# 2.0 Covered Lands and Covered Activities

## 2.1 Introduction

This MSHCP identifies the activities that NiSource plans to conduct during the duration of the 50 year ITP. A variety of these activities may cause take of species for which NiSource is therefore requesting incidental take authorization. Some activities, however, may not impact any species and other activities have been designed or modified to avoid or minimize impacts to the extent that take is not anticipated. NiSource has included in the MSHCP a general description of all NiSource activities within the planning area that: (1) may result in incidental take; (2) are reasonably certain to occur over the life of the permit; and (3) over which the applicant has some form of control. The activities covered in the MSHCP will maximize NiSource's long-term planning assurances, broaden legal coverage, and minimize future regulatory processing by dealing with the activities comprehensively. *See* Habitat Conservation Planning and Incidental Take Permit Processing Handbook, Fish and Wildlife Service and National Marine Fisheries Service (1996a) (HCP Handbook) at 3-12.

In this MSHCP, NiSource has included covered lands that are as large and comprehensive as is feasible to cover the majority of NiSource activities on the landscape. Although the acreage contemplated as covered lands is extensive, less than ten percent of the area will be impacted by the covered activities. The breadth of covered lands is necessary because NiSource cannot precisely predict the location of expansion or rerouting over the next 50 years. Nevertheless, the approach to covered lands allows NiSource to design its conservation measures holistically. Defining covered lands broadly allows an analysis of a wider range of factors affecting listed species, maximizes flexibility needed to develop innovative mitigation programs, and minimizes the burden of ESA compliance by replacing individual project review with comprehensive, area-wide review. *See* HCP Handbook at 3-11.

## 2.2 Description of Pipeline System

The NiSource operating territory traverses 14 States ranging from New York to Louisiana. The covered lands for NiSource's MSHCP overlay NiSource's onshore pipeline system in the states of Delaware, Indiana, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. This pipeline system includes approximately 15,562 miles of buried steel pipe ranging in diameter from 2 to 36 inches, 117 compressor stations with approximately 1.1 million in combined horsepower, and 6,236 measuring and regulating stations.

In addition, NiSource operates and maintains underground natural gas storage fields in conjunction with its pipeline system. Currently, NiSource operates 36 storage fields comprised of approximately 3,600 individual storage wells in Maryland, West Virginia, Ohio, Pennsylvania, and New York. **Figure 1-1** in Chapter 1 shows the general location of these facilities.

## 2.3 Covered Lands

In accordance with Service guidance, NiSource considered a number of criteria and several alternatives to determine the most appropriate covered lands for its MSHCP. The alternatives are discussed in more detail in Chapter 11. Approximately 95% of NiSource's annual projects will occur within its existing ROW (typically 50 feet wide with the buried pipe(s) generally in the center) and will result in little ground disturbance. However, as described more fully below in Section 2.3.3, because a portion of NiSource's annual activities required to operate, maintain, and expand its natural gas transmission system likely will deviate from NiSource's existing ROW; NiSource believes a one-mile-wide corridor centered on NiSource's existing facilities is the best approach for identifying the covered lands. **Figure 2-1** depicts this one-mile-wide corridor in relation to NiSource's existing facilities.

This one-mile corridor encompasses all of NiSource's onshore pipeline facilities and the majority of its existing storage fields. However, nine large storage fields that NiSource wishes to expand fall outside the one-mile corridor. NiSource will not be identifying the location of the storage fields because it has determined that information is highly-sensitive (for Homeland Security purposes) and constitutes confidential business information. Therefore, the covered lands have been defined to include, in their entirety, each of the 12 counties in which these storage fields occur, namely Hocking, Fairfield, Ashland, Knox, and Richland counties, Ohio; Bedford County, Pennsylvania; Allegany County, Maryland; Kanawha, Jackson, Preston, Marshall, and Wetzel counties, West Virginia. **Figure 2-2** shows the general location of the covered lands. **Figure 2-3** shows the twelve counties included in their entirety for storage field expansion.

Although a one-mile corridor and county boundaries for the twelve counties listed above are used to delineate the covered lands and to identify the potential presence of threatened and endangered species for inclusion in this MSHCP, the MSHCP does not contemplate unlimited construction or other surface disturbance within those counties or that corridor. **NiSource will not utilize, clear, or disturb the entire one-mile-wide corridor or storage field counties, or even a significant portion of such corridor or counties.** The one-mile corridor and county boundaries for select storage fields were chosen to provide needed flexibility for both the realignment of existing facilities to accommodate future forced relocations (typically resulting from public road construction/maintenance projects) and the minimization of environmental impacts while aligning future replacement and expansion projects. Actual surface disturbance associated with the covered activities will be far less than the covered lands in their entirety. NiSource has estimated annual acreage impacts from all its covered activities, and that information is contained in **Table 2-1** below. Further, NiSource has agreed to restrict, or completely avoid, activities in certain portions of the one-mile wide corridor where such activities would significantly impact certain species. Some areas within the one-mile wide corridor, within Cheat Mountain Salamander habitat, have been removed from the covered lands footprint as a means to avoid impacts on the species. This narrowing of the corridor footprint was completed in coordination with the Service. For the Louisiana Black Bear, areas that have been removed from the covered lands footprint result in minimizing the impact of activities.

As a result of agreeing to remove those areas of bear habitat from coverage for future activities (in conjunction with other avoidance and minimization measures), NiSource's covered activities are not likely to adversely affect the bear. Restrictions are further discussed in **Appendix F** for the Cheat Mountain Salamander and Louisiana Black Bear.

Of the approximately 9,783,200 acres of covered lands, NiSource anticipates only 964 acres of new disturbance and 18,505 acres of disturbance within the existing ROW (most of which is vegetation maintenance) on an annual basis. **This equates to a total annual disturbance of approximately 0.2% of the covered lands (0.19% within the existing ROW and 0.0092% in areas outside the existing ROW**). Thus, while the covered lands boundary represents the area for which NiSource seeks incidental take coverage for its covered activities, only a very small portion of the covered lands will actually be impacted by NiSource's activities. Furthermore, NiSource's activities will not occur all at the same time and location, but instead, will occur throughout the 50-year permit term and will be spread out over the covered lands, minimizing the impacts of such activities.

Although the covered lands represent the areas within which activities described in the MSHCP may take place, the direct and indirect effects of these activities will be fully evaluated regardless of where such effects occur (e.g., if sediment impacts extend within a river beyond the limits of the one-mile-wide corridor, they would still be evaluated). In addition, whenever NiSource plans to undertake activities beyond its existing ROW, all other required permits and landowner permission will be obtained prior to undertaking such activities.

### 2.3.1 Covered Lands Footprint

The onshore pipeline and storage field system for which NiSource is requesting coverage equals approximately 15,562 miles of linear facilities. With the addition of the twelve counties where the nine key storage fields are located, the total covered lands footprint is approximately 9,783,200 acres. NiSource anticipates it will impact much less than this total area over the permit term. Figure 2-2 shows the general location of these facilities.

The covered lands do not extend offshore into the Gulf of Mexico, but are limited to onshore NiSource facilities. For purposes of this MSHCP, onshore generally means above the high-tide line along coastal reaches. In a few instances, the covered lands boundary deviates from this high tide line. At the mouth of James River in Virginia, the boundary extends past (seaward) the high tide line in order to capture the area in which NiSource anticipates conducting pipeline activities (Figure 2-4). Along the Louisiana coastline, there are areas that have been removed from the covered lands, in essence "cut out" of the one-mile wide corridor, due to a desire to follow the line that represents the jurisdictional boundary between the Service and the National Marine Fisheries Service (NMFS) for ESA implementation (Figure 2-5). Due to these deviations, a small portion of NiSource's covered facilities are below the high-tide line. The covered lands for NiSource's MSHCP overlay the NiSource pipeline system in the 14 states listed in Section 2.2.

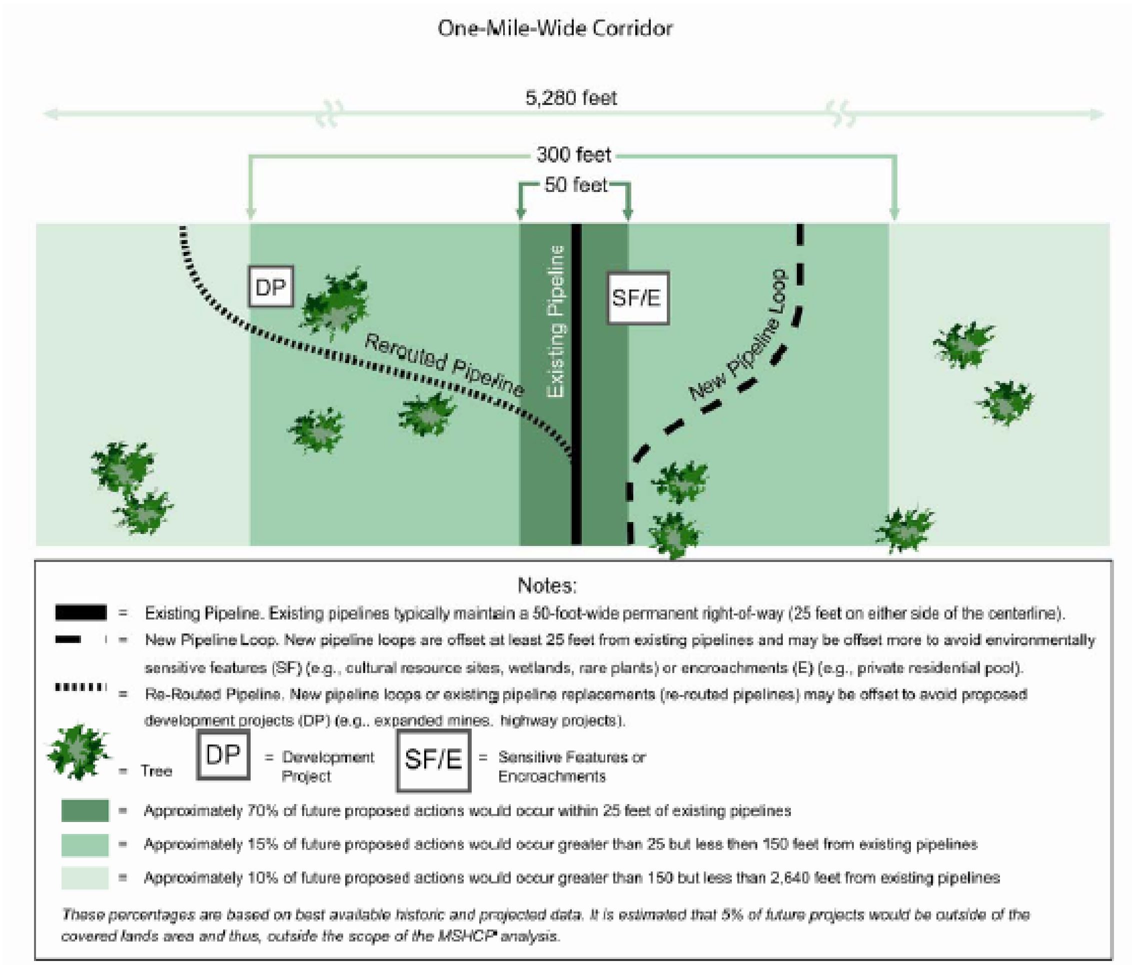


**Figure 2-1 One-Mile-Wide Corridor**

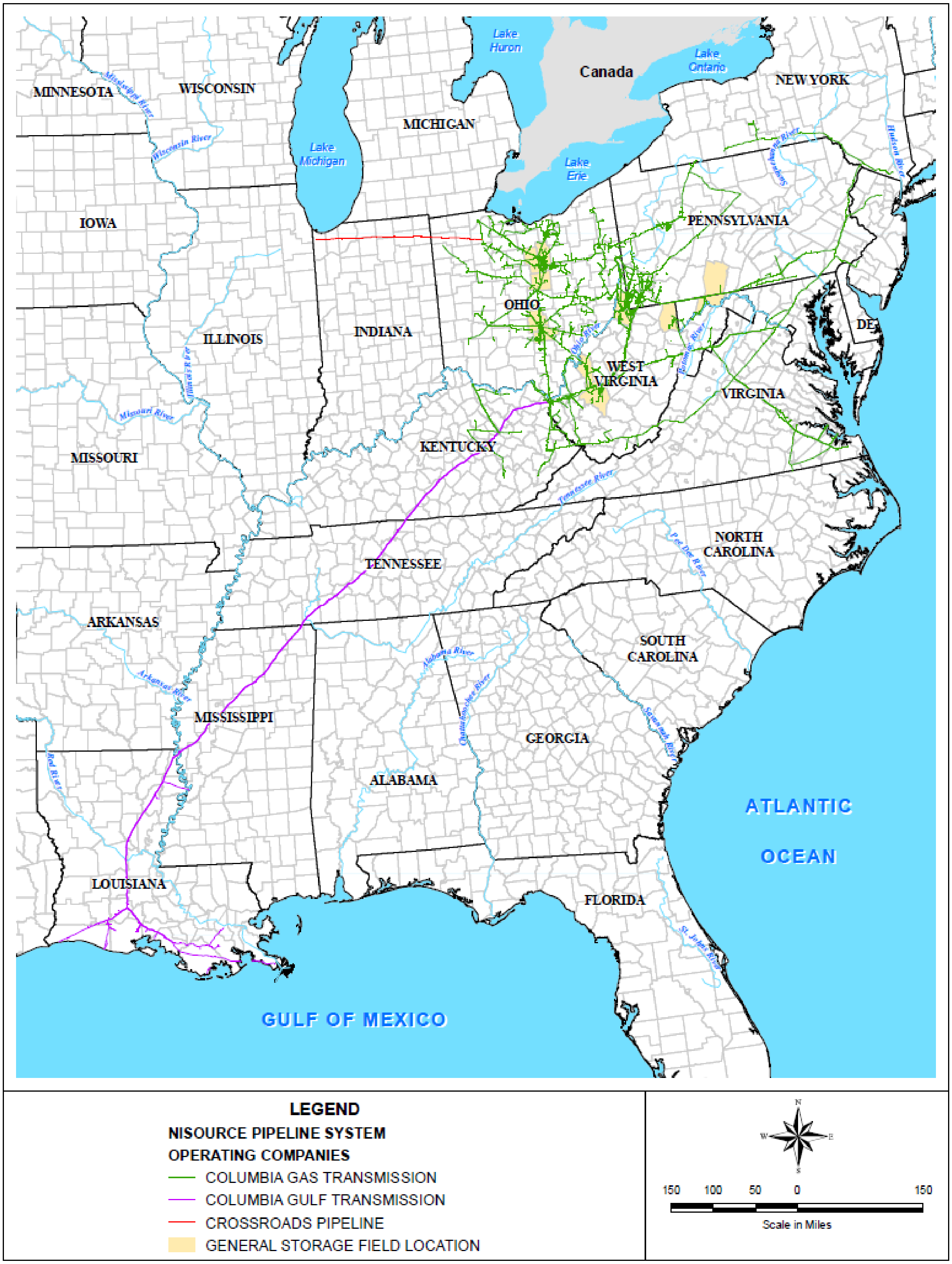


**Figure 2-2 General Location of Covered Lands**

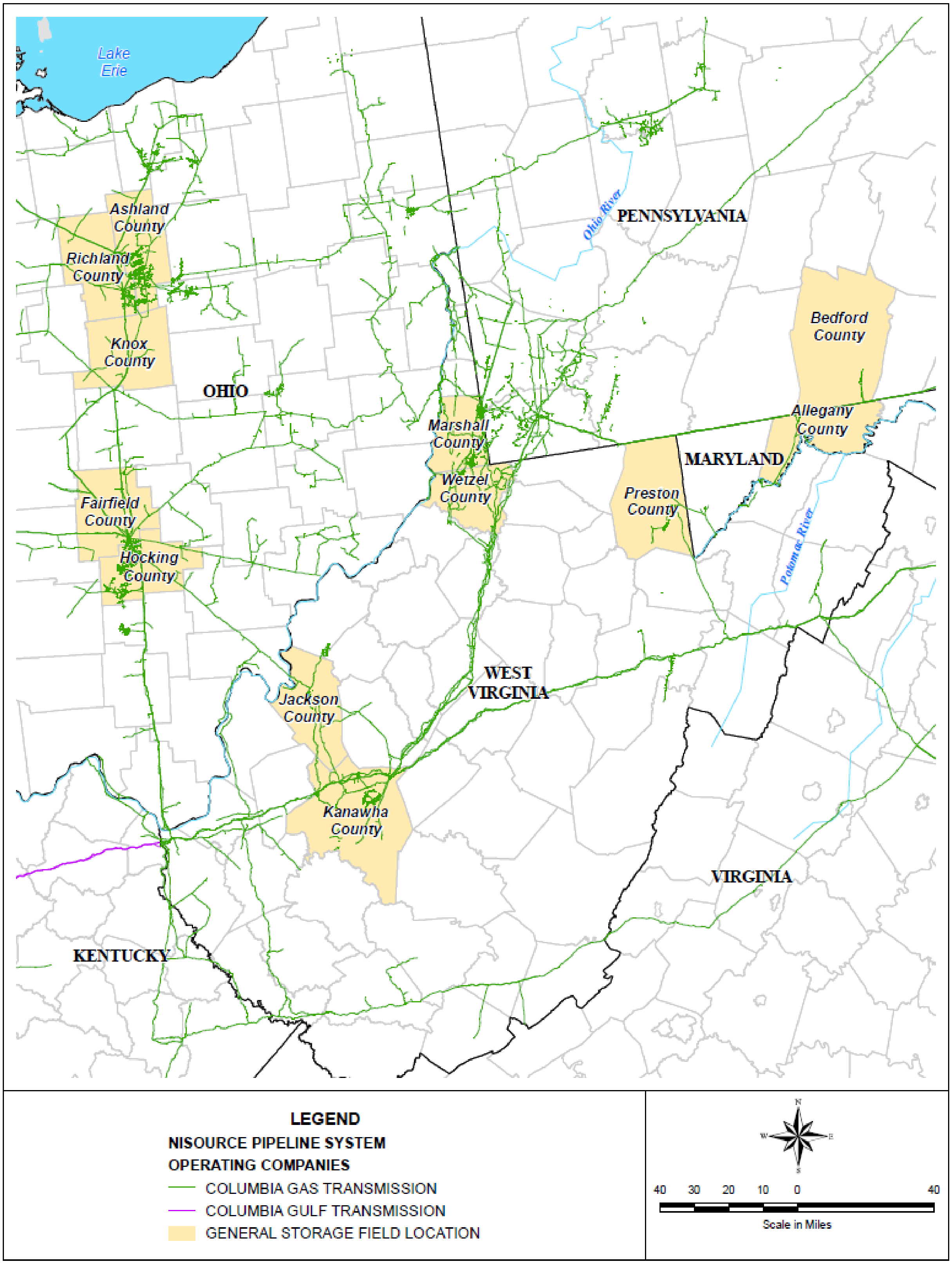


**Figure 2-3 Twelve County-Wide Storage Field Areas**

### 2.3.2 One-Mile Corridor Rationale

The one-mile corridor covers one-half mile (2,640 feet) on either side of the centerline of a NiSource pipeline or existing ancillary company structure or building. The one-mile-wide footprint represents the most balanced and flexible approach to conservation and regulatory compliance.

A one-mile-wide corridor accommodates approximately 95% of the projects included in routine O&M and capital expansion activities NiSource carries out annually. On average, NiSource pursues approximately 400 projects each year that require some form of ESA review. While 60-70% of these are typically covered through programmatic reviews performed at the Service field office level, 30-40% of projects require individual review. Typically, this review requires NiSource to prepare an information package describing the project activity, project location, and its assessment of impacts, usually not significant, to listed species. This package is forwarded to the appropriate Service field office for review and concurrence. The review typically takes one to several months and is documented by a specific reply letter from the Field Office. Upon receipt, NiSource reviews the concurrence letter, provides its field personnel any required best management practices (BMPs and AMMs), and then retains all the documentation as part of the permanent record for the project. For some NiSource projects, ESA compliance requires additional consultation and analysis beyond this concurrence process. These recurring actions, by both NiSource and the Service, require significant effort and resources.

Approximately 380 of the annual O&M and capital projects occur within the one mile wide corridor and require some form of ESA review. This equates to approximately 19,000 ESA project reviews (and attendant project documentation generation and storage) over the 50-year life span of the ITP. The remaining 5% (or about 20 projects per year) that would occur outside the one-mile wide corridor (and thus which are not covered by the ITP) would consist of new construction or major reroutes of existing pipelines to accommodate other facilities such as major interstate or other highway construction or rerouting, dam construction, mining activities, etc. Because the one-mile corridor will cover the overwhelming majority of NiSource's O&M activities, delineating the covered lands in this manner will help reduce the administrative burden and will contribute to the accomplishment of the desired conservation goals and objectives of this MSHCP.

The one-mile corridor "covered lands" designation:

- Provides appropriate space for all approved deposits of necessary spoil piles during maintenance or construction and other normal activities as described in the covered activities.
- Provides appropriate workspace for O&M activities, particularly in areas where the ROW encompasses two or more mainlines and is almost 200 feet wide.
- Provides appropriate space to loop any mainline(s) (up to 125 feet required for ROWs and workspace) for the duration of the permit.

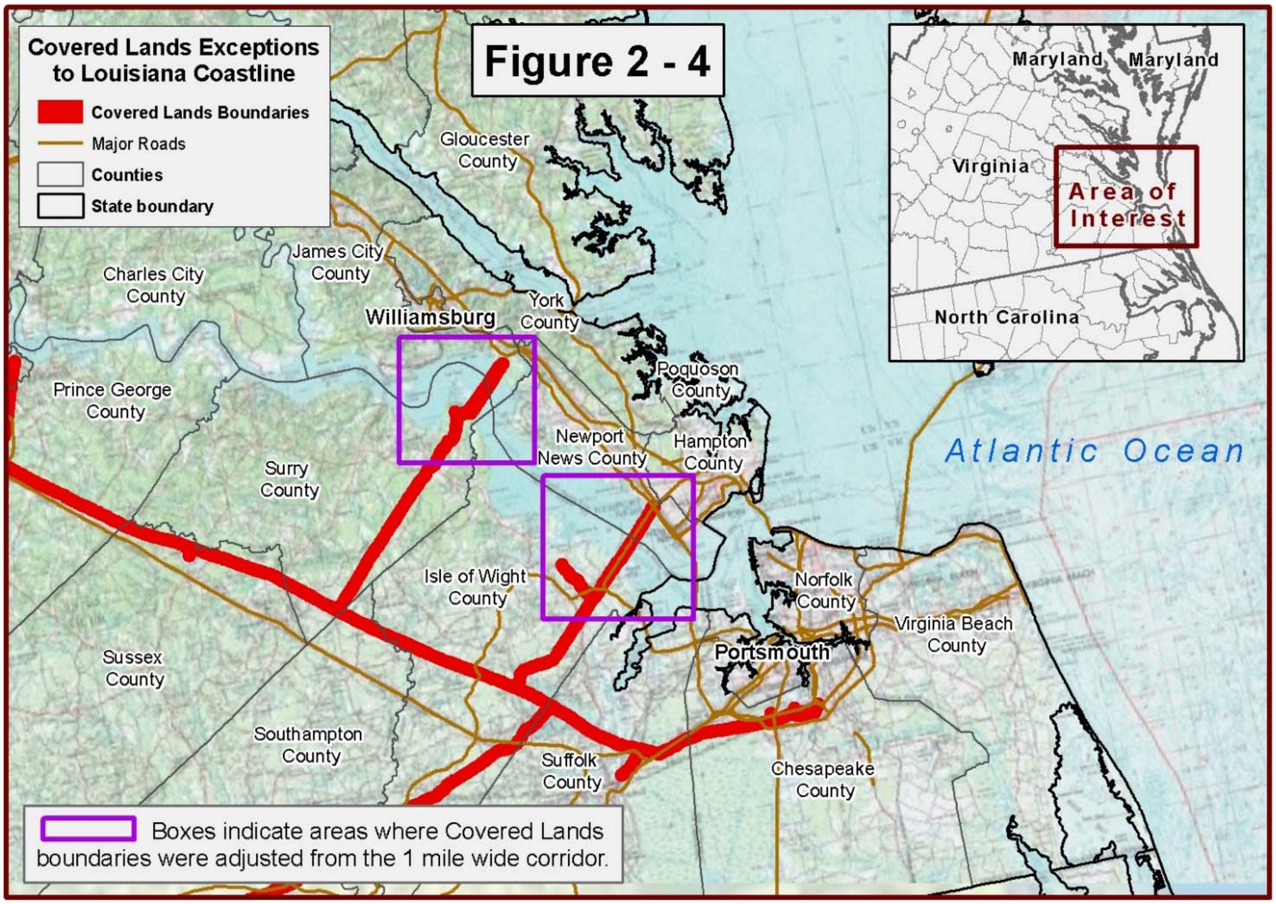


**Figure 2-4 Covered Lands Near James River, Virginia**

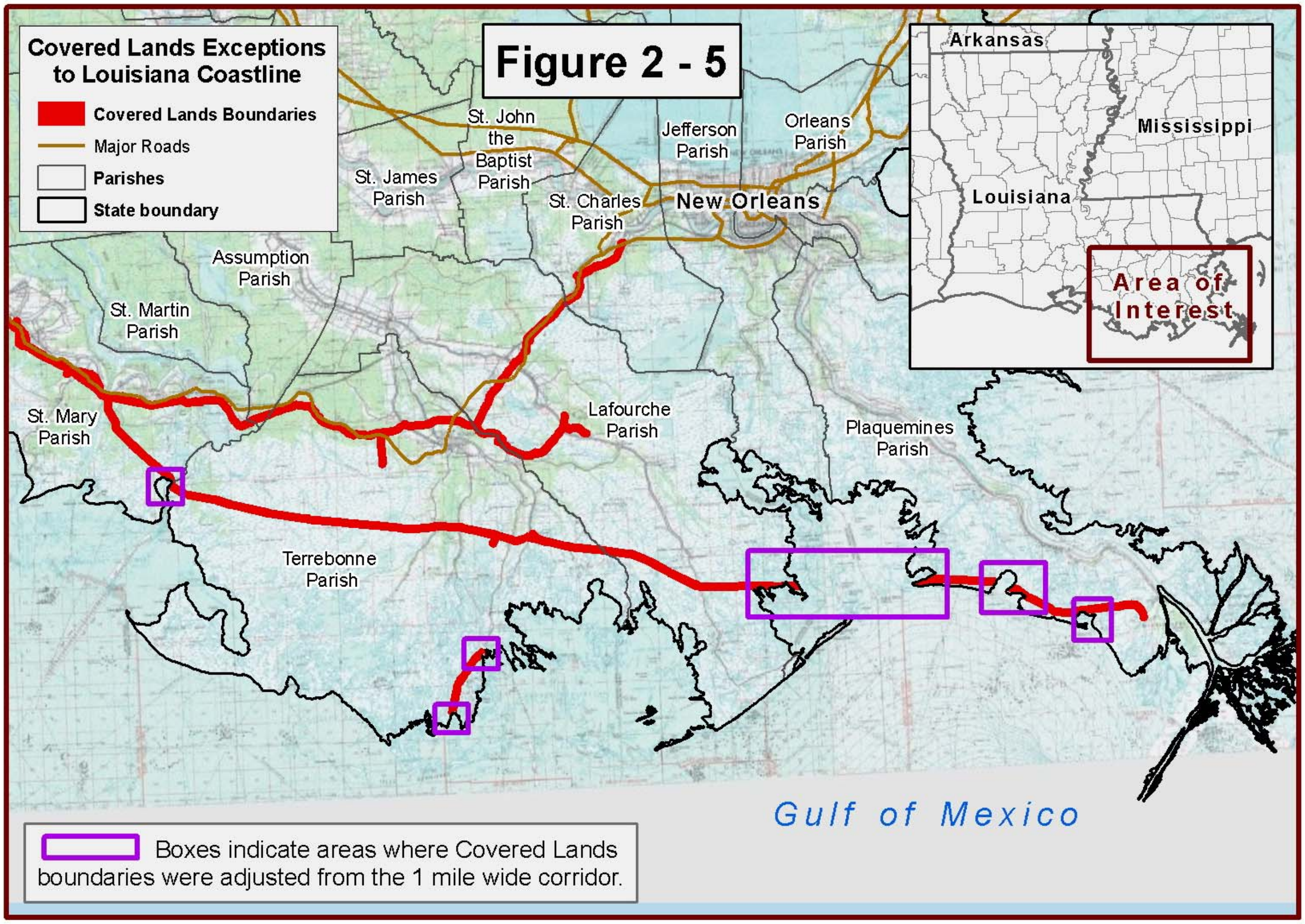


**Figure 2-5 Covered Lands Near Louisiana Coastline**

- Allows for analysis of lands to fully avoid impacts to some species and provide better minimization for others within the corridor.
- Provides an adequate buffer to include consideration of endangered species habitat in close proximity to, but not immediately on, the existing ROW.
- Provides enough space on either side of the existing pipeline to perform minor reroutes to lessen impacts to any sensitive environmental areas.
- Provides sufficient area on either side of the existing pipeline to perform minor reroutes required to accommodate highway relocations.
- Provides enough space to avoid work over existing natural gas lines and to ensure an adequate level of safety during construction.
- Provides enough space to route or place new facilities within that corridor while considering impacts to species, the landscape, landowners, and sensitive environmental or archaeological areas.

### 2.3.3 Disturbance Area

It is not possible to predict precisely where the construction, operation, and maintenance activities will occur within the covered lands area over the 50-year permit term or precisely when such activities will occur. To determine potential impacts to the species addressed in the plan, NiSource evaluated its activities and estimated the amount of disturbance that may occur within the covered lands over the term of the permit. This projection provides both annual and cumulative estimates of the acreage, and where possible, number of linear miles in which covered activities are likely to occur. These projections allow an examination of the impacts to the species analyzed in Chapter 6.

For purposes of this disturbance analysis, activities were broken into four main categories: ROW Maintenance, O&M, Medium Capital Expansion Projects, and Large Capital Expansion Projects. ROW maintenance acreage estimates were based on historic and anticipated future budgets for this work, which translates into approximately 2,200 miles of ROW maintenance a year. O&M acreage predictions were projected based on historic five-year average and anticipated future growth for this type of work across the pipeline system.

Both Medium and Large Capital Expansion Project acreage estimates were developed based on data from previous projects and NiSource's anticipation of future growth of domestic natural gas transmission in the next 50 years. Medium Capital Expansion Projects were defined as the construction of a new pipeline up to 50 miles in length, the drilling of up to 30 wells, and the addition of up to four compressor stations. Large Capital Expansion Projects were defined to include construction of new pipelines between 50 and 200 miles in length. The upper limit of these ranges was used in calculating annual disturbance estimates.

**Table 2-1** below displays the estimated annual acreage impacts from NiSource covered activities within the covered lands. A more detailed version of **Table 2-1** is contained in **Appendix A**. NiSource estimates that, on an annual basis, 18,505 acres within previously disturbed areas (i.e., existing ROW and existing compressor stations) will be affected (18,501 acres for pipeline activities and 4 acres for compressor station activities). Most of this activity will represent vegetation maintenance. The establishment of new ROW and new storage field easements will affect 904 acres of land annually (844 acres for pipeline activities and 60 acres for storage field activities). Excluding vegetation maintenance, the estimated impact of covered activities (i.e., O&M and Capital Expansion projects) is 2,742 acres (1,838 existing-facility acres and 904 new-disturbance acres) each year. Over the 50-year life of the permit, the total new-disturbance acreage impact from all covered activities is estimated to be approximately 45,200 acres of the covered lands.

## 2.4 Covered Activities

The covered activities addressed in this MSHCP are those activities necessary for safe and efficient operation of NiSource's pipeline system, many of which are performed pursuant to the regulations and guidance of the FERC, the USDOT, and other regulatory authorities. The covered activities generally can be divided into three main categories of activities related to NiSource's natural gas pipeline system: (1) general operation and maintenance; (2) safety-related repairs, replacements, and maintenance; and (3) certain expansion activities. For purposes of this MSHCP, NiSource's natural gas pipeline system does not include any electric transmission lines that support the transmission of natural gas. This section provides a general overview of the covered activities.

Additionally, the ECS (Appendix B) provide greater detail and graphical representations of many of the construction and operation techniques outlined below. As described in Chapter 6, the ECS also describe the existing methodologies and BMPs NiSource uses to reduce and mitigate impacts to environmentally-sensitive areas during field activities.1 Appendix C contains photographs of a typical pipeline ROW and appurtenant facilities.

NiSource's covered activities often occur on or within three main types of locations: pipeline ROWs, appurtenant facility sites (AFSs), and access roads. The following is a brief description of these categories.

As noted in Chapter 1, NiSource is seeking coverage, under this permit only, for NiSource's own activities. This includes the activities of NiSource's subsidiaries and designated agents of NiSource companies. NiSource is not seeking coverage under this permit for the activities of third parties, including the owners of land upon which NiSource has easements and persons who use the same access roads as NiSource.

[1] NiSource maintains three versions of the ECS, which contain minor differences specific to the particular subsidiary utilizing the document or location where the activity is being performed. While NiSource updates the ECS documents annually, any revisions made to the standards will be reviewed by the Service to ensure an equal or greater level of protection to natural resources as the ECS in effect at the time of issuance of an ITP. To accommodate any changes, the provisions of Chapter 9 will be used to amend the MSHCP or permit, as necessary. For convenience, the MSHCP will refer to the three ECS documents as a single set of standards, the ECS or the NiSource Gas Transmission & Storage Companies (NGTS) ECS, unless reference to one of the particular versions is appropriate.

**Table 2-1 Maximum Anticipated Annual Impacts within the Covered Lands**

| | | Pipeline | | | Storage Field | | Compressor Station | |
|---|---|---|---|---|---|---|---|---|
| | Total Acreage (annual) | Length (miles) | Existing ROW (acres) | New Disturbance (acres) | Existing Storage Field (acres) | New Disturbance (acres) | Existing Compressor Station (acres) | New Disturbance (acres) |
| ***Right-of-way Vegetation Maintenance***[A,B] | 16,667 | na | 16,667 | 0 | incl | incl | incl | incl |
| ***Operations & Maintenance***[B] | 1102 | na | 1046 | 56 | incl | incl | incl | incl |
| ***Capital Expansion Project - Medium (occurs every other year)***[B,C] | 670 | 50 | 303 | 303 | 0 | 60 | 4 | 0 |
| ***Capital Expansion Project - Large (occurs every fifth year)***[B,D] | 970.0 | 80 | 485 | 485 | na | na | incl | incl |
| **Totals** | **19,409** | **na** | **18,501** | **844** | **0** | **60** | **4** | **0** |

*Table Notes:*

[A] ROW vegetation maintenance is split between mechanical and herbicide methods. Acreage is based on 2,200 miles of ROW maintained/year. Generally, NiSource will perform some type of ROW maintenance at any given location once every 5 to 10 years.

[B] Includes design margin which doubles acreage for O&M and Capital expansion projects, and it adds only 25% to ROW acreage.

[C] "Medium Capital Expansion Projects" are defined as construction of a new 50-mile pipeline, drilling of 30 wells, or installation of 4 compressor station additions. In the year of construction, a well is assumed to impact two acres; a compressor station is assumed to impact one acre. Medium capital expansion projects are estimated to occur once every other year. It is estimated there will be 25 medium capital expansion projects over the term of the MSHCP. For acreage impacts in the year of work, multiply the total annual acreage by 2 and then multiple again by 2 to address the design margin.

[D] "Large Capital Expansion Projects" are defined as the construction of a new pipeline 200 miles in length. Large capital expansion projects are estimated to occur once every five years. It is estimated there will be 10 large capital expansion projects over the term of the MSHCP. For acreage impacts in the year of work, multiply the total annual acreage by 5 and then multiply again by 2 to address the design margin.

"incl" denotes that the acres disclosed under Pipeline include storage field and compressor station acres.

"na" denotes not applicable

### Pipeline ROW & Extra Work Space

Pipeline ROWs consist of a cleared and maintained corridor for their entire length. They are delineated with aboveground pipeline markers, spaced along the ROW, in accordance with USDOT guidelines. The permanent cleared corridor width for a single pipeline is typically 50 feet centered on the pipeline. Additional parallel pipelines (loop pipelines) require a larger permanent ROW width. For example, a permanent ROW that accommodates two parallel pipelines will typically be 75 feet in width (25 feet on either side of the pipelines with a 25-foot offset in between). Figures 2 and 3 of the ECS provide typical ROW cross-sections.

An additional five to 50 feet of temporary ROW width may be utilized to facilitate pipeline construction activities. Temporary ROWs are cleared, graded, and restored during construction, and do not become a permanent part of the operating easement, nor are they maintained after successful restoration. Once construction is complete, landowners typically allow temporary ROWs to revert to their original land-use status.

In addition to the permanent and temporary ROWs utilized during a construction project, extra work spaces are often necessary. These extra work areas are temporary in nature and include staging areas, contractor's lots, and/or pipeyards. These locations are used to accommodate mobile construction trailers/offices; material, fuel and equipment storage; and various work activities that require extra space not provided by the standard construction ROW. Once a project is near completion, these areas are restored. A typical staging area may measure 50 feet by 100 feet, while a pipeyard or contractor's lot may occupy several acres. Large temporary locations, such as pipeyards and contractor's lots, are typically chosen for their ease of use (i.e., little or no site preparation required) and ready access to public roads and the project.

Coastal-area permanent ROWs, particularly those associated with NiSource's Gulf system, are different in nature from standard onshore ROWs. Coastal-area ROWs do not require the same type of maintenance, as many of their associated pipeline facilities are submerged.

**Appurtenant Facility Sites**

Appurtenant facilities are components of the pipeline system that are integral to its operation, other than the pipeline itself (e.g., valve sets, launchers/receivers, compressor stations, measurement and regulation stations, cathodic protection, storage wellheads, etc.). Many appurtenant facilities are accommodated within the standard ROW corridor width. Thus, this location category is limited to those appurtenances whose site footprint exceeds, or is located away from, the standard pipeline permanent ROW corridor. NiSource's office buildings and administrative centers also fall within this location category.

AFSs range widely in size, but are typically cleared, maintained, and fenced locations. The sites may be graveled, paved, maintained in a mowed herbaceous state, or a combination of the three. These sites may be owned in fee title (such as compressor station lots) or occupied through a lease/easement.

**Access Roads**

Access roads are non-public or otherwise non-traditional roads that are utilized and maintained (solely or in part) for access to existing or proposed facilities. Access roads are typically utilized under a lease/easement agreement with the landowner or land management agency. An access road is typically constructed and maintained to 25-feet in width, with additional width provided for tight turns.

### 2.4.1 O&M Activities

The O&M category constitutes the overwhelming majority of NiSource's field activities and is defined herein as those activities that do not require excavation or significant earth disturbance. O&M includes activities conducted daily in order to keep the system operating efficiently and safely. These activities include the physical operation and the required maintenance, monitoring, and inspection of the facilities. The comparatively minor disturbance associated with this category is generally limited to ingress and egress and vegetation management. These activities are limited to existing ROWs, AFSs, and access roads.

A majority of NiSource's facilities occupy lands through easement/lease agreements with private landowners or federal or state land management agencies. These agreements may be strictly limited to allow performance of only those activities that facilitate the construction and continued operation and maintenance of facilities.

#### 2.4.1.1 Vegetation Maintenance

Periodic vegetation maintenance on ROWs, AFSs, and access roads is conducted to protect facility integrity and to accommodate the continued operation, maintenance, and inspection of those facilities. Vegetation management techniques can include tree clearing and side-trimming, mowing, and herbicide application in varying integrated fashions. Some form of vegetation management activity may occur during any time of the year.

For onshore ROWs, full-width mechanical clearing (mowing, tree clearing, and side-trimming) of ROWs is typically conducted every five years and may occur as often as every three years. To facilitate periodic corrosion and leak surveys, a corridor typically not exceeding 10 feet in width (centered on the pipeline), may be mowed annually. Vegetation maintenance on access roads and facility sites is conducted periodically on an as-needed basis.

#### 2.4.1.2 Pipeline and Appurtenant Facility Operation, Maintenance, Monitoring, and Inspection

Pipeline and appurtenant facility operation, maintenance, monitoring, and inspection activities occur year round. These activities include the multiple field actions that are necessary to maintain and operate a safe and reliable pipeline and storage system. Generally, these activities involve field personnel accessing facilities via vehicles such as pickup trucks or other maintenance-type vehicles. Access is obtained through the use of public roads, access roads, and/or traveling the ROW. Once field personnel arrive at their facility destination, their activities are confined to the ROW or AFSs.

Operation, maintenance, and monitoring activities may include, but are not limited to: underground facility location and identification, communications facility O&M, compressor station O&M, pipeline liquid-removal activities, valve O&M, methanol injection system O&M, cathodic protection system O&M and monitoring, storage well O&M and monitoring, and above-ground facility painting, etc. These activities typically do not cause earth disturbance and may include actions such as valve greasing, recording information from gauges, performing facility inspections, refilling methanol injectors, and other routine maintenance actions.

Inspections conducted in accordance with NiSource policy and federal law (Natural Gas Pipeline Safety Act and USDOT regulations) are performed on all system facilities. Inspections may be performed by ground personnel and monitoring equipment or by aerial means (e.g., fixed wing and/or helicopter surveys). The inspections under this heading are limited to surface inspections (i.e., no excavation required) and internal pipeline inspections, which are conducted using "pigs" and existing or temporarily-installed launching/receiving facilities.

Coastal-area ROW and system maintenance may differ significantly from conventional upland area ROW maintenance primarily due to access issues and the submerged nature of some of the facilities. Maintenance activities in coastal areas are similar to those in more traditional onshore locations, but may also include actions such as pipeline canal bulkhead maintenance and installation, navigational beacon placement and maintenance, access canal and barge terminal suction dredging, pipeline-crossing and dredge-warning sign maintenance and installation, aerial span maintenance, etc. Equipment used to access these coastal-area facilities may include pickup trucks driven on public and NiSource access roads and existing levee systems, air boats, and barges mounted with equipment. Watercraft access is typically obtained through the intercoastal waterway, existing bayous, and access canals.

#### 2.4.1.3 Access Road O&M

NiSource facilities are accessed through the combined use of public roads, the ROW, and NiSource access roads. Access roads are typically dirt and/or graveled and require periodic maintenance. Construction-related maintenance might include the regrading of the roadbed and gravel placement and maintenance performed on road ditches and other water conveyances.

#### 2.4.1.4 Cathodic Protection Operation and Maintenance

Cathodic protection (CP) is a method used to protect metal structures from corrosion. CP installations typically are located along or directly adjacent to the permanent pipeline ROW and consist of a thin, buried cable with sacrificial anodes attached to it. The anodes are typically grouped within an area referred to as a groundbed. The cables and anodes are connected to the pipeline and to a rectifier mounted on a power pole, which impresses low-voltage DC current into the system. Operation and maintenance of CP systems include activities such as recording information from test stations and ground beds, measuring the soil-to-pipe electrical potential, and adjusting current flow from rectifiers.

#### 2.4.1.5 Facility Inspection Activities

NiSource facilities are inspected on a continual basis to ensure safe and reliable service and to adhere to applicable regulations and NiSource policy. While the overwhelming majority of these inspections require no earth disturbance, there are instances where disturbance is required to complete the inspection. Coating inspection, facility verification, and temporary launcher/receiver installation to facilitate internal inspection of the pipe all require earth disturbance. This earth disturbance is typically contained within the ROW and generally requires only bell-hole-type excavation.

### 2.4.1.6 Facility Abandonment

There are occasional instances when NiSource and/or its customers determine that a pipeline, storage well, or appurtenant facility is no longer necessary and may be abandoned or retired. Depending upon varying factors, pipeline abandonment may be in-place, by removal, or a combination of the two. Abandonment may also occur by sale, where the facility and its easement/property rights are transferred directly to the purchaser. The disturbance initiated by in-place abandonment is typically minimal, with minor excavations usually necessary only to remove appurtenant facilities (valves, drip tanks, etc.), any pipeline fluids, and to cut and cap the pipeline segment for proper abandonment. Abandonment by removal results in more disturbance than in-place abandonment, as the entire pipeline segment (along with its associated appurtenances) is physically removed from the ground.

Storage well abandonment may require the well to be plugged, or to be converted to an observation well, which is used to monitor the utilization of the storage formation. Well abandonment may require some level of construction activity (typically confined within the existing and maintained well site) in order to convert or plug the well in accordance with State requirements.

Large appurtenant facilities, such as compressor stations, may also be abandoned. When these facilities are abandoned, above- and below-ground appurtenances are typically removed from the site unless otherwise conditioned in a sale agreement. Buildings may be left in place at the discretion of NiSource, the current landowner, or the potential purchaser of the associated property.

## 2.4.2 Capital Projects

NiSource’s construction activities include those that require grading, excavation, or other significant form of earth disturbing activities in order to construct, replace, inspect, and maintain facilities. The disturbance may be minor such as a small (15-foot by 15-foot) excavation to repair damaged pipeline coating, or may be as significant as constructing 100 miles of pipeline within a new ROW.

### 2.4.2.1 Pipeline Construction

Pipeline construction may involve the construction of a new transmission or storage pipeline on a new ROW, or the replacement of an existing pipeline. The replacement pipe may be the same size as the existing pipe in order to address pipeline age and condition concerns, or it could be larger in order to serve an increasing market or accommodate an engineering need. The range of disturbance varies depending on the scope and magnitude of a specific project or construction activity.

A typical construction project follows a consistent sequence as summarized in the following paragraphs and shown in **Figure 2-6**. These steps are described in detail in the ECS. While more than one portion of this sequence may be ongoing at any given time or location, each portion of pipeline goes through the same general process. Projects in sensitive areas, such as wetlands and waterbodies, are constructed as a single construction effort, as those locations undergo an expedited construction sequence that is completely separate from adjacent uplands.

Once construction authorizations are obtained, NiSource personnel or their contractors will typically delineate the limits of the project's footprint or construction work area in the field. Clearing crews commence construction in these marked areas, removing trees and brush as necessary.

After clearing, the construction work area is then graded to create a safe and stable working surface. Grading is done to the minimum extent necessary. Large rocks and tree stumps may be cut (includes grinding), graded, or removed as appropriate. They may also be buried within the construction work area, or windrowed just off of the construction work area. Topsoil segregation in agricultural lands and/or residential areas also typically occurs during this stage. Upon the completion of grading activities, temporary erosion and sediment (E&S) control devices are installed and other BMPs are initiated.

The next step in the construction sequence is the trenching phase, during which a trench that will be occupied by the new pipeline is excavated. This step may also first include the removal of an existing pipeline. Trenching is typically conducted with a backhoe, and the spoil removed from the trench is side-cast along and within the edge of the construction work area. The trench is excavated to a sufficient depth to allow for proper padding beneath the new pipeline and to accommodate a typical minimum of three feet of cover above the pipeline upon backfilling.

In unique locations (e.g., roads, rivers, or otherwise sensitive or prohibitive areas), other construction methodologies may be utilized that do not require conventional surface trenching techniques. These techniques may include boring or horizontal directional drilling. While these techniques are often utilized, their use is not appropriate or possible in every unique location.

As addressed above, construction through wetlands and waterbodies is conducted separately from the standard upland construction sequence. This allows for implementation of special construction techniques appropriate to these sensitive areas.

In the event that consolidated rock impedes the excavation of the trench, blasting may be required. Blasting will only be performed to the extent necessary to fracture any rock in the trench. Vibration is controlled through the use of shape charges, stemming materials, and delays to prevent significant vibration outside the work area. Blasting is conducted by a licensed contractor and in accordance with all applicable laws and regulations. The rock is then excavated with a backhoe.

Once trenching is complete, the joints of pipe are transported to the construction work area and placed beside the trench in a procedure called stringing. The joints of pipe are carried via a truck, the size and type of which is commensurate with the diameter and amount of pipe joints being transported. Pipe segments are most often offloaded by a side boom. The pipe joints are then bent to conform to the contours of the existing landscape. After that, the pipe joints are welded together, inspected, and coated with a protective layer that aids in corrosion prevention.

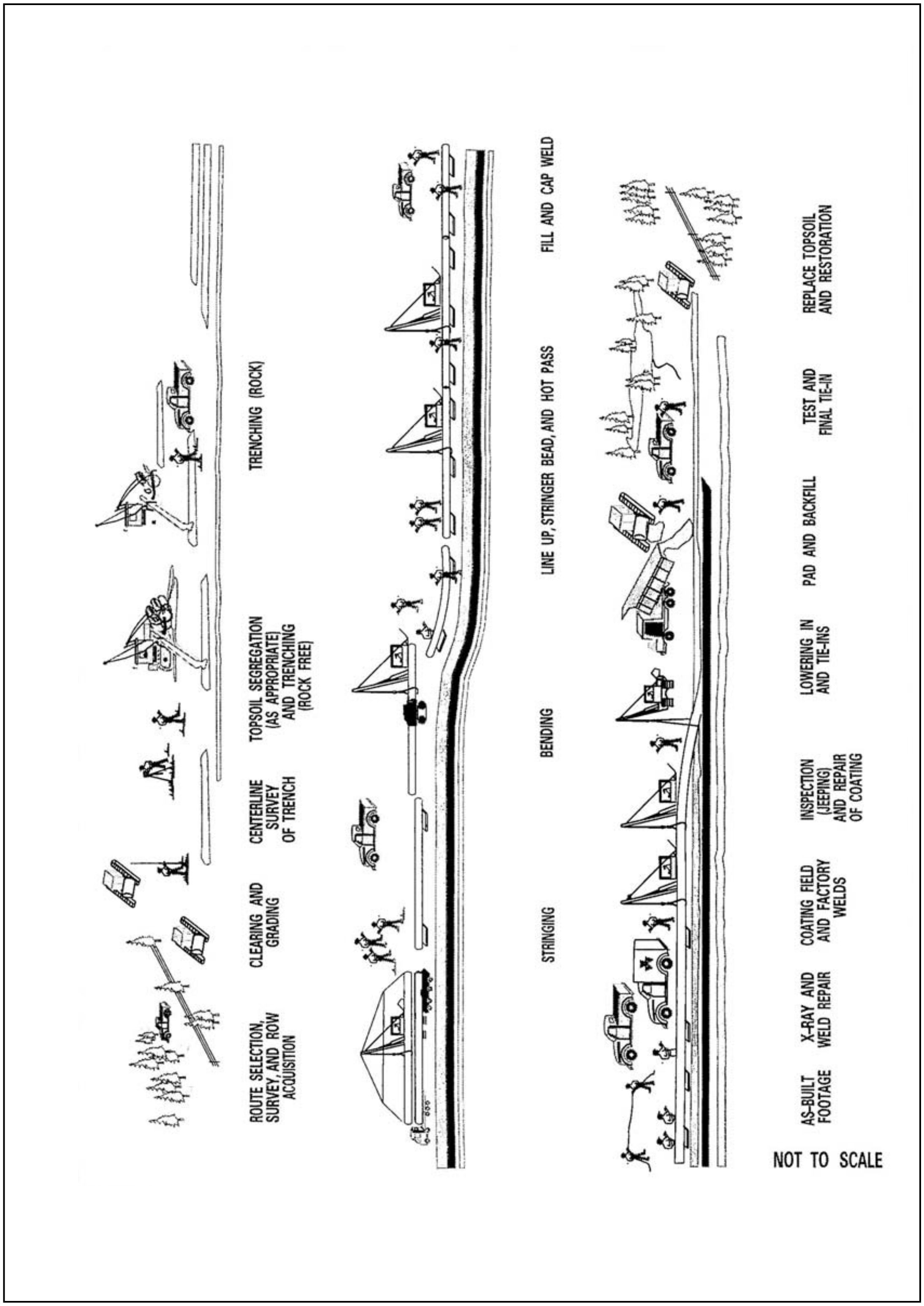


**Figure 2-6 Typical Upland Pipeline Construction Sequence**

Next, the pipeline is lowered into the trench and backfilled. The constructed pipeline is then hydrostatically tested to verify its integrity prior to placing it into service. The test requires that the pipeline be filled with water withdrawn from a local source, such as a stream, pond or public service department, and then pressurized above its proposed operating limit. Once the test is completed, the water is discharged to the ground.

As the final step in the construction sequence, the construction work area is stabilized via final grading and restoration. This part of the sequence includes regrading the construction work area to restore pre-construction contours, topsoil replacement, removal of excess rock in agricultural lands, and the placement of final E&S control devices. Restoration includes seedbed preparation and subsequent seeding and mulching activities.

Coastal-area pipelines are often located in canals as opposed to a typical upland ROW. Typically, low ground weight bearing equipment (commonly referred to as "swamphoes" or "swampbuggies") is used on saturated soils that cannot support conventional excavation equipment. In more open water marsh environments, the pipeline may be constructed using barge mounted equipment or "lay barges." In both instances, the pipe is typically welded in multiple joint sections, and then floated or push-pulled into the excavated trench. Concrete weights are commonly placed on the pipe to prevent it from floating. As mentioned above, rock or wooden structures known as bulkheads are placed at the intersections of pipeline canals and public waterways used for access. These structures prevent unwanted intrusion into the pipeline canals.

#### 2.4.2.2 Storage Well Construction

Storage fields are used for temporary underground storage of natural gas. Storage fields can range in size from a few hundred to several thousand acres and consist of a few dozen to hundreds of wells. These wells are typically spaced 1,800 feet to 2,400 feet apart, depending on site geology and reservoir performance. Storage field operators generally inject gas into the storage formation during low-use periods (warm weather) and withdraw it during peak-use periods (cold weather), although a second peak utilization period has developed during the hot summer season for gas-fired electric power generation. The location of a natural gas storage field and its associated storage wells is strictly dependent upon the location of an appropriate geologic storage formation.

Unlike linear pipeline construction, storage-well construction is confined to one static location (well site), or multiple locations when drilling multiple wells. The surface preparation for storage-well construction is similar in sequence and practice to construction activities described above.

A new storage well location may require a construction work area measuring approximately 400 feet by 400 feet. Unlike pipeline construction, which typically follows existing land contours, a storage well site may require permanent recontouring in order to establish a suitable construction and operating location. During drilling, these sites must be large enough to accommodate the large drilling rig, multiple equipment trailers, drilling mud recirculation tanks, drilling mud waste pits, office trailers, and numerous trucks and personal vehicles. The duration of drilling activities varies from location to location but typically will last from one to three months. Upon completion of the well, the well site will be restored to a condition suitable for operation. Aboveground appurtenances, such as a wellhead, meter house, and telemetry equipment, will typically occupy the well site, and normal and periodic O&M activities will occur throughout the life of the well. Vegetation maintenance is usually confined to the amount of space required to maintain, operate, and monitor the well (i.e., not the entire 400-foot by 400-foot site).

Once a storage well is in operation for a period of time, enhancement and/or reconditioning activities for the well (reconditioning, acidizing, coil tubing cleanout, drilling to deepen the well, hydraulic fracturing, re-perforating, and wellbore stabilization) may be required to increase or return the well to previous injection/withdrawal efficiency (US Dept of Energy, 2009) and increase the deliverability of the wells. Some activities may be required, however, to enhance and\or recondition new or existing injection or withdrawal wells associated with NiSource’s permitted underground storage reservoirs. The specified times for these activities are calendar days, and work will generally be done during daylight hours. A more complete listing and description of these activities are provided below. Clearing of re-established vegetation may be required to allow for these activities. Depending upon the current extent of the maintained well site, site expansion may sometimes be required in order to accommodate the equipment necessary to conduct these activities.

Underground storage well enhancement/reconditioning activities also include wellbore clean outs, changing wellhead valves and well tubing, formation fracturing, and well testing. These activities typically require a well service rig, which looks like a small drilling rig mounted on a truck. Materials removed during the enhancement/reconditioning activities include sand used during hydraulic fracturing treatments, wellbore cuttings, bentonite drilling muds, and fluids. All removed materials are captured in an enclosed steel tank, or occasionally, a temporary surface pit (permanent waste pits are not used). Surface pits are typically 50 feet long by 20 feet wide and up to 10 feet in depth, and are lined with 20-30 mil plastic. Any fluids generated by these activities are disposed of in approved offsite injection wells or third-party disposal facilities. Naturally occurring solids (e.g., bore cuttings) are typically buried on-site. Remaining materials are disposed of in an approved landfill.

Reconditioning involves replacing existing casing, installing new casing, cementing casing, and/or wellhead replacement. Equipment needed includes a well service rig, mud pump, pipe skids, pipe tubs, and water tanks. Generally, the time needed for reconditioning will be seven to 20 days.

Acidizing involves pumping acid down the well’s flow string and into the storage zone to dissolve and remove materials which are restricting flow from the well. Equipment needed includes a pump truck, acid truck(s), nitrogen truck(s), flow-back tanks, and water tanks. Generally, the time needed for acidizing will be one to five days.

Coil tubing cleanout involves using a coil tubing unit to pressure wash the inside of the flow string and the formation face and clean out debris from surface to total depth.  Equipment needed includes a coiled tubing unit, pump truck, nitrogen truck(s), and flow-back tanks.  Generally, the time needed for coil tubing cleanout will be one to three days.

Drilling deeper involves deepening the well to expose additional storage formation.  Equipment needed includes a drilling rig or well service rig and support equipment as listed in reconditioning.  Generally, the time needed for drilling deeper will be one to two days.

Re-perforating involves shooting additional holes through the well casing and cement sheath into the storage zone.  This process may also involve pumping liquids, such as acid and water, into the well prior to perforating.  Equipment needed includes a pump truck, acid truck, crane truck, logging truck, flow-back tank(s), and water truck(s).  Generally, the time needed for reperforating will be one to two days.

Wellbore stabilization involves using a coil tubing unit to place materials in an open-hole well to prevent formations (typically shale) from caving in across the storage zone.  The procedure thus stabilizes the open-hole section.  Equipment needed includes a coiled tubing unit, pipe transport truck(s), flow-back tank(s), and water tank(s).  Generally, the time needed for wellbore stabilization will be one to three days.

Hydraulic fracturing is utilized by NiSource on an as-needed basis for the construction and/or maintenance of underground storage wells.  It is important to note that none of NiSource's business units engage in the exploration and development of new production of natural gas, where hydraulic fracturing also is used. Consequently, NiSource's covered activities do not include activities associated with new exploration and development.  The activity described herein applies only to NiSource's underground storage wells and is limited to the counties included in the covered lands where NiSource has existing underground storage reservoirs. The following discussion provides general information on the use of hydraulic fracturing as it applies to the NiSource MSHCP and, in particular, to the construction and maintenance of the underground storage wells and reservoirs existing within the covered lands.

Hydraulic fracturing is a process that results in the creation of fractures in rocks to increase the output of a well.  The most important industrial use for the practice is to stimulate oil and gas wells. Hydraulic fracturing has been used for over 60 years in more than one million wells.  Thus, it   is a common method used to make reservoir rock more permeable, allowing natural gas to flow more efficiently to the wellbore. Hydraulic fracture stimulation is commonly applied to wells drilled in low-permeability reservoirs.  An estimated 90% of the natural gas wells in the United States use hydraulic fracturing to produce natural gas at economic rates.  The process also is commonly used on many wells drilled or operating within underground storage reservoirs, such as those covered by this MSHCP.

More particularly, a hydraulic fracture is formed by pumping fracturing fluid into the wellbore at a rate sufficient to increase the pressure down-hole to a value in excess of the fracture gradient of the formation rock.  The pressure causes the targeted formation to crack, allowing the fracturing fluid to enter and extend the crack farther into the formation.  To keep this fracture open after the injection stops, a solid proppant, commonly sieved round sand, is added to the fracturing fluid. The “propped” hydraulic fracture then becomes a high-permeability conduit through which the natural gas can flow more freely into the wellbore.

During the drilling of a new borehole or well, downward pressure is applied to a rotating drill bit. This drilling action produces rock chips and fine rock particles that may enter cracks and pore space at the wellbore wall that result in damage to the permeability at and near the wellbore. This damage often reduces flow into the borehole from the surrounding rock formation and partially seals off the borehole from the surrounding rock. In such instances, hydraulic fracturing may be used to mitigate damage that occurred during drilling of the new well or to enhance flow from an existing well where particles or other debris have clogged the fractures over time.

Hydraulic fracturing typically takes place well below the water table and is isolated from drinking water by thousands of feet and millions of tons of impermeable rock. As with all well work, companies like NiSource must comply with strict local, state, and federal regulations and regularly monitor and test to confirm their work is proceeding safely. For example, current well construction regulations require the installation of multiple layers of protective steel casing and cement that are specifically designed and utilized to protect freshwater aquifers. The existing storage wells that are included in this MSHCP were constructed, monitored, and tested in accordance with all applicable regulations. Moreover, NiSource will comply with all applicable local, state, and federal regulations in the construction of any new storage wells within the covered lands, this would also include any new regulations that would become effective during the duration of the permit and that would pertain to storage well construction or operation. Additional background information on hydraulic fracturing is available in the US Department of Energy’s *Modern Shale Gas Development in the United States: A Primer, April 2009* (US Dept of Energy, 2009).

Hydraulic fracturing is specifically designed (through control of pressures and fluid injection) to fracture only the intended formation within the target zone. Created fractures are bounded above and below by tougher, confining rock layers. For NiSource storage well treatments, these fractures typically extend up to several hundred feet radially from the wellbore, but always within the FERC-approved storage reservoir.

All of the fluids recovered from NiSource’s hydraulic fracturing processes are hauled to a commercial, licensed disposal facility. NiSource does not release any of the fluids recovered from a hydraulic fracturing process directly into the environment or into any waterbody. All flowback fluids are initially captured in special blow-back tanks, and waste haulers then pick those fluids up and take them to an approved disposal site. Occasionally, recovered fluids may exceed the volume anticipated in the recovery tanks and that additional volume will be placed in a lined drilling pit on location for temporary storage before being hauled to the licensed disposal site. The recovery of fracturing fluids typically reaches 70% or more during the flowback operations immediately following the fracturing treatment. NiSource’s initial fluid recovery rates typically are near the 70% level or higher. The remainder of the fluid is either entrained in the gas stream or is retained in the fractured formation.

Unrecovered fluids do not make their way to near-surface formations or to ground or surface water. The geological trapping mechanisms that enable natural gas to collect and be stored also serve to trap any injected fluids. The installation of multiple strings or well casing and the use of properly designed cementing procedures ensure that fluids, as well as natural gas, are contained down-hole and are unable to migrate upward. All states require the installation of special freshwater protection casing strings to isolate the freshwater zone from deeper brines, produced hydrocarbons, and formation fluids. As previously stated, in each state within the covered lands where storage wells are located, NiSource has and will continue to comply with applicable state requirements. Significantly, NiSource has never had an incident occur where natural gas or any fluids escaped into near-surface formations or groundwater from its underground storage operations.

Hydraulic fracturing processes utilized in underground storage well work are fundamentally the same as those used during natural gas or oil well development, except for the size of the treatments and the regulatory oversight of the FERC. For example, modern shale gas hydraulic fracturing processes for exploration or production wells use much more fresh water – typically in the millions of gallons per well. On the other hand, the treatments used for NiSource's underground storage wells typically use a significantly lesser amount, i.e., tens of thousands of gallons per well.

NiSource performs a hydraulic fracturing process on almost all newly constructed underground storage wells (typically 40 wells per year). All of its existing underground storage wells (whether used for injection or withdrawal purposes) are regularly tested for functionality. When well testing results indicate that wellbore restrictions or formation damage are present and that well productivity can be enhanced by performing a fracturing treatment, NiSource reservoir engineers schedule and initiate that process (typically 60 wells per year). Well-designed fracturing treatments can normally be expected to last for decades before any re-treatment is necessary although, in specific instances, additional treatments may be necessary to clean a clogged wellbore.

Hydraulic fracturing, as more fully described above, involves pumping various fluids into the well to crack (fracture) the storage zone and carry a proppant (sand) into the fracture to keep it open. Equipment needed includes a blender truck, pipe transport truck(s), fracturing pump truck(s), sand transport truck(s), nitrogen truck(s), flow-back tank(s), and water tank(s). Generally, the time needed for hydraulic fracturing will be one to five days.

Due to efficiencies gained in simultaneously performing multiple activities on the same well, the total length of time involved often will be less than the sum of the time estimates for individual activities. The sum of the individual activities represents the outer limits in terms of time involved. For example, coiled tubing cleanout, re-perforating, and hydraulic fracturing may only require two days with numerous pieces of equipment on site followed by a few days of well flow-back with minimum pieces of equipment on site — a considerably shorter time than the estimated maximum of ten days were the activities performed separately.

Again, these activities are all confined to the existing underground storage fields and reservoirs as identified within the covered lands of the MSHCP. All of the above activities are confined to specific underground storage zones within those reservoirs that are certificated by FERC.

#### 2.4.2.3 General Appurtenance and Cathodic Protection Construction

As noted above, CP is a method used to protect metal structures from corrosion, and consists of a thin cable connected to the pipeline that is buried along or directly adjacent to the pipeline ROW. The cable, which is attached to sacrificial anodes, delivers a direct current to the pipeline system. These facilities are commonly installed with a vibratory plow mounted on a bulldozer, Ditch Witch, tracked excavator, or backhoe.

In addition to CP, numerous appurtenant facilities are required to operate the transmission and storage system. These appurtenances, which consist of control valves and vents, measuring and regulating facilities, and gas heaters, among others, are mostly aboveground and are integral to the operation, monitoring, and inspection of the NiSource system. Construction of these facilities is confined to the permanent ROW or AFSs.

#### 2.4.2.4 Compression-Related Facility Construction

Compressor stations typically represent the largest AFSs and often occupy several acres. A compressor station produces the pressures necessary for the transport of natural gas through the pipeline system, and/or the injection or withdrawal of natural gas in a storage field. Compressor station lots are typically fenced, and the stations themselves are often manned full or part-time. These stations are spaced throughout the NiSource system. Common items within a compression facility site are: office buildings, paved lots and driveways, compressor and maintenance buildings, aboveground and belowground tanks, aboveground and belowground pipe and compression appurtenances, communications facilities, etc.

When additional compression is required to meet new or increased market demands, modifications are most often made to an existing station through the addition of compressor units. Compressor station modifications are typically done within the existing fenced compressor station lot and/or adjacent NiSource property limits. The additional compression may be installed within the existing compressor building, or it may require that a new building or building-addition be constructed.

Far less frequently, an entirely new compressor station may be built. A compressor station development site will encompass several acres, and depending on the condition of the preferred site, may require significant amounts of permanent recontouring to accommodate the facilities.

#### 2.4.2.5 Communication Facility Construction

Remote communication technologies are used in operating, monitoring, and communicating between NiSource facilities. These communication systems may utilize hard-wired and/or broadcast signals. The construction of these facilities typically includes the installation of cable (often done by a Ditch Witch) within existing ROWs and/or the construction of communication towers. Communication towers are often "line-of-sight" dependent, so their placement and height vary with their surroundings.

#### 2.4.2.6 Access Road Construction

As addressed above, NiSource facilities are accessed through the combined use of public roads, the ROW, and NiSource access roads. Access roads are typically dirt and/or graveled and require periodic maintenance. Construction-related maintenance might include the regrading of the roadbed and gravel placement and maintenance performed on road ditches and other water conveyances.

For new facilities in areas not previously occupied by NiSource, new access road construction will often be necessary. Their length is normally contingent upon the facility's proximity to a public road and the area's topography (e.g., mountainous terrain may not be conducive to direct-access routing). Access road construction uses procedures similar to the clearing, grading, and E&S control device installation described above in pipeline construction. An access road is typically constructed and maintained to 25 feet in width, with additional width provided for tight turns. Access road construction also includes the installation of proper stormwater conveyances, such as ditches and culverts, and may also include the construction of permanent equipment crossings at stream locations. Many of the access roads required for construction are also maintained for use by O&M personnel.

## 2.5 Activities Not Covered by the Multi-Species Habitat Conservation Plan

### 2.5.1 Activities Outside the Covered Lands

This document describes the covered activities and the covered lands to be included within the ITP coverage. This MSHCP does not include any O&M or construction activity outside the one-mile wide corridor and designated counties for storage fields. For example, greenfield projects, which require new ROW outside the one-mile corridor or designated storage field counties, are not covered by this MSHCP. If such projects pose potential effects to listed species, separate ESA review will be necessary (e.g., ESA Section 7 consultation between FERC and the Service, amendment of this MSHCP and ITP, or development of a separate HCP and ITP). This MSHCP also does not include O&M or construction activities for NiSource's offshore facilities, and those below the high tide line that are not explicitly included in the MSHCP. All of these activities must still undergo appropriate ESA review.

### 2.5.2 Access Roads Beyond the Covered Lands

NiSource facilities are accessed through the combined use of public roads, the ROW, and NiSource access roads. As described in sections 2.4.1.3 and 2.4.2.6, the use, operation, and maintenance of access roads within the covered lands are treated like any other covered activity. Some of these access roads extend beyond the covered lands described above, cannot be easily identified on topographic maps, and have not been surveyed and mapped. However, continued use of these existing roads for access to all installation, abandonment, and/or maintenance projects is necessary. NiSource is not requesting any take coverage outside covered lands because the conservation measures it commits to will avoid or minimize species impacts to such an extent that take is not anticipated. While the use, operation, and maintenance of access roads within the covered lands are treated like any other covered activity, the following is a summary of the treatment of access road activities beyond the covered lands. This summary is also represented in **Figure 2-7** below. NiSource is not requesting any take coverage outside covered lands.

**Access Roads Outside the Covered Lands But Within Counties Crossed by the One-Mile Corridor**

For access roads that are located outside the covered lands but within the counties where the one-mile corridor occurs, this MSHCP includes AMMs for the potentially affected species. For some species, the implementation of these AMMs for access road use will be sufficient to reach a "no effect" or "not likely to adversely affect" determination. *See* Chapter 6 and **Appendix F**. Where NiSource can follow the access road AMMs defined for such species in those counties, the impacts of the use, operation, or maintenance of access roads located outside the one-mile corridor, but within counties crossed by the one-mile corridor, are considered "no effect" or "not likely to adversely affect." If NiSource cannot follow these access road avoidance and minimization measures for these species, it will coordinate with the local Service field office as necessary to ensure compliance with the ESA and to reduce potential impacts to listed species to a "no effect" or "not likely to adversely affect" level.

For other species, the use of the access road avoidance and minimization measures may not be sufficient to reach a "no effect" or "not likely to adversely affect" determination. For those species, NiSource will coordinate with the local Service field office for access road use outside the one-mile corridor, but within counties crossed by such corridor, to ensure compliance with the ESA and to reduce potential impacts to listed species to a "no effect" or "not likely to adversely affect" level.

**Access Roads Outside the Counties Crossed by the One-Mile Corridor**

For use, operation, or maintenance of any access roads in counties outside of the counties intersected by the one-mile corridor, NiSource will consult with the applicable Service field office for additional species guidance and ESA compliance.

### 2.5.3 ESA Compliance for Future, Non-covered Activities

NiSource also anticipates that over the life of the proposed 50-year permit term, it will undertake some activities for which take coverage is not provided in the MSHCP and ITP. These are activities outlined in Section 2.5, which may require independent ESA and NEPA compliance. NiSource believes that the MSHCP will be helpful in those efforts, given its breadth and thoroughness. To the extent that the information contained in the MSHCP remains relevant and accurate, NiSource expects that some of it can be readily reviewed, applied and incorporated, potentially shortening the time period for administrative review. For instance, should a future project involve species that are covered in the MSHCP, solid background materials and threat assessments already exist. Moreover, consideration of the MSHCP's species conservation strategies will enable complementary, future mitigation, if needed. Additionally, the MSHCP provides a robust explanation of NiSource's operation, maintenance and construction activities, and the suite of associated environmental impacts. Though new activity-specific analyses would be necessary, much of the above-referenced information already exists, and could be incorporated by reference or excerpted.

Some of the possible mechanisms to obtain future take coverage include: individual habitat conservation plans; amendments to the MSHCP and ITP, or further consultation under Section 7 of the ESA.

### 2.5.4 Emergency Response

In addition to the covered activities described above, it is likely that during the ITP permit term, NiSource will have to respond to emergency situations on its natural gas system, where an immediate response is often critical. Emergency response activities generally include those activities that are not part of the normal routine of O&M or construction. These activities are unscheduled, may occur at any time of the year or day, and are generally conducted when there is an imminent or current threat to life, property, and/or the environment. These activities may include, but are not limited to, appropriate responses to a hazardous spill, fire, natural disaster, and/or pipeline/storage well failures. The activities associated with an emergency response vary depending upon the specific characteristics of that particular emergency and the surrounding vicinity. In light of the inability to predict when these emergency response activities may be required, where they may occur in relation to MSHCP species, and the magnitude of such activities, emergency response activities are not included as covered activities under this MSHCP. Instead, in the event an emergency situation occurs involving the NiSource natural gas system within the covered lands that may affect covered species, NiSource will advise the Service and the applicable action agency, if any, of such emergency circumstances as soon as practicable to determine whether emergency Section 7 consultation under the provisions of 50 C.F.R. § 402.05 is required.

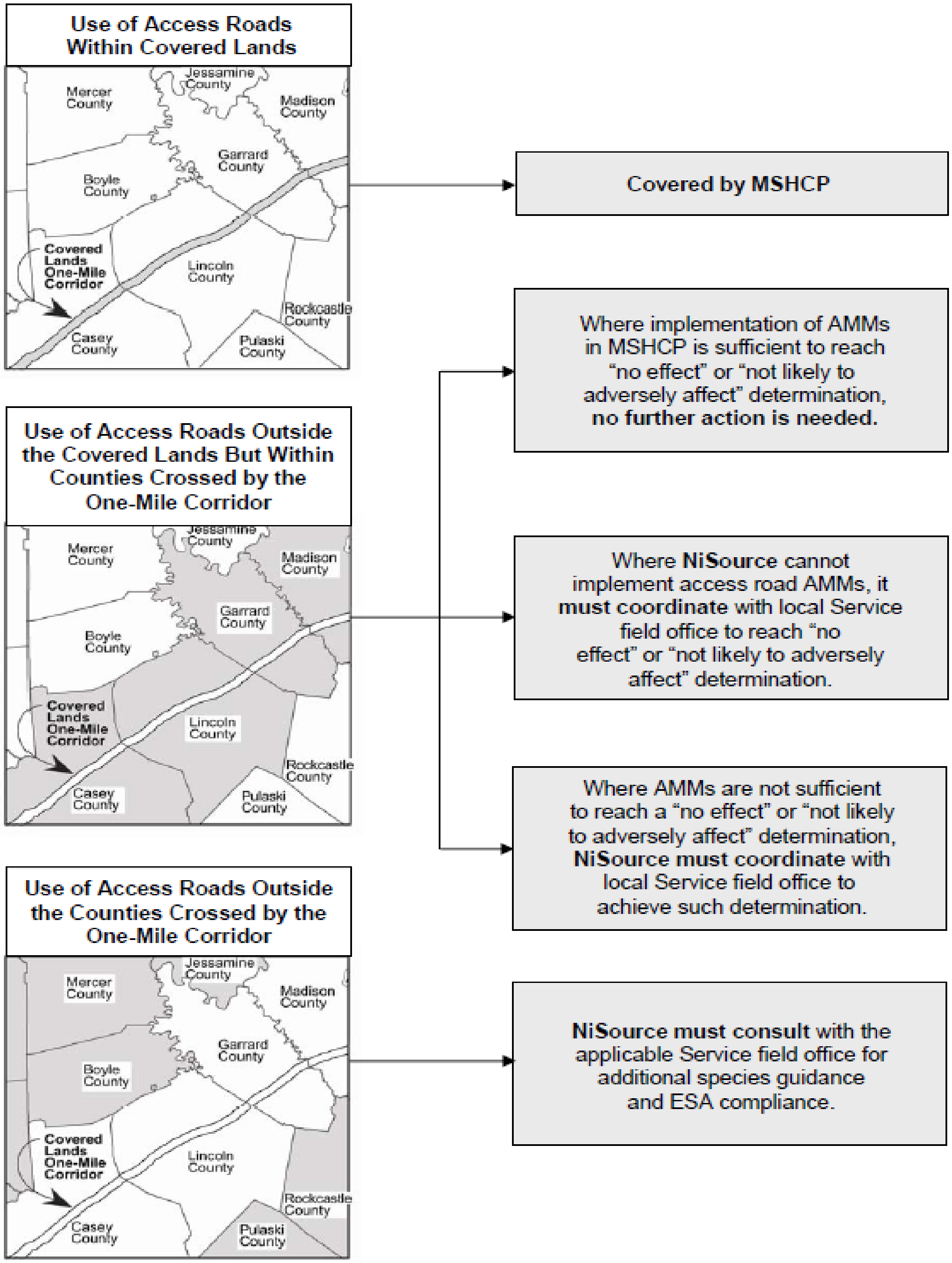


**Figure 2-7 Process for ESA Compliance for Use of Access Roads**