infrastructure in place. This will in turn minimize the environmental and social effects that could occur from the construction of the Plant in an alternative location.

Alternative Gas Transmission Pipeline

HESS Corporation could potentially transport the gas and NGLs to the marketplace through a new pipeline to connect into the Alliance Pipeline system, which transports rich gas, and where the processing occurs near Chicago, Illinois. However, there is no current pipeline infrastructure existing between the gathering fields and access to an interstate pipeline, and building a new pipeline connection will be extremely cost prohibitive, take time, and not be economically feasible. Additionally, processing HESS Corporation's production gas through the proposed Plant will allow HESS Corporation improved control over their production thereby, improving production and minimizing

flaring. In addition, this 'Rich Gas Pipeline' option would still require processing facilities to control gas quality and dew point.

As proposed, this Project minimizes environmental and landowner impacts and, when integrated with the existing HESS Corporation gathering and downstream transmission system, provides the safest, most efficient and cost effective alternative to link the growing demand for natural gas and supplies in the Midwest with increased and reliable domestic supplies from North Dakota.

Thus, all other alternatives discussed herein were rejected.

3. Statement Justifying Deviations from the Most Recent Ten-Year Plan

HESS Corporation's most recent Ten-Year Plan was filed with the Commission on June 19, 2009, and it discusses HESS Corporation's existing natural gas pipeline originating at the Tioga Gas Plant and terminating at an interconnect with Northern Border Pipeline south of Watford, North Dakota and the Williston Basin Interstate Pipeline. The Gas Processing Plant is not included in HESS Corporation's current Ten-Year Plan as it was constructed prior to the enactment of the Energy Conversion and Transmission Facility Siting Act. Due to the recent tremendous success of the Bakken drilling programs and the increase in gas production in the area, HESS Corporation is now proceeding through the Commission's Siting Process for the Project. Consequentially, HESS Corporation is currently developing a Ten-Year Plan that will now include the Plant, and will file the Plan with the Commission when it is completed.

SECTION D: LOCATION

1. Study Area

As discussed in Section B, HESS Corporation's Study Area consists of a 1-mile-wide circular area centered on the Plant. HESS Corporation conducted a desktop analysis consisting of internet research and Geographic Information System mapping, and then completed agency consultations of the Study Area. HESS Corporation also conducted cultural resource and biology field surveys at the Site.

2. Policies and Commitments to Limit the Environmental Impact

HESS Corporation and its subsidiaries recognize that excellence in environmental, health, and safety performance is an essential part of our goal to become the leading global independent energy company. To accomplish this, it will:

- Identify, assess, and manage the environmental, health and safety risks and impacts of our existing and planned operations.
- Set objectives and targets that result in continuous improvement of our environmental, health and safety performance.
- Provide the leadership and resources that will enable our workforce to meet improvement objectives and targets.
- Require every employee to take personal responsibility towards meeting environmental, health and safety objectives.
- Include environmental, health and safety performance when evaluating managers, employees and contractors for compensation, rewards, and recognition.
- Comply with applicable environmental, health and safety laws and regulations.
- Recognize that no task is so important that it be performed at the risk of health and safety.
- Provide internal standards for our managers and employees where controlling laws and regulations do not exist or are considered insufficient.
- Communicate regularly with the communities where we operate to develop and maintain a mutual understanding of goals and expectations.
- Promote the conservation of energy and natural resources and reduce waste.
- Routinely monitor, assess and report on the company's environmental, health and safety performance and on our conformity with this policy.

3. Identify and Map Criteria

This section presents HESS Corporation's inventory of environmental and land use information consistent with the Commission's regulations for evaluating siting criteria, including areas referred to as exclusion and avoidance areas, and the Project's compatibility with selection and policy criteria. The following sections identify and discuss whether individual siting criteria are located within the Study Area or on Site. Where siting criteria are identified, their location is shown on the maps in Appendix B.

A. Exclusion Areas

Exclusion areas are geographic areas that should be excluded from consideration for the siting of an energy conversion facility. The following table and text identify and discuss exclusion areas that were identified within the Study Area or on Site.

Exclusion Area	Within Study Area	On Site
National Parks or Memorial Parks	No	No
National Historic Sites, Historic Districts or Historic Landmarks	No	No
National Natural Landmarks or Monuments	No	No
National Wilderness Areas or Wildlife Areas	No	No
National Wild, Scenic or Recreational Rivers	No	No
National Wildlife Refuges or Grasslands	No	No
State Parks	No	No
State Forests or Forest Management Lands	No	No
State Historic Sites, Monuments, or Historical Markers	No	No
State Archaeological Sites	No	No
State Grasslands	No	No
State Wild, Scenic or Recreational Rivers	No	No
State Game Refuges, or Game Management Areas	No	No
Sate Management Areas	No	No
State Nature Preserves	No	No
County Parks	No	No
County Recreational Areas	No	No
Municipal Parks	No	No
Parks Owned or Administered by Other Governmental Subdivisions	No	No
Prime Farmland	Yes	No
Irrigated Land	No	No
Areas Critical to the Lifestages of Threatened or Endangered Animal or Plant Species	No	No
Areas Where Animals or Plant Species that Are Unique or Rare to this State will be Irreversibly Damaged	No	No

Designated or Registered National – Parks; Memorial Parks; Historic Sites; Historic District; Historic Sites and Landmarks; Natural Landmarks; Monuments; Wilderness Areas; Wildlife Areas; Wild, Scenic or Recreational Rivers; Wildlife Refuges; or Grasslands.

None of the above-listed national areas occur within the Study Area or On Site, as confirmed through HESS Corporation's studies and consultations described in Section B.

Designated or Registered State – Parks; Forests; Forest Management Lands; Historic Sites; Monuments; Historical Markers; Archaeological Sites; Grasslands; Wild, Scenic or Recreational Rivers; Game Refuges; Game Management Areas; Management Areas; and Nature Preserves

None of the above-listed state areas occur within the Study Area or On Site, as confirmed through HESS Corporation's studies and consultations described in Section B.

County Parks and Recreational Areas; Municipal Parks; Parks Owned or Administered by Other Governmental Subdivisions; Hardwood Draws; and Enrolled Woodlands

None of the above-listed county, municipal, or other governmental areas occur within the Study Area or On Site, as confirmed through HESS Corporation's studies and consultations described in Section B.

Prime Farmland

No prime farmland occurs On Site. There is a small area within the southwest portion of the Study Area that is classified as prime farmland, areas determined by the NRCS to have soils that generally meet the following criteria: have an adequate water supply, either from precipitation or irrigation; contain few or no rocks; are permeable to water and air; are not excessively erodible or saturated for long time periods; and either do not flood frequently or are protected from flooding. The NRCS map information showing the location of prime farmland is shown on the U.S. Geological Survey (USGS) topographic map included in Appendix B. This location of prime farmland is about 0.25 mile south from the Site, on the opposite side of the existing Burlington Northern Railroad track, and as such will not be affected by the Project.

Irrigated Land

The rolling topography in the Project area does not support irrigation-based farming practices. Based on knowledge from local HESS Corporation personnel with a history of working at the Plant, there is no irrigated land On Site or within the Study Area.

Areas Critical to the Lifestages of Threatened or Endangered Animal or Plant Species/Areas Where Animals or Plant Species that are Unique or Rare to this State will be Irreversibly Damaged

As described in Section B.1., no areas critical to federal threatened or endangered species, or state protected species were identified within the Study Area or On Site.

B. Avoidance Areas

Avoidance areas are geographic areas that will not be considered in the siting of an energy conversion facility unless there is no reasonable alternative. The following table and text identify and discuss avoidance areas within the Study Area or On Site. Maps illustrating the location of avoidance areas within the within the Study Area or On Site are included in Appendix B.

Avoidance Area	Within Study Area	On Site
Historical Resources Which Are Not Specifically Designated as Exclusion Areas	Yes	No
Areas within City Limits, or Military Installation Boundaries	Yes	No
Area within Known 100-Year Floodplains	Yes	No
Areas Which Are Geologically Unstable	No	No
Woodlands and Wetlands	Yes	No
Areas of Recreational Significance Which Are Not Designated as Exclusion Areas	No	No
Within 500 Feet of an Inhabited Rural Residence	No	No

Historical Resources Which Are Not Specifically Designated as Exclusion Areas

No historical resources were identified On Site during the Class III cultural resources filed survey.

One cultural resource site, an old farmstead location, was noted within the Study Area (north of the Project location, in the adjoining section) during the Class I cultural resource files search. This site was recommended as not eligible for listing on the National Register of Historic Places in 2002 and it was not investigated during the Class III survey as it was not located on Site.

A small cemetery is visible on the topographic map of the Project area labeled Eastside Cemetery. This location is within the Study Area, but is approximately 0.3 mile southwest of the southernmost point of the Site. No records of this cemetery were identified in the SHPO records during the Class I files search.

Areas Within the City Limits of a City or the Boundaries of a Military Installation

The Study Area is located adjacent to the eastern boundary of the Town of Tioga; however, the Site is not located within the city limits or within the boundaries of a military installation.

Areas Within Known Floodplains as Defined by the Geographical Boundaries of the Hundred-Year Flood

The North Dakota State Water Commission (NDSWC) administers the state's floodplain management program that regulates the construction of structures in floodplains. The NDSWC uses floodplain mapping data prepared by the Federal Emergency Management Administration (FEMA); however, the delineation of floodplains is limited to

municipal locations in North Dakota as this is where the most damage to people and property will occur during a flood event.

FEMA uses a regulatory standard referred to as a 100-year flood in which it identifies map elevations correlating to where an area may have a 1 percent chance of being equaled or exceeded in a flood in any given year. FEMA floodplain map information exists for the immediate area in and around the Town of Tioga, but this data for the area surrounding the Project has not been mapped. An area within the southwest portion of Study Area is designated as FEMA floodplain (along the alignment of an unnamed tributary of Paulson Creek), but this designation stops at the intersection with the Burlington Northern Railroad grade south of the Project area (see map in Appendix B).

The NDSWC has designated each County Engineer's office to administer the floodplain program in rural areas of the state, where FEMA data does not exist. Merjent, on behalf of HESS Corporation, consulted with Monte Meiers, the Williams County Engineer, to discuss how to evaluate the location of floodplains close to the Project Site. Mr. Meiers responded that the best available method to determine floodplain locations outside of the FEMA mapped area was to base the floodplain boundary on historical observations from personnel with a long working familiarity with the Site. HESS Corporation Plant personnel have 30 years of experience working on-site and note that the highest levels of floodwater observed at the unnamed intermittent tributary touches the base of the slope at the southern end of the property. The elevation contours of the Plant property increase quickly from the elevation at the tributary, and therefore, floodplain issues are not a concern at the Site.

Areas That Are Geologically Unstable

Three types of geologic instabilities or hazards could be of potential concern: earthquakes, landslides, and sinkholes. None of these land features are located within the Study Area or On Site.

Earthquakes, including related hazards such as soil liquefaction, are not considered to be a significant risk in North Dakota. No earthquake of a magnitude capable of damaging welded steel piping facilities has occurred within North Dakota during historical times.

A landslide occurs when a mass of soil and/or rocks tumble or slide down a slope under its own weight. Slopes may fail for various reasons, including the steepness or angle of the slope, soil and/or rock type, bedding, and moisture content of the soil and/or rocks. Landslides are generally identified in the field by steep, near-vertical slopes. The Plant is located away from steep slopes and, therefore, there is a low probability of landslides affecting the proposed Project.

Sinkholes are considered a geologic hazard in parts of North Dakota where coal mining occurred beneath soft sediments, sometimes resulting in sinkholes. No coal mines occur near the Plant, and consequentially no sink holes were identified.

Woodlands and Wetlands

Woodlands and wetlands are scattered throughout the Study Area. Wetland locations as identified on the National Wetland Inventory Maps are shown on the USGS

topographic map included in Appendix B. Woodlands in this area typical occur as tree rows along property boundaries or along stream banks. However, as described in Section B.1., no wetlands or trees occur on Site.

Areas of Recreational Significance Which Are Not Designated as Exclusion Areas

No areas of recreational significance occur within the Study Area or on Site.

Within 500 Feet of an Inhabited Rural Residence

Section 49-22-05.1 of the North Dakota Century Code states that an inhabited rural residence within 500 feet of a proposed site shall be designated as an avoidance area. No inhabited rural residences are located within 500 feet of the Site. Dilapidated outbuildings from an abandoned farmstead across the street from the Plant on the north side are visible in aerial photograph of the Project area in Appendix B. HESS Corporation's on-Site personnel at the Plant confirmed this location is not inhabited.

C. Selection Criteria

Selection criteria include environmental and land use factors for which the Project must have an acceptable minimum amount of impact, as determined by the Commission.

The Impact Upon Agriculture

Agriculture Production

The Project will have no effect on agricultural production. Agriculture is the predominant land use in the Project area. The 21 acres of new land outside the Plant boundaries that the Project will expand onto contains patches of crested wheatgrass, a common range forage plant intermixed with industrial facilities. This land is not in active agricultural production and, therefore, the Project will have no effect on agricultural production.

Family Farms and Ranches

Family farms and ranches do occur around the Project area; however, the portion of land on which the Project will expand is not used for grazing and, therefore, the Project will have no effect on family farms or ranches.

Land Which the Owner Can Demonstrate Has Soil, Topography, Drainage, and an Available Water Supply That Cause the Land to be Economically Suitable for Irrigation

The rolling topography in the Project area generally does not support irrigation-based farming practices. There is no irrigated land On Site.

Surface Drainage Patterns and Ground Water Flow Patterns

Surface Drainage

Surface water in the Project area drains south and east to an unnamed tributary of Paulson Creek, which flows east to the White Earth River, and then south to the Missouri River. The Project work will not alter surface drainage patterns in the area.

Groundwater

Groundwater aquifers within the Project area include bedrock and glacial drift aquifers. Bedrock aquifers are generally found at a depth of 5,000 feet. Glacial drift aquifers are found at depths ranging from a few feet to more than 500 feet. Ground excavation work associated with the Project will generally be limited to 8 feet or less below the existing ground surface, and may sometimes intersect a glacial drift aquifer. In the event that HESS Corporation requires temporary dewatering to clear the work trench, this impact will be temporary and negligible.

Agricultural Quality of the Cropland

A portion of the Project will occur on land growing crested wheatgrass, a range forage material, but this area is not considered high quality agricultural cropland, and this impact is considered negligible.

The Impact Upon the Availability and Adequacy of:

Law Enforcement

The population of the Town of Tioga is approximately 1,100 people. Serving this population are the Chief of Police, a Sergeant, and Patrolman employed by the Town of Tioga and one dedicated county sheriff. Construction of the Project will require about 250 workers peak over the course of the next few years.

Most workers will be housed in temporary lodging or mancamp facilities under the direction of their specific contractors involved in the construction of the proposed Plant. Security for the mancamp facilities will be the responsibility of the camp management and thereby, the contractor, and will not burden the local law enforcement.

Following construction of the Project, no new, additional permanent workers will be required to operate the Plant beyond that already employed at the existing facility. Therefore, there will be no long-term impact on law enforcement.

School Systems and Education Programs

Construction workers are not expected to move their families with them for the Project and, therefore, the Project will have no impact on the local school system. Further, because of operating efficiencies in the new Plant's technology, there will not be any new increase in permanent personnel employment at the Plant, and consequently, no new families will relocate into the area and there will not be any impact on the local school system.

Governmental Services and Facilities

Tioga's government and city officials housed in City Hall consist of a city and deputy auditor, economic development coordinator, water and maintenance staff, and police department. In addition, the Town of Tioga employs a fire chief and assistant, building inspector, attorney, health officer, and judge. Serving the community is a Park Board, Airport Authority, Planning and Zoning Commission, Special Assessment Board,

Recreation Council, Library Board, Theater Board, Tioga Fund Advisory Board, R&T Water Board, Housing Authority, and a five-member City Commission.

HESS Corporation will request the Contractor responsible for the operation of the mancamp to either contain within or compensate the local infrastructure for the utility burden. This will minimize the impact of the proposed Plant construction on the existing municipal infrastructure.

HESS Corporation will work with local law enforcement, fire departments, and emergency medical services to coordinate for effective emergency response and will support these services to reduce the effect of the Plant construction on their normal work. HESS Corporation will be responsible for the safety, health, environmental, and security requirements in the construction of the Plant including an emergency response training program for its employees. The influx of temporary Project workers may place an increased burden on certain governmental services or facilities, but this will occur over a relatively short amount of time, is not expected to be significant.

Other potential construction-related demands on local services will include increased demand for permits for vehicle load and width limits, local police assistance during construction at road crossings to facilitate traffic flow. HESS Corporation will work with permitting staff and submit its permit applications in a timely fashion so as to not create an adverse demand on staff and obtain its authorizations in time for construction.

General and Mental Health Care Facilities

Tioga's Medical Center consists of a 25-bed Critical Access Hospital, 30-bed Long Term Care Facility, one-clinic, and a 14-apartment independent living facility. Tioga Medical Center also operates two satellite clinics located in Ray and Powers Lake. The community is served by one family practice doctor and two internal medicine doctors, as well as a number of supporting nursing staff. Tioga also relies on a volunteer fire department and emergency medical response technicians to assist with emergency responses.

The Town of Tioga has one dentist, one optometrist, and two chiropractors.

The three nearest major medical facilities to the Town of Tioga include the Mountrail County Medical Center in Stanley, North Dakota, about 24 miles away; the Mercy Medical Center in Williston, North Dakota, about 39 miles away; and Saint Lukes Hospital in Crosby, North Dakota, about 39 miles away.

HESS Corporation will work with the Tioga Medical Center to coordinate for effective emergency response and will support these services to reduce the effect of the Plant construction on their normal work. HESS Corporation will be responsible for the safety, health, environmental, and security requirements in the construction of the Plant including an emergency response training program for its employees.

Recreational Programs and Facilities

The Town of Tioga offers several recreational opportunities such as a theater, swimming pool and park, the Norseman Museum, general hunting and fishing, a 9-hole golf course

and country club, antique shops, and camping. Annual events include the Tioga Freedom Fest in July and Tioga Farm Festival in September.

Due to the nature of this type of construction work and the demanding work schedule (6 to 7 days per week, 10 to 12 hours per day) it will be unlikely that workers will use much of the town's recreational facilities. Also, because construction workers will occupy the work camp, the availability of motels, hotels, and campsites available for recreational use or tourism should be not affected by the Project.

Each contractor will be required to encourage social responsibility among their employees during off hours. Workers will most likely travel home during extended periods of off time.

Transportation Facilities and Networks

Construction activities will result in short-term impacts on transportation infrastructure, including disruption to traffic flow due to the movement of construction equipment, materials, and crew members; and damage to roads from the movement of heavy construction equipment and materials.

Potential impacts on transportation infrastructure will be minimized through the development of a traffic control plan developed in coordination with local departments of transportation. HESS Corporation will also commission a transportation and logistical study to evaluate the best routes for the delivery of material and fabricated equipment to minimize the effect on road traffic and road wear. Each contractor will be responsible for mass transportation, such as busing, of their workers to and from the work site from a central parking area to minimize impact on local transportation infrastructure.

Retail Service Facilities

Because construction will require about 250 workers peak new to the area and the Project will extend for the next few years, local businesses will realize a significant economic benefit from the Project. Construction workers will spend a portion of their pay in local communities on items such as housing, food, vehicle fuel and repair, entertainment, clothing, and hardware supplies.

The businesses that will most likely receive the bulk of construction phase discretionary spending will be located within the retail trade, arts and entertainment, and food services sectors. These outlets will provide recreational and retail spending opportunities for the construction workers living at the work camp. It is likely that many workers will avail themselves of discretionary spending opportunities at these outlets, thereby creating a short-term stimulus to the Town of Tioga and surrounding areas through the purchase of goods and services.

Utility Services

The impact of the proposed Plant construction upon the municipal water, sewage and electrical infrastructure will be minimal. Contractors will be responsible for their supply of portable potable water and toilets for workers. They will also be responsible for ensuring an adequate electricity supply for construction through connection to local electrical distribution or by portable generation.

The Impact Upon:

Local Institutions

The Town of Tioga has a number of local institutions. These include the American Legion & Auxiliary, Chamber of Commerce, Chemical Task Force, Farm Festival Committee, Freedom Fest Committee, Homemakers Clubs, Kiwanis Club, Peaceful Valley Quilters Guild, Retail Committee, Prairie Pounders Snowmobile Club, Senior Citizens Club, Sons of Norway, Sorority Chapters, Sports Boosters Club, Swing Boosters Club - Swing & Twirl Dance Club, Tioga Area Dollars for Scholars, Tioga Boy Scout Troop #1350, Tioga Economic Development Corporation, Tioga Challengers 4-H, White Earth Valley Saddle Club, TOPS, and Toastmasters.

Because construction will require about 250 workers at peak time and the Project will extend for the next few years, some of these local institutions offering recreational opportunities may realize an economic benefit from the Project through the use of these services. However, the construction workers and other Project staff are not expected to become members of these institutions and, therefore, the Project will have a temporary and minor impact on local institutions.

Noise Sensitive Land Uses

Noise sensitive land uses include locations that require a serene environment as part of the overall facility or residential experience, such as a school, hospital, church, or residence. The Project is located in a rural setting; no schools, hospitals, or churches are located within the Study Area. Residences near the Project area will be exposed to temporary increases in noise for the next few years from the operation of truck traffic and heavy equipment during construction. Nighttime and weekend noise levels will be unaffected by construction, as construction will be restricted to typical business operating hours. No long-term noise impacts will occur from the Project as the proposed gas compressor will be electric driven, which is relatively quiet operating machinery.

Rural Residences and Businesses

As the Project is located just outside of the Town of Tioga, many of the town's residences may experience traffic congestion, delays, and inconveniences resulting from the influx of temporary workers, while the town's businesses will experience an increased economic benefit of increased sales of goods and services.

Aquifers

Ground excavation work associated with the Project will generally be limited to 8 feet or less below the existing ground surface, and consequentially construction in not expected to affect groundwater aquifers.

Human Health and Safety

It is the policy of HESS Corporation to maintain a safe working environment and to conduct its business in compliance with all applicable local laws, rules, and regulations, including those of the federal Occupational Safety and Health Administration (OSHA). Numerous safety rules and safe work procedures have been adopted by HESS

Corporation, to assure the protection of personnel and property, and to maintain regulatory compliance.

Animal Health and Safety

Wildlife observed on Site is typical of agricultural habitats. Species observed during the survey included birds (western meadowlark, American robin, and killdeer), squirrel, coyote, and white-tailed deer. These are mobile species and will relocate to adjacent habitat. Overall impacts on wildlife are expected to be temporary and minor.

Plant Life

The Project will result in the removal of a small area of crested wheatgrass, a common range forage plant. However, this will not result in a significant impact on local plant life.

Temporary and Permanent Housing

According to City-Data.com, the Town of Tioga has 572 homes, of which 493 are occupied, leaving 79 as unoccupied. During construction, an estimated 250 workers at the peak construction time will relocate to the Project area and require temporary housing. This demand for temporary housing will exceed supply and result in a shortage of temporary housing for the next few years. However, to offset this, HESS Corporation, through coordination with other energy companies working in the area and private contractor, will rely on the lodging made available at temporary work camps in the area.

A third-party private property developer is currently working with the Tioga City Commissioners for approval to construct a temporary housing complex near Tioga to accommodate the influx of construction workers associated with HESS Corporation's Project as well as other gas and oil development companies working in the area. This property developer will be responsible for providing the modular units and temporary trailer pads, along with food services, septic services, solid waste removal, water, and security.

There will not be any permanent housing impact as no new permanent Plant employees will be need to operate the Plant.

Temporary and Permanent Skilled and Unskilled Labor

The Project will employ temporary skilled and unskilled labor. Skilled labor will include craft workers such as iron workers, welders, boilermakers, pipefitters, electricians, and carpenters. Unskilled labor will include general labor help typically supporting skilled laborers. No new permanent skilled or unskilled workers are needed to operate the Plant because of the increased operating efficiency of the new gas processing equipment.

The Cumulative Effects of the Location of the Facility in Relation To Existing and Planned Facilities and Other Industrial Development:

HESS Corporation is not aware of any new planned facilities or industrial developments at the Project location. The only other existing facility at the location of the Project is a Tesoro Corporation oil truck unloading facility. HESS Corporation has been coordinating

closely with Tesoro in the planning of its Plant expansion to result in mutually beneficial new facilities for both parties.

D. Policy Criteria

Policy criteria are those factors that may be positively affected by the Project, and that may lead the Commission to give preference to an applicant.

Recycling of the Conversion Byproducts and Effluents

Not applicable to this Project.

Energy Conservation Through Location, Process, and Design

The proposed Plant will be a state of the art cryogenic fractionation turboexpander process which will replace a 1950s lean oil fractionation process. The efficiency improvement of the new process is indicated by a heat exchange temperature approach of 3° F as compared to the more typical approach of the existing process of 20° F to 30° F.

Training and Utilization of Available Labor in this State for the General and Specialized Skills Required

Gas plant construction is a specialized niche construction market and the labor force needed to build the Project will be comprised of mostly non-local employees. The primary contractor will be a non-local contractor, supplying specialized labor. Due to the temporary nature of the work, most local hiring and training will be for general laborer help. Approximately 250 construction personnel will be employed during the peak of construction. A minimal quantity of the total workers will be hired from the local population currently residing in area. HESS Corporation does not anticipate needing to hire any permanent employees to operate the facilities.

Use of a Primary Energy Source or Raw Material Located Within the State

The raw feed gas into the proposed Plant will be supplied and processed entirely from within the State of North Dakota. The Plant products will be transported into both intrastate and interstate markets.

Nonrelocation of Residents

No residences will need to be re-located because of the Project.

The Dedication of an Area Adjacent to the Facility to Land Uses Such As Recreation, Agriculture, or Wildlife Management

HESS Corporation does not own any land adjacent to the proposed Project that could be designated for recreation, agricultural or wildlife management purposes. The area adjacent to the Project comprises approximately 60 percent industrial land use and 40 percent agricultural/range land use (see aerial photograph in Appendix B).

Economies of Construction and Operation

HESS Corporation has designed the Project to take advantage of its existing facility to the maximum extent practical. The Project will be co-located with HESS Corporation's Plant, an existing operating facility, performing the same function as the proposed Project, gas processing. The Project will use the existing infrastructure to delivery raw natural gas to the Plant from the gathering fields, and will use the existing downstream pipeline to transport the gas into the interstate transmission pipeline grid. The Project location and design are clear examples of creating an economy of scale project concept, achieving additional production capacity in the most minimally intrusive and most efficient way possible, in terms of new infrastructure development and associated land use impacts with a comparable project in a new location.

Secondary Uses of Appropriate Associated Facilities for Recreation and the Enhancement of Wildlife

Construction of the Project will result in industrial Plant facilities on the land surface; no associated facilities will exist that could be used for recreation or wildlife enhancement.

Use of Citizen Coordinating Committees

HESS Corporation did not utilize citizen coordinating committees on this Project. Because the Project is an expansion of an existing facility that has been operating for the last 60 years, and the remote location of the Project, a citizen coordinating committee was determined to not be necessary.

A Commitment of a Portion of the Transmitted Product for Use in This State

The raw feed gas into the proposed Plant will be supplied and processed entirely from within the State of North Dakota. The Plant products will be transported into both intrastate and interstate markets.

Labor Relations

HESS Corporation does not anticipate encountering any adverse labor relations on this Project. The labor market in the Project area is supportive of the oil and gas industry.

The Coordination of Facilities

HESS Corporation is actively pursuing oil and gas exploration and development projects in northwestern North Dakota. HESS Corporation will coordinate the construction of the Project with its other nearby gas and oil drilling and gathering construction projects. Coordinating construction activities results in great efficiencies by using much of the same labor pool and often the same construction equipment.

In addition, HESS Corporation and other energy companies working in the area intend to temporarily populate a temporary work camp within the Tioga area. A third-party private property developer is currently pursuing approval to construct a temporary housing complex near Tioga to accommodate the influx of construction workers associated with HESS Corporation's Project as well as other gas and oil development companies working in the area.

Monitoring of Impacts

HESS Corporation's Construction Team Lead based at the Plant will be responsible for overseeing the contractor's activities during construction, including environmental requirements.

E. Design and Construction Limitations

The processing capacity of the proposed Plant will be limited by the Amine Contactor. The Amine Contactor is the first process unit in the flow stream. It is an aqueous amine chemical absorption process used to remove the hydrogen sulfide and carbon dioxide from the raw feed gas after liquid separation and before dehydration.

F. Economic Considerations

The proposed Plant will have several economic advantages over the existing lean oil fractionation plant. It will have an improved capacity of 250 MMSCFD as compared to the same for the existing plant of 120 MMSCFD for a net increase of 130 MMSCFD. This will translate into increased oil production from the Bakken formation by providing the associated gas processing. Additionally, the gas produced in the production of oil from the formation will be processed rather than flared. Finally, the new Plant will allow for the improved separation of the raw gas feed into more products with improved refinement, flexibility and efficiency.

4. Factors to be Considered In Evaluating Applications and Designation of Sites, Corridors, and Routes (Section 49-22-09, N.D.C.C.).

A. Available Research and Investigations Relating to the Effects of the Location, Construction, and Operation of the Proposed Facility on Public Health and Welfare, Natural Resources, and the Environment

HESS Corporation consulted with several federal, state, and local agencies to identify environmental resources in the Project area, and to evaluate the potential environmental impacts of the proposed Project. HESS Corporation also conducted field surveys for biological and cultural resources, wetlands, and land use. The results of HESS Corporation's research and investigations are presented in Section B.

B. The Effects of New Energy Conversion and Transmission Technologies and Systems Designed to Minimize Adverse Environmental Effects

The new emission sources associated with the Project include two natural gas fired heaters, piping components, and an emergency flare. Emissions from the new heaters will be partially offset by the shutdown of three existing natural gas fired heaters. The new piping component emissions will be offset by the shutdown of existing process piping components.

C. The Potential for Beneficial Uses of Waste Energy from a Proposed Energy Conversion Facility

The proposed Plant will not use waste heat recovery in the process since all prime movers are electric driven.

D. Adverse Direct and Indirect Environmental Effects Which Cannot Be Avoided Should the Proposed Site or Route Be Designated

Please refer to Sections B, D.3., and D.4.F of this application for a discussion of adverse direct and indirect environmental effects that could not be avoided.

E. Alternatives to the Proposed Site, Corridor, or Route Which are Developed During the Hearing Process and Which Minimize Adverse Effects

HESS Corporation has not identified any reasonable alternatives to the proposed Site that will result in minimizing environmental impacts any more effectively than the proposed Site.

F. Irreversible and Irretrievable Commitments of Natural Resources should the Proposed Site, Corridor, or Route Be Designated

The Project will result in one minor irreversible commitment of natural resources by taking approximately 20 acres of rangeland out of production and converting it into an industrial land classification. However, this amount of land represents a small permanent impact compared to the total amount of range land in the Project area.

G. The Direct and Indirect Economic Impacts of the Proposed Facility

Please refer to Sections B, D.3., and D.4.F for a discussion of direct and indirect economic impacts of the Project.

H. Existing Plans of the State, Local Government, and Private Entities for Other Developments at or in the Vicinity of the Proposed Site, Corridor, or Route

No state or local government development plans were identified in the vicinity of the Project area.

I. The Effect of the Proposed Site or Route on Existing Scenic Areas, Historic Sites and Structures, and Paleontological or Archaeological Sites

The Project will not affect scenic areas, archaeological or historic sites, or paleontological sites. Please refer to additional discussions of cultural resource issues in Sections B.6 and D.3.B.

J. The Effect of the Proposed Site or Route on Areas Which are Unique Because of Biological Wealth or Because They are Habitats for Rare and Endangered Species

The Project will not affect areas that are unique because of biological wealth or where there are habitats for rare and endangered species. Please refer to additional discussions of biological resource issues in Sections B.1. and B.4.

K. Problems Raised by Federal Agencies, Other State Agencies, and Local Entities.

HESS Corporation consulted with several federal and state environmental regulatory agencies to identify potential natural resources in the Project area that may be affected. No resource issues were identified by agencies that will be affected by the Project.

HESS Corporation will continue coordination with North Dakota environmental regulatory agencies regarding permit programs specific to water and air quality control and waste management issues through the construction and operation phase of the Project.

HESS Corporation is aware and in active discussions with local officials in the Tioga area regarding ways to address potential Project impacts on housing, roads, municipal infrastructure burdens. It is a primary goal in the construction and operation of the proposed Plant to minimize any negative effects on the general quality of life in Tioga and the surrounding area. These effects will be continually monitored by active engagement of HESS Corporation personnel with Tioga community.

5. Mitigative Measures

The most significant and effective mitigation measure HESS Corporation will implement on this Project is to design the facility in conjunction with its existing Plant. Co-locating the two facilities will minimize adverse effects from construction and operation of the Project, particularly as compared to environmental and land use impacts associated with building a comparably sized project in a new location.

6. List of Preparers

Scott Wright

Team Lead, Construction
HESS Corporation, 500 Dallas Street, Houston, TX 77002

B .S. Mechanical Engineering, Texas A & M University (1978). Mr. Wright has worked for HESS Corporation, formerly Amerada HESS Corporation, for 32 years in the engineering, construction and project management of upstream oil and gas facilities. The majority of his work has occurred in the southwestern and northern United States with some international work. Specializing in secondary (waterflood) and tertiary (carbon dioxide) development, Mr. Wright has been directly responsible for the facilities development in several large scale and world class primary and post primary recovery operations in West Texas, Eastern New Mexico and North Dakota.

John Morrison

Attorney at Law
Crowley Fleck, Ltd. P.O. Box 2798, Bismarck, ND 58502

B.A. Music, Mary College, and J.D. University of North Dakota. Mr. Morrison has been in private practice in North Dakota for 29 years, specializing in natural resources law, public utilities law, and corporate and general business law. Much of his work involves the representation of oil and gas companies in state and federal administrative matters, including

the North Dakota Industrial Commission (North Dakota's oil and gas conservation commission), the North Dakota Tax Department, the North Dakota Public Service Commission, the Bureau of Land Management, and the Interior Board of Land Appeals.

Bill Regan

Senior Environmental Analyst
Merjent, Inc., 615 First Ave NE, Suite 425, Minneapolis, MN 55413

B.S. Biology, University of Minnesota - Twin Cities. Mr. Regan has 30 years as an environmental analyst with 21 years of experience as an environmental consultant providing project management on natural gas and petroleum pipeline construction projects regulated by state Public Service Commissions and the Federal Energy Regulatory Commission. Mr. Regan prepares environmental assessment reports, agency permit applications, and directs environmental field surveys. Mr. Regan worked for the Minnesota Pollution Control Agency as an environmental specialist for 9 years prior to moving to consulting work.

Mike Cook

Ecologist/Project Manager
SWCA Environmental Consultants, 116 North 4th St., Suite 200, Bismarck, ND 58501

B.S., Professional Biology, Dickinson State University and M.S. Biology, Stephen F. Austin State University. Mr. Cook has participated and led ecological field surveys for approximately 5 years in Texas, Oklahoma, Louisiana, and North Dakota. He is knowledgeable in various ecological disciplines including wetland, terrestrial, and aquatic ecology. Mr. Cook serves as an ecologist and project manager with SWCA's Bismarck Natural Resource Department.

Judy Cooper

Archaeologist/Principal Investigator
SWCA Environmental Consultants, 116 N. 4th Street, Suite 200, Bismarck, ND 58501

Ph.D. and M.A., Anthropology, Southern Methodist University and B.A. Anthropology, Pennsylvania State University. Dr. Cooper has over ten years of experience in North American archaeology and has worked on field (survey, testing, and excavation) and research projects in the northern Great Plains and Rocky Mountains. Dr. Cooper is experienced in federal and state cultural resources law and regulations, including Section 106 of the National Historic Preservation Act. As the Cultural Resources Lead in SWCA's Bismarck office, she serves as a member of multi-disciplinary project teams to assure cultural resource concerns are appropriately addressed during the regulatory process.

Branden Bornemann

GIS/Natural Resource Specialist
SWCA Environmental Consultants, 116 North 4th Street, Suite 200, Bismarck, ND 58501

B.S. Environmental Geography, University of North Dakota. M.E.M., Earth System Science and Policy, University of North Dakota. Mr. Bornemann has five years experience working with GIS and Remote Sensing techniques as they relate to natural resource management and two years field experience conducting wildlife observation and habitat surveying. Specifically, the focus of

his graduate research was to compile, map, manage, interpret, and ground-truth geospatial data for wildlife and habitat management. While working for SWCA, he has employed his geospatial knowledge to create report quality maps, to analyze environmental spatial data, to manage spatial databases, and participate in environmental field surveys.

Kate Mize

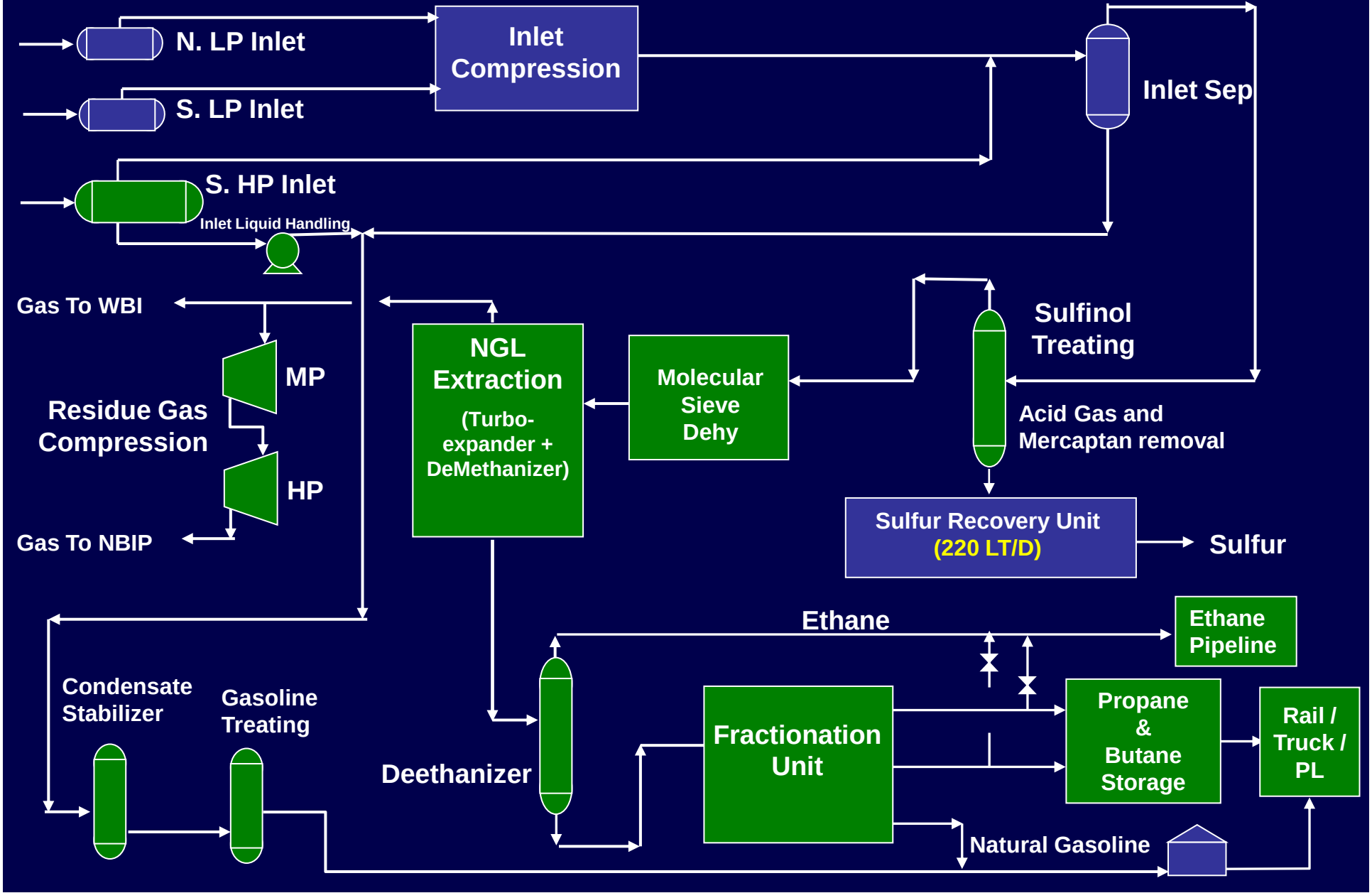
GIS Specialist
Merjent, Inc.

B.S. Environmental Science, University of Minnesota - Twin Cities. Mrs. Mize has six years of experience in environmental consulting and laboratory analysis. She implements GIS technology to ascertain and address environmental resource management issues. She performs natural resource mapping using GIS and GPS methods, and integrates data into databases developed to manage and prepare various project reports. She also provides managerial support for Environmental Inspection programs, processes daily EI reports and variance requests, and manages Merjent's web-based EI reporting system and database.

APPENDIX A

ENGINEERING DOCUMENTS

Tioga GP Expansion – Base Plan for 250 MMSCFD C2 Recov.



AREA LIMIT

N

ROAD WAY

GD HWY 10

FLARE STACKS

PIPE RACK

HEAT MEDIUM AREA

REFRIGERATION COMPRESSOR AREA

NGL EXTRACTION AREA

STABILIZER / OVERHEAD COMPRESSOR AREA

FLARE RELOCATION PROJECT

MAINTENANCE ACCESS

INLET SEPARATOR AREA

FRACTIONATION AREA

ELECTRICAL BUILDING AREA

RESIDUE COMPRESSOR AREA

ELECTRICAL BUILDING AREA

DEHYDRATION AREA

AMINE SWEETENING AREA

AMINE SWEETENING AREA

PROPAK DATUM (0,0,0)

AREA LIMIT

No.	REVISION	BY	DATE	CKD	ENG
A	ISSUED FOR PERMITTING	C.HEBERT	10/03/30		

GENERAL NOTES

GENERAL NOTES

HESS

APPROVED		DRAWN	
MECH./STRUCT.		BY	C. HEBERT
DATE		DATE	10/03/30
ELECTRICAL		CHECKED	
DATE		BY	
PROJECT		DATE	
DATE		SCALE	1/64" = 1'-0"
HESS DWG No.:			

HESS CORPORATION LTD.

TIOGA GAS PLANT EXPANSION (LPG)

OVERALL PLANT LAYOUT

PROCESS AREA DESCRIPTION PLOT PLAN

DWG. No.: D-CIV-096733-5005 SHEET 1 OF 1 REV. A

PROPAK

440 East Lake Road,
Airdrie, Alberta
Canada T4A 2J8

1. DESIGN DATA REPORT

1.1. GENERAL

1.1.1. **The Hess Corporation Tioga Gas Plant** is a refrigerated lean oil plant with a nameplate capacity of 120 MMSCFD. Although the plant is over 50 years old, it is processing near record volumes. Local drilling activity has accelerated in recent years, and Hess Corporation wishes to expand the plant to keep pace with additional production. To that end, a plant expansion project is being commissioned.

1.2. OBJECTIVES

1.2.1. The current objective is to convert the Tioga Gas Plant from a 120 MMSCFD lean oil plant to a nameplate **250 MMSCFD** cryogenic turbo-expander plant designed for ethane recovery but capable of ethane rejection. A plant design capable of maximum operating flexibility is desired, including the capability to fully fractionate the recovered liquids.

1.2.2. **Major Process Systems** – The scope of design will include all of the systems contained within the plant battery limits starting from the inlet gas and condensate pipelines as they enter the plant. These systems are summarized below.

A. Inlet gas slug catcher(s)
B. Inlet condensate pumping, filtration, and stabilization
C. Inlet gas compression (existing)
D. Amine Treating
E. Mole Sieve Dehydration
F. NGL Extraction (including refrigeration)
G. MP Residue Gas Compression
H. HP Residue Gas Compression (existing)
I. Product Fractionation
J. Product Treating (ethane, propane, butane, gasoline)
K. Product Storage, loading, and pipeline transfer systems
L. Flare Systems
M. Drain System
N. Plant Distributed Control System (including control room relocation)
O. Utility Systems (electrical, steam, instrument air, and heat medium)
P. Fire Protection System

2. PROJECT DESIGN DATA

2.1. PLANT CAPACITY

Plant is to be designed with a **nameplate capacity of 250 MMSCFD** to accommodate the 2010 North Dakota Sanction TGP Gas Forecast shown below. The plant must also have enough incremental capacity to accommodate intra-day flow swings of approximately +/- 10 MMSCFD. This and other design considerations are discussed further in the **Project Design Philosophy** document provided in Appendix 5.4.

2.2. FEED STREAM FLOWS & COMPOSITIONS

Streams enter the plant at two pressure levels; high pressure gas and condensate enters at 750 psig, and low pressure gas enters at 6 to 10 psig. For the purposes of design, refer to the table below.

Inlet Gas Flow and Pressure Matrix

Case	Bakken Gas Flow (MMSCFD)		Base Gas Flow (MMSCFD)		Total Flow (MMSCFD)
Plant Inlet Pressure	740 psig	9.0 psig	740 psig	9.0 psig	
80% Bakken Cases	190	10	0	50	**250**

Design stream compositions are provided below. Pseudo-component properties are provided in Appendix 5.2. Note that gas entering the plant at high pressure has been dehydrated in the field to 4 LB/MMSCF.

BAKKEN GAS	
mole%	
H20	0.007
Nitrogen	3.171
Methane	54.822
CO2	0.620
Ethane	21.793
H2S	0.100
Propane	13.040
i-Butane	1.222
n-Butane	3.589
i-Pentane	0.475
n-Pentane	0.713
n-Hexane	0.279
C7	0.112
C8	0.044
C9	0.010
C10-C11	0.004
C12-C13	0.000
C14-C15	0.000
Total	100.000

BASE GAS	
mole%	
H2O	0.500
Nitrogen	3.046
Methane	73.192
CO2	1.210
Ethane	11.834
H2S	2.390
Propane	3.855
i-Butane	0.612
n-Butane	1.474
i-Pentane	0.524
n-Pentane	0.643
22-Mbutane	0.058
2-Mpentane	0.228
n-Hexane	0.240
C-6+	0.010
C-7+	0.184
Total	100.000

2.3. BATTERY LIMIT CONDITIONS

STREAM	TEMP. (ºF)	PRESSURE (psig)
Feeds		
LP Inlet Gas	45 - 65	6 – 10
HP Inlet Gas	45 - 65	750 - 760
Products		
Residue Gas to HP Pipeline	120 Max	1350
Residue Gas to LP Pipeline	120 Max	700 min
Rich Gas Product	120 Max	~800
Propane	90	TBD
Butane	110	TBD
Gasoline	105	TBD

2.4. PRODUCT SPECIFICATIONS

2.4.1. RESIDUE GAS (SALES PIPELINE SPECIFICATIONS)

A. 4 ppm H_2S Max

B. 2% CO_2 Max

C. 32 ppm Total Sulfur Max

D. 4 ppm Mercaptan Max

E. 4 LB/MMSCF Max Water Content

F. Min/Max HHV= 967/1210 BTU/SCF (Dry)

G. Hydrocarbon Dew Point

   A. -5°F @ 800 psia

   B. -10°F @ 1000 psia

   C. -18°F @ 1100 psia

2.4.2. RICH GAS (BAKKEN PIPELINE SPECIFICATION - 9 OCT, 2009)

A. 16 ppmw H_2S Max

B. 80 ppmw total sulfur (Maximum)

C. 2 Vol % CO_2 Max

D. 0.4 Vol% O_2 Max

E. Maximum HHV= 1360-1400 BTU/SCF

F. Hydrocarbon Dew Point = 70ºF (free of liquids at delivery)

G. Water Content – no free water

2.4.3. ETHANE

A. 6.0 Mol% CO_2 (Maximum)

B. 2.5 Mol% C1 (Maximum)

C. 91.0 Mol% C2 (Minimum)

D. 0.5 Mol% C3 (Maximum)

E. <60 ppmw H2S

F. <0.9 ppmw Chlorides

G. <1000 ppmw Methanol

2.4.4. PROPANE

A. 208 psig @ 100°F (Max TVP)

B. 90 LV% Propane (Minimum)

C. 2.5 LV % C_4 and heavier (Maximum)

D. No. 1 Copper Strip test for corrosion

2.4.5. BUTANE

A. 50 psig @ 100°F Max TVP

B. 2.0 LV % C_5 and heavier (Maximum)

C. No. 1 Copper Strip test for corrosion

2.4.6. GASOLINE

A. 13.0 psia RVP target (13.5 Max.)

B. 365°F 90% ASTM D-86 (Max.)

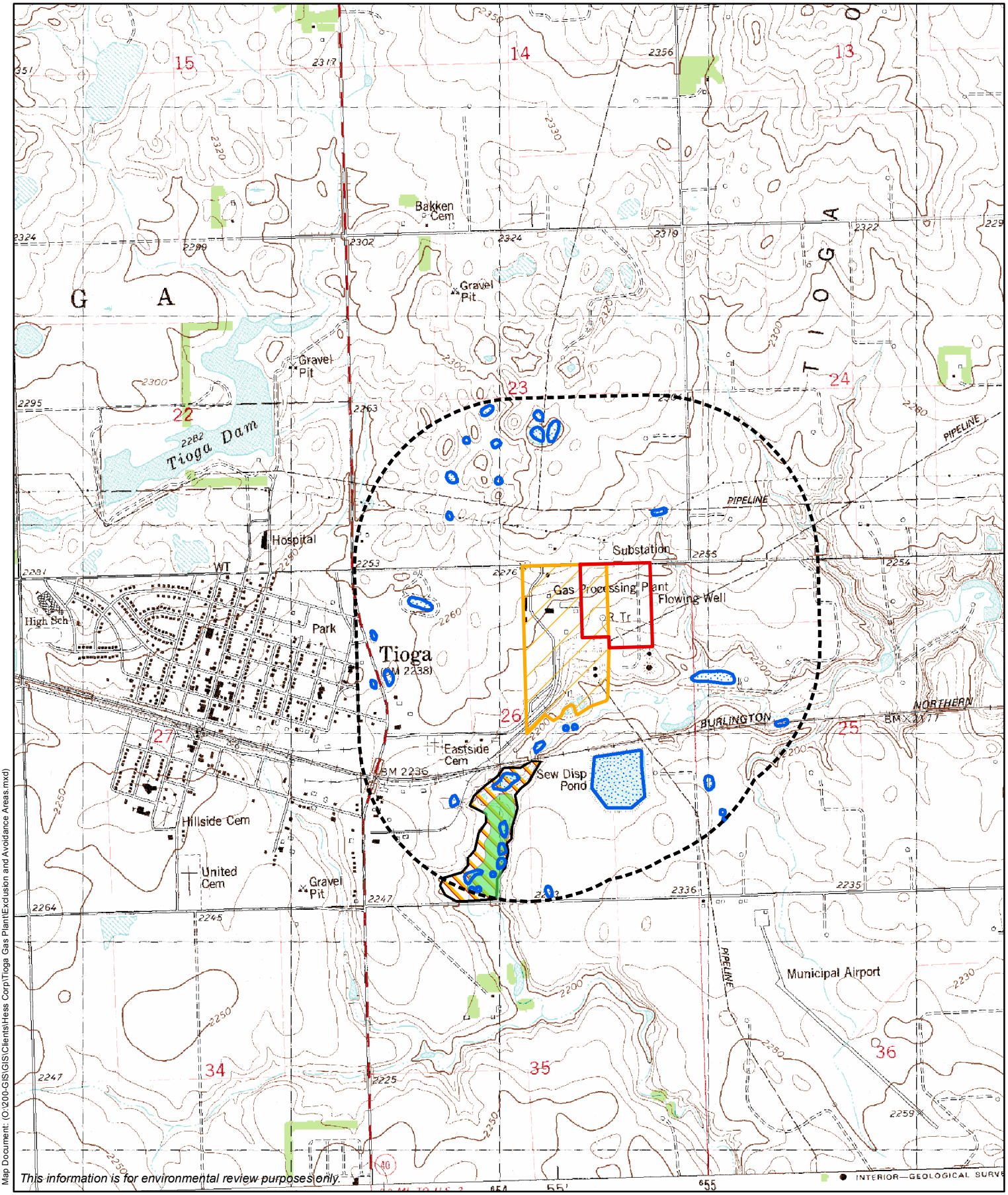
C. 437°F FBP ASTM D-86 (Max.)

D. 75 – 85 API Gravity

E. 120 ppmw Total Sulfur (Maximum)

APPENDIX B

EXCLUSION & AVOIDANCE MAPS



Map Document: (O:\200-GIS\GIS\Clients\Hess Corp\Tioga Gas Plant\Exclusion and Avoidance Areas.mxd)

Existing Tioga Gas Plant
Proposed Project Footprint
0.5 Mile Buffer of Project Location
NRCS prime farmland
FEMA Floodplain
NWI Data

1:24,000

N

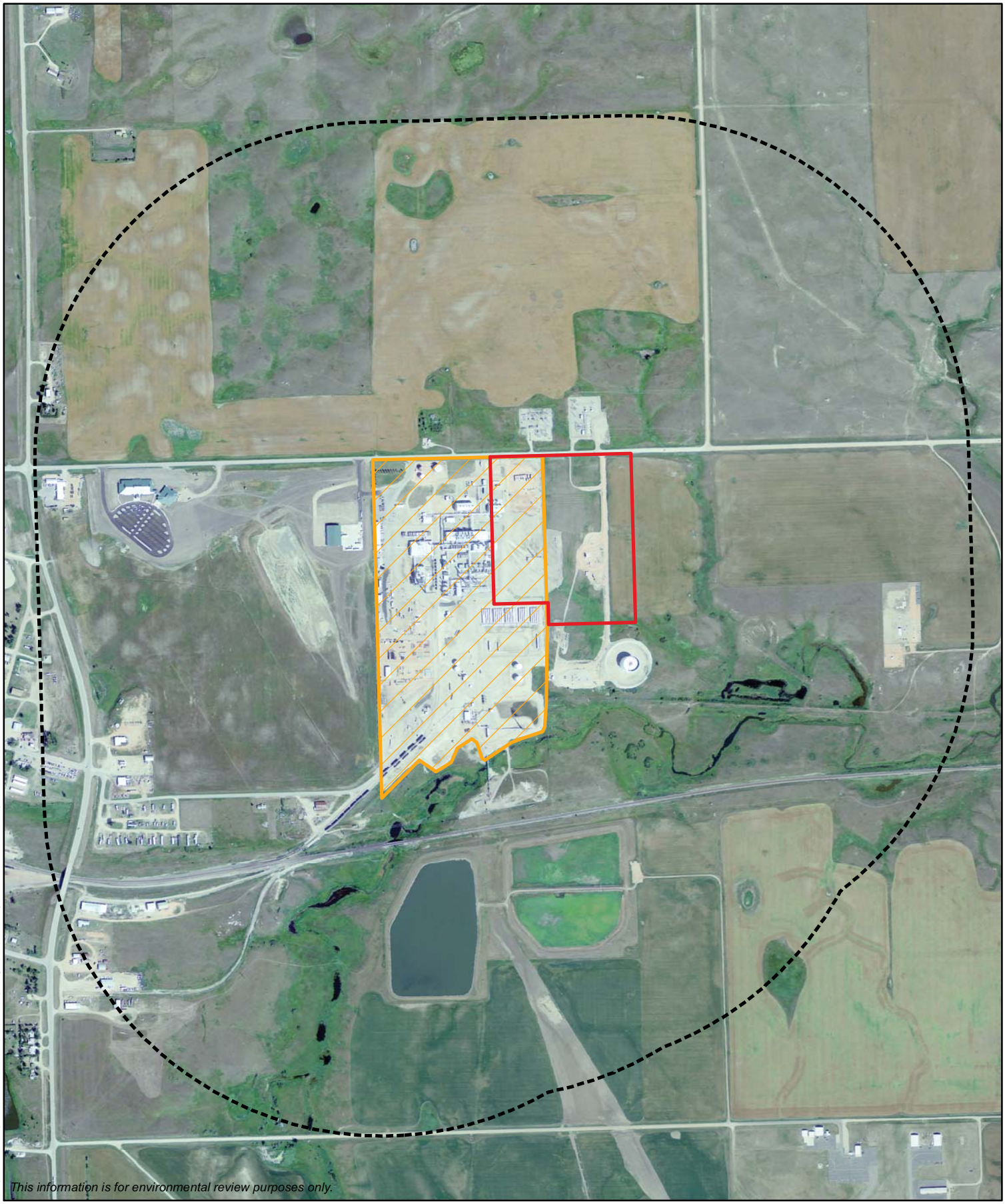
0 1,000 2,000 Feet

Tioga Gas Plant Expansion
Exclusion and Avoidance Areas

Williams County, North Dakota

HESS

Revised: 06/21/10 merjent



Map Document: (O:\200-GIS\GIS\Clients\Hess Corp\Tioga Gas Plant\Project Location - Aerial.mxd)

Proposed Project Footprint

0.5 Mile Buffer of Project Location

Existing Tioga Gas Plant

1:12,000

N

0 500 1,000 Feet

Tioga Gas Plant Expansion Aerial Photography

Williams County, North Dakota

HESS

Revised: 6/07/10

merjent

APPENDIX C

CONSULTATIONS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

MAY 10 2010

Mr. Bill Regan
Environmental Project Manager
Merjent, Inc.
615 1st Avenue NE, Suite 425
Minneapolis, Minneapolis 55413

Re: Hess Corporation Tioga Gas Plant Expansion Project, Williams County, North Dakota

Dear Mr. Regan:

The U.S. Fish and Wildlife Service (Service) has reviewed your project proposal dated March 19, 2010, concerning the proposed construction of an expansion to an existing natural gas processing plant by Hess Corporation (Hess). The location of the proposed project is T. 157 N., R. 95 W., Section 26, Williams County, North Dakota, and would involve construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land adjacent to the existing Tioga Gas Plant.

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA), and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Your letter requests concurrence from the Service on your "no effect" and "not likely to affect" determinations for federally listed species. These determinations are only applicable under Section 7 of the ESA for projects that are funded, permitted, or licensed by a Federal agency. The Tioga Gas Plant Expansion project does not have a Federal nexus; therefore, the Service cannot provide concurrence, as defined by the ESA, on your determinations. However, we do not believe that the proposed project as described is likely to result in take of any federally listed species and no further consultation is necessary. We appreciate the effects rationale you presented in your letter which provided sufficient information for us to reach this conclusion.

As part of the National Wildlife Refuge System, the Service administers fee title Refuge and Waterfowl Production Areas, as well as wetland and grassland easements, throughout North

Dakota. A review of our county plat maps indicates that no Service property interests are located in the project area.

According to your letter, Hess will not start construction until after July 15 to minimize impacts to migratory birds. In addition, you state that construction will be continuous through the following spring and summer months, and construction activities should deter birds from nesting at the project site. The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. It is not possible to absolve individuals, companies, or agencies from liability even if they implement avian mortality avoidance or similar conservation measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without regard for their actions or without following recommendations such as this to avoid take. According to the aerial photograph provided in the letter, it appears that the proposed construction area is currently highly fragmented and likely a high use area. The Service acknowledges that this commitment to wait until after July 15, with continuous construction activities through the following spring and summer, as well as the existing disturbance level at the site, provides adequate protection to migratory birds, eggs, and active nests.

Thank you for the opportunity to comment on this project. If you require further information or the project plans change, please contact me or Heidi Kuska of my staff at (701) 250-4481 or at the letterhead address.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

cc: Project Leader, Crosby WMD
Director, ND Game & Fish Department, Bismarck
(Attn: M. McKenna)

merjent

615 First Avenue NE ■ Suite 425 ■ Minneapolis, Minnesota ■ 55413

p 612.746.3660 ■ f 612.746.3679

March 19, 2010

Mr. Jeffrey Towner, Field Supervisor
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

RE: Hess Corporation – Tioga Gas Plant Expansion Project
Federal-Listed Species, High Value Habitat, and Migratory Bird Consultation

Dear Mr. Towner:

I am writing to request a project review from the U.S. Fish and Wildlife Service (FWS) related to Hess Corporation's (Hess) proposed construction of an expansion to its existing natural gas processing plant in Williams County, North Dakota. Hess is a global crude oil and natural gas exploration and development company with several large operating facilities in western North Dakota. Merjent is an environmental consulting company retained by Hess to collect environmental information for Hess' use in preparing a Public Service Commission application for a Certificate of Site Compatibility.

Hess' Tioga Gas Plant Expansion (TGPE) Project would occur on land adjacent to Hess' existing Tioga Gas Plant located one mile east of Tioga, North Dakota. The public land survey description of the project location is the NE1/4 of Section 26, T157N, R95W (a map and aerial photograph of the project area are enclosed). The project would entail the construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land outside of the footprint of the existing Tioga Gas Plant. The current land use of the project area is industrial and open land. Hess anticipates beginning construction of the project in September 2010, and continuing until 4th quarter of 2012.

Please provide comments regarding FWS concerns within an area defined by a 1-mile diameter circle centered on the existing Tioga Gas Plant and the proposed new expansion area (outlined with a red-dashed line on the maps). Specifically, please address the following three resource topics and as further described below: 1) FWS concerns related to federally listed species and their critical habitats, 2) high value habitat land administered by the FWS, and 3) FWS concerns related to migratory bird impacts.

Federally-listed Species Review

Based on a review of the FWS's web site, five federally-listed species, and critical habitat for one species may be present within or near the evaluation area, and include:

1. Gray wolf (*Canis lupus*) - federally endangered;
2. Interior least tern (*Sterna antillarum*) - federally endangered;
3. Pallid sturgeon (*Scaphirhynchus albus*) - federally endangered;
4. Piping plover (*Charadrius melodus*) - federally threatened with designated critical habitat in adjacent Mountrail County; and
5. Whooping crane (*Grus Americana*) - federally endangered.

For the reasons discussed below, Hess suggests that the TGPE Project will have *no effect*, or is *not likely to affect* listed species, their habitats, or proposed or designated critical habitat in Williams County.

Gray Wolf (*Canis lupus*)
Gray wolves were once common throughout most of North America, but now only live in northern regions of Minnesota, Wisconsin, and Michigan, and the northern Rocky Mountains of Montana, Idaho, and Wyoming. Occasionally, wolves are sighted in North Dakota, South Dakota, and Washington. Most wolf experts agree that wolves spotted in North Dakota are probably lone individuals in search of a new home. These individuals are highly mobile and would likely avoid the project area if present; therefore, the project would *not likely affect* the gray wolf.

Interior least tern (*Sterna antillarum*)
Historically, the interior least tern inhabited the major river systems of the midwestern United States, including the Missouri River, where they would nest in the summer, then migrate to wintering areas in South America. Currently, the terns nest in small remnant colonies throughout their former range. Interior least terns are known to nest along midstream sandbars of the Missouri River. The project area is 15 miles from the Missouri River; therefore, the project would have *no effect* on the interior least tern.

Pallid Sturgeon (*Scaphirhynchus albus*)
The pallid sturgeon's known habitat includes the Missouri River in central Montana to St. Louis, Missouri; the Yellowstone River of eastern Montana; and the Mississippi River from St. Louis, Missouri to the Gulf of Mexico. The project is 15 miles from the Missouri River in North Dakota where the pallid sturgeon is known to occur. In addition, the project will not increase sedimentation or turbidity to any tributaries or drainages connected to the Missouri River system. Therefore, the project will have *no effect* on the pallid sturgeon.

Piping Plover (*Charadrius melodus*)
In North Dakota, piping plovers are known to nest on midstream sandbars of the Missouri River and along shorelines of saline wetlands, especially where there are salt-encrusted areas of gravel, sand, or pebbly mud wetlands. They forage near the water where invertebrates are most readily available. The project is 15 miles from the Missouri River, and 13 miles away from the closest designated critical piping plover habitat in Mountrail County. Therefore, the project would *not likely affect* the piping plover.

Whooping crane (*Grus Americana*)
The whooping cranes preferred habitat includes large marshy wetlands where whooping cranes would be likely to roost, and croplands where cranes may feed. The proposed project area does not affect any wetlands or cropland areas. If individuals were migrating through the project area during construction, they would likely avoid the project area and use adjacent croplands for feeding. The proposed project, therefore, would *not likely affect* the whooping crane.

<u>High Value Habitat Review – Wetland and Grassland Easement Lands</u>

Hess is aware of the FWS' plant and wildlife conservation programs including the waterfowl production land program, and wetland and grassland easement programs with private land owners in North Dakota. Based on Hess' review of previous information obtained from the FWS regarding the locations of these conservation easement lands, Hess believes its TGPE Project is not located on any of these land holdings. Please confirm this conclusion.

<u>Migratory Bird Review</u>

Hess understands the FWS's concern regarding avoiding impacts to migratory birds or active nests particularly during the breeding season, generally from February 1 to July 15. Hess believes its TGPE Project will not have any affect to migratory birds as the construction work would begin after the breeding time window expires, and since the construction would still be occurring in the following two spring - summer seasons, construction activities would deter birds from nesting near the project area as they migrate through. Please confirm this conclusion.

Concurrence Request Summary

Hess appreciates your review and in summary, requests your concurrence that the project will have:

- *no effect*, or will *not likely affect* federally-listed species, their habitats, or proposed or designated critical habitat,
- no affect to wetland or grassland easement lands, and
- no affect to migratory birds.

If you have questions or require further information that may assist in your review, please contact me at (612) 746-3662 or by e-mail at bregan@merjent.com. Thank you.

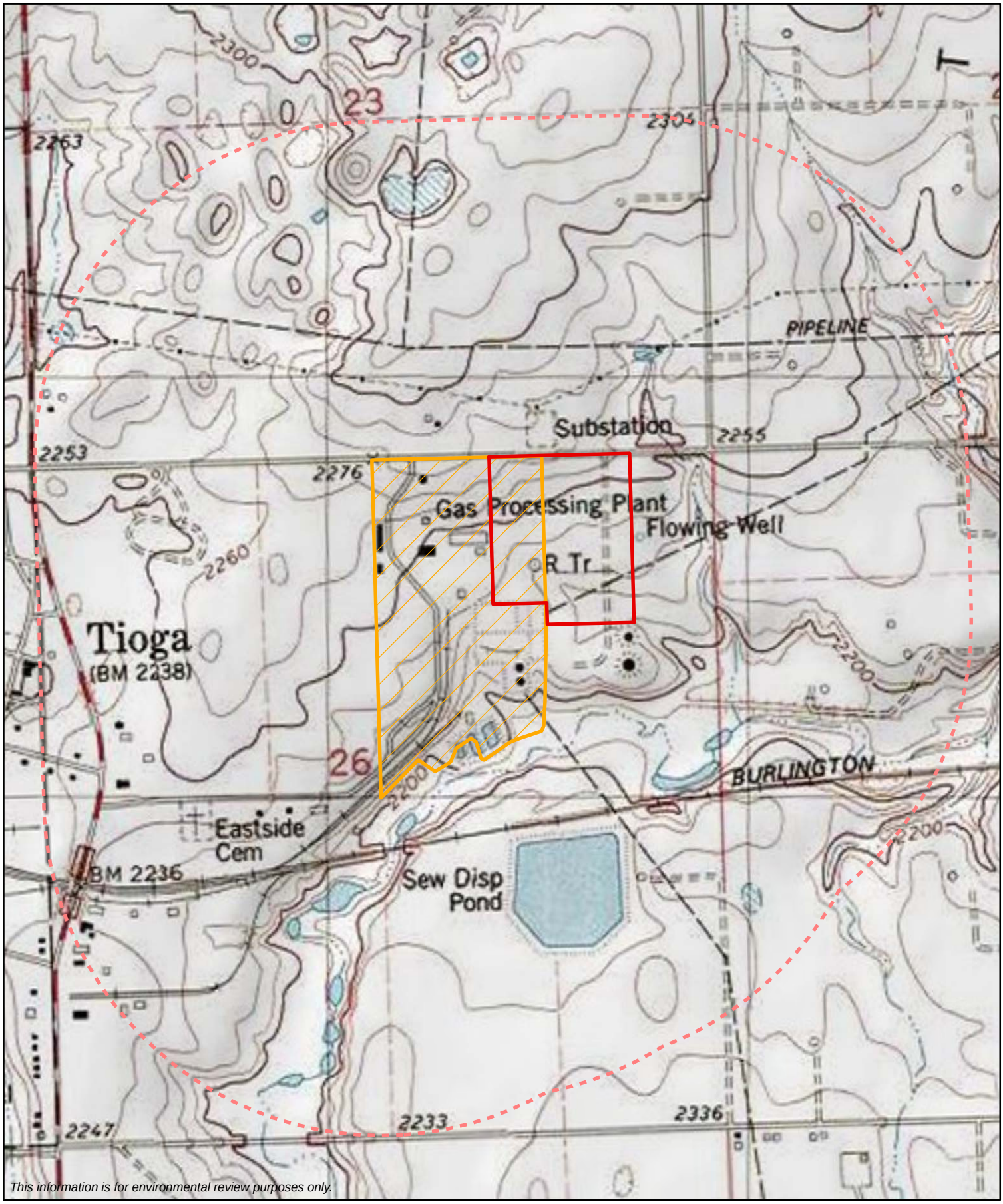
Sincerely,

Bill Regan

Bill Regan
Environmental Project Manager
Merjent, Inc.

Enclosures:
- USGS Topographic Map of Project Area
- Aerial Photograph of Project Area

cc: Scott Wright, Hess Corporation



This information is for environmental review purposes only.

Map Document: (O:\200-GIS\GIS\Clients\Hess Corp\Tioga Gas Plant\Project Location - Topo.mxd)
3/16/2010 -- 11:00:53 AM

Proposed Project Footprint
0.5 Mile Buffer of Project Location
Existing Tioga Gas Plant

1:12,000

N

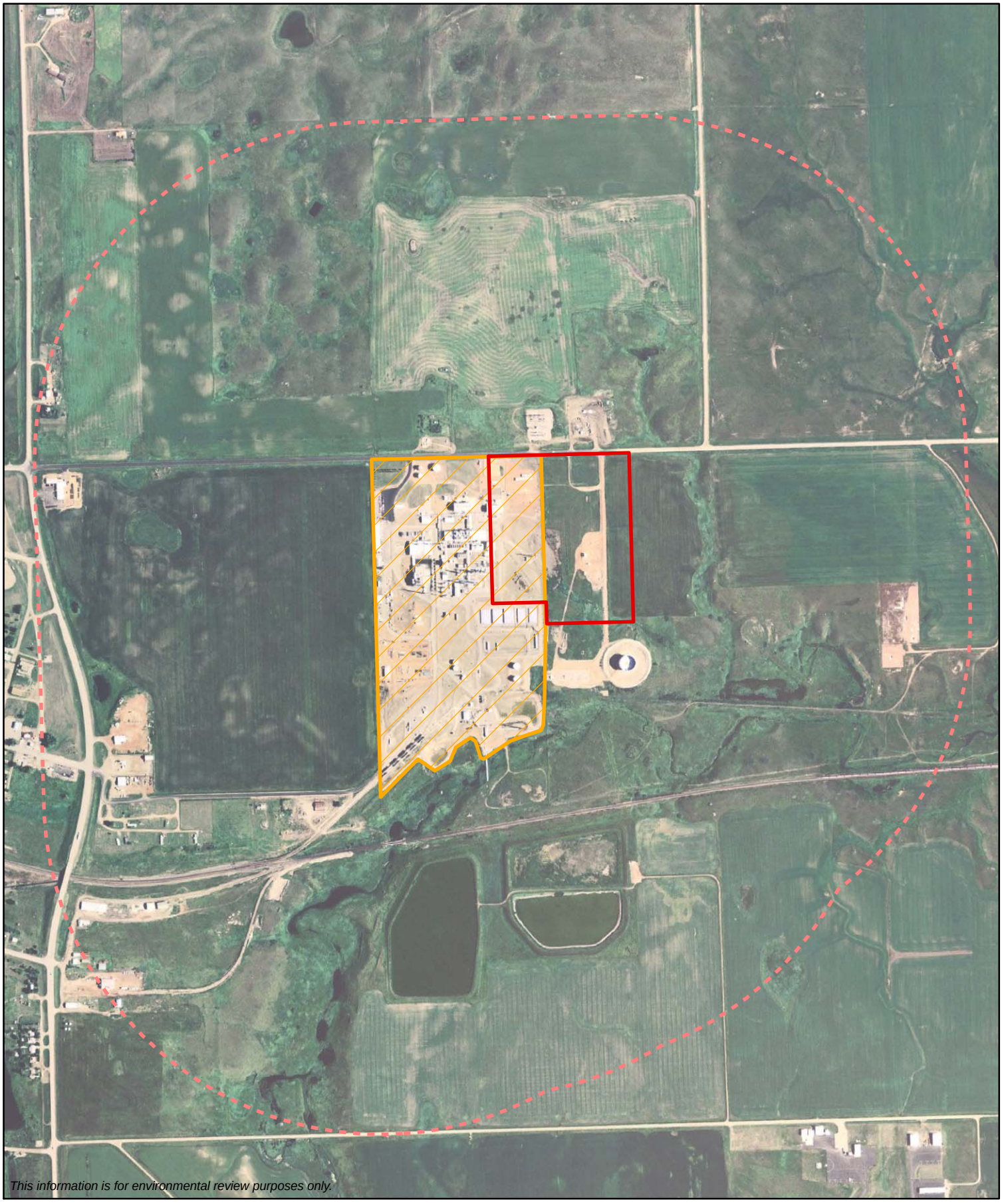
0 500 1,000 Feet

Tioga Gas Plant Expansion Project

Williams County, North Dakota

HESS

Revised: 3/16/10 merjent



This information is for environmental review purposes only.

Map Document: (O:\200-GIS\GIS\Clients\Hess Corp\Tioga Gas Plant\Project Location - Aerial.mxd)
3/16/2010 -- 10:59:09 AM

Proposed Project Footprint
0.5 Mile Buffer of Project Location
Existing Tioga Gas Plant

1:12,000

N

0 500 1,000 Feet

Tioga Gas Plant Expansion Project

Williams County, North Dakota

HESS

Revised: 3/16/10 merjent

Bill J. Regan

From: Paryzek, Corey - Williston, ND [Corey.Paryzek@nd.usda.gov]
Sent: Monday, March 22, 2010 10:09 AM
To: Bill J. Regan
Subject: RE: Hess - Tioga Gas Plant Expansion Project; FSA inquiry for presence of CRP Lands

At the moment this land is administered out of the Mountrail County office, but I have checked with them and there is no CRP or GRP contracts on this land or in the immediate area.

This land may be transferred to Williams County in the near future. If there are land deeds showing where Hess had purchased land, it would be beneficial for us to have a copy of these to update our records.

Thanks for inquiring.

From: Bill J. Regan [mailto:BRegan@Merjent.com]
Sent: Friday, March 19, 2010 2:06 PM
To: Paryzek, Corey - Williston, ND
Cc: Scott Wright
Subject: Hess - Tioga Gas Plant Expansion Project; FSA inquiry for presence of CRP Lands

Dear Mr. Paryzek,

I am writing to request a project review of lands which may have Conservation Reserve Program (CRP) or Grassland Reserve Program (GRP) contracts in affect related to Hess Corporation's (Hess) proposed construction of an expansion to its existing natural gas processing plant in Williams County, North Dakota. Hess is a global crude oil and natural gas exploration and development company with several large operating facilities in western North Dakota. Merjent is an environmental consulting company retained by Hess to collect environmental and land use information for Hess' use in preparing a Public Service Commission application for a Certificate of Site Compatibility.

Hess' Tioga Gas Plant Expansion (TGPE) Project would occur adjacent to Hess' existing Tioga Gas Plant located one mile east of Tioga, North Dakota. The public land survey description of the project location is the NE1/4 of Section 26, T157N, R95W (a map and aerial photograph of the project area are enclosed). The project would entail the construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land outside of the footprint of the existing Tioga Gas Plant. The current land use of the project area is industrial and open land. Hess anticipates beginning construction of the project in September 2010, and continuing until 4th quarter 2012.

Please provide comments regarding the presence of CRP or GRP lands within an area defined by a 1-mile diameter circle centered on the existing Tioga Gas Plant and the proposed new expansion area (outlined with a red-dashed line on the maps). Based on Hess' knowledge of the TGPE area and on-site conditions, it does not appear that CRP or GRP lands are present, but I would appreciate your confirmation of this conclusion.

If you have any questions, please feel to call or e-mail me. Thank you for your assistance.

Bill Regan
Environmental Project Manager

merjent

Bill Regan

615 First Avenue NE
Suite 425
Minneapolis, MN 55413
www.merjent.com

612.746.3662 direct
612.746.3679 fax
bregan@merjent.com

p 612 746 3660 ■ f 612 746 3679

merjent

615 First Avenue NE ■ Suite 425 ■ Minneapolis, Minnesota ■ 55413

March 19, 2010

4/12

Mr. Michael McKenna, Chief
Conservation & Communication Division
North Dakota Game & Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501-5095

RE: Hess Corporation – Tioga Gas Plant Expansion Project
State Conservation Priority Species Consultation

Dear Mr. McKenna:

I am writing to request a project review from the North Dakota Game and Fish Department (ND G&F) related to Hess Corporation's (Hess) proposed construction of an expansion to its existing natural gas processing plant in Williams County, North Dakota. Hess is a global crude oil and natural gas exploration and development company with several large operating facilities in western North Dakota. Merjent is an environmental consulting company retained by Hess to collect environmental information for Hess' use in preparing a Public Service Commission application for a Certificate of Site Compatibility.

Hess' Tioga Gas Plant Expansion Project would occur on land adjacent to Hess' existing Tioga Gas Plant located one mile east of Tioga, North Dakota. The public land survey description of the project location is the NE1/4 of Section 26, T157N, R95W (a map and aerial photograph of the project area are enclosed). The project would entail the construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land outside of the footprint of the existing Tioga Gas Plant. The current land use of the project area is industrial and open land. Hess anticipates beginning construction of the project in September 2010, and continuing until 4th quarter 2012.

Please provide comments regarding state conservation priority species of concern within an area defined by a 1-mile diameter circle centered on the existing Tioga Gas Plant and the proposed new expansion area (outlined with a red-dashed line on the maps). Based on my review of the ND G&F web site, the project area does not appear to affect ND G&F PLOTS land, but I would appreciate your confirmation of this conclusion in your response as well.

Hess appreciates your review of this project. If you have questions or require further information that may assist in your review, please contact me at (612) 746-3662 or by e-mail at bregan@merjent.com. Thank you.

Sincerely,

Bill Regan

Bill Regan
Environmental Project Manager
Merjent, Inc.

Enclosures:
- USGS Topographic Map of Project Area
- Aerial Photograph of Project Area

cc: Scott Wright, Hess Corporation

North Dakota Game & Fish Dept.
100 N. Bismarck Expressway
Bismarck, ND 58501-5095

We have reviewed the project and foresee no identifiable conflict with wildlife or wildlife habitat based on the information provided.

(for) Michael G. McKenna
Chief, Conservation & Communication Division
Date: 4/7/10

John Hoeven, Governor
Douglass A. Prchal, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

March 29, 2010

Bill Regan
Merjent
615 First Avenue NE
Minneapolis, MN 55413

Re: Hess Corporation's Tioga Gas Plant Expansion Project

Dear Mr. Regan:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal to expand the existing gas processing plant located in Section 26, T157N, R95W, Williams County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

Thank you for the opportunity to comment on this project. Please contact Kathy Duttenhefner (701-328-5370 or kgduttenhefner@nd.gov) of our staff if additional information is needed.

Sincerely,

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNHI*2010-081

Play in our backyard!

Bill J. Regan

From: Bill J. Regan
Sent: Friday, March 19, 2010 2:05 PM
To: 'kgduttenhefner@nd.gov'
Cc: Scott Wright
Subject: Hess - Tioga Gas Plant Expansion Project; ND Parks and Rec Dept. Consultation
Attachments: Consultation Maps.pdf

Dear Ms. Duttenhefner,

I am writing to request a project review of the North Dakota Natural Heritage Inventory database from the Parks and Recreation Department related to Hess Corporation's (Hess) proposed construction of an expansion to its existing natural gas processing plant in Williams County, North Dakota. Hess is a global crude oil and natural gas exploration and development company with several large operating facilities in western North Dakota. Merjent is an environmental consulting company retained by Hess to collect environmental information for Hess' use in preparing a Public Service Commission (PCS) application for a Certificate of Site Compatibility.

Hess' Tioga Gas Plant Expansion Project would occur adjacent to Hess' existing Tioga Gas Plant located one mile east of Tioga, North Dakota. The public land survey description of the project location is the NE1/4 of Section 26, T157N, R95W (a map and aerial photograph of the project area are enclosed). The project would entail the construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land outside of the footprint of the existing Tioga Gas Plant. The current land use of the project area is industrial and open land. Hess anticipates beginning construction of the project in September 2010, and continuing until 4th quarter 2012.

Please provide comments regarding natural heritage sensitive species of concern within an area defined by a 1-mile diameter circle centered on the existing Tioga Gas Plant and the proposed new expansion area (outlined with a red-dashed line on the maps). Based on my review of the project area it does not appear the project area would affect sensitive species, but I would appreciate your confirmation of this conclusion.

If you have any questions, please feel to call or e-mail me. Thank you for your review of Hess' project.

Bill Regan
Environmental Project Manager

merjent

Bill Regan

615 First Avenue NE
Suite 425
Minneapolis, MN 55413
www.merjent.com

612.746.3662 direct
612.746.3679 fax
bregan@merjent.com

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

April 19, 2010

Judith R. Cooper Ph.D.
Cultural Resources Lead/Principal Investigator
SWCA Environmental consultants
115 North 4th St Suite 1
Bismarck ND 58501

ND SHPO REF: 10-1081 PSC Hess Corporation Tioga Gas Plant Expansion Project in portions of [T157N R95W Section 26] Williams County, North Dakota

Dear Dr. Cooper,

We reviewed ND SHPO REF: 10-1081 PSC Hess Corporation Tioga Gas Plant Expansion Project in portions of [T157N R95W Section 26] Williams County, North Dakota. We concur with a "No Historic Properties Affected" and "No Significant Sites Affected" determinations, provided the project is in the mapped location as specified in the SWCA report entitled "A Class I and Class III Cultural Resource Inventory of the Hess Corporation Tioga Gas Plant Expansion Project, Williams County, North Dakota."

Thank you for the opportunity to review this project. If you have any questions please contact Susan Quinnell, Review and Compliance Coordinator at (701) 328-3576, e-mail squinnell@nd.gov

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director
State Historical Society of North Dakota

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

SWCA Environmental Consultants
115 N 4th Street, Suite 1
Bismarck, ND 58501

April 14, 2010

Paul R. Picha
Chief Archeologist
State Historical Society of North Dakota
Archeology & Historic Preservation Division
612 East Boulevard Avenue
Bismarck, ND 58505-0830

RE: A Class I and Class III Cultural Resource Inventory of the Hess Corporation Tioga Gas Plant Expansion Project, Williams County, North Dakota

Dear Mr. Picha:

Enclosed is a copy of the report documenting the cultural resource inventory of the Hess Corporation Gas Plant Expansion Project, performed by SWCA Environmental Consultants on behalf of Hess Corporation. The cultural resource inventory is required as part of Hess Corporation's permit application to the North Dakota Public Service Commission.

No cultural resources were found within the project area. It is recommended that the project be granted a determination of *No Historic Properties Affected*, pending agency concurrence. Please notify SWCA of the results of your review at the address listed below.

Please contact us if you have any questions or concerns.

Sincerely,

Judith R. Cooper

Judith R. Cooper, Ph.D.
Cultural Resources Lead/Principal Investigator
SWCA Environmental Consultants
115 North 4th Street, Suite 1
Bismarck, ND 58501
Office: 701-258-6622
Cell: 214-704-6280

Bill J. Regan

From: Haupt, Michael L. [mhaupt@nd.gov]
Sent: Friday, March 19, 2010 2:33 PM
To: Bill J. Regan
Cc: Feeney, Tom; Preszler, Gary D.
Subject: RE: Hess - Tioga Gas Plant Expansion Project; School Trust Lands inquiry
Attachments: Tioga Gas Plant Expansion.pdf; Consultation Maps.pdf

Bill,

Good afternoon! You are correct, there is no School Trust surface within one mile of the proposed Tioga Gas Plant Expansion Project, however, there are School Trust and/or State minerals within this area and I have passed your request for review on to our Minerals Department for their review. Thanks.

Michael L. Haupt
Land Management Professional, CPRM
North Dakota State Land Department
PO Box 5523, Bismarck ND 58506-5523
701-328-2800
mhaupt@nd.gov

From: Bill J. Regan [mailto:BRegan@Merjent.com]
Sent: Friday, March 19, 2010 2:07 PM
To: Haupt, Michael L.
Cc: Scott Wright
Subject: Hess - Tioga Gas Plant Expansion Project; School Trust Lands inquiry

Dear Mr. Haupt,

I am writing to request a project review from the North Dakota State Land Department related to Hess Corporation's (Hess) proposed construction of an expansion to its existing natural gas processing plant in Williams County, North Dakota. Hess is a global crude oil and natural gas exploration and development company with several large operating facilities in western North Dakota. Merjent is an environmental consulting company retained by Hess to collect environmental and land use information for Hess' use in preparing a Public Service Commission application for a Certificate of Site Compatibility.

Hess' Tioga Gas Plant Expansion Project would occur adjacent to Hess' existing Tioga Gas Plant located one mile east of Tioga, North Dakota. The public land survey description of the project location is the NE1/4 of Section 26, T157N, R95W (a map and aerial photograph of the project area are enclosed). The project would entail the construction of underground piping and above-ground gas processing facilities on approximately 21 acres of land outside of the footprint of the existing Tioga Gas Plant. The current land use of the project area is industrial and open land. Hess anticipates beginning construction of the project in September 2010, and continuing until 4th quarter 2012.

Please provide comments regarding the presence of School Trust Lands within an area defined by a 1-mile diameter circle centered on the existing Tioga Gas Plant and the proposed new expansion area (outlined with a red-dashed line on the maps). Based on my review the Land Department's web site information, the project area does not appear to affect School Trust Land, but I would appreciate your confirmation of this conclusion.

If you have any questions, please feel to call or e-mail me. Thank you for your assistance.

Bill Regan
Environmental Project Manager

merjent

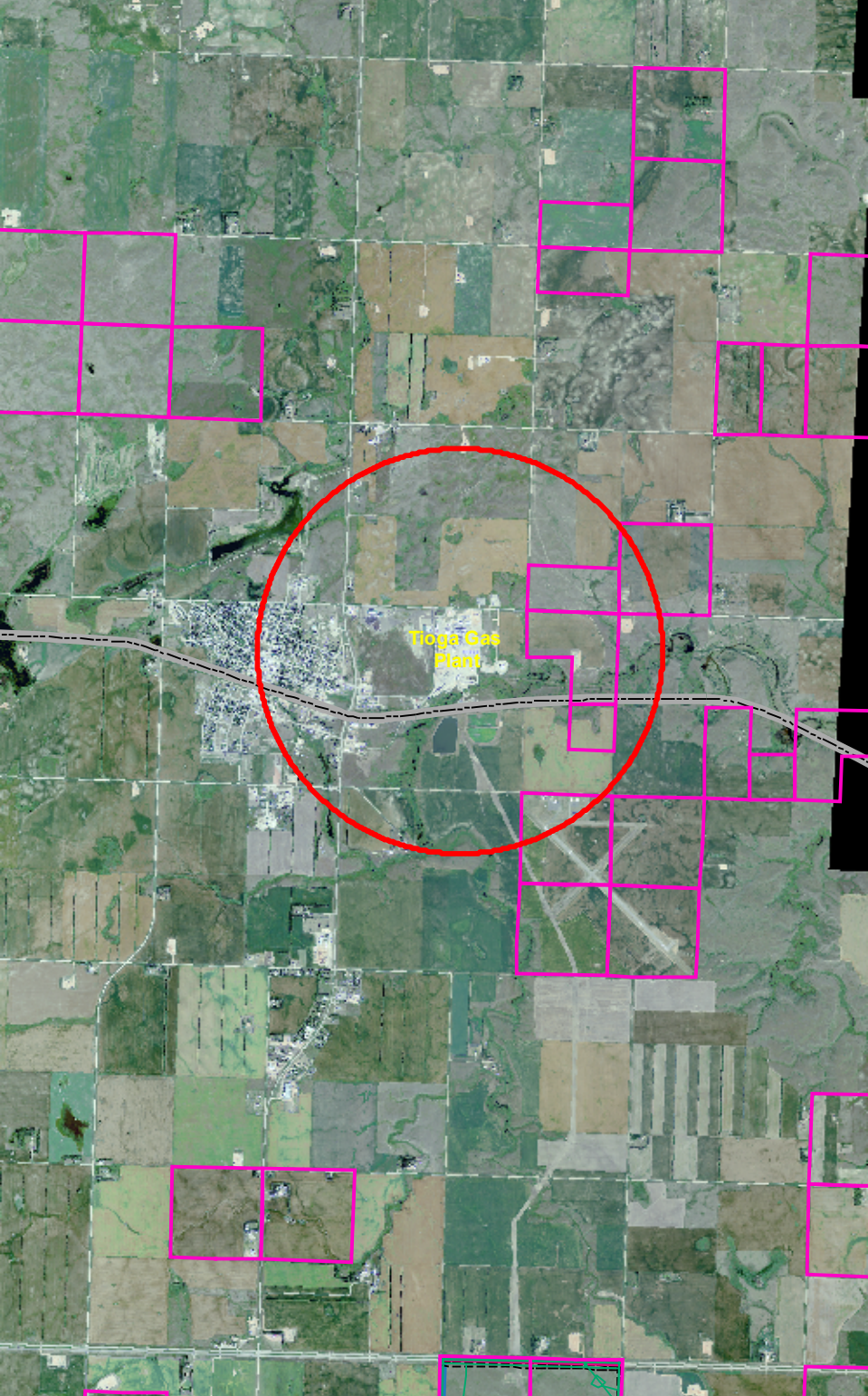
Bill Regan

615 First Avenue NE
Suite 425
Minneapolis, MN 55413
www.merjent.com

612.746.3662 direct

612.746.3679 fax

bregan@merjent.com


Tioga Gas
Plant

APPENDIX D

BIOLOGY REPORT

Wetland Delineation Report and Endangered Species Review for the Hess Tioga Gas Plant Expansion Footprint, Williams County, North Dakota

Prepared for

Hess Corporation

Prepared by

SWCA Environmental Consultants

14 April 2010

Wetland Delineation Report and Endangered Species Review for the Hess Gas Plant Expansion Footprint, Williams County, North Dakota

Prepared for:

Hess Corporation
P.O. Box 459
Tioga, North Dakota 58852

Prepared by:

Michael J. Cook, M.S.
Ecologist

Chris McLaughlin, B.S.
Ecologist

SWCA Environmental Consultants
115 N. 4th Street, Suite 1
Bismarck, ND 58503
Telephone: (701) 258-6622; Fax: (701) 258-5957

SWCA Project No. 16385

14 April 2010

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

Appendix

1.0 INTRODUCTION

Hess Corporation (Hess) intends to expand its current Tioga Gas Plant onto an adjacent tract of land that currently houses a pipeline facility owned by Tesoro High Plains Pipeline Company (Tesoro). The jurisdictional agency presiding over the expansion is the North Dakota Public Service Commission (NDPSC). As part of the NDPSC's permitting process, SWCA Environmental Consultants (SWCA) has completed a natural and cultural resource survey of the study area (Hess Footprint). This document reports the results of the natural resource field survey completed on 7 April 2010. The results of the cultural resource survey are contained in a separate report under a separate cover.

2.0 METHODS

2.1 STUDY AREA

The Hess Footprint, located in the NE¼ NE¼ of Section 26, Township 157 North, Range 95 West of the 5th Prime Meridian, William County, North Dakota, collectively comprises two tracts of land. The first tract, totaling approximately 70.7 acres, contains the existing Tioga Gas Plant (Tract 1). The second tract of land, located immediately to the east of the current Tioga Gas Plant, comprises approximately 21 acres and contains the Tesoro pipeline facility within its borders (Tract 2). SWCA ecologists intuitively surveyed the existing Hess Tioga Gas Plant. During the survey, ecologists determined that the existing Tioga Gas Plant completely disturbs the approximately 70.7 acres of land on which it exists; therefore, no further floral or faunal resource survey including threatened and endangered species was warranted. However, the second tract of land, containing the Tesoro pipeline facility, was surveyed according to the methods listed below. The Hess Footprint Site Map can be found in Appendix A. Additionally, photographs of the Hess Footprint can be found in Appendix B.

2.2 WETLANDS

SWCA ecologists conducted delineations in accordance with guidelines provided in the 1987 U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Manual) (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (Supplement) (USACE 2008). According to the Manual, an area is a wetland if three mandatory wetland indicators are present in a given area, with special exceptions: 1) the presence of hydrophytic vegetation, 2) wetland hydrology, and 3) hydric soils.

SWCA recorded data at points within areas that resembled or had the potential to be wetlands based on visual observation. Data recorded at each point included all vegetation within prescribed sampling plots, indicators of wetland hydrology, and soil characteristics.

2.2.1 Vegetation

Ecologists recorded all plants within the vegetative community based on the respective stratum in which each species occupied. A tree is defined by the Supplement to be a woody-stemmed plant with a trunk diameter at breast height (DBH) of equal to or greater than 3 inches, regardless of height. The sapling and shrub stratum is defined by the Supplement to be composed of woody-stemmed plants with a trunk DBH of less than 3 inches, regardless of height. The herbaceous stratum includes all non-woody-stemmed plants regardless of height. Finally, the woody vine stratum includes all woody-stemmed vines, regardless of diameter.

SWCA recorded the binomial scientific name and percent cover of all plants within a 30-foot radius for the tree stratum, a 15-foot radius for the sapling/shrub stratum, a 5-foot radius for the herbaceous stratum, and a 30-foot radius for the woody vine stratum. SWCA ecologists noted each plant species' respective U.S. Fish and Wildlife Service (USFWS) indicator status (i.e., upland [UPL], facultative upland [FACU], facultative [FAC], facultative wetland

[FACW], and obligate [OBL]). In some instances the size and shape of the vegetative sampling plot was manipulated to better encompass each wetland or upland area, though the overall area assessed remained unchanged.

2.2.2 Hydrology

A data point was determined to contain wetland hydrology if at least one primary indicator or at least two secondary indicators of wetland hydrology were present, as defined by the Manual. Common hydrologic indicators included the presence of surface water, high water table, soil saturation, water marks on trees or other objects, sediment deposits, water-stained leaves, and oxidized rhizospheres on living roots.

2.2.3 Soil

Ecologists recorded detailed notes regarding soil profiles including the hue, value, and chroma (i.e., color) of the soil (using Munsell Soil Color Charts), the depth and extent of that soil color within the entire soil profile, the concentration of any redoximorphic concentrations or depletions, and the texture of the soil at each depth where a color change was observed. A soil pit was excavated to a depth of 16 inches at each data point. Common hydric soil indicators of the Northern Great Plains sub-region include the presence of hydrogen sulfide gas within the soil pit, redox depressions, and depleted matrix.

2.3 WATERBODIES

Waterbodies (i.e., creeks, streams, rivers) were identified by the presence of an ordinary high water mark (OHWM). Common indicators of an OHWM include a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential USACE jurisdictional limits.

Streams were classified as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round, and the water table is located above the stream bed. Groundwater is the primary water source for stream flow while precipitation runoff is supplemental. Ecologists classified streams that showed significant flow during the field survey or were named or designated as solid blue lines on the U.S. Geologic Survey 7.5-minute topographic maps as perennial.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

2.4 WILDLIFE INCLUDING THREATENED AND ENDANGERED SPECIES

Information regarding the presence of threatened or endangered species that may occur within the project area was obtained from the USFWS list of threatened and endangered species by North Dakota county. However, this document does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded.

Prior to beginning the field survey, SWCA reviewed the USFWS list of threatened or endangered species for Williams County. SWCA conducted a cursory pedestrian survey concurrently with the wetland delineation for all listed species that could potentially be impacted by construction activities.

Additionally, SWCA ecologists noted any wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

2.5 TREE/SAPLING/SHRUB ENUMERATION

SWCA ecologists estimated the number of trees, saplings, and shrubs potentially impacted by construction activities by enumerating each live individual within the Hess Footprint. Once the density and species ratio was calculated, SWCA estimated a 2:1 post- to pre-construction density within the Hess Footprint.

2.6 MAPPING

Each data point was geographically recorded using a Trimble GeoXH global positioning system (GPS) unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13N as the projected coordinate system and North American Datum 1983 as the datum. ArcGIS v9.3 (Redlands, California) was used to analyze collected features, calculate areas, and generate the map provided in Appendix A. Please note that all data collected using the GPS unit and displayed on the attached map are for review purposes only and do not represent a professional civil survey.

3.0 RESULTS

3.1 VEGETATION

Ecologists identified one vegetative community type within the Hess Footprint. The herbaceous upland contained no hydrophytic vegetation.

3.1.1 Herbaceous Upland

Tract 2 of the Hess Footprint was dominated by crested wheatgrass (*Agropyron cristatum*). However, large areas of Tract 2 were significantly disturbed and contained areas devoid of vegetation.

3.2 HYDROLOGY

One wetland hydrology indicator was observed within Tract 2 of the Hess Footprint. An erosional drainage feature was observed originating from Tract 1 and terminating in a small concave area on Tract 2. DP1U was taken within the small concave area located in Tract 2, where algal mats were observed (see Hess Footprint Site Map in Appendix A). However, the soil was not inundated or saturated, and no redoximorphic features were noted.

The National Weather Service's (NWS's) preliminary climatological data for Williston, North Dakota, indicates that no precipitation was recorded from 1 to 7 April 2010 (Table 1). This amount represents a -0.29-inch departure from normal. Additionally, the NWS precipitation total for March 2010 was recorded as a -0.39-inch departure from normal. During this time period, the average temperature was noted as 41.2 degrees Fahrenheit (°F) with a maximum temperature of 62°F on 6 April 2010.

Table 1. Monthly Recorded Rainfall at NWS Williston, North Dakota.

Month	Recorded Rainfall (inches)	Normal Average Rainfall (inches)	Difference (inches)
March	0.35	0.74	-0.39
1–7 April	0	0.29	-0.29
Total	**0.35**	**1.03**	**-0.68**

Source: National Oceanic and Atmospheric Administration (2010).

3.3 SOILS

SWCA ecologists observed no hydric soils within the project area. Ecologists obtained soil data that were recorded in the center of the small concave area on Tract 2. Table 2 indicates the observed color and texture of the soil taken at DP1U.

Table 2. Soil Data Derived at DP1U.

Depth (inches)	%	Matrix Color	Color Name	%	Redoximorphic Features	Color Name	Location	Type	Texture
0–16	100	10YR3/2	Very dark grayish brown	None	None	N/A	N/A	N/A	Sandy clay loam

3.4 WETLANDS

SWCA ecologists observed no wetlands within the Hess Footprint. DP1U was recorded at the only site deemed a candidate for a wetland designation. However, DP1U did not contain hydrophytic vegetation or hydric soil.

3.5 WATERBODIES

SWCA identified no intermittent or perennial waterbodies within the Hess Footprint. The erosional drainage feature previously mentioned did not have an OHWM.

3.6 WILDLIFE

3.6.1 Threatened and Endangered Species

The USFWS identified five threatened and endangered species currently known or have been known to exist in Williams County. During SWCA's cursory field survey, no threatened or endangered species were observed.

3.6.1.1 Gray Wolf (*Canis lupus*): Listed: Endangered: Not Likely to Affect

The gray wolf is thought to be regionally extirpated. Additionally, the Hess Footprint encompasses a negligible area relative to the approximate 50 to 5,019 square miles gray wolf packs (i.e., 2 to 30 individuals) protect as their territory. Construction activities that occur within the Hess Footprint are unlikely to affect the gray wolf.

3.6.1.2 Pallid Sturgeon (*Scaphirhynchus albus*): Listed: Endangered: No Affect

The pallid sturgeon is a benthic dwelling fish that is most often found in highly turbid waters of large rivers. The species is most often found in sand and gravel substrates at variable depths and water velocity. Construction associated with the Hess Footprint is extremely unlikely to have a detrimental effect on the pallid sturgeon due to its distance from the Missouri River and Lake Sakakawea. Additionally, no intermittent or perennial waterbodies will be impacted within the Hess Footprint, further reducing the likelihood for a detrimental effect.

3.6.1.3 Interior Least Tern (*Sterna antillarum*): Listed: Endangered: No Affect

Interior least tern individuals are primarily piscivorous and frequent sparsely vegetated sand bars, gravel pits, and lake and reservoir shorelines. No perennial or intermittent waterbodies were observed within the Hess Footprint. Therefore, due to the distance between the project area and suitable foraging and nesting habitat, the construction activities associated with this project are unlikely to affect any interior least terns.

3.6.1.4 Piping Plover (*Charadrius melodus*): Listed: Threatened: No Affect

The USFWS has designated the shoreline of Lake Sakakawea as critical habitat for piping plover. However, due to the distance between the project area and the Lake Sakakawea shoreline, adverse impact as a result of construction activities is not likely. Additionally, the nearest designated critical habitat that is not Lake Sakakawea is approximately 13.8 miles northeast of the Hess Footprint. Piping plover require sandy or gravel areas that usually have a relatively low vegetation density. Breeding piping plover may utilize palustrine emergent wetlands (PEM) wetlands or saline flats. No impact to piping plover individuals is anticipated due to the lack of suitable habitat within the Hess Footprint.

3.6.1.5 Whooping Crane (*Grus americana*): Listed: Endangered: Not Likely to Affect

The region of North Dakota in which the Hess Footprint exists is suitable habitat (i.e., prairie with a high density of marshy areas) for whooping cranes. Though non-family individual whooping cranes may forage through cultivated field, the construction activities associated with the Hess Footprint area unlikely to adversely affect this species. Additionally, no seasonally ponded PEM wetlands were observed within the Hess Footprint.

3.6.2 Wildlife Observed

SWCA ecologists observed several different species of wildlife that utilize the Hess Footprint for foraging and/or as habitat. Species observed include western meadowlark (*Sturnella neglecta*), American robin (*Turdus migratorius*), killdeer (*Charadrius vociferus*), Richardson's ground squirrel (*Spermophilus richardsonii*), white tail deer (*Odocoileus virginianus*), and coyote (*Canis latrans*).

Western meadowlarks and Richardson's ground squirrels may be affected during construction activities within the Hess Footprint. However, these species are likely to relocate to areas that will not be disturbed by construction activities. The remainder of the species will likely be deterred from utilizing the area disturbed during construction activities within the Hess Footprint.

3.7 TREES/SAPLINGS/SHRUBS

Ecologists observed no tree, sapling, or shrub species that may be potentially impacted within the Hess Footprint. Therefore, no mitigation density was calculated for construction activities regarding the Hess Footprint.

4.0 CONCLUSIONS

1. SWCA ecologists observed no wetlands within the Hess Footprint.
2. SWCA ecologists observed no intermittent or perennial waterbodies within the Hess Footprint.
3. No threatened or endangered species or their habitat was observed during the field survey. The known species that may be present in Williams County are not likely to be impacted by construction activities.
4. Common wildlife species observed during the field survey are likely to relocate once construction activities have commenced. No long-term detrimental effect is anticipated as a result of construction activities.

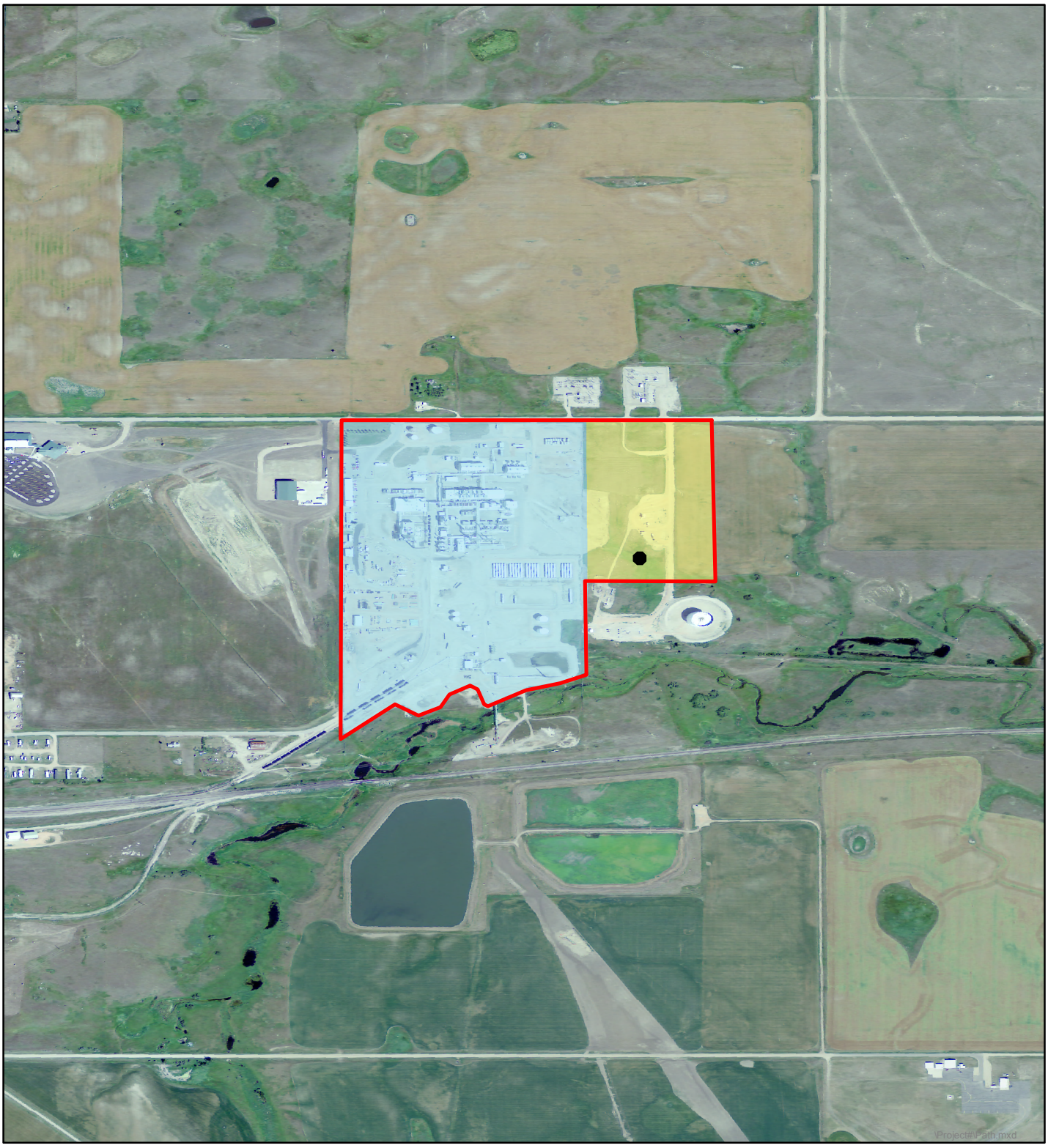
5.0 LITERATURE CITED

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station.

National Oceanic and Atmospheric Administration. 2010. Preliminary Monthly Climate Data Williston, North Dakota: National Weather Service Office. Last updated April 2010.

U.S. Army Corps of Engineers (USACE). 2008. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region.* Edited by. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-12. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.

APPENDIX A
Hess Tioga Gas Plant Expansion Footprint Study Area Map



Legend

- Tract 1 (Existing Hess Tioga Gas Plant)
- Tract 2
- Hess Footprint
- DP1U

0 0.25 0.5 Miles

0 0.25 0.5 Kilometers

Scale: 1:14,000
Base Map: Aerial Photo, Agricultural Imagery Program
Williams County, North Dakota
Projection: UTM NAD83, Zone 13N
April 14, 2010

N

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APPENDIX B
Photographic Log

Photograph 1. DP1U, view facing north.

Photograph 2. DP1U, view facing east.

Photograph 3. DP1U, view facing south.

Photograph 4. DP1U, view facing west.

Photograph 5. Hess Footprint property, view facing north.

Photograph 6. Hess Footprint property, view facing northeast.

Photograph 7. Hess Footprint property, view facing east.

Photograph 8. Hess Footprint property, view facing south.

Photograph 9. Hess Footprint property, view facing west toward existing Tioga Gas Plant.

Photograph 10. Near the east boundary of the Hess Footprint property, view facing south.

APPENDIX E

CULTURAL RESOURCES REPORT

SWCA Environmental Consultants
115 N 4th Street, Suite 1
Bismarck, ND 58501

North Dakota Negative Results Cultural Resource Report

Date of Report:	April 14, 2010	
Project Name/Report Title:	A Class I and Class III Cultural Resource Inventory of the Hess Corporation Tioga Gas Plant Expansion Project, Williams County, North Dakota	
Project Proponent/Sponsor:	Hess Corporation, 500 Dallas Street, Houston, TX 77002	
Jurisdictional Agency:	North Dakota Public Service Commission	
Reviewing Agency:	North Dakota State Historic Preservation Office	
SWCA Project Number:	16385	
Principal Investigator:	Scott Slessman and Judith Cooper	
Author of Report:	Stephanie Lechert	
Persons Performing Fieldwork:	Judith Cooper, SWCA Environmental Consultants (SWCA) Stephanie Lechert, SWCA	
Date of Fieldwork:	April 7, 2010	
Acres/Area Inventoried:	*Total Acres Inventoried*	115.04
	Acres Subjected to Intuitive Survey	94.17
	Acres Subjected to Pedestrian Survey	20.87
Legal Locations	E½NW¼, Section 26, Township (T) 157 North (N), Range (R) 95 West (W); NE¼, Section 26, T157N, R95W Williams County, North Dakota	
ND Prehistoric Study Unit:	Garrison Study Unit	
ND Historic Study Unit:	Historic 21	

Location Descriptions

The proposed Hess Corporation Tioga gas plant expansion project is located in Williams County, North Dakota. The project is approximately 0.46 miles east of the Tioga community, and is situated immediately south of Williams County Highway 10, approximately 0.46 miles east of North Dakota Highway 40, and 3.70 miles north of U.S. Highway 2. A Mountrail-Williams Electric Cooperative power station is located directly to the north of the survey area, on the north side of Highway 10. The majority of the project area is located on a level upland plain with a slight southern-facing slope overlooking a southeast-trending drainage to the southeast.

Multiple and significant previous impacts exist within the project area. The previously constructed Hess Corporation Tioga gas plant covers the entire western portion of the project area (94.17 acres) (Figures 1, 3, and 4). This portion of the project area has been completely leveled and paved; it houses a plant where natural gas is processed. Based on observations from a vehicle and aerial imagery, no undisturbed portions of land exist within the boundaries of the gas plant. The remainder of the project area (20.87 acres) is to the east of the gas plant. This area has also undergone significant disturbance. A north/south-trending improved scoria road with a parallel fence line bisects the eastern portion of the project area and an additional L-shaped road segment is in the northern portion of the project area (Figures 2 and 4). North of this road segment is an area that appears to have served as a borrow pit for fill, perhaps used in the construction of the improved roads. A graded area containing a storage facility with surrounding machinery debris and trash piles is located in the east-central portion of the project area (Figure 4, area outlined in red). East of the north/south-trending scoria road and fence line is a recently cultivated agricultural field.

The vegetation within the project area, excluding paved portions, is mixed prairie grasses, including field brome and crested wheatgrass, while the agricultural field contains wheat. Within the project area, the soil is very dark grayish-brown sandy clay loam colluvium with gravel inclusions.

Project Description

SWCA conducted a Class I and Class III cultural resource inventory on behalf of Hess Corporation. The proposed project will include an eastern expansion of the existing Hess Corporation Tioga gas plant. The area included in Hess Corporation's application to the Public Service Commission includes both the existing gas plant and the expansion area, and therefore both areas were subject to cultural resource inventory.

In total, 115.04 acres are included in the project area. Pedestrian survey was not conducted within the existing gas plant footprint (94.17 acres) due to the significant disturbance caused by grading, construction, and earth-moving activities associated with the previous gas plant construction (Figure 4). Instead, an intuitive survey was conducted from a vehicle, as pedestrian survey was deemed unnecessary as well as unsafe, given the variety of safety hazards present within the gas plant boundaries. The remaining 20.87 acres within the proposed project area were inventoried through pedestrian survey.

Files/Records Search Results

A Class I cultural resource files search was conducted for the project location on March 1, 2010, of files maintained at the State Historical Society of North Dakota. Ten previous cultural resource inventories were conducted within 1 mile of the project area (Table 1). Fourteen previously recorded cultural resources were identified within 1 mile of the project area (Table 2), including 2 cultural material scatters (32WIX196 and 32WIX197); 1 cultural material scatter and depressions site (32WI415); 1 standing structures, foundation, cistern, vehicle, depression, and dump site (32WI897); and 10 standing structures (32WI873, 32WI874, 32WI876, 32WI894, 32WI895, 32WIX006, 32WIX406, 32WIX407, 32WIX408, and 32WI409). No previously recorded cultural resources are located within the project area.

Table 1. Previous Cultural Inventories Identified in Files/Records Search

Manuscript Number	Location	Title	Authors	Year
000970	Section 24, T157N, R95W	Cultural Resource Inventory of the Proposed Saskatchewan, Canada, Intertie Transmission Line Right of Way, Northwestern North Dakota, Vol. 1, Ward Co., Mountrail Co., Williams Co., Divide Co., & Burke Co.	R. Fox	1980
001541	Section 36, T157N, R95W	Tioga Airport Expansion Williams County, North Dakota: Class Inventory for All Cultural Resources	M. Gregg	1980
004319	Section 35, T157N, R95W	Cultural Resources Investigations on the North Dakota Segment of the Exxon Company, USA Bairoil - Dakota CO2 Pipeline Project, Golden Valley, Billings, Stark, Dunn, McKenzie, & Williams Co., Western North Dakota Vols 1 & 2	M. Metcalf and K. Schweigert	1987
005730	Section 26, T157N, R95W	A Class III Intensive Inventory of the Proposed Tioga Sewage Lagoon in Williams County, North Dakota (Prepared Under Federal Sewage Works Grant Project No. C38052-01) UW#267	B. Olson	1992
005749	Section 26, T157N, R95W	Amerada Hess Corporation, 10 Inch Natural Gas Pipeline Project Cultural Resources Inventory McKenzie and Williams Counties, North Dakota and Final Report	B. Olson	1992
007647	Section 22, T157N, R95W	Tioga Dam Inventory, Williams Co., ND	M. Floodman	2000
007144	Sections 24, 25, T157N, R95W	Dakota Gasification Company Co2 Pipeline Selected Segments in Mercer, Dunn, McKenzie, Williams, and Divide Counties, ND: A Class III Cultural Resources Inventory and Appendix B: USGS Topographic Coverage of the Pipeline	B. Olson	1998
008271	Sections 22, 23, 24, 26, 27, 35, T157N, R95W	Four NCC Exchanges: A Class II & Class III Cultural Resources Inventory, Burke, Divide, Williams, and Mountrail Counties, ND	W. Bluemie	2002
009485	Sections 22, 23, 26, 27, 34, 35, T157N, R95W	Improvements Along State Highway 40: A Class III Cultural Resources Inventory, Williams, Co., ND	J. Morrison	2005

010476	Section 27, T157N, R95W	Cultural Resources Inventory of Northwest Communication Cooperative's Tioga Self Supporting Communication Tower TCNS ID 38309 Williams Co., ND T157N, R95W, Sec 27	B. Dorrance	2008

Table 2. Sites Identified in Files/Records Search

Site Number	Site Name	Location	Site Type(s)	Cultural Affiliation	NRHP* Eligibility
32WI0415	Hilleren Homestead	S½SW¼NE¼, Section 22, T157N, R95W	Cultural Material Scatter and Depressions	Historic - 1910 - 1963	Recommended not eligible
32WI0873	Zion Lutheran	SW¼NW¼NE¼, Section 27, T157N, R95W	Standing Structure - Church	Historic - 1915 - Present	Unevaluated
32WI0874	First Baptist Church	SW¼NE¼NE¼, Section 27, T157N, R95W	Standing Structure - Church	Historic - 1968 - Present	Recommended not eligible
32WI0876	Church of St. Thomas the Apostle	NE¼SE¼NE¼, Section 27, T157N, R95W	Standing Structure - Church	Historic - 1966 - Present	Recommended not eligible
32WI0894	Assembly of God	NW¼SE¼NE¼, Section 27, T157N, R95W	Standing Structure - Church	Historic - 1958 - Present	Unevaluated
32WI0895	Norseman Museum; Formerly First Lutheran Church	NE¼SW¼NE¼, Section 27, T157N, R95W	Standing Structure - Church	Historic - 1927 - Present	Unevaluated
32WI0897	None	SW¼SW¼SE¼, Section 23, T157N, R95W	Standing Structures, foundation, cistern, vehicle, depression, dump	Unknown Historic	Recommended not eligible
32WIX006	Public Library	NE¼, Section 27, T157N, R95W	Standing Structure	Historic - 1953 - Present	Unevaluated
32WIX196	None	NE¼NE¼NE¼, Section 34, T157N, R95W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WIX197	None	NE¼, Section 36, T157N, R95W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated

32WIX406	None	NW¼NE¼, Section 27, T157N, R95W	Standing Structure - Single Dwelling	Historic - 1910 - Present	Unevaluated
32WIX407	None	SE¼NW¼NE¼, Section 27, T157N, R95W	Standing Structure - Single Dwelling	Historic - 1910 - Present	Unevaluated
32WIX408	None	SW¼NE¼, Section 27, T157N, R95W	Standing Structure - Single Dwelling	Historic - 1910 - Present	Unevaluated
32WIX409	None	SE¼SE¼SE¼, Section 27, T157N, R95W	Standing Structure - Single Dwelling	Historic - 1930 - Present	Unevaluated

*NRHP=National Register of Historic Places

Field Methods and Survey Conditions

A Class III cultural resource inventory was conducted at the proposed Hess Corporation Tioga gas plant expansion location on April 7, 2010, by SWCA. Fieldwork was conducted by Judith Cooper, Principal Investigator, and Stephanie Lechert. Chris McLaughlin and Mike Cook, SWCA natural resource specialists, were also in attendance for the survey. While the portion of the project area (94.17 acres) on which the existing Hess Corporation Tioga gas plant is located was subject to intuitive survey via vehicle, the remaining portion of the project area (20.87 acres) was inventoried by means of pedestrian transects spaced at no more than 30 meters. No subsurface testing was conducted. In the project area (excluding the Hess Corporation Tioga gas plant), bare ground surface visibility was approximately 20 percent, with occasional areas of 50 to 75 percent visibility, and no snow coverage was present within the inventoried area.

Photographs were taken of the project area, and global positioning system (GPS) points were collected for the inventoried area using a Trimble GeoXT GPS unit with sub-meter spatial accuracy. Notes were taken during the inventory; and all photographs, GPS data, and notes are on file at SWCA's Bismarck office. A map of the inventoried area is included (Figure 3), as are photographs of the project area (Figures 1 and 2).

In aggregate total, 115.04 acres were inventoried by SWCA for the proposed project. This includes 94.17 acres located within the existing gas plant footprint and an additional 20.87 acres to the east and outside of the current gas plant footprint. No cultural resources were observed during the inventory.

Results and Recommendations

No cultural resources were observed during the course of the inventory. It is recommended that the project be granted a determination of *No Historic Properties Affected* and that it be granted clearance to proceed as planned.

Figure 1. Overview of Hess Corporation Tioga gas plant, facing west. Photographed by J. Cooper on April 7, 2010.

Figure 2. Overview of western disturbed portion of survey area, facing south-southwest. Photographed by J. Cooper on April 7, 2010.

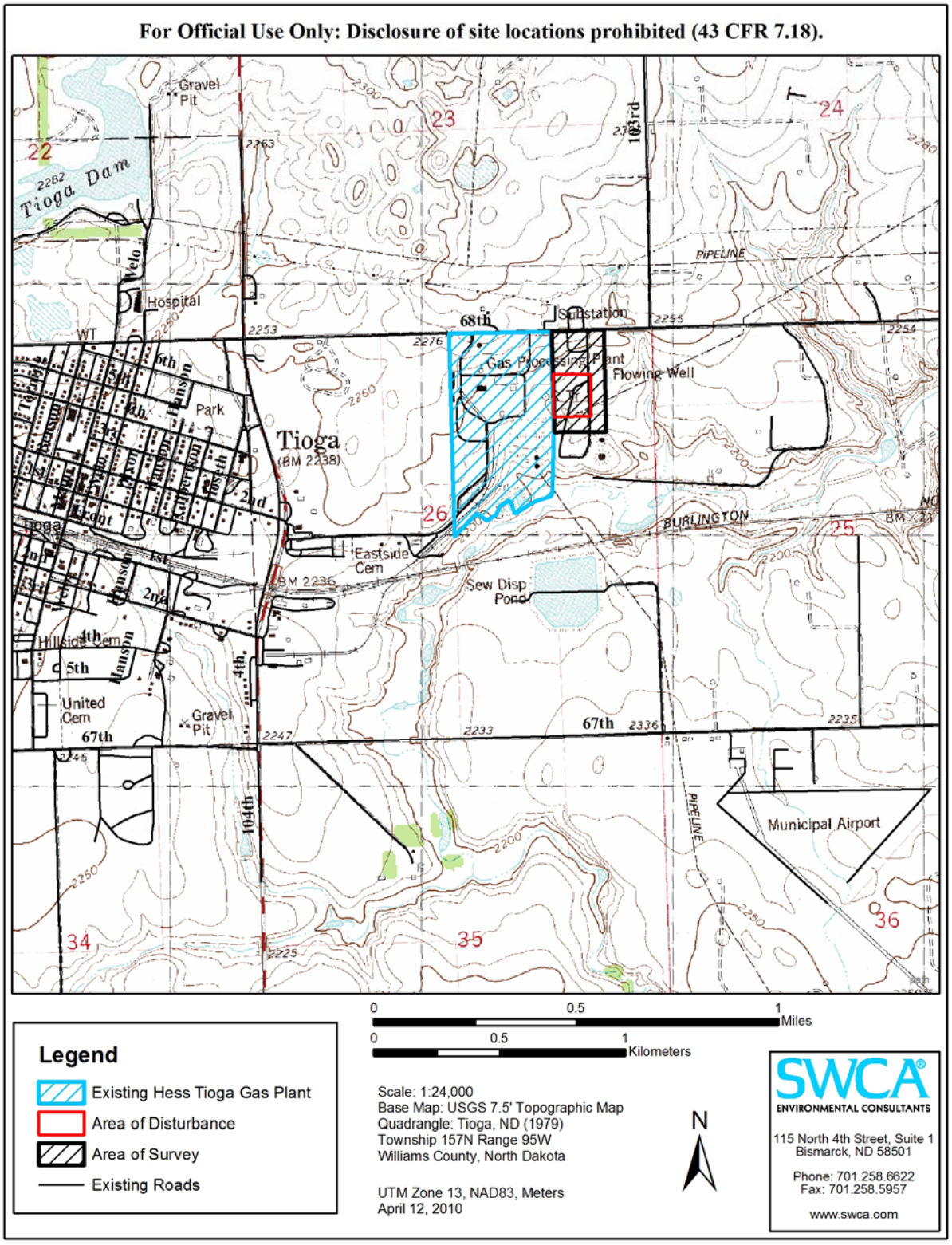

Figure 3. Project location map at 1:24,000 showing inventoried area.
(Tioga USGS 7.5' Quadrangle)

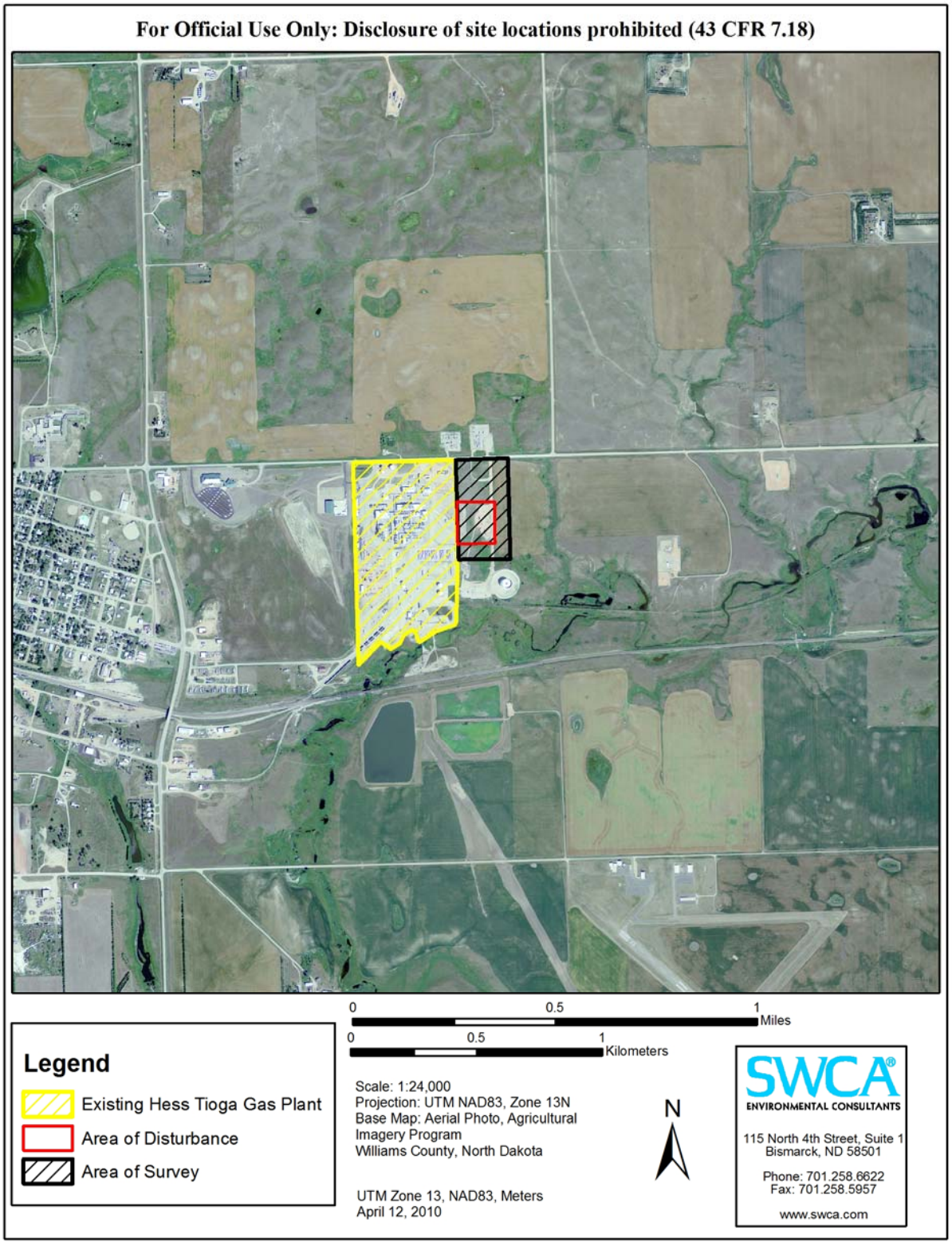

Figure 4. Aerial view of project location map at 1:24,000 showing inventoried area.