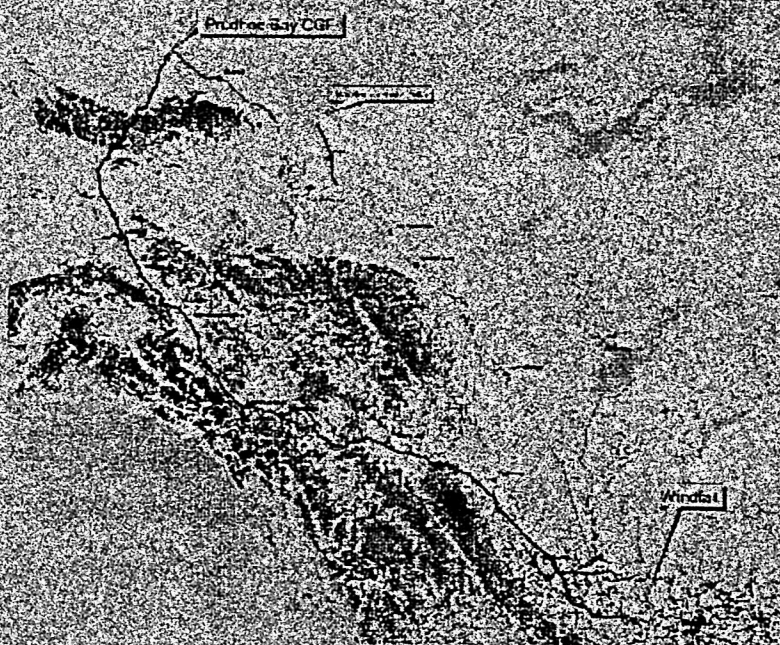




ANS Natural Gas Pipeline

Guidance Manual for Environmental Report Preparation



September 12, 2000

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GUIDANCE MANUAL FOR ENVIRONMENTAL REPORT PREPARATION

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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
COE	U.S. Army Corps of Engineers
Commission	Federal Energy Regulatory Commission
CRP	Conservation Resource Protection
CZM	Coastal Zone Management Act of 1972
dBA	decibels of the A-weighted scale
DEA	draft Environmental Assessment
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ER	environmental report
ESA	Endangered Species Act of 1973
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
g/hp-hr	grams per horsepower-hour
hp	horsepower
L_{dn}	day-night sound level
LNG	liquefied natural gas
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act
NGPA	Natural Gas Policy Act
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NPS	National Park Service
NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service NRHP National Register of Historic Places
NSA	noise-sensitive area
NWI	National Wetlands Inventory
PCB	polychlorinated biphenyl
Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	Wetland and Waterbody Construction and Mitigation Procedures
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPCC Plan	Spill Prevention, Containment, and Countermeasure Plan
TSCA	Toxic Substances Control Act
USGS	U.S. Geological Survey
§	section

KEY TO DATA SOURCES

A	Aerial Photographs
B	Agency Consultation
C	Agricultural Extension Agents
D	Applicant
E	Board of Health, State or County
F	COE (U.S. Army Corps of Engineers)
G	<i>Community Noise</i> , EPA 1971
H	Comprehensive Plans, County or Land Management Agencies
I	County/Municipal Agencies
J	EPA (U.S. Environmental Protection Agency)
K	Erosion Control and Drainage Plan Handbooks, State and County
L	Field Surveys
M	Fishery Biologist, State or Regional
N	FWS (U.S. Fish and Wildlife Service)
O	FWS NWI (National Wetlands Inventory) Maps
P	Geologic Survey Personnel, Federal, State, and Local
Q	Landowners
R	Manufacturer's Data
S	Mineral Resource Maps, Federal and State
T	NMFS (National Marine Fisheries Service)
U	Noise Surveys
V	NPS (National Park Service)
W	NRCS (Natural Resources Conservation Service) Personnel
X	NRCS Soil Surveys
Y	Plan (Upland Erosion Control, Revegetation, and Maintenance Plan)
Z	Procedures (Wetland and Waterbody Construction and Mitigation Procedures)
AA	Resource Reports 2, 3, and 4
BB	Resource Report 8
CC	Soil Authorities, Other than NRCS
DD	State Agencies
EE	State Air Quality Agency
FF	State Drinking Water Division
GG	State Water Quality Division
HH	State Wetland Maps
II	Surficial Geology and Bedrock Geology Maps
JJ	US Department of Labor
KK	US Bureau of the Census
LL	USGS (U.S. Geological Survey) Topographic Maps

1.0 INTRODUCTION

1.1 PURPOSE OF THE MANUAL

This manual is a guide to sponsors of natural gas projects who file environmental information with the Federal Energy Regulatory Commission (FERC or Commission). The manual provides helpful information about required environmental documentation and is intended to be a "cookbook" for preparing that documentation, but it is not a substitute for the regulations themselves.

The manual is part of the Commission's effort to streamline the environmental review process and to improve overall quality and consistency of data analyses and formatting of the environmental documents. It identifies information that we often find missing from filings.^{1/} This causes delays in the processing of applications because data requests are required. It also discusses our preferred format for certain documents. We hope that this manual will assist project sponsors in providing filings that do not require data requests, that will cover topics in a uniform fashion, and that can be reviewed more quickly. Nevertheless, project sponsors and other participants who prepare, use, or review these types of documents are not required to use this manual.

The primary focus of the manual is to identify the environmental documentation that needs to be included in Environmental Reports (ERs) filed under the Commission's regulations which implement the National Environmental Policy Act of 1969 (NEPA). Those regulations supplement the regulations of the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500 through 1508. Also mentioned are environmental documentation requirements for Prior Notice Filings and Annual Reports of projects automatically authorized under the Natural Gas Act (NGA), and 30-day Advance Notification Filings and Annual Reports for projects done to provide transportation under the Natural Gas Policy Act (NGPA) or replacement of facilities under section (§) 2.55(b) of the Commission's regulations (18 CFR 2.55(b)).^{2/}

1.2 OVERVIEW OF THE MANUAL

Section 2.0 of this manual covers environmental documentation required for certificate applications prepared under Subpart A of Part 157 of the FERC's regulations and sections 7(a), 7(b), and 7(c) of the NGA. It also describes in detail the basis, content, and format for the ERs that will meet current Commission and NEPA requirements. Section 3.0 provides a description of the process by which an applicant can submit an applicant-prepared draft Environmental Assessment (DEA) with its application. Section 4.0 describes the third-party Environmental Assessment (EA) and third-party Environmental Impact Statement (EIS) options which are available to applicants.

Section 5.0 outlines the environmental information requirements for Prior Notice Filings and Annual Reports of projects automatically authorized under the NGA, and 30-day Advance Notification Filings and Annual Reports for projects done to provide transportation under the NGPA or replacement of facilities under § 2.55(b) of the Commission's regulations.

^{1/} The pronouns "we," "us," and "our" refer to the environmental staff of the Commission's Office of Pipeline Regulation (OPR).

^{2/} The Commission's regulations, which are in Chapter 18 of the CFR, will be cited by section or part, for instance § 2.55 or Part 380, rather than as 18 CFR 2.55, or Part 380 of Chapter 18 or 18 CFR 380. References to other agencies' regulations will include the full citation, for instance 40 CFR 1506.

2.0 PREPARATION OF ENVIRONMENTAL REPORTS FOR NATURAL GAS ACT SECTION 7 APPLICATIONS

Applicants initiate the environmental review process through the filing of an application. The application must include an ER with Resource Reports. The preparation of Resource Reports is addressed in detail in this section.

The applicant may also choose to file an applicant-prepared DEA, a third-party EA, or a third-party EIS. Sections 3.0 and 4.0 address the preparation of these documents.

To assist in complying with the Guidelines for the Preparation of Environmental Reports for Applications Under the Natural Gas Act issued in 18 CFR Part 380 -- Appendix A, we have also issued an ER checklist for preparation of the ERs and associated Resource Reports. This ER checklist is updated from time to time and is available from OPR.

The purpose of this section is to clearly identify the technical content requirements for the ER and each Resource Report that will allow us to efficiently review an application and accelerate the overall review process. Also identified in this section is guidance on how to collect required data, which agencies should be contacted, what have been reliable data sources in the past, and recommended presentation techniques. Guidance on the following Resource Reports is provided:

Resource Report 1 -	General Project Description
Resource Report 2 -	Water Use and Quality
Resource Report 3 -	Vegetation and Wildlife
Resource Report 4 -	Cultural Resources
Resource Report 5 -	Socioeconomics
Resource Report 6 -	Geological Resources
Resource Report 7 -	Soils
Resource Report 8 -	Land Use, Recreation and Aesthetics
Resource Report 9 -	Air and Noise Quality
Resource Report 10 -	Alternatives
Resource Report 11 -	Reliability and Safety
Resource Report 12 -	PCB Contamination
Resource Report 13 -	Additional Information Related to LNG Plants

Note that material filed in another docket may be incorporated by reference if the applicant identifies the docket number, filing date, and document in which the information is contained. This incorporation by reference should be limited to items and issues that are not project specific. However, to facilitate our review, we recommend that the material be incorporated into the current filing rather than being incorporated by reference only.

There are certain general principles that should be followed throughout the preparation of the ER. These principles have often been overlooked in past filings causing delays in the processing of applications as information must be verified through data requests to the company or independent research by us. These principles are summarized below:

- **Provide a concise, clear statement of environmental impact and proposed mitigation.** The detail of each Resource Report should be commensurate with the complexity of the action and the potential for environmental impact. Each Resource Report should address:
 - existing conditions that may be directly or indirectly affected by the project or that may affect the project;
 - effects on the resource as a result of construction, operation, or abandonment of the project;
 - all proposed measures to enhance the environment or avoid, minimize, mitigate, or compensate for adverse effect; and
 - evidence of agency consultation used to identify concerns and mitigation measures.
- **Clearly and correctly identify the facilities analyzed in the ER.** Often applicants will initiate environmental studies on one set of project facilities, but will change the facilities or the locations of the facilities before the application is filed with the FERC. Not infrequently, we find that Resource Reports include information on facilities or facility locations that are different than those identified in the application and that supporting documentation for a Resource Report (e.g., U.S. Fish and Wildlife Service (FWS) consultation letters and cultural resource survey reports) often does not match the facilities as actually filed in the application. Each Resource Report and the supporting agency documentation should clearly identify the facilities that are being evaluated.
- **At a minimum, address each of the topics identified in the Summary of Filing Information which appears at the beginning of each Resource Report, or identify the reason why the topic is not addressed or not applicable.** It is frequently unclear if missing information is not applicable to a project or if the topic was inadvertently missed in the analysis. If the project is exempt from any filing or reporting requirements, clearly provide the basis for such an exemption in the appropriate Resource Reports. Issues or topics that have not been adequately addressed, and studies or surveys that have not been completed at the time of filing with the FERC should be clearly identified. In each case, the anticipated schedule for completion of all outstanding issues or studies and the anticipated filing of this information should be provided.
- **Ensure that all data are accurate and consistent throughout the Resource Reports.** Common data are often referred to in several different Resource Reports. These include: length of the pipeline or size of the aboveground facilities; acres required for construction and new permanent rights-of-way or extra work areas; acres of forest clearing; and acres of land use types affected. These data are fundamental to assess impact and must be consistent between different Resource Reports. For acreages that are presented, clearly identify the mathematical basis for determining the acreages and use the values consistently throughout the Resource Reports.
- **Provide documentation of consultation completed with Federal, state, or county agencies and other individuals.** We must verify the data and conclusions presented in the Resource Reports as part of our environmental review and preparation of EAs and EISs. Each Resource Report should include a list of all publications, reports, and other literature or communications cited or used for analysis, including the name, title, and telephone number of each person or agency contacted.

Resource Report 1 - General Project Description

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Describe the purpose and need for the project facilities.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify the project customers and the volumes of gas to be delivered to each.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide a detailed description of the project facilities.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide the following supporting information:				
<input type="checkbox"/> A general location map;	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Current original U.S. Geological Survey (USGS) 7.5-minute-series topographic maps with mileposts showing the project facilities; and	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> the location and size of extra work/staging areas, pipe storage yards, and temporary and permanent access roads;	D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Aerial photographs or photo-based alignment sheets with mileposts showing the project facilities;	D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSAs) within 1 mile; and	D	<input checked="" type="checkbox"/>		
<input type="checkbox"/> Plot/site plans of all other aboveground facilities which are not completely within the right-of-way.	D	<input type="checkbox"/>		
<input type="checkbox"/> Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Summarize the total acreage of land affected by construction and operation of the project.	BB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe construction procedures to be used.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe how compliance with mitigation measures will be ensured.	D	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe general operation and maintenance procedures.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe current or reasonable future expansion plans.	D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Summarize the status and provide copies of all required Federal, state, and local government permit approvals, other than those which must be obtained immediately before construction.	AA, BB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe any nonjurisdictional facilities that would be built in association with the project.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Upon request from the FERC, provide the names and addresses of all landowners whose land would be crossed by the project facilities. Include the names and addresses of all residents adjacent to new or modified compressor stations.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1/ D Applicant AA Resource Reports 2, 3, and 4 BB Resource Report 8	2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction
---	---

1.1 Proposed Facilities

1.1.1 Purpose and Need

Briefly describe the purpose of and need for the facilities. Include in the description the total volume of gas to be delivered by the facilities, the location of the gas receipt and delivery points, a listing of each customer, and the volume of gas delivery to each customer.

1.1.2 Location and Description of Facilities

Provide a detailed description of the length, number, type, and size of all facilities to be constructed, modified, abandoned, replaced, or removed. Include the following information in the description:

- For each pipeline segment (new pipeline or loop)
 - Name or segment designation
 - Pipe diameter in inches
 - Approximate length in miles and beginning and ending mileposts^{1/}
 - Type of activity (loop, new, replacement, abandonment, or removal)
 - Location by county and state
- For each aboveground facility (compressor or meter station, well, or liquefied natural gas (LNG) plant)
 - Name or facility designation
 - Type of facility
 - Type of activity (modification, new, abandonment, or replacement)
 - Amount of horsepower, if a compressor station
 - Milepost location, if appropriate
 - Location by county and state
- For each associated facility (block valve, drip tank, regulator, pig launcher/receiver, etc.) that would be placed within existing or new permanent right-of-way or aboveground facility sites
 - Type of facility
 - Type of activity (modification, new, replacement, abandonment, or removal)
 - Milepost location
 - Location by county and state

For large projects, summarize the above information in tables as shown in tables 1.1-1 and 1.1-2.

^{1/} Although mileposts are referred to throughout this manual, station numbers are also acceptable. It is also acceptable to use existing mileposts or surveyed station numbers for loops or abandonments.

TABLE 1.1-1

Pipeline Facilities

Facility	Pipeline Diameter and Type	Approximate Length	Mileposts <u>a/</u>	State	County
Loop A	36" Loop	2.6	0.0 - 2.6	ST	County A County B
Loop B	12" Loop	1.2	2.6 - 3.7	ST	County B
Lateral A	24" New Lateral	3.6	14.2 - 15.0 15.0 - 17.8	ST ST	County D County E
Replacement A	20" Replacement	<u>6.4</u>	20.2 - 24.0 <u>b/</u> 24.0 - 26.6 <u>c/</u>	ST ST	County F County G
Total - Pipeline Facilities 13.8					

a/ Mileposts for loops are reference points and may not equal total length due to rounding.

b/ Old pipe to be removed.

c/ Old pipe to be abandoned in place.

TABLE 1.1-2

Aboveground Facilities

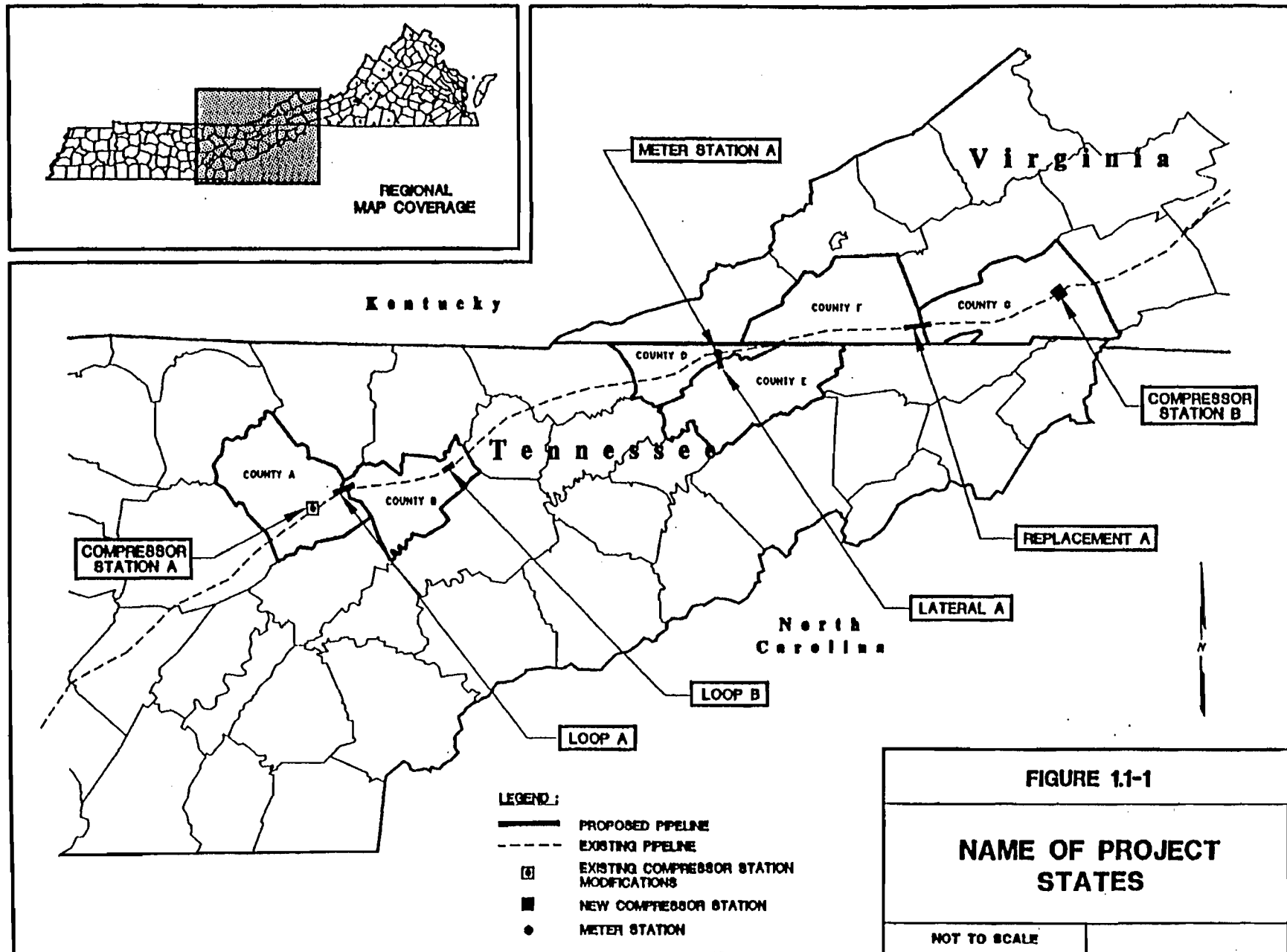
Facility	New/Modified	Horsepower		Approximate Milepost	State	County
		New	Added			
Compressor Station A	Modified	-	12,600	829.4	ST	County A
Compressor Station B	New	23,500	-	8.7	ST	County B
Meter Station A	New	N/A	N/A	829.4	ST	County D
Regulator Station A	Modified	N/A	N/A	88.6	ST	County C

N/A - Not applicable.

During our initial review of the project, we may determine that the Notice of Intent (NOI) to prepare an EIS or EA should be mailed to potentially affected landowners as well as other interested parties, including Federal, state, and local agencies, and the Commission's service list. If we do an NOI, it will be mailed to all interested parties where the project is a major project that requires an EIS or is a smaller project that requires an EA and may potentially affect sensitive environmental resources. If there are noise issues, land use/residential areas, or environmentally sensitive areas involved, provide the names and mailing addresses of all landowners whose land would be crossed by the project and all residents who are adjacent to new or modified compressor stations.

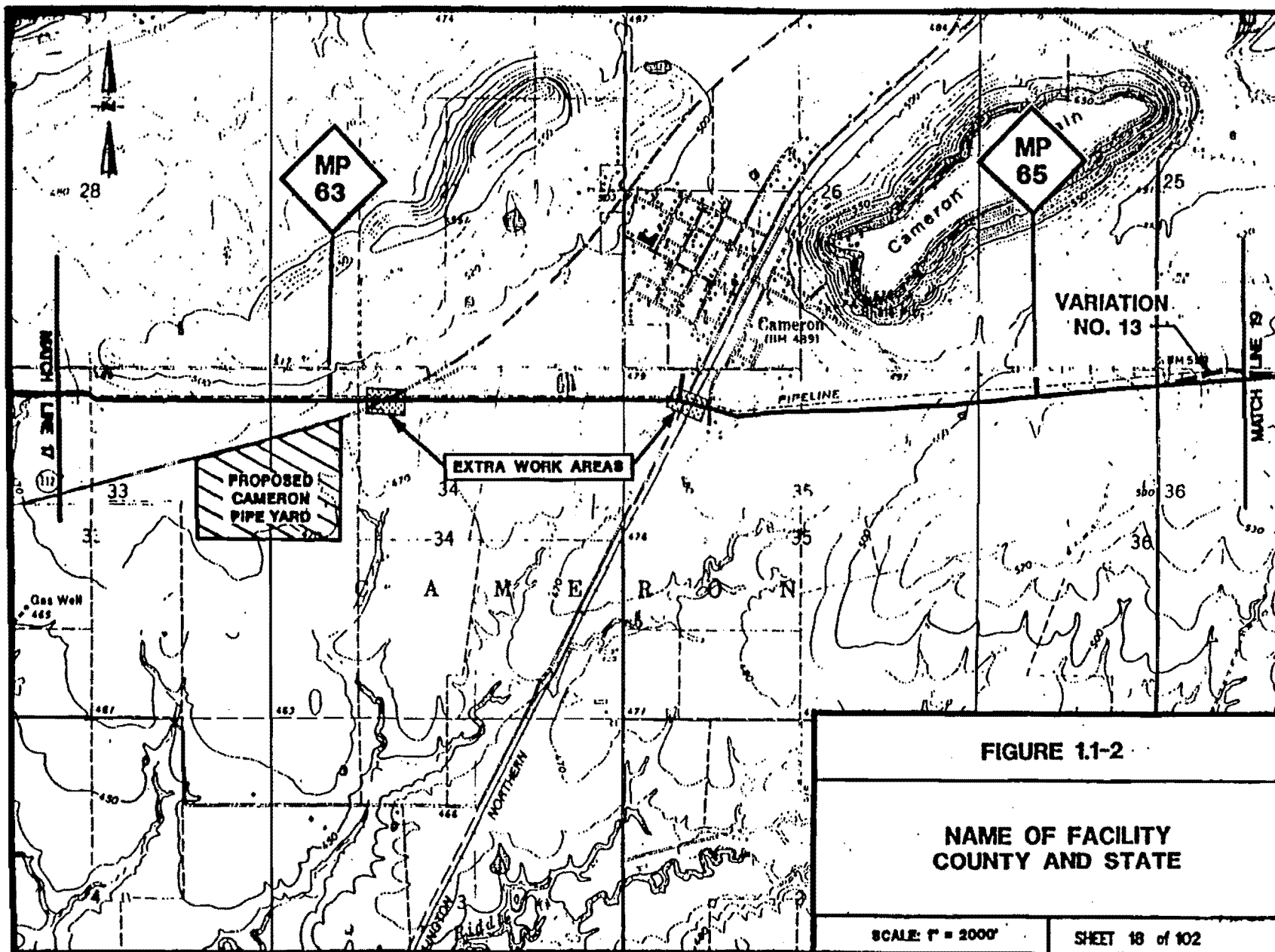
1.1.3 Location Maps, Detailed Route Maps, and Plot/Site Plans

Provide a map showing the location of all pipeline and aboveground facilities in relationship to existing pipeline facilities (see figure 1.1-1).



All pipeline segments, aboveground facilities (including block valves, drip tanks, communications towers, etc.), pipe storage yards, extra work/staging areas, contractor yards, and access roads need to be clearly and accurately shown on original 1:24,000/1:25,000 scale USGS topographic maps, and 1:6,000-or-greaterscale aerial photographs or photo-based alignment sheets that are preferably not more than 1 year old.

For pipeline segments, clearly show the pipeline centerline and beginning, intermediate, and ending mileposts. Milepost markers must be shown clearly and accurately on the maps and photos since mileposts are used to locate and describe site-specific impacts, mitigation measures, and recommendations. For looping projects, the maps, aerial photographs, or photo-based alignment sheets must clearly show on which side of the existing pipeline the loop would be placed. The alignment sheets should also show right-of-way widths and extra work spaces (see figures 1.1-2 and 1.1-3).



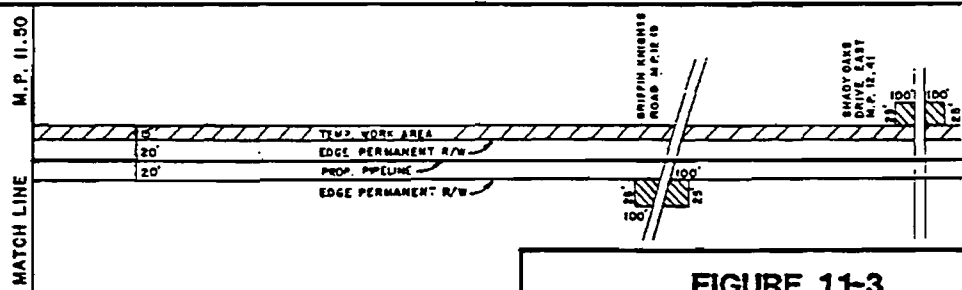
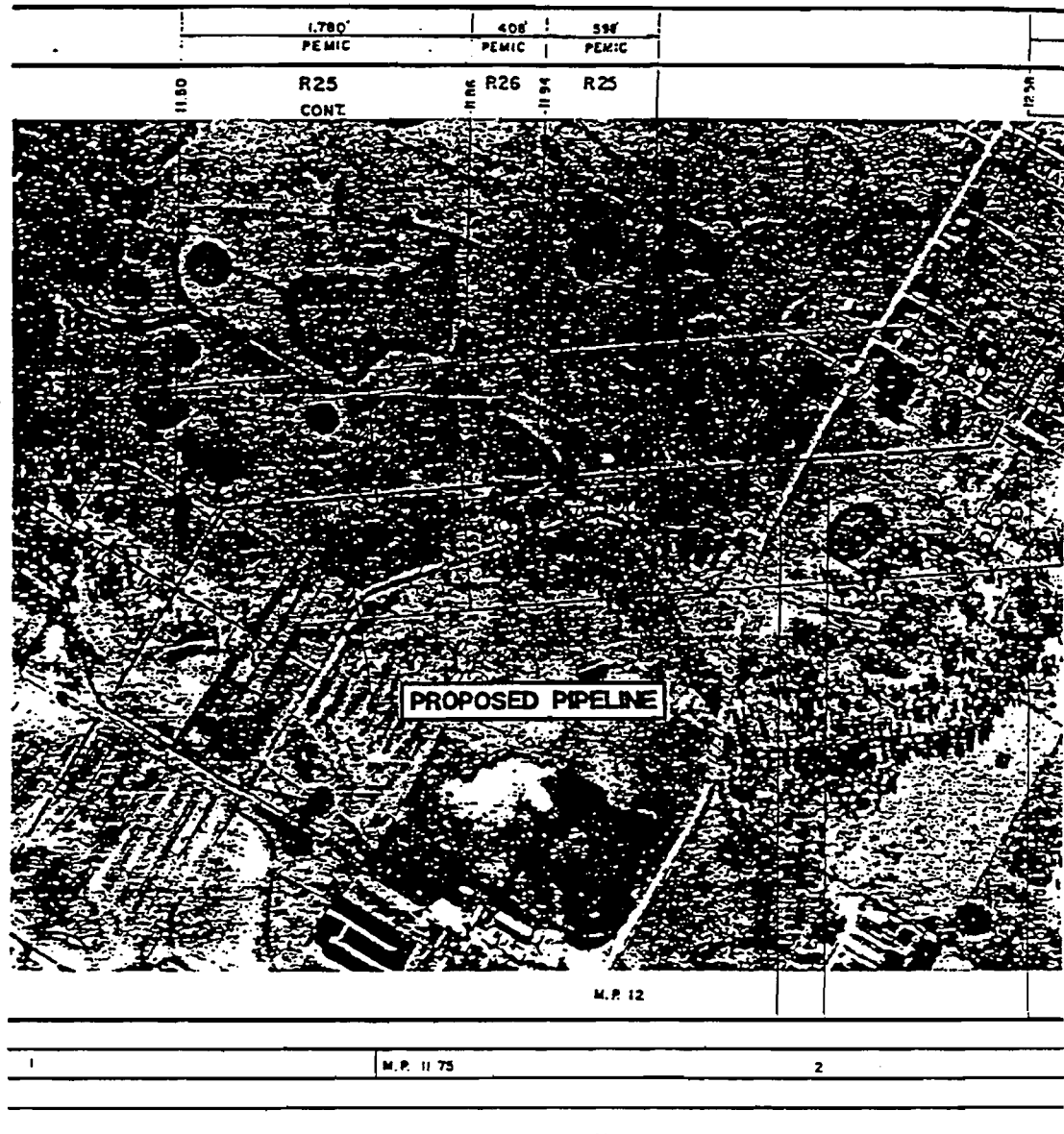
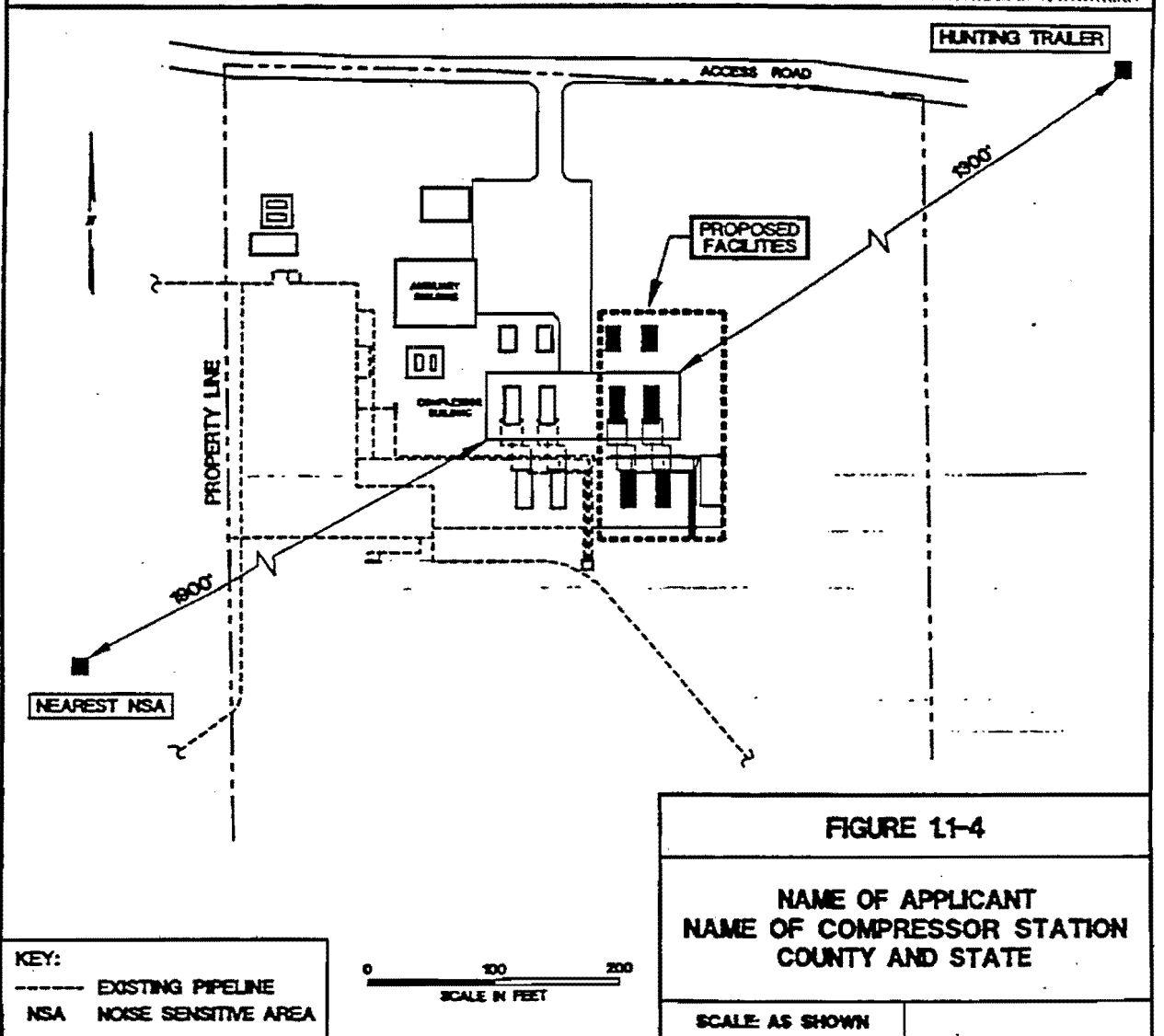
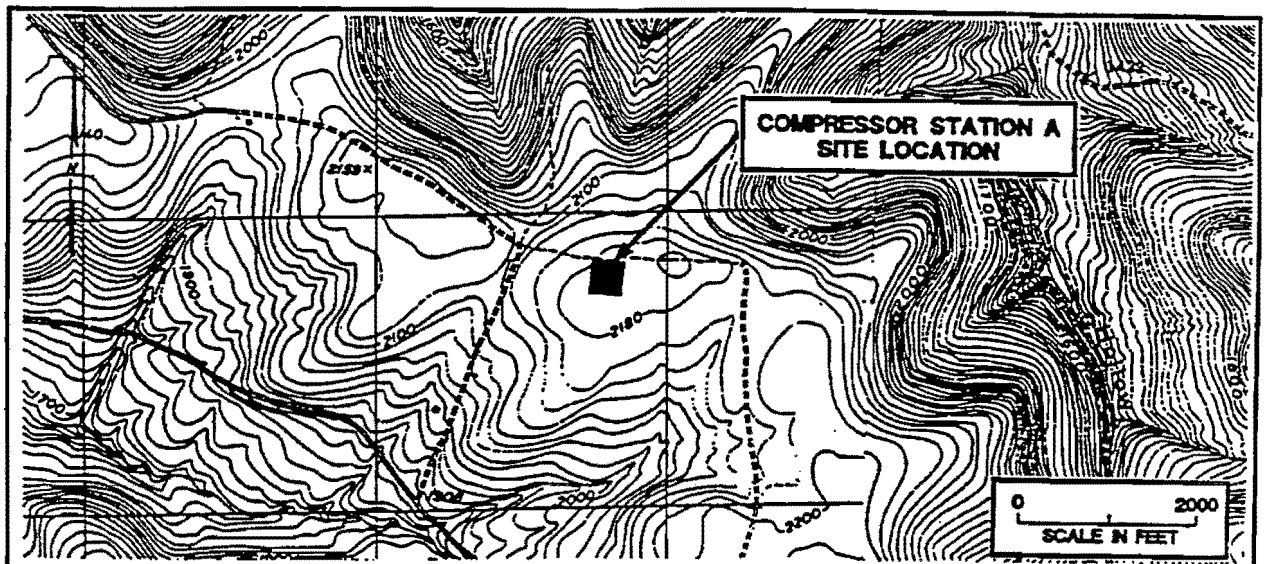


FIGURE 11-3

**TYPICAL AERIAL
PHOTO BASE MAP**

NOT TO SCALE

Show compressor stations on the 1:24,000/1:25,000 scale topographic maps. Identify the boundaries of the compressor station property and the location of nearby NSAs (residences, churches, schools). In addition, provide a plot/site plan at a 1:3,600-or-greater scale showing: the property boundary; existing and proposed compressor station facilities; area to be disturbed during construction and operation of the station; compressor station fence line; and the distance and direction to the nearby NSAs. If there are no NSAs within 1 mile of the site, note this on the plot plan or in the accompanying text. Figure 1.1-4 is an example of a compressor station location map and plot plan.



DWG-01003

1.2 Land Requirements

The extent of land requirements/disturbance must be clearly defined to determine the impacts associated with a project. Clearly make the distinction between land requirements for construction (temporary impact) and operation (permanent impact) of the project facilities. Additional guidance in calculating land requirements for the right-of-way, extra work/staging areas, and contractor yards is included in Resource Report 8 of this manual. Make sure all calculations and numbers are consistent with those of other Resource Reports.

1.2.1 Pipeline

Provide typical right-of-way cross-section diagrams to clearly identify land requirements for construction and operation of each pipeline facility. Each typical diagram should identify the pipeline it pertains to and should show:

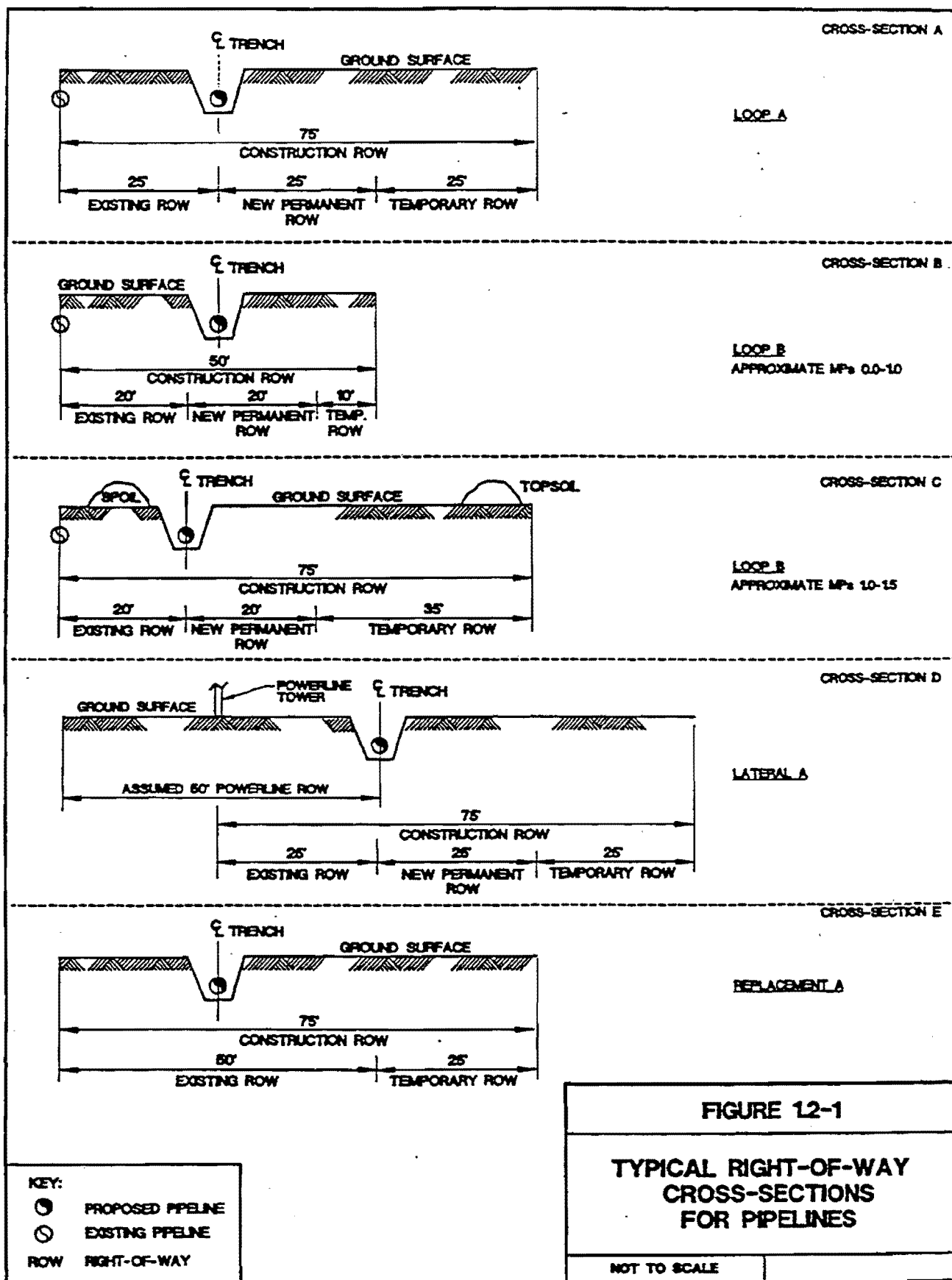
- the width of the total construction right-of-way;
- the width of the new permanent right-of-way;
- the width of the temporary construction right-of-way;

- the width of the existing right-of-way used for part of the construction right-of-way; and
- the location of existing and proposed pipelines.

If the new permanent pipeline right-of-way or temporary construction right-of-way will overlap existing utility or transportation corridor rights-of-way, each typical diagram should also show:

- the width of the existing utility or transportation right-of-way overlapped by the temporary construction right-of-way; and
- the width of the existing utility or transportation right-of-way overlapped by the new permanent right-of-way or existing permanent right-of-way.

Figure 1.2-1 is an example of typical right-of-way cross sections that may be used in a pipeline project.



In addition to the construction and permanent right-of-way requirements, include land requirements for extra work/staging areas for the project (*i.e.*, road, railroad, waterbody, and wetland crossings; areas of steep side slope; areas at the beginning and end of each pipeline segment for contractor mobilization/demobilization; pipe and contractor storage yards, etc.). Summarize land requirements for the pipeline facilities in a table (see table 1.2-1).

Facility	Right-of-Way Cross-Section ^{a/}	Length (miles)/ Number of Sites	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Loop A	A	2.6 mi	23.6	7.9
Loop B	B, C	1.2 mi	10.6	2.9
Lateral A	D	3.6 mi	32.7	21.8
Replacement A	E	6.4 mi	58.2	0.0
Extra Work Areas ^{b/}	N/A	12	1.4	0.0
Pipe Storage Yards	N/A	3	15.0	0.0
Contractor Office Yards	N/A	1	<u>3.0</u>	<u>0.0</u>
Total			144.5	32.6
^{a/} See figure 1.2-1 for typical right-of-way cross sections. Permanent and construction right-of-way widths should be based on the typical right-of-way widths for each pipeline segment. ^{b/} Expanded work areas in areas of steep slope and at waterbody, wetland, railroad, and road crossings, etc. N/A Not Applicable.				

1.2.2 Aboveground Facilities

For each aboveground facility, provide the following information:

- total site area in acres (property size);
- amount of land required for construction, including access roads, laydown areas, and other areas (disturbed during construction); and
- amount of land required for facility operation, including access roads, communication facilities, parking, and other areas (permanently disturbed).

Table 1.2-2 is an example of a summary presentation of this information.

TABLE 1.2-2				
Land Requirements for Aboveground Facilities				
Facility	Property Size (Acres)	Land Disturbed During Construction (Acres)	Land Required for Operation (Acres)	Comments
Compressor Station A	38.6	1.5	1.0	Existing facility
Compressor Station B	25.0	5.0	5.0	New facility
Meter Station A	1.0	0.5	0.5	New facility
Regulator A	<u>N/A</u>	<u>< 0.1</u>	<u>< 0.1</u>	Within existing right-of-way
Total	64.6	7.1	6.6	

1.3 Construction Procedures

In addition to the information presented below, describe the procedures and/or personnel training that would be implemented to ensure that construction of the project would comply with the mitigation measures identified in the filed application and the requirements of other Federal and state permits. Also describe the role of the environmental inspector. See the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan). Describe:

- how the applicant will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- the number of environmental inspectors assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- company personnel, including environmental inspectors and contractors, who will receive copies of the appropriate material;

- what training and instructions the applicant will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
- the company personnel (if known) and specific portion of the applicant's organization having responsibility for compliance; and
- the procedures (including use of contract penalties) the applicant will follow if noncompliance occurs.

1.3.1 Pipeline

Summarize the construction and restoration techniques to be used for the project. For pipelines, the description should include:

- procedures for marking (*e.g.*, flagging) the construction right-of-way and extra work/staging areas;
- procedures for clearing, trenching, stringing, welding, hydrostatic testing, backfilling, and restoration;
- procedures for disposing of timber, slash, and rock;
- excavation depths and depth of cover over the pipeline, including identification of any areas where the pipeline would be buried deeper than usual (*i.e.*, streams, agricultural fields with drain tiles, etc.); and
- pipeline construction schedule by segment, including approximate start date and duration for overall construction/restoration.

Place special emphasis on describing the construction and restoration techniques to be used in the following areas:

- Rugged topography - Describe side slope construction techniques, width of the construction right-of-way, erosion control and revegetation procedures, and the milepost locations where the construction technique would be used (see Resource Report 6 on Geology and Resource Report 7 on Soils).
- Residential areas - Describe the specific construction mitigation techniques (*i.e.*, reduced construction right-of-way, stove-pipe or drag-section techniques, etc.) that would be used in congested residential areas (see Resource Report 8 on Land Use).
- Active croplands - Describe how drain tiles would be identified and repaired if damaged during construction. Also describe the method of topsoil segregation, procedures for minimizing soil compaction and removing rock, and special construction techniques that would be used for orchards or other specialty crops (see Resource Report 7 on Soils and Resource Report 8 on Land Use).
- Road crossings - Describe the methods for crossing Federal, state, and local roads. If roads would be open cut, describe the duration of construction and how access would be maintained along the road (see Resource Report 8 on Land Use).

- **Blasting** - Describe blasting procedures (see Resource Report 2 on Groundwater, Resource Report 3 on Fisheries, and Resource Report 6 on Geology).
- **Wetlands** - Describe construction techniques (*i.e.*, standard, push/pull, directional drill) that would be used (see Resource Report 3 on Wetlands).
- **Waterbodies** - Describe construction techniques for waterbody crossings, including major or sensitive waterbodies (see Resource Report 2 on Surface Waters).

For abandonment or replacement projects, explain whether the existing pipeline would be abandoned in place or removed. Also specify whether replacement pipeline would be placed adjacent to the existing pipeline or in the same ditch from which the existing pipeline is removed. If the existing pipeline would be removed, but same-ditch replacement is not proposed, explain why and describe the sequence of removal and replacement activities. For pipelines which have been exposed to polychlorinated biphenyl (PCB) contamination, briefly describe how abandonment/replacement activities would comply with the Toxic Substances Control Act (TSCA) (see Resource Report 12 on PCBs).

If the above procedures are discussed in the company's erosion control plan or another resource report, reference the appropriate section of the plan or resource report. Also specify if the project would be constructed using our recommended Plan and Wetland and Waterbody Construction and Mitigation Procedures (Procedures). If the company's erosion control plan would be used for construction and restoration, compare it to our Plan and Procedures, and describe and explain any differences. Any variances to the Plan and Procedures should be identified and discussed further in the appropriate Resource Report.

1.3.2 Aboveground Facilities

Provide a description of the construction procedures for aboveground facilities. For LNG plants and compressor stations, include the approximate duration of construction of each facility, the number of construction workers for each facility, foundation excavation depths, and associated facilities (*i.e.*, access roads, office buildings, etc.). Provide plot/site plans of each facility showing existing, if any, and new facilities. For sites that would be abandoned, describe the procedures for dismantling and disposing of buildings, foundations, and equipment, and for restoring the site.

If any of the facilities or sites are potentially contaminated with PCBs, briefly describe the cleanup and disposal techniques that would be used as well as the status of the permits and approvals required to comply with the TSCA.

1.4 Operation and Maintenance

Provide a general description of the operation and maintenance practices for the project, including Federal, state, and local regulations and guidelines which would be followed. Identify the number of additional operational personnel that would be hired because of the project.

For pipelines, include a description of the type and frequency of gas leak and cathodic protection surveys, aerial inspections, and right-of-way maintenance. For right-of-way maintenance practices, include the time of year for maintenance activities, the permanent right-of-way width that would be maintained in a grassy condition, and whether herbicides would be used.

For aboveground facilities, describe normal operation and maintenance procedures. Describe whether the facilities would be staffed 24 hours a day or maintained from a central operation center. Include a description of new operations or district offices which the project would require.

1.5 Future Plans and Abandonment

Provide information on the current or reasonably foreseeable plans for future expansion or abandonment of the project. Include type, size, and location of planned future facilities, extended schedule for construction, approximate volume of gas to be transported, and a description of how the current project affects these future plans.

1.6 Permits and Approvals

Identify all necessary Federal, regional, state, and local permits and consultations required for the project (in addition to the FERC Certificate of Public Convenience and Necessity) and provide the following information:

- the name of the permitting/approval agency and the name and telephone number of the person contacted;
- type of permits/approvals or consultation; and
- the current status of the permits/approval filing (*e.g.*, estimated schedule for permit filing, date of actual filing, and date permit/approval was granted or is anticipated).

Provide copies of all approved permits with this Resource Report. Table 1.6-1 is an example of a summary of this information for a project in New York.

TABLE 1.6-1

Other Permits and Approvals Applicable to the Project

Permit/Approval	Administering Agency	Status ^{a/}
Federal		
Section 404 Permit/Review of Section 10 Applicability	U.S. Army Corps of Engineers, (Joint Application with NYDEC)	Application in preparation. To be filed 4/95.
Section 7 Consultation	U.S. Fish and Wildlife Service	Consultation completed on 1/12/95.
State		
Underground Storage Permit	New York Department of Environmental Conservation (NYDEC)	Application filed 1/95 and pending before the NYDEC.
New Drilling Permit and Well Rework Permit	NYDEC	Application in preparation.
Permit for Bulk Storage Facilities	NYDEC	Application in preparation.
Permit to Construct and Certificate to Operate Stationary Combustion Installation (or waiver)	NYDEC	Application filed 12/94 and pending before the NYDEC.
Section 401 Water Quality Certification	NYDEC	Application in preparation. To be filed 7/95.
Hydrostatic Test Water Discharge (State Pollutant Discharge Elimination System [SPDES] Permit)	NYDEC	Application in preparation. To be filed 7/95.
SPDES General Permit for Stormwater Discharges from Construction Activities	NYDEC	Application in preparation. To be filed 7/95.
Cultural Resource Consultation	State Historic Preservation Officer (SHPO)/NYDEC	Cultural Resource Report to be filed 8/95.
Notification of Withdrawal and Discharge Locations for Water Used in Hydrostatic Testing	NYDEC	Application in preparation. To be filed 7/95.

^{a/} Indicates the status as of June 1, 1995.

1.7 Nonjurisdictional Facilities

Under NEPA, the FERC may need to consider the environmental impact of related nonjurisdictional facilities that would be constructed upstream or downstream of the jurisdictional facilities for the purpose of delivering, receiving, or using the proposed gas volumes. Integrally-related nonjurisdictional facilities could include major power facilities, such as cogeneration plants, as well as less significant facilities, such as lateral pipeline connections built by local distribution companies.

The extent of the Commission's analyses of nonjurisdictional facilities depends on the Commission's determination of its and other Federal agencies' control and responsibility over these facilities. To assist in these determinations, the Commission has adapted the U.S. Army Corps of Engineers (COE) practice and has identified four typical factors to be considered in determining whether there is sufficient Federal control and responsibility over a project as a whole to warrant environmental analysis of portions of the project outside of its direct sphere of influence. Refer to the Commission's June 2, 1992 order in Docket No. CP91-1983. These factors include:

- *Whether or not the regulated activity comprises "merely a link" in a corridor type project (e.g., a transportation or utility transmission project).*

- *Whether there are aspects of the nonjurisdictional facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity.*
- *The extent to which the entire project will be within the FERC jurisdiction.*
- *The extent of cumulative Federal control and responsibility.*

To assist the Commission in determining whether to expand the scope of the Commission's analysis to include the nonjurisdictional facilities, provide the following information regarding the identified nonjurisdictional facilities:

- a brief description of each facility, including as appropriate: ownership, land requirements, gas consumption, megawatt size, construction status, and an update of the latest status of Federal, state, and local permits/approvals;
- the length and diameter of any interconnecting pipeline;
- current 1:24,000/1:25,000 scale topographic maps showing the location of the facilities;
- evidence that the appropriate State Historic Preservation Officer (SHPO) has been contacted regarding whether properties eligible for listing on the National Register of Historic Places (NRHP) would be affected, or on the need to perform cultural resources surveys to support such a determination;
- evidence of consultation with the FWS regarding potential impacts of the proposed facility on federally listed threatened and endangered species; and
- for facilities within a designated coastal management zone, a consistency determination or evidence that the owner has requested consistency determination from the state's coastal zone management program.

Evidence that adequate comment or consultation has taken place should be in the form of a letter from the responsible state agency.

Resource Report 2 - Water Use and Quality

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Identify all U.S. Environmental Protection Agency (EPA)- or state-designated aquifers crossed.	J	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify all public and private water supply wells and springs within 150 feet of the proposed construction right-of-way.	E, L	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Identify proposed mitigation for impacts on groundwater resources.	D			
<input type="checkbox"/> Submit a Spill Prevention, Containment, and Countermeasure Plan (SPCC Plan).	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Indicate mitigation measures to be undertaken to ensure that public or private water supplies are returned to their former capacity in the event of damage resulting from construction.	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Identify all perennial surface waterbodies crossed by the proposed project and their water quality classification.	L, GG, LL	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify all waterbody crossings that may have contaminated waters or sediments.	GG	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify watershed areas, designated surface water protection areas, and sensitive waterbodies crossed by the proposed project.	FF, GG	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify all sources of hydrostatic test water, the quantity of water required, chemical additives to be used, and test water discharge locations.	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Identify the permits required for construction across surface waters.	F, GG	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe the proposed waterbody construction, impact mitigation, and restoration methods to be used to cross surface waters. Consider using our Wetland and Waterbody Construction and Mitigation Procedures, or propose alternative measures that would ensure equal or greater protection.	D, Z	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> For each waterbody greater than 100 feet wide, provide site-specific construction, mitigation, and restoration plans.	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Describe techniques to be used to minimize turbidity and sedimentation impacts associated with offshore trenching, if any.	D	■	<input type="checkbox"/>	<input type="checkbox"/>
1/ D Applicant E Board of Health, State or County F COE J EPA L Field Surveys Z Procedures FF State Drinking Water Division GG State Water Quality Division LL USGS Topographic Maps		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

In text and tabular form this Resource Report should present the documentation used to identify and quantify impact of construction on water use and quality. It should also discuss special techniques that would be used to mitigate or avoid impact during construction across water resources.

2.1 Groundwater Resources

Provide a brief description of the existing groundwater resources in the project area. Identify:

- general information on each aquifer underlying the project area, including type, depth, uses, and quality;
- any other important groundwater withdrawal areas within the project area and their major uses (e.g., residential agricultural, industrial, livestock); and
- any springs that provide water for livestock or wildlife in the project area.

This type of information is typically available from state and Federal hydrologic publications, and the state or county Board of Health databases. If groundwater is not the main source of drinking water, indicate the water supplier/company supplying water for residents in the area and the surface water source.

Also identify segments of the pipeline and other aboveground facilities that overlie EPA-designated or petitioned sole source aquifers. Information regarding sole source aquifers can be obtained from the regional EPA Groundwater Divisions. Areas of contaminated groundwater should also be identified by contacting the appropriate state Waste Management Division or Groundwater Division.

If a large quantity of groundwater would be used for the project (e.g., solution mining storage caverns) provide a detailed groundwater resource and drawdown analysis. Also, describe in detail proposed wastewater disposal methods. Identify all regulatory requirements for the groundwater withdrawal/disposal and the status of approvals.

2.1.1 Public and Private Water Supply Wells

Identify by milepost all drinking water supply wells, including private, community, municipal/public wells, and springs within 150 feet of any area that would be disturbed by construction. This includes the construction right-of-way, extra work areas, new access roads, pipe storage and contractor yards, and sites for new or modified aboveground facilities (see table 2.1-1 for an example). Supply well and spring information can generally be obtained from the county and state Board of Health Departments which compile information on drinking water supplies and springs. Information may be available from maps, in computer databases, in Board of Health reports, or from field surveys.

TABLE 2.1-1				
Water Supply Wells and Springs within 150 Feet of the Construction Work Area				
Segment	County, State	Supply Type	Approximate Milepost	Approximate Distance from Construction Work Area (feet)
Loop 1	Warren, OH	Private Well	787.9	17
		Municipal Well	789.0	0
Loop 2		None		
Loop 3	Fairfield, OH	Spring	867.3	0
		Well	870.8	23
Loop 4	Noble, OH	Spring	1070.8	2
		Spring	1074.0	21
		Spring	1078.6	13
		Well	1078.7	15

The information obtained in the "well search" is used to determine whether the pipeline and aboveground facilities could potentially affect a groundwater supply. To determine if the pipeline crosses a protected watershed area associated with a supply well, the municipal or public well owners/operators and the state Drinking Water Division should be contacted. Present the information, including the length of the protected watershed traversed by milepost in the text of the report or in tabular form (see table 2.1-2).

TABLE 2.1-2				
Locally Zoned Aquifer Protection Areas Crossed by the Proposed Route				
Segment	Town/State	MP	Water Supply	Distance of Protection Area Crossed (ft)
X-1 Replacement	Seekonk, MA	1.7 - 3.4	Seekonk Water District	8,976
X-2 Replacement	Wareham, MA	0.3 - 3.1	Wareham Water District	14,784
	Bourne, MA	5.08 - 5.2	Buzzard Bay Water District	633

It should be noted that well searches and contacting agencies to identify the necessary information about drinking water resources can be a time-consuming process. For this reason, it is important to initiate research early in the process.

Where blasting would be required, identify any municipal water mains that would be crossed, the location by milepost, owner, and status and results of contacts with the water authority. This information can be briefly presented here and then referenced to Resource Report 8 (Land Use) for a discussion of impact and mitigation.

2.1.2 Groundwater Impact Mitigation

Identify methods for minimizing and mitigating impact on groundwater by describing the use of special blasting techniques, trench breakers, dewatering methods, and restrictions on refueling and storage of hazardous substances (generally prohibit refueling and storage of hazardous materials within a 200-foot radius of private wells, and 400-foot radius of community and municipal wells). Include a plan for monitoring groundwater quality and yield for public and private supply wells, with the owner's permission, before and after construction to determine whether water supplies have been affected by pipeline construction activities. Also indicate what types of mitigation measures would be undertaken to ensure that the water supply is returned to its former capacity in the event of damage resulting from construction (*i.e.*, providing temporary sources of potable water, restoration, repair, or replacement of water supplies).

If contaminated groundwater is present, describe its specific location, avoidance and/or other mitigation measures to minimize impact.

Many of the groundwater mitigation measures may also be included in the company's SPCC Plan. The SPCC Plan is needed as part of the EPA-required Storm Water Pollution Prevention Plan. Although the SPCC Plan is not required as part of the Resource Report, it should be provided as early as possible. If a project disturbs more than 5 acres of land the company should also file a copy of its Storm Water Pollution Prevention Plan (see section II.C. of the Procedures).

2.2 Surface Water Resources

Identify all waterbodies crossed by the pipeline using 1:24,000/1:25,000 scale USGS topographic maps submitted with the application. Provide a listing, by milepost, of all waterbodies that would be crossed including type designation (*e.g.*, perennial, intermittent, ephemeral, canal, etc.), the width at the crossing location, the associated state water quality classification, and general fishery type (*e.g.*, coldwater, coolwater, warmwater). This information can be obtained from the state water quality and fisheries departments. Table 2.2-1 is an example of how the information may be presented.

TABLE 2.2-1

Waterbodies Crossed by the Pipeline

Pipeline	Milepost	Waterbody	Type ^{a/}	Crossing Width (ft)	State Water Quality Classification ^{b/}	Fishery Type
Line F Warmwater	1.2	Choctaw Bayou	P	31	ABC	Warmwater
	1.9	McCain Creek	P	30	ABC	
	8.1	Twelve Mile Bayou	P	216	ABCD	Warmwater
	8.4	Unnamed	I	15	ABC	Warmwater
	9.7	Twelve Mile Bayou Slough	P	336	ABC	Warmwater

^{a/} P = perennial; I = intermittent

^{b/} State Designations

Use/Description

- A Primary Contact Recreation - Defined as any recreational or other water use in which there is prolonged and intimate contact with the water involving considerable risk of absorbing waterborne constituents through the skin or of ingesting constituents from water in quantities sufficient to pose a significant health hazard. Examples of this type of water use include swimming, water skiing, skindiving, and similar activities.
- B Secondary Contact Recreation - Any recreational or other water in which body contact with the water is either incidental or accidental, and in which the probability of ingesting appreciable quantities of water is minimal. Uses include fishing, wading, commercial or recreational boating, and any limited contact incident to shoreline activity.
- C Fish & Wildlife Propagation - Includes use of water for preservation and reproduction of aquatic biota such as indigenous species of fish and invertebrates as well as reptiles, amphibians, and other wildlife associated with the aquatic environment. This use also includes the maintenance of water quality at a level that prevents contamination of aquatic biota consumed by humans.
- D Drinking Water Supply - Water for human consumption and general household use. Surface waters designated as drinking water supplies are identified in the criteria tables; this designation does not apply to any tributaries unless specified.

Identify all waterbodies that are greater than 100 feet in width and provide the crossing widths, proposed construction methods (e.g., open cut, directional drill), and site-specific mitigation and restoration plans. The detailed description of the crossing plan should include:

- the method to be used to excavate the trench underwater;
- the location of the spoil storage both in the river and onshore and the mitigative measures that would be used to control and store the spoil;
- the method to be used to pull the pipeline across the river, including the amount of time required for the pull;
- the method to be used to backfill the trench underwater (such as natural redeposition or mechanical placement);
- an explanation of the size requirements of the extra work spaces on each bank (such as trench size and work to be done in each work space);

- f. a discussion of any special mitigation to minimize impact on riparian vegetation; and
- g. for navigable streams, include a discussion on how boat traffic interruption would be minimized.

Provide mitigation measures proposed to reduce potential for adverse impact on surface waters. Provide information regarding storage of fuels and lubricants and disposal of all construction wastes, dredge spoil, etc.

If a directional drill is proposed, provide the following information:

- size and location of staging areas for the entry and exit pits;
- how an inadvertent release of drilling mud would be contained;
- the procedures that would be used to clean up any inadvertent releases; and
- how an abandoned drill hole would be sealed, if necessary.

Provide a contingency plan for the waterbody crossing in the event the directional drilling is unsuccessful or proves infeasible. Provide site-specific plans which include a scaled drawing identifying all areas that would be disturbed by construction and a copy of any permits issued. Include all relevant information described above.

2.2.1 Contaminated Sediments

Identify all waterbody crossings that may have sediments contaminated with toxic chemicals along with a description of the type of contamination (*e.g.*, agricultural, industrial). Contact state water quality agencies for this information. For surface water crossings involving contaminated sediments, describe measures to prevent or minimize resuspension of sediments during construction. The proposed mitigation measures should include comments and recommendations of the appropriate state agency(ies). Provide the name and phone number of the agency contact, and include copies of all related correspondence. Site-specific sampling and analysis may be necessary, depending on potential impact and agency concerns.

2.2.2 Public Watershed Areas

Identify municipal watershed areas and associated reservoirs, if any, and any state/locally designated surface water protection areas that would be crossed by the pipeline. State drinking water agencies typically have maps or reports that list public surface water supplies. Once these are identified, the appropriate local agencies should be contacted regarding the presence of designated protection areas. A table summarizing such areas should include the length of each area crossed by milepost (see table 2.2-2). Include a discussion of proposed mitigation measures. Proposed mitigation, if necessary, should include written comments and recommendations of the appropriate state or local agencies and a clear indication whether those recommendations would be adopted.

TABLE 2.2-2			
Public Water Supply Watershed Areas Crossed by the Pipeline			
State/Pipeline System/ Facility	Surface Water Supply	Milepost of Drainage Area Crossed	Distance/ Direction of Reservoir from Pipeline (mi)
IDAHO			
<u>Mainline</u>			
Pocatello North	American Falls	607.3 - 617	2-5 N
Pocatello South	American Falls	607.3 - 605	
WYOMING			
<u>Mainline</u>			
North Loop	Flaming Gorge Reservoir		1.5 - 4.0 E
UTAH			
<u>Mainline</u>			
Vernal North Loop	Matt Warner Reservoir	342 - 345.3	2

2.2.3 Hydrostatic Test Water

Identify all sources of hydrostatic test water and the quantity of water required for each pipeline segment. Provide a description of the withdrawal and discharge methods, the discharge locations by milepost, and indicate if the test water would be discharged in upland areas or into a waterbody channel. Contact appropriate state and Federal agencies to determine if any significant fisheries or designated exceptional quality waters would be affected and if a permit is needed for water withdrawal and discharge activities. If sensitive surface waters would be used for withdrawal or discharge, provide comments and recommendations from the appropriate agency and an indication whether the recommendations would be adopted. Discuss the quality of discharge water and if any chemicals would be used to dry the pipeline. State whether the applicant would adopt the hydrostatic testing procedures identified in section VII. of our Procedures.

2.2.4 Construction Permits

Contact state water resource agencies to identify the permits required for construction across surface waters. In addition, contact the appropriate COE office regarding the Clean Water Act section 404 project evaluation and state whether the COE believes that the project would meet the requirements of nationwide permit numbers 12, 13, and 14, or would require an individual permit.

The COE will identify navigable waterways that would be crossed. These are regulated by the COE under section 10 of the Rivers and Harbors Act of 1899. Construction across a navigable waterway may require an individual permit. Provide a copy of all correspondence with the COE regarding permit determination.

2.2.5 Sensitive Surface Waters

Identify sensitive waterbodies that may be affected by the project. State water resource/management agencies can identify sensitive surface waters and provide information on potential mitigation measures that may be required during construction. Sensitive surface waters include but are not limited to the following:

- waters that do not meet the water quality standards associated with the waters' designated beneficial uses;
- surface waters that have been designated for intensified water quality management and improvement;
- waterbodies that contain threatened or endangered species or critical habitat;
- waterbodies that are crossed less than 3 miles upstream of potable water intake structures. The distance from the crossing to the supply intake should be provided along with the name of the intake owner;
- outstanding or exceptional quality waterbodies;
- waters of particular ecological and recreational importance;
- waterbodies located in sensitive and protected watershed areas;
- waterbodies and intermittent drainages that have steep banks, potentially unstable soils, high volume flows, and actively eroding banks;
- surface waters that have important riparian areas; and
- rivers on or designated to be added to the Nationwide Rivers Inventory or a state river inventory (see Resource Report 8).

Describe the effects of construction and operation of the pipeline on designated sensitive waterbodies and proposed mitigation. Describe in appropriate detail the construction methods, the location of staging areas, and recommendations that were made by Federal, state, and local agencies and how the recommendations would be implemented. If the applicant proposes not to carry out any recommendations, provide specific reason(s) and identify if other mitigation is proposed.

2.2.6 Waterbody Construction Procedures

Indicate whether our current Procedures would be adopted for the project. If not, include the applicant's procedures for waterbody construction methods, compare them to our Procedures, and explain any differences. For any individual provisions that are considered unnecessary, technically infeasible, or unsuitable due to site-specific or location conditions, identify the location by milepost, and propose substitute measures to provide equal or greater protection to the resource.

Resource Report 3 - Vegetation and Wildlife

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Classify the fishery type of each surface waterbody that would be crossed, including fisheries of special concern.	M	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe the effects of construction and operation procedures on the fishery resources and proposed mitigation measures.	D, M	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe terrestrial, aquatic, and wetland wildlife and habitats that would be affected by the project.	L, DD	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Evaluate the potential for short-term, long-term, and permanent impact on the wildlife resources caused by construction and operation of the project and proposed mitigation measures.	DD	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe the major vegetative cover types that would be crossed and provide the acreage of each vegetative cover type that would be affected by construction.	A, L	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify all federally listed or proposed endangered or threatened species and state-listed endangered or threatened species that potentially occur in the vicinity of the project. For each species, describe potential impact and any mitigation proposed to avoid or minimize impact. Identify and address all recommendations of the FWS, National Marine Fisheries Service (NMFS), and appropriate state agencies.	L, N, T, DD	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide copies of all survey reports, written correspondence, and records of telephone communications with the FWS, NMFS, and respective state agencies regarding federally listed or proposed and state-listed endangered or threatened species. (Clearance letters must be less than 1 year old.)	L, N, T, DD	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Provide a table identifying all wetlands, by milepost and length, crossed by the project (including abandoned pipeline), and the total acreage and acreage of each wetland type that would be affected by construction.	A, L, O, HH	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide original National Wetlands Inventory (NWI) maps that show all proposed facilities and include milepost locations for proposed pipeline routes.	D	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide a wetland delineation report that identifies all wetlands affected by the proposed facilities, including temporary work areas.	L	<input type="checkbox"/>	<input type="checkbox"/>	■
<input type="checkbox"/> Discuss construction and restoration methods proposed for crossing wetlands. Consider using our Wetland and Waterbody Construction and Mitigation Procedures, or propose alternative measures that would ensure an equal or greater level of protection to wetlands.	D, Z	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> If forested wetlands would be affected, describe proposed measures to restore forested wetlands following construction. If wetlands would be filled or permanently lost, describe proposed measures to compensate for permanent wetland losses (e.g., land acquisition, research project funding).	L, N, T, DD	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> If requested by the FERC, provide for each nonjurisdictional facility all information related to federally listed or proposed endangered or threatened species as described above.	L, N, T, DD	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Describe any significant biological resources that would be affected (see text). Describe impact and any mitigation proposed to avoid or minimize that impact.	L, N, T, DD	■	<input type="checkbox"/>	<input type="checkbox"/>

SUMMARY OF FILING INFORMATION						
INFORMATION			DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
				1	2	3
<input type="checkbox"/> Provide copies of all written correspondence and records of telephone communications with Federal, state, or local agencies, or private conservation organizations regarding significant resources that would be affected.			N, T, DD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1/	A Aerial Photographs D Applicant L Field Surveys N FWS M Fishery Biologist, State or Regional	O FWS NWI Maps T NMFS Z Procedures DD State Agencies HH State Wetland Maps	2/	1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report describes existing fish, wildlife, and vegetation (including wetlands) resources that would be directly and indirectly affected by the project. The report should cover expected impacts on these resources from construction and operation of the facilities as well as the mitigation measures that are proposed to reduce these impacts. The Resource Report should also describe all consultation with state fish and wildlife or land management agencies, the FWS, the NMFS for projects potentially affecting marine species, and Federal land management agencies or private conservation organizations if the project would be within lands managed by these agencies or organizations. Include as appendices or attachments to this Resource Report copies of all correspondence with appropriate agencies. Also include copies of any studies or reports on field surveys that have been completed for the project. Do not include extensive lists of all species known or suspected of inhabiting the project area.

3.1 Fisheries

3.1.1 Fishery Classification

Classify the fishery type for each surface waterbody that would be crossed or otherwise affected by the project. Where available, use the state fishery classification, which indicates the type of fishery the surface water supports (e.g., warmwater, coldwater, saltwater, and anadromous).

The classification information may be included on the surface water table (see Resource Report 2 table 2.1-1) as a separate column, or it may be included in a separate table. It must identify the surface waters disturbed by each facility segment, the corresponding milepost at the crossing location, the county and state for each crossing, and the type of fishery the surface water supports.

If a state fishery classification is unavailable, contact the regional or local state fishery biologist to determine what type of fishery occurs in the general vicinity of each crossing location. Also provide, in tabular format, a description of the representative fish species known to occur in the project vicinity (see table 3.1-1).

TABLE 3.1-1

**Representative Game and Commercial Fish Species Known to
Occur in Project Area Waterbodies**

Coldwater-Anadromous	Coldwater-Resident	Warmwater
Spring chinook salmon	Rainbow trout	Largemouth bass
Fall chinook salmon	Cutthroat trout	Smallmouth bass
Coho salmon	Brown trout	Bluegill
Chum salmon	Brook trout	Pumpkinseed
Pink salmon		White crappie
Sockeye salmon		Bullhead
Winter steelhead trout		Channel catfish
Summer steelhead trout		Walleye
Sea-run cutthroat trout		
American shad		
White sturgeon		

3.1.2 Fisheries of Special Concern

Based on information obtained from Federal and state fish and wildlife biologists, or in state agency reports, describe any surface waters that support fisheries of special concern in the vicinity of the crossing location (see table 3.1-2 for an example of a tabular presentation of these data). These may include surface waters containing fisheries of exceptional recreational value, such as those that support coldwater fisheries through natural reproduction, those that provide habitat for protected species, or those that are assigned special state fishery management regulations. Other special-concern fisheries may include those where economic investments, such as clean up or stocking programs, have been implemented, or those that support commercial or tribal harvests. Identify the pipeline segment and corresponding milepost for the location of each special-concern water, the name of the waterbody, and the fishery issue associated with that waterbody.

TABLE 3.1-2

Fisheries Resources of Special Concern Crossed by the Pipeline

State/Pipeline System/ Facility	MP	Waterbody	Width (feet)	Anadromous Salmon and/or Trout	Fisheries Issues ^{a/}
WASHINGTON					
<u>Mainline</u>					
North Loop A	1332.3	Muck Creek	15	Yes	2,4,5
	1332.1	South Creek	10	Yes	5
Loop B	1227.6	Salmon Creek	40	Yes	5
	1216.7	Little Washougal River	49	Yes	2,5
OREGON					
<u>Grants Pass Lateral</u>					
Lateral D	4.7	Columbia River	3,900	Yes	1,2,3,4,6,7
	5.2	Sandy River	664	Yes	2,3,4,6

^{a/}

Fisheries Issues:

1. Protected species (state or Federal)
2. Significant recreational fisheries or special fisheries regulations or considered high priority by state
3. Commercial fisheries
4. Substantial run of salmon or steelhead
5. Good salmonid spawning habitat near crossing
6. Primary migration route
7. Possibility of walleye, sturgeon, and shad spawning in the area.

3.1.3 Construction and Operation Impacts

Based on the proposed construction and operational procedures, determine and describe the effects of construction and operation of the pipeline on the fishery resources. Where special construction or operational techniques or procedures for site-specific areas are proposed, describe the impacts based on using these techniques. Evaluation and discussion of impacts on fishery resources should take into consideration the time of year when construction across surface waters would occur, the site-specific need for underwater blasting, and the potential for habitat loss, including shoreline and in-stream cover loss and loss or sedimentation of critical spawning habitat. Also address the potential for impact caused by interruption of fish spawning migrations (where applicable), intake or discharge of hydrostatic test water, and the potential for fish mortality from toxic substance spills or blasting activity.

Proposed mitigation should address construction procedures or changes in operation that are proposed to reduce the impact on the fishery resources. Include any mitigation measures that are recommended by state or Federal agencies. Mitigation may include scheduling waterbody crossings to avoid sensitive spawning or migration periods, or the use of specialized construction procedures, such as directional drilling, fluming, scare charges, bubble curtains, or use of portable construction bridges to avoid in-stream construction and reduce the levels of turbidity or downstream sedimentation. The measures discussed should be those proposed in addition to the typical construction and operation procedures. Also address site-specific areas of impact or concern.

3.2 Wildlife

3.2.1 Existing Resources

Provide a description of the various types of terrestrial and wetland habitats that would be affected by the project. Habitat types should be described by vegetative cover types and should be consistent with vegetation cover types described in section 3.3 and with land use categories used in Resource Report 8. List representative wildlife species for the types of habitat described. Identify any species with significant recreational, aesthetic, or commercial value.

Identify and describe significant or sensitive habitats. These may include habitats that provide breeding, rearing, nesting, or calving areas, migration routes, or overwintering cover or forage areas. Tabulate the significant wildlife habitats crossed by the project, indicating the pipeline segment or aboveground facility that the habitat would be affected by, the beginning and ending milepost locations, the habitat type or name, the length of the crossing in feet, and the width of the proposed construction right-of-way at the crossing location (see table 3.2-1).

TABLE 3.2-1 Significant Wildlife Habitats Affected by the Project ^{a/}				
Facility	Location (milepost)	Habitat Type/ Name	Length Crossed or Area	Construction ROW Width (ft)
Compressor Station 1	NA	Black-tailed deer critical winter range	3 acres	NA
Loop 1	4.8-5.5	waterfowl nesting habitat/ Columbia River	3,500 feet	80
Loop 2	74.8-75.0	potential heron nesting habitat/North Santiam R.	1,000 feet	75
Source: BLM 1995, WADNR 1995, ORDFW 1994				
^{a/} Does not include habitat of Federal or state-listed endangered or threatened species. Refer to section 3.4 for coverage of these habitats.				

Identify any existing or proposed National Wildlife Refuges, state wildlife management areas, or privately owned management areas or preserves that would be affected.

3.2.2 Construction and Operation Impact

Describe short-term, long-term, and permanent impact on the wildlife resources caused by construction and operation of the proposed pipelines and aboveground facilities. Calculate the loss of forested habitats and significant habitats, and present in terms of temporary impact (*i.e.*, the construction right-of-way and all extra work areas) or permanent impact (*i.e.*, the portion of the permanent right-of-way that would be maintained in a cleared condition).

Describe proposed mitigation to avoid or reduce impact on wildlife, especially significant habitats or habitat within wildlife management areas or preserves. Provide time windows for crossing sensitive habitats, and any specific restoration plans, including plantings. Identify any mitigation measures recommended by state or

Federal agencies. Provide an assessment of any cumulative effects of the project in combination with other existing or proposed projects.

3.3 Vegetation

3.3.1 Existing Resources

Provide descriptions of the major vegetative cover types that would be crossed or otherwise affected by the pipeline or aboveground facilities. Each cover type description should include characteristic plant species. Also provide a description of the vegetation on the existing rights-of-way (for a looping project or other project with construction within or adjacent to existing rights-of-way) and within station yards or off-right-of-way work spaces that would be disturbed. If looping or replacing an existing pipeline, describe vegetation maintenance practices on the existing rights-of-way, including normal frequency and average width of the maintained right-of-way.

Describe and identify by milepost and length of crossing (in feet) any unique, sensitive, or protected vegetation types, plant communities, or individual trees (*i.e.*, state specimen trees) that would be affected. Federal or state-listed endangered or threatened plants should be discussed in section 3.4.

3.3.2 Construction and Operation Impacts

Provide the total acreage of vegetation that would be affected, by cover type, during both construction and operation. Base acreage calculations on the dimensions of the construction and permanent rights-of-way as shown on the cross-section diagrams submitted in Resource Report 1 and further described in Resource Report 8. Include all extra work space, staging areas, and contractor and pipe storage yards. The total acreage of vegetation affected, minus any non-vegetated areas, should equal the total area as reported in Resource Reports 1 and 8 (if not, explain the difference).

Acreage of vegetation types affected may be determined by review of aerial photographs, supplemented with ground truthing as necessary. Emphasis should be placed on forest vegetation, or other vegetation types for which clearing would be a long-term or permanent impact. For large projects, present vegetation clearing information in tabular format (see table 3.3-1).

TABLE 3.3-1

Estimated Clearing of Forest and Shrub Vegetation Cover Types

Facility	Forest-Covered Upland to be Cleared		Shrub-Covered Upland to be Cleared	
	Temporary (acres) <u>a/</u>	Permanent (acres) <u>b/</u>	Temporary (acres) <u>a/</u>	Permanent (acres) <u>b/</u>
Loop A	28.7	4.5	3.9	0.0
Lateral 1	41.7	22.3	12.5	6.5
Compressor Station 1	5.7	5.7	3.5	0.0

a/ Temporary cleared areas consist of that portion of the construction right-of-way and extra temporary work areas that would be allowed to naturally revegetate following construction.

b/ Permanently cleared areas consist of those portions of the construction right-of-way and aboveground facilities that would be maintained permanently free of woody vegetation during operation of the project.

Calculate the area of unique or sensitive vegetation types or communities that would be affected by construction, and the area of these types that would be within the permanent right-of-way. Describe any mitigation measures recommended by resource management agencies and any measures proposed to avoid or minimize impact on sensitive vegetation types.

3.4 Endangered and Threatened Species

3.4.1 Existing Resources

Initiate informal consultation with the FWS, and the NMFS if appropriate, to determine if any federally listed or proposed endangered or threatened species or their designated critical habitat potentially occur in the vicinity of the proposed project. Include in the FERC application copies of written correspondence to and from the FWS and NMFS. If the FWS and/or NMFS have issued clearance letters stating that no listed or proposed species would be affected, but the clearance letters are more than 1 year old, contact the FWS and/or NMFS to determine if updated letters are required.

If the FWS and/or NMFS recommend that project-specific field surveys be conducted for one or more federally listed or proposed species, provide a timetable for completion of surveys and filing survey reports. Surveys should be conducted by qualified biologists using methodology approved by the FWS and/or NMFS. If surveys have been completed, provide copies of survey reports and FWS and/or NMFS comments on the reports. Survey reports should be marked "PRIVILEGED INFORMATION - DO NOT RELEASE" and should include the following information:

- 1) name(s) and qualifications of person(s) conducting the survey;
- 2) methods and date(s) of the survey;
- 3) areas surveyed, including milepost locations for pipeline routes;
- 4) areas where species or potential habitats were located, including milepost locations for pipeline routes;
- 5) potential impact on the species or habitat, both positive and negative, that could result from construction and operation of the proposed project; and
- 6) proposed mitigation that would avoid or minimize potential negative impact.

Prepare a table that lists the federally listed and proposed endangered and threatened species that potentially occur in the vicinity of the project (see table 3.4-1). The table should include the common and scientific name of the species, its status, and the name of the facility where the species may occur.

TABLE 3.4-1

**Federally Listed and Proposed Endangered and Threatened Species
that Potentially Occur in the Vicinity of the Project**

Species	Status ^{a/}	Facilities Where Species May Occur
<u>Wildlife</u>		
Bald eagle	T	During migration: all facilities Nesting or Overwintering: Loop A Replacement 1
Columbian white-tailed deer	E	Compressor Station 1
<u>Fish</u>		
Razorback sucker	E	Loop C
<u>Plants</u>		
Bradshaw's lomatium	E	Loop A Compressor Station 2
<u>Invertebrates</u>		
American burying beetle	E	Lateral 2

Source: FWS 1995

^{a/} Status
 E = Endangered
 T = Threatened

Prepare a brief description of each federally listed or proposed endangered or threatened species that potentially occurs in the vicinity of the project. The description should include general background information that is appropriate to the project area (*i.e.*, regional distribution, habitat preference, and important dates such as for breeding, nesting, calving, migration, or overwintering), as well as project-specific information such as known locations of designated critical habitat, suitable habitat, or occupied habitat. Identify specific recommendations made by the FWS or NMFS.

Consult with the appropriate state agencies to determine state-listed endangered or threatened species that potentially occur in the vicinity of the project. Provide the same information for state-listed species as described above for federally listed or proposed species.

If nonjurisdictional facilities would be constructed in conjunction with the proposed project, the applicant should work with the nonjurisdictional company, and provide the same information for the nonjurisdictional facilities as described above for the proposed facilities.

3.4.2 Construction and Operation Impacts

For each species described in section 3.4.1, describe the impact on the species that would result from construction and operation of the project. Provide an assessment of any cumulative effects of the proposed project in combination with other existing or proposed projects. Describe proposed mitigation measures to avoid or substantially minimize impact on each species. Address all FWS and NMFS comments and recommendations for federally listed or proposed species, and all state agency comments and recommendations for state listed species.

3.5 Wetlands

3.5.1 Existing Resources

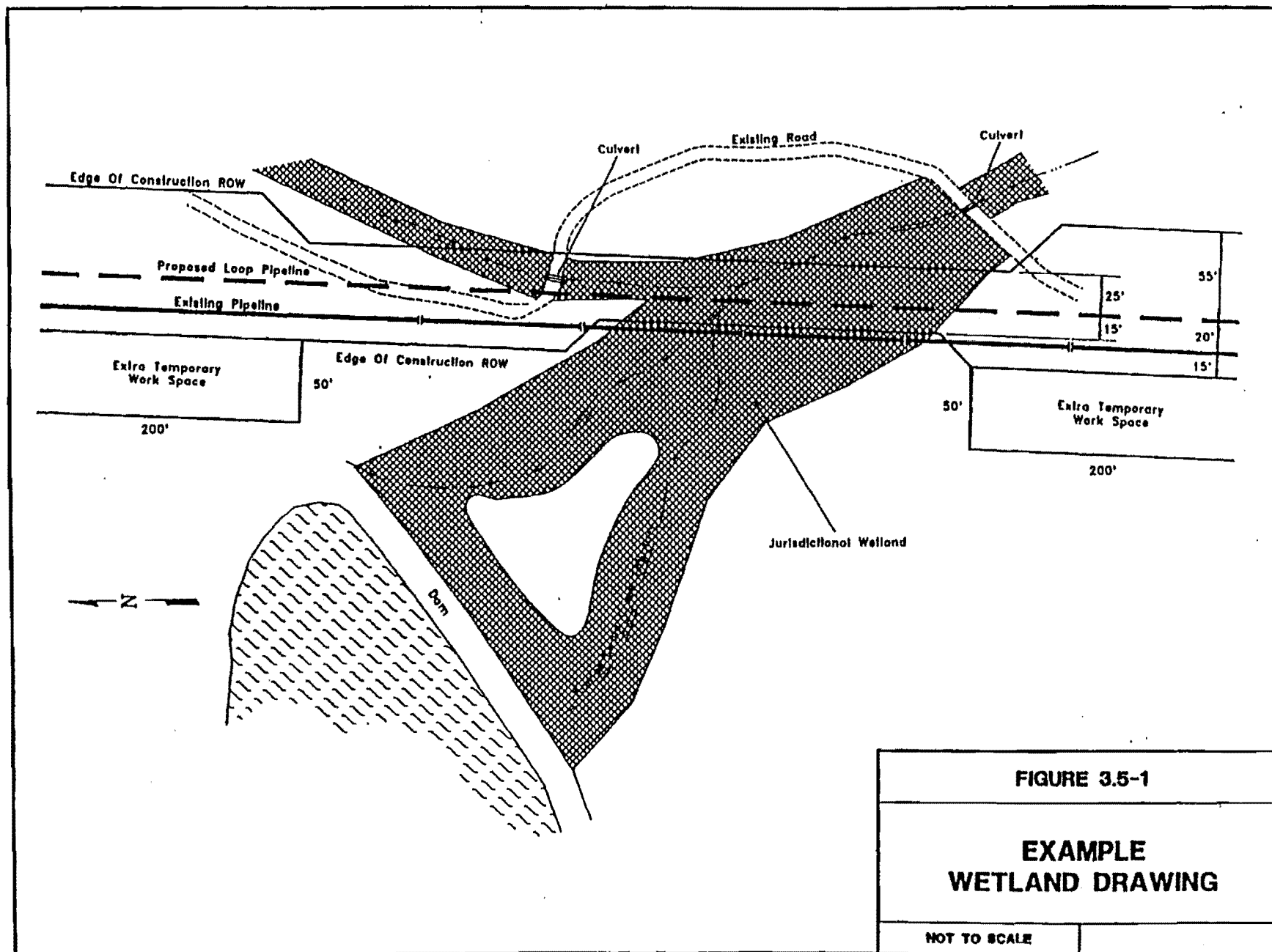
Identify wetlands that would be affected by the project by conducting wetland field surveys or from review of existing map resources. At a minimum, use FWS NWI maps, where available, to determine the locations and types of wetlands that would be affected by construction and operation of the facilities. Include with the application original copies of NWI maps with the facilities clearly marked. If NWI maps have not been prepared for all or parts of the project area, identify wetlands using information from other available sources, which may include: state wetland maps; U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) county soil maps; USGS topographic maps; and aerial photographs. If using sources other than NWI maps, identify the source and classify wetlands according to the NWI classification system.

Provide a table of wetlands that would be affected by the project, including all extra work space and staging areas, access roads, and contractor and pipe storage yards (see table 3.5-1). Identify and discuss major wetland complexes or significant wetlands, as identified by field review and/or by state or Federal agencies. Identify acres of wetland, if any, involving agriculture, silviculture, or rangeland.

TABLE 3.5-1				
Wetlands Crossed by the Project				
Facility	MP	NWI Classification ^{a/}	Length of Crossing (ft) ^{b/}	Area Affected Construction / Operation (acres)
Loop 1	1332.3	PEM	350	0.60 / 0.40
	1332.0	PEM	200	0.34 / 0.23
	1329.9	PFO	100	0.17 / 0.11
	1327.9	PFO	275	0.47 / 0.32
Lateral B	1326.1	PFO	350	0.60 / 0.40
	1326.0	PEM	450	0.77 / 0.52
	1325.6	PSS	800	1.38 / 0.92
TOTAL			2,525	4.35 / 2.89 ^{c/}
^{a/} <u>NWI Wetland Types</u> Palustrine Forested (PFO) PFO1 = broad-leaved deciduous Palustrine Scrub-Shrub (PSS) PSS1 = broad-leaved deciduous Palustrine Emergent (PEM) PEM1 = persistent emergent vegetation				
^{b/} Flag facilities to be abandoned in place.				
^{c/} Totals calculated using total length of crossing. These do not equal the sums of this column due to rounding.				

A field wetland delineation, using the current Federal manual, of all areas to be disturbed by the project is normally required before construction. If a wetland delineation has been completed, use information obtained from the delineation in this Resource Report instead of information obtained from NWI or other map sources. Prepare a wetland delineation report and include the report as an attachment to the Resource Report. The wetland delineation report should include:

- 1) name(s) and qualifications of person(s) conducting the delineation;
- 2) methods used and date(s) of the delineation;
- 3) areas surveyed, including milepost locations along pipeline routes;
- 4) a summary of hydrology, soils, and vegetation for each wetland delineated;
- 5) wetland status (farmed, modified);
- 6) wetland determination data forms for each wetland delineated; and
- 7) a map (to scale) for each wetland showing facility locations and wetland boundaries (see figure 3 5 - 1)



3.5.2 Construction and Operation Impacts

Provide the total acreage of wetlands that would be temporarily affected, and the total acreage of wetlands that would be permanently affected. For major projects, provide a summary table listing total length crossed and total area affected by wetland type and by facility (see table 3.5-2). For all projects, provide acreage of forested wetland that would be temporarily affected and the acreage of forested wetland that would be permanently affected. Identify the acreage, if any, of wetlands that would be filled or otherwise permanently lost.

Facility	NWI Classification ^{a/}	Length of Each Type Crossed (ft)	Wetland Area Affected During Constr./Oper. (ac)
Loop 1	PFO	1,450	2.5/1.7
	PSS	2,475	4.3/2.8
	PEM	<u>11,375</u>	<u>19.6/0.0</u>
	Subtotal	15,300	26.4/4.5
Loop 2	PFO	825	1.4/0.9
	PSS	1,650	2.8/1.9
	PEM	<u>75</u>	<u>0.1/0.0</u>
	Subtotal	2,550	4.3/2.8
Lateral 1	PSS	175	0.3/0.2
	PEM/SS	50	0.1/0.0
	PEM	<u>500</u>	<u>0.9/0.0</u>
	Subtotal	725	1.3/0.2
Total		18,575	32.0/7.5
^{a/} NWI Wetland Types: Palustrine Forested (PFO) PFO1 = broad-leaved deciduous Palustrine Scrub-Shrub (PSS) PSS1 = broad-leaved deciduous Palustrine Emergent (PEM) PEM1 = persistent emergent vegetation			

Indicate whether our current Procedures would be adopted for the project. If not, include the applicant's procedures for wetland construction methods, compare them to our Procedures, and explain any differences. For any individual provisions that are considered unnecessary, technically infeasible, or unsuitable due to site-specific or location conditions, identify the location by milepost, and propose substitute measures to provide equal or greater protection to the resource. Include documentation of consultation with state agencies where appropriate to support alternative measures. Where required by the Procedures (*i.e.*, section II.B.), include site-specific plans for proposed exceptions to the Procedures.

If forested wetlands would be affected, describe proposed measures to restore these areas following construction. Restoration plans should include planting of wetland trees or shrubs, post-construction monitoring, and the development and application of criteria to determine restoration success. Consult with appropriate

agencies (for instance, EPA, COE, and land management agencies) to develop restoration plans, and include copies of written recommendations from agencies.

If the project would result in permanent wetland losses, describe efforts that have been or will be taken to avoid and/or minimize wetland losses. Describe in detail any proposals to compensate (e.g., land acquisition/wetland banking, research project funding) for these losses^{1/}. Compensation plans should include criteria to determine mitigation success. Include copies of any correspondence with respective agencies regarding compensation plans.

Identify any special permits required for construction within wetlands, comments from respective permitting agencies, and if known, special permit conditions. For major projects, arrange for preapplication meetings with the EPA, COE, and appropriate Indian tribal, state, and local authorities to determine wetland permitting requirements. Describe results of any such meetings.

Provide an assessment of any cumulative effects on wetlands as a result of the project in combination with other existing or proposed projects.

^{1/} In compliance with Clean Water Act Section 404(b)(1) guidelines, February 7, 1992, Memorandum Of Agreement between the COE and EPA, and the White House guidance of August 24, 1993.

Resource Report 4 - Cultural Resources

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Overview/Survey Report	D	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Summary of Status of Cultural Resources Investigations	D	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unanticipated Discovery Plan	D	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Documentation of consultation with SHPO(s) and Federal land management agencies	D	■	■	<input type="checkbox"/>
<input type="checkbox"/> Documentation of consultation with Native Americans	D	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Evaluation Reports (if necessary)	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Treatment Plans (if necessary)	D	<input type="checkbox"/>	■	<input type="checkbox"/>
<input type="checkbox"/> Notification of Completion of Treatment	D	<input type="checkbox"/>	<input type="checkbox"/>	■
1/ D Applicant		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report addresses the nature and extent of cultural resources including any "historic properties" (districts, buildings, structures, sites, and/or objects listed on or eligible for listing on the NRHP) within the project's Area of Potential Effect (APE). The APE includes the area which may be affected by construction, operation, and maintenance of proposed facilities. It may extend beyond the limits of the project's construction right-of-way. The report submitted with the initial project filing should include:

- documentation of consultation (including copies of all correspondence) with the SHPO(s), and Federal land management agencies and Indian tribes when their lands are involved;
- a summary (tabular, if appropriate) of the status of cultural resources investigations undertaken to date (see tables 4-1 and 4-2 for examples);

- a copy of the Overview/Survey (formerly Phase 1) Report(s) prepared for the project;
- copies of any Evaluation (formerly Phase 2) Report(s) or other cultural resources studies which may have been prepared for the project;
- a brief summary of the status of Native American consultation regarding traditional cultural properties, including copies of all related correspondence;

- a plan, prepared in consultation with the SHPO, for dealing with the unanticipated discovery of historic properties or human remains (or a reference to the Docket Number under which an appropriate and previously approved plan has been submitted); and
- a schedule for completing any outstanding cultural resource studies.

Copies of Overview/Survey Reports, Evaluation Reports, and Unanticipated Discoveries Plans should be presented as appendices to Resource Report 4. Specific cultural resources site location information should not be included in the main body of Resource Report 4. Such information should be confined to appended reports which must be labeled "Privileged Information--Do Not Release."

If cultural resources were identified within a project's APE, the following additional information must be submitted before the environmental analysis for the project can be completed: copies of any Evaluation Reports not submitted with the initial application; and comments on the NRHP eligibility of all identified cultural resources in the project's APE from the SHPO and any Federal land management agency(ies) if Federal lands are involved. If historic properties identified in the project's APE cannot be avoided, a Treatment Plan which addresses how effects would be mitigated must also be submitted. The Treatment Plan would be prepared after the FERC, SHPO, and other appropriate parties consult on eligibility and effect.

Additional guidance on preparing cultural resources documents is provided in *Guidelines for Reporting on Cultural Resources Investigations* issued by OPR.

Resource Report 5 - Socioeconomics

SUMMARY OF FILING INFORMATION					
INFORMATION		DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
			1	2	3
<input type="checkbox"/>	For major aboveground facilities and major pipeline projects that require an EIS, describe existing socioeconomic conditions within the project area.	I, JJ, KK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	For major aboveground facilities, quantify impact on employment, housing, local government services, local tax revenues, transportation, and other relevant factors within the project area.	D, I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1/	D Applicant	JJ US Department of Labor	2/	1 To Begin Analysis
	I County/Municipal Agencies	KK US Bureau of the Census		2 To Complete Analysis
				3 To Clear for Construction

This Resource Report is required only if significant aboveground facilities, such as LNG plants, are proposed. It is not required for projects that only involve minor to moderate lengths of pipeline, compressor stations, or other associated facilities.

However, for major pipeline projects that require an EIS, preparation of all or portions of this report may be required. In addition, Federal land management agencies (*e.g.*, Bureau of Land Management [BLM], Bureau of Indian Affairs [BIA]) frequently are cooperating agencies with the FERC in the preparation of an EA or EIS and often require the analysis of the socioeconomic impact of pipeline construction as part of the review process for right-of-way grants on Federal land.

If a Socioeconomic Resource Report is not provided, include the following information as part of Resource Report 1, General Project Description:

- number of construction spreads;
- average number of workforce in each construction spread;
- duration of construction (*e.g.*, days, months);
- anticipated time (*e.g.*, spring, summer, winter, fall) and year of construction; and
- number of new permanent employment positions created.

5.1 Existing Socioeconomic Conditions

This section of the Resource Report summarizes the base existing socioeconomic conditions in the project area. The project area generally comprises the municipalities or counties in which the facilities would be located or which might be affected by project construction. Depending on the specific agency/public concerns, prepare text and/or tables that describe the following socioeconomic conditions within the project area:

- current population and population density statistics;

- per capita income;
- number and composition of workforce (*e.g.*, manufacturing; transportation and public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services);
- current unemployment rate (latest year of record);
- number of units and vacancy rates for temporary housing (*e.g.*, apartment rentals, hotels/motels, and campgrounds) and proximity to the construction area;
- location and availability of local government public services (*e.g.*, police, fire protection, medical services, and schools);
- local tax revenues and sources of funding (*i.e.*, personal property, sales, hotel/motel occupancy, etc.); and
- other relevant factors, such as condition and proximity of major transportation routes within the project area.

Table 5.1-1 is an example of a summary presentation of most of the above data for a significant pipeline project. For a gas conditioning or LNG facility, a greater level of detail would be required since the project would have a greater impact on a much more limited area.

TABLE 5.1-1							
Existing Socioeconomic Conditions in the Project Area							
State/County	1990 Population a/	1990 Population Density (People/ Square Mile a/	1990 Per Capita Income (dollars) b/	1990 Rental Vacancy Rate a/	1994 Civilian Labor Force c/	1994 Unemployment Rate (percent) c/	Major Industry c/
<u>State</u>							
County A	55,882	85.3	\$ 7,032	12.5	22,250	8.3	Agriculture
County B	380,105	834.1	10,738	13.4	209,600	5.4	Services
County C	5,569	6.7	8,309	11.1	2,999	5.0	Manufacturing
<p>a/ U.S. Department of Commerce, Bureau of the Census. 1990 Census of Population and Housing. Summary Population and Housing Characteristics.</p> <p>b/ U.S. Department of Commerce, Bureau of the Census. 1990 Population and 1990 Per Capita Income Estimate for Counties and Incorporated Places.</p> <p>c/ U.S. Department of Commerce, Bureau of the Census and 1994 annual averages from the corresponding State Department of Labor.</p>							

Population statistics are available from the Bureau of the Census. Labor statistics are available from the Bureau of the Census, the U.S. Department of Labor, Bureau of Labor Statistics, or the Department of Employment for each affected state. State employment offices generally can provide the most current data for counties within a state. All employment data provided should be for the most recent year of record. Detailed information on housing, transportation networks, and public services is generally available from county or regional planning offices, or the local municipalities.

5.2 Project Construction and Operation

This section of the Resource Report addresses the socioeconomic impact of construction on the project area. In addition to the construction workforce estimates provided above, develop estimates of the level of in-migration into the project area as a result of construction. For significant aboveground facilities, also develop (by year, if construction spans several years) the total dollar value of the construction payroll, construction materials and contractor purchases, equipment rentals, and any other identified spending which may occur in the project area as a result of the project. This spending would include payroll taxes, personal income taxes paid by workers, sales taxes, social security taxes, and property taxes to be paid to each municipality during operation of the project. For significant pipeline projects, develop these estimates as needed to address agency or public concerns.

The analysis of project construction and operation on the project area should include the following:

- Population - Estimate the total number of construction workers temporarily or permanently relocating into the municipality or county area, and the duration of their stay. Also estimate total number of construction workers residing within the project area and the number of construction workers that would commute daily to the construction site from places outside of the project area. ✓ 24
- Employment - Estimate the effect of construction employment on unemployment rates for the region. MINIMUM
- Infrastructure - Assess the effect of in-migration on municipal services, such as police, fire protection, medical facilities, and schools. If projected in-migration would potentially burden existing municipal services, identify proposed plans to alleviate this impact. These plans may include providing funds for hiring additional policemen, fire fighters, or medical personnel during the period of construction. For schools, determine if influx of construction workers' school-age children would significantly alter teacher-pupil ratios. Provide an assessment of the incremental costs to the local community versus the incremental increase in revenues that would result from the construction of the project. ASSESS 16
- Housing - Assess the effect of construction worker in-migration on the availability of housing. Since most construction workers prefer temporary housing, identify if there would be competing demand for housing either from other construction projects or seasonal recreationists. Another large project under construction in the same area may significantly reduce the availability of temporary housing. In areas which support seasonal tourism and where construction is scheduled for the peak season, construction workers may displace tourists. This may be a concern for motel or campground operators who are dependent on repeat business and may be reluctant to provide housing for construction workers since seasonal trade could potentially be turned away and lost. If there is a potential for a housing shortage, identify mitigation measures. These may include the provision of temporary camp sites or busing from more distant areas where temporary lodging is available. TRUCK DRIVERS & OTHERS 16
- Transportation - Determine the effect of the movement of construction equipment, materials, and workers on the local road network. This may require preparation of estimates of construction-

related traffic trips to and from the work site, frequency of the trips over the construction period, and times of peak traffic volumes. Mitigation would include construction of new roads, repair of roads to pre-construction conditions, or avoidance of existing peak traffic periods.

- Economic Value of Removal of Agricultural/Pasture Land or Timberland from Production - Determine the economic effect of construction and operation of the facilities on land resources. Identify acreage temporarily and permanently removed from production during construction and operation of the facilities. Include a discussion of effect of loss on the local or regional economy and compensation to be paid for loss of production for the life of the facility or until land regains former production.
- Displacement of Residences or Businesses - Identify the number of residences or businesses that would be removed by construction and operation of the facility. Discussion should include payments that would be made to affected landowners for relocation assistance and for loss of the property as well as the status of negotiations.
- Construction Payroll and Material Purchases - Estimate the dollar value of construction payroll and material purchases that would affect the local economy. Discussion should include related payroll and sales taxes.
- Tax Revenues - Estimate the dollar value of tax revenues to be paid to each municipality affected by operation of the facility.
- Environmental Justice Statement (Executive Order 12898) - Address the environmental effects, including human health, social, and economic effects, of the project on minority and low-income communities or Native American programs. Discuss mitigation proposed to minimize or avoid disproportionate impacts on these communities.

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Resource Report 6 - Geological Resources

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Discuss the need for and locations where blasting may be necessary in order to construct the proposed facilities.	L, X, II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify the location (by milepost) of mineral resources and any planned or active surface mines crossed by the proposed facilities.	A, L, S, LL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify any geologic hazards to the proposed facilities.	H, L, P, X, II, LL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify any sensitive paleontological resource areas crossed by the proposed facilities.	B, L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1/ A Aerial Photographs B Agency Consultation H Comprehensive Plans, County or Land Management Agencies L Field Surveys P Geologic Survey Personnel, Federal, State, LL and Local S Mineral Resource Maps, Federal and State X NRCS Soil Surveys II Surficial Geology and Bedrock Geology Maps LL USGS Topographic Maps		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report should briefly describe the geologic setting of the project area. The report should detail geologic resources and hazards that may directly or indirectly affect the construction and operation of the facilities or place the facilities and public at risk. Mitigative measures to reduce the impact of the project on geological resources as well as measures to reduce the impact of geological hazards on the facilities should also be discussed.

6.1 Geologic Setting

Briefly summarize the physiography and bedrock geology of the project area. Physiographic provinces that the facilities are located in should be identified and characterized. Also include a description of the topography, including any distinguishing landforms, and relative relief with ranges in feet, identified from USGS quadrangle maps. If the application includes many pipeline segments in a wide variety of geologic settings, a table may be useful in presenting these data. The text should then describe the bedrock geology of the project area. This summary should include an identification of the milepost locations where the bedrock is likely to be near (less than 5 feet below) the surface.

If a storage field is proposed, describe the bedrock stratigraphy of the area. This description should identify the depth and thickness of the storage formation as well as the overlying cap rock. The discussion should also address the design of the wells, including the number and type of well casings to be used, and the ability of the cap rock to contain the storage gas at full operating pressures and prevent the migration of gas out of the storage formation. If salt solution mining is proposed to create the storage caverns, information should be provided regarding the size and dimension of the caverns, cap rock integrity, and brine handling and disposal plans.

6.2 Blasting

List any applicable Federal, state, and local blasting regulations, including the responsible agency, and permits that must be obtained. State and local fire marshals can usually provide information and guidelines regarding blasting regulations.

Identify by facility and milepost all locations where blasting may be required using sources such as surficial geology maps, NRCS soil surveys, and field surveys. Analyze potential impacts on water wells, springs, wetlands, slopes, structures, and adjacent pipelines. Describe the mitigative measures that would be used to control adverse impacts, including measures to minimize vibrations and flyrock. Also discuss measures that address safety concerns. Specifically describe the procedures for pre- and post-blast inspections of structures and wells, as well as any monitoring that would be done during blasting. Describe what measures would be taken to rectify any damage caused by blasting such as replacing or repairing damaged water supplies.

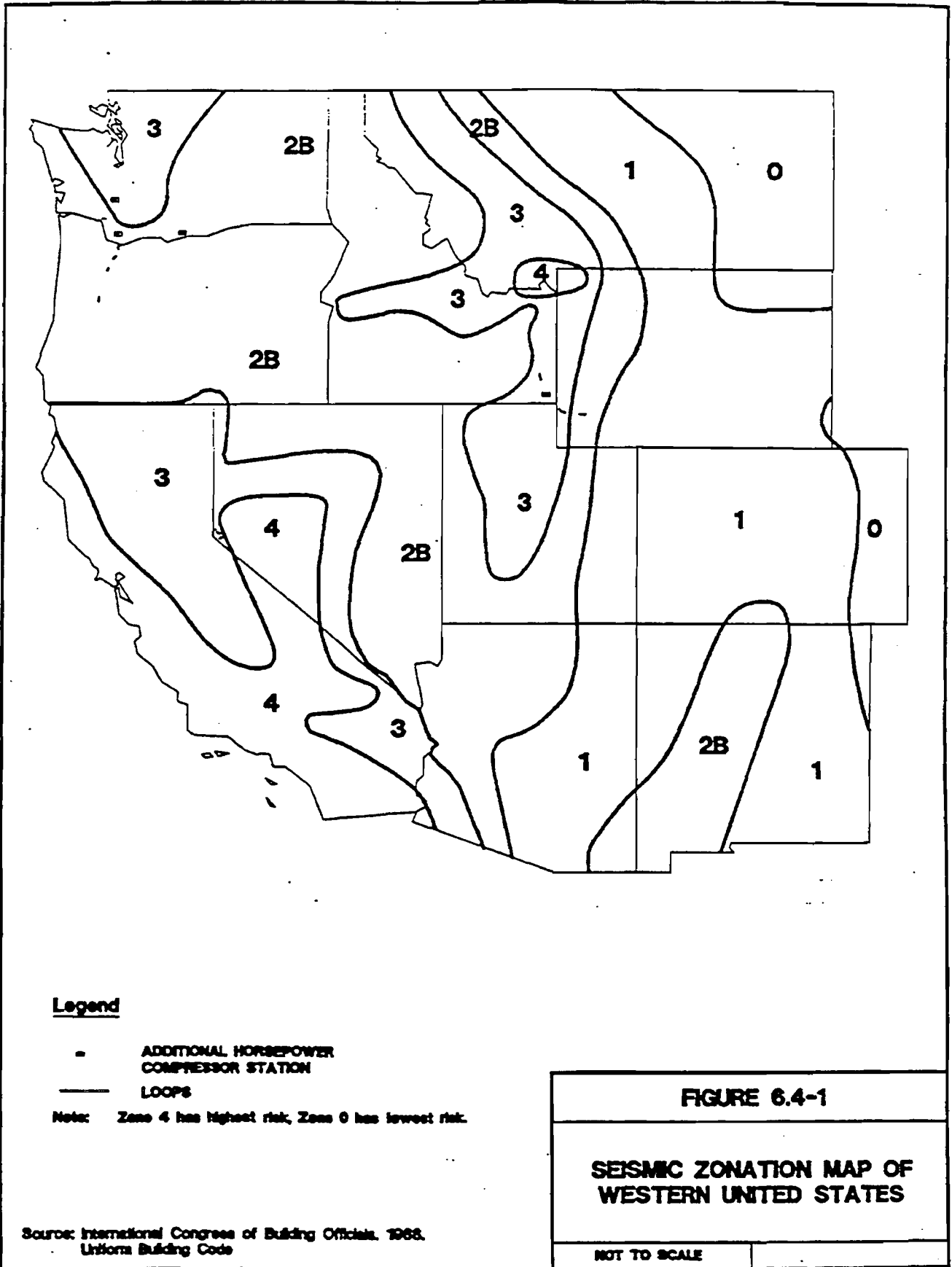
6.3 Mineral Resources

Include a description of mineral resources currently exploited or potentially exploitable in the project area. Information that may be used to identify surface and subsurface mines or oil and gas fields on or within 0.25 mile (1,500 feet) of the construction right-of-way includes aerial photographs, USGS topographic maps, mineral resource maps and listings, and other published information as well as field surveys. Prepare a table that identifies by milepost all active, inactive, and planned mining operations crossed by (or adjacent to) the pipeline or directly affected by associated facilities. These should be listed in a table similar to table 6.3-1. Describe what sources were used to identify these areas. If any active surface mines or land that is leased for future surface mining would be crossed, contact the mine owner/operator. Include the name, address, and phone number of the owner/operator and a description of any negotiations that have been or will be undertaken to secure the pipeline right-of-way through the mines. State whether a route alternative will be required. Also address the potential for the project to hinder mine reclamation or expansion efforts. If runoff from the mine or mine tailings is a potential hazard, include a description of the hazard and specific methods that would be used to control the problem.

6.4 Geologic Hazards

Identify the geologic hazards that exist or have the potential to develop in or near the project area using sources such as USGS maps; surficial geology maps; NRCS soil surveys; other published information; comprehensive plans; aerial photographs; contacts with Federal, state, or local geologic survey personnel; or field surveys. Potential geologic hazards include earthquakes, active faults, areas susceptible to soil liquefaction, areas susceptible to landsliding, ground subsidence due to karst terrain or underground mining, flash flooding, and volcanism.

Discuss the seismic risk across the project area. Seismic zones for all pipeline and aboveground facilities must be identified. Consult state and seismicity maps for these data (see example shown on figure 6.4-1)



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. Identify by milepost or facility all active faults and areas susceptible to soil liquefaction and high susceptibility to landsliding. USGS Map MF 771 can be used to identify landslide areas based on susceptibility and incidence. Site-specific information may be obtained from state geologic publications and USGS topographic maps, but a site

TABLE 6.3-1 Mineral Resources Crossed by the Pipeline			
State/ Facility	Milepost	Operation	Distance from Construction ROW (ft)
STATE			
Loop A	0.01 - 1.0	Active Gravel Pit	C r o s s e d
	30.0 - 34.0	Future Coal Pit	1,000
	35.5 - 36.5	Reclaimed Coal Pit	1,200
Loop B	126.3 - 126.8	Active Stone Quarry	1,300
	148.0	Inactive Flagstone Quarry	Crossed
Lateral D	205.1 - 206.0	Active Oil Field	Crossed <u>a/</u>
	207.0	Abandoned Stone Quarry	500
<u>a/</u> Nearest well is 450 feet.			

study may prove necessary to identify hazard areas that are prone to slope instability, or soil liquefaction.

In areas where karst terrain is present, ground subsidence is a potential hazard. Use USGS Map OFM 76-823 to identify if karst terrain is present in the project area. Provide locations of karst terrain by milepost or facility. State publications and field investigation will provide detailed site-specific information. Historical site data (USGS, Federal Emergency Management Agency, and state geologic surveys) should be gathered to identify areas susceptible to flooding and volcanism. All areas of geologic hazard should be identified by milepost. For larger projects, a table similar to table 6.4-1 may be useful.

Include the criteria and sources of information that were used to identify these areas, and the impact that the geologic hazard could have on the construction and operation of the facility. Describe how the project would be located or designed to avoid or minimize the effects from the hazard in question. Include all geotechnical investigations, such as use of inclinometer, and any past experience with slope instability in the project area. Any monitoring that will be conducted before, during, and after construction of the pipeline and associated facilities should be detailed. This description should include any proposed slope stability monitoring and any use of rock bolts, retaining walls, and nets.

For LNG facilities refer to NBSIR84-2833, Data Requirements for the Seismic Review of LNG Facilities, June 1984, available from OPR.

6.5 Paleontology

Paleontology should be addressed and appropriate paleontological studies conducted if the project is located in an area known to contain sensitive paleontological resources based on published information or field surveys. Paleontology should also be addressed if the project crosses lands managed by state or other Federal agencies that require paleontological studies as stipulations of easement agreements.

TABLE 6.4-1

Geologic Conditions Along the Pipelines

Physiographic Province/ Segment	MPs	Geological Formation or Stratigraphic Unit	Blasting Required	Geological Hazards		Proposed Mitigation ^{a/}
				Type	MPs	
Puget Lowland Chehalis North Loop Pipeline	1309.9 - 13.35.0	Glacial continental outwash gravel; Eocene andesite flow; Pre-Fraser continental drift; Glacial continental till; Nonglacial alluvium; and Nonglacial peat.	— ^{b/}	Soil liquefaction	1310.0 - 1310.3	A
				Soil liquefaction	1312.5 - 1313.0	A
Puget Lowland Washougal North Loop	1216.2 - 1230.1	Continental sedimentary rocks; Oligocene andesite flow; Basalt flow; Nonglacial alluvium; and Periglacial flood sand and silt.	1216.2 - 1217.4	Landslide prone area	1216.6 - 1217.1	B, C
Deschutes Umatilla Plateau Plymouth South Loop	1048.3 - 1064.2	Fluvio-glacial deposits (gravel, sand, and silts); Columbia River Group; and Landslide debris.	—	—		
Columbia Plateau Burley North Loop	682.2 - 712.6	Glenns Ferry Formation and Basalt of Hansen Butte.	690.4 - 691.0	—		
Columbia Plateau Pocatello North Loop	607.3 - 668.2	Locss; Stream alluvium; Sunbeam Formation; Table Mountain Basalt; Raft Formation; Alluvial fan; and Snake River Basalt.	662.2 - 664.2	—		
Basin and Range Lava Hot Springs South Loop	547.8 - 567.4	Gem Valley Basalt; Stream alluvium; Colluvium; Laketown Dolomite; Garden City Limestone; Salt Lake Formation; and Ordovician, undifferentiated rock.	555.5 - 565.9	—		

^{a/} A Add weights to pipeline.
 B Install slope gauges to monitor slope movement.
 C Install drainage system to remove water from the right-of-way.

^{b/} — Not applicable.

Resource Report 7 - Soils

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Identify, describe, and group the soils affected by the proposed pipeline and aboveground facilities.	L, W, X, CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe potential impacts on soils.	C, H, L, W, X, CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify proposed mitigation to minimize impact on soils.	C, K, W, Y, CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify where and how topsoil would be segregated;				
<input type="checkbox"/> Specify measures to restore compacted or rutted agricultural and residential lands;				
<input type="checkbox"/> Specify measures to repair damaged agricultural drain tiles;				
<input type="checkbox"/> Consider using our Upland Erosion Control, Revegetation, and Maintenance Plan, or propose alternative measures that would ensure an equal or greater level of protection to soils; and				
<input type="checkbox"/> Identify any measures of the Plan that are deemed unnecessary, technically infeasible, or unsuitable and describe alternative measures that will ensure an equal or greater level of protection.				
<input type="checkbox"/> Describe consultation with local soil conservation authorities.	W, CC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide copies of erosion control plans and seeding specifications that are required by government land management agencies.	K, W, CC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1/ C Agricultural Extension Agents H Comprehensive Plans, County or Land Management Agencies K Erosion Control and Drainage Plan Handbooks, State and County L Field Surveys W NRCS Personnel X NRCS Soil Surveys Y Plan CC Soil Authorities, Other than NRCS		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report addresses the soils affected by the construction and operation of the project. The report should identify the resources used to assess the impact of construction on soils. It should summarize findings in tabular and text form. The report should also discuss any alternatives proposed to our recommended Plan.

7.1 Pipeline

Inventory soils that would be affected by the pipeline using soil maps contained in the NRCS (formerly the Soil Conservation Service) county soil surveys. Consult with state offices of the NRCS to determine the names and phone numbers of the appropriate NRCS districts in the project area. Appropriate land management agencies may also have information. If published soil surveys are unavailable, substitute the best available soils data. Generally, unpublished soils information can be obtained by providing the county NRCS office with maps of the facilities. Other sources of information include state and county soil maps and other environmental reports in the same general area.

7.2 Aboveground Facilities

Use photo-based detailed soil unit maps published by the NRCS or other sources to identify and describe the soils at aboveground facility sites. It may be helpful to provide a plot plan showing the area of each soil within the boundaries of the site. Describe the characteristics of the soils on the site and discuss any limitations of the soils that may be pertinent such as erosion hazard, wetness, or shallow bedrock. Indicate which soils on the site are classified as prime farmland by the NRCS and specify the amount of prime farmland that would be permanently and temporarily disturbed on each site by construction and operation of the facility. Any prime farmland soils within the fenceline of the site should be considered precluded from future agricultural use and therefore permanently disturbed.

7.3 Construction/Operation Impacts

Describe the impact on soils and identify soil hazards using sources such as county soil surveys, comprehensive plans, other published information, contact with NRCS or agricultural extension agents, or field surveys. Present soils that are prone to the following hazards by pipeline segment and milepost in tabular format (see table 7.3-1):

- severe erosion;
- compaction (limit identification to agricultural and residential lands);
- introduction of rock into the topsoil (limit identification to agricultural and residential lands); and
- poor revegetation.

TABLE 7.3-1				
Soil Associations and Milepost Locations of Major Soil Limitations				
Segment/ Soil Association	Severe Erosion Hazard	Severe Compaction Potential	Rock	Poor Revegetation Potential
Segment A				
Rittman-Wadsworth	0.00 - 0.06 0.17 - 0.37 0.41 - 0.56 1.21 - 1.37	—	0.00 - 0.56 1.21 - 1.37	—
Mechanicsbury-Berks	0.82 - 0.91 0.94 - 0.97	—	0.82 - 0.85	—
Segment B				
Bennington-Cardington	—	—	0.00 - 0.17 1.02 - 1.18	0.00 - 2.01
Mahoning Ellsworth-Wooster	—	—	1.91 - 2.23	2.01 - 3.62
Fitchville-Chili-Bogart	2.37 - 2.84 3.76 - 4.01	2.23 - 2.37	—	—
Segment C				
Skerry-Brayton-Becket	—	0.49 - 0.87 0.91 - 1.58	—	—
Naumburg-Croghan	—	1.87 - 2.76 4.37 - 4.68	—	—

Some factors that should be considered in determining where there is a severe hazard of erosion include: the capability classification of the soil; slope; runoff factor; permeability; soil texture; and erodibility. The analysis of soil erosion potential should also take into account the proposed season of construction.

The potential for soil compaction is affected by several factors. Some factors that should be considered in determining the areas that are most prone to compaction include the capability classification of the soil, soil hydrology, soil texture, soil drainage, season of construction, flooding frequency and duration, permeability, and the presence and duration of a seasonal high water table.

Rock can be introduced into the topsoil during various construction activities especially blasting and trenching. Some factors that should be considered in determining where the introduction of rock into the topsoil is likely to be a problem include the capability classification of the soil, depth to bedrock relative to trench depth, the need for blasting versus ripping of bedrock, and the percent of coarse fragment content or cobbles in the soil within trench depth.

Poor revegetation can result from numerous causes. Some factors that should be considered in determining where there is a potential for poor revegetation include capability classification of the soil, topsoil quality, available water capacity, salinity, acidity, and the potential for the project to affect existing soil drainage (including drainage systems).

Also identify by milepost any other site-specific soil impacts that are associated with unique or rare soil conditions.

7.4 Mitigation

Describe proposed measures to reduce impact on soils. Sources of proposed mitigation, in addition to our Plan, include contacts with soil conservation authorities and agricultural extension agents, state and county erosion control handbooks, and other published sources. Include a discussion of proposed topsoil segregation methods, measures to restore compacted or rutted cropland and residential soils, and measures for repair of damaged agricultural drain tiles. Provide a copy of the erosion control and revegetation plan that would be used to construct and operate the facilities. Adopt the measures contained in our Plan or specify what measures of the Plan are objectionable and indicate alternative measures that would be implemented instead. Discuss why these alternatives would provide an equal or better level of protection to the soil.

Describe consultation with the local soil conservation authorities and recommendations for: seed mixes; seeding dates; application rates for fertilizer and lime; erosion controls; and weed controls.

Include copies of government land management agency-required Erosion and Sedimentation Control Plans. Also specify special seeding requirements of government land management agencies.

Resource Report 8 - Land Use, Recreation and Aesthetics

SUMMARY OF FILING INFORMATION					
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/			
		1	2	3	
<input type="checkbox"/> Classify and quantify land use affected by: <input type="checkbox"/> Pipeline construction and permanent rights-of-way; <input type="checkbox"/> Extra work/staging areas; <input type="checkbox"/> Access roads; <input type="checkbox"/> Pipe and contractor yards; and <input type="checkbox"/> Aboveground facilities.	A, L, X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost all locations where the pipeline would be adjacent to existing rights-of-way, where the pipeline would be outside of existing rights-of-way, and where a loop would be greater or less than 25 feet from the existing pipeline.	D, L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost special land uses (e.g., maple sugar stands, specialty crops, grazing allotments, Conservation Resource Protection (CRP) land, etc.).	O	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> For aboveground facilities that would occupy sites over 5 acres, determine the acreage of prime farmland soils that would be affected by construction and operation.	W, X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify all aboveground facilities that would be within a designated floodplain or flood storage areas.	F, DD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost all residences that would be within 50 feet of the construction right-of-way or extra work area.	L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost all planned residential or commercial/business development and the timeframe for construction.	I, O	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by beginning milepost and length of crossing all land administered by Federal, state, or local agencies, or private conservation organizations.	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost all natural, recreational, or scenic areas, and all registered natural landmarks crossed by the project.	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify all facilities that would be within designated coastal zone management areas.	DD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify all designated or proposed candidate National or State Wild and Scenic Rivers crossed by the project.	V, DD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify by milepost all visually sensitive areas.	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Provide a discussion of proposed mitigation and documentation of consultation, as appropriate, for all residential or other designated areas, including public land, recreation, and scenic areas.	B, D, L, O	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Describe any measures to visually screen aboveground facilities, such as compressor stations.	D, L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1/ A Aerial Photographs B Agency Consultation D Applicant F COE I County/Municipal Agencies L Field Surveys	O Landowners V NPS W NRCS Personnel X NRCS Soil Surveys DD State Agencies LL USGS Topographic Maps	2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction
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This Resource Report addresses use of all land that would be affected by construction and operation of the project. The report should characterize and quantify land affected, identify public lands and designated

recreation or other special use areas affected, summarize consultations with Federal and state agencies, and discuss special construction techniques or other forms of mitigation that would be used to reduce impact during construction and operation of the facilities. In addition, the Resource Report should include a discussion of potential visual impact of the facilities, including compressor stations, on designated scenic rivers, areas, or roads, and public lands or residential areas.

8.1 Land Use

For all land affected by construction and operation of the facilities, the characteristics of the land should be identified, based on vegetative cover type or predominant land use, and measured from aerial photographs or field reconnaissance. Coordinate the classification of land use types with those presented in Resource Report 3 on Vegetation and Wetlands. This includes land affected by the construction right-of-way, the aboveground facilities (e.g., compressor stations, meter stations, pig launchers/receivers, storage wells, or other related facilities), extra work or staging areas, and pipe or contractor yards. Typical land use categories would include:

- Agricultural Land - Active cropland, orchards, vineyards, or hay fields.
- Forest/Woodland - Tracts of upland or wetland forest or woodland that would be removed for the construction right-of-way or extra work/staging areas.
- Rangeland - Non-forested lands used primarily for grazing.
- Open Land - Non-forested lands and scrub-shrub wetlands used for open space or pasture.
- Residential land - Residential yards, residential subdivisions, and planned new residential developments.
- Industrial/Commercial land - Electric power or gas utility stations, manufacturing or industrial plants, landfills, mines, quarries, commercial or retail facilities, and roads.
- Open Water - Water crossings greater than 100 feet.
- Other - Miscellaneous special use areas (i.e., land associated with schools, parks, places of worship, cemeteries, sports facilities, campgrounds, golf courses, ballfields, etc.).

8.1.1 Pipeline Facilities

Construction and Permanent Rights-of-Way

Tabulate land use characteristics for pipelines by measuring each land use category crossed by the pipeline construction right-of-way and totaling the land use categories. The results of the tabulations should then be summarized by pipeline segment, county, and state. Ensure that the total for each pipeline segment equals the length of each pipeline segment. Clearly define each land use category as it applies to the project under consideration (see table 8.1-1 for an example of a summary presentation of this information). All pipelines and rights-of-way should also be shown on the USGS topographic maps, aerial photographs, or alignment sheets submitted with the application (see Resource Report 1 of this manual).

TABLE 8.1-1								
Land Crossed by the Pipelines								
Facility	County, State	Agriculture ^{a/}		Forest ^{b/}		Open Land ^{c/}		Total
		(mi)	(%)	(mi)	(%)	(mi)	(%)	(mi)
Loop A	County A, State	1.0	40%	0.0	0%	1.5	60%	2.5
	County B, State	<u>2.0</u>	67%	<u>0.6</u>	20%	<u>0.4</u>	13%	<u>3.0</u>
Subtotal		3.0	55%	0.6	11%	1.9	34%	5.5
New Pipe	County C, State	0.5	20%	1.5	60%	0.5	20%	2.
	County D, State	<u>0.1</u>	6%	<u>0.5</u>	31%	<u>1.0</u>	63%	<u>1.6</u>
Subtotal		0.6	15%	2.0	49%	1.5	36%	4.1
TOTAL		3.6	38%	2.6	27%	3.4	35%	9.6
^{a/} Active cropland. ^{b/} Upland and wetland forest. ^{c/} Open land, pasture, and golf course.								

For all new pipeline that would be constructed adjacent to existing utility rights-of-way (e.g., pipeline, powerline, road), identify these locations by milepost, county, state, and type of right-of-way. Also provide the width of the existing right-of-way, if available, and how much of that existing right-of-way would be used for the construction and new permanent rights-of-way. This information can be summarized as shown in table 8.1-2.

TABLE 8.1-2						
Existing Rights-of-Way Paralleled by Pipelines						
Facility	County, State	Mileposts	Type of Right-of-Way	Width of Existing Right-of-Way (feet)	Width Used for Temporary Construction Right-of-Way (feet)	Width Used for Permanent Right-of-Way (feet)
Pipeline A	County A, State	0.0 - 2.5	Pipeline	75	25	0
	County A, State	3.0 - 3.5	Powerline	150	50	25
Pipeline B	County A, State	5.0 - 10.0	Road	NA	50	50
NA Not available						

For looping pipeline, identify by beginning and ending milepost each location where the loop would leave the existing right-of-way. Also identify by beginning and ending milepost any locations where the loop would be more or less than 25 feet from the existing pipeline. For each of these locations, provide an explanation for increasing or decreasing the separation (see table 8.1-3 for an example of a summary presentation of this information).

TABLE 8.1-3					
Locations Where the Loop Would Be More or Less than 25 feet from the Existing Pipeline					
Facility	County, State	Mileposts	Total Length (feet)	Maximum Distance Between Existing Pipeline and Loop (feet)	Explanation
Loop A	County A, State	0.25 - 0.26	52	50	Engineering, waterbody crossing
	County B, State	2.45 - 2.58	686	200	Archaeological site
Loop B	County C, State	5.82 - 6.00	950	100	
		Engineering, steep slope			
		8.12 - 8.62	2,640	100	Crossover, residences
	County D, State	9.01 - 9.03	105	15	Commercial building

Quantify the acreage of land affected by construction and operation of the pipeline by land use category using the proposed construction and permanent widths for each pipeline segment. The widths should agree with the right-of-way configuration for each pipeline segment presented in Resource Report 1, figure 1.2-1, Typical Right-of-Way Cross Section.

Where the construction right-of-way would be wider than 75 feet, provide justification for the required width (*i.e.*, topsoil segregation, steep side slope, etc.). Similarly, if the permanent right-of-way would be wider than 50 feet for operation of a new pipeline or more than 25 feet for operation of a loop pipeline, provide justification for the wider width. Construction and operation of smaller diameter pipelines should use less rights-of-way.

Table 8.1-4 is an example of a summary presentation of acreage affected by construction and operation of the sample facilities presented in table 8.1-1. Be sure to explain how calculations were made in footnotes to the table or in the text accompanying the table. For example, a segment of a loop may depart from the existing right-of-way onto new right-of-way and would therefore require additional permanent right-of-way. The additional acreage of land affected should be shown on a separate right-of-way cross section and included in the calculations. Clearly present all calculations so that they may be verified independently. The total acreage affected by the construction and permanent rights-of-way must be included in the total land requirements section of Resource Report 1. Land requirements for extra work or staging areas should be quantified separately as discussed in the next subsection.

TABLE 8.1-4

Acreage Affected by Construction and Operation of the Pipelines

Facility/ County, State	Agriculture ^{a/}		Forest ^{b/}		Open Land ^{c/}		Total	
	Construction ROW	Permanent ROW	Construction ROW	Permanent ROW	Construction ROW	Permanent ROW	Construction ROW	Permanent ROW
Loop A ^{d/}								
County A, State	12.1	3.0	0.0	0.0	13.6	4.5	25.7	7.5
County B, State	<u>24.2</u>	<u>6.1</u>	<u>3.6</u>	<u>1.8</u>	<u>5.4</u>	<u>1.2</u>	<u>33.2</u>	<u>9.1</u>
Subtotal	36.3	9.1	3.6	1.8	19.0	5.7	58.9	16.6
New Pipe ^{e/}								
County C, State	6.1	3.0	13.6	9.1	4.5	3.0	24.2	15.1
County D, State	<u>1.2</u>	<u>0.6</u>	<u>4.5</u>	<u>3.0</u>	<u>9.1</u>	<u>6.1</u>	<u>14.8</u>	<u>9.7</u>
	7.3	3.6	18.1	12.1	13.6	9.1	39.0	24.8
TOTAL	43.6	12.7	21.7	13.9	32.6	14.8	97.9	41.4

^{a/} Cropland.^{b/} Upland and wetland forest.^{c/} Pasture, golf course, and existing pipeline right-of-way.^{d/} Construction right-of-way is 100 feet in agricultural land and 75 feet in forest and open land. However, in forested areas, about 25 feet is presently cleared for the existing pipeline right-of-way and is therefore included in the open land use category. Permanent right-of-way is 25 feet.^{e/} Construction right-of-way is 100 feet in agricultural land and 75 feet in forest and open land. Permanent right-of-way is 50 feet.

NOTE: ROW = Right-of-Way

The text should further describe the land affected and should identify the mitigation measures that would be used to reduce impact from pipeline construction and operation. Typical additional information and mitigation measures may include the following by land use category:

- **Agricultural Land** - Identify typical crops (*i.e.*, corn, wheat, rice, etc.) and specialty crops (*i.e.*, orchards, vineyards, hop fields, etc.). Identify specialty crops by milepost and by length of crossing. Mitigation in agricultural land or hay fields may include topsoil segregation or replacement of drainage tiles or other structures. Mitigation for specialty crops may include avoidance by a route deviation, pipe placement along the edge of orchards and vineyards, use of a reduced construction right-of-way, or replacement of orchard trees or vines.
- **Forest/Woodland** - Identify by milepost and length of crossing all old growth forest, pine plantations, and forest used for timber, maple sugar, Christmas trees, or other forest production. Mitigation may include avoidance by a route deviation, use of reduced construction right-of-way, or replanting.
- **Rangeland** - Identify typical use of rangeland including the location by milepost of any sensitive lands (*e.g.*, remnant prairie) or public land used for grazing allotments. Mitigation may include topsoil segregation in arid lands, maintenance of fencing or natural barriers along the construction

right-of-way during construction, repair and replacement of water supply lines and other structures, or fencing of the right-of-way until revegetation is complete (grazing deferment).

- Open Land - Identify use of open land (e.g., pasture, open space). Also identify by milepost and length of crossing all land currently managed under the CRP program. For any CRP land crossed, consult with the appropriate state agency and the landowner to determine if construction would affect the CRP status of the land or if special construction or revegetation techniques should be used. Provide copies of all correspondence and a description of the special construction or restoration techniques that would be used.
- Residential Land - See section 8.2 for discussion of residences and residential land.
- Industrial/Commercial land - Identify typical use of the industrial or commercial land. Identify by milepost all business, commercial, or retail buildings that are within 50 feet of the construction right-of-way. Mitigation for business or commercial areas may include limiting the hours of construction or providing alternate access. Mitigation during construction across roads may include timing to avoid hours of peak use, providing alternate access, or boring the road. Mitigation for other industrial land, such as landfills, mines, or quarries, is discussed further in section 8.3.
- Open Water - See Resource Report 2 for discussion of waterbody crossings. For offshore facilities, see additional discussion in section 8.3.
- Other - Identify special use areas by milepost (*i.e.*, land associated with schools, parks, places of worship, cemeteries, sports facilities, race tracks, campgrounds, golf courses, ballfields, etc.). See section 8.3 for discussion of designated special use areas.

Extra Work/Staging Areas

Identify by milepost and size all other extra work or staging areas required in addition to the construction right-of-way. These include extra work or staging areas at road, railroad, waterbody, or wetland crossings, in areas of steep side slope or where blasting is required, or at the beginning and end of each pipeline segment for contractor mobilization/demobilization. Identify the land use category for each extra work or staging area. All extra work or staging areas should also be shown on the USGS topographic maps, alignment sheets, and aerial photographs submitted with the application.

Acreage calculations should be in addition to the typical construction right-of-way. For example, a road crossing may require a total work area of 200 feet by 200 feet on each side of the road. If the typical construction right-of-way is 75 feet wide, the extra work area would be 125 feet by 200 feet (0.6 acre on each side of the road or a total of 1.2 acres for the crossing). Table 8.1-5 shows an example of how these data may be summarized. The total acreage required for extra work or staging areas for each pipeline segment must be included in the total land requirements section of Resource Report 1.

TABLE 8.1-5						
Extra Work or Staging Areas						
Facility	County, State	Milepost	Description	Dimensions (feet)	Total Acres	Existing Land Use
Loop A	County A, State	0.0	Mobilization	1 - 25 x 100	0.06	Open
		0.5	Waterbody	2 - 25 x 100	0.11	Forest
		0.6	Road	2 - 50 x 100	0.23	Agriculture
	County B, State	1.6	Side slope	1 - 50 x 500	0.57	F o r e s t
		2.5	Demobilization	1 - 25 x 100	0.06	Open
TOTAL					1.03	

Access Roads

Identify all temporary access roads that would be used to access the right-of-way during construction. This does not include existing interstate, state, county, or local roads, but does include farm lanes, private drives, logging roads, jeep trails, or other roads that may be modified or improved for construction equipment. It also includes new roads that would be created to access the right-of-way. The location of each of these roads should be identified on USGS topographic maps and aerial photographs. The land use crossed by new roads should be specified.

The size of new roads and extent of modification of existing roads should be provided. Identify whether the new roads or modifications would be left after construction is complete and if not, how the area would be restored.

Pipe and Contractor Yards

Identify the location, size, and land use of all known pipe and contractor yards and show each yard on USGS topographic maps, alignment sheets, or aerial photographs. Include the distance and direction to the nearest pipeline milepost and the county and state in which each yard is located. Total acreage requirements for all pipe and contractor yards should be included in the land requirements section of Resource Report 1. Describe the extent of ground disturbance that would take place.

If pipe and contractor yards are unknown at the time of the application filing, identify estimated yard requirements. For example, a project consisting of three loops in three different locations could be estimated to require three pipe/contractor yards of approximately 5 acres each. This information can be provided as part of the initial filing and should be updated once the location and size of each yard become established.

8.1.2 Aboveground Facilities

The location of each new or modified aboveground facility (*i.e.*, LNG plant, compressor station, meter station, pig launcher/receiver, block valve, well, etc.) should be clearly shown on USGS topographic maps, alignment sheets, or aerial photographs. Mileposts should be included for all facilities located along the right-of-way.

For all facilities, except those such as block valves or pig launchers/receivers that would be placed within the permanent pipeline right-of-way, specify the amount of land required and if the land is presently owned or would be acquired by lease or purchase. If large parcels of land would be associated with a facility, identify the total size of the parcel and what use (e.g., agriculture, open space, wildlife) would be made of land not directly or indirectly affected by construction and operation of the facility. For each facility, identify the acreage of each land use type (e.g., agriculture, open land, forest, industrial) that would be affected by facility construction and operation.

Table 8.1-6 is an example of a summary presentation of this information. The total acreage of land affected for each aboveground facility must be included in the land requirements section of Resource Report 1.

Facility	County, State	Approximate Milepost	Construction Requirements (acres)	New Land Requirements (acres)	Present Land Use	Comments
Meter Station A	County A, State	1.5	1.0	1.0	Open	New facility <u>a/</u>
Meter Station B	County B, State	4.5	0.5	None	Utility	Within existing station
Compressor Station A	County C, State	10.0	5.0	40.0	Forest	New facility <u>b/</u>
Compressor Station B	County D, State	1.0	1.0	None	Utility	Modification
Regulator A	County E, State	80.0	0.04	None	Utility	Within right-of-way
Well A	County F, State	0.0	0.6	6.0	Agriculture	New well <u>c/</u>
Well B	County G, State	1.6	1.0	None	Open	Abandon well <u>d/</u>

a/ Land to be purchased adjacent to existing right-of-way.
b/ Land to be purchased adjacent to existing right-of-way. Only 5.0 acres will be fenced and the remainder of the site will be maintained as forest.
c/ Land to be acquired by easement.
d/ Well easement to revert to landowner.

For all new aboveground facilities that would occupy sites larger than 5 acres, consult with the county office of the NRCS (formerly Soil Conservation Service) to determine the acreage of prime farmland soils that would be affected by construction and operation (see Resource Report 7 on Soils). If prime farmland soils would be affected, the discussion in Resource Report 10, Alternatives, should identify alternative sites considered to minimize impact on these soils. Also consult with the COE, to determine if the new facilities would be within designated floodplain or flood storage areas and what mitigation would be necessary to construct the aboveground facilities within these areas.

8.1.3 Facility Abandonment/Replacement

For abandoned pipeline, identify by milepost the segments that would be abandoned in place and the segments that would be removed and why the particular method was chosen. Identify by milepost the locations that would be disturbed to cut or cap the pipe. Also, discuss the feasibility of removing segments of the abandoned pipeline at waterbodies, wetlands, and residential areas. In residential areas, consult with the landowners to determine if removal or abandonment in place is preferred. Explain if the right-of-way easement would revert to the landowner or continue to be maintained by the company.

For pipelines that would be removed and replaced, specify if the replacement pipeline would be placed in the same ditch as the abandoned pipeline. If existing pipeline would be removed, but same-ditch replacement is not proposed, explain why and describe the sequence of removal and replacement activities.

For aboveground facilities (*i.e.*, block valves, compressors, buildings, tanks, etc.), describe how the facilities and other structures on the site would be abandoned or removed and how the disturbed areas would be restored to previous land use. If there are hazardous materials at the site, discuss how these would be handled and disposed of.

For all facilities that would be abandoned or replaced, quantify the amount and type of land affected. If the abandoned facilities contain PCBs, discuss how abandonment activities would comply with the TSCA (see Resource Report 12, PCB Contamination, for further discussion).

8.2 Residential Areas

8.2.1 Existing Residences

Identify by milepost each residence that would be within 50 feet of the edge of the construction right-of-way and extra work or staging area (*e.g.*, construction work area). Provide the distance in feet between the residence and the construction work area and the distance in feet between the residence and the pipeline centerline. Describe how construction impact would be minimized in residential areas, including:

- how and when landowners would be notified of construction activities;
- how access and traffic flow would be maintained during construction activities, particularly for emergency vehicles;
- how the hazard of open ditches would be minimized when construction activities are not in progress; and
- how fugitive dust from construction activities would be minimized.

In addition, adopt, or discuss why you do not adopt, the following mitigation for all residences within 50 feet of the construction work area:

- mature trees and landscaping should not be removed from within the edge of the construction work area unless necessary for the safe operation of construction equipment;
- immediately after backfilling the trench, all lawn areas and landscaping within the construction work area should be restored consistent with the requirements of section VI.D.1.b. of our recommended Plan;
- the edge of the construction work area adjacent to the residence should be fenced for a distance of 100 feet on either side of the residence to ensure that construction equipment and materials, including the spoil pile, remain within the construction work area;
- fencing should be maintained, at a minimum, throughout the open trench phases of pipe installation; and
- a minimum of 25 feet should be maintained between the residence and the construction work area for a distance of 100 feet on either side of the residence (*e.g.*, the construction work area should be reduced as necessary to maintain the minimum distance).

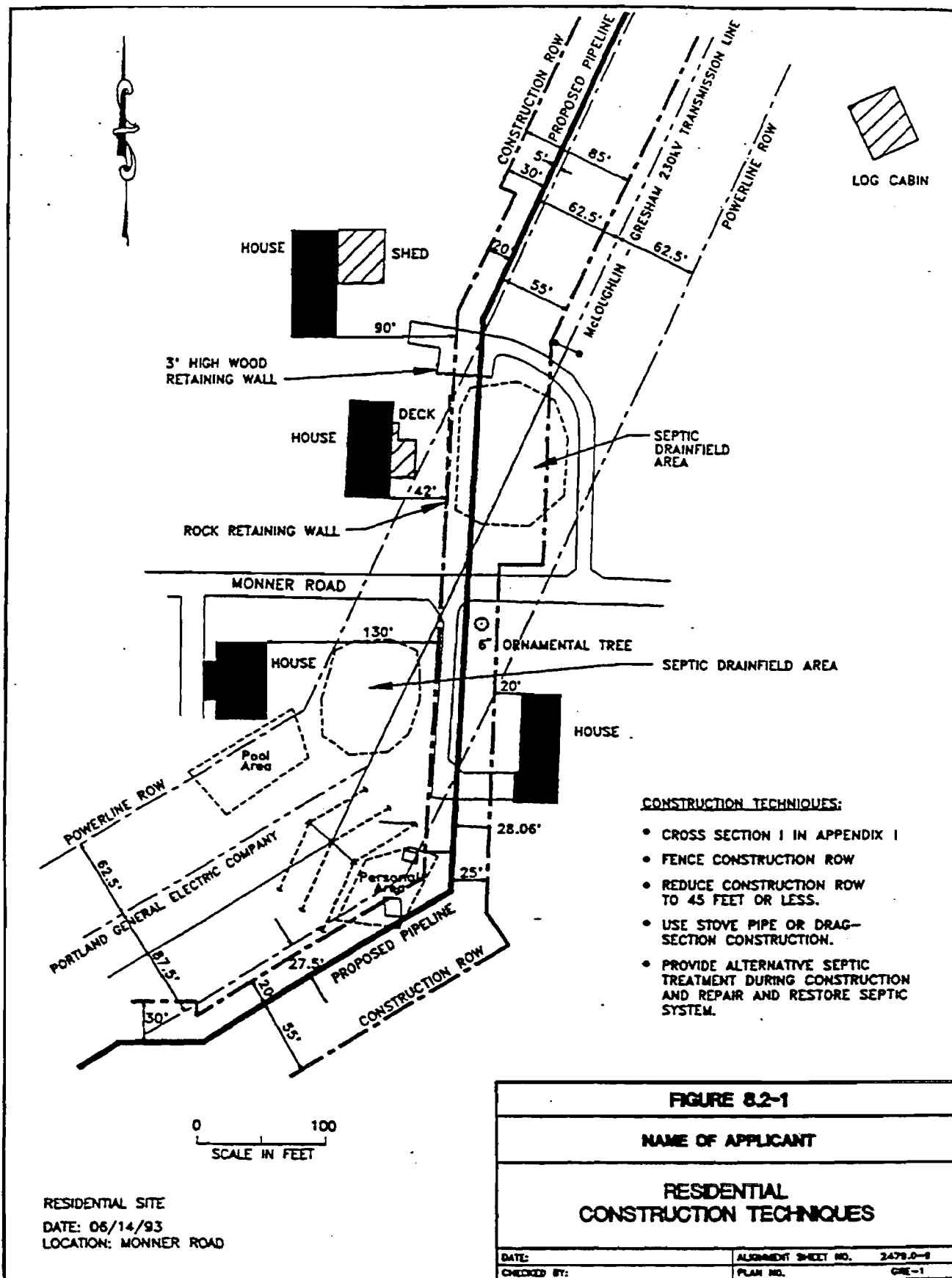
If a minimum of 25 feet cannot be maintained between the residence and the construction work area, or if the residence is within the construction work area, a site-specific plan should be included with the application that describes the construction techniques that would be used (*i.e.*, reduced pipeline separation, centerline adjustment, use of stove-pipe or drag-section techniques, working over existing pipelines, pipeline crossover, bore, etc.) and includes a dimensioned site plan showing the location of the residence in relation to:

- the new pipeline and, where appropriate, the existing pipelines;
- the edge of the construction work area;
- the edge of the new permanent right-of-way; and
- other nearby residences, structures, roads, wetlands or waterbodies.

If the pipeline centerline would be within 25 feet of a residence, include a description of how to ensure that the trench is not excavated until the pipe is ready for installation and that the trench is backfilled immediately after pipe installation. If the construction work area is within 10 feet of a residence, provide landowner agreement in writing unless the construction work area is part of the existing maintained right-of-way.

Table 8.2-1 is an example of a listing of residences within 50 feet of the construction work area and identified mitigation techniques. Figure 8.2-1 is an example of a site-specific plan. Mitigation for residences within 50 feet of the construction work area should include the above mitigation measures or identify alternate mitigation that would provide an equal level of protection from construction disturbance.

Facility	County, State	Milepost	Number of Residences	Distance from Construction Work Area (feet)	Distance from Pipeline Centerline (feet)	Proposed Mitigation
Loop A	County A, State	1.2	1	45	70	<u>a/</u>
		1.3	1	25	26	<u>a/</u> and <u>b/</u>
		1.6 - 1.8	6	15 - 25	40 - 50	<u>a/</u> , <u>b/</u> , <u>c/</u> , and <u>d/</u>
Loop B	County B, State	4.5	1	11	25	<u>a/</u> , <u>d/</u> , and <u>e/</u>
New Pipe	County C, State	10.1	1	15	20	<u>a/</u> and <u>d/</u>
<u>a/</u> Avoid removal of mature trees, immediately restore all lawn areas after backfilling the trench, and fence the construction work throughout the open trench phase of construction. <u>b/</u> Reduce the construction work area to maintain 25 feet between the residence and the construction work area. <u>c/</u> Use stove-pipe or drag-section construction techniques. <u>d/</u> See site-specific plan. <u>e/</u> Reduce pipeline separation.						



8.2.2 Planned Residential Areas

Consult with county and local planning agencies to identify all planned residential developments and subdivisions that would be crossed or within 50 feet of the construction work area. For each planned residential development, provide the status of permitting (*e.g.*, whether approved or under review by the local municipality), the timeframe for development and start of construction, and proposed coordination to avoid impact on plotted land parcels. Mitigative measures may include avoidance, placement of the pipeline along property lines, or purchase of lot(s).

8.3 Public Land, Recreation, and Other Designated Areas

These lands generally include:

- land administered by Federal, state, county, or local agencies (*i.e.*, National or state parks and forests, Indian reservations, wilderness areas, wildlife management areas, nature preserves, National trails, registered natural landmarks, flood control land, etc.);
- land used for designated recreational purposes (*i.e.*, hiking, biking, or snowmobile trails, ball fields, campgrounds, golf courses, race tracks, etc.);
- land of local historical or cultural significance (*i.e.*, Native American religious sites, historic districts, etc.);
- land used for landfills, hazardous waste sites, quarries, mines, or other special uses; and
- National scenic rivers (*e.g.*, designated or proposed candidate rivers on the Nationwide Rivers Inventory), state scenic rivers, and designated scenic areas or roads.

8.3.1 Agency and Landowner Consultations

Public, recreation, or other designated special use areas should be identified during map and field review and from consultations with Federal, state, county, and local agencies. Early agency consultations are essential to accurately identify use, concerns, and potential impact on these lands from pipeline or aboveground facility construction. Also contact landowners of campgrounds, golf courses, race tracks, and other recreational areas to identify constraints that may be associated with construction across these areas.

Table 8.3-1 is a checklist of typical agency/landowner contacts that should be made to identify potential constraints associated with pipeline construction across public or special use areas.

TABLE 8.3-1

Agency/Landowner Contacts

Jurisdiction	Agency/Landowner	Land Affected
Federal	Department of the Army Corps of Engineers	- Flood control and flood storage land
	U.S. Environmental Protection Agency	- Hazardous waste sites
	U.S. Department of the Interior Fish and Wildlife Service	- National Wildlife Refuges - Designated critical habitat
	Bureau of Land Management	- Public land
	Bureau of Indian Affairs	- Indian Reservation lands
	National Park Service	- National parks - National Wild and Scenic Rivers (designated and proposed) - National Trail system (including Appalachian Trail) - National Natural landmarks
	U.S. Department of Agriculture Forest Service	- National forests
	U.S. Department of Commerce National Marine Fisheries Service	- Protected species areas
State	Department of Environmental Management/Division of Natural Resources, or equivalent	- State forests and parks - Coastal Zone Management compliance - Designated recreation areas/trails - Scenic roads - State wild and scenic rivers - Designated open land
	Game and Fish Commissions	- Game management areas
County/Town	Planning Commissions	- Proposed residential/commercial developments - Open space/natural areas - Locally significant roads, scenic areas, or rivers - Schools, parks, ballfields, trails
	Levee Commission	- Flood control levees and structures
Other	Landowners	- Campgrounds - Landfills - Golf courses - Race tracks - Airfields

Since governmental structure varies from state to state, the checklist identifies a common breakdown of jurisdictional entities and is not representative of land management in every state.

Document agency and landowner contacts by letter and/or telephone or conference memorandum and include with the application. Include a listing which identifies the name and department of each agency contacted, the name and title of the person contacted, the telephone number, and the date on which the contact was made. Include copies of applications for all necessary permits with other Federal, state, and land management agencies concurrently with the FERC application. Agency and landowner contacts should determine or confirm the exact location of land directly affected by construction of the facilities, as well as any special concerns or constraints that may be associated with construction.

8.3.2 Impact and Mitigation

Identify each identified public, recreation, or other designated special use area by milepost, crossing length, and acreage affected (see table 8.3-2 for an example of a summary presentation). Describe each area and exactly what portion of that area would be directly affected by construction. For example, if a state forest is crossed, identify the agency that administers the forest, the total acreage of land encompassed, and the predominant use of the land (*i.e.*, wildlife management, wilderness, timber, recreation, etc.). Then, identify the specific resource area that would be affected by construction within the state forest (for example, adjacent to existing right-of-way within a wildlife management area).

Facility	State, County	Mileposts	Name of Area	Crossing Length	Acreage Affected By Construction
<u>Pipeline Facilities</u>					
Loop A	County A, State	1.5 - 8.5	XYZ National Forest	7 miles	63.6
		4.6	Scenic River	90 feet	0.2
		6.0	Hiking trail	< 50 feet	< 0.1
	County B, State	10.0	Airfield	100 feet	0.2
	County C, State	12.5 - 13.5	Golf course	1 mile	9.1
New Pipe	County D, State	80.1 - 90.5	BLM land	10.4 miles	94.5
<u>Aboveground Facilities</u>					
Compressor Station A	County E, State	14.2	COE flood storage	Not Applicable	0.1

For public lands (*i.e.*, National Forests, state forests, BLM or BIA land, etc.), summarize the status of the negotiations for the special-use permits or right-of-way grants and describe mitigation measures that have been identified by the land management agency or are proposed to resolve specific agency concerns. Address mitigation for public land that may include avoiding especially sensitive areas by route deviations, reducing construction and permanent right-of-way requirements, selective tree removal, replanting of trees or shrubs within the temporary construction right-of-way, timing of construction during low use or low impact periods, or use of special restoration practices. In forested areas, also address if off-road vehicle controls would be installed and maintained.

For compliance with the Coastal Zone Management Act, determine if the facilities would be within designated coastal zones. If no coastal zones would be affected, provide a statement to that effect. If coastal zones would be affected by construction or abandonment activities, contact the appropriate agency and provide

documentation from that agency that the activities would be consistent with the state's coastal zone management program or how compliance would be achieved.

For crossings of scenic rivers and national trails, address mitigation that may include special construction techniques (e.g., boring, directional drill), screen plantings, installation of off-road vehicle barriers, and maintaining access throughout the construction period. Also address mitigation measures for other designated areas (i.e., campgrounds, golf courses, race tracks, etc.) that may include construction during the off season or as expeditiously as possible. Construction should be avoided through landfills and hazardous waste sites. Where construction would occur within or immediately adjacent to a landfill or hazardous waste site, provide documentation that construction would not occur within contaminated areas or areas of contaminated groundwater plumes.

For offshore facilities, identify shipping channels, shellfish beds, or other specific uses that may be affected by construction and operation of the facilities. Consult with the Minerals Management Service, the U.S. Coast Guard, and the NMFS. Address mitigation that is proposed to minimize or reduce impact.

8.4 Visual Resources

The discussion on visual resources is generally confined to pipeline crossings or proximity of aboveground facilities to designated visually sensitive areas. Visually sensitive areas, which include scenic roads and rivers, may be designated at the Federal, state, or local level and should be identified during agency consultations. Visual classification systems have been developed at the Federal level by the BLM and U.S. Forest Service and at some state levels to rank the scenic quality of various landscapes. Use these systems where appropriate to quantify the potential visual impact of pipeline or aboveground facility construction on a given scenic area.

For all designated or sensitive scenic areas, address mitigation proposed to reduce visual impact. Mitigation for pipeline construction may include route deviations to avoid areas of high visibility, clearing the right-of-way in forested areas in a feathered pattern (i.e., not in a straight line), and planting of shrubs and small trees within the right-of-way. Mitigation for aboveground facilities, such as compressor stations, would include siting the facility to avoid proximity to visually sensitive areas or in areas which lend themselves to effective landscape restoration, painting the facility with colors that would harmonize with the landscape, or screening the facility with shrubs and trees.

Resource Report 9 - Air and Noise Quality

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES ^{1/}	WHEN NEEDED BY STAFF ^{2/}		
		1	2	3
<input type="checkbox"/> Describe existing air quality in the vicinity of the project.	EE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe the existing and proposed compressor units at each station where new, additional, or modified compression units are proposed, including the manufacturer, model number, and horsepower of the compressor units.	R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Quantify existing and proposed emissions of compressor equipment, plus construction emissions, including nitrogen oxides (NO _x) and carbon monoxide (CO), and the basis for these calculations. Summarize anticipated air quality impacts for the project.	R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Provide copies of applications for state air permits and agency determinations, as appropriate.	D	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Identify any nearby NSAs by distance and direction from the proposed compressor unit building/enclosure.	A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Identify any applicable state or local noise regulations.	EE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Quantify the existing noise levels (day-night sound level (L _{dn}) and other applicable noise parameters) at the NSAs and at other locations required by state and local noise ordinances.	G, U	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Calculate the noise impact of the proposed compressor unit modifications or additions, specifying how the impact was calculated, including manufacturer's data and proposed noise control equipment.	R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Describe proposed mitigation measures to ensure that new project facilities comply with an L _{dn} of 55 decibels of the A-weighted scale (dBA) at the NSAs or any applicable regulations, if necessary.	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> If the existing compressor station exceeds an L _{dn} of 55 dBA at NSAs, specify what actions will be required to reduce existing noise from the stations and whether the applicant is willing to implement those actions.	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
^{1/} A Aerial Photographs R Manufacturer's Data D Applicant U Noise Surveys G Community Noise, EPA 1971 EE State Air Quality Agency		^{2/} 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report addresses the effects of the project on the existing air and noise environment and describes any proposed measures to mitigate the effects. The report should also present long-term impacts of operation of any compressor station additions or modifications. Pollutant emissions from the proposed compressor units must meet New Source Performance Standards, National Ambient Air Quality Standards, Prevention of Significant Deterioration, and state standards and regulations. The noise attributable to any new or additional compressor facility must not exceed an L_{dn} of 55 dBA at any NSAs.

9.1 Air Quality

Describe the existing air quality in the vicinity of the project, including attainment/nonattainment status for all criteria pollutants and the identification of any Federal Class I areas where visibility or other impact analyses may be required. Provide the background levels of nitrogen dioxide (NO₂) and other criteria pollutants which would be emitted above EPA-defined significant levels.

The EPA requires a conformity analysis, for sources not subject to Prevention of Significant Deterioration or New Source Review, if construction of a Federal action would generate emissions that would exceed the threshold level of the pollutants for which an air basin is in nonattainment. These thresholds are defined in 40 CFR Part 52.21. Provide estimates of construction-related nonattainment pollutant emissions, air quality impacts of the emissions, and demonstrate compliance with State Implementation Plans (SIPs). Propose mitigation if violations are predicted to show that the emissions would conform to SIPs and applicable standards. The requirements for conformity analysis are found in 40 CFR Parts 6, 51, and 93 and became effective March 15, 1994.

Describe the existing and proposed compressor units at each station where new, additional, or modified compressor units are proposed. Summarize this information as shown in table 9.1-1, including manufacturer make and model number, horsepower at standard conditions (ISO), horsepower at station conditions (used to calculate emissions), hours of operation in 1 year, emission rates in grams per horsepower-hour (g/hp-hr) and emissions (tons/year or lbs/hours) of NO_x and other pollutants that would be emitted above significant levels as established by the EPA (see CFR 52.21). Include CO emissions for any reciprocating engine-driven compressors and any required modeled concentrations of NO_x and CO. Summarize anticipated impacts for each new or existing station and for the project. Provide the applications for state air permits and agency determinations, if applicable.

TABLE 9.1-1					
Air Quality Analysis for a Typical Compressor Station					
Compressor Make & Model	Standard hp (ISO)	Station hp	NO _x emission factor (g/hp-hr)	Yearly Hours of Operation	NO _x Emissions (tons/year)
<u>New Compressor</u>					
Solar Centaur Type H	5,300	3,992	1.41	8,760	54.4
<u>Existing Compressor</u>					
Cooper-Bessemer GMVH-10C2	2,000	2,000	2.02	8,760	39.0
GE Frame 3 3002G	7,300	6,950	2.56	8,760	171.7
GE Frame 3 3002G upgrade	458	348	2.71	8,760	9.1

9.2 Noise Quality

Ensure that the plot plans (scale 1:3,600 or greater) as shown on figure 1.1-4, submitted in response to Resource Report 1, show the sites of existing and proposed compressor units, station fencing, property lines, and any nearby NSAs. NSAs (which include residences, schools, hospitals, churches, playgrounds, farms, and camping facilities) should be identified in Resource Report 1. In this section, identify all NSAs near the proposed compressor unit building on 1:24,000/1:25,000 scale USGS topographic maps provided in Resource Report 1 or describe by distance and direction from the location of the proposed compressor modification or addition. Identify any applicable state or local noise regulation. Provide the existing L_{dn} for each NSA, and, as appropriate, denote

NSAs and noise measurement locations on the plot plans. If the compressors are to be installed at a new site, calculate the existing L_{dn} from sound level measurements, or estimate using typical noise levels for a land use type, such as in the EPA publication Community Noise (EPA, 1971). If the compressor units are being added to an existing facility, base the existing L_{dn} on sound level measurements when the station is operating at full load. Provide the results of the noise survey of the existing compressor units as L_{eq} (day), L_{eq} (night), and L_{dn} , where L_{eq} is the steady sound with the same total (equivalent) energy as the time-varying sound averaged over a specified period. L_{dn} is calculated using the formula:

$$L_{dn} = 10 \log_{10} \left(\frac{15}{24} 10^{L_{eq}(\text{day})/10} + \frac{9}{24} 10^{L_{eq}(\text{night})/10} \right)$$

Describe conditions during the noise survey, including:

- time of day;
- duration of measurements;
- weather conditions;
- wind speed and direction;
- engine load; and
- sources of noise.

During any sound level measurement, try to avoid times when unusual or extraneous noise which is not typical of station operation, such as noise from lawnmowers, air compressors used in spray painting, or nearby construction activity, is occurring. If the noise generated by the existing compressor station impacts any nearby residences with an L_{dn} greater than 55 dBA, indicate if an acoustical analysis of the existing unit(s) at the compressor station would be performed to quantify the magnitude and frequency spectrum of principal noise sources associated with the operation of the existing unit(s). Specify possible mitigation measures, including specific noise control equipment, necessary to reduce the noise level(s) from the unit(s) to 55 dBA L_{dn} at the nearby NSAs. Specify which noise reduction measures would be implemented and the schedule for implementing the mitigation measures.

Describe noise impacts from construction activities, including drilling if storage wells are proposed to be constructed. Calculate the noise impact of the compressor unit additions or modifications on nearby NSAs and summarize as shown in table 9.2-1. The noise impact from the compressor units should be based on far-field sound data provided by the manufacturer, or on sound level measurements of a similar unit in service elsewhere. If measured noise levels from a similar unit are used, that unit should be as similar to the proposed unit as possible, including engine/turbine model, silencing equipment, and compressor building attenuation capabilities. In addition, no extraneous noise should be occurring during the sound level measurements of the comparative unit. As part of the impact assessment, provide the far-field sound data on the compressor or the results of the sound level measurements of the comparative unit.

TABLE 9.2-1

Noise Quality Analysis for a Typical Compressor Station

Compressor Station/NSA	Distance to NSA (feet)	$L_{eq}(d)$ (dBA)	Existing $L_{eq}(n)$ (dBA)	L_{dn} (dBA)	Additional L_{dn} (dBA)	Total L_{dn} (dBA)	Noise Increase (dBA)
Residence (NE)	1,200	48	44	51	49	53	2
Residence (S)	1,750	46	43	50	46	51	1

$L_{eq}(d)$ is $L_{eq}(\text{day})$
 $L_{eq}(n)$ is $L_{eq}(\text{night})$

Identify all proposed noise control equipment (e.g., inlet and exhaust silencers, building insulation, etc.) and provide the noise absorption capabilities of this equipment. Provide the sources of this information. Also explain how the noise level (L_{dn}) attributable to the proposed compressor units was calculated, including barrier, distance, air and other attenuation factors that were used, and include any model results or calculation spreadsheets or procedures. The project L_{dn} predicted for the proposed compressor units should not exceed 55 dBA at the nearest NSAs.

Resource Report 10 - Alternatives

SUMMARY OF FILING INFORMATION					
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/			
		1	2	3	
<input type="checkbox"/> Address the consequences of not constructing the project.	D	■	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> For large projects, address the effect of energy conservation or energy alternatives to the project.	D	■	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify system alternatives considered during the identification of the project and provide the rationale for rejecting each alternative.	D	■	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify major and minor route alternatives considered to avoid impact on sensitive environmental areas (e.g., wetlands, parks, or residences) and provide sufficient comparative data to justify the selection of the proposed route.	A, B, L, LL	■	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site.	A, I, L, W, X, LL	■	<input type="checkbox"/>	<input type="checkbox"/>	
1/ A Aerial Photographs L Field Surveys B Agency Consultation W NRCS Personnel D Applicant X NRCS Soil Surveys I County/Municipal Agencies LL USGS Topographic Maps		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction			

This Resource Report describes the range of alternatives which were considered during the identification of the project. It should discuss the systematic procedure employed to arrive at the project, starting with the broadest feasible range of alternatives to the project and narrowing the alternatives to a specific action on a specific site or right-of-way. The description of this systematic procedure should include the decision criteria used, the information weighed, and an explanation of the conclusion at each decision point. The decision criteria must show how environmental benefits and costs, even if not quantifiable, are weighed against economic benefits and costs, and technological and procedural constraints.

Four types of alternatives are discussed below: the no-action alternative, system alternatives, route alternatives, and aboveground site alternatives. Each of these alternatives should be addressed for major projects. All reasonable alternatives should be addressed for smaller projects.

10.1 No-Action Alternative

Address the consequences of not constructing the project. Obviously, the impacts directly associated with the construction of the project (*i.e.*, disturbance of wetlands, air quality impacts, clearing of vegetation, etc.) would be avoided under the no-action alternative. For large projects, this section should also address the potential for accomplishing the energy objectives of the project through other means, including energy conservation, and the potential for using realistic energy alternatives, such as oil, coal, and electricity. The analysis of each should address both relative environmental benefits and costs and should be commensurate with the size of the project.

10.1.1 Energy Conservation

Address the effect of energy conservation (and load management) in the area where the gas is to be delivered. Describe the effect of any state or regional energy conservation, load-management, and demand-side management programs on the long-term and short-term demand for the energy to be supplied by the project. The discussion should include any technological, environmental, institutional, political, or social barriers that could inhibit the implementation of energy conservation and load-management programs in the area.

10.1.2 Energy Alternatives

Discuss energy alternatives in sufficient detail to convincingly present the advantages or disadvantages of natural gas relative to oil, coal, electricity, and other alternative fuels readily available in the project area. For customer-based projects (*e.g.*, projects proposed to meet the needs of identified customers versus projects proposed for general system supply), this analysis should include a list of customers and the fuels which they presently use or the fuels which are primary competitive fuels to natural gas.

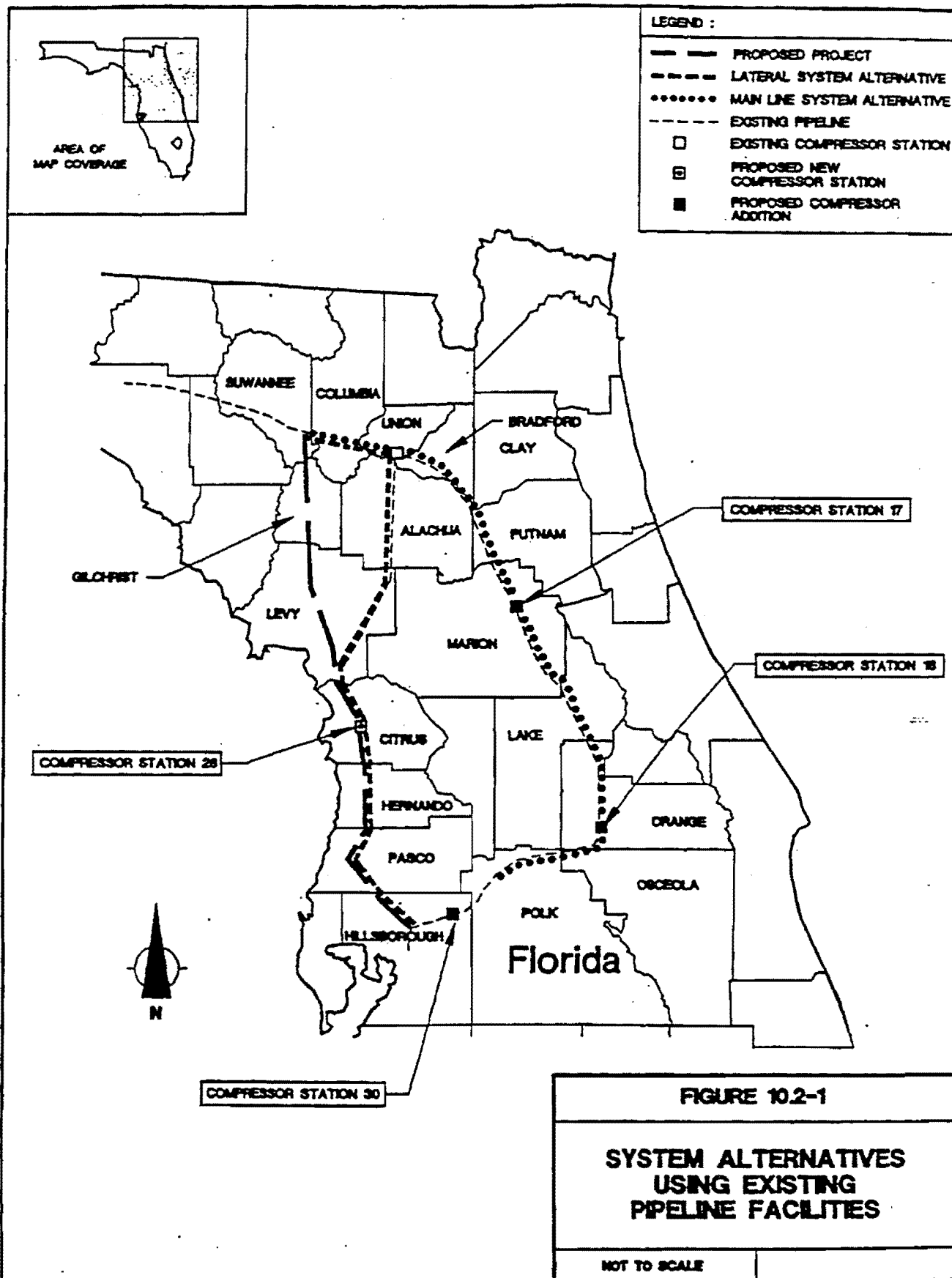
Identify and compare the potential impacts associated with using alternative fuels rather than natural gas. Include relative impacts on air quality (*e.g.*, oil versus natural gas), relative transportation impacts (*e.g.*, coal versus natural gas), and relative environmental and economic impacts associated with the construction of natural gas-based versus alternative fuel-based facilities. As with other no-action alternatives, provide a clear statement of the advantages of natural gas, including technological, environmental, economic, and scheduling considerations which led to rejection of energy alternatives.

10.2 System Alternatives

System alternatives would meet the objectives of the project, but would use a different (and often existing) natural gas pipeline system or a different configuration of pipeline facilities that would obviate the need to construct all or part of the project. Although some modifications or additions may be required, the environmental impact of these modifications could be less than that associated with construction of the project. These modifications can include construction of additional compression facilities, either at new or existing compressor stations, construction of additional pipeline loops, or construction of new segments of pipeline to interconnect existing pipeline systems.

System alternatives should be analyzed for large projects and for projects where there are significant concerns about the disturbance of a particular resource. System alternatives can include pipeline system alternatives that may reduce overall environmental impact (*e.g.*, looping or new pipeline along other pipeline systems), alternative pipe diameters or compression scenarios that may reduce pipeline or compression requirements (*e.g.*, different pipe diameter and compression to meet the requirements of the project), or alternative placement of pipeline loop that may avoid sensitive resource areas (*e.g.*, upstream or downstream of the loop location).

The description of alternative pipeline systems should include a map identifying the location of existing pipelines to be used, any new pipeline which would be required, and new or additional compression facilities. The map used should be of a scale which also provides coverage of the corresponding segment of the project. Figure 10.2-1 shows a typical map of a proposed project and two pipeline system alternatives.



The analysis of pipeline system alternatives should include a comparative table which presents the characteristics and environmental factors of the pipeline system alternative(s) and the corresponding segment of the proposed project. Table 10.2-1 is an example of a comparison of the characteristics and environmental factors of the pipeline system alternatives shown on figure 10.2-1.

TABLE 10.2-1
Comparison of System Alternatives

	Unit	Proposed Project	Lateral System Alternative	Mainline System Alternative
<u>Pipeline and Compression Facilities</u>				
Total length	(mi)	166.1	191.8	187.6
New pipeline	(mi)	166.1	97.4	0.0
Loop pipeline				
36-inch-diameter pipe	(mi)	0.0	31.4	60.9
30-inch-diameter pipe	(mi)	0.0	63.0	126.7
Total compressor stations				
Upgraded	(no.)	0	0	3
New	(no.)	1	1	0
Total compression:				
Upgraded	(hp)	0	0	20,000
New	(hp)	7,700	7,323	0
<u>Environmental Factors</u>				
Construction right-of-way <u>a/</u>	(ac)	1,510	1,744	1,706
Permanent right-of-way <u>b/</u>	(ac)	1,007	877	341
Length adjacent to existing right-of-way	(percent)	76	94	100
Total wetlands crossed <u>c/</u>	(mi)	7.1	6.5	11.5
Forested wetlands	(mi)	3.6	3.3	8.4
Scrub-shrub wetlands	(mi)	3.5	3.2	3.1
Wetland complexes crossed	(no.)	100	98	148
Total perennial waterbodies crossed	(no.)	35	38	46
Major river crossings (> 100 feet)	(no.)	5	6	1
Natural and scenic rivers	(no.)	4	4	0
Endangered or threatened species habitat	(no.)	1	1	0
Federal land crossed	(mi)	0.0	0.0	40.6
State land crossed	(mi)	1.3	1.3	0.0
Other recreation/designated land use areas	(no.)	2	2	2
Length of crossing	(mi)	0.7	0.7	1.8
Existing residences within 50 feet of construction work area	(no.)	180	201	343
NO _x emissions per year	(ton)	56	59	387

a/ Based on a 75-foot-wide construction right-of-way.

b/ Based on a 50-foot-wide right-of-way for the proposed project; a 15- to 50-foot wide right-of-way for the Lateral System Alternative; and a 15-foot-wide right-of-way for the Mainline System Alternative.

c/ All wetland information is based on NWI mapping.

The text should describe the environmental factors affected and should present a comparative analysis of the characteristics of the system alternative(s) and the corresponding segment of the project. Also, include a clear statement of the advantages of the project, including economic, environmental, technical, and scheduling advantages, which led to the rejection of each system alternative.

The description of alternative pipe diameters and compression scenarios, or alternative placement of pipeline loop, should clearly identify and compare the alternative(s) considered and the corresponding segment of the project. Maps and tables as described above may be used as necessary to illustrate or summarize the comparative information. Again, include a clear statement of the advantages of the project and the reasons for rejecting the alternatives.

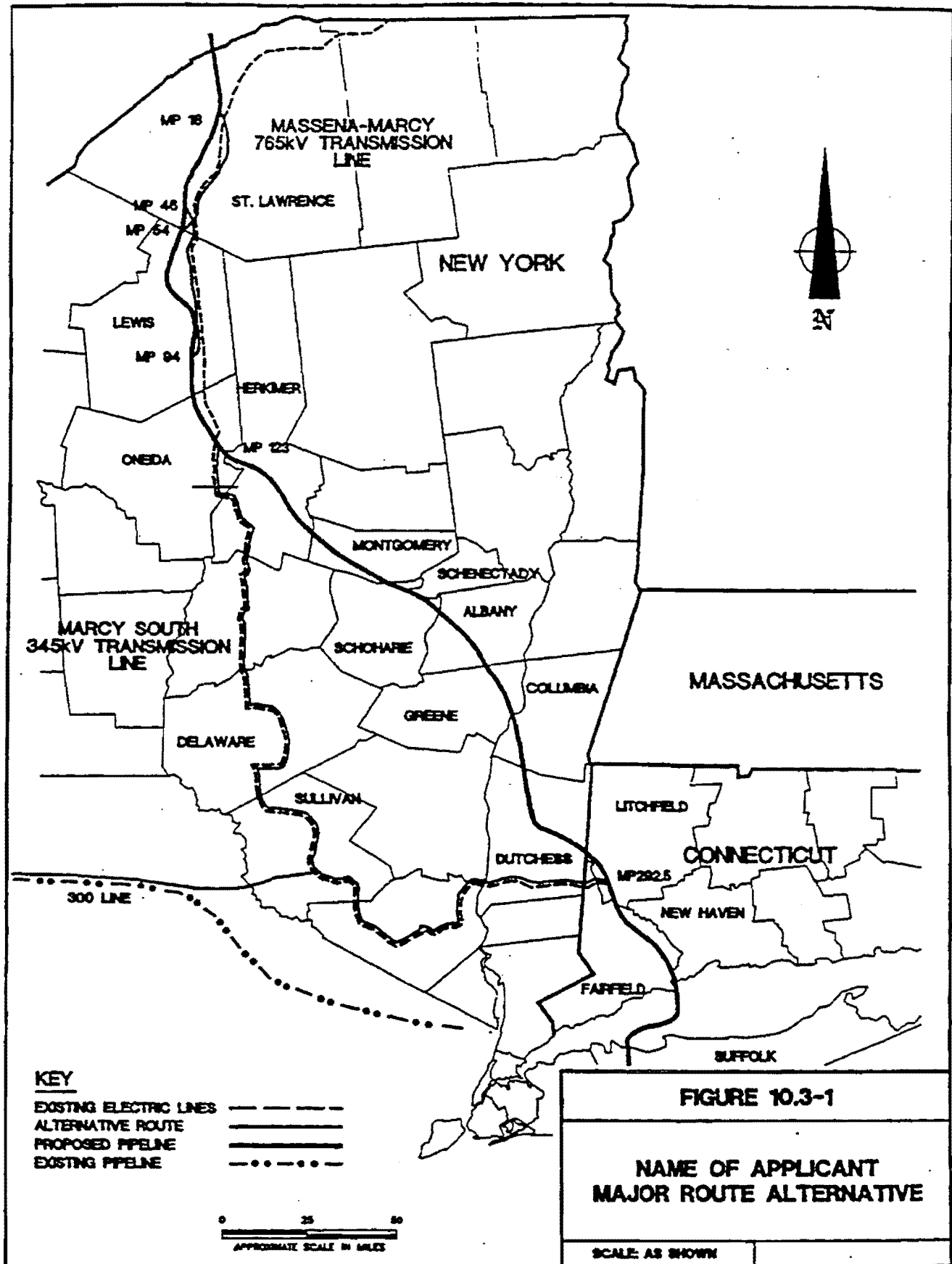
10.3 Route Alternatives

Route alternatives include alignments which differ from those of the project as filed. The discussion of these alternatives should address routes which were considered, but rejected, during the selection of the preferred route. This includes alternative routes identified, but rejected, because of environmental, economic, or technical reasons and alternative routes considered a viable means of accomplishing the same objectives as the preferred route, but not considered preferable.

Route alternatives may include "major route alternatives" which deviate from the preferred route for an extended distance (*e.g.*, for several miles) or are several miles away from the preferred route. Major route alternatives typically are geographically different routes and are primarily considered for new pipeline projects. Route alternatives may also include "route variations or deviations" that are identified to avoid and resolve localized resource issues (*e.g.*, cultural resource sites, wetlands, and residential areas). While route variations may be a number of miles in length, they are typically short and located relatively close to the preferred route. Route variations are typically considered for either new or looping pipeline projects.

10.3.1 Major Route Alternatives

Major route alternatives should be addressed in sufficient detail to justify the decision to eliminate them from detailed consideration. Present the location of each major route alternative on a map of a scale that covers both the alternative route and the corresponding route segment of the preferred route (see figure 10.3-1 for an example).



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The text should generally describe the location of the major route alternative, including the mileposts (of the preferred route) at which the major route alternative deviates from and rejoins the preferred route, and the environmental characteristics of the major route alternative and the corresponding segment of the preferred route. The environmental characteristics should include as many of the factors listed on table 10.3-1 as can reasonably be calculated or obtained from published sources, such as USGS or NWI maps, or consultations with Federal, state, or county agencies. Generally limit agency contacts for data collection to those necessary to identify regional resources (*i.e.*, endangered and threatened species habitat, location of historic districts or documented cultural resource sites, public lands, etc.).

TABLE 10.3-1

Environmental Factors That May Be Considered for Analysis of Route Alternatives/Variations

Environmental Factor	Unit ^{a/}	Preferred Route	Route Alternative/ Variation
Total length	(mi)		
Type of right-of-way:			
New right-of-way	(mi)		
Adjacent to existing pipeline right-of-way (e.g., loop)	(mi)		
Adjacent to other existing rights-of-way (i.e., powerline, road, etc.)	(mi)		
Right-of-way requirements:			
Construction right-of-way	(ac)		
Permanent right-of-way	(ac)		
Wetlands:			
Forested wetlands	(mi)		
Scrub-shrub wetlands	(mi)		
Wetland complexes	(no.)		
Waterbodies:			
Total perennial waterbodies	(no.)		
Major river crossings (> 100 feet)	(no.)		
Designated natural and scenic rivers	(no.)		
Significant fisheries	(no.)		
Ponds/lakes	(no.)		
Federally listed endangered or threatened species:			
Habitat	(mi)		
Species	(no.)		
Cultural resources:			
National Historic Landmarks	(no.)		
NRHP-listed properties	(no.)		
Unlisted/potentially eligible properties	(no.)		
Land use:			
Forest	(mi)		
Agricultural	(mi)		
Open (e.g., rangeland, pasture, open space)	(mi)		
Residential	(mi)		
Commercial/industrial	(mi)		
Other (i.e., recreation, historic districts, etc.)	(mi)		
Residences:			
Within 50 feet of construction work area	(no.)		
Federal land:			
National Forests	(mi)		
Bureau of Land Management	(mi)		
Indian reservations	(mi)		
Other (i.e., wilderness areas, parks, flood storage control land, etc.)	(mi)		
State land:			
State forests/parks	(mi)		
Wildlife management areas	(mi)		
Other (i.e., parks, open space, etc.)	(mi)		
Trails:			
National Trails (i.e., Appalachian Trail, etc.)	(no.)		
Other (i.e., snowmobile, hiking, biking, etc.)	(no.)		
Recreation or other designated land use areas:			
Ballfields, campgrounds, landfills, quarries, etc.	(mi)		
Paleontological resource sites	(no.)		

^{a/} Unit may be miles or feet depending on the length of the alternative considered.

Discuss the characteristics of the major route alternative relative to the characteristics of the corresponding segment of the preferred route. Also compare the technical and economic characteristics of the major route alternative with those of the preferred route. Finally, provide a clear statement of the reasons why the major route alternative was considered inferior to the preferred route.

10.3.2 Route Variations or Deviations

Typically, route variations or deviations are the result of more detailed field review. They should be identified prior to filing of the application, if at all possible, or as early as practicable. The need for route variations might arise at any time during the review process, from the initial filing up to construction, as localized resource issues are identified.

For example, on a looping project, the application may be filed showing a preferred route that deviates from the existing pipeline right-of-way to avoid a residence. In this case, the application would include a comparison of the preferred route that avoids the residence and a route variation that follows the existing pipeline right-of-way. Alternatively, the application may be filed showing a preferred route that follows the existing pipeline right-of-way, but further field review identifies a new residence within the construction work area. To avoid the residence, a route variation is identified that would not significantly affect other environmental resources and is considered superior to the original preferred route. In this case, the route variation should be filed as the revised route and should be compared with the original route.

Since route variations are considered to resolve localized resource issues (*i.e.*, wetlands, residences, cultural resource sites, etc.), they are normally much shorter than major route alternatives and should be carried to a greater level of detailed analysis. This generally requires more contact with governmental agencies and private entities, more field review, more detailed map analysis, and a comparison of the pertinent environmental factors listed in table 10.3-1.

Each route variation should be presented on 7.5-minute-series USGS topographic maps or alignment sheets that include both the route variation and the corresponding segment of the preferred route (see figure 10.3-2). The text should include a description of the resource issue, a comparison of the environmental characteristics of the route variation and the preferred route, and a clear statement of the overall advantages of the preferred route. A table of the environmental characteristics of the route variation and the preferred route should be included where a number of environmental factors are considered.

10.4 Alternative Sites

For all new major aboveground facilities, particularly LNG plants or compressor stations, alternative sites should be considered and discussed. The consideration of alternative sites is necessary if specific problems are identified with a new site, such as loss of over 5 acres of prime farmland soils, land use incompatibility, location within designated flood storage land, proximity to NSAs, or presence of wetlands, critical habitat, endangered or threatened species, or NRHP-eligible cultural resources.

Describe the procedure used to identify the preferred site. Identify and discuss the decision criteria and weighting used at each decision point and clearly state the basis for each decision. Provide maps of the locations of the preferred and most viable alternative sites. The analysis and comparison of environmental characteristics of the alternative sites should include a discussion of the following factors:

- new station versus additional compression at existing station(s);
- area (acres) required;
- land use (*e.g.*, wetland, agriculture, pasture, forest);
- designated land uses (*e.g.*, flood storage);
- amount of prime farmland soils;
- presence of critical habitat or federally endangered or threatened species;
- presence of NRHP-eligible sites;
- zoning (*e.g.*, industrial, residential, agriculture);
- miles of pipeline required to reach site;
- number of NSAs;
- location of nearby NSAs;
- air quality considerations;
- noise considerations;
- technical considerations; and
- economic considerations.

As with alternative routes, discuss technical and economic characteristics of the alternative sites and compare them with the preferred site. Include a clear statement of why the alternative sites are considered unreasonable.

Resource Report 11 - Reliability and Safety

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Describe how the project facilities would be designed, constructed, operated, and maintained to minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes.	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1/ D Applicant		2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report is required for all applications and should address the potential hazard to the public from failure of project components resulting from accidents (e.g, risk of explosion from natural gas pipeline failures, risk of gas migration from storage reservoirs, or injection/withdrawal well failures) and natural catastrophes (i.e., earthquakes, landslides, etc). This Resource Report should address how these events would affect reliability, what procedures and design features would be used to avoid undue hazards or effects, and what measures, including equipment, training, and emergency notification procedures, would be implemented to protect the public from failure of the project due to accidents or natural catastrophes.

Submit the required certification that project facilities will be designed, constructed, operated, and maintained in accordance with U.S. Department of Transportation (DOT) Minimum Federal Safety Standards specified in 49 CFR Part 192. For controversial pipeline projects and LNG projects, discuss how the company complies with the safety standards that require each pipeline operator to:

- develop an emergency plan with local fire departments and other agencies to identify personnel to be contacted, equipment to be mobilized, and procedures to be followed to respond to a hazardous condition caused by the pipeline;
- establish and maintain liaison with the appropriate fire, police, and public officials to coordinate mutual assistance during emergencies; and
- establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a natural gas pipeline emergency and report it to appropriate public officials and the company.

Also discuss procedures for aerial surveillance flights, on-ground leak detection surveys, internal pipeline inspection with pigging equipment, and cathodic protection; and programs to monitor and certify reservoir pressure and storage wells, if appropriate.

If LNG facilities are being proposed, the Resource Report must also contain:

- a description of measures, including equipment, training, and liaison with local authorities, to be used to protect the public from failure of the proposed facilities as a result of accidents or natural catastrophes;
- a discussion of hazards, the environmental impact, and service interruptions which could reasonably ensue from failure of the proposed facilities as a result of accidents or natural catastrophes;
- a discussion of design and operational measures to avoid or reduce risk associated with accidents or natural hazards such as violent storms, floods, landslides, and earthquakes;
- a discussion of contingency plans for maintaining service or reducing downtime as a result of accidents or natural catastrophes;
- a description of measures to exclude the public from hazardous areas. Discuss measures to minimize problems arising from malfunctions and accidents (with estimates of probability of occurrence). Identify standard procedures for protecting services and public safety during maintenance and breakdowns; and
- a list of all publications, reports, and other literature or communications which were cited or relied upon to prepare the report. The list of communications and agency contacts should include the name and title of the person contacted, their affiliation, and telephone number.

Resource Report 12 - PCB Contamination

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES <u>1/</u>	WHEN NEEDED BY STAFF <u>2/</u>		
		1	2	3
<input type="checkbox"/> For projects involving the replacement or abandonment of facilities determined to have PCBs, provide a statement that activities would comply with an approved EPA disposal permit or with the requirements of the TSCA.	J	■	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> For compressor station modifications on sites that have been determined to have soils contaminated with PCBs, describe the status of remediation efforts completed to date.	J	■	<input type="checkbox"/>	<input type="checkbox"/>
<u>1/</u> J EPA		<u>2/</u> 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction		

This Resource Report is required for applications involving the replacement, abandonment by removal, or abandonment in place of facilities determined to have PCBs in excess of 50 parts per million in pipeline liquids. A detailed Resource Report on PCB contamination/disposal is unnecessary if the company has received an "Approval to Remove Natural Gas Pipeline Contaminated with PCBs and Dispose of PCBs" permit from the EPA. The date of the EPA approval must be identified. If the company has not received a permit, consult with us.

For compressor station modifications, determine if the compressor station site has been listed on the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System because of soils contaminated with PCBs. If the site is listed, describe remediation efforts completed to date or when remediation will be completed. Provide copies of correspondence documenting investigations, work plan approvals, submittal of closure reports, and the EPA determinations.

Resource Report 13 - Additional Information Related to LNG Plants

SUMMARY OF FILING INFORMATION				
INFORMATION	DATA SOURCES 1/	WHEN NEEDED BY STAFF 2/		
		1	2	3
<input type="checkbox"/> Provide detailed engineering materials, see below.	D	■	<input type="checkbox"/>	<input type="checkbox"/>
1/ D Applicant	2/ 1 To Begin Analysis 2 To Complete Analysis 3 To Clear for Construction			

If the applicant is proposing to construct new LNG facilities, or recommission existing LNG facilities, the 12 Resource Reports previously discussed must be prepared and submitted. In addition, a report containing detailed engineering and design material as listed below must be prepared and submitted. If the recommissioned facility is existing and is not being replaced, relocated, or significantly altered, resubmittal of information already on file with the Commission is unnecessary, provided the applicant verifies that the information is still valid. The engineering and design material report shall include:

- a detailed plot plan showing the location of all major components to be installed, including compression, pretreatment, liquefaction, storage, transfer piping, vaporization, truck loading/unloading, vent stacks, pumps, and auxiliary or appurtenant service facilities;
- a detailed layout of the fire protection system showing the location of fire water pumps, piping, hydrants, hose reels, dry chemical systems, high expansion foam systems, and auxiliary or appurtenant service facilities;
- a layout of the hazard detection system showing the location of combustible-gas detectors, fire detectors, heat detectors, smoke or combustion product detectors, and low temperature detectors. Identify those detectors that activate automatic shutdowns and the equipment that would shutdown. Include all safety provisions incorporated in the plant design, including automatic and manually activated emergency shutdown systems;
- a detailed layout of the spill containment system showing the location of impoundments, sumps, subdikes, channels, and water removal systems;
- manufacturer specifications, drawings, and literature on the fail-safe shut-off valve for each loading area at a marine terminal (if applicable);
- a detailed layout of the fuel gas system showing all taps with process components;
- copies of company, engineering firm, or consultant studies of a conceptual nature that show the engineering planning or design approach to the construction of new facilities or plants;

- engineering information on major process components related to the first six bulleted items of this section, which include (as applicable) function, capacity, type, manufacturer, drive system (horsepower, voltage), operating pressure, and temperature;
- manuals and construction drawings for LNG storage tank(s);
- up-to-date piping and instrumentation diagrams. Include a description of the instrumentation and control philosophy, type of instrumentation (pneumatic, electronic), use of computer technology, and control room display and operation. Also, provide an overall schematic diagram of the entire process flow system, including mass, material, and energy balances;
- engineering information on the plant's electrical power generation system, distribution system, emergency power system, uninterruptible power system, and battery backup system;
- identification of all codes and standards under which the plant (and marine terminal, if applicable) will be designed, and any special considerations of safety provisions that were applied to the design of plant components;
- a list of all permits or approvals from local, state, Federal, or Indian agencies required prior to and during construction of the plant, and the status of each, including the date filed, the date issued, and any known obstacles to approval. Include a description of data records required for submission to such agencies and transcripts of any public hearings by such agencies. Also provide copies of any correspondence relating to the actions by all, or any, of these agencies regarding all required approvals;
- identification of how each applicable requirement of 49 CFR Part 193 and National Fire Protection Association 59A LNG Standards will be complied with. For new facilities the siting requirements of 49 CFR Part 193, Subpart B must be given special attention. If applicable, vapor dispersion calculations from LNG spills over water should also be presented to ensure compliance with the U.S. Coast Guard's LNG regulations in 33 CFR Part 127; and
- Data Requirements for the Seismic Review of LNG facilities (NBSIR 84-2833 available from OPR) that would be located in zone 2, 3, or 4 of the Uniform Building Code Seismic Risk Map of the U.S.

3.0 PREPARATION OF APPLICANT-PREPARED DRAFT ENVIRONMENTAL ASSESSMENTS FOR NATURAL GAS ACT SECTION 7 APPLICATIONS

Applicants may prepare their own DEA in addition to the ER. This option must involve close coordination with us during the pre-filing stages to maximize the potential benefit in time savings. Using this method, the application submitted would include an ER and an applicant-prepared DEA with the objective of accelerating our review and finalization of the EA. Rather than reviewing the ER and then preparing an EA, staff would analyze and verify the data in the ER to ensure that it supports the DEA; make appropriate adjustments and revisions; and develop recommendations as necessary to prepare a final EA for the Commission's use. Because we would not have to develop the EA from scratch, but would be able to use correctly presented information from the applicant-prepared DEA, significant time savings could be realized. However, the supporting ER must be complete, accurate, and fully in compliance with the requirements for an ER.

The Commission has issued an *Interim Guideline for Applicant-prepared Draft Environmental Assessments* that provides the detailed requirements for the data, analysis, format, and presentation for an applicant-prepared DEA. A copy of this document is available from OPR.

4.0 PREPARATION OF THIRD-PARTY ENVIRONMENTAL DOCUMENTS FOR NATURAL GAS ACT SECTION 7 APPLICATIONS

In February 1994, the Commission announced the beginning of a voluntary third-party contracting program. An applicant seeking authority to build natural gas facilities may now fund a third-party contractor to assist the Commission in reviewing the environmental aspects of an application and preparing the environmental documents required by NEPA.^{1/}

In the context of the Commission's program, "third-party contracting" involves the use of an independent contractor to assist the staff in its environmental analyses and review of a proposal. Under this voluntary program, the independent contractor is:

- selected by and works under the direct supervision and control of us;
- responsible for conducting environmental analyses and preparing documentation, including EAs and EISs; and
- paid by the project applicant(s).

Third-party contracting provides both OPR and project applicants with additional flexibility in satisfying the Commission's NEPA responsibilities.

The *Handbook for Using Third-party Contractors to Prepare Environmental Assessments and Environmental Impact Statements* is available from OPR.

^{1/} See News Release issued February 9, 1994. Subsequent announcements were published in the Commerce Business Daily (March 25, 1994) and the Federal Register (April 20, 1994).

5.0 PREPARATION OF OTHER NATURAL GAS ACT AND NATURAL GAS POLICY ACT FILINGS

This section describes the environmental requirements for filings submitted under Subpart F of Part 157 (blanket certificates) of the NGA, Subpart A of Part 284 (transportation services under the NGPA), and § 2.55 of the NGA (replacement of deteriorated or obsolete facilities).

Since the environmental requirements of § 157.206(d) are common to most filings under these regulations, section 5.1 summarizes the requirements of § 157.206(d). The remaining sections identify the recommended environmental reporting requirements for projects filed under each of the above-listed regulations.

5.1 STANDARD ENVIRONMENTAL CONDITIONS UNDER BLANKET CERTIFICATES - SECTION 157.206(d)

This section of the regulations states that the company will adopt the guidelines set forth in § 2.69 and that all activities will be consistent with the provisions of the following statutes and regulations as amended:

- Clean Water Act
- Clean Air Act and the National Pollutant Discharge Elimination System Program
- National Historic Preservation Act of 1966 (NHPA)
- Archeological and Historic Preservation Act of 1974
- Coastal Zone Management Act of 1972 (CZM)
- Endangered Species Act of 1973 (ESA)
- Executive Order 11,988 (May 24, 1977) requiring Federal agencies to evaluate the potential effects of any actions it may take on a floodplain
- Executive Order 11,990 (May 24, 1977) requiring an evaluation of the potential effects of construction on wetlands
- Wild and Scenic Rivers Act
- National Wilderness Act
- National Parks and Recreation Act of 1978

In addition, the project:

- shall not affect listed endangered species or its critical habitat protected under 16 USC 1536;
- shall have no effect on any cultural resource property protected under 16 USC 470f;
- must comply with the state's coastal zone management plan unless the appropriate state agency waives its right of review, if applicable;
- shall not have a significant adverse impact on a sensitive environmental area;
- the noise attributable to any compressor facility installed pursuant to a blanket certificate shall not exceed an L_{dn} of 55 dBA at any NSA (such as schools, hospitals, or residences) unless the NSA is established after facility construction; and
- shall not be authorized if the activity is located within 0.5 mile (projects authorized under § 157.208 only) or 2.0 miles (projects authorized under § 157.215 only) of a nuclear power plant

which is either operating or under construction, or for which a construction permit has been filed with the Nuclear Regulatory Commission.

5.2 BLANKET CERTIFICATE - SUBPART F OF PART 157 (NGA)

This is the NGA blanket certificate program where construction or abandonment activities may be authorized under one of several sections (§ 157.208, construction, miscellaneous rearrangement, or replacement of facilities; § 157.211, construction of sales taps; § 157.212, construction of delivery points; § 157.215, underground storage testing and development; or § 157.216, abandonments). The blanket certificate program requires that all projects must be completed in compliance with § 157.206(d) and that an Annual Report (as specified by § 157.207) must be filed by May 1 on all activities completed during the previous calendar year. In addition, except for activities completed under § 157.215, certain types of projects require 30-day prior notice to the Commission before start of construction.

5.2.1 Annual Report (§ 157.208(a), § 157.211(a)(1), § 157.212, § 157.215, or § 157.216(a))

Projects that qualify for automatic authorization are those that: a) do not exceed the cost limit specified in column 1 of Table I of § 157.208(d) (less than \$6,700,000 in 1995) for projects constructed under § 157.208; b) meet the requirements of the applicable subsections of § 157.211, § 157.212, or § 157.216; or c) are constructed under § 157.215. These projects are reported on an annual basis in an Annual Report that is due by May 1 of each year.

For projects constructed under § 157.208(a) and § 157.215, provide a description of the contacts made, reports produced, and results of consultations completed to comply with the ESA, NHPA, and CZM before construction. Provide the date and name of the agency that cleared the project. Actual documentation is not required.

For projects constructed under § 157.211, § 157.212, and § 157.216, no additional environmental information is required.

5.2.2 Prior Notice Filings (§ 157.208(b))

Projects that require prior notice under § 157.208(b) are those that cost more than the limitations set forth in column 1 but less than the amount specified in column 2 of Table I in § 157.208(d) (from \$6,700,000 to \$18,400,000 in 1995). For these projects, a concise analysis of the relevant issues outlined in Appendix A of Part 380 is required in addition to a general description of the activity that is to take place. For projects to be completed under this section, include the following environmental information for each project:

- a description of the facilities, including the length and diameter of the pipeline, compressor horsepower, metering facilities, taps, valves, etc.;
- the specific purpose of the facilities;
- a general location map (showing the facilities in relation to existing facilities);
- USGS 7.5-minute-series topographic maps (showing the location of each facility);
- the anticipated start and end dates of construction;
- a concise analysis summarizing the existing environmental conditions, the anticipated significant impacts as a result of construction of the facilities, and mitigation measures proposed to reduce

or avoid impact on the quality of the human environment, including impact on sensitive environmental areas;

- a statement that the project will comply with the requirements of § 157.206(d), including, for compression facilities, the Clean Air Act and the applicable state implementation plans developed under the Clean Air Act, and the L_{dn} of 55 dBA at any NSA;
- copies of correspondence or documentation of consultation with the FWS, SHPO, and appropriate state coastal zone management agency as described above under reporting requirements for Annual Reports; and
- copies of all reports or studies produced to comply with the ESA, the NHPA, and the CZM.

5.2.3 Prior Notice Filings (§ 157.211(a)(2), § 157.212, and § 157.216(b))

Although the regulations do not specifically require the filing of environmental information for construction or abandonment of facilities under these sections, the standard environmental conditions of § 157.206(d) apply to these projects. However, the following environmental information will assist us in our review:

- a description of the activity and its purpose;
- the anticipated start and end dates of activity;
- the county and state where the activity will take place;
- a general location map of where the activity will take place (copies of pipeline system maps or USGS topographic maps are acceptable provided that enough detail is included to allow us to locate the facilities in the field);
- a statement that the project will comply with the requirements of § 157.206(d) before construction; and
- copies of correspondence or documentation of consultation (e.g., telephone conversations or meetings) with the:
 - FWS (see Appendix I of § 156.206(d)(3)(i));
 - SHPO (see Appendix II of § 156.206(d)(3)(ii)); and
 - consistency determination from the appropriate agency that administers the state's coastal zone management plan, if applicable.

5.3 NGPA SECTION 311 PROJECTS - SUBPART A OF PART 284

This section covers projects requiring construction or abandonment by removal to provide transportation under the NGPA. All activities must comply with the requirements of § 157.206(d). All projects must be reported in an Annual Report or a 30-day Advance Notification.

5.3.1 Annual Report

An Annual Report of all activities completed during the previous calendar year must be filed by May 1 for projects that do not exceed the cost limit specified in column 1 of Table I of § 157.208(d) (less than \$6,700,000

in 1995). For each project constructed under NGPA Section 311, provide the following environmental information as specified in § 284.11(c) and described below:

- a description of the facilities including pipeline size and length, compressor horsepower, capacity, and cost);
- USGS 7.5-minute-series topographic maps showing the location of each facility;
- evidence of having complied with each provision of § 157.206(d), including copies of "no effect" for compliance with the ESA, NHPA, and CZM; and
- a description of the procedures to be used for erosion control, revegetation and maintenance, and stream and wetland crossings (a plan must be submitted that covers all of the listed elements, but it does not have to be our recommended Plan and Procedures).

5.3.2 Advance Notifications

For projects that exceed the cost limit specified in column 1 but are less than the amount specified in column 2 of Table I in § 157.208(d) (over \$6,700,000 in 1995), the company must notify the Commission at least 30 days before beginning construction of that project. For these projects, file the same environmental information identified in section 5.3.1 above.

5.4 REPLACEMENT PROJECTS - SECTION 2.55 (NGA)

This section covers replacement projects. There is no requirement to comply with § 157.206(d). No report is required for projects that only involve aboveground replacement, and do not involve compression facilities or the use of earthmoving equipment. However, all replacement facilities must be constructed within the existing right-of-way or an existing compressor station as recently clarified in the Commission's Orders on Docket Nos. CP91-2069-001 (issued 1/17/95) and CP91-2069-000 (issued 5/12/94) and the Director of OPR's guidance (Docket No. CP95-189-001 issued 3/15/95).

An Annual Report must be filed by May 1 for all replacement projects completed during the previous calendar year that do not exceed the cost limit specified in column 1 of Table I of § 157.208(d) (less than \$6,700,000 in 1995) or that require immediate replacement to comply with DOT safety regulations. If a project exceeds the cost limitation (over \$6,700,000 in 1995), an Advance Notification must be filed at least 30 days before beginning construction.

For both the Annual Report and Advance Notification, the following information will assist us in our review of each project:

- a description of the facilities, including the pipeline length and diameter, capacity and cost, compressor horsepower, metering facilities, taps, valves, etc.;
- the specific reason for replacement of the facilities;
- for 30-day notifications, a general location map (showing the facilities in relation to existing facilities);
- USGS 7.5-minute-series topographic map (showing the location of each facility);
- the actual (or anticipated) start and end dates of construction; and

- a description of the procedures to be used for erosion control, revegetation and maintenance, and stream and wetland crossings (a plan must be submitted, but it does not have to be our recommended Plan and Procedures).