



# **UTILITY ACCOMMODATION & COORDINATION MANUAL**

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## I. Introduction

This Utility Accommodation Section details Minnesota Department of Transportation (MnDOT) procedures for accommodating utility facilities along, across, or on the right of way of all highways under the jurisdiction of the Minnesota Commissioner of Transportation. This manual section also includes technical components and requirements for utility owners regarding the location, design, and methods for installing, adjusting, accommodating, and maintaining utility facilities on such rights of way.

In addition to fulfilling the requirements of this Utility Accommodation Section, utility owners also must meet the requirements of the [Utility Accommodation on Highway Right of Way Policy](#). The MnDOT Utility Accommodation on Highway Right of Way Policy describes how MnDOT addresses requests by utility owners to occupy a portion of trunk highway right of way. In each case, MnDOT must evaluate the technical aspects of how accommodation of the utility facility will be accomplished, such as how and where a utility facility may be located so as not to interfere with other utility facilities or the safety of the traveling public. Simply put, utility owners must fulfill the requirements described in the Utility Accommodation on Highway Right of Way Policy and fulfill the technical requirements in this Utility Accommodation Section.

In addition to trunk highways, this Utility Accommodation Section and the Utility Accommodation on Highway Right of Way Policy apply in certain situations for projects subject to the requirements of 23 CFR § 645.209(g), such as projects within local road and street right of way where federal-aid funds are used. To satisfy the requirements of 23 CFR § 645.209(g), a local agency may exercise their authority to manage utility accommodation pursuant to Minn. Stat. § 237.163, subd. 2(b). In those situations where the local agency does not exercise its authority under the Minnesota statutes and regulations, then the local authority must follow this Utility Accommodation Section and the Utility Accommodation on Highway Right of Way Policy. Language in agreements between MnDOT and the local authority formally addresses this requirement.

Due to the nature of the subject, two or more subsections may need to be read together to fully understand a utility accommodation issue or situation. It is important to become familiar with all the content to avoid any misinterpretation.

## II. Utility Permit Application

### A. General

Minnesota statutes and rules require utility owners to obtain a permit from MnDOT to install, alter, or maintain utility facilities on trunk highway right of way. These permits incorporate the current rules under which they are issued. The utility owner or its contractor must receive an approved permit before starting work on highway right of way. The permit helps the state ensure that the utility owner will not:

1. Interfere with the safe flow of traffic
2. Impair the function or aesthetics of the highway
3. Conflict with any current or anticipated MnDOT projects
4. Conflict with any provisions of federal, state, or local laws or rules, or be inconsistent with MnDOT's Utility Accommodation on Highway Right of Way Policy or this manual section.

MnDOT documents the rules and requirements that apply to the use and occupancy of highway right of way by utility facilities or private lines in a permit. Utility owners must have an approved permit from MnDOT before starting work and follow permit regulations and requirements to occupy highway right of way. The applicant shall strictly conform to the terms of the permit and the Minnesota Rules Parts 8810.3100 through 8810.3600, together with the special provisions.

## B. Permit Types

MnDOT issues several types of permits relating to trunk highway rights of way. This manual section addresses the utility accommodation permit and the miscellaneous work permit.

1. **Application for Utility Accommodation on Trunk Highway Right of Way** (Form 2525) – MnDOT requires the Application for Utility Accommodation on Trunk Highway Right of Way for the vast majority of utility placements and relocations. Utility owners complete this form to request permission to place, construct, and reconstruct utility facilities within trunk highway right of way, whether the utility facility runs longitudinally, skewed, or perpendicular to the centerline of the highway. Drainage may be treated as a utility, requiring this form, in certain cases when a facility passes through the right of way without any outlet from or inlet to the facility within the right of way. For utility-initiated projects, utility owners submit this form to the MnDOT Utility Agreements and Permits Unit. For relocations to accommodate a highway project, utility owners submit this form to the appropriate MnDOT project manager. A valid utility accommodation permit includes the following signatures:
  - a. An authorized person representing the utility owner;
  - b. The MnDOT District Engineer (or Authorized Representative); and
  - c. The MnDOT Utilities Engineer, acting for the Commissioner of Transportation.
2. **Application for Miscellaneous Work on Trunk Highway Right of Way** (Form 1723) – The Application for Miscellaneous Work on Trunk Highway Right of Way is used for minor work, such as installation of utility service connections that do not cross or parallel the roadway within the trunk highway right of way. It is also used for installation of miscellaneous guy wires and anchors, to place temporary obstructions on the right of way, and to perform temporary relocations of a more minor nature to accommodate a highway construction project. In addition, MnDOT requires this form from the utility owner for service and maintenance operations within trunk highway right of way. For utility-initiated projects, utility owners submit this form to the appropriate MnDOT district permit office. For applicable adjustments to accommodate a highway project, utility owners submit this form to the appropriate MnDOT project manager.

MnDOT also issues other permits, not covered directly in this manual section, that are helpful to keep in mind. The following are among those other permits and are listed here for information only.

1. **Application for Drainage Permit (Form 30795-02)** – The Application for Drainage Permit is used for all types of drainage changes on a trunk highway; this form is to be completed when water flow on highway property is involved.
2. **Application for Access/Driveway Permit (Form 1721)** – The Application for Access/Driveway Permit is used for all requests for a driveway or other access point to a trunk highway or for a change in use of an existing access.
3. **Application for Rail Bank Access Permit (Form 1721 RB)** – Minnesota Statutes § 222.63 and Minnesota Rules parts 8830.5810 through 8830.5860 govern state rail bank property. The Application for Rail Bank Access Permit is used for all requests for access on rail bank right of way. In addition to the Rail Bank Access permit, a lease agreement and a fee will apply.

4. **Application for Utility Installation on Rail Bank (Form 1723 RB)** - Minnesota Statutes § 222.63 and Minnesota Rules parts 8830.5810 through 8830.5860 govern state rail bank property. Similar to the Application for Miscellaneous Work on Trunk Highway Right of Way, the Application for Utility Installation on Rail Bank is used for all utility installations or other objects on, along, or across rail bank right of way. In addition to the Rail Bank Utility permit, a lease agreement and a fee will apply.

### C. Application for Utility Accommodation Permit Requirements

1. Highway number;
2. County;
3. Township, section, range;
4. City/township;
5. Is facility within tribal lands;
6. Type of facility being placed;
7. General Location;
8. Aerial construction;
  - a. Pole type
  - b. Blow out zone information
  - c. Voltage
  - d. Number and size of conductors
  - e. Height of conductor
  - f. Lighting
  - g. Type, watts, and poles;
9. Underground construction
  - a. Method of installation
  - b. Attached to bridge?
  - c. Voltage
  - d. Number and size of conductors
  - e. Depth
  - f. Conduit and casing information;
10. Tree trimming and/or clearing;
11. Start and completion dates;
12. A sketch that gives the location relative to the highway center line and/or right of way line, applicable control of access lines and access points, in-place utility facilities (including highway drainage), and identifying features when available.

The applicant agrees to comply with measures to protect the environment, including:

1. Required protection measures for specimen trees and environmentally sensitive areas;
2. Required steps required to preserve the scenic quality of the highway; and
3. Erosion control measures, turf establishment, NPDES, use and disposal of treated wood/trash/waste and asbestos, and the disposal of waste material outside of the right of way.

For further information see the [Environmental Requirements Document](#). The applicant is responsible for obtaining any other permit needed from other agencies in addition to MnDOT.

The applicant also agrees to the following conditions:

1. The applicant shall strictly conform to the terms of the permit and the Minnesota Rules Parts 8810.3100 through 8810.3600, together with the Special Provisions.
2. The applicant shall comply with relevant regulations of all other governmental agencies.
3. The applicant, or the applicant's contractor performing the work, shall carry a copy of the approved permit at all times while working on the highway right of way.
4. The applicant shall accomplish all work in a manner that will not be detrimental to the highway and that will safeguard the public. The utility owner will develop a written traffic control plan based upon the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) and the Temporary Traffic Control Zone Layout Field Manual (Part 6K of the MN MUTCD). The MnDOT Traffic Office must approve the plan.
5. The applicant shall provide complete information about any underground facility, including its purpose.
6. The applicant shall agree to collect and depict information about existing subsurface utility facilities before any excavation on highway right of way in accordance with [Minnesota Statutes Chapter 216D](#).
7. After completing the permitted work, the applicant must send one copy of the Certificate of Completion and "as built" drawings with line and grade elevations of all utility facilities placed within the right of way, referenced to roadway alignment to the MnDOT Assistant District Engineer, Maintenance.

#### D. Permit Rules

Parts 8810.3100 through 8810.3600 of the [Minnesota Administrative Rules Chapter 8810](#) detail the specific requirements that govern utility accommodation and use. Every Application for Utility Accommodation on Trunk Highway Right of Way contains a copy of these rules.

1. Rule Highlights

Each utility owner is responsible for understanding and following all rules and requirements of the permit. Several requirements from Minnesota rules that govern permits are highlighted below:

  - a. The rules require that utility construction and relocation not begin until MnDOT receives a permit application and grants a permit. The permit application includes a sketch that shows the proposed utility location. MnDOT may remove any installation that occurs without a permit and charge the utility owner removal costs.
  - b. For work being performed to accommodate a MnDOT project, the rules give utility owners within 15 days after written notice to begin requested work and require that utility owners complete the work within the specified date in the Notice and Order, which shall be reasonable under the circumstances.
  - c. Utility facilities along interstate highways shall be located outside the control-of-access lines except as outlined in the rules.
  - d. MnDOT may require the utility owner or its contractor to provide a deposit to protect the state in the event of damage to the trunk highway right of way or other costs arising from the permit.
  - e. "Except for the negligent acts of the state, its agents, and employees, the utility shall assume all liability for, and save the state, its agents and employees, harmless from, any and all claims for damages, actions, or causes of action arising out of the work to be done herein and the continuing uses by the utility, including but not limited to the placing, constructing,

reconstructing, maintaining, and using of said utility under this application and permit for construction.”

- f. The work permit or permit for construction does not in any way imply an easement on private property or state property.
- g. The rules also include standards that cover trees, brush, and vegetation removal; operation of drainage ways; topsoil and sod replacement; protection of existing utility facilities; warning devices; restoration of right of way to original condition; conformity to laws and rules; and requirements and specifications for aerial lines and underground lines.

## 2. Nonconformance

If the application for permit does not conform to accepted standards, requirements, and practices, MnDOT will refuse the permit application. MnDOT may suggest modifications, and the utility owner can then resubmit the application with a revised plan.

## E. Permit Preparation

The following submittals apply to applications for permit for utility-initiated projects on trunk highway right of way. See this manual's Utility Coordination Section for information about permit application submittals for relocation work to accommodate MnDOT projects. The utility owner submits the following to the Utility Agreements and Permits Unit:

1. One permit application form completed in its entirety
2. Two sets of sketches
3. A separate application for each trunk highway
4. A separate application for each MnDOT maintenance area involved

The utility owner must provide a sketch that shows, in detail, the proposed location of any new and/or altered facilities. The sketches must be on state right of way maps that are available at: [http://dotapp7.dot.state.mn.us/cyberdocs\\_guest/](http://dotapp7.dot.state.mn.us/cyberdocs_guest/) or <http://www.dot.state.mn.us/maps/gisweb/row/>

The sketch must contain references from the trunk highway centerline or the right of way line and display starting and ending points. If there is no right of way map available, a detailed drawing must be submitted with distances given from pertinent features such as centerline, right of way lines, curb and gutter, distances from the nearest county roads and highway mile markers, etc.

An authorized representative of the utility owner must sign, date, and submit the original permit.

## F. Permit Review

The following information applies to applications for permit for utility-initiated projects on trunk highway right of way.

Before issuing a permit MnDOT must:

1. Review the sketches and any pertinent information regarding the type of facility for compliance with this manual's section, the Utility Accommodation on Highway Right of Way Policy, and rules and laws that relate to transportation and the accommodation of utilities.

2. Verify that utility installations crossing state lines on roadways and bridges have been coordinated with appropriate highway permitting officials in the neighboring states.

When the Utility Agreements and Permits Unit receives a permit application, Permit Staff logs the application into the database and assigns a permit number to it. Then a Permit Writer begins the review of the application.

1. **Permit Writer**  
If a utility owner submits incomplete or inadequate information, the Permit Writer may request that the utility owner provide additional information or improved sketches. The Permit Writer revises the application and adds the new plan and/or sketches upon receiving them.
2. **Permit Special Provisions**  
After reviewing and/or revising the application, the Permit Writer writes the permit, which includes specific utility placement location with reference to highway stationing, centerline and right of way. The Permit Writer includes any necessary or appropriate special provisions.  
The number and type of special provisions in the permit will vary from project to project. Special provisions list requirements for different circumstances, such as pipeline installation, open trenching, or restoration.
3. **Permit Supervisor Review and Permit Assembly**  
The Permit Writer submits the written permit to the Permit Supervisor, who reviews, makes any corrections or changes, and then approves the permit.  
The Permit Writer reviews, assembles, and sends the application to the district permit office.
4. **District Review and Approval**  
The district reviews the application, makes note of any changes or special provisions that it wants to include in the permit, and sends it back to the Permit Supervisor in the Utility Agreements and Permits Unit. The Permit Supervisor reviews the district comments and discusses any issues that need to be resolved with the District Permit Staff.
5. **Final Preparation**  
The Permit Supervisor makes any final corrections and prepares an [approval-of-permit letter](#) and a [utility permit certificate of completion form](#). The Utilities Engineer must approve and sign all Utility Accommodation on Trunk Highway Right of Way permits.

## G. Permit Distribution

After approval, Permit Staff scan the final permit into the database at [http://dotapp7.dot.state.mn.us/cyberdocs\\_guest](http://dotapp7.dot.state.mn.us/cyberdocs_guest) and send the permit to the appropriate district permits office. If a deposit is required, Permit Staff send the issue letter requesting the deposit to the utility owner. The utility owner must then work with the District Permit Staff to provide the deposit.

The District Permit Staff distributes the permit. If the District Permit Staff has any questions or concerns to resolve, they will contact the utility owner before sending out the permit. The utility owner/contractor must give the district permits office 24-hour advance notice before starting work.

The utility owner or its contractor must carry a copy of the approved permit at all times while working on the trunk highway right of way.

## H. Changes

Once in the field, the utility owner may encounter a circumstance that necessitates a change from the terms of the approved permit. Before making any changes, the utility owner must receive approval from District Permit Staff.

The district may want to discuss those changes with the Permit Writer or Permit Supervisor. Once District Permit Staff approves the changes, the utility owner may make the adjustments. Any change to the permitted location must be approved by MnDOT. All changes must be documented in writing. If the changes cause a variation from the originally permitted work, the permit may be canceled and a new application may be required.

**NO DEVIATIONS FROM A PERMIT SHALL BE MADE WITHOUT PRIOR APPROVAL FROM DISTRICT PERMITS STAFF.**

## I. Completion of Work and Certification

Upon completion of the permitted work, the utility owner must send one copy of the [Permit Certificate of Completion](#) and "as built" plans to the MnDOT Assistant District Engineer, Maintenance.

## J. Maintenance

Once construction is complete, the utility owner must maintain the facilities at its own expense. The utility owner must follow the terms of the permit when it performs any maintenance work.

MnDOT must approve an Application for Miscellaneous Work on Trunk Highway Right of Way before the utility owner can perform service and maintenance within trunk highway right of way. Utility owners also must notify MnDOT when they perform service and maintenance operations that interfere with the normal flow of traffic.

If a utility owner discontinues use of an above ground facility, the facility shall be entirely removed from the right of way by the utility owner within 30 days after its use is discontinued, unless MnDOT grants written approval for a time extension. All removal costs shall be the responsibility of the utility owner.

If a utility owner discontinues use of an underground facility but desires to leave it in place on the right of way, the utility owner must receive written approval to do so from MnDOT, and a record shall be kept in the utility owner's permanent files so that the facility can be accurately located in the field. The utility owner shall locate discontinued underground facilities in the same manner as an active facility. MnDOT may at its discretion require abandoned and out-of-service pipes and appurtenant facilities (e.g., manholes, pull boxes, etc.) to be filled in or removed by the utility owner at the time of removal from service or at any time thereafter. All necessary removal and related costs shall be the responsibility of the utility owner.

If a utility owner discontinues use of a facility on a highway bridge but desires to leave it in place on the bridge, the utility owner must receive written approval to do so from MnDOT. Any abandoned or out-of-service facilities that are removed from a bridge must be done so utilizing procedures that are approved by the MnDOT Office of Bridges and Structures. All required removal costs shall be the responsibility of the utility owner.

MnDOT may at its discretion require abandoned and out-of-service pipes and appurtenant facilities (e.g., manholes, pull boxes, etc.) to be filled in or removed by the utility owner at the time of removal from service or at any time thereafter. In addition, the utility owner is responsible for obtaining approval needed and complying with requirements from any other agency, such as the Minnesota Pollution Control Agency, to leave in-service, abandoned or out-of-service facilities in place on the right of way. All necessary removal and related costs shall be the responsibility of the utility owner.

#### **K. Exceptions, FHWA Review and Enforcement**

The Utility Accommodation on Highway Right of Way Policy describes exceptions to accommodation requirements, situations requiring FHWA review, and enforcement of accommodation requirements

### **III. Freeways**

#### **A. General**

1. Federal regulations require that states address longitudinal utility installations within freeways. A [table](#) lists Minnesota's freeway locations. MnDOT updates this table as existing highways are designated for upgrade to full control of access freeway standards.
2. MnDOT exercises full control of access on all freeways in Minnesota. Minnesota Statute § 160.08, subd. 3, Minnesota Rule 8810.330, subpart 4, and Section IV.B of this section of the manual address considerations relating to access for utility facilities on all freeways.
3. MnDOT may apply freeway utility accommodation requirements to those highways identified as future freeways.

#### **B. Crossings**

1. New utility facility installations and relocations of existing utility facilities may be permitted to cross a freeway. Where a utility facility that is carried over or under a freeway, provisions should be made for the utility facility to cross the freeway in such a manner that it can be constructed and serviced without access from the freeway traffic lanes or ramps.
2. Manholes and other points of access to underground utility facilities crossing a freeway may be permitted only when they are located beyond the clear zone of the freeway traffic lanes or ramps. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the travelled way.
3. Multiple crossings of a freeway by the same utility facility should be limited to the extent possible, particularly within short distances.
4. Irrigation ditches and water canals should avoid freeway rights of way whenever possible. When a crossing is absolutely necessary, it may be made by underground siphon or through culverts or bridges as appropriate to the size of canal, topographic conditions, and highway safety aspects. Locations and structures are to be designed in the same manner as facilities for natural transverse drainage. All access and egress for servicing such facilities shall be from outside the access control lines.

#### **C. Longitudinal Installations**

1. Except for crossings permitted under Section III.B, installation of new utility facilities shall not be allowed within the right of way of any freeway, except in special cases under strictly controlled conditions. If an exception is granted, so that such an installation is allowed or allowed to remain, individual service connections shall not

- be permitted, the utility facility shall not be installed, maintained, operated, or serviced by direct access from the fully controlled access roadways or connecting ramps, and the utility facility shall not interfere or impair the safety, design, construction, operation, maintenance, stability, or future expansion of the highway.
2. When utility owners believe special circumstances exist, they must present their case for longitudinal installations on freeways as early in the design process as possible. Where such installations are requested, the utility owner shall in each case demonstrate to MnDOT's satisfaction that:
    - a. The accommodation will not adversely affect the safety, design, construction, traffic operations, maintenance, or stability of the freeway.
    - b. Alternate locations are not available or are cost prohibitive from the standpoint of providing efficient utility services.
    - c. The accommodation will not interfere with or impair the present use or future expansion of the freeway.
    - d. The location of the utility facility outside of the right of way would result in the loss of productive agricultural land or loss of productivity of agricultural land. In this case, the utility owner must provide information on the direct and indirect environmental and economic effects for evaluation and consideration by the Commissioner of Transportation.
    - e. Access for constructing and servicing the utility facility will not adversely affect safety and traffic operations or damage any highway facility.
  3. Installations that will have aerial encroachments that are temporary in nature, such as the blowout zone (conductor movement envelope) of wires being within MnDOT right of way, but do not permanently encroach on the MnDOT right of way may be allowed and require a MnDOT permit. Accommodations of temporary aerial encroachments of this type do not require an exception from the FHWA.

#### IV. Location Requirements

##### A. General

1. Utility facilities shall be located to minimize the need for later adjustments to accommodate future highway improvements, minimize risks to trunk highway and environmentally sensitive areas, and permit access for servicing such lines with a minimum of interference to highway traffic.
2. The location of utility installations along urban streets with closely abutting structures, such as buildings and signs, generally requires special considerations. Such considerations must be resolved in a manner consistent with the prevailing limitations and must be approved by MnDOT.
3. The location of utility facilities and appurtenances shall be in accordance with the Americans with Disabilities Act.
4. The horizontal and vertical location of utility facilities within the highway right of way must, to the extent practicable, conform with the clear zone policy applicable to the type of highway and specific conditions of highway section involved. (See 23 CFR § 645.207.) Clear zone policies increase safety, improve traffic operations, and enhance the appearance of highways by designing, constructing, and maintaining highway roadsides as wide, flat, rounded, and as free as practical from physical obstructions above ground; such as from trees, drainage structures, massive sign supports, utility poles, and other ground-mounted obstructions. The MnDOT policy is based on criteria in 23 CFR § 645.207 and the most recent version of the [AASHTO Roadside Design Guide](#).

**B. Access to Utility Facilities**

1. MnDOT has the statutory authority to control access to all highways under its jurisdiction. Most evident on divided highways, expressways and freeways, access control enhances highway safety and is commonly accomplished by giving preference to through traffic and limiting interference from other vehicles, pedestrians, and other activities, disturbances, or objects on the highway.
  - a. Full Control of Access – The authority to control access is exercised to give preference to through traffic by providing grade-separated access connections with only selected public roads and by prohibiting at-grade crossings or direct private driveway connections. Vehicles are not permitted to stop on the highway except in emergencies. All freeways employ full access control.
  - b. Partial Control of Access – The authority to control access is exercised to give preference to through traffic, typically using techniques such as separating travel lanes, adding some grade-separated access connections with selected public roads, and limiting the number of crossings at grade and private driveway connections. This level is typical of many divided highways and some expressways.
2. Subject to Section IV.D. (longitudinal installations), access to utility facilities may be permitted on both full or partial controlled access highways in limited conditions where alternate locations and means of access are not available or are impractical, as long as such access does not adversely affect safety or traffic operations or damage any facility. The following conditions also must be met:
  - a. Access for construction and/or servicing a utility facility shall be limited to frontage roads, nearby or adjacent public roads and streets, or trails along or near the highway right of way line, connecting only to an intersecting road.
  - b. In some circumstances, a locked gate along the fence may be used to meet periodic service access needs, subject to the following:
    - i. Access to and from the highway will be on the basis of a revocable permit.
    - ii. The gates shall be locked when not in use and can only be used by authorized utility personnel.
    - iii. Use shall not adversely affect traffic operations.
    - iv. Use will not give the utility owner a claim to permanent access rights

**C. Crossings**

1. Utility crossings of highways shall be perpendicular to the highway alignment, where practicable.
2. For utility crossings on highways without full or partial access control, all supporting structures and above ground appurtenances shall be located outside the clear zone and as close to the right of way as practicable.
3. For utility crossings on highways with full or partial access control, all supporting structures and above ground appurtenances shall be located outside the access control line, and preferably outside the right of way line. Installation and maintenance shall be from frontage roads, crossroads, or streets, whenever practicable, or otherwise from outside the access control line and preferably outside the right of way line. Where required for support, exceptions may be allowed for intermediate supporting poles to be placed in medians of sufficient width that will provide the clear zone from the edges of both travelled ways. At interchange areas,

supports for overhead utility facilities shall be permitted only when they are located beyond the clear zone of the freeway traffic lanes or ramps, sight distance is not impaired, and access can be safely obtained. More information about freeway crossings may be found in Section III.

4. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the travelled way.
5. Buried utility crossings shall be avoided in deep cuts; near footings of bridges, retaining walls, and noise walls; at highway cross drains where flow of water, drift, or streambed load may be obstructed; in wet or rocky terrain where it is difficult to attain minimum cover; and through paved or unpaved slopes under structures.

#### **D. Longitudinal Installations**

1. New longitudinal installations on highways without full or partial access control shall be located on uniform alignment as near as practicable to the right of way line and outside the clear zone. Pole and lines shall normally be placed in the outer five feet next to the right of way line. Underground facilities should be parallel and adjacent to these facilities. Other locations may be approved where particular circumstances warrant. Utilities must exercise rights available under applicable laws to make joint use of poles, and common trenching or plowing of underground facilities to minimize overcrowding of the right of way. The placement of all installations should allow servicing and maintenance with a minimum disturbance to traffic.
2. Longitudinal installations on highways with partial control of access are discouraged. When such installations are allowed, individual service connections shall not be permitted unless no other reasonable alternatives exist. Factors to be considered include distance between distribution points, terrain, cost, other prevailing site conditions and prior existence.
3. Longitudinal installations on highways with full control of access shall not be permitted. In extreme cases, exceptions may be allowed as discussed in Section III (Freeways).

#### **E. Median Installations**

Utility facilities shall not be located in a highway median except for those serving the highway. This does not prohibit crossings as allowed under Section IV. C.

#### **F. Utility Appurtenances**

1. Appurtenances protruding more than four (4) inches above the ground line shall be located outside the clear zone and as close to the edge of the right of way as practical. If no feasible alternative exists and if permitted by MnDOT, appurtenances may be allowed within the clear zone if they meet breakaway criteria or will be shielded by a traffic barrier.
2. Manholes, vaults, and pits must be limited to those necessary to install and service the line and to the extent practicable must be directly in line with the utility facility and of the minimum width to accomplish their intended function and comply with any other necessary codes or requirements. They must be installed flush with the roadway or ground surface and must be of sufficient strength to withstand the superimposed loads of the roadway and traffic, including that of construction equipment.
3. Utility accesses and valve covers should not be located in the roadway of rural highways. In urban and suburban areas there may be no feasible alternative to locating utility accesses and valve covers in the roadway, and in that case they should not be located in a wheel path, if possible. In cases of utility accesses and

- valve covers occupying highway right of way, coordination among utility owners is essential.
4. Manholes, vaults or pits shall not be located in the pavement or shoulders of heavily travelled highways. Possible exceptions may be made on highways where manholes are essential parts of existing lines and where no practical alternative exists. New manhole installations shall be avoided at highway intersections, and shall be minimized and mitigated on low volume roadways.
  5. Utility buildings shall not be located on the right of way. Possible exceptions may be granted in cases where the building can be located outside the clear zone of the trunk highway on MnDOT owned right of way such as a park-n-ride lot or remnant parcel.
  6. Cabinets shall not be located on the right of way. Possible exceptions may be granted in cases where cabinets can be located in areas where they are not vulnerable to errant vehicles and as near to the edge of the right of way as possible.
  7. Vents, drains, markers, utility access holes, shafts, shut-offs, cross-connect boxes, pedestals, pad-mounted devices, and similar appurtenances shall not be located where they would interfere with accessible facilities for the disabled along or across the highway, such as along sidewalks and at push-button accesses.

#### **G. Scenic Considerations**

1. MnDOT makes every possible effort to enhance visual qualities along trunk highways and uses techniques such as the retention and/or planting of trees, shrubs, and other vegetation; the selection of special alignments and corridors; and the acquisition of scenic easements.
2. As required by 23 CFR § 645.209(h), new utility installations, including those needed for highway purposes (such as for highway lighting or to serve a weigh station, rest area, or recreation area), are not permitted on trunk highway right of way or other lands acquired or improved with federal-aid or direct federal highway funds and are located within or adjacent to areas of scenic enhancement and natural beauty. Such areas include public park and recreational lands, wildlife and waterfowl refuges, historic sites as described in 23 USC § 138, scenic strips, overlooks, rest areas and landscaped areas. MnDOT may permit exceptions provided the following conditions are met:
  - a. New underground or aerial installations may be permitted only when they do not require extensive removal or alteration of trees or terrain features visible to the highway user or impair the aesthetic quality of lands being traversed.
  - b. Aerial installations may be permitted only when:
    - i. other locations are not available or are unusually difficult and costly, or are less desirable from the standpoint of aesthetic quality;
    - ii. placement underground is not technically feasible or is unreasonably costly, and;
    - iii. the proposed installation will be made at a location, and will employ suitable designs and materials, which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting, armless, single-pole construction with a vertical configuration of conductors and cable.
3. For new utility installations within freeways, other provisions of Section III Freeways must also be satisfied.
4. Ground-mounted and aerial utility facilities shall be of a design compatible with the scenic quality of the specific highway being traversed and shall blend in with the ground contours and the scenery wherever possible. In areas of unusual scenic

interest, (e.g. major recreational areas, historic areas, and major publicly and privately owned tourist attractions) underground utility placement shall generally be required.

5. New utility installations on highways with special scenic designations may encounter sensitive natural or scenic areas that require special treatment. Such highway corridors may include designated wildflower routes, the National Prairie Passage Route, the Great River Road, and Scenic Byways. Similar sites may be located elsewhere on the trunk highway system near public parks and recreational lands, wildlife and waterfowl refuges, historic sites, scenic overlooks, rest areas, and landscaped areas. The MnDOT Office of Environmental Stewardship can verify impacted sites and recommend permit language, when applicable.
6. Where underground utility facilities are to be installed near specimen trees, as identified by MnDOT, the tree root systems are to be protected. Boring is required if the trench is within the diameter listed in the table below. Boring (tunneling) under the roots must be consistent with the table that follows. The minimum tunnel depth within the root zone shall not be closer than 36 inches to the soil surface. Open trenching will not be permitted within the described protection limits. Specimen trees should be avoided when installing overhead lines as well. Topping and side pruning will not be permitted.

Tree Diameter 4 ½ ft. Above Ground	Distance from Face of Tree Trunk
0" – 2"	1'
3" – 4"	2'
5" – 9"	5'
10" – 14"	10'
15" – 19"	12'
>19"	15'

## V. Structure Requirements

### A. Utility Facilities on or Near Highway Bridge Structures

1. MnDOT may allow parallel utility installations on highway bridge structures to water, steam, sewer, communications, electrical power lines of 35kV or less, and natural gas distribution pipelines. All are to be installed in accordance with the latest applicable codes. The MnDOT Bridge Office shall approve such installations before construction of the facility begins.
2. The utility owner is responsible for the design of its facility and MnDOT must approve the design. Factors influencing the design of an installation are the effects on the safety of the travelling public, traffic flow, structural integrity of highway structures, ease of highway and utility maintenance, and aesthetic appearance of the installation.
3. All utility facilities installed on highway structures shall be constructed of durable materials designed with a long life expectancy, and must be installed in a manner that will minimize routine servicing and maintenance over the facility's design life.
4. Future growth of a utility should be considered. The system should be planned so as to avoid interference with highway traffic should expansion be required. It may be advantageous to install utility facilities at the same time as State bridge construction to minimize the expense of a future expansion program.

5. Generally, utility facility installations on bridge structures shall be above the low superstructure elevation and inside of the fascia elements. The structural integrity of the bridge structure must not be compromised by the installation methods for the utility facility. The strength of beams or girders cannot be reduced by drilling. Field welding on structures is not permitted. Expansion shall be provided for on all conduit and pipe runs. All supports shall be of a non-rusting material. Any abutment opening around a utility installation shall be sealed.
6. To avoid being struck by a vehicle carrying a high load, gas and electric power installation designs shall generally be located in an interior girder bay (a minimum of two girders in from the edge of structure) and located vertically within one foot of the bottom of slab.
7. Communication and electric power line installations on highway bridge structures shall be suitably insulated, grounded, and carried in a protective conduit or duct run that shall generally terminate in the shoulder beyond the bridge approach panels.
8. Natural gas pipeline installations on highway bridge structures are subject to the following additional requirements:

- a. Maximum operating pressure and corresponding nominal pipe diameters will be:

<i>Operating Pressure (psi)</i>	<i>Maximum Diameter Pipe (inches)</i>
0-100	6
101-175	4
176-400	3
>400	Not Allowed

- b. Shut-off valves, automatic where practical, must be installed within 300 feet from each end of the structure, unless segments of the lines can be isolated by other devices within a reasonable distance.
  - c. Gas lines must be vented in an approved manner.
  - d. Pipelines shall be steel pipe and all joints, except expansion joints, shall be welded.
  - e. The pipeline shall be electrically insulated from the bridge structure.
  - f. The pipeline installation must be designed and installed so that the bridge structure and vehicle traffic do not create hoop stress on the pipe.
  - g. The operating pressure of the pipeline must not create hoop stress in excess of 20 percent of the specified minimum yield strength of the pipe. The specified minimum yield strength of the pipe shall be 42,000 p.s.i. (API X42).
9. Electric power line installations greater than 35 kV on highway bridge structures shall generally not be permitted except in extraordinary circumstances, and then only after a detailed analysis of all other construction methods or alternatives are determined impracticable. The increased cost of alternative construction methods will not be considered a reason for the installation of high-voltage transmission lines on bridge structures. The utility owner must also address the following safety and operational issues to MnDOT's satisfaction.
    - a. The proposed installation will not pose a hazard to bridge and roadway construction and maintenance personnel working on or near the installation.
    - b. The proposed installation will not pose a hazard to the motoring public.

- c. The proposed installation will include adequate shielding protection to eliminate adverse effects of Electric Magnetic Field (EMF) on radio interference, fuel ignition potential, potential increased corrosion deterioration of reinforcing and structural steel, and long-term health effects of maintenance personnel working on the bridge for extended periods of time.
  - d. The proposed installation will be adequately designed to prevent the possibility of any shock hazards when installed on bridges that allow overtopping of flood waters or submersion of superstructure in high water.
  - e. The proposed installation would not pose environmental problems now or in the foreseeable future.
  - f. The proposed installation shall be designed to allow shut down of lines, upon request of MnDOT, and to allow area that is serviced by the transmission line to have adequate and available alternate sources of power.
10. Installations of all utility facilities within 50 feet laterally, 50 feet below, and 15 feet above the base of spread footings that support bridge structures are subject to the requirements found in Section 2.4.1.6.2 Buried Utilities of the [MnDOT LRFD Bridge Design Manual](#).
  11. All visible utility facility installations shall be clearly marked at each substructure with the utility owners' name and the type of facility (e.g. gas, telephone, electric power, high voltage electric power).
  12. The horizontal and vertical location of overhead power and communication lines relative to a highway bridge or other structure shall provide adequate clearance for construction and maintenance activities.

#### **B. Utility Facilities near Wall Structures**

1. Installations of all utility facilities within 50 feet laterally, 50 feet below, and 15 feet above the base of spread footings that support wall structures are subject to the requirements in Section 2.4.1.6.2 Buried Utilities of the [MnDOT LRFD Bridge Design Manual](#). Other restrictions may apply in locations behind mechanically stabilized earth (MSE) and other similar wall support structures.
2. The horizontal and vertical location of overhead power and communication lines relative to wall structures shall provide adequate clearance for construction and maintenance activities.

#### **C. Vehicular Tunnels**

1. Utility facilities shall not be permitted to occupy vehicular tunnels on freeways at new locations except in extreme cases. Under no circumstances, however, shall a utility facility that transports a hazardous material be allowed to occupy a vehicular tunnel.
2. When a utility facility occupies space in an existing vehicular tunnel that is converted to a freeway, relocation of the utility facility may be required. Utilities that have not previously occupied an existing vehicular tunnel that is incorporated into a freeway will not be permitted accommodation except in extreme cases.

#### **D. Utility Tunnels and Bridges**

1. A utility tunnel or a bridge may be allowed for a carrier or casing crossing a major highway at a strategic location. Such a tunnel or bridge may serve a joint purpose as a utility and pedestrian facility and/or sign support structure. In situations where several utility crossings may be needed, now or in the future, the cost of a tunnel (either a large casing or a box culvert) or a bridge may be less than the cost of several untrenched or separate carriers or casings. Where these conditions exist,

steps should be taken as necessary to ensure that adequate coordination is performed with and among the utility owners to:

- a. Anticipate utility needs for future crossings;
  - b. Combine facilities into a single joint use crossing;
  - c. Comply with applicable permitting procedures; and
  - d. Comply with applicable MnDOT requirements and expectations pertinent to designing, constructing, inspecting, and maintaining utility tunnels and bridges.
2. In a tunnel or on a bridge, provision shall be made to isolate mutually hazardous materials being carried, such as fuel and electric power, by compartmentalizing or by using auxiliary encasement of incompatible carriers.
  3. The utility tunnel or utility bridge structure shall conform in appearance to MnDOT's standard culvert and bridge practices and shall be referenced by a bridge number that the MnDOT Bridge Office assigns.
  4. Before installing a utility tunnel or bridge, utility owners shall agree that any maintenance, servicing, or repair of the utility lines will be their responsibility. MnDOT will participate in these costs only to the extent that the utility owner would otherwise normally receive reimbursement for such work or to the extent that the structure is used for highway purposes.

#### **E. Lighting and Other Above-Ground Structures**

Above-ground lighting facilities, lighting fixture supports, and all other above-ground structures shall be located outside the clear zone, except under the conditions listed below:

1. Right of way width limits are less than the clear zone requirements and it is not cost effective to acquire additional right of way.
2. Light poles conform to breakaway design features as defined in the most current edition of the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals*. Subsequent attachment of additional utility equipment to breakaway poles will not be permitted.
3. No ground structure or base protrudes more than four (4) inches above the surface of the natural ground and can be maintained at that level.
4. The installation is at least 10 feet from the roadway or two (2) feet behind the face of the curb in an area where the posted speed limit is 40 miles per hour or less.
5. The facility is shielded by an already existing guardrail or is located in an area that is inaccessible to vehicular traffic.

### **VI. Design Requirements**

#### **A. General**

1. The potential impact on the highway and its use must be considered in the design and location of utility facilities on or along the highway. Consideration should also be given to the utility service needs of the traversed area where such service is to be provided from utility facilities on or near the highway right of way.
2. All utility installations on, over, or under highway right of way and attachments to highway structures shall be of durable materials designed for a long service life expectancy and relatively free from routine servicing and maintenance.
3. Utility and highway facilities should be separated to avoid damage during installation and to provide for reasonable success in locating facilities with electromagnetic utility locating devices. Separation of the facilities from highway facilities or other utility

facilities may require the acquisition of additional property by the utility owner. Utility facilities should also be separated from one another as required by appropriate codes and ordinances.

4. On new utility facility installations or adjustments of existing ones, provisions should be made for known or planned expansion of the utility facilities, particularly those located underground or attached to bridges. They should be planned to minimize hazards and interference with highway traffic.
5. Public utilities, and in particular broadband service providers, are encouraged to coordinate the placement of facilities through efforts such as joint trenching of buried facilities and advance placement of ducts available for future placement of utility lines.

## B. Responsibilities

1. MnDOT Responsibilities - MnDOT is responsible for the review and approval of proposals from utility owners in accordance with the provisions in this document and the Utility Accommodation on Highway Right of Way Policy.
2. Utility Owner Responsibilities:
  - a. Utility owners are responsible for the design of the utility facility to be installed within the highway right of way or attached to a highway structure. Full consideration must be given to necessary measures that preserve and protect the maintenance, operation, safety, and aesthetic characteristics of the highway. Location, depth, clearances, and separation between utility facilities and the work must meet the requirements in this Utility Accommodation Section.
  - b. Utility owners are required to collect and depict information in accordance with Minnesota Statutes, Ch. 216D, and in accordance with procedures set forth in ASCE Standard 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data* as described in more detail in Section VI. C. below.
  - c. When co-locating on a utility facility owned by others, the utility owner is required to obtain all necessary approvals and upon request from MnDOT, submit a written statement verifying such approval.
  - d. For wireless communication facilities, the utility owner, upon request, must supply written proof of compliance with all requirements of the local unit of government in which the facility will be installed.

## C. Collection and Depiction of Subsurface Utility Information

Applicants for MnDOT permits shall agree to collect and depict information about existing subsurface utility facilities before any excavation on highway right of way in accordance with Minnesota Statutes, Chapter 216D. Chapter 216D indicates that "the information obtained from affected (utility) operators must be submitted on the final drawing used for the bid or contract and must depict the utility quality level of that information." Utility quality levels are defined within the statute as follows:

1. **Utility quality level** - "Utility quality level" means a professional opinion about the quality and reliability of utility information. There are four levels of utility quality information, ranging from the most precise and reliable, level A, to the least precise and reliable, level D. The utility quality level must be determined in accordance with guidelines established by the Construction Institute of the American Society of Civil Engineers in document CI/ASCE 38-02 entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." The following are the definitions of quality levels from CI/ASCE 38-02:

- a. **Utility Quality Level D** – Information derived from existing records or oral recollections.
- b. **Utility Quality Level C** – Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.
- c. **Utility Quality Level B** – Information obtained through application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utility facilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.
- d. **Utility Quality Level A** – Precise horizontal and vertical location of utility facilities obtained by the actual exposure (or verification of previously exposed and surveyed utility facilities) and subsequent measurement of subsurface utility facilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm (0.05 feet) vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner.

## VII. Construction and Maintenance Requirements

### A. General

MnDOT permits include construction requirements and these requirements will not be repeated verbatim in this section. Utility owners who receive permits are responsible for understanding and complying with all construction requirements in the approved permit. The utility owner's on-site work force, consultant, contractor, or subcontractor must be in possession of an approved permit at all times when utility work is being performed within the highway right of way.

### B. Traffic Control

1. Traffic controls for utility construction shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) and the Temporary Traffic Control Zone Layouts Field Manual (Part 6K of the MN MUTCD). Any utility construction operation shall be planned with full regard to safety, and interference with roadway traffic shall be kept to an absolute minimum.
2. No utility work shall begin until all appropriate traffic control devices are in place and fully functional. The utility owner must maintain these traffic control devices until completion of all utility work.
3. For those operations that entirely close or encroach upon a traffic lane, shoulder, or ramp, the utility owner must submit or reference a proper traffic control plan as part of its permit application. On heavily travelled highways, utility construction operations that interfere with traffic will not be allowed during periods of peak traffic flow.
4. All utility work should use the appropriate typical diagrams in the [Temporary Traffic Control Zone Layouts Field Manual](#). If desired, a utility owner may develop its own traffic control plan contingent upon MnDOT approval. MnDOT may require a more extensive traffic control plan if:
  - a. Utility work is to be performed during nighttime hours;
  - b. Traffic control zones are to be left overnight or during other non-work times;

- c. Utility work is to be performed in a continuously moving traffic control zone; and
- d. Typical diagrams in the Temporary Traffic Control Zone Layouts Field Manual do not adequately cover utility work.

### **C. Work Site Safety**

1. The utility owner is responsible for securing the work site against any hazard to workers, pedestrians, bicyclists, and the motoring public at all times until completion of all work. The utility owner shall control all vehicles, equipment, and materials that are in active use at the work site to assure consistently safe conditions.
2. Utility hardware or equipment that is located at the work site but not in immediate use should be stored in a safe location off of the right of way. If this is not practical, the hardware or equipment may be stored beyond the clear zone as close to the fence or right of way line as possible.
3. All vehicles used to conduct the work operation shall be equipped with conspicuously visible roof-mounted high-intensity revolving or strobe lights. Vehicles and equipment shall have their high intensity flashing lights (strobe or revolving) and hazard warning lights operating just before and during work operations when they are within the right of way.
4. All workers (utility, MnDOT, contractor, etc.) must wear high visibility apparel (vest, shirt, or jacket) at all times. Flag persons and workers must wear high-visibility pants at all times during low light or night conditions. When workers are in an area that does not require the use of a hard hat for head protection, they should wear a high-visibility hat for increased visibility. All high-visibility apparel shall comply with the requirements in the Minnesota Manual on Uniform Traffic Control Devices.

### **D. Trenchless and Trenched Construction**

1. Trenchless Construction and Renewal
  - a. Every possible effort should be made to avoid disturbing the pavement surface when installing new utility facilities. Trenchless methods, in accordance with MnDOT requirements, should always be considered as a means of doing so. Crossings of major highways, expressways, or freeways shall be made using trenchless methods.
  - b. The two main divisions of trenchless methods are trenchless construction and trenchless renewal. Trenchless construction methods may include, among others, directional boring, jacking, boring, pneuma gopher, augering, and microtunneling. Trenchless renewal methods may include, among others, cured-in-place pipe and sliplining.
  - c. Work shall be performed in a manner that shall minimize the movement of the ground in front of, above, and surrounding the excavation operation and that shall minimize subsidence of the surface above and in the vicinity of the excavation.
  - d. Except for directional boring, overcut, which is the annular space between the excavated hole and the outside diameter of the casing or pipe, should be limited to one inch. For directional boring, the overcut diameter shall be kept to a minimum to properly install the pipe.
  - e. All voids caused by jacking or boring (not directional boring) shall be filled by pressure grouting. MnDOT must approve the type of grout. For all pipes and casings six (6) inches in diameter and larger, a simultaneous grouting and jacking or boring procedure will be used. For directional boring, the drilling fluid in the annular space outside of the pipe shall not be removed after installation, and shall remain in place to provide support for the pipe and

neighboring soil. If trenchless operations of any method must be abandoned for any reason, such as an obstruction in the subsurface, all voids must be immediately grouted.

f. Boring Specifications

- i. Casing pipe shall be installed in a manner that will not disrupt traffic nor damage the roadway grade and surface. The introduction of water into an excavation is prohibited.
- ii. Steel casing pipe shall be new material, with minimum yield strength of 35,000 psig (pounds per square inch gauge). All joints in steel casing pipe shall be welded. The following minimum wall thickness shall be used:

<b>Casing Pipe Wall Thickness</b>	
Outside Diameter	Under Highway
12" to 28"	0.250
30" to 34"	0.375
36" to 60"	0.500
66"	0.625
72"	0.750

- iii. Reinforced concrete casing pipe must be properly classed based on the depth of cover over the pipe. A minimum of 5000 psi (pounds per square inch) concrete pipe must be used when casing pipe is jacked. Bell type ends are not permitted.

g. For directional boring:

- i. The machine must be anchored to the ground during drilling and pullback operations and have a system to detect and issue an alarm if the drill string approaches electric lines and to provide protection against electrocution.
- ii. Excess drilling fluids must be contained and disposed of in accordance with state and federal requirements with no environmental risks.

- h. Portal limits (e.g., surface openings, bore pit limits) for utility installations shall be established beyond the clear zone of the highway and at least 30 feet from the edge of the nearest through traffic lane and at least 20 feet from the edge of pavement on ramps. In certain circumstances, such as on low-traffic roadways and frontage roads, as determined by MnDOT, portal limits that are at least 10 feet from the edge of pavement and at least five feet from the face of curb may be allowed. Where circumstances necessitate the excavation of a bore pit closer to the edge of pavement or curb than established above, concrete barrier or other approved devices must be installed for protection of the workers and the traveling public. Where a bulkhead seals the pipeline portal, the portal should be suitably offset from the surfaced area of the highway. Where a bulkhead is not installed in the pipeline, the portal should be offset no less than the vertical difference in elevation between the surfaced area of the highway and the pipeline.

- i. Bore pits must be located and constructed to not interfere with highway structural footings. Shoring must be used if necessary.

## 2. Trenched Construction

- a. During construction, open trenches or other excavations within the clear zone shall not be permitted to remain beyond the workday and must be backfilled, covered, or shielded from vehicular and pedestrian traffic.
- b. The following minimum specifications for trenching and backfilling shall be applied:
  - i. MnDOT may require that backfill and/or repaving be performed by its forces or under its direction at the expense of the utility owner. Where a utility owner can demonstrate that it is capable of acceptable and adequate repair, it may be authorized to perform its own restoration using specifications acceptable to MnDOT.
  - ii. Trenches shall be cut to have vertical faces, where soil and depth conditions permit, with a maximum width of the outside diameter of the casing or carrier, plus two (2) feet. They shall be shored where necessary. Lateral and vertical support shall be provided for all existing facilities and structures. Short tunnel sections should be used near adjacent facilities.
  - iii. Bedding should be provided to a depth of six (6) inches or half the diameter of the casing or carrier, whichever is less. Bedding should consist of granular material, free of lumps, clods, stones, and frozen materials, and should be graded to a firm but yielding surface without abrupt change in bearing value. Unstable soils and rock ledges should be sub-excavated from the bedding zone and replaced by suitable material. The bottom of the trench should be prepared to provide uniform bedding throughout the length of the installation.
  - iv. Backfill under the roadway and foreslopes should be placed in two stages: first, fill to the level of the top of carrier or casing and second, fill to the former surface. Fill should consist of suitable material placed in layers of appropriate thickness to permit consolidation by compaction according to current applicable specifications. Consolidation by flooding or jetting may be permitted only in specific warranted conditions. For backfill of trenched pavement, materials and methods of compaction should be adapted to achieve prompt restoration of traffic service while still meeting requirements.

## E. Encasement

1. MnDOT will make the final determination of the need for casing of pressurized carrier pipes and carriers of materials that are flammable, corrosive, expansive, energized, or unstable.
2. Casings should be considered for the following conditions:
  - a. As an expediency in the insertion, removal, replacement, or maintenance of carrier pipe crossings of freeways, expressways, and other controlled access highways, and at other locations where it is necessary to avoid trenched construction;
  - b. As protection for carrier pipe from external loads or shock either during or after construction of the highway; and

- c. As a means of conveying leaking fluids or gases away from the area directly beneath the roadway to a point of venting at or near the right of way line or to a point of drainage in the highway ditch or a natural drainage way.
3. Jacked or bored installations of coated carrier pipes should be cased. Exceptions may be made where assurance can be provided against damage to the protective coating.
4. Consideration should be given to encasement or other suitable protection for any pipeline crossing unstable or subsiding ground, or near other locations where hazardous conditions may exist.
5. Rigid encasement or suitable bridging should be used where the depression of flexible carrier pipe would impair pavement support. Casings shall be designed to support the load of the highway and superimposed loads thereon including that of construction equipment and, as a minimum, should equal the structural requirements for highway drainage facilities. Casings shall be composed of materials of satisfactory durability under conditions to which they may be exposed.
6. Casing pipe shall be sealed at the ends with a flexible material to prevent flowing water and debris from entering the annular space between the casing and the carrier. The installations shall include necessary appurtenances, such as vents and markers.
7. Where used, encasement must be provided under center medians, from top of backslope to top of backslope for cut sections, five (5) feet beyond toe of slope and under fill sections, five (5) feet beyond face of curb in urban sections and all side streets, and five (5) feet beyond any structure where the line passes under or through. Encasement may be omitted under medians that are substantially wider than normal standards for such roadways.
8. Where appropriate, the encasement should provide for future widening of the highway without need for any utility adjustment.
9. See Section VIII.D. Gas and Petroleum Pipelines for additional information pertaining to encasement of those facilities.

#### **F. Mechanical Protection for Uncased Crossings**

For some conditions, utility crossings of the highway may be installed without encasement. The following controls provide mechanical protection to uncased pipeline crossings of the highway.

1. On uncased construction the carrier shall conform to the material and design requirements of utility industry and governmental codes and standards. The carrier pipe shall be designed to support the load of the highway plus superimposed loads thereon when the pipe is operated under all ranges of pressure from maximum internal to zero pressure.
2. Suitable bridging, concrete slabs, or other appropriate measures should be used to protect existing uncased utility facilities, which by reason of shallow cover or location make them vulnerable to damage from highway construction or maintenance operations.

#### **G. Pavement Cuts**

1. Open cutting of the pavement to install utility facilities is highly discouraged because it adversely affects the roadway's structural integrity. If it is not possible to install a utility facility without disturbing the pavement, the utility owner must provide written documentation and justification for an open cut. Where a longitudinal open cut is proposed or where several cuts are proposed to cross the pavement in the same

- area, MnDOT representatives responsible for the affected section of roadway will inspect the roadway to determine the extent of road repair that will be required.
2. The utility owner will be required to cut and patch the pavement in accordance with MnDOT specifications and special provisions. The limits of the pavement cut and resulting patch must extend at least one (1) foot outside the limits of the trench and extend to all existing cracks or joints located five (5) feet or less from the edge of the trench. This additional pavement removal minimizes later sag development in the surface of pavement over the trench. The pavement must be cut with a saw and to such depth that will assure a clean break. The restored surface must be flush with and sloped at the same rate as the existing surface. At highway crossings, care must be taken to prevent the trench from becoming a drainage channel. On longitudinal lines, care must be taken to prevent the trench from interfering with surface or subsurface drainage.

#### **H. Markers/Facility Protection**

1. A trace wire, metallic tape, or other product provided for detection purposes shall be installed concurrently with all non-metallic underground utility lines. Whenever feasible, such methods shall include devices incorporated into the utility line.
2. No underground line shall be permitted within the highway right of way unless the line owner subscribes to the services of Gopher State One Call.
3. The utility owner shall place permanent, readily identifiable, and suitable markers identifying the location of underground utility facilities, whether they are crossing the right of way or installed longitudinally along the right of way, where appropriate. Markers shall be installed immediately above installed lines in such a manner to not interfere with highway safety and maintenance operations. Preferably, the markers shall be located at the right of way line if that location will provide adequate warning. Markers shall be placed at maximum intervals of  $\frac{1}{4}$  mile and on each side of all public roads, streets, and trails that the utility facility crosses. The markers shall identify the owner/operator name and the type of facility. The telephone number for Gopher State One Call to request marking the line location before excavation and for emergency response shall also appear on the marker.
4. Utility owners must comply with the uniform color code system as required by Minnesota Statute § 216D.04, subd. 3(d) and Gopher State One Call when marking the location of subsurface facilities.

### **VIII. Specific Requirements**

#### **A. Overhead Power, Communication Lines, and Overhead Wireless Facilities**

1. Location
  - a. In rural areas, new overhead facilities shall be located on a uniform alignment as far from the roadway as possible, preferably near the right of way line. Guy wires placed within the right of way shall be held to a minimum. They may be located as needed but shall not be located within the clear zone.
  - b. New above ground facilities shall be located outside the clear zone. If the clear zone extends to the right of way line, then no installation should be permitted unless there is no feasible alternative. Where there are no feasible alternatives, new facilities that project more than four (4) inches above the ground line should be shielded by existing traffic barriers or placed in areas that are inaccessible to vehicular traffic.
  - c. In urban areas, new overhead utility facilities in uncurbed sections shall be located at or as near as practical to the right of way line. Where there are curbed sections, the utility facility shall be located as far as practical behind

the face of outer curbs and, where feasible, behind the sidewalks at such locations that will not interfere with adjacent property use. In all cases there shall be at least a two (2) foot clearance behind the face of the curb.

- d. The location of overhead utility facilities on highways with narrow right of way or on urban streets with closely abutting improvements requires special considerations. Such cases must be resolved in a manner consistent with the prevailing limitations and conditions.
- e. Longitudinal installation of overhead utility facilities on highway right of way shall be limited to single pole construction. Transverse installation of overhead utility facilities shall also be limited to single pole construction where practicable, but may also be approved to use the same type of supports that are used on the portion of the pole immediately adjacent to the highway right of way provided all other requirements in this section are met.
- f. Where irregular shaped portions of the right of way extend beyond or do not reach the normal right of way limits, variances in the location of utility facilities should be allowed to maintain a reasonably uniform alignment for longitudinal installations. Such installations will reduce the need for guys and anchors between poles and roadway.
- g. The horizontal and vertical location of overhead power and communication utility facilities relative to a highway bridge or other structure shall provide adequate clearance for construction and maintenance activities.
- h. Locating poles in potential target locations, such as beyond lane drops, sections where the pavement narrows, and tee intersections, should be avoided.
- i. Installation of utility facilities will not be allowed:
  - i. On any MnDOT owned lighting or signal system pole or structure.
  - ii. On any break-away light pole
  - iii. In any area where the installation or operation of the facility will interfere with any existing or planned state or federal communication systems.

## 2. Design

- a. All overhead lines regardless of voltage or metallic content shall meet the requirements of the *National Electrical Safety Code*. Where the code apparently does not apply, the minimum standards in that code for the lowest voltage line shall apply. Utility owners or industry standards may prescribe more protection.
- b. Designs employing self-supporting, armless, single-pole construction, with vertical alignment of wires, cables, or other techniques permitted by governmental or industry codes should be considered whenever feasible and particularly if the alternative is locating the utility facility at other than the right of way line. However, they must be conducive to safe traffic operations.
- c. Where there are existing poles for overhead utility facilities, new overhead utility facilities will be required to co-locate on those poles unless the new facilities cannot be reasonably accommodated. Written documentation of those reasons must be supplied to MnDOT upon request.
- d. The distance between utility poles should be the longest feasible span lengths consistent with geometric and design line loading considerations.

## 3. Vertical Clearances

- a. The minimum vertical clearance for overhead power and communication lines above the highway and approaches to the highway shall conform to the current *National Electrical Safety Code*.

- b. Greater clearances shall be used when required by state or federal law, regulation, code, or policy as summarized in [Basic Clearance for the Installation of Electric Supply and Communications Lines](#). This document may be found in Table I.
  - c. In all cases, facilities crossing over highways shall at no time be less than 22 feet above the high point of the travelled way.
4. Aerial Encroachments/Blowout
- a. In addition to utility facilities that have fixed aerial encroachments within MnDOT right of way, utility facilities that will have aerial encroachments that are temporary in nature, such as the blowout zone (conductor movement envelope) of wires being within MnDOT right of way, also require a MnDOT permit.
  - b. Electric transmission facilities must be installed in locations so that induced current does not impair the safety of the traveling public or workers within MnDOT right of way or impair the public investment, short or long term, in the transportation infrastructure. In assessing these conditions, MnDOT reviews the highway facilities, including current and future roadway and right of way use, features and appurtenances, and related highway activities. The assessment includes evaluating zones where vehicles may travel and the size of necessary equipment to repair, reconstruct, or construct such facilities, at each unique segment of highway. From that zone of highway-related activities, the required clearance is added for the particular voltage of the facility to create a buffer zone. Required clearances to create the buffer zone are at a minimum taken from the Occupational Safety and Health Administration or the *National Electrical Safety Code* as applicable. Locations of poles shall be such that the blowout of wires does not infringe into the buffer zone.

## B. Underground Utility Facilities

1. This subsection covers information pertaining to all underground utility facilities. The subsections for each utility type offer additional information pertaining to specific types of underground utility facilities.
2. Facilities installed beneath the roadway must be of sufficient inherent strength to withstand the forces imposed by highway and vehicular traffic including that of construction equipment.
3. Minimum Depths
  - a. The depth of cover shall be sufficient to withstand the greatly increased impact loads transmitted through frozen soil.
  - b. The depth of bury for underground facilities within the right of way and not under pavement, except power, shall be a minimum of three (3) feet as measured from the finished ground surface to the top of the facility at the time of installation. Low-voltage power for street lighting running longitudinally shall have a minimum depth of two (2) feet. All other power facilities shall have a minimum depth of bury of three-and-one-half (3 1/2) feet.
  - c. The depth of bury for all underground facilities under pavement shall be a minimum of five (5) feet under the pavement surface as measured from the top of the pavement surface to the top of the facility at the time of installation.
  - d. Minimum depths of bury are summarized in Table II at the end of this section.

- e. Where minimum bury is not feasible, the facility shall be rerouted or protected with a concrete slab or other suitable measures. In solid rock, the depth of bury may be reduced if adequate protection is provided.
- f. All utility facilities shall obtain prior approval from MnDOT before burying any utility facility less than the minimum depth required.
- g. Exceptions may be authorized for existing utility facilities to remain in place with a reduction of six (6) inches in the depths of cover specified. Further reductions may be permitted if the utility facility is protected by a reinforced concrete slab that meets the requirements as follows:
  - i. Width: Three times the pipe diameter but not less than four (4) feet;
  - ii. Thickness: Minimum of six (6) inches;
  - iii. Reinforcing: Minimum of #13 bars on 12 inch centers or equivalent; and
  - iv. Cover: Minimum of six inches between the slab and top of pipe.

#### 4. Longitudinal Installations

Underground utility facilities may be placed longitudinally and must be located on uniform alignment as near as practical to the right of way line to provide a safe environment for traffic operations, preserve the integrity of the highway, and preserve space for future highway improvements or other utility facility installations. The distance from the right of way line will depend on the terrain involved and obstructions such as trees and other existing underground or aerial utility lines. Underground lines shall not be placed longitudinally beneath the median, beneath through traffic roadways including shoulders, or beneath ditch bottoms.

#### 5. Crossings

Underground utility facilities placed longitudinally along a connecting roadway shall not be placed under the median or beneath through traffic roadways, including shoulders, of the connecting roadway where the roadway connects with a state highway.

### C. Underground Power and Communication Lines

1. Electric power and communication facilities shall conform to the currently applicable *National Electrical Safety Code*. When the code apparently does not apply, the minimum standards in that code for the lowest voltage line shall apply. Utility owners or industry standards may prescribe more protection.
2. Encasement
  - a. Underground power and communication lines may be cased or non-cased provided the installation complies with the depths of cover specified herein. Encasement, where used, may be metallic or nonmetallic. Such encasement shall be designed to support the load of the highway and superimposed loads thereon, including that of construction equipment. The strength of the encasement must equal or exceed structural requirements for drainage culverts, and it must be composed of materials of satisfactory durability under conditions to which it may be subjected.
  - b. See Section VII.E. for additional information pertaining to encasement.

### D. Gas and Pipelines carrying Petroleum and other Hazardous Materials

1. Codes

- a. Pressure pipelines carrying gas and liquid petroleum shall conform to the currently applicable sections of federal, state, local, and industry codes. Federal codes are contained in the Code of Federal Regulations, title 49, parts 192, 193, and 195.
- b. High pressure gas pipelines shall conform to the currently applicable sections of the Standard Code of Pressure Piping of the American National Standards Institute and applicable industry codes.
- c. Liquid petroleum pipelines shall conform to the currently applicable recommended practice of the American Petroleum Institute for pipeline crossings under highways.
- d. Any pipeline carrying hazardous materials shall conform to the rules and regulations of the U.S. Department of Transportation governing the transportation of such materials, including Code of Federal Regulations, title 49, parts 192, 193, and 195.
- e. Pipeline installation permits shall specify the class of materials being carried; the maximum working, test, or design pressures; and the design standards for the carrier.
- f. When it is anticipated that there will be a change in the class of materials being carried or an increase in the maximum design pressure specified in the permit, the utility owner shall give MnDOT advance notice and obtain approval for such changes. The notice shall specify the applicable codes to be used.

## 2. Longitudinal Installations

Only distribution lines providing natural gas service are permitted longitudinally within trunk highway right of way.

## 3. Crossings and Encasement

- a. Pipeline crossings should be avoided within basins of an underpass drained by a pump if the pipeline carries a liquid, liquefied gas, or other potentially hazardous materials.
- b. All pipelines generally operated at a pressure of greater than 80 psi and less than eight (8) inches in diameter and all pipelines generally operated at a pressure of 80 psi or less crossing under the roadway of trunk highways may be cased or non-cased. However, only welded steel lines with adequate corrosion protection or directionally-bored plastic pipe that complies with federal and state requirements and meets accepted industry standards regarding wall thickness and operating stress levels may be used for non-cased highway crossings.
- c. All pipelines generally operated at a pressure of greater than 80 psi and eight (8) inches in diameter or greater carrying gases and all pipelines carrying hazardous liquids crossing under trunk highways shall be cased, unless the following conditions are met:
  - i. Open trenching method: Pipelines placed by an open trench method must adhere to the following requirements:
    - (1). It is a welded steel, cathodically protected pipeline coated in accordance with accepted industry standards.
    - (2). It complies with federal and state requirements and meets accepted industry standards regarding wall thickness and operating stress levels.

- ii. Trenchless Construction: Pipelines placed using trenchless technologies, such as jacking, boring, or horizontal directional drilling methods, may be placed under highways without a casing pipe if they meet specified requirements. All proposed crossings using this method of installation will be reviewed and approved on a case-by-case basis considering the soil conditions, location of pipeline, pipeline size, other pipeline, pipeline size, other pertinent factors, and adherences to the following requirements:
    - (1). It is a welded steel, cathodically protected pipeline coated in accordance with accepted industry standards or a directionally-bored plastic pipe.
    - (2). It complies with federal and state requirements and meets accepted industry standards regarding wall thickness and operating stress levels.
    - (3). The bores are continuous from the beginning of the installation until the leading edge of the pipeline is through the entire crossing.
    - (4). The completed pipeline crossings are all pressure tested.
    - (5). Mains that are abandoned or out of service in the highway right of way will be removed or with MnDOT's approval filled with approved materials.
  - d. See Section VII.E. for additional information about encasement of pipelines.
4. Vents
- a. Vents should be located at the high end of short casings and generally at both ends of casings longer than 150 feet.
  - b. Vent standpipes should be located and constructed to not interfere with maintenance or highway use. They should not be concealed by vegetation. They should preferably stand on a fence or right of way line.
  - c. In urban areas, vents should be permitted only where they do not affect pedestrian traffic.
5. Drains - Drains shall be provided for casings and tunnels enclosing carriers of liquid, liquefied gas, or heavy gas. Drains should empty outside the roadside area to a natural feature, a roadway ditch, or at other locations approved by MnDOT. Such outfall shall not be used as a wasteway for purging the carrier unless specifically authorized.
6. Shut-off Valves - Shut-off valves, preferably automatic, shall be installed in lines at or near ends of structures.

## **E. Water Mains**

1. Codes
  - a. Water lines shall conform to the currently applicable standards and specifications of the American Water Works Association or approved standards and specifications of the local governing unit.
2. Crossings and Encasement
  - a. All water lines shall be cased when crossing under the roadway of trunk highways, except service lines of less than two (2) inches in diameter. Encasement may also be omitted under entrances, depending on the type

- and amount of traffic and the depth, condition, and maintenance responsibility.
  - b. See Section VII.E. for additional encasement information.
3. Drains - Drains shall be provided for casings and tunnels enclosing water mains. Drains should empty outside the roadside area to a natural feature, a roadway ditch, or at other locations approved by MnDOT. Such outfall shall not be used as a wasteway for purging the carrier unless specifically authorized.
  4. Shut-off Valves - Shut-off valves shall be installed in lines at or near ends of structures.

#### **F. Sanitary and Storm Sewers**

1. Codes
  - a. Sanitary sewer shall be in accordance with industry standards.
  - b. Storm sewers shall be in accordance with MnDOT standards.
2. Encasement
  - a. Gravity systems shall be cased when installed by jacking and/or boring, unless the carrier pipe is of such size and material that it would normally be installed without a casing.
  - b. Force mains two (2) inches and larger in diameter crossing the highway shall be cased under the roadway.
  - c. Lines that do not conform to the material, or strength, contained herein must be cased under the roadway.
  - d. Encasement under entrances may be omitted, depending on the type and amount of traffic and the depth, condition, and maintenance responsibility.
  - e. See Section VII.E. for additional encasement information.
3. Materials - New and relocated sewer lines may be of any material that has been proven to be of satisfactory strength and durability in local use, provided all other requirements are met and approved by MnDOT.

#### **G. Irrigation and Drainage Pipes, Ditches, and Canals**

1. Irrigation and drainage pipes installed across highway right of way should be designed and constructed in accordance with MnDOT standards for highway culverts and bridges.
2. Ditches and canals not required for highway drainage that closely parallel the highway shall generally not be constructed within the highway right of way unless approved by MnDOT.
3. MnDOT will coordinate with watershed districts and other drainage authorities regarding construction and maintenance of drainage projects governed by the Minnesota Water Law, Minnesota Statutes Chapters 103A through 103G.

Table I

MINNESOTA DEPARTMENT OF TRANSPORTATION

Basic Clearances for the Installation of Electric Supply and Communications Lines\*

Nature of ground or rails underneath wires	Guys, Messengers, Communication Cables	Open Supply Wire Lines and Service Drops							
		Voltages are between conductors							
		0 to 750 Volts	750 to 15000 Volts	15000 to 50000 Volts	69000 Volts	115000 Volts	169000 Volts	230000 Volts	345000 Volts
<b>Where wires cross over</b>									
Track rails of railroads handling freight cars, men permitted on top	27 ft.	27 ft.	28 ft.	30 ft.					
Public streets, alleys, or roads	22 ft.	22 ft.	22 ft.	22 ft.	23 ft.	25 ft.	26 ft.	30 ft.	34 ft.
Public Streets, alleys, or roads in Twin City Metro-District being over height house-moving routes	24 ft.	24 ft.	24 ft.	24 ft.	24 ft.	25 ft.	26 ft.	30 ft.	34 ft.
Driveways to resident garages	12 ft.	12 ft.	20 ft.	22 ft.	23 ft.	25 ft.	26 ft.	30 ft.	34 ft.
Spaces or ways accessible to pedestrians only	15 ft.	15 ft.	15 ft.	17 ft.					
<b>Where wires run along and within the limits of public highways or other public right-of-way for traffic</b>									
Streets or alleys in urban districts	18 ft.	18 ft.	20 ft.	22 ft.	23 ft.	25 ft.	26 ft.	30 ft.	34 ft.
Roads in rural districts	14 ft.	18 ft.	18 ft.	20 ft.	23 ft.	25 ft.	26 ft.	30 ft.	34 ft.

Note: Grade B Construction is required at crossings over highways.

The conductor height shall be such that the basic clearances shall be obtained with the sag determined at 120 degrees F.

In areas, which are prone to sleet condition, the sag shall be determined under "heavy" sleet loading (1/2 inch ice at 0 degrees F). The condition providing the greater sag shall be used in determining the height of the supporting structures.

\*These clearances modify those published in the National Electrical Safety Code.

Table II

**UTILITY FACILITIES ON MINNESOTA HIGHWAY RIGHT OF WAY  
MINIMUM DEPTHS**

**Crossings**

	<b>Under Pavement Surface</b>	<b>Under Original Ditch Grade</b>
All Underground, except Power (Cased and Uncased)	5'	3'
Power (Cased and Uncased)	5'	3.5'

**Longitudinal Installations**

	<b>Under Pavement Surface or Within 5' of Roadway</b>	<b>5' or More Away from Roadway</b>
Power Lines (Cased and Uncased)	5'	3.5'
Low-Voltage Power Lines for street lighting (Cased and Uncased)	5'	2'
Communications Lines (Cased and Uncased)	5'	3'
All Pipelines (Except Gas) (Cased and Uncased)	5'	3'
Gas Pipelines (Cased and Uncased)	5'	3'
Sanitary and Storm Sewers (Cased and Uncased)	5'	3'

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## Introduction

### I. General

Experience shows that proactive utility coordination early in the design of a project will minimize the amount of effort needed later in the design life or during the construction of a project and help avoid costly unexpected issues. The Minnesota Department of Transportation (MnDOT) has developed a utility coordination process to facilitate effective coordination. The process emphasizes communication among all those whose work impacts utility coordination in transportation projects. The process encourages communication within MnDOT and among MnDOT and utility owners to accurately identify and resolve issues with utility facilities that are affected by transportation projects as early as possible in the design of a project.

In addition to utility coordination on individual projects, MnDOT also provides information about future transportation projects that may impact utility owners as part of its long-term and short-term planning. For example, the 10-year MnDOT transportation program outlines priority transportation improvements. The Statewide Transportation Improvement Program (STIP) offers a list of upcoming highway improvement and maintenance projects. Districts, which lead the planning process, develop an annual work plan of projects.

### II. Districtwide Utility Meetings

Every year, each district holds a districtwide utility meeting. At the meeting, each district shares its plans for the upcoming year's projects and future proposed projects that will likely require significant utility owner involvement. The districts invite all utility owners in their area to the meeting. Project managers and representatives from the Construction Group, District Permits Office, Office of Bridges and Structures, and the Utility Agreements and Permits Unit attend these meetings.

### III. Overview

MnDOT has prepared this section of the manual to set forth its internal procedures and requirements governing utility coordination on its transportation projects.

The intent is to provide uniformity in the administration of state and federal laws, rules, and regulations that are applicable to the operations of the Utility Agreements and Permits Unit and other MnDOT staff who work with the utility coordination process.

The steps in this section of the manual set forth the MnDOT utility coordination process for MnDOT transportation projects. A [Technical Memo](#) highlights the specific requirements and application of this utility coordination process to State Aid projects that have trunk highway funding. MnDOT encourages local agencies to use the MnDOT utility coordination process because its consistent use ensures wise investment of funds and helps avoid unnecessary costs related to utility issues. The utility coordination process focuses on early and proactive coordination that will place utility facilities within a project in an orderly manner.

This section of the manual provides the following information about the process of managing utility facility relocation, installation, and protection during transportation projects:

- An overview of the federal and state laws, rules, and regulations that govern utilities in road construction
- A brief description of the roles and responsibilities of the MnDOT staff and external groups who handle aspects of utility facility placement, relocation, and protection for transportation projects

- A step-by-step explanation of the utility coordination process used for design-bid-build projects, including the steps involved with agreements and permits
- Project categories where modified processes may be used
- An overview of utility coordination activities when alternative project delivery methods are used
- A glossary of commonly used terms

Each of the steps in this section of the manual lists an overseer. The overseer is the individual who is responsible for ensuring that the tasks are properly completed. The overseer may complete the tasks or delegate the actual work within MnDOT or to a consultant. For example, when MnDOT hires a consultant to design a project, the consultant may perform the tasks, but the project manager is responsible for making sure the consultant understands and completes all steps satisfactorily.

In addition, a step-by-step explanation of the Design-Build utility coordination process is included in a supplement document to the manual.

Certain instructions and information in this section of the manual may change; please check the web site regularly for updates.

## Roles and Responsibilities

Utility coordination involves many internal and external stakeholders

### I. General

Many staff members throughout MnDOT deal with utility coordination. Each staff member directly influences the effectiveness of utility coordination. They may spend most of their time or only a small fraction of their time working on utility issues, but all decisions that staff members make can significantly affect the outcome of a project.

Because those decisions are important, it is critical for all staff members to document any conversations regarding utility issues with other functional areas and utility owners, whether over the phone or in the field, and to keep copies of any correspondence. Documentation helps avoid misunderstandings and improve communication.

Each step that this section of the manual outlines lists an overseer who is responsible for ensuring that step is completed properly. The following summary briefly describes the responsibilities of the practitioners and functional areas involved in utility coordination.

### II. MnDOT Central Office Functions

#### A. Utility Agreements and Permits Unit

The Utility Agreements and Permits Unit plays several roles in the utility coordination process. This unit consists of the Utilities Engineer, Utility Agreement Writers, Utility Permit Writers, and the Utility Transmission Route Coordinator.

##### 1. Utilities Engineer

The Utilities Engineer oversees the activities of the Utility Agreements and Permits Unit and approves utility agreements, issues Notice and Orders and permits on behalf of the Commissioner of Transportation, enforces the MnDOT Utility Accommodation Policy, and helps resolve any outstanding utility issues. On design-build projects, the Utilities Engineer coordinates all utilities, including all municipally owned facilities. On standard projects, the Municipal Agreements Unit handles municipal utilities if there will be a municipal agreement.

##### 2. Utility Agreement Writers

Agreement Writers review district plans and recommend changes. They prepare and send all Notice and Orders and they prepare and process utility relocation agreements. They also act as a liaison between the district and the utility owners and serve as a central resource for utility issues.

##### 3. Utility Permit Writers

Permit Writers review and process all applications for Utility Accommodation on Trunk Highway Right of Way (Form 2525) to install permanent facilities on trunk highway right of way. They suggest changes to applications if necessary, and issue permits with special provisions. To perform any work in state right of way, utility owners must first receive a permit from this unit.

#### 4. Utility Transmission Route Coordinator

The Utility Transmission Route Coordinator acts as MnDOT's liaison between the Public Utilities Commission (PUC), the Department of Commerce (DOC) and MnDOT districts when projects involving high-voltage transmission lines, power plants, wind turbine farms, or large pipelines affect or potentially affect MnDOT property or right of way. The Utility Transmission Route Coordinator researches, supplies information, and formally responds to inquiries by the PUC and DOC to protect the interest and safety of the agency, the state transportation system, and the traveling public.

### **B. Cooperative Agreements Unit**

The Cooperative Agreements Unit prepares and administers municipal agreements, which include cooperative construction agreements, landscape partnership agreements, detour agreements, and signal agreements with cities, counties, soil and water conservation districts, and state and federal agencies.

#### 1. Municipal Agreements Engineer

The Municipal Agreements Engineer administers and coordinates agreements with municipalities for municipally owned utility facilities that are affected by:

- Construction or utility betterments as a result of construction
- Cooperative construction elements in state-let or locally let contracts
- Other agreements as needed

The Municipal Agreements Engineer encumbers funds to pay local units of government or coordinates invoices to pay the state for construction elements, as well as develops and implements policies and procedures to address current laws and regulations, and distributes information to provide guidance for continuous improvement of agreement procedures.

#### 2. Municipal Agreement Writers

The Municipal Agreement Writers provide engineering expertise and act as liaisons to the district to assist with the development of the agreements necessary for trunk highway construction projects. They verify that elements of a construction project comply with [MnDOT's Policy and Procedures for Cooperative Construction Projects with Local Units of Government](#), and write the municipal agreements with the coordination and assistance of the project manager.

### **C. Office of Chief Counsel**

The Office of Chief Counsel assigns a staff attorney to act as counsel to the Utility Agreements and Permits Unit.

### **D. Office of Contract Management**

The Office of Contract Management provides a legal review of all utility agreements. Staff members in this office also are authorized to sign utility agreements of up to \$1 million on behalf of the Department of Administration.

### **E. Office of Land Management**

Right of way professionals assist other MnDOT staff by obtaining necessary right of way and preparing Quitclaim Deeds on transportation projects that require additional right of way. Legal documents are prepared by the Office of Land Management, with the preparatory negotiations and receipt of signatures conducted by district staff.

### **F. Office of Bridges and Structures**

The Office of Bridges and Structures reviews preliminary plans and highlights conflicts between utility facilities and bridges. Staff in this office send these highlighted plans to the project manager, who collects all of the information, confirms relocation issues with utility owners, and requests accommodation. Upon receiving an accommodation request, the Office of Bridges and Structures designs the accommodation elements for an attachment to or design into a bridge. They also prepare a cost estimate and forward it to the Utility Agreements and Permits Unit to use in a utility agreement.

This office receives permit requests from districts to accommodate utility facilities on bridges. They evaluate these requests and review, comment on, and approve the plans the utility owners send with their requests to determine if the proposed accommodation is possible.

## **III. MnDOT District Functions**

### **A. District Engineers and Assistant District Engineers**

District Engineers and Assistant District Engineers set the priorities and budgets for transportation projects in their districts, and oversee their district's transportation projects and support the work of those who are involved in the different parts of the process at the district level. They also may sign utility agreements and permits.

### **B. Project Manager**

The project manager is the individual who is responsible for the overall project during the plan development process, or the individuals who are responsible for a particular stage of project development in the plan development process.

The project manager is responsible for overseeing activities to ensure their proper coordination, regardless of whether or not the project manager completes the task or delegates the task to another.

With regard to utility coordination, the project manager oversees many important roles, including identifying utilities that a project will impact, conducting utility meetings, and leading review of permits. Depending on the district, the Design Engineer, the Design project manager, or the Metro Utility Coordinator may oversee or complete all or some of the utility coordination responsibilities of the project manager that appear in this section of the manual. The Design project manager oversees all of the responsibilities on consultant-designed projects, making sure the consultant understands and completes all tasks satisfactorily.

### **C. Construction Group**

The Construction Group is responsible for assisting with the review of utility relocation plans and coordinating the placement and relocation of utilities during construction. They are also responsible for the daily inspection of work to ensure its compliance with plans and specifications and for monitoring progress as a means for justifying payment. The Construction Group includes Construction Resident Engineers, Construction Project Engineers, Field Engineers, Inspectors, and Field Crews.

### **D. Right of Way/Land Management**

District right of way professionals assist other MnDOT staff by obtaining the right of way necessary for a project and preparing and processing easement questionnaires.

### **E. Surveys**

District Surveys staff collects data on utility facilities within the proposed project for the project manager. The data includes detailed, accurate information on aboveground appurtenances. Horizontal location of underground utilities also may be provided through Gopher State One field locates.

### **F. Permits**

District Permit Staff process many different types of permit applications, including Access permits, Drainage permits, and Miscellaneous Work on Trunk Highway Right of Way (Form 1723) permits for minor or temporary installations and maintenance projects. They are responsible for checking the accuracy of information on completed applications for Utility Accommodation on Trunk Highway Right of Way (Form 2525) utility permits and verifying field location.

## **IV. Non-MnDOT Functions**

### **A. Legal Counsel**

The Attorney General assigns an assistant attorney general to act as counsel to MnDOT on utility-related issues.

### **B. Gopher State One Call (GSOC)**

Gopher State One Call, which is part of the Department of Public Safety, is the statewide one-call notification system for underground utilities. It provides information about the utility facilities that excavation may affect. Minnesota law requires any organization or individual whose plans include excavation anywhere in Minnesota to contact Gopher State One Call before digging.

### **C. Government Agencies**

Governing authorities such as municipalities, townships, counties, park boards, other states, or state agencies other than MnDOT are government agencies. Utility relocation on MnDOT projects may impact these agencies; therefore it is important to include them early in the utility coordination process.

**D. Utility Owners**

Utility owners are responsible for verifying their facilities on preliminary plans, reviewing plans, participating in design and related meetings, submitting relocation plans and schedules, and coordinating their relocation work with MnDOT and its contractors. Their involvement varies from project to project.

## Laws, Rules, and Regulations

Applicable state and federal laws, rules, and regulations affect utility coordination

### I. General

This section highlights key pieces of federal and state laws, rules, and regulations that apply to utility accommodation and relocation and are current as of July 2013. This section of the manual will reference specific laws and rules as appropriate.

### II. Federal Laws and Regulations for Federal-Aid Highways

#### A. Federal Laws

Two sections of federal highway law in title 23 of the United States Code (cited 23 U.S.C.) deal specifically with utilities.

1. [23 U.S.C. 109 \(I\)](#)

This section deals with the accommodations of utilities on the right of way of federal-aid highways.

2. [23 U.S.C. 123](#)

This section deals with reimbursement for the relocation of utility facilities necessitated by the construction of a project on any federal-aid system.

3. [23 U.S.C. 103](#)

This section deals with the National Highway System (NHS).

4. [23 U.S.C. 313](#)

This section deals with Buy America.

#### B. Federal Regulations

For federal-aid highways, the utility regulations are contained in part 645 of title 23 of the Code of Federal Regulations ([23 CFR 645](#)) and non-regulatory supplements are contained in chapter 1, subchapter G, part 645 of the Federal-Aid Policy Guide (FAPG).

1. Subpart A of Part 645

Subpart A of part 645 deals with utility relocations, adjustments, and reimbursement.

2. Subpart B of Part 645

Subpart B of part 645 deals with the accommodation of utilities.

Specifically under 23 CFR 645.215, the Federal Highway Administration (FHWA) requires each state that receives federal funding for highways to develop its own utility accommodation policy. Once a state's policy is approved by the FHWA, any utility installations to be installed on federal-aid highways in accordance with the approved state policy may be approved by the state without referral to the FHWA. The [MnDOT](#)

[Utility Accommodation Policy](#) sets forth the policies the state employs or proposes to employ for accommodating utilities within the right of way.

### 3. Other Federal Regulations

Part 1 of Title 23 ([23 CFR 1](#)) deals with implementing and carrying out the provisions of Federal law relating to the administration of Federal aid for highways.

Part 710 of Title 23 ([23 CFR 710](#)) deals with the acquisition, management, and disposal of real property.

Part 752 of Title 23 ([23 CFR 752](#)) deals with landscaping and scenic enhancement programs, safety rest areas, and scenic overlooks.

## C. Buy America

Buy America statute 23 U.S.C. 313, as amended by Section 1518 of MAP-21, applies to all contracts eligible for assistance under title 23 within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of the funding source, if at least one contract within the scope of the NEPA document is funded with federal funding under title 23. Buy America requirements would not apply to utility work where such work is not eligible for federal-aid because the State is legally unable to pay the utility owner or where the utility work is part of a non-federal-aid highway contract which is not within the scope of a NEPA document. Additional information on Buy America can be found at the [FHWA Buy America webpage](#).

## D. Guides

The following publications provide additional guidance:

- [Program Guide: Utility Adjustments and Accommodations on Federal-Aid Highway Projects, Sixth Edition, January 2003, FHWA-IF-03-014](#). This publication explains the federal utility regulations contained in 23 CFR 645 and provides non-regulatory guidance for using federal-aid highway funds for the relocation and adjustment of utility facilities and for accommodating utility facilities on highway right of way.
- [Highway/Utility Guide, June 1993, FHWA-SA-93-049](#). This publication provides comprehensive knowledge and guidance on highway/utility issues, including planning and coordination, design, permits, information management and mapping, notification procedures, legal matters, safety, construction, maintenance, reimbursement, and other issues.
- American Association of State Highway and Transportation Officials (AASHTO) publications, [A Guide for Accommodating Utilities within Highway Right of Way](#) and [A Policy on the Accommodation of Utilities within Freeway Right of Way](#)

## III. State Laws and Rules

The following Minnesota State Constitution articles, laws, and rules apply to utility accommodation and relocation.

### A. Minnesota State Constitution

[Article I, section 13](#) deals with just compensation for private property taken, destroyed, or damaged for public use.

[Article XIV](#) creates the trunk highway system and the trunk highway fund, which can be used solely for trunk highway purposes.

## **B. Minnesota Statutes**

[Minnesota Statutes, section 161.20](#), subdivision 1 deals with the general powers of the Commissioner to carry out the provisions of Article XIV, section 2, of the Minnesota State Constitution regarding the public highway system. Subdivision 2 deals with the commissioner's power regarding acquisition of property.

[Minnesota Statutes, section 161.45](#) deals with relocation of utilities on highway right of way, and includes sections on rulemaking authority and utility owner interests when real property is conveyed.

[Minnesota Statutes, section 161.46](#) deals with reimbursement of utility owners for the relocation of facilities, and includes sections on definitions, lump sum settlement, acquisition of relocated facility for utility, and relocation work by the state.

[Minnesota Statutes, section 222.37](#), subdivision 2, deals with pipeline relocations.

[Minnesota Statutes, section 216D.04](#) deals with the Department of Public Safety's notice and plan requirements for excavation projects involving underground facilities. Other related requirements are included in other sections of [Chapter 216D](#).

## **C. Minnesota Rules**

[Minnesota Rules, parts 8810.3100 through 8810.3600](#) deal with the utility permit process, standards for work conducted under permit, aerial lines, and underground lines. In addition to the link above these rules are attached to the [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#).

[Minnesota Rules, parts 7560.0100 through 7560.0800](#) deal with enforcement of 216D.04.

## Step 1: Utility Identification for Construction Projects

Early identification of existing utilities within the corridor supports the development of accurate plans

### I. General

The first step in the utility coordination process requires the identification of existing utilities within the limits of the proposed transportation project.

This step occurs during the layout and preliminary design phase of projects. Identifying utilities early in the project can prove invaluable in avoiding potential significant issues later in the project. On projects without a layout and preliminary design phase, this step takes place at the start of the design phase in conjunction with the base map survey.

Complete and detailed information about the location of utility facilities within the corridor of the proposed project allows the designer and project manager to evaluate all project constraints, as well as aiding in the development of accurate plans, which helps in making an early decision about right of way requirements.

The overseer of this step is the project manager. This step also involves:

- Utility Agreements and Permits Unit
- Surveyors
- District Land Management/Right of Way Office
- Gopher State One Call
- Utility owners

### II. Components

The critical components of utility identification involve:

- Contacting Gopher State One Call
- Contacting utility owners directly
- Conducting a field review
- Surveying overhead and underground utilities
- Researching historical permits

The final product of this step is a complete list of utility owners and a map of utility locations that includes the size and type of facilities.

#### A. Gopher State One Call

As the statewide notification center, Gopher State One Call serves as a clearinghouse for information about the location of underground utilities.

State law requires utility owners of underground facilities to provide utility location information in response to a Gopher State One non-excavation ticket, either by as-built plans or field locates, within 15 days of the original request. State law also requires any excavator to contact Gopher State One Call at least 48 hours, excluding weekends, holidays, and emergencies, before digging.

The project manager completes the electronic ticket for Gopher State One Call at [www.gopherstateonecall.org](http://www.gopherstateonecall.org). Other ways of contacting Gopher State One Call include:

Smartphone/Tablet: <http://mnticketentry.korterraweb.com>  
Telephone (metro): 651-454-0002  
Telephone (statewide): 1-800-252-1166  
Telephone (nationwide): 811

## B. Utility Owner Contact

While the Gopher State One Call results in general information about underground utility owners, contacting utility owners directly can provide additional information about underground and overhead facilities.

### 1. Non-State Facilities

Using contact information from Gopher State One Call (GSOC) and knowledge of the local project area, the project manager contacts utility owners directly to further determine and confirm utility facilities that the project may impact.

Other sources of information include the [historical permits database](#), and the [utility owner contact list](#), which is also available through UMART (the MnDOT database tool that tracks utility agreements and permits). Utility Agreements and Permits Unit staff also can assist in finding utility owner contacts.

During conversations with utility owners, the project manager also asks about other utility owners that may be impacted. Many utility owners can help identify other utility owners because they often work together and may own facilities in or on which other utilities share space.

For projects involving bridge replacement, the project manager also verifies whether the impacted facilities contain asbestos. While bridge replacement, removal, renovation, or repair projects may include asbestos assessments, early identification of this issue facilitates this process.

The project manager will continue to work with the utility representatives throughout the utility coordination process. Contacting utility owners directly helps the project manager build relationships that facilitate more effective utility coordination during the project.

The project manager keeps a written record of phone conversations and includes the notes in the project file for future reference.

### 2. State Facilities

It is also important for the project manager to identify any state government facilities that may exist within project limits, including the following:

- Regional Traffic Management Center (metro)
- Intelligent Transportation Systems (ITS) (rural)
- Longitudinal fiber optics along Interstate Highways (Office of Enterprise Technology – MN.IT)
- Traffic signals and lighting systems
- Anti-icing systems

MnDOT facilities will appear as part of the GSOC search.

A Memorandum of Understanding between MnDOT and the Department of Administration governs the construction, operation, and ownership of fiber optic lines on I-94. For more information about these fiber optic lines, contact the Office of Enterprise Technology – MN.IT – at the Department of Administration.

### 3. Utility Identification Letter

If the utility owner does not provide utility information after a Gopher State One non-excavation ticket and a follow-up call from the project manager, the project manager sends a [Utility Identification Letter](#) to the utility owner's main contact. To identify the utility owner's main contact, check the [utility owner contact list](#).

This letter specifically requests project information based on Minnesota statutes and rules. The project manager includes a general layout of the project with this letter.

If the utility owner fails to respond to the Utility Identification letter, the project manager contacts the Utilities Engineer for assistance, verifying that the proper processes were followed and sharing the Gopher State One Call ticket number. The Utilities Engineer may need to contact the Office of Pipeline Safety for further actions against the unresponsive underground utility owner.

## C. Field Review

The project manager conducts the field review.

A field review allows the project manager to observe the above-ground utilities, such as overhead power, telephone, cable television, and bridge attachments. On the field review, the project manager also looks for features that identify underground utilities, such as:

- Water valves
- Manholes and catch basins
- Communication or electric poles, pedestals, and cabinets
- Markers for underground natural gas or petroleum products pipelines, fiber optic lines, buried telephone, buried electric, water, sanitary, and storm sewer

Many utility owners with underground facilities mark their lines with above-ground markers. The markers usually include a phone number to contact before digging in the area. The project manager uses the information to contact the utility owner, if needed.

During the field review, the project manager takes photographs for future reference, since these photos sometimes can save another trip to the site. Photographs can help document potential conflict areas, such as overhead facilities at the intersection where traffic signals are to be installed, or utilities that may pose problems with the clear zone areas.

## D. Survey of Overhead and Underground Utility Facilities

The project manager also coordinates a survey of all overhead utility facilities and includes and depicts the appropriate survey information in the project CADD files.

The survey includes all underground utility surface appurtenances (valves, meters, hydrants, and other appurtenances) and markers. The survey also includes the marks on underground facilities that utility owners have reported in their Gopher State One Call information.

### III. Other Sources of Information

Other sources of information for identifying utilities are available, including but not limited to:

- District/Permit Office records
- [Historical Permits](#)
- Aerial photography
- Land owners
- County Clerk's office for recorded easements in area
- Internet or computer database search

### IV. Subsurface Utility Engineering (SUE)

SUE is a tool used to accurately identify underground utilities and manage the many risks involved with constructing projects where underground utilities are present.

#### A. Description

[SUE](#) is an engineering process that involves applying appropriate surface geophysical methods to determine the existence and horizontal position of underground utilities.

Examples of such geophysical methods for utility imaging include:

- Electromagnetic, such as pipe and cable locators that induce a signal into the medium and track the signal, or ground penetrating radar that works by beaming a microwave pulse into the ground and measuring any reflection that is received back at the ground surface
- Magnetic-magnetometers that detect shallow buried valve boxes, manhole covers, hand holes, and other items
- Acoustic where a pipe under mechanical stress may deform and generate noise that acoustical equipment monitors

The CI/ASCE Standard 38-02, "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data" contains information about additional methods:

- Comparing this information with proposed highway facilities and analyzing potential conflicts
- Using non-destructive digging equipment at critical points to determine the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics
- Surveying this information to project survey control and depicting it on highway plans

#### B. Use

MnDOT requires the use of [SUE](#) on all design-build projects and recommends that project managers consider its use on any project where inaccurate underground utility information would negatively impact the project in a significant way. Project managers also should consider SUE for large, complex projects that involve excavation, where many underground utilities are present, or where project scheduling may be severely impacted by utility relocations.

## V. Communication of Utility Information

### A. Non-Excavation Projects

As the single point of contact in a district, the project manager shares the utility information gathered in this step with other affected MnDOT areas. The goal of this information sharing is to avoid having other district employees contact the utilities and duplicate already completed work.

### B. Excavation Projects

The project manager shares the utility information gathered in this step with other affected MnDOT areas. Excavation projects may require more than one MnDOT employee to contact the utility owner for additional information beyond that which the project manager already has shared.

## VI. Easement Questionnaires

The easement questionnaire plays an important role in determining existing easements.

The easement questionnaire process, which includes sending the easement questionnaire, begins early in the district planning process, well before Step 1. The District Land Management/Right of Way Office is the overseer of the task.

For projects that involve new right of way, the District Land Management/Right of Way Office develops a right of way base map that outlines or highlights the areas where new right of way is needed. The District Land Management/Right of Way Office submits one copy of the basic right of way map to the Legal Aid Property Management Unit to order titles for the project. This office also uses this map to obtain copies of any recorded or unrecorded easements from utility owners.

The District Land Management/Right of Way Office checks Gopher State One Call information and the historical permits database to determine which utility owners the project will most likely affect. The basic right of way map outlines or highlights the affected areas. The District Land Management/Right of Way Office prepares a map and the [Easement Questionnaire and Letter](#) for each affected utility owner.

The letter, which includes a reasonable deadline for response such as two to four weeks, asks each utility owner to inform MnDOT of any recorded or unrecorded easements it may have in the new right of way area. Utility owners must complete the questionnaires and return them to the District Land Management/Right of Way Office with the relevant recorded or unrecorded easements. The District Land Management/Right of Way Office follows up with utility owners who do not respond by the deadline.

The District Land Management/Right of Way Office incorporates the information that it receives from utility owners into the right of way base map.

## Step 2: Utility Information Meeting

MnDOT and utility owners explore project impacts on utility owners

### I. General

The Utility Information Meeting, which typically occurs when construction plans are 20 to 45 percent complete, is an opportunity for MnDOT and utility owners to learn as much as possible from each other about how the project may affect utility facilities. This step also involves preparing and sharing project information with utility owners before the Utility Information Meeting.

The overseer of this step is the project manager. This step also involves:

- Utility Agreements and Permits Unit
- Construction Group
- Other MnDOT offices that the project affects
- Utility owners

### II. Plans for the Utility Information Meeting

At this project stage, MnDOT focuses on learning the locations of existing utility facilities. After identifying existing utility owners and gathering enough project information to proceed with the Utility Information Meeting, the project manager sends each utility owner a meeting notification letter with a set of the utility information meeting plan sheets.

The utility information plan sheets include:

- Title sheet
- General layout
- Typical sections
- Profiles
- Retaining wall, noise wall, and bridge locations
- Preliminary utility tabulations
- Topography, construction plans, and removal plans showing preliminary construction limits and existing utility facilities
- Preliminary major drainage features
- Preliminary cross sections showing existing and estimated right of way and existing utility facilities
- Staging information

If MnDOT is using SUE on a project, the SUE utility quality level B investigation (determining the presence and horizontal alignment of underground utility facilities) should be complete at this step. Plans that depict the resulting utility information will facilitate decision making at the meeting.

### III. Utility Information Meeting

#### A. Meeting Purpose

The project manager uses the Utility Information Meeting to obtain and share information early in the design process. Participants review and discuss the utility information plans.

#### B. Meeting Scheduling and Notification

The project manager sets a date, time, and location for the Utility Information Meeting.

Two to three weeks in advance, the project manager notifies participants of the meeting by sending each one a [Utility Information Meeting Letter](#). The project manager prepares and sends this letter to the participants with a copy of the plan, which gives all participants the most current information about possible impacts on utilities. The project manager keeps a copy of all letters and the plan in the project file, and sends copies of letters and the plan, or provides the link to project files and plans, to the Utilities Engineer.

The letter states the meeting time and place and asks the utility owners to:

- Verify the facilities that were identified in Step 1
- Mark any discrepancies on the plan sheets
- Mark their existing easements on the plan sheets
- Return a written statement that indicates whether they will claim reimbursement for any utility relocations and that provides an explanation for that claim
- Provide any relevant recorded or unrecorded easements they have not already submitted.

The utility owners must mark the location of their existing facilities and any proposed facilities on the appropriate plan sheets. MnDOT encourages utility owners to use the [red, green, and brown color scheme](#) for marking the location.

In the letter, the project manager also asks municipalities to identify any utility facilities that meet the first move reimbursement requirement of Minnesota Rules 8810.3300, subpart 3. A “first move” is the first relocation of a municipally owned facility located within the limits of a municipal street at the time that the street was taken over by the state as a trunk highway when that relocation is required by the construction of a transportation project. The state requires documented proof that the street was under the municipality’s ownership at the time the facilities were installed. The Utilities Engineer will determine whether that relocation qualifies as a first move.

The utility owners may bring this information with them to the meeting, or submit it to the project manager ahead of time.

### **C. Meeting Preparation**

Before the meeting, the project manager reviews the information gathered in Step 1 and the project plans to determine potential utility involvement on the project. When reviewing the plans, the project manager looks at the location of the utility facilities as they relate to the existing and proposed roadway and should be prepared to explain to the meeting participants the utility facilities that may have to be relocated and/or adjusted.

A few days before the meeting, the project manager contacts utility owners to remind them to attend and bring their marked plans (if they have not already submitted them). The project manager also prepares an agenda and sign-in sheet for the meeting.

### **D. Meeting Participation**

#### **1. All Transportation Projects**

The project manager invites utility owners, representatives from the Utility Agreements and Permits Unit, the Construction Group, and any other MnDOT groups that may affect utility relocations.

During this step, other MnDOT areas, such as the Office of Bridges and Structures, Traffic, and Hydraulics/Water Resources, begin and continue to participate as needed throughout the project's design life.

The project manager shares all available utility information with other MnDOT offices that are designing a portion of the project, and works with those offices to assess the possible impact of their work on utility facilities.

The participants from various MnDOT offices determine the potential effects of design elements on utility facilities and supply information to the project manager, who incorporates it into the plan.

## 2. Projects That Impact Bridges

Since some bridge structure types have a limited capacity to accommodate utility facilities, the project manager needs to check which type of bridge structure will be on a project before asking utility owners if they would like to attach facilities to it. The project manager notifies the Office of Bridges and Structures of any utility owner requests for attachments. The Bridge Designer reviews all requests to attach utility facilities to bridge structures and prepares designs that will accommodate approved attachments. Bridge attachments require agency agreements, which are explained in Step 10.

Although the project may not appear to affect aerial lines, some lines may need adjustment or protection to accommodate bridge crane work. If aerial lines are located close to where bridge activities will take place, the project manager includes this information on the plan view of the construction plan that it sends to the Office of Bridges and Structures.

The project manager sends copies of all correspondence to the Utilities Engineer.

## E. Meeting Content

At the meeting, the project manager leads the discussion of potential utility impacts and possible alternatives to address those impacts, outlines the project scope, presents the anticipated schedule, and explains the appropriate project design details, such as:

- Project limits
- Proposed right of way
- Typical cross sections
- Anticipated drainage (general parameters such as open or closed systems, along with any details that have been designed)
- Any replacement or addition of signals and lighting
- Location of large subcuts, common excavation, and pile driving/drilled shafts

The [MnDOT Utility Accommodation Policy](#) and the Utility Accommodation section of this manual must be followed on all projects. The project manager informs the utility owners that they will need to relocate their facilities according to this policy. If a project involves limited access right of way (freeways, interstates), utility owners are not allowed longitudinal occupation.

On interstate projects, the project manager lets utility owners know that the relocation of their facilities may be reimbursable as long as certain requirements are met and that MnDOT will prepare an agreement to cover that reimbursement. See Step 10 for further information. The project manager also requests that utility owners with reimbursable

relocations provide a preliminary estimate for these relocations by a deadline, typically two to four weeks and consistent with the project schedule, following the meeting.

Regardless of reimbursement, the project manager asks public utility owners if they want their relocation work included in the MnDOT contract. After consulting with appropriate district offices, the project manager makes the final decision about whether the requested utility work will be part of the MnDOT construction contract, a separate MnDOT contract, or not included as MnDOT's responsibility. If the relocation work is completed as part of the project, the project manager begins planning for its inclusion at this plan development phase. An Agency Agreement will be required. See Step 10 for further information. In general, the utility owner, or engineering consultant working on behalf of the utility owner as approved by MnDOT, performs the associated preliminary engineering work. This work may be included in MnDOT construction projects, provided that the utility owner, most often a municipality, indemnifies and certifies the plans. MnDOT does not routinely ask private utility owners to include their relocations as part of its transportation project contracts unless the relocation involves a bridge attachment.

Utility owners use the information they receive at the Utility Information Meeting to better understand their involvement and develop their budgets. Utility owners also need sufficient lead times to order materials for relocations and to complete the relocation. The following table contains typical lead times for different types of facilities.

TYPE OF FACILITY	TYPE OF MATERIAL	LEAD TIME
Electric Transmission Lines	Standard wood transmission line with no new right of way	9 months
	Standard wood transmission line with new right of way	12 months
	Steel or non-standard wood transmission line with new right of way and potential condemnation, customized or specially designed structures, long lead times for material fabrication, and/or power outage planning	18 months
Electric Distribution Lines (Overhead and Underground)	Up to 0.5 mile of line	3 months
	0.5 to 1 mile of line	4 months
	1 to 4 miles of line	9 months
	Underground duct line	9 months
Gas Transmission Lines	All lines	6 to 18 months*
Gas Distribution Lines	Up to 0.5 mile of line	3 months
	0.5 to 1 mile of line	4 months
Telecommunications (Telephone, Cable TV, Fiber Optic)	All lines	3 to 12 months

\* For interstate gas transmission lines, this lead time may be greater. The Federal Energy Regulatory Commission (FERC) regulates Interstate gas lines and the FERC permitting process alone can be 6 to 18 months, depending on the significance of the relocation.

**F. Meeting Minutes**

During the meeting, the project manager keeps meeting notes, and records important discussions, milestones, decisions, and action items as part of those notes.

After the meeting, the project manager uses the meeting notes to write the meeting minutes and sends these minutes to all attendees and invitees. In the first paragraph, the project manager asks attendees to verify the minutes and send back any comments within 10 days of receipt. After reviewing the comments, the project manager distributes final minutes to all participants.

## Step 3: Review of Information from Utility Owners

Review and incorporation of utility owner information moves plans forward

### I. General

Project managers use the information that utility owners submit to continue designing the project. Showing utility facilities on the plans early and correctly is critical to good design and successful utility coordination.

This step includes the work involved to incorporate information from utility owners into the design and address all issues and action items from the Utility Information Meeting.

The overseer of this step is the project manager. This step also involves:

- Utility Agreements and Permits Unit
- District Land Management/Right of Way (when the project requires additional right of way)
- Utility owners

### II. Information from Utility Owner

#### A. Review of Utility-Marked Plans

The project manager reviews the easements, letters, and marked plans that each utility owner provides before or at the Utility Information Meeting and compares those to the field notes from the initial field review to make sure those plans are correct and complete. The project manager must contact any utility owners who do not provide complete information. If information is unknown, the project manager may consider using SUE to help accurately identify utilities.

During the plan review, the project manager looks for utility facilities that are not continuous or terminate for unknown reasons within the limits of the project and checks to see if surface appurtenances (e.g., valves, meters, hydrants) correlate with the underground utility facilities depicted on the plans.

The project manager notes aerial or underground power facilities as transmission or distribution, and any voltage they carry that is greater than or equal to 69 kV on the plan or in the utility tabulation sheets.

When submitting plans, a utility owner also must send a letter that declares its intention to seek reimbursement for all or a portion of the relocation work. The letter, which also includes the basis for the reimbursement claim and an estimate of the reimbursable relocation costs, helps establish budgets and make design decisions.

When a utility owner submits a letter stating that it does not have any facilities within the limits of the project, the project manager confirms this statement and closes the utility owner's file as "not involved" with the project. The project manager sends a copy of the utility owner's letter to the Utilities Engineer.

The project manager collects plans, letters, and property rights documents from the utility owners and saves them in the project files.

**B. Corrections**

Even under the best circumstances, utility owners may sometimes send incorrect or incomplete information to the project manager.

The project manager notifies a utility owner of any errors or omissions in its plans and, if appropriate, reminds the utility owner that providing information now minimizes the issues that may affect it later in the process. The project manager should contact the Utilities Engineer with any concerns about utility owners' responsiveness.

**C. Alternatives**

The project manager reviews alternatives to minimize utility impacts and may change the design as appropriate. Making such design changes is at MnDOT's discretion and the project manager makes the final decision.

**III. Right of Way**

The project manager should consider right of way needs early in the design process. If purchasing right of way to accommodate utility facilities will directly benefit MnDOT (e.g., simplify staging, ease construction, or reduce project costs), the project manager consults with the District Land Management/Right of Way Office to pursue purchasing right of way.

## Step 4: Utility Design Meeting

Utility design meeting facilitates relocation solutions

### I. General

The Utility Design Meeting brings together all involved parties to focus on finding solutions to utility conflicts while maintaining good, economic design. It takes place sometime between 60 and 75 percent plan completion.

The overseer of this step is the project manager. This step also involves:

- Utility Agreements and Permits Unit
- Construction Group
- Other MnDOT offices, as the project requires
- Utility owners

### II. Plans for Utility Design Meeting

The utility design meeting plans include:

- Title sheet
- General layout
- Typical sections
- Profiles
- Construction staging
- Retaining wall and noise wall locations and types
- Topography, construction plans, and removal plans showing construction limits and existing utility facilities
- Intersection details
- Drainage plans and profiles
- Pond locations
- Cross sections showing existing and proposed right of way and existing utility facilities
- Utility relocation plans for municipal water and sewer facilities that are included in the state's contract
- Preliminary bridge plans
- Traffic control plans
- Signal, lighting, and roadway signing plans

#### A. Utility Tabulation Sheet

The project manager must prepare the [utility tabulation sheet](#) before the meeting. The utility tabulation sheet provides the utility information from the plan view in a table format. It indicates how the proposed project may affect these facilities or cause conflicts. By identifying conflicts, the utility tabulation helps the project manager discuss any potential problems and resolve those problems during the Utility Design Meeting.

To prepare the utility tabulation sheet, the project manager reviews all of the plan sheets, looking for excavation areas (including muck and clay areas), and conflicts with proposed drainage, ditch grading, bridge piers, footings, signal foundations, and other structures. The project manager also should become familiar with the project's traffic control and construction phases.

The utility tabulation sheet includes the following:

- The general location of a facility, indicated by station and offset from the roadway alignment shown on the plans and/or coordinates (when coordinates are used, the project manager includes sufficient coordinate grids to allow identification and location of the tabulated facilities)
- The name of the utility owner
- The size and type of facility (the project manager identifies overhead or buried power as transmission or distribution, and if transmission indicates the voltage if 69kV or higher)
- Identification of additional utilities on a specific pole, besides the owner

The utility tabulation sheets include all utility facilities in the construction limits. The project manager uses one of the notes in the following table to describe how the project will affect these facilities.

Note	Description
Leave As Is	No action is required.
Adjust	Utility owner performs minor modifications or provides protective measures that are smaller than a relocation; project manager provides a brief description of the required adjustment.
Protect	Include any requirements that the contractor must perform (beyond what is required by law) to avoid damage to an existing facility as part of a contract (also include a note in the plan or special provisions).
Relocate	Install a facility at a new location to replace the existing facility and remove existing facility. Install temporary facilities as necessary to facilitate permanent relocation.
Remove	Remove existing facilities but do not replace them within MnDOT right of way.
Leave In-Place/Out-of-Service	Take the facility out of service and make it benign, but do not remove it. The utility owner retains ownership of this facility. Removal of a facility is generally preferred over this option, unless circumstances exist that either make removal impractical or where removal offers no resulting benefits. MnDOT must approve of any facilities left in place. The utility owner retains responsibility for facilities left in-place including complying with requirements of MnDOT and any other agency, such as the Minnesota Pollution Control Agency.

According to Minnesota Statutes, section 216D.04, subdivision 1a, all plans for projects with excavation must depict the utility quality level of the utility information (see [SUE](#) document for definitions of quality levels). Unless there is proof that the utility information in the plan is more accurate, MnDOT assumes that it is Utility Quality Level D. The project manager must use the following note, filling in the appropriate utility quality level, on the utility tabulation sheets for projects involving excavation:

The subsurface utility information in this plan is utility quality level \_\_\_\_\_. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data."

If SUE was performed on a project, the project manager may incorporate the information from the SUE provider on the utility tabulation sheets.

Information on utility tabulation sheets is for work that will not be included as bid items in the MnDOT construction contract. These tabulations will include a note that states, "Utility work will be performed by others unless noted otherwise."

The project manager prepares separate utility tabulation sheets for public and MnDOT-owned utility facilities that will be paid for as part of the MnDOT contract. The Estimated Quantities Sheet lists pay items for that work.

If a project does not involve excavation, the project manager provides a note on the estimated quantities sheet that says, "This project involves no excavation. No utilities will be affected by this project."

## **B. MnDOT-Owned Facilities**

MnDOT-owned fiber optic cable, buried power lines, cabinets for lighting, signals, anti-icing systems, and traffic management equipment are utility facilities. The project manager shows them on the plans according to the following conditions:

- If work affecting MnDOT-owned utility facilities (e.g., modification of a signal system) is paid for as part of the project contract, the existing MnDOT utility construction plans should be included in the project plans. This work will be included on separate tabulations. Pay items must be included on the Estimated Quantities Sheet.
- If work affecting MnDOT-owned utility facilities is not paid for as part of the project contract, they are depicted and labeled to be "constructed by others."
- If the contract does not include work affecting MnDOT-owned utility facilities, the project manager should identify those facilities on the plans in the same format as all other utility information.

## **III. Utility Design Meeting**

### **A. Meeting Purpose**

The project manager uses the Utility Design Meeting to discuss how MnDOT's project is affecting the various utilities and how best to mitigate these conflicts, and to consider possible minor design modifications to mitigate or minimize how the project affects utilities.

### **B. Meeting Scheduling and Notification**

The project manager schedules the Utility Design Meeting after following up with any open issues from the Utility Information Meeting and documenting those results. Ideally, this meeting should occur when no significant revisions that affect utilities are reasonably foreseen, which is usually sometime between the 60 to 75 percent plan completion.

Two to three weeks in advance, the project manager notifies participants of the meeting by sending each one:

- The [Utility Design Meeting Letter](#)
- The Utility Design Meeting plan sheets
- Preliminary bridge plans that show footing depths and pilings

The notification letter invites utility owners to the Utility Design Meeting and requests that they come prepared to discuss their relocations and schedules. The letter also asks the utility owners to review the information and verify their facilities on the plan. Utility owners check and confirm any changes they may have made to their facilities since the Utility Information Meeting. The utility owners send representatives who are familiar with the project and can make decisions about it.

### **C. Meeting Preparation**

The project manager contacts utility owners a few days before the meeting to remind them to attend. The project manager also prepares an agenda and sign-in sheet for the meeting.

Before the Utility Design Meeting, the project manager reviews the utility plans to determine if conflicts exist with the proposed construction and considers the impact of staging on temporary or permanent relocation plans.

### **D. Meeting Participation**

The project manager invites the following parties to the meeting:

- All involved utility owners, including the MnDOT Electrical Services Unit and the Office of Electronic Communications, which handle MnDOT-owned utility facilities; and the Office of Enterprise Technology – MN.IT in the Department of Administration for Connect Minnesota fiber information
- District Permits representative
- Construction Group
- Utility Agreements and Permits Unit representative
- Others as may be appropriate

### **E. Meeting Facilitation**

The project manager conducts the Utility Design Meeting.

The project manager explains the project scope and schedule as it relates to the needs of the utility owners, addressing one utility owner at a time.

Beginning with the placement of overhead facilities aids the decision-making process. Because clear zone and clearance-to-obstruction requirements control above-ground utility facilities, they cannot be moved laterally as freely as most underground facilities can be. The project manager addresses underground facilities next and in order of significance with regards to size, type, or other relevant parameters.

Current plan information may require additional discussions about reimbursement.

Before adjourning the meeting, the project manager answers any remaining questions and records any issues that may still need resolution.

### **F. Meeting Content**

At the meeting, MnDOT representatives and utility owners discuss design modifications to mitigate or minimize utility relocations while maintaining design integrity. At this project development stage, these modifications should be minor. Any major design modifications to mitigate utility issues should have occurred directly after the Utility Information Meeting in Step 2.

All utility owners must participate in the meeting because decisions about the relocation of one utility owner's facilities can affect the existing and proposed facilities of another utility owner. Without full participation, it is difficult to develop and understand well-defined solutions that are compatible with the project and other utility relocation plans. In addition, the project manager should, as appropriate, encourage utility owners to explore joint trenching and joint-use facilities. Placing conduits for future use should be considered in projects where critical crossings, such as bridges, Interstate or other significant roadways, and interchanges exist or will exist in the near future. This can both provide better project relocation solutions and a more maintainable right of way.

Decisions that result from the Utility Design Meeting must meet the requirements of the [MnDOT Utility Accommodation Policy](#), the Utility Accommodation Section of this manual and any other state or federally issued documents that cover utility facility relocation on highway systems. They also must meet utility codes, such as the National Electric Safety Code, and any other utility regulations. Determining when, where, and how the utilities are relocated or adjusted requires the cooperation of everyone at the meeting.

Buy America statute 23 U.S.C. 313, as amended by Section 1518 of MAP-21, applies to all contracts eligible for assistance under title 23 within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of the funding source, if at least one contract within the scope of the NEPA document is funded with federal funding under title 23. Buy America requirements would not apply to utility work where such work is not eligible for federal-aid because the State is legally unable to pay the utility owner or where the utility work is part of a non-federal-aid highway contract which is not within the scope of a NEPA document. Compliance with Buy America requirements should be discussed to avoid potential scheduling issues resulting from an inability to achieve compliance. Additional information on Buy America can be found at the [FHWA Buy America webpage](#).

## **G. Meeting Minutes**

During the meeting, the project manager keeps meeting notes, recording important discussions, milestones, decisions, and action items as part of those notes.

After the meeting, the project manager uses the meeting notes to write the meeting minutes and sends these minutes to all attendees and invitees. In the first paragraph, the project manager asks attendees to verify the minutes and send back any comments within 10 days of receipt. After reviewing the comments, the project manager distributes final minutes to all participants.

## Step 5: Request for Utility Relocation Plans

Requesting utility owners to submit detailed plans, schedules, and estimates during design allows for better results in construction

### I. General

The overseer of this step is the project manager. This step also involves:

- Construction Group
- Utility owners

The project manager is responsible for the critical task of requesting utility relocation information from utility owners.

### II. Request for Relocation Plans and Related Information from Utility Owner

#### A. Request for Utility Relocation Plans Letter

At or after the Utility Design Meeting, the project manager sends each utility owner a set of project plans, an [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#), and the [Request for Utility Relocation Plans Letter](#), which asks the utility owner to submit:

- Two copies of a relocation plan on 11" x 17" project plan sheets
- Two copies of a detailed schedule
- Two copies of estimates for reimbursable utility relocations

Utility owners use the [cost estimate template](#) to submit their estimates electronically.

- Contact information for the utility representative who will manage the relocation
- Information to be incorporated into the utility special provisions
- A completed permit application

#### B. Sequencing of Requests

In most cases, the project manager sends the requests for relocation plans to all utility owners on a project at the same time, using the one with the longest relocation timeframe to determine when to send the requests. Sending the requests at the same time makes it possible for the project manager to review all utility relocation plans and ensure that there will not be any conflicts among the utility relocations. Ideally, no significant plan revisions that affect utilities will occur following this transmittal.

In some cases, relocation of a particular utility facility may require a much longer timeframe than relocation of the other utility facilities. As a result, the project manager may send a request to that utility owner before sending the rest. In circumstances where utility owners want to occupy the same space, this utility relocation also may take priority over other utility relocations, as long as such location does not violate the [MnDOT Utility Accommodation Policy](#) or the Utility Accommodation Section of this manual.

Some relocation projects have longer timeframes than the project design schedule typically allows. For those projects, the project manager needs to notify the utility owner before the Utility Design Meeting to allow that utility owner time to relocate its facilities and avoid conflicts with construction. The project manager should send the request for relocation plans as early as possible in those situations.

The project manager sets a deadline for utility owners to submit requested information, based on a timeframe that allows for permits and any agreements to be completed before the letting date and the completion of utility relocations in a manner consistent with the project construction schedule. Typically, setting a deadline within 30 to 90 days is a good general range based on the complexity of the project and utility involvement.

### III. Utility Relocation Plan Contents

Utility owners must depict their relocation plans on the MnDOT project plans. Relocation plans include the following:

#### A. Drawings at a Readable Scale

In a block, each sheet shows:

- The name of the utility owner
- General location of the work
- MnDOT state project number
- FHWA project number, if applicable
- Utility's work order number or other appropriate identification number
- The date

Plan sheets also indicate the scale.

Utility owners may use inserts to show details if the overall drawing scale does not permit readable detail. Use [standard plan and utility symbols](#); include a key if using different symbols.

#### B. Relocation Plan Details

The relocation plans must be complete and contain information that clearly outlines the work, including:

- Location, type, size, material, and class of all existing facilities and major component parts and any other relevant information such as voltage, operating pressure, etc.
- Temporary relocations/adjustments to facilities, if applicable
- Permanent relocations/adjustments to facilities, horizontal and vertical locations
- Facilities that will be left in place or removed but not replaced/relocated
- Construction stages for relocation
- Delineation of reimbursable and non-reimbursable relocation
- Trunk highway centerline and stationing, roadways, and existing/proposed right of way lines
- Dimensions from critical project features, such as right of way lines, highway centerline, loops and ramps, and bridges with reference to the proposed utility relocations
- Construction limits
- Sheet numbers and total number of plan sheets
- North arrow
- All proposed drainage structures in the areas of existing and proposed relocations

At a minimum, the plan view shows proposed temporary and permanent utility facilities. If necessary to complete a thorough review of the relocation plans, the project manager may request that the utility owner provide this information in profile and cross-sectional views as well.

For instance, if a utility owner will place a utility facility underground outside of the construction limits at a five-foot offset parallel to the right of way on a rural project, it likely will be sufficient for the utility to only indicate the depth of cover. However, if an underground utility is to be placed within the construction limits in the areas of drainage structure placements, a more detailed vertical depiction of the proposed utility facility is needed.

### **C. Profiles at Crossings**

The plans must include profiles for aerial structures where power or communication lines cross trunk highways and for pipelines and other underground utility crossings. In general, elevations are preferred over depths for most profiles/vertical relocation information. For underground crossings, the method of crossing (directional bore, jack and bore, microtunneling, or other form) must be specified along with relevant details such as location of bore pits and receiving pits.

### **D. Compliance to Standards and Provisions**

The utility owner must comply with state and federal standards, requirements, and provisions as they apply to the type of utility facility.

### **E. Red, Green, Brown Plan Marking System**

Utility owners are encouraged to use the [red, green, and brown plan marking system](#).

## **IV. Notice and Orders for Special Cases**

The Notice and Order notifies utility owners of the upcoming construction project and orders them to relocate, adjust, or remove their facilities by the specified date. Notice and Orders are typically completed as part of Step 11. However there are special cases where Notice and Orders are sent during this Step.

### **A. Unresponsive Utility Owners**

There are sometimes situations where utility owners are not responsive to the initial steps of the utility coordination process. MnDOT has identified a [dispute resolution process](#) that outlines how to address an unresponsive utility owner at each step. If a utility owner has been unresponsive to any previous attempts at coordination, the project manager can ask the Utility Agreement Writer to issue a Notice and Order to that utility owner at this time. Although the request for relocation plans letter cannot enforce the deadline for relocation plan submittal, the Notice and Order can.

When requesting Notice and Orders, the project manager must provide the State Project (SP) number, trunk highway number, project location, resident engineer's name, utility owner's name, and relocation completion date to the Utility Agreement Writer, who will then write the Notice and Order. The Utilities Engineer signs the [Notice and Order](#) and sends it to the utility owner with the [Notice and Order Letter](#) and the [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#).

Notice and Orders include language that requires utility owners to submit a relocation plan, schedule, and contact information to the Construction Group no more than 15 days after receipt. If the state issues a Notice and Order to a utility owner, and that utility owner does not respond before the end of the 15-day timeframe, the Project Manager or the Construction Group sends a [Previously Issued Notice and Order Letter](#) to that utility owner. This letter warns the utility owner that if it does not submit the requested information by a specific date, the state is authorized to initiate actions to compel them to do so.

## B. Relocations with Long Lead Times

The Notice and Orders may be sent at this step for unusually complex projects where a utility relocation requires a long lead time, such as for plan development or ordering of materials.

When requesting Notice and Orders, the project manager must provide the SP number, trunk highway number, project location, resident engineer's name, utility owner's name, and relocation completion date to the Utility Agreement Writer, who will then write the Notice and Order. The Utilities Engineer signs the [Notice and Order](#) and sends it to the utility owner with the [Notice and Order Letter](#) and the [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#).

There also may be other special cases to send a Notice and Order at this time including when the utility owner needs this official vehicle to move forward with developing the requested relocation plans. See Step 11 for more information about the Notice and Order.

## V. Clearing and Grubbing

Projects in wooded areas may require clearing and grubbing work, and these situations are handled on a case-by-case basis. If MnDOT is reimbursing a utility owner for its relocation under an agreement, MnDOT can reimburse the utility owner for the clearing and grubbing work under that same agreement. If the relocation is not reimbursable, the project manager can do one of the following:

- Let a separate contract for the clearing and grubbing work
- Send a MnDOT maintenance crew out to perform the clearing and grubbing
- Instruct the utility owner to wait until MnDOT's project contractor begins work and performs the clearing and grubbing as part of its contract

Contractors must comply with the tree and other vegetation protection and disposal requirements found in the environmental requirements document.

## VI. Environmental Requirements

### A. Environmental Permits

Utility owners must comply with environmental regulations, statutes, and rules that govern utility relocation, including, but not limited to, the environmental requirements found in the [environmental requirements document](#). The utility owner must obtain all applicable environmental permits, including those from the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, and the Army Corp of Engineers.

When relocating a utility facility that will result in more than one acre of disturbance before the contractor begins construction, the utility owner must obtain a [National Pollution Discharge Elimination System \(NPDES\) Construction Stormwater permit](#). The permit requires a Storm Water Pollution Prevention Plan (SWPPP) and trained personnel to develop, manage, and implement the SWPPP. MnDOT requires the appointment of an

erosion control supervisor to manage and implement the SWPPP. The project manager should receive copies of all these permits and plans.

When the utility owner begins its relocation work after the contractor starts construction, the contractor must obtain the NPDES permit and develop a SWPPP. Utility owners must comply with the contractor's NPDES permit and the SWPPP.

## **B. Site Restoration Plan**

The utility owner must submit a detailed site restoration plan to the Construction Group. At a minimum, the plan must show a minimum of six inches of topsoil or a topsoil depth equal to or greater than the depth of the surrounding topsoil profile, as well as details about:

- How the area will be reshaped
- How the stockpile will be restored to its original condition
- How the disturbed area will be revegetated to match the pre-disturbed condition with a closely matched MnDOT seed mix
- How revegetation activities shall be completed in accordance with the [MnDOT seeding mix and turf establishment guidelines and the district soils letter](#).
- How all drainage structures will be restored to original condition or better according to the best management practices in the Minnesota Pollution Control Agency publication, [Protecting Water Quality in Urban Areas](#).
- How ruts, compaction, and debris will be cared for

## Step 6: Utility Coordination Follow Up

MnDOT continues to coordinate relocation details with utility owners

### I. General

In this step, the project manager provides guidance and information so that the utility owners can produce the requested relocation plans, schedules, and estimates.

The overseer of this step is the project manager. This step also involves:

- Construction Group
- Utility owners
- District Permit Staff
- Utility Agreements and Permits Unit

### II. Reasons for Follow Up

Examples of situations that may require additional communication and involvement with utility owners may include the following:

- A utility owner is unfamiliar with MnDOT procedures and lacks an understanding of highway projects
- A utility owner is unresponsive and needs prompting to complete the requested task
- The project is very complicated and requires additional meetings beyond the minimum described in this process to ensure completion of proper utility coordination tasks

### III. Options

#### A. Meetings

The project manager may need to meet with one, all, or a particular group of utility owners, depending on project needs. Depending on the project, one or more meetings may be required. The project manager decides the best course of action for the circumstances.

#### B. Field Meeting

The project manager may suggest a field meeting with a utility owner. The project manager presents any changes that result from the field meeting to other utility owners with facilities that may be impacted to avoid placing two utility facilities in the same location.

#### C. Additional Subsurface Utility Engineering

When using SUE on a project, the project manager may want to gather additional Utility Quality Level A information to facilitate further analysis of utility conflicts and the development of utility relocation routes. Utility Quality Level A involves non-destructive exposure of underground utilities at critical points to determine the precise horizontal and vertical position of underground utilities.

### IV. Documentation

The project manager must meet deadlines and follow up with utility owners as necessary by telephone, e-mail, letter, or field meeting. Communication by telephone may work well for minor issues, but letters and e-mails allow the project manager to keep an accurate record of correspondence. The project

manager should maintain proper documentation of all correspondence and meetings, including phone calls, in the file as these records can be useful when trying to resolve problems later in the project.

#### **V. Cooperation**

Taking the time for follow up helps ensure the project continues on as smooth a course as possible. In cases where the utility owner is consistently uncooperative, the project manager contacts the Utilities Engineer for guidance.

## Step 7: Utility Design Change Meeting

Some projects may require a Utility Design Change Meeting

### I. General

Some projects require a Utility Design Change Meeting to review major changes to the plan that affect utilities and that occur after the Utility Design Meeting.

The overseer of this step is the project manager. This step also involves:

- Utility owners
- Utility Agreements and Permits Unit
- Construction Group

### II. Utility Design Change Meeting

#### A. Meeting Purpose

When changes occur, the project manager invites all involved utility owners, Utility Agreements and Permits staff, and the Construction Group to the Utility Design Change Meeting.

#### B. Meeting Scheduling and Notification

The project manager schedules this meeting as soon as practical after completing plan changes.

Two to three weeks in advance, the project manager notifies participants of the meeting by sending each one:

- The [Utility Design Change Meeting Letter](#)
- One set of plan sheets that contains the project revisions

The letter invites utility owners to the Utility Design Change Meeting and requests that they bring the information from the Utility Design Meeting and the plan revision sheets. The utility owners send representatives who are familiar with the project and can make decisions about it.

#### C. Meeting Preparation

The project manager takes certain actions to prepare for and facilitate the meeting, and documents the meeting results.

##### 1. Plan Review

Before the meeting, the project manager reviews recent changes to the plan, considering the impact of the changes on each utility owner and the questions that utility owners may ask at the meeting. The project manager becomes familiar enough with the plans to make suggestions for eliminating any conflicts.

## 2. SUE Review

Design changes to a project may necessitate further SUE investigation. The project manager may decide to perform additional SUE investigation before or after the meeting, depending on meeting discussions and results.

## 3. Reminder and Agenda

The project manager contacts utility owners a few days before the meeting to remind them to attend and bring their plans. The project manager prepares an agenda and sign-in sheet for the meeting.

### **D. Meeting Content**

During the meeting, the project manager explains how the plans have changed since the Utility Design Meeting.

After discussing the changes, the project manager addresses one utility owner at a time, starting with the utility owners of overhead facilities.

Beginning with the placement of overhead facilities aids the decision-making process. Because clear zone and clearance-to-obstruction requirements control above-ground utility facilities, they cannot be moved laterally as freely as most underground facilities. The project manager addresses underground facilities next and in order of significance with regards to size, type, or other relevant parameters.

The project manager facilitates the discussion with a focus on the proposed solutions, ensuring that each utility owner understands the proposed location of the other utility facilities.

### **E. Meeting Minutes**

During the meeting, the project manager keeps meeting notes, recording important discussions, milestones, decisions, and action items as part of those notes.

After the meeting, the project manager uses the meeting notes to write the meeting minutes and sends these minutes to all attendees and invitees. In the first paragraph, the project manager asks attendees to verify the minutes and send back any comments within 10 days of receipt. After reviewing the comments, the project manager distributes final minutes to all participants.

### **III. Minor Changes**

Minor changes do not require a Utility Design Change Meeting, but the project manager communicates any changes that affect existing and proposed utility facilities to the appropriate utility owners. Sharing any information about changes helps avoid duplication of effort.

## Step 8: Gopher State One Call Utility Verification

Call Gopher State One Call no less than 30 and no more than 90 days before final plan submittal

### I. General

By finishing the previous steps in this process, the project manager should have complete utility location information. This step represents a last check before submitting plans to make sure that no new or existing utility owners have installed additional facilities in the project limits since the beginning of the process.

Minnesota Statutes, section 216D.04, subdivision 1a, requires that the state depict the location information it obtains from affected utility owners and the utility quality level information on the final plan used for the bid or contract. This information must be updated no less than 30 and no more than 90 days before completion of the final plan for bid or contract.

The overseer of this step is the project manager. This step also involves Gopher State One Call and the Pre-Letting Engineer.

### II. Gopher State One Call

The project manager is responsible for complying with this statutory requirement by contacting Gopher State One Call (GSOC) for any additional utility owners and verifying the locations of any additional and previously identified utility facilities. The project manager then will submit the final construction plan to the Pre-Letting Engineer.

The project manager can contact Gopher State One Call at:

Online: [www.gopherstateonecall.org](http://www.gopherstateonecall.org)

Smartphone/Tablet: <http://mnticketentry.korterraweb.com>

Telephone (Metro): 651-454-0002

Telephone (Statewide): 1-800-252-1166

Telephone (Nationwide): 811

#### A. Identification of Additional Utility Facilities

If this step results in the identification of additional utility facilities and/or owners, the project manager depicts the facilities appropriately on the plans. The level of effort in depiction (plot as-builts, survey, or SUE) should equal the significance of the utility. For example, if a small cable TV line is discovered, then taking the facility record and manually plotting it on the plans would likely suffice. If a gas transmission pipeline is discovered, then it would be advisable to use a higher level of effort, such as SUE, to depict the utility on the plans. The project manager addresses any impacts by using the guiding principles behind this process, and contacts the MnDOT Utilities Engineer with any concerns.

#### B. Utility Verification and Information Only Letters

After verifying the utility owners with GSOC, the project manager sends a letter to each utility owner.

The project manager sends the [Utility Verification Information Only Letter](#) to each utility owner that has facilities in the project limits that are not affected by construction. If the project will affect a utility owner's facilities, the project manager sends that utility owner the [Utility Verification Letter](#). In both cases, the utility owner must complete the attached Utility Depiction Verification Form and return it to the project manager by the deadline the letter provides.

### III. Exception

The verification call to GSOC is not required for projects where the utility identification step occurs 90 days or less from the project submittal date or for projects with no excavation (see Project Categories for Modified Process Application on page 82).

### IV. No Affected In-Place Utility Facilities

When a project follows the modified process where no in-place utility facilities will be affected, the project manager transmits project plans and requests utility owners to verify locations and confirm that their facilities will not be affected. In such cases, the project manager creates the [Utility Verification Information Only Letter](#) for Projects Where In-Place Utility Facilities will not be Affected and sends it to those utility owners.

## Step 9: Review of Utility Relocation Plans, Schedule and Permit Submittal

Project manager leads the review of utility relocation plans and schedules with the assistance of the Construction Group

### I. General

The overseer of this step is the project manager. This step principally involves the project manager and the utility owner. The project manager coordinates decisions and information as appropriate with the:

- Construction Group
- Utility Agreements and Permits Unit
- Utility owner
- District Permit Staff
- Office of Bridges and Structures

Each utility owner furnishes the project manager with detailed relocation plans, schedules, and utility special provision information. The utility owner also submits the appropriately completed permit form.

After receiving the plans, schedules, permit applications, and estimates for reimbursable utility relocations, the project manager reviews the information with the Construction Group.

### II. Review

The project manager reviews the utility relocation plans and schedule and the utility tabulation sheet at the same time, verifying that all conflicts between the utilities and proposed road construction have been eliminated and that the information in the relocation plans is consistent with that of the schedule.

#### A. Utility Relocation Plans

The relocation plans show how the utility owner plans to adjust its facilities. These plans depict in detail facilities that will remain in-place or be removed, adjusted, or relocated to fully accommodate the construction of a project. Utility relocation plans must contain the detail described in Step 5 to allow for a complete review of all issues.

#### B. Utility Tabulation Sheet

The utility tabulation sheets identify the utility conflicts and give the project manager a system for checking the relocation plans to ensure that they address all conflicts.

In addition to reviewing plans for conflicts with work on the immediate project, the project manager also identifies and considers the impact of any future highway projects in the highway corridor that may affect the proposed location of utility facilities.

#### C. Schedule

Roadway construction and the relocation of utility facilities can be so closely related that they should be thought of as one element, especially with respect to scheduling, maintaining workflow, and providing for the safety of the traveling public and the workers. As applicable, [schedules](#) must relate the proposed utility work to the highway construction and traffic control phases. Transportation projects that typically do not require a construction sequence may in fact need one to coordinate the utility relocation with project construction.

The [schedule](#) shows the number of consecutive calendar days for each relocation activity on a daily or weekly working schedule. It lists any contingencies or restrictions and any tasks that the contractor or another utility owner must perform before relocation work can occur (e.g., staking or clearing of right of way). The schedule breaks down the tasks and includes resources, such as crews and equipment.

The project manager double checks the relocation schedule against project requirements for compatibility and compares the utility owner's plans and schedule to the plans and schedules of other utility owners to ensure that no conflicts exist among the utilities.

#### D. Additional Requirements

The placement of utility facilities must:

- Meet the requirements of the [MnDOT Utility Accommodation Policy](#) and the Utility Accommodation section of this manual which provide policies and procedures for the accommodation of utility facilities within rights of way of all trunk highways and other transportation facilities under the jurisdiction of the Minnesota Commissioner of Transportation
- Meet specific [environmental requirements document](#)
- Be reviewed in relationship to [routes](#) that are used for movement of oversized and/or overweight vehicles and loads, combinations of vehicles, and mobile/modular homes.

In most cases, the FHWA has delegated the responsibility of utility relocation plan review and approval to MnDOT. If a utility relocation involves an exception to the MnDOT Utility Accommodation Policy for facilities located on Interstates, other freeways, expressways, and other highways on the National Highway System (e.g., longitudinal installations within freeway right of way), then the FHWA also must review and approve the relocation plan. In such cases, the Utilities Engineer submits the plans to the FHWA for review and approval. The [MnDOT Utility Accommodation Policy](#) includes a section that explains the process for obtaining an exception.

The project manager also considers the impact of manholes and similar items on MnDOT maintenance operations and works with the utility owner and Construction Group on options.

### III. Relocation Completion Date

The project manager must set a relocation completion date for each affected utility owner. When determining this date, the project manager must review the schedule submitted by the utility owner for compatibility with the project schedule and if not compatible work with the utility owner to modify the schedule accordingly. The project manager takes the lead times for utility relocation in Step 2 into consideration, as well as the time required to process and execute agreements and issue permits before the letting date. On complicated projects, the deadline also should allow enough time for to address temporary or staged relocations for entire utility facilities that cannot be moved all at once or to permanent sites in time.

Usually, the project manager chooses a date that allows utility owners to relocate their facilities before construction begins. When this is not feasible, the project manager bases the completion date on a time frame where utility relocation will not conflict with construction.

#### IV. Corrections

The project manager checks relocation plans and schedules to make sure they are complete and without errors. The project manager should not accept relocation plans or schedules unless they are correct and compatible with the project.

If the review process reveals an error or errors, the project manager returns the plans and schedule to the utility owner for correction. The utility owner corrects the error or errors or adds the necessary information.

When returning relocation plans or schedules to the utility owner for correction, the project manager makes recommendations about corrections. The project manager may find previous meeting minutes helpful when making decisions about recommendations. Minutes offer details about agreements and make it easier to explain the need for a correction to the utility owner. If needed, the project manager may call a meeting with the utility owner to resolve any issues or misunderstandings.

#### V. Process for No Conflict or No Involvement

When utility owners state that they have “no conflict” within the project, this means that they have facilities within the project limits but that the proposed construction will not disturb them. The utility owner confirms the location of their existing facilities as depicted on the plans and indicates that there is “no conflict” in writing.

For a “no conflict” scenario, the project manager is responsible for knowing the limits and potential conflicts with the MnDOT project, conveying this information to the utility owner, and making a reasonable review of the basis for the utility owner’s “no conflict” statement. It is ultimately the responsibility of the utility owners to know the location, limits, operational guidelines, and policies of their facilities. Confirming a “no conflict” scenario involves both parties sharing this information.

When a utility owner states that it is “not involved” within the project, it means that the utility owner has no facilities within the project limits. The utility owner provides written notice of this circumstance.

For a “not involved” scenario, the project manager is responsible for knowing the limits of the project, conveying those limits to the utility owner, and making a reasonable review of the utility location information that the utility owner supplies. It is ultimately the responsibility of the utility owner to know the location and limits of its facilities.

#### VI. Process for No Conflict Within New Right of Way

Utility owners may identify the location of a utility facility that is in newly acquired right of way. The project manager confirms the location of the facility, includes it on the utility tabulation sheet, and asks the utility owner to submit an [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#) with as-built plans to the project manager. The project manager sends the completed permit and as-built plans to the Utilities Engineer.

#### VII. Submittals to Utilities Engineer

After reviewing and completing corrections, the project manager is responsible for submitting the following items to the Utilities Engineer.

For reimbursable relocations and work to be included in the MnDOT contract

- [Cost estimate](#) for reimbursable relocation
- Notification of federal fund involvement and authorization
- Two sets of approved relocation plans

- One separate completed permit application form for each project
- Schedules
- [Special provision information](#)
- Property rights documents
- Information for the Notice and Order as described in Step 11

For non-reimbursable relocations

- Two sets of approved relocation plans
- One separate completed permit application form for each project
- Schedules
- [Special provision information](#)
- Information for the Notice and Order as described in Step 11

## VIII. Permit Preparation

At this point, utility owners submit their completed permit application to the project manager. The following provides general information about permit submittal. MnDOT's goal is to issue all utility relocation permits before the letting date.

### A. General

Utility owners submit permit applications either as part of a highway construction project that requires utility relocation or to accommodate changes or additions to their facilities. A utility owner receives an [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#) from MnDOT when a highway project necessitates a relocation of its facilities.

Before beginning work, a utility owner must receive an approved permit from MnDOT. The permit helps the state ensure that the utility will not:

- Conflict with the project construction
- Interfere with the safe flow of traffic
- Impair the highway or its visual quality
- Conflict with any other future MnDOT projects
- Conflict with any provisions of federal, state, or local law, rules, regulations, or the MnDOT Utility Accommodation Policy (see Appendix C)

### B. Permit Types

MnDOT issues several types of permits:

#### 1. Application for Utility Accommodation on Trunk Highway Right of Way (Form 2525)

MnDOT requires the [Application for Utility Accommodation on Trunk Highway \(Form 2525\)](#) for the vast majority of utility placements and relocations. Utility owners complete this form to request permission to place, construct, and reconstruct within trunk highway right of way, whether the utility facility runs longitudinally, skewed, or perpendicular to the centerline of the highway.

#### 2. Application for Miscellaneous Work on Trunk Highway Right of Way (Form 1723)

The [Application for Miscellaneous Work on Trunk Highway Right of Way \(Form 1723\)](#) is used for minor work, such as installation of utility service connections that do not cross or parallel the roadway within the trunk highway right of way. It is also used for

installation of miscellaneous guy wires and anchors, to place temporary obstructions on the right of way, and to perform temporary relocations of a more minor nature to accommodate a highway construction project.

MnDOT also requires this form from the utility owner for service and maintenance operations within trunk highway right of way.

### C. Permit Rules

Minnesota Rules, parts 8810.3100 through 8810.3600 detail the specific requirements that govern utility accommodation and use. Every permit application contains a copy of the rules.

#### 1. Rule Highlights

Each utility owner is responsible for understanding and following all rules and requirements of the permit. Several Minnesota rules that govern permits are highlighted below:

- The rules require that utility construction and relocation not begin until MnDOT receives a permit application and grants a permit. The permit application includes relocation plans that show the proposed utility location. MnDOT may remove any installation that occurs without a permit and charge the utility owner removal costs.
- The rules give a utility owner within 15 days after written notice to begin requested work. The work shall be completed within the date specified in the Notice and Order, which date shall be reasonable under the circumstances.
- Utilities along interstate highways shall be located outside the control-of-access lines except as outlined in the rules.
- MnDOT may require the utility owner or its contractor to provide a deposit to protect the state in the event of damage to the trunk highway right of way or other costs arising out of the permit.
- “Except for the negligent acts of the state, its agents, and employees, the utility shall assume all liability for, and save the state, its agents and employees, harmless from, any and all claims for damages, actions, or causes of action arising out of the work to be done herein and the continuing uses by the utility, including but not limited to the placing, constructing, reconstructing, maintaining, and using of said utility under this application and permit for construction.”
- The work permit or permit for construction does not in any way imply an easement on private property or state property.
- The rules also include standards that cover trees, brush, and vegetation removal; operation of drainage ways; topsoil and sod replacement; protection of existing utility facilities; warning devices; restoration of right of way to original condition; conformity to laws and rules; and requirements and specifications for aerial lines and underground lines.

In addition to the rules, the utility owner must meet other MnDOT specifications such as ones regarding pipeline installations, utilities on bridge structures, and clearances for installation of electric supply and communication lines. See the [MnDOT Utility Accommodation Policy](#), the Utility Accommodation section of this manual and the [Application for Utility Accommodation on Trunk Highway Right of Way](#) for more complete requirements.

## 2. Nonconformance

If the utility owner's permit application does not conform to accepted standards, requirements, and practices, MnDOT will refuse the permit application. MnDOT may suggest modifications to the application, and the utility owner can then incorporate those modifications into the application and resubmit it with a revised plan.

## 3. Processing

The project manager sends an [Application for Utility Accommodation on Trunk Highway Right of Way](#) to utility owners as part of Step 5. Utility owners must submit an application with an original signature.

### D. Permit Timing

Utility owners must relocate their facilities as part of a highway construction project, ideally they should receive their approved permits for all utility relocations to accommodate the project before the letting date. In cases of lengthy relocations, such as those for large pipelines or electric transmission lines, the permit may need to be issued well in advance of the letting.

If MnDOT has accepted the utility plan and schedule, but has not yet purchased all of the project right of way, the Construction Group reviews the situation to determine the impact on the utility relocation. The utility owner must not proceed until the new right of way is fully acquired, unless a fully executed Right of Entry Easement (ROE Easement) has been received from the landowner.

### E. Final Permit Preparation

#### 1. Relocation Plan

The utility owner must prepare a relocation plan that details the proposed location of any facilities to be placed, as well as any relocation of existing facilities.

The relocation plan must be on state construction plan sheets and include the original location, proposed location, and any temporary locations. See Step 5 for information about preparing the relocation plan.

#### 2. Permit Package

The utility owner completes the permit application and sends the following information to the project manager:

- One separate, completed [permit application](#) form for each project
- Two sets of relocation plans
- Schedules
- [Special provision information](#)
- [Cost estimates](#) (for reimbursable relocations)

An authorized representative of the utility owner or municipality must sign and date the permit application and submit the original to the project manager.

## IX. Permit Review and Approval

Permit review begins after MnDOT receives the completed permit application and involves several key steps.

### A. Permit Review

After receiving the relocation plan, schedule, and completed permit application from the utility owner, the project manager reviews all documents, consults with other functional areas if necessary, approves (if acceptable) and then sends the District Permit Staff the complete package with any comments.

The District Permit Staff logs the permit application into the database, assigns a permit number to it, and reviews the documents, in particular considering maintenance issues. After approving the package, signing off on the permit application, and providing any further comments, the District Permit Staff sends the package, including the original permit and two copies of the relocation plan, to the Utilities Engineer.

#### 1. Utility Agreements and Permits Unit

After receiving the permit application, the Permit Writer begins review of the application.

The Permit Writer may request that the utility owner provide additional information; the writer adds the information and revises the permit application. The Permit Writer may send it back to the utility owner with a request for better relocation plans and more complete information.

#### 2. Permit Special Provisions

After reviewing and/or revising the application, the Permit Writer then writes the permit indicating specific utility placement location with reference to highway stationing, centerline, and right of way. Then the Permit Writer includes the special provisions.

The number and type of [special provisions](#) in the permit vary from project to project. Special provisions list requirements for different circumstances from pipeline installation to open trenching to restoration.

#### 3. Permit Supervisor Review and Permit Assembly

The Permit Writer submits the written permit to the Permit Supervisor, who reviews the permit, resolves any outstanding issues, makes any corrections or changes, approves the permit, and sends it to the Utilities Engineer. The Utilities Engineer must approve and sign the permit on behalf of the commissioner.

#### 4. Final Preparation

The Permit Supervisor makes any final corrections and prepares an approval-of-permit letter and a [Permit Certificate of Completion Form](#).

## B. Permit Distribution

After approval, Permit Staff scan the final permit into the [database](#) and send the permit to the district permits office. If a deposit is required, Permit Staff send the approval-of-permit letter requesting the deposit to the utility owner. The utility owner must then work with District Permit Staff to provide the deposit.

The District Permit Staff distributes the permit. If District Permit Staff have any questions or concerns to resolve, they will contact the utility owner before sending out the permit.

The utility owner/contractor must give the district permits office 24-hour advance notice before commencing work.

The utility owner or its contractor must carry a copy of the approved permit at all times while working on the trunk highway right of way.

**NO DEVIATIONS FROM THIS PERMIT SHALL BE MADE WIHTOUT PRIOR APPROVAL FROM DISTRICT PERMITS STAFF.**

## C. Changes to Permitted Work

Once in the field, the utility owner may find a need to make changes. Before making those changes, the utility owner must receive approval from the Construction Project Engineer and District Permit Staff. The district may want to discuss those changes with the Permit Writer or Permit Supervisor. Once the Construction Project Engineer and District Permit Staff approve the changes, the utility owner may make the adjustments. The utility owner submits proposed changes to the Utility Agreement Writer for state construction jobs where reimbursement is requested.

After completing installation, the utility owner must submit its utility [Permit Certificate of Completion Form](#), along with as-built plans to the district office and keeps a copy for its records. The project inspector signs the certificate of completion, and sends a copy to the District Permit Staff, who scans the as-builts into the database.

## Step 10: Reimbursement and Utility Agreements

Agreements detail the financial responsibility of utilities and MnDOT

### I. General

When the Commissioner of Transportation deems changes to the trunk highway right of way necessary for public use, utility owners are required to move any of their facilities that are in the way. The state uses Notice and Orders to order them to relocate their facilities. There are some cases where the state may reimburse the utility owners for their work, and cases where they cannot. When a utility owner is eligible for reimbursement, a utility agreement between MnDOT and the utility owner details the terms and conditions that the utility owner and the state must meet for the utility owner to receive reimbursement. Agreements are also written to detail terms and conditions for when utility work is to be included in the MnDOT construction contract.

The Utility Agreements and Permits Unit is the overseer of this step.

This step may also involve the:

- Project Manager
- District Land Management/Right of Way
- Municipal Agreements Engineer
- Utility owners
- Office of Land Management
- Department of Administration
- Office of Contract Management
- Office of Chief Counsel
- Attorney General's Office
- District Engineer
- FHWA
- Office of Freight, Rail, and Waterways

### II. Reimbursement

#### A. Instances Where Reimbursement Is Allowed

The Utilities Engineer determines whether a utility owner may receive reimbursement from the state based on statutes, rules, or other laws and regulations. Circumstances where the state may reimburse utility owners for relocating their facilities as part of a transportation project include:

- Relocations on interstate highway projects (Minnesota Statutes, section 161.46, subpart 2)
- Municipal relocations that qualify as a first move (Minnesota Rules, part 8810.3300, subpart 3)
- Relocations where the utility owners have property rights (Minnesota Constitution, article 1, section 13)

#### 1. Relocations on Interstate Highways

Pursuant to [Minnesota Statutes, section 161.46](#), subdivision 2, the state is allowed to reimburse a utility owner for relocating its facilities when a transportation project on an interstate highway requires that relocation.

## 2. Municipal Relocations That Qualify as First Move

[Minnesota Rules, part 8810.3300](#), subpart 3, allows reimbursement for first move relocations.

Municipalities often place many of their utility facilities within the limits of their own streets. In some cases, the state takes over municipally owned streets and makes them into trunk highways. The state may decide at some point to perform a transportation project on one of these highways that requires a municipality to relocate its facilities. If this relocation is the first time the facilities have been moved since the state took over the highway, the relocation would qualify as a “first move,” and the state may reimburse the utility owner for that relocation. To receive reimbursement, the municipality must provide documented proof that the street was under the municipality’s ownership at the time the facilities were installed before it was taken over as a trunk highway. The Utilities Engineer will determine whether the relocation qualifies as a first move.

## 3. Relocations Where Utility Owners Have Property Rights

Minnesota Statutes, [section 161.20, subdivision 2](#), authorizes the Commissioner of Transportation to “acquire by purchase, gift, or by eminent domain proceedings as provided by law, in fee or such lesser estate as the Commissioner deems necessary, ...in laying out, constructing, maintaining, and improving the trunk highway system...” In such circumstances, the state may reimburse a utility owner the actual cost of relocation, removal, or rearrangement of its facilities on privately owned property where the utility owner has a property right. According to [Article 1, section 13](#) of the Minnesota Constitution, “private property shall not be taken, destroyed, or damaged for public use without just compensation therefore, first paid and secured.”

To be eligible for just compensation, a utility owner must prove it has one of three types of compensable land rights to the private property:

- Fee simple
- Recorded or unrecorded easement
- Prescriptive rights

### a. Fee Simple

When a utility owner has fee simple rights, it owns absolute title to the land, free of any other claims. The District Land Management/Right of Way Office and the Office of Land Management handle the purchasing of these properties when they acquire right of way for a project and no utility facilities are affected.

If utility facilities are affected, the District Land Management/Right of Way Office and the Office of Land Management may handle the purchasing of the properties and the utility facility relocations, or the District Land Management/Right of Way Office and the Office of Land Management may ask that the Utility Agreements and Permits Unit handle the purchasing of the properties. If the Utility Agreements and Permits Unit handles the purchasing of the properties, the Office of Land Management supplies the Utility Agreements and Permits Unit with the appraisals. The Utility Agreements Writer prepares and processes the agreement for the relocation of the utility facilities and the acquisition of property. When the utility owner sends the Warranty Deed to the Utility Agreements and Permits Unit, the Utility Agreements Writer submits the deed and appraisal to the Office of Land Management for recording and payment.

b. Recorded or Unrecorded Easement

When a utility owner has an easement, it has the right to use another's property for a specific use created by a deed. If a utility owner owns an easement and is required to relocate the facilities it has on the land the easement covers, MnDOT typically pays the utility owner for the cost of relocating its facilities and extinguishes the easement. The utility owner gives up its rights to the land to the state through a quitclaim deed.

If a utility owner owns an easement but plans to relocate its facilities off state right of way, it may purchase a new easement from a private landowner, and MnDOT may then pay the utility owner for the replacement easement as well as the relocation costs.

If a utility owner has an easement, the following procedure applies.

- The utility owner submits copies of its easement or easements to the project manager. The project manager sends the easement documents to the Utilities Engineer.
- The Utilities Engineer reviews the submitted easement to determine whether the utility owner has easement rights within the project limits and whether the state will compensate that utility owner. The Utilities Engineer may consult with the MnDOT Office of Chief Counsel and/or Attorney General's Office for advice on legal questions when making a determination of these rights.
- The state executes a relocation agreement with language describing where the easement is located and how it will be quitclaimed to the state. The Utility Agreement Writer sends three copies of the quitclaim deed to the utility owner with the executed agreement.
- The utility owner signs and returns all three quitclaim deeds to the Utility Agreement Writer. The Utility Agreement Writer sends the quitclaim deeds to the Direct Purchase Unit with the Record QCD Memo.
- The Direct Purchase Unit works with the county to record the quitclaim deed. Once it has been recorded, the county retains one copy and sends one to the state and one to the utility owner.
- If the utility owner is going to relocate its facilities onto state right of way, it submits an [Application for Utility Accommodation on Trunk Highway Right of Way \(Form 2525\)](#) to obtain a permit.

c. Prescriptive Rights

To establish prescriptive rights, the utility owner must prove hostile, open, continuous, and exclusive use of the property for at least 15 years. Prescriptive rights cannot be established on public right of way or on private property after the date of registration if the title is registered under the Torrens system. The utility owner has the burden of establishing a valid claim to prescriptive rights.

If a utility owner has prescriptive rights, the following procedure applies:

- The utility owner completes and sends a [Prescriptive Rights Claim Form](#) with supporting exhibits demonstrating that statutory requirements have been met by the due date. The utility owner must prove it has had facilities in the same location so that a reasonable person would be on notice of the

facilities' existence. The extent of the prescriptive right is limited to the parameters of the utility owner's use during the preceding years.

- To determine replacement costs, the Utilities Engineer must know the precise extent of the rights (e.g., a single line of poles with one cross arm and eight telephone wires). This information should be set out in any instrument in which the state acknowledges the superiority of these rights to those of the state.
- The Utilities Engineer consults with the Attorney General's Office to determine whether a utility owner appears to have prescriptive rights and whether the state will compensate that utility owner for its prescriptive rights.
- The state executes a relocation agreement with the utility owner. In this case, there is no property to quitclaim.
- If the utility owner relocates its facilities in state right of way, it must apply for a utility permit.

## **B. Other Rights and Circumstances**

There are some situations where it may not be clear if the state can pay a utility owner. When these circumstances arise, the Utilities Engineer investigates the validity of these claims in the same manner as investigating an easement and may consult with the MnDOT Office of Chief Counsel and/or Attorney General's Office to determine whether or not MnDOT will reimburse the utility owner.

### **1. Leases**

A lease is a written agreement in which a property owner allows another party to use its land for a specified period of time, for specific periodic payments, and subject to other terms and conditions. A lessee may or may not be entitled to reimbursement for relocation based on the terms of a lease. (e.g., if a lessor can cancel a lease at will, the state will not reimburse the utility owner.)

### **2. Licenses and Permits**

A license is a property owner's permission for another party to use its land. A license or permit grants the right to use real property for a particular purpose. The difference between a license or permit and an easement is that an easement is irrevocable whereas a grantor may revoke the permit or license. Normally, when a utility owner has a license or permit and the state acquires the property on which its facilities exist, the license or permit is no longer valid and the state can require the utility owner to relocate the facility at its own expense.

### **3. Franchises**

A franchise is a right that a government agency grants to a utility owner to locate its facilities in public right of way. Utility owners that have facilities in public right of way pursuant to a franchise from a city, county, or statewide legislative franchise are required under the long-established common law principle to relocate their facilities at their own expense whenever the state or local authorities request them to do so for a legitimate governmental purpose.

### **4. Railroads**

On projects that involve railroads, the utility owner submits documents that support its claim for reimbursable rights on railroad right of way to the Utilities Engineer. The

Utilities Engineer may send the request and documentation to the MnDOT Office of Chief Counsel and/or Attorney General's Office for advice concerning the legal nature of the document between the utility owner and the railroad.

#### 5. Multiple Relocations on One Project

In isolated instances where MnDOT requires a utility owner to move the same facility more than once on the same project, the utility owner may make a claim for reimbursement of that additional move. Reimbursement of the additional move will be considered on a case-by-case basis. Utility owners submit claims for reimbursement of additional moves to the Utilities Engineer.

The Utilities Engineer notifies the Assistant District Engineer for Construction of any claims for reimbursement due to additional moves. The Assistant District Engineer for Construction prepares and sends a letter requesting approval for reimbursement to the Utilities Engineer. The Utilities Engineer reviews the situation and requests approval from the District Operations Division Director and the Engineering Services Division Director before deciding to reimburse the utility owner.

### C. Instances Where Reimbursement Is Not Allowed

Unless a utility owner's relocation meets one of the criteria described above, it is not eligible for reimbursement from the state.

The state often allows utility owners to locate their facilities on trunk highway right of way by permit. According to [Minnesota Rules 8810.3300](#), subpart 3, if a MnDOT project causes a utility owner to move facilities currently on the right of way by permit, the state cannot reimburse that utility owner for its relocation costs.

Some other examples of non-reimbursable relocations include:

- Relocations that are not caused by state projects
- Relocations that utility owners perform for their sole benefit or convenience

### III. Agreements

To pay a utility owner, the state must encumber the necessary funds and execute an agreement. ~~Utility owners are allowed to incur up to \$5,000 in costs before the execution of a relocation agreement, but any additional costs they incur before a fully executed agreement is in force will not be eligible for reimbursement.~~

Agreements help fulfill the requirements of Minnesota Statutes, sections 161.20, 161.45, and 161.46; Minnesota Rules, part 8810.3300; and the Federal Regulations 23 CFR 645A. They provide a clear, written understanding of the responsibilities of the utility owner and MnDOT and may cover cases where MnDOT is reimbursing a utility owner or receiving reimbursement from a utility owner. The utility agreement process involves many parties:

- Utility Agreements and Permits Unit (Utility Agreement Writers and the Utilities Engineer)
- District Land Management/Right of Way Office
- Office of Land Management
- Project manager
- Utility owners
- District Engineer
- Office of Contract Management
- Staff in the Department of Administration

- Office of Chief Counsel
- Attorney General's Office

MnDOT uses several types of utility agreements:

- Relocation agreements
- Preliminary engineering agreements
- Agency agreements
- Agency agreements for bridge attachments
- Supplemental agreements
- Cooperative construction agreements
- Master utility agreements

Buy America statute 23 U.S.C. 313, as amended by Section 1518 of MAP-21, applies to all contracts eligible for assistance under title 23 within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of the funding source, if at least one contract within the scope of the NEPA document is funded with federal funding under title 23. Buy America requirements would not apply to utility work where such work is not eligible for federal-aid because the State is legally unable to pay the utility owner or where the utility work is part of a non-federal-aid highway contract which is not within the scope of a NEPA document. Language addressing Buy America is included in agreements.

#### **A. Elements of Relocation Agreements**

Relocation agreements contain several sections that address utility facility relocation including:

- Term/termination
- Utility owner's duties as they relate to the relocation, safety regulations, and pollution control requirements
- Utility owner's ongoing maintenance requirements
- Property rights (including Quitclaim Deeds)
- Payment
- Audit
- Indemnification/insurance
- Governing terms

##### **1. Utility Owner's Duties**

The Utility Owner's Duties section of the agreement spells out the procedures the utility owner must follow when performing its work as part of the transportation project. Some of these duties include obtaining the utility permits, coordinating with MnDOT's contractor, staking the locations of its facilities and obtaining MnDOT's approval of the locations, handling contractor arrangements, and renting equipment.

##### **2. Contractor Arrangements**

Utility owners may complete relocation work with their own crews. If the utility owner must subcontract any work because it does not have adequate staff to perform the work, it must obtain written approval from the Utilities Engineer before awarding any portion of the work to receive reimbursement.

If the utility owner proposes to use an existing contract arrangement to complete the relocation work, it must forward copies of the continuing contracts to the Utilities

Engineer, who must approve the contracts before work can begin. Although MnDOT does not usually verify the utility owner's bidding process to secure the contract, the Utilities Engineer reviews the costs that would result under the continuing contract. After reviewing the continuing contract, the Agreement Writer sends a copy to Audit.

If the utility owner plans to let the project to relocate the utility, the state requires the utility owner to solicit at least three bids. If it does not obtain three bids, the utility owner must explain why in writing. The utility owner submits the bids to the Utilities Engineer for approval. If the utility owner selects a contractor other than the lowest qualified bidder, the Utilities Engineer must approve the choice. In that case, the state will reimburse only the amount of the lowest qualified bidder. The utility owner must supply the Utilities Engineer with a copy of any contracts for approval before work begins, or the state will not reimburse the utility owner for any work covered in that contract.

The utility owner should contact the Utilities Engineer with any questions or concerns about contractor arrangements.

### 3. Rental Equipment

A utility owner must receive the necessary approvals before renting equipment and using that equipment to perform work. If the utility owner or its subcontractor uses rental equipment, the utility owner must obtain approval of the equipment's proposed use from the Construction Group and approval of equipment rental rates from the Utilities Engineer.

### 4. Payments

The payments section of the relocation agreement describes how the state will pay the utility owner on an actual cost basis or lump sum basis.

If the state makes payment on an actual cost basis, the state reimburses the utility owner the actual relocation costs less all salvage value of a relocated facility and less all increase in value of a new facility, which includes but is not limited to betterments and reasonable depreciation. The state also requires credit for the expired service life of a replaced facility. See the Betterments section on page 77 or the [Betterments and Credits document](#) for additional information on betterments, salvage credit, and other situations that involve reimbursement in specific situations.

If the state makes payment on a lump sum basis, MnDOT and a utility owner negotiate a lump sum for a relocation project. Through this option, the state reimburses the utility owner a lump sum amount based on a detailed plan and itemized cost estimate. State law limits lump sum payments to a maximum of \$100,000. The agreement incorporates a complete estimate that the utility owner prepares before performing the proposed work. This estimate includes a detailed breakdown of labor, materials, equipment, and transportation costs.

The regulations contained in 23 CFR 645A provide information on what the state will allow for reimbursable relocations and what utility owners should include and itemize in their estimate utilizing the MnDOT [cost estimate template](#). MnDOT cannot reimburse a utility owner for any costs it incurs without prior authorization. In addition to having a fully executed agreement in place before beginning utility work in the field, a utility owner must obtain authorization to incur costs before this agreement's execution.

~~The letter transmitting the Request for Utility Relocation Plans in Step 5 includes a statement allowing a utility owner to incur up to \$5,000 in costs, subject to proof of~~

~~reimbursement rights. If a utility owner will incur more than \$5,000 in costs before the full execution of the utility agreement, the utility owner must request and obtain approval from the Utilities Engineer. The overall utility agreement may include these costs, if desired. Projects with federal aid funds must have FHWA authorization in addition to the state's authorization and must be encumbered.~~

Utility owners also need an executed agreement to incur costs when ordering materials as a pre-fieldwork activity. In this case, FHWA authorization, in addition to the state's authorization, must be obtained on projects with federal aid funds, and funds must be encumbered. To ensure that a utility agreement will be executed before a utility owner needs to order materials, the project manager and Utility Agreement Writer should consider the amount of time ordering materials involves in advance of preparing an agreement.

## 5. Audits

The Audits portion of the agreement informs the parties involved in the relocation that the utility owner must maintain any and all records for the relocation for six years after they complete that relocation. The utility owner's information is subject to the state's audit at any time during this period.

## B. Relocation Agreements

When a state project causes a utility owner to relocate its facilities and the utility owner is eligible for reimbursement according to one of the conditions listed above, MnDOT enters into a relocation agreement with that utility owner. The terms and conditions of the relocation agreement provide the requirements that the utility owner and the state must meet for the utility owner to receive reimbursement. The project manager reviews the relocation plan and estimate as part of Step 9 and then sends them to the Utility Agreement Writer, who also reviews the plan and estimate. If there are easements involved, the project manager sends copies of those documents to the Utility Agreement Writer as well.

To prepare the relocation agreement, the Utility Agreement Writer:

- If there are property rights involved, prepares the description request and sends it to the Descriptions Unit. After receiving the description, the Utility Agreement Writer sends it to the Legal and Property Management Unit, which prepares the quitclaim deed and sends it to the Utility Agreement Writer
- Writes the agreement using the appropriate template, incorporates all exhibits, and adds the applicable execution sheets
- Sends copies of the agreement to the utility owner with the [Agreement for Signature Letter](#); if the agreement amount is less than \$1 million, the Utility Agreement Writer sends two copies of the agreement to the utility owner, and if the agreement amount is more than \$1 million, the Utility Agreement Writer sends three copies of the agreement to the utility owner
- Receives the signed agreement from the utility owner
- Encumbers funds and obtains a signature that verifies that all funds have been encumbered
- Sends the agreement to the District Engineer or Metro Utilities Coordinator for signature
- Receives the signed agreement
- Obtains the Director of Land Management's signature
- Sends the agreement to the Office of Contract Management for execution

The Office of Contract Management can execute agreements that are under \$1 million, but the Department of Administration must execute all agreements that are \$1 million or greater. Upon executing the agreement, or receiving the executed agreement from the Department of Administration, the Office of Contract Management returns two copies of the agreement to the Utility Agreement Writer, who keeps one copy in the file and sends one to the utility owner with the [Executed Agreement Letter](#), [Field Engineer's Certification](#), Notice and Order, and quitclaim deed (if applicable). Steps 9 and 11 further cover permit review and approval and Notice and Orders respectively.

If the agreement is subject to Buy America requirements, a [Certificate of Compliance](#) is also included with the executed agreement sent to the utility owner.

### C. Preliminary Engineering Agreements

Utility owners often need to perform preliminary work before beginning relocation work in the field. ~~Utility owners are allowed to incur up to \$5,000 in costs before the execution of a relocation agreement, but any additional costs will not be eligible for reimbursement.~~ In cases where utility owners have to perform unusual or extensive work before execution of a relocation agreement (e.g., a complicated design), the state may execute a preliminary engineering agreement. These agreements cover preliminary engineering activities, such as economic and feasibility investigations, surveys, mapping, route studies, subsurface investigations, estimate preparation, and preliminary plan, construction plan, and specification development. The terms and conditions of the preliminary engineering agreement set forth the expectations the state and the utility owner must meet for the utility owner to receive reimbursement. After receiving a description of the preliminary work and related cost estimate from the utility owner, the Utility Agreement Writer can prepare the preliminary engineering agreement.

To prepare the preliminary engineering agreement, the Utility Agreement Writer:

- Writes the agreement using the appropriate template, incorporates any exhibits, and adds the applicable execution sheets
- Sends copies of the agreement to the utility owner with the [Agreement for Signature Letter](#); if the agreement amount is less than \$1 million, the Utility Agreement Writer sends two copies of the agreement to the utility owner, and if the amount is more than \$1 million, the Utility Agreement Writer sends three copies of the agreement to the utility owner
- Receives the signed agreement from the utility owner
- Encumbers funds and obtains a signature that verifies that all funds have been encumbered
- Sends the agreement to the District Engineer or Metro Utilities Coordinator for signature
- Receives the signed agreement
- Obtains the Director of Land Management's signature
- Sends the agreement to the Office of Contract Management for execution

The Office of Contract Management can execute agreements that are under \$1 million, but the Department of Administration must execute all agreements that are \$1 million or greater. Upon executing the agreement, or receiving the executed agreement from the Department of Administration, the Office of Contract Management returns two copies of the agreement to the Utility Agreement Writer, who keeps one copy in the file and sends one to the utility owner with the [Executed Agreement Letter](#).

The state often uses preliminary engineering agreements for small utility owners for reimbursement of significant costs they cannot absorb in their monthly budgets, typically for

retaining the services of a professional design firm. The utility owner must supply a copy of the contract to the Utilities Engineer for approval, or any work the contract covers will not qualify for reimbursement.

MnDOT must review the proposed consultant contract between the utility company and the engineering consultant to see that it meets the requirements of 23 CFR 645.109 and to the extent practicable 23 CRF 172.

#### D. Agency Agreements

Some projects require utility relocations that are too difficult or too costly for utility owners to perform separate from the regular construction project (e.g., a relocation that requires digging up the road a contractor is building). In these cases, the state can act as the utility owner's agent and include the utility work in the contract for the construction project. The utility owner reimburses the state for the cost under an agency agreement.

To prepare the agency agreement, the Utility Agreement Writer:

- Requests an estimate for the relocation work from the Estimating Unit and then adds 6.5 percent to the estimate for the design engineering costs and 8 percent for the construction engineering costs
- Writes the agreement using the appropriate template, incorporates the exhibits, and adds the applicable execution sheets
- Sends two copies of the agreement to the utility owner with the [Agreement for Signature Letter](#)
- Receives the signed agreement from the utility owner
- Sends the agreement to the District Engineer or Metro Utilities Coordinator for signature
- Receives the signed agreement
- Obtains the Director of Land Management's signature
- Sends the agreement to the Office of Contract Management for execution

Upon execution, the Office of Contract Management returns two copies of the agreement to the Utility Agreement Writer, who keeps one copy in the file and sends one to the utility owner with the [Executed Agency Agreement Letter](#).

After award of the project contract, the Utility Agreement Writer sends the [Bid Price to Utility Letter](#), which outlines the proposed costs, to the utility owner. The utility owner has 10 calendar days to accept or reject that cost. If the utility owner accepts the cost, the Utility Agreement Writer sends the Agency Invoice Memo and Receivable Payments Memo to Finance. Finance sends an invoice to the utility owner. When Finance receives the utility owner's payment, it completes and returns the Receivable Payments Memo to the Utility Agreement Writer.

If the utility owner does not accept the bid cost, the state deletes the work from the contract, but the utility owner must still pay the 6.5 percent design engineering cost to the state. The Utility Agreement Writer sends the Deleted Agency Invoice Memo and the Receivable Payments Memo to Finance. Finance invoices the utility owner for the design work, receives the payment from the utility owner, and returns the Receivable Payments Memo to the Utility Agreement Writer. Since there will be no other costs associated with this agreement, the Utility Agreement Writer can close the agreement. The utility owners are still under the requirements of the Notice and Order for relocation of their facilities.

### E. Agency Agreements for Bridge Attachments

The most common type of agency agreement involves attaching a utility facility to a bridge. Preparing an agency agreement for a bridge attachment is very similar to preparing other agency agreements.

To prepare an agency agreement for a bridge attachment, the Utility Agreement Writer:

- Gets a plan sheet and an estimate for the bridge attachment from the Office of Bridges and Structures and then adds 6.5 percent to the estimate for design engineering costs and 8 percent for the construction engineering costs
- Prepares an exhibit that shows these costs
- Writes the agreement using the appropriate template, incorporates the exhibits, and adds the applicable execution sheets
- Sends three copies of the agreement to the utility owner with the [Agreement for Signature Letter](#)
- Receives the signed agreement from the utility owner
- Sends the agreement to the District Engineer or Metro Utilities Coordinator for signature
- Receives the signed agreement
- Obtains the Director of Land Management's signature
- Sends the agreement to the Office of Contract Management for execution

After award of the project contract, the Utility Agreement Writer sends the [Bid Price to Utility Letter](#), which outlines the proposed costs, to the utility owner. The utility owner has 10 calendar days to accept or reject that cost. If the utility owner accepts the cost, the Utility Agreement Writer sends the Agency Invoice Memo and Receivable Payments Memo to Finance. Finance sends an invoice to the utility owner. When Finance receives the utility owner's payment, it completes and returns the Receivable Payments Memo to the Utility Agreement Writer.

If the utility owner does not accept the cost, the state deletes the work from the contract, but the utility owner must still pay the 6.5 percent design engineering costs to the state. The Utility Agreement Writer sends the Deleted Agency Invoice Memo and the Receivable Payments Memo to Finance. Finance invoices the utility owner for the design work, receives the payment from the utility owner, and completes and returns the Receivable Payments memo to the Utility Agreement Writer. Since there will be no other costs associated with this agreement, the Utility Agreement Writer can close the agreement.

### F. Supplemental Agreements

If the scope changes and/or the cost increases by more than 10 percent, the state requires a supplemental agreement to reimburse the utility owner. A supplemental agreement is not a stand-alone agreement; it supplements an original agreement. The work in the supplemental agreement must be necessary to complete the original agreement's tasks and intent.

As soon as the utility owner identifies a need for changes, it must notify the Utilities Engineer or the Utility Agreement Writer. The utility owner must submit new plans and/or a new cost estimate. The Utility Agreement Writer may ask the Construction Group to review the plans and proposed estimate.

Work that a supplemental agreement covers must **not** begin until that supplemental agreement has been executed and funds have been encumbered. Any costs the utility

owner incurs before the state encumbering funds and executes the supplemental agreement will be ineligible for reimbursement.

To prepare a supplemental agreement, the Utility Agreement Writer:

- Writes the supplemental agreement using the appropriate template, incorporates any exhibits, and adds the applicable execution sheets
- Sends copies of the supplemental agreement to the utility owner with the [Agreement for Signature Letter](#); if the total agreement amount is less than \$1 million, the Utility Agreement Writer sends two copies of the agreement to the utility owner, and if the agreement is more than \$1 million, the Utility Agreement Writer sends three copies of the agreement to the utility owner
- Receives the signed supplemental agreement from the utility owner
- Encumbers funds and obtains a signature that verifies all funds have been encumbered
- Sends the supplemental agreement to the District Engineer or Metro Utilities Coordinator for signature
- Receives the signed agreement
- Obtains the Director of Land Management's signature
- Sends the supplemental agreement to the Office of Contract Management for execution

The Office of Contract Management can execute agreements that are under \$1 million, but the Department of Administration must execute all agreements that are greater than \$1 million. Upon executing the agreement, or receiving the executed agreement from the Department of Administration, the Office of Contract Management returns two copies of the agreement to the Utility Agreement Writer, who keeps one copy in the file and sends one to the utility owner with the [Executed Agreement Letter](#).

## G. Cooperative Construction Agreements

Cooperative construction agreements are agency agreements with local units of government or others. They identify and collect the cost for contract items of work requested by those local units of government. The contract items may include municipal or county utility facilities affected by construction, betterments of in-place or new municipal or county utilities (see the Betterments section on page 80), or other elements of the construction contract. Construction engineering is included as part of the city cost in the agreement.

Minnesota law and [Minnesota Guidelines for the Policy and Procedures for Cooperative Construction Projects with Local Units of Government](#) explain how the costs will be divided between the state and the unit of government.

~~For municipalities or counties, MnDOT can incorporate miscellaneous work, such as the adjustment of castings, into the contract without an agreement if the required work totals less than \$5,000.~~

## H. Master Utility Agreements

MnDOT uses Master Utility Agreements (MUAs) on design-build projects. The Design-Build Utility Coordination Process, found in the Design-Build Manual, describes the MUAs and the process for executing them.

## Step 11: Notice and Order

Issuing Notice and Orders before project construction paves the way for timely relocations

### I. General

The Utility Agreements and Permits Unit is the overseer for this step. This step also involves:

- Utility owners
- Construction Group
- Project Manager

### II. Notice and Orders

Through the official vehicle of the Notice and Order, MnDOT exercises its authority to order a utility owner to relocate facilities to accommodate project construction.

According to Minnesota Statutes, section 161.45 and Minnesota Rules, part 8810.3300, the Utilities Engineer issues a Notice and Order on behalf of the Commissioner of Transportation to utility owners that must relocate, adjust, or remove their facilities to accommodate a construction project. The Notice and Order notifies utility owners of the upcoming construction project and orders them to relocate, adjust, or remove their facilities by the specified date. All projects requiring a Notice and Order go through a Process B letting.

Typically, the Utility Agreements and Permits Unit sends [Notice and Orders](#) to all applicable utility owners after approval of the relocation plans, schedules, and permit applications before the project letting. The Notice and Order includes a date by which the utility relocation must be complete based on the contract time provisions and project construction staging and schedule.

#### A. Non-Reimbursable Relocations

Following review of relocation plans, permit application and schedule in Step 9, the project manager provides the SP number, trunk highway number, project location, resident engineer's name, utility owner's name, and relocation completion date that is included in the submittal memo (see page 66) to the Utility Agreement Writer, who writes the Notice and Order. The Utility Agreement Writer prepares and mails the Notice and Order at the same time district permit staff sends the approved permit to the utility owner.

If submission and review of utility relocation plans are not complete and therefore the state has not issued the Notice and Order by the time the plans are submitted to the Project Delivery Section, the Utility Agreement Writer writes the Notice and Order when it receives its copy of the plan. The Utilities Engineer signs the [Notice and Order](#) and sends it to the utility owner with the [Notice and Order Letter](#).

#### B. Reimbursable Relocations

If a utility owner has a reimbursable relocation, the Agreement Writer sends the signed Notice and Order to that utility owner with the fully executed agreement.

### C. Asbestos Removal Language

On bridge replacement, removal, renovation, or repair projects, utility facilities with asbestos may be present. These types of projects involve identification of bridge components with asbestos as well as identification of utility facilities on the bridge, and include an asbestos assessment.

District offices notify the MnDOT Utility Agreements and Permits Unit if asbestos abatement is required for utilities, so the Utility Agreement Writer can include language in the Notice and Order that:

- Asbestos abatement will be required
- It will be completed as part of the MnDOT construction contract
- The utility owner will receive an estimated cost for the work and an invoice for the asbestos abatement work completed by MnDOT's contractor on non-interstate projects

Agency agreements are written to establish terms and conditions for this work and payment.

## Step 12: Utility Information in Contract Documents

MnDOT includes utility information in request for bids

### I. General

MnDOT Standard Specifications for Construction 1507 and 1712 state that the contract indicates the approximate location of known utilities and places contractual requirements on MnDOT's contractors based on this utility information. These specifications also provide for payment to the contractor for extra work necessitated by underground facilities when their existence and approximate location were not made known within the contract documents.

The overseer of this step is the project manager, who includes appropriate utility information in the plans and special provisions to inform the bidding contractors of the expected utility conditions for the project. The project manager takes care to avoid duplicating information in project plans and special provisions and other contract documents that may create discrepancies. This information addresses all existing utilities and outlines all adjustments and relocations required for the project. This step also involves the Utility Agreements and Permits Unit and the Project Delivery Section.

### II. Project Plan Requirements

As mentioned in Step 4, the project manager needs to include all relevant utility information in the project plans. In cases that involve significant utility involvement, the project manager may consider developing plan sheets that depict the planned utility facility relocations.

#### A. General Utility Information

The plans will:

- List the full legal names of all utility owners
- Include the utility quality level note
- Depict any utility facilities according to MnDOT standards showing size, type, and location
- Identify overhead and underground power lines (if present) as transmission or distribution
- List the voltage of any power lines 69kV or more (if present)
- Note on the title page that a large pipeline facility is located within the project construction limits when petroleum or natural gas transmission lines are present. An example of such a note is, "WARNING: Petroleum Products Pipeline."

#### B. 216D.04 Requirements

The Minnesota Statutes, section 216D.04, subdivision 1a, requires information regarding the general location, type, size, and utility quality level of affected utilities to be included in all construction plans that contain excavation. (See the [Subsurface Utility Engineering document](#) for a definition of utility quality level).

MnDOT assumes all utility information is quality level D unless there is proof of more accurate utility information in the plans.

The project manager includes the following note regarding underground utility information on all construction plans for projects involving excavation:

The subsurface utility information in this plan is Utility Quality Level (A, B, C, or D). This utility quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data."

### **C. Utility Depiction**

The project manager may show the utility facilities on other sheets that show a plan view of the project, such as the construction plan or the removals plan, or include separate sheets that only show the utility information in plan view. Symbols that the project manager should use to represent the facilities on these sheets can be found at the [Sample Plan Symbols document](#).

If a plan contains profile and/or cross section sheets, the project manager shows the utility facilities on those views as well.

### **D. Depiction of Subsurface Utility Engineering (SUE) Results**

If SUE was performed on a project, the project manager incorporates the plans from the SUE provider into the MnDOT project plans, which will show the utility quality levels of the investigation. When using SUE on a project, the project manager includes plan sheets tabulating the utility quality level A data in the plans. For a description of utility quality levels, see the [Subsurface Utility Engineering document](#).

## **III. Utility Information in Final Construction Plans by Project Type**

The project manager depicts utility information in final construction plans in the same manner for Process A, Process B, and negotiated contract projects.

### **A. Projects Where There are No Utility Facilities**

Although they are rare, there are some small projects that do not have any utility facilities within their construction limits. For these plans, the project manager simply adds the utility quality level note and a note stating, "There are no utility facilities within the limits of the project."

### **B. Projects Where In-Place Utility Facilities Will Not Be Affected**

Some projects do not affect in-place utility facilities. The minimum requirements for the main types of these projects are described below.

#### **1. Projects Requiring No Excavation**

In addition to showing general utility locations on any plan views, the project manager includes:

- All of the requirements in Section II above, Project Plan Requirements
- The note, "This project does not involve excavation. No utilities will be affected by this project."

2. Projects Requiring Excavation Where Exact Location of Work is Determined in Field

In addition to showing general utility locations on any plan views, the project manager includes the following:

- All of the requirements in Section II above, Project Plan Requirements
- A note stating "There are no utilities within the excavation area limits" and/or "No utilities will be affected by this project."

3. Projects Requiring Excavation With Little Latitude for Adjustment in the Field

In addition to showing general utility locations on any plan views, the project manager includes the following:

- All of the requirements in Section II above, Project Plan Requirements
- A note stating "There are no utilities within the excavation area limits" and/or "No utilities will be affected by this project."

**C. Projects Where In-Place Utility Facilities Will Be Affected**

1. General

If the project is causing any utility facilities to relocate, the plans must include utility tabulation sheets, which provide utility information from the plan view in a tabular format. The required information in Sections II.A (General Utility Information) and (II.B 216D.04 Requirements) above must be present on at least one of these sheets. The tabulations themselves include the following information:

- The general location of a facility (usually indicated by station and offset)
- The name of the utility owner
- The size and type of the facility
- Any additional utility owners that are sharing a facility, if any (e.g., a telephone company that hangs lines on a power company's poles)
- A note that describes how the project is affecting the facility (see Step 4 for a full description of these notes)

All utility facilities present on the plan view must be represented in the tabulations. Likewise, any utility facilities listed in the tabulations must be present on the plan view.

2. Projects with Little Excavation

Some projects may only affect utilities at a few small locations (e.g., a long overlay project with intermittent turn lane construction). These projects often only include plan views at each of these affected areas. In those cases, the project manager only shows the utility facilities on those plan views.

The project manager must still include the requirements in Section II, but only will have to include tabulations for the areas in plan view. Tabulations will only be necessary for these locations as well. If there are other facilities within the project limits that do not show up on the plan views, the project manager includes

the following note with a list of those utility owners, “The following utility owners have facilities within the project limits but will not be affected by the project.”

#### IV. Utilities in the Submittal Memo

Project managers must include the submittal memo, which contains information about the project, in the submittal package. In the beginning of the submittal memo, the project manager sets the date that construction is expected to start. This memo also contains a section on utilities, and the project manager provides the following information:

- Whether there will be excavation on the project
- The names of any utility owners with facilities in the construction limits that the project will not affect
- The names of any utility owners with facilities in the construction limits that the project will affect
- [Project Manager Utility Certification](#), which is required for all Process B projects; it must be signed by the project manager and included with the submittal memo

For each impacted utility owner, the project manager must include a date by which the utility work (adjustment or relocation) must be completed. This date, along with the construction start date, is necessary for a Utility Agreement Writer to prepare a Notice and Order. The project manager also must indicate if an agreement will be necessary to cover the utility work.

#### V. Plan Review

The Project Delivery Section reviews all plans before bids are advertised. The Utility Agreements and Permits Unit reviews the utility portion of all projects that go through a Process B letting. The Project Delivery Section provides a Utility Agreement Writer with a copy of the plan.

When checking a plan, the Utility Agreement Writer makes sure that:

- The full legal names of all of the utility owners are present and spelled correctly
- The utility quality level note and any other required notes are there
- Any unnecessary notes, like those that are in the special provisions, are not included
- Any tabulated facilities are depicted on the plan view
- Any facilities that are depicted on the plan view are tabulated (if applicable)
- All tabulated information (if applicable) is complete and correct

After reviewing the plans, the Utility Agreement Writer sends any comments to the project manager and the Pre-Letting Engineer. The project manager sends all revised plan sheets, including those related to utilities, to the Project Delivery Section, who distributes them accordingly.

After receiving the plan revisions, the Utility Agreement Writer certifies the project for right of way by sending the Certification Memo to the Project Coordination and Finance Unit. The certification lists any utility owners with facilities within the project limits and describes how those facilities will be affected.

If there are relocations on the project and Notice and Orders have not already been sent to the affected utility owners, the Utility Agreement Writer prepares the Notice and Orders for the Utilities Engineer's signature at this time. The Utilities Engineer sends the signed [Notice and Orders](#) to the utility owners with the [Notice and Order Letter](#) and a copy of the plan.

## VI. Contract Special Provisions

Utility special provisions make the MnDOT contractor aware of activities that will occur within the construction limits during the life of the project and will require mutual coordination between the utility owner and the MnDOT contractor.

The project manager provides information that is as accurate and specific as possible. This information helps bidders prepare bid proposals and helps contractors plan their operations and schedules to avoid damaging or disrupting utility facilities.

### A. Content

Special provisions include the most up-to-date version of the following information, which MnDOT gathers in conjunction with the utility owners through the coordination process. Again, the project manager takes care to avoid duplicating information in project plans and special provisions that may create discrepancies. The content of contract special provisions and other contract documents includes:

- Utility contact information: name of utility, contact person, phone, fax, and e-mail for all utility owners that have facilities located within the project limits including ones whose facilities are not affected.
- Written description of utility relocations, adjustments, and other factors, as necessary, to supplement information on the utility tabulations.
- Relocation schedule that includes the number of working days and/or the specific calendar completion date for individual relocations. The schedule details pre-work activity of the utility owner, such as material delivery, and any contingencies and tasks that the contractor or another utility must perform before relocation can occur, such as staking or clearing of the right of way. By using the information from the relocation schedule, the MnDOT contractor can determine the amount of lead time a utility owner will need to complete a specific relocation.
- Restrictions for in-place facilities such as working around pipelines.

The project manager should allow the Construction Group to review the special provision draft for their comments.

### B. Language

The project manager may need to edit what it receives from the utility owner to include only the pertinent information and use language that is consistent with what MnDOT uses in its contracts. All parties must use and understand certain wording consistently in their special provisions. The following table describes some of the terms MnDOT uses in its special provisions.

Term	Condition	Use
Shall	Mandatory	Refers to an item the contractor performs
Will	Mandatory	Refers to an item MnDOT or the utility owner performs
May	Permissive	Refers to something that provides options
Approximate	NA	Describes estimated distance and time frames of utility work related to certain roadway features, such as distance to centerline, length of project construction, and expected schedules for certain phases of work

### VII. Projects that Do Not Include Utility Verification

If a project falls into one of the categories that qualify for a modified process, the project manager may not have to perform the verification call to GSOC. For those projects, the project manager must send each utility owner with facilities within the construction limits an Information Only Letter at this time. This letter informs utility owners when the project will take place so that they can avoid any safety, scheduling, or legal conflicts.

### VIII. Pre-Letting Processes

Projects with no in-place utility facilities or no effect on utilities, and mill and overlay projects that require minor adjustments of municipal facilities that do not require an agreement may be processed for letting as Process A projects provided they meet the other Process A criteria. Provided they meet Process A criteria, each of those projects must include identification, coordination, and verification of utilities, and if adjustments of the municipal utilities that do not require an agreement are required, that work is included in the construction contract. All other projects require Notice and Orders and will be processed through a Process B letting.

## Step 13: Construction

Communication and documentation facilitate efficient coordination

### I. General

The effective coordination of utilities begins early in the design process. The early identification of utilities and incorporation of utilities into the design plans contribute to a smooth and efficient construction process.

State law ([Minnesota Statute, Section 216D.04](#)) requires any excavator to call Gopher State One Call at least 48 hours, excluding weekends, holidays, and emergencies, before digging.

The overseer of this step is the Construction Group. This step also involves:

- Utility Agreements and Permits Unit
- Utility owners
- Contractors
- Gopher State One Call

If there are design changes, it also may involve:

- Project manager

### II. Schedule

Using the relocation plan and schedule associated with the approved utility permit, the Construction Group works with the utility owner or owners to set a more exact schedule for the field work. The Construction Group coordinates the timing of the utility relocations with the state's contractor's activities. A utility owner must have a utility permit before it begins any kind of work in MnDOT right of way.

Quite often utility owners will require staking of right of way or other pertinent project features to successfully relocate their facilities. A utility owner may desire to move before MnDOT has approved a construction contractor. In cases where an early relocation would be beneficial, the Construction Group may pursue other options to perform the staking, such as using in-house resources or an on-call consultant survey provider, as long as MnDOT owns the right of way. Contractors will comply with tree and other vegetation protection and disposal requirements found in the [environmental requirements document](#).

Projects in wooded areas may require clearing and grubbing work. These occurrences are handled on a case-by-case basis. If the relocation work is not reimbursable, the project manager can do one of the following:

- Let a separate contract for the clearing and grubbing work
- Send a MnDOT maintenance crew out to perform the clearing and grubbing
- Instruct the utility owner to wait until MnDOT's project contractor begins work and performs the clearing and grubbing

In addition, if MnDOT is reimbursing a utility owner for its relocation under an agreement, and that utility owner elects to do its own clearing and grubbing, MnDOT can reimburse the utility owner for the clearing and grubbing work.

### III. Meetings

#### A. Pre-Letting Meetings

On projects that involve complex utility relocation requirements, the Construction Group schedules pre-letting meetings and invites plan holders, as well as local government agencies, if involved, and utility owners, to address relocation/adjustment requirements, issues/problems, and construction scheduling. The Construction Group stresses the importance of attendance to all participants and provides adequate notice of the meeting in the special provisions of the proposal and advertisement for the bidding of the project.

#### B. Preconstruction Meeting

Minnesota Statutes, section 216D.04 deals with the Department of Public Safety's notice and plan requirements for excavation projects involving underground facilities. In such cases, the statute requires at least one preconstruction meeting to communicate the project design and coordinate utility relocation. Utility owners that are affected must attend the preconstruction meeting or make other arrangements to provide information.

The Construction Group arranges the preconstruction meeting with utility owner representatives and the state contractor's representatives sometime after the letting and before the start of construction work.

The meeting offers participants the opportunity to review and discuss the proposed sequence of operations, as well as to raise and resolve concerns about the overall construction plan. This discussion should include addressing the items from the special provisions that the contractor may need to do before completing utility relocations. The Construction Group keeps a written record of decisions and action steps from the meeting.

MnDOT and the utility owner should exchange names of contacts that are available 24-hours-a-day in case of emergencies.

#### C. Other Utility Meetings

Additional utility meetings may be useful particularly on complex projects with significant utility involvement. The Construction Group or contractor may call these meetings. The Construction Group or contractor may need to meet with one, all, or a particular group of utilities, depending on project needs. The project may require one meeting or more, or a series of regular meetings. The Construction Group decides the best course of action for the circumstances.

### IV. Work Requirements

#### A. Notification

The utility owner must notify the Construction Group when its crews or its subcontractor's crews arrive to begin work on the project. A utility owner representative must carry a fully approved permit while on the job. For the utility owner to be eligible for reimbursement, a fully executed agreement must be in force before any work begins.

## **B. Safety**

At all times, the utility owner must comply with safety regulations. For example, the utility owner must provide each flagger with a copy of the current MnDOT Field Manual, as well as with the required vest, helmet, hand signs, flags, and any other necessary equipment and information.

## **C. Pollution Control Requirements**

The utility owner is required to comply with all pollution control requirements. These requirements include obtaining the necessary permits and restoring any drainage or slopes that the state's contractor installs on the project and the utility owner disturbs.

## **D. Temporary Facilities**

Utilities often install a new facility before removing the existing facility to maintain service. In some cases the project requires a temporary installation, or one that will be in service only for a short time. Temporary facilities require the same care in construction as permanent facilities.

## **E. Project Plan Changes**

A change in the MnDOT project plans during construction may impact utility relocations. The two types of plan changes are: ones that the MnDOT contractor proposes for its convenience and ones that are proposed to resolve a design error or omission. When a contractor proposes the change, the contractor must gain the utility owner's acceptance of the change and any cost responsibility will be between the contractor and the utility owner. MnDOT will not bear any additional costs due to such a change.

## **F. Resolution of Field Issues**

Effective coordination requires communication and participation by the utility owner and the state. Through early and thorough coordination, the utility coordination process helps to reduce the number of field issues and prevent delays. Utility owners benefit by participating in this process because early coordination potentially reduces the overall amount of utility relocations. The utility owner also is able to better plan and budget time and resources for required utility relocations in advance.

Utility-related delays can impact projects in significant ways. According to the Notice and Order, if a utility owner does not respond to requests from MnDOT, it can be liable for the costs that a utility-related delay may cause. For example, the utility owner must pay for any temporary moves caused by an unnecessary delay in its work. If the utility owner delays the work of the contractor, the contractor may file a claim for damages against the utility owner.

### **1. Steps to Follow in Case of Utility Delays**

MnDOT follows a series of steps in cases of utility delays.

- At the first indication of delay in the field, the Construction Group documents the situation in the project files and discusses the issue with the utility owner's main contact.

- The Construction Group notifies the contractor about the delay. If the contractor indicates that the delay will impact the project, the Construction Group reminds the contractor of the claim notification language in the contract. The contractor is responsible for providing notice to both MnDOT and the utility owner.
- After receiving the contractor's notice, the Construction Group sends another letter to the utility owner, which indicates that contractor delay costs will be assessed if the utility relocation/adjustment is not completed on schedule. The Construction Group also sends a copy of the letter to the prime contractor, any affected subcontractors, and the Utilities Engineer.
- The Construction Group reviews the project history to ensure that MnDOT has complied with the manual procedures.
- The Construction Group then determines the most appropriate action for the project. If the utility owner's action or inaction directly results in a delay to the progress of the controlling operation, the Construction Group will determine whether a time extension is acceptable or whether an adjustment in working day assessments is needed.
- The Construction Group forwards a copy of the contractor's claim settlement agreement to the Utilities Engineer and the Office of Construction and Innovative Contracting for appropriate action.
- If the work cannot be suspended, or if it proceeds at a slower pace without service impact to the project, the Construction Group will order the contractor to continue working around the utility relocation.
- After completion of work and calculation of costs, the Construction Group meets with the Contract Administration Engineer, the Utilities Engineer, and a representative from the Attorney General's Office to determine cost recovery steps.
- The Construction Group forwards a copy of all documentation and letters to the Utilities Engineer.
- The Utilities Engineer also determines future steps and actions to prevent future delays.

If the contractor requests the utility owner to move, make changes, or do work solely for the contractor's benefit or convenience, the contractor must pay the cost of the work.

## 2. Approval of Field Changes

Once in the field, the utility owner may find a need to make changes. Before making those changes, the utility owner must receive approval from the Construction Project Engineer and District Permit Staff. The Construction Project Engineer may decide to discuss changes with other members of the Construction Group. The district may want to discuss those changes with the Permit Writer or Permit Supervisor. Once the Construction Project Engineer and District Permit Staff approve the changes, the utility owner may make the adjustments. The utility owner submits proposed changes to the Utility Agreement Writer for state construction jobs where reimbursement is requested. After changes are completed, the utility owner submits as-builts to MnDOT.

If the agreement calls for MnDOT to reimburse the utility for relocation costs, the utility owner also must receive approval from the Utilities Engineer of any changes in the plans.

### 3. Approval of Overtime Work

Except in an emergency or for minor completion of a phase of work, the utility owner must receive prior approval from the Utilities Engineer for all overtime work to qualify as a reimbursable expense.

## G. Inspection

Within limits of highway construction, all utility work is subject to inspection to ensure compliance with the applicable permit and/or agreement.

### 1. General

Inspection and documentation of utility construction play an important role in successful utility relocation, early resolution of issues, and decisions about claims, and for reimbursement. On federal-aid projects, for example, regulations and agreements require records of contractor work for payment.

### 2. Utility Inspector

The utility owner may assign an inspector to ensure safe and efficient installation. If so, the utility owner supplies MnDOT with its inspector's contact information.

### 3. MnDOT Inspector

MnDOT assigns an inspector to oversee the work of the utility owner or the utility contractor. The Construction Group provides the inspector with copies of the agreement, the latest highway plans, and any other relevant information.

#### a. Agreement Review

The inspector first reviews the agreement to understand charges that are eligible for reimbursement and the latest plans to become familiar with the location and work. The inspector brings any discrepancy to the attention of the Construction Project Engineer, who in turn notifies the utility owner and the Utility Agreements and Permits Unit, helping prevent installation or relocation of a utility facility that might conflict with the state's construction operation or with other utilities.

#### b. Meetings with Utility Representatives

The inspector arranges to meet with the utility representative for inspections. When the project involves underground or out-of-site facilities, the utility owner notifies the Field Engineer and inspector a few days in advance of removing such facilities to allow for a joint visual inspection of materials.

#### c. Review and Documentation

During construction, the inspector inspects the sites and records entries in a diary that shows:

- Date
- Time
- Number and classification of the crew
- Number and type of vehicles
- Equipment
- Ownership of equipment
- Location of work
- Type of work
- Location of facility in relationship to planned elements, such as signs and lights
- Recently delivered materials and their condition

d. Field Inspection

While in the field, the inspector:

- Notes the depth of trenches and the type of required and installed materials. The inspector should note places of possible conflict.
- Reviews the method of backfill placement in utility trenches and either performs tests or observes testing by utility owner.
- Checks the depth of excavation for manholes and obtains the manhole size from the company or from available prints to ensure manhole frame and cover elevation will correspond with the finished grade. The inspector also checks manhole placement to make sure it does not conflict with other utility systems.
- Looks for any bad soil conditions and immediately reports them to the Field Engineer and the Construction Group.
- Makes sure that retirement of underground facilities placed out of service is covered or removed from MnDOT right of way, if possible.
- Reviews the location of facilities and their proximity to planned fences, sign posts, light standards, drain structures, storm sewers, bridge structures, approaches, and pier footings to avoid damage that may be caused by a lack of clearance.

## V. Submission of Certificates and As-Built Plans

After completing installation, the utility owner must submit its utility [Permit Certificate of Completion Form](#), along with as-built plans to the district office and keeps a copy for its records. The project inspector signs the certificate of completion, and sends a copy to the District Permit Staff, who scans the as-builts into the database.

In addition, for reimbursable relocations, before sending the final invoice, the utility owner must complete the [Field Engineer's Certification](#), which it received with its copy of the agreement. The utility owner submits the form to the Field Engineer for approval and signature. If the relocation work is complete and acceptable, the Field Engineer signs the form. If there are outstanding issues, the Field Engineer holds the certification until all of those issues have been resolved. The utility owner must submit the signed Field Engineer's Certification with its final invoice.

If the agreement is subject to Buy America requirements, the utility completes and signs the Buy America [Certificate of Compliance](#) and includes this with the final invoice. Invoices will not be processed prior to receiving this certificate.

## VI. Maintenance

Once construction is complete, the utility owner must maintain the facilities at its own expense. The utility owner must follow the terms of the permit when it performs any maintenance work.

MnDOT requires and must approve an [Application for Miscellaneous Work on Trunk Highway Right of Way \(Form 1723\)](#) permit application from the utility owner before the utility owner completes service and maintenance operations on its facility within trunk highway right of way. Utility owners also must notify MnDOT District Permits staff when they perform service and maintenance operations that interfere with the normal flow of traffic. The utility owner may only perform repairs without a Form 1723 permit during emergency situations that are dangerous to the life or safety of the public. In those circumstances, the utility owner must immediately notify the State Patrol, and must later submit Form 1723.

The Minnesota rule states: "...the company may perform service and maintenance operations on the trunk highways including opening and disturbing the surface of the right of way without a work permit in those instances where an emergency exists that is dangerous to the life or safety of the public and which requires immediate repair. The utility upon knowledge of such an emergency shall immediately notify the State Patrol Division. The utility shall take all necessary and reasonable safety measures to protect the traveling public and shall cooperate fully with the State Patrol Division to that end. The utility in such an event will request a work permit from the office of the Assistant District Engineer, Maintenance, not later than the second working day thereafter when a work permit would ordinarily have been required but for the emergency."

## Step 14: Payment and Close Out

Procedures provide direction for payment and resolution of reimbursement issues

### I. General

The utility agreement details the reimbursement terms for eligible utility relocation costs.

This section highlights billing, auditing, and close out steps. The Utility Agreements and Permits Unit is the overseer of this step. This step also involves:

- Utility owners
- Audit staff
- Field Engineers

It also may involve:

- Municipal Agreements Engineer

The Utility Agreements and Permits Unit coordinates billing and reimbursement for all privately owned utilities, and some municipally owned utilities, depending on the type of agreement.

When the municipality is responsible for project costs, utility relocation may be one of the items included in the Municipal Agreement. In this case, the Municipal Agreements Engineer coordinates billing and reimbursement. If a project does not include a Municipal Agreement for a utility relocation, the Utility Agreements and Permits Unit coordinates the billing and reimbursement through a separate utility agreement.

### II. Lump Sum Agreements

The invoicing requirements for lump sum agreements are simpler than those for actual cost agreements, but MnDOT can only write lump sum agreements up to \$100,000.

To receive payment for a lump sum utility agreement, a utility owner needs to submit a signed statement of the lump sum cost to the Utility Agreement Writer. Any costs a utility owner incurs in addition to the lump sum amount are ineligible for reimbursement.

The [Field Engineer's Certification](#) must be completed and signed before payment. The utility owner is responsible for obtaining the signature of the Field Engineer and submitting the signed form with its invoice.

Preliminary engineering agreements do not require a Field Engineer's Certification, so the Utility Agreement Writer can skip this step in those cases.

Before requesting final payment, the Utility Agreement Writer ensures that any issues have been resolved, the permit was submitted (if applicable), and the quitclaim deed was recorded (if applicable).

Because lump sum agreements are exempt from audit, the Utility Agreement Writer requests full payment upon receiving the cost statement and the Field Engineer's Certification (if applicable). After receiving notice that payment was made, the Utility Agreement Writer sends a Final Payment Letter to the utility owner. The Utility Agreement Writer then fills out the Final Payment

on a Lump Sum Form and sends it to the Audit Section. If there are federal funds involved, the Utility Agreement Writer also sends a copy to the Office of Financial Management.

### III. Actual Cost Agreements

#### A. Itemized Invoice

When submitting bills for actual cost agreements, MnDOT requires utility owners to complete the [Utility Invoice Form](#). The template provides utility owners a consistent acceptable format to submit a detailed, itemized breakdown of accrued costs. Utility owners use the form to input summary information about the project and cost data for labor, materials, equipment, and subcontractors (if applicable) in a consistent format. To receive payment, a utility owner must sign and complete the Utility Invoice Form and submit it to the Utility Agreement Writer.

Partial and final bills must include appropriate detail of the completed work. Prorating must be supported by adequate experience data; MnDOT will not accept arbitrary rates. These are instructions for utility owners when preparing bills.

#### 1. Direct Expenses for Labor

Calculate salary and/or wage rates by classes on a monthly basis or labor hours by rate and amount for project. List overtime separately.

The following direct labor additives may be included in direct expenses:

- Social security
- Holiday pay
- Vacation
- Sick leave
- Retirement and pension
- Unemployment taxes
- Compensation
- Hospitalization and liability insurance

Show such additives as a percent of direct labor expense and then list them as a separate item. Companies may compute a cost rate including these additives or a prorated version, but must include the items and base factors of the computation.

#### 2. Expenses for Materials

Itemize materials by major items, such as:

- Poles – height, class
- Guy wires – size, length, guards
- Anchors – size
- Conductor – size and type (1/0 bar)
- Cable – size (1200 pair, 4/0, etc.)
- Conduit – size and type (4" PVC)
- Equipment

Itemize all materials issued from stock for installation by type and show the number of items, average unit costs, and amount.

Itemize excess materials issued but not used and show them as returned to stock for credit.

List by vendor materials purchased directly for the transportation project with a general description of materials and total amount paid; submit a copy of the invoice and show discounts

List materials salvaged and returned to stores for reuse.

Include certificate from the state inspector for disposed materials.

### 3. Equipment Expenses

MnDOT prefers the annual rate method over other options. If using a monthly rate, determine the amount according to the prevailing method of assembling costs. Prorate the direct labor rate.

### 4. Transportation

Include the vehicle number, size, date of use, per hour or per mile rate, and total use, as well as ownership and method for time and rate determination.

For transportation equipment, state the type and size of each unit, unit rate, date of use, and total time. State and explain the rate. Keep all costs on individual units if charges are not made on the basis of a proration on direct labor and develop rates from either an hourly or mileage basis. Once the utility owner establishes the rate, all billings must use that rate. With an hourly charge, report portal to portal time, except on equipment units with time clocks that allow for rates to reflect actual running time.

Company records must offer documentation, including invoices that show use of rented equipment vehicles. Include any contractor invoices and provide the contractor name, service, and amount.

### 5. Miscellaneous Expenses

Examples of miscellaneous expenses include meals, lodging, and other employee expenses. Provide documentation and reason for expenses.

### 6. Overhead Costs

Overhead costs include expenses for general engineering and supervision, general office services, legal services, insurance, and other items. State overhead charges in detail. Do not include advertising, interest on borrowed fund, resource planning, research programs, stock, and stockholders' expenses in overhead calculations. Other excluded items are special insurance premiums, special bonuses, fines, penalties, entertainment expenses, federal and state income taxes, financing or refinancing experiences, contingent reserves, director's salaries, special management studies, sale and rate studies, and bad debts. Overhead percentage rates are subject to audit and must be supported by accounting requirements.

Establish rates on the basis of the prior year cost experience to avoid the peaks and valleys that occur in the month-to-month method. Once established and confirmed, use the annual report for all billings in that year. Include a schedule that shows the base figures and computations with the first billing.

7. General Indirect Expense

Develop a rate from actual experience or use a rate of 5 percent of total project costs. Include the rate in the agreement.

Prorate costs for stores expense distribution on the basis of materials. Establishing a ratio based on the past year's experience of total stores expense to total materials issued will eliminate the possibility of a citation once MnDOT confirms the base figures

8. Small Tool Expenses

MnDOT reimburses small tool expense only if properly supported.

## **B. Additional Costs**

If the utility owner must perform additional work for which the state has not previously encumbered funds, or finds that its work will cost more than the encumbered amount, the utility owner must immediately notify the Utilities Engineer in writing of the additional cost BEFORE it begins the work or incurs those costs. Notification must include the amount of requested additional state funds to cover the additional costs and reasons to support the request. The Utilities Engineer may approve the request, subject to availability and encumbrance of necessary funds. If the utility owner performs additional work or incurs additional cost for which the state has not previously encumbered funds, the state is not obligated to pay for that additional work.

If the requested amount is 10 percent or less than the original agreement amount, the state will not need to execute a supplemental agreement to pay the utility owner. If the requested amount is more than 10 percent of the original agreement amount, the state must execute a supplemental agreement. Any additional costs the utility owner incurs before the execution of the supplemental agreement will not be eligible for reimbursement.

## **C. Ineligible Expenses**

1. Additional Costs

The state cannot pay any costs unless it previously has encumbered funds to cover those costs. If a utility owner incurs any costs without the state encumbering funds beforehand, the state will not pay those costs.

2. Betterments and Salvage

In some cases, the utility owner may upgrade its facility during relocation. Betterments increase the facility capacity or improve function and quality. Road construction may or may not necessitate a betterment.

The state only pays for a functional equivalent replacement of the impacted utility facility. The state considers any increase in the facility's size or capacity that benefits the utility owner as the utility owner's betterment. In most cases, the state will receive credit for the difference between the cost of the functional replacement of the original facility and the cost of the facility as constructed. The utility owner submits an estimate for the Utilities Engineer's approval.

As outlined in the Code of Federal Regulations 23 CFR 645, subpart A, section 645.117(h), there are some exceptions to the general rule. The state may reimburse a utility owner for the following types of betterment:

- Betterments that are required by the transportation project or by state or federal law or regulation
- Replacement devices or materials that are equivalent but not identical standards
- Replacements for devices or materials no longer regularly manufactured with next higher grade or size
- Betterments that are required by current design practices and offer direct benefit to the transportation project

The Utility Agreement Writer determines the overall scope of the betterment and Audit verifies the owner's calculation. A betterment credit includes the cost of materials and the increased costs of engineering and installing the betterment facilities, such as additional engineering, special construction methods, and increased overhead.

See the document on [Betterments and Credits](#) for additional information on betterments, salvage credit, and other situations that involve reimbursement.

#### **D. Partial Billings**

After approval by the Utilities Engineer, the state may process periodic progress billings for a utility owner's work on an actual cost agreement. The Utility Agreement Writer may process these partial invoices without prior audit, but must include them in the final audit.

For a periodic billing, the utility owner must complete and submit the [Utility Invoice Form](#) for the work it has performed to date. After receiving and reviewing this invoice, the Utility Agreement Writer asks finance to pay 95 percent of the invoice amount. After receiving notice that payment was made, the Utility Agreement Writer sends a partial payment letter to the utility owner. The Utility Agreement Writer keeps the invoice information in the file until submitting everything for the final audit.

#### **E. Final Billings**

When requesting final payment, the utility owner submits the signed [Utility Invoice Form](#) to the Utility Agreement Writer along with any back-up documentation it may have. The utility owner must indicate on the form that this is the final billing.

The [Field Engineer's Certification](#) and Buy America [Certificate of Compliance](#) (if applicable) must be completed and signed before payment. The utility owner is responsible for obtaining the signature of the Field Engineer and submitting the signed form with its final invoice.

Preliminary engineering agreements do not require a Field Engineer's Certification, so the Utility Agreement Writer can skip this step in those cases.

The Utility Agreement Writer prepares the Audit Request Form and sends it to Audit with the Field Engineer's Certification (if applicable), all invoices, and any additional documentation the utility owner provides. A partial payment, usually 95 percent of the remaining agreement amount, is requested at this time.

The Utility Agreement Writer requests Finance to pay the partial amount. After receiving notification from Finance that the amount has been paid, the Utility Agreement Writer sends a partial payment letter to the utility owner.

When Audit completes its review, it sends two copies of a final audit certificate to the Utility Agreement Writer. If in agreement with the Audit Certificate, the Utility Agreement Writer signs both copies and returns one to Audit.

Before requesting final payment, the Utility Agreement Writer ensures that any issues have been resolved, the permit was submitted (if applicable), and the quitclaim deed was recorded (if applicable).

After receiving notice that payment was made or received, the Utility Agreement Writer sends a Final Payment Letter (if applicable) to the utility owner and prepares to close out the agreement.

## **F. Audit**

Audit conducts a detailed review of all billings for the final audit of the agreement. After it completes its review, it sends two copies of the Audit Certificate to the Utilities Engineer, who provides it to the Utility Agreement Writer.

### **1. No Citations**

If the Audit Certificate indicates no adjustments to the total claimed project costs, the Utility Agreement Writer signs both copies, returning one to Audit and keeping the other in the file. The Utility Agreement Writer then requests Finance to make the final payment. Usually, all that is left for the final payment is the retainage. After receiving notice that the final payment was made, the Utility Agreement Writer sends the Final Payment Letter to the utility owner.

### **2. Citations**

If the audit certificate indicates adjustments, the Utility Agreement Writer sends a Citation Letter to the utility owner with a copy of the schedule of audit adjustments. The utility owner has up to 60 days to respond. If the utility owner accepts the audit adjustments, it notes its acceptance on the Citation Letter and returns the letter to the Utility Agreement Writer. If the utility owner does not respond, MnDOT assumes the utility owner accepts the adjustments and proceeds with the rest of the final payment process.

Utility owners must provide a written explanation when they do not accept the adjustments. If the utility owner does not accept the adjustments, the Utilities Engineer, Utility Agreement Writer, and the district will need to discuss the adjustments. Depending on the reasons for the adjustments, these parties may

have to negotiate with the utility owner to resolve the difference. Accurate field records can play an important role in resolving audit adjustment issues. If the state decides to follow Audit's recommendations, the Utility Agreement Writer signs both copies of the Audit Certificate, returning one to Audit and retaining one for the file, and proceeds with the rest of the final payment process.

If the state decides not to go with Audit's recommendations, it must prepare an Administrative Settlement Memo. This memo describes the issues and specifies the reasons why MnDOT is not following Audit's recommendations.

The Utility Agreement Writer prepares the Administrative Settlement Memo for the Utilities Engineer. The Utilities Engineer approves the memo and sends it to the Director of the Office of Land Management and the Director of the Engineering Services Division for signatures. When the signed Administrative Settlement Memo is returned to the Utility Agreements and Permits Unit, the Utility Agreement Writer makes a copy and sends it to Audit with the unsigned Audit Certification. The Utility Agreement Writer then proceeds with the rest of the final payment process.

In cases where MnDOT has overpaid the utility owner, the Utility Agreement Writer sends the Agency Invoice Memo and Receivable Payments Memo to Finance. Finance then sends an invoice to the utility owner. After receiving payment from the utility owner, Finance fills out the Receivable Payments Memo and returns it to the Utility Agreement Writer.

#### **IV. Receivables**

##### **A. Lump Sum Agreements**

Because the contractor must charge what it bid for lump sum items, a Utility Agreement Writer can close out a lump sum receivable agreement after receiving notice that Finance received payment for the initial invoice and after inspection is completed.

##### **B. Actual Cost Agreements**

A Utility Agreement Writer cannot close out a receivable agreement until after the state's contractor completes the project and submits the final bill for the entire project.

The Utility Agreement Writer obtains a copy of the Final Voucher from Finance. He or she uses the Final Voucher to find what the contractor charged for doing the utility work. If the amount is equal to the amount the utility owner already paid, the Utility Agreement Writer can close out the agreement.

If the contractor's final cost is more than what the utility owner originally paid, the Utility Agreement Writer sends the Agency Invoice Memo and Receivable Payments Memo to Finance. Finance invoices the utility owner. When Finance receives the utility owner's payment, it completes the Receivable Payments Memo and returns it to the Utility Agreement Writer, who proceeds with closing out the agreement.

If the contractor's final cost is less than what the utility owner originally paid, the Utility Agreement Writer contacts Finance and requests them to make a payment to the utility owner for the difference. Finance notifies the Utility Agreement Writer after

it makes the payment and the Utility Agreement Writer proceeds with closing out the agreement.

#### **V. Close Out**

An agreement is ready for close out after all payments have been paid or received with respect to that agreement and the state's contractor completes the project and submits the final bill for the entire project. The Utility Agreement Writer usually waits about a week after making payment to make sure there are no problems. After that, the Utility Agreement Writer reviews the file to make sure it contains all the pertinent documents and information and that all of the agreement information in the file is accurate. The agreement is then archived. Finally, the Utility Agreement Writer puts the file in the archived drawer until it goes to the Records Center.

## Project Categories for Modified Process Application

### I. General/Meetings Required by State Law

If a project includes planned excavation, Minnesota Statutes, section 216D.04 requires the depiction of underground utility facilities, one or more meetings with utility owners during the design phase, and one or more preconstruction meetings. The full process for design-bid-build projects mandates the Utility Information Meeting, Utility Design Meeting, and at least one preconstruction meeting to communicate project design and coordinate utility relocation. Affected utility owners must attend those meetings or make other arrangements to provide and receive information. The modified processes in this chapter meet these requirements.

The following information defines the project categories where a modified utility coordination process may be used. The project manager determines if a project fits into one of these categories.

### II. Project Categories

#### C. Projects Where In-Place Utility Facilities Will or May Be Affected

##### 1. Projects with a Design Timeframe of Less Than 12 Months

For projects with a design timeframe of less than 12 months from the project initiation to the date of final plan completion, only the Utility Design Meeting is mandatory. This process is allowed for both practical scheduling reasons and because projects with shorter design timeframes typically do not affect utilities to the degree that projects with longer design timeframes do.

##### 2. Stand-Alone Bridge Replacement, Bridge Removal, and Bridge Renovation or Repair Projects

Because these projects are more defined in the geographical area that they affect, their impact on utility facilities is likewise typically somewhat limited.

The following specific steps comprise the process to be followed for these projects:

###### **Step 1: Utility Identification**

###### **Step 2: Utility Information Meeting**

Only partial components of this step are required. The project manager sends a letter and a set of plans to each utility owner requesting that they return markups of their existing facilities. The project manager also requests easement information, if utility owners have not yet provided it.

###### **Step 3: Review of Information from Utility Owners**

The project manager reviews the limited information requested in Step 2 before the Utility Design Meeting.

###### **Step 4: Utility Design Meeting**

###### **Step 5: Request for Utility Relocation Plans**

**Step 6: Utility Coordination Follow Up****Step 7: Utility Design Change Meeting**

This meeting is only conducted if there have been significant changes to the plans following the Utility Design Meeting.

**Step 8: Gopher State One Call Utility Verification****Step 9: Review of Utility Relocation Plans and Schedule and Permit Submittal****Step 10: Utility Agreements and Reimbursement****Step 11: Notice and Order****Step 12: Utility Information in Contract Documents****Step 13: Construction****Step 14: Close out****D. Projects Where In-Place Utility Facilities Will Not Be Affected**

Where a project clearly will not impact overhead or underground utilities, the majority of the process may be omitted. Projects of this type fall into three different categories:

**1. Projects Requiring No Excavation or Mill and Overlay Projects**

In this case, it is only necessary to complete the following steps:

**Step 1: Utility Identification** (only identifying the utility owner and locations)

**Step 12: Utility Information in Contract Documents**

**Step 13: Construction**

Examples of projects that would typically fit this category include mill and overlay, overlay, and culvert lining.

Districts also will review projects requiring no excavation and mill and overlay projects at the annual utility meetings.

**2. Projects Requiring Excavation, Where the Exact Location of the Work Is Determined in the Field**

This work can be readily adjusted away from any utilities to avoid any impact to the utility at the time of construction.

Examples of projects that would typically fit this category include installing independent lighting standards, traffic management equipment, channel signposts, small sign supports, or some landscaping.

Project managers follow the same steps as described below for category B3 projects requiring excavation for work that has little latitude for adjustment in the field.

3. Projects Requiring Excavation for Work With Little Latitude for Adjustment in the Field

It has been determined that utility facilities will not be affected at the work locations.

Examples of projects that would typically fit this category include installation of traffic signals, sign footings, lighting systems, guardrail, turn lanes, culverts, culvert extensions, and edge drains.

Project managers complete the following steps during the design phase for project categories B2 and B3:

**Step 1: Utility Identification** (only identifying the utility owner and locations)

**Step 8: Gopher State One Call Utility Verification.**

In addition to the tasks in this step, the project manager transmits to all utility owners a full set of project plans equivalent to those distributed for a Utility Design Meeting (Step 4). The project manager requests utility owners to review the depiction of their facilities and concur that there will be no effect on their facilities. The verification call to Gopher State One is not required for projects where the utility identification step has occurred within 90 days or less.

**Step 9: Review of Utility Relocation Plans and Schedule and Permit Submittal**

As by definition there are no utility conflicts, this step simply ensures that the utility owners submit their consent. If an unexpected conflict is identified, then the project manager follows the intent of the overall utility coordination process to resolve it. In the case of an unexpected conflict, a utility coordination meeting with the affected utility owner is required per Minnesota Statutes, section 216D.04.

**Step 12: Utility Information in Contract Documents**

**Step 13: Construction**

## Alternative Project Delivery Methods

The sequence of steps in this Utility Coordination section of the manual applies principally to utility coordination on design-bid-build projects. Whatever the method of project delivery, for successful utility coordination, the same core activities need to occur. With alternate project delivery methods, these activities still occur at a level to match project needs, but they may happen in a different order, by a different party, or under different circumstances than they do in the design-bid-build framework. The following information provides an overview of utility coordination for alternative project delivery methods.

### I. Design-Build

The [Design-Build Supplement](#) to this manual outlines the step-by-step process for utility coordination on design-build projects.

### II. Construction Manager/General Contractor (CMGC)

#### A. General

An integrated approach to planning, design, and construction, Construction Manager/General Contractor (CMGC) combines principles of design-bid-build and design-build resulting in an accelerated project delivery system. MnDOT, designers, and contractors work collaboratively to develop the project scope, optimize the design, improve quality, and manage cost. CMGC may be used for projects that are technically complex or have challenging schedules, or where a high level of construction phasing may be appropriate (e.g. long corridor). MnDOT obtained legislative authority in 2012 and then began developing processes and procedures to implement CMGC.

Like design-bid-build, MnDOT maintains separate contracts with the designer and the contractor for CMGC projects. In addition, the design and construction process generally is closer to that of design-bid-build. Like design-build, CMGC involves a contractor during the design phase and offers greater flexibility in the project parameters, including the potential of scheduling construction before completing 100 percent of the design.

During the design stage, the CMGC assists MnDOT with developing the project scope to meet the budget, optimizing the design to reduce costs, and improving quality through innovation. When the design is nearing completion, the contractor and MnDOT enter into a construction contract. MnDOT reserves the right to competitively bid the project if a price cannot be negotiated with the CMGC.

Benefits of CMGC include:

- Innovation – Contractor input into the design process.
- Cost management – Contractors provide real-time cost information.
- Design control – MnDOT retains control of the design, with contractor input.
- Construction risk – Construction risks are mitigated during project development.
- Cost certainty – There is greater certainty about the final cost earlier in the project.
- Time savings – Similar to design-build, it helps deliver early work packages.

Contractor participation facilitates the design of a project that can be more efficiently constructed. Addressing constructability issues, including utility impacts on critical path scheduling, occurs during design instead of construction, which minimizes or eliminates the learning curve a contractor typically has at the beginning of construction and allows for more effective construction sequencing and scheduling.

There is generally less overall risk involved with CMGC versus design-bid-build and design-build, although MnDOT incurs more of the risk than with design-build. MnDOT manages and mitigates the risk through the collaborative process of the CMGC environment, where the design-builder assumes more of it in the design-build environment.

To learn more about the CMGC project delivery method, visit: <http://www.dot.state.mn.us/const/tools/const-manager-general-contractor.html>

## **B. Utility Coordination on CMGC Projects**

CMGC projects can present unique utility coordination challenges. However, these challenges can be met, and this project delivery method can be a win-win for MnDOT and utility owners. Successful utility coordination is not only achieved by following proven processes and technical expertise, but also by promoting and maintaining positive working relationships with the utility owners. These positive working relationships can be of great benefit in meeting the challenges within the CMGC working environment. When done well, the experiences on a CMGC project can strengthen relationships between MnDOT and utility owners. It is important to explain the CMGC process to utility owners, so they better understand the challenges and benefits in this project delivery method.

For utility coordination on CMGC projects, generally follow the step-by-step utility coordination process for design-bid-build projects included in this manual. Depending on project specifics, some deviation and flexibility may be needed from the design-bid-build process to facilitate necessary utility coordination. But any deviations or flexibility should enhance and not compromise the overall project and the necessary coordination with utility owners.

The CMGC delivery method may result in more design iterations. As a result, while design is in the iterative mode, it is important to gather information from the utility owner without the utility owner fully completing their design, as well as address their design needs and consider cost and schedule implications.

CMGC projects facilitate tailoring the project scope to fit existing funding. If more funding becomes available, there are often opportunities to expand the overall project scope. Managing the expectations of utility owners and sharing the benefits and positive outcomes can be critical for successful utility coordination. Utility owners need to understand that additional scope may be added and that when the scope increases, it does not result in rework, but new work. In these situations it is critical to keep utility owners engaged and establish new deadlines for the new work.

CMGC projects may be separated into more than one construction contract or package to facilitate quicker, fast-track project delivery. A lengthy project may be separated into individual segments or a project may be separated into sequential operations such as grading, major structures, minor structures, and paving. Likewise, utility coordination needs to be flexible to incorporate these types of schedules while still being mindful of the overall final product so utility relocations

and solutions for the first contract(s) in construction also are consistent with the needs of the following contract(s) still in design.

The buffer time between the end of design and the beginning of construction is minimal, if not altogether eliminated at times, with the CMGC delivery method. In some cases (and in addition to the separation of a project into multiple contracts as noted above), construction may begin before the design is 100 percent complete. Contractors will generally want to proceed as soon as possible with construction. This situation may put schedule pressure on the project manager and the utility owners to expedite coordination and completion of permits and agreements. However, because of their involvement in the design process, both the contractor and utility owners are also aware of utility issues, relocations, schedules, and the critical path. Also, following the utility coordination activities and tasks for design-bid-build projects, utility information is incorporated into the contract special provisions to inform the contractor (contractually) of the expected utility conditions for the project.

### III. Indefinite Delivery/Indefinite Quantity (IDIQ)

#### A. General

Indefinite delivery/indefinite quantity (IDIQ) is a type of contract that provides for an indefinite quantity of work during a fixed period of time. MnDOT would place orders for individual requirements. The contract would require MnDOT to order and the contractor to furnish at least a stated minimum quantity of work. In addition, if ordered, the contractor must furnish any additional quantities, not to exceed the stated maximum.

Typical example project types are:

- Bituminous mill and overlay
- Guardrail installations
- Culvert installations
- Signal and sign installations
- Concrete pavement repair
- Districtwide projects (i.e. pavement striping)
- Contaminated soil disposal
- Combining multiple noise wall maintenance contracts
- Combining small chip and seal projects

Benefits of IDIQ include:

- Budget – It can be used to control spending at the end of a fiscal year.
- Combining Contracts – It can be used to combine several small contracts into one larger contract, which reduces the number of lettings and simplifies contract administration.
- Open Contract – It reduces amount of time between need and delivery of project.
- Design Control– MnDOT retains control of the design, with contractor input.
- Contractor Performance – Contractor may provide higher level of quality and service than required with the opportunity of more work assigned over minimum but still below maximum.
- Reduced Design Cost – One detailed plan and specifications are used.

## **B. Utility Coordination on IDIQ Projects**

Utility coordination requirements are essentially those required by state law. Minnesota Statutes, section 216D.04 requires the depiction of underground utility facilities on project plans in cases of planned excavation, as well as one or more preliminary design meetings during the design phase to communicate the project design and coordinate utility relocation. Under these same conditions, this statute also requires one or more preconstruction meetings to communicate the project design and coordinate utility relocation. Therefore, the following steps are to be completed:

**Step 1: Utility Identification**

**Step 2: Utility Information Meeting (as needed)**

**Step 4: Utility Design Meeting**

**Step 8: Gopher State One Call Utility Verification**

**Step 9: Review of Utility Relocation Plans and Schedule and Permit Submittal (applicable if there are utility relocations)**

**Step 10: Utility Agreements (applicable if agreements are needed for reimbursement or inclusion of utility work into the MnDOT contract)**

**Step 11: Notice and Order**

**Step 12: Utility Information in Contract Documents**

**Step 13: Construction**

**Step 14: Close Out (applicable if there are agreements)**

The MnDOT Utility Certification Form for IDIQ projects found at <http://www.dot.state.mn.us/const/tools/idiq.html>, which notes that the requirements have been met, must be completed.

The biggest challenge with IDIQ projects involves the possibility of potential additional work. Although the initial work is known, which allows utility coordination to occur in a normal manner for that work, the potential additional work is not known at the time MnDOT places the initial work order. The potential additional work then requires further coordination with utility owners following the appropriate process.

## **IV. Projects Procured by Negotiated Contracts**

### **A. General**

Negotiated contracts can only be used where the total construction cost is less than \$150,000. These are similar to Process A projects that do not require a three-week ad. For these types of projects, project development follows the normal process; the difference is in the method of contractor procurement and the elimination of the buffer period between completion of project development and contractor procurement.

## **B. Utility Coordination on Projects Procured by Negotiated Contract**

Utility coordination on these types of projects follows the standard step-by-step process for design-bid-build projects or a modified process if the project fits into one of the allowable project categories. With the elimination of the buffer period between the completion of project development and contractor procurement, strategies similar to those used for CMGC projects may need to be employed, although most likely at a smaller scale with these types of projects being smaller in scope.

## **V. Emergency Recovery Projects (Federally Funded)**

### **A. General**

Emergency recovery projects seek to restore the roadway to a safe and passable condition. These projects tend to be large in scope and caused by an event that resulted in a set value of damage, such as extensive flooding or a bridge collapse. The governor usually requests the federal order. Federal funding is involved in these types of projects and to receive the funding, steps cannot be skipped, but you can do the steps in a different order. Federal language covers both temporary emergency construction and permanent reconstruction. Standard processes must be followed for the permanent reconstruction portion of emergency recovery projects.

### **B. Utility Coordination on Emergency Recovery Projects**

A standard utility coordination process is followed, but as noted steps may be completed in a different order. Given the emergency situation and the need to move forward with construction as soon as possible, there will be schedule pressure on the project manager and the utility owners to expedite coordination and completion of permits and agreements. If steps are completed in a different order to accommodate scheduling, care must be taken where authorizations to proceed with work are given to a utility owner, particularly those involving reimbursement.

Any subsequent separate project to permanently correct the root problem would follow the standard utility coordination process.

## **VI. Emergency Order Projects (State Funded)**

### **A. General**

Emergency order projects, such as the repair of a culvert collapse, occur at the state level and are smaller and more isolated in scope than emergency recovery projects. These projects typically involve a quick fix of the immediate issue and are often followed by a separate project that would follow the standard processes to permanently correct the root problem.

### **B. Utility Coordination on Emergency Order Projects**

Utility coordination requirements are essentially those required by state law. Minnesota Statutes, section 216D.04 requires the depiction of underground utility facilities on project plans in cases of planned excavation, as well as one or more preliminary design meetings during the design phase to communicate the project design and coordinate utility relocation. Under these same conditions, this statute also requires one or more preconstruction meetings to communicate the project

design and coordinate utility relocation. Therefore, the following steps are to be completed:

**Step 1: Utility Identification**

**Step 4: Utility Design Meeting**

**Step 8: Gopher State One Call Utility Verification**

**Step 9: Review of Utility Relocation Plans and Schedule and Permit Submittal (applicable if there are utility relocations)**

**Step 10: Utility Agreements (applicable if agreements are needed for reimbursement or inclusion of utility work into the MnDOT contract)**

**Step 11: Notice and Order (applicable if there are utility relocations)**

**Step 12: Utility Information in Contract Documents**

**Step 13: Construction**

**Step 14: Close Out (applicable if there are agreements)**

Any subsequent separate project to permanently correct the root problem would follow the standard utility coordination process.

## Glossary

For the purposes of this manual, the following definitions apply.

**Abandoned Facility** – An underground facility that is no longer in service and is physically disconnected from a portion of the operating facility that is in use or still carries service. An abandoned facility has been deemed abandoned by the utility owner.

**Agency Agreement** – A type of agreement in which the state's contractor performs the utility relocation work. In an agency agreement, the state acts as the agent.

**Agreement** – A legally binding document providing clear and written understanding of the responsibilities of each party, including responsibilities for financing and accomplishing the utility relocations and utility work included in MnDOT construction projects. Agreements may cover cases where MnDOT is reimbursing a utility owner, or receiving reimbursement from a utility owner.

**As-Built Plans or Plan (As-Builts)** – Depiction of the placed utility facilities within the highway right of way showing the location and elevation, and referenced to highway stationing and/or the state grid system. Also known as record drawings, these depict the facility as constructed, incorporating all field changes.

**Backfill** – Material used to replace, or the act of replacing, material removed during construction; also may denote material placed or the act of placing material adjacent to structures.

**Bedding** – Composition and shaping of soil or other suitable material to support a pipe, conduit, casing, or utility tunnel.

**Blowout Zone** – An area that electrical conductor wires may be in at any point in time under various temperature and wind conditions that are used for design and compliance with the electrical power industry's airspace/easement width requirements.

**Boring** – The operation by which large carriers or casings are jacked through oversize bores, carved progressively ahead of the leading edge of the advancing pipe as soil is mucked back through the pipe.

**Bridge** – A structure including supports erected over a depression or an obstruction such as water, highway, or railway; having a track or passageway for carrying traffic or other moving loads; and having an opening measured horizontally along the center of the roadway of ten feet or more between undercopings of abutments, between spring line of arches, or between extreme ends of openings for multiple boxes. This term also includes multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening.

**Carrier** – A pipe directly enclosing a transmitted fluid (liquid, gas, or slurry). Also a power or communication cable, wire, or line.

**Casing** – A pipe, conduit, or duct enclosing a carrier.

**Clear Zone** – The total roadside border area, starting at the edge of the travelled way (the portion of the roadway for movement of through traffic) available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or the area at the toe of a non-recoverable slope. The width is dependent upon the traffic volumes, speeds, and roadside geometry. (23 CFR § 645.207)

**Coating** – Material applied to or wrapped around a pipe.

**Commissioner** – The Commission of Transportation or the duly appointed Deputy Commissioner, or other designee of the Commissioner.

**Conductor Movement Envelope** – See Blowout Zone.

**Conduit** – An enclosed tubular casing, singularly or multiple, for the protection of wires, cables, or lines, usually jacketed and often extended from manhole to manhole.

**Control of Access** – The condition where the right of owners or occupants of abutting land or other persons to access, light, air, or view in connection with a highway is fully or partially controlled by public authority. (Minnesota Statutes § 160.08.)

**Full Control of Access** – The authority to control access is exercised to give preference to through traffic by providing grade-separated access connections with only selected public roads and by prohibiting at-grade crossings or direct private driveway connections.

**Partial Control of Access** – The authority to control access is exercised to give preference to through traffic, typically using techniques such as separating travel lanes, adding some grade-separated access connections with selected public roads, and limiting the number of crossings at grade and private driveway connections.

**Credit for Expired Service Life** – A credit based on the value the utility owner has derived from an asset at the time the project causes its relocation. It is also known as “accrued depreciation credit.”

**Cover** – The depth to top of pipe, conduit, casing, cable, or similar line or utility tunnel below the earth or roadway surface. It is normally referenced from the bottom of the highway ditch.

**Directional Boring** - A method of installing underground pipes and conduits from the surface along a prescribed bore path. The process is used for installing telecommunications and power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines, and casings used for environmental remediation. It is used for crossing waterways, roadways, congested areas, environmentally sensitive areas, and any area where other methods are more expensive or not feasible.

**Dispute Resolution Process** – Written MnDOT process for addressing disputes and unresolved issues between MnDOT and utility owners.

**Duct** – An enclosed tubular casing for protecting wires, lines, or cables, often flexible or semi-rigid.

**Effect** – The need to adjust, remove, or relocate utility facilities due to work associated with a construction project.

**Encasement** – Structural element surrounding a carrier or casing.

**Environmentally Sensitive Areas** – Areas where the natural environment can easily be harmed. These areas include, but are not limited to, wet lands, flood plains, archaeological or historic sites; areas with stability or settlement problems; and areas with artesian conditions, animal or plant communities, landscapes or geologic formations with exemplary, unique, rare or threatened/endangered characteristics.

**Excavation** – Any activity that moves, removes, or otherwise disturbs the soil by use of a motor, engine, hydraulic tool, pneumatically-powered tool, or machine-powered equipment of any kind,

hand digging of any kind, or explosives. Types of project work that involve excavation include installation of signs, lights, signals, guardrail, foundations, bases, culverts, culvert extensions, landscaping, and turn lanes, as well as trenching or any other activities that disturb the existing soil. Bridge deck removals and mill and overlay projects that change pavement surface elevation and may affect existing utilities within the roadway are also considered excavation projects.

**Excavation Area Limits** – The area bounded by all existing or new, permanent, or temporary right of way required for the project commencing 100 feet before the beginning station for the excavation to 100 feet beyond the ending station of a contiguous area that contains excavation.

**Expressway** – A divided arterial highway for through traffic with partial control of access and generally with grade separations at major intersections.

**FHWA** – The Federal Highway Administration (FHWA) provides leadership, guidance, and direction to State Departments of Transportation in the planning, construction and maintenance of transportation projects. Working collaboratively with State partners, FHWA Division Offices ensure that the nation's roads, bridges and tunnels are safe and continue to support economic growth and environmental sustainability. Additionally, to ensure accountability, the FHWA Division Offices work with the State to develop, track and analyze activities and recommend innovative techniques and strategies to improve the performance of the transportation system. FHWA and its Division Offices are responsible for working with State Departments of Transportation to ensure that the nation's strategic investments preserve and modernize the U.S. highway system - and ultimately to save lives. [Federal Highway Administration Minnesota Division website](#)

**Fiber Optic Cable** – A communication cable that contains glass fibers.

**Final Construction Plan** – The construction plan signed by the district/office as submitted to MnDOT's Central Office. Minor revisions may be made to this plan before letting.

**First Move** – The first relocation of a municipally owned facility located within the limits of a municipal street at the time that the street was taken over by the state as a trunk highway when that relocation is required by the construction of a transportation project.

**Force Main** – A pipeline that typically conveys sanitary, combined, or stormwater flow under pressure from a pumping (or lift) station to a discharge point (such as a treatment plant or other pipeline).

**Freeway** – A divided arterial highway with full control of access. (23 CFR § 645.207)

**Frontage Road** – A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

**Gravity Systems** – Pipes or pipelines with a certain profile that only requires gravity for flow.

**Grout** – A cement mortar or slurry of fine sand or clay.

**Highway** – A general term denoting a public way for the transportation of people, materials, goods, and services but primarily for vehicular travel, including the entire area within the right of way.

**Horizontal Directional Drilling** – See Directional Boring.

**Interstate Highways** – Highways that are a part of the Dwight D. Eisenhower National System of Interstate and Defense Highways. Highways on this system that are in Minnesota are included in the Minnesota Trunk Highway System.

**Manhole** – An opening in an underground utility system that workers or others may enter for the purpose of making installations, removals, inspections, repairs, connections, and tests.

**Median** – The portion of a divided highway separating the travelled ways for traffic in opposite directions.

**National Highway System (NHS)** – An interconnected system of principal arterial routes serving major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities and major travel destinations. The NHS includes all highways on the interstate system, a large percentage of urban and rural principal arterials, the defense strategic highway network, and major strategic highway connectors.

**Negotiated Contract** – A contract used for construction work or maintenance work that does not exceed \$150,000. These contracts are defined in Minnesota Statutes, § 161.32, subdivision 2.

**No Conflict** – A situation where a utility owner has facilities within the project limits that will not be in conflict with the proposed construction.

**No Involvement** – A situation where a utility owner does not have facilities within the project limits.

**Notice and Order** – A document that the Utility Agreements and Permits Unit sends to all utility owners that are required to relocate, adjust, or remove their facilities as a result of proposed construction in accordance with Minnesota Statutes §§ 161.45 and 161.46.

**Out-of-service facility** – An underground facility that is no longer maintained and is not intended for future use, but has not been deemed abandoned. An out-of-service facility may still be connected to a portion of the operating facility that is in use or still carries service.

**Permit** – The document by which MnDOT regulates and gives approval for the use and occupancy of highway right of way by utility facilities or private lines.

**Pipe** – A hollow cylinder used to convey a product. Pipes can be flexible, rigid, or semi-rigid. Cylinders formed from plate material in the course of the fabrication of auxiliary equipment are not pipe as defined here.

**Flexible Pipe** – A plastic, fiberglass, or metallic pipe having large ratio of diameter to wall thickness, which can be deformed without undue stress.

**Rigid Pipe** – A pipe designed for diametric deflection of less than one percent.

**Semi-Rigid Pipe** – A pipe designed to tolerate from one percent to three percent diametric deflection.

**Pipeline** – A continuous carrier that primarily transports liquids, gases, and/or solids from one point to another using either gravity or pressure flow.

**Plowing** – Direct burial of utility lines by means of a "plow" type mechanism that breaks the ground, places the utility line, and closes the break in the ground in a single operation.

**Pressure** – The relative internal pressure in a pipe (measured in pounds per square inch gauge, psig).

**Private Lines** – Privately owned facilities that convey or transmit communications, electric power, gas, oil, water, or any other similar commodities outlined in the definition of “utility facility”, but devoted exclusively to private use.

**Private Utility Owners** – Owners of utility facilities that are not government entities, inclusive of any substantially owned or controlled subsidiary.

**Project Limits** – The area bounded by all existing or new, permanent, or temporary right of way and easements required for the project commencing 100 feet before the beginning project station to 100 feet beyond the ending project station.

**Public Highway System** – A main road or thoroughfare available to the public for travel or transportation. Article XIV of the Minnesota Constitution authorizes the State to construct, improve, and maintain public highways and to assist political subdivisions in this work. To do so it establishes the following public highway systems:

**Trunk Highway System** – All roads established or to be established under the provisions of Article XIV, Section 2 of the Constitution of the State of Minnesota. This system includes highways that are constructed, improved, and maintained as public highways under the jurisdiction of the Commissioner of Transportation, including highways on the Interstate system. Also see “Trunk Highways.”

**County State-Aid Highway System** – All roads established or to be established under the provisions of Article XIV, Section 3 of the Constitution of the State of Minnesota. This system includes highways that are constructed, improved, and maintained by the counties as public highways, including streets in municipalities of less than 5,000 population where necessary to provide an integrated and coordinated highway system and some similar streets in larger municipalities.

**Municipal State-Aid Street System** – All roads established or to be established under the provisions of Article XIV, Section 4 of the Constitution of the State of Minnesota. This system includes highways that are constructed, improved, and maintained as public highways by municipalities having a population of 5,000 or more.

**Process A Projects** – Small projects that are minor in scope, have no more than 50 plan sheets, and have less than 20 pay items. These projects generally have no utility conflicts.

**Process B Projects** – Plans that need Central Office approval and may require special provisions prepared by the district and specialty units, such as lighting, signals, Regional Traffic Management Center, signing, or bridge. Process B projects will typically require utility coordination and may require utility agreements.

**Public Utility Owners** – Owners of utility facilities that are government entities.

**Quitclaim Deed** – A deed that transfers the owner’s interest in a property to a buyer but does not guarantee that there are no other claims against the property.

**Red, Green, Brown Plan Marking System** – Color-coded plans that utility owners provide to demonstrate the effects of a project on their facilities. Red marks indicate existing facilities that are either to be removed or left in-place out-of-service, green marks indicate existing facilities that remain in-place in-service, and brown marks indicate the location of the proposed facilities.

**(Safety) Rest Area** – A roadside area with parking facilities separated from the roadway provided for motorists to stop and rest for short periods of time. It may include drinking water, toilets, tables and benches, telephones, information, and other facilities for travelers.

**Right of Way** – Real property, or interests therein, acquired, dedicated or reserved for the construction, operation, and maintenance of a highway.

**Road** – See Highway.

**Roadside** – A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered roadside.

**Roadway** – The portion of a highway, including shoulders, for vehicular use. A divided highway has two or more roadways

**Scenic Overlook** – A roadside area provided for motorists to stop their vehicles beyond the shoulder, and primarily used for viewing the scenery in safety.

**Scenic Quality** – Environmental factors that influence the aesthetic and physical characteristics of the surrounding area.

**Slab** – A slab between a utility line and a structure or pavement, but not contacting either.

**Specimen Trees** – A notable and valued tree in consideration species, condition, age, longevity, durability, crown development, function, visual quality, and public or private prominence or benefit as identified by the state.

**State** – State of Minnesota.

**Street** – See Highway.

**Subsurface Utility Engineering (SUE)** – Management of certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. In this manual, SUE generally appears in the context that relates to managing the risks associated with utility mapping at appropriate quality levels, or, put more simply, the depiction of utilities on project plans and the accuracy of that depiction. SUE tools include traditional records, site surveys, and technologies such as surface geophysical methods and non-destructive vacuum excavation to provide quality levels of information.

**Traffic Barrier** – A device used to prevent a vehicle from striking a more severe obstacle or feature located on the roadside or in the median, or to prevent crossover median accidents.

**Travelled Way** – The portion of the roadway for the movement of through traffic.

**Trenched** – Installed in a narrow open excavation.

**Trenchless** – Installed without breaking the ground or pavement surface. Methods may include, among others, directional boring, jacking, boring, pneuma gopher, augering, and microtunneling.

**Trunk Highways** – All roads established or to be established under the provisions of Article XIV, Section 2 of the Constitution of the State of Minnesota. This includes highways that are constructed, improved, and maintained as public highways under the jurisdiction of the Commissioner of Transportation, including Interstate highway.

**Untrenched** – See Trenchless.

**Utility Accommodation Policy** – A transportation statement of the policy and procedures for accommodating utilities along, across, or on the right of way of all highways under the jurisdiction of the Minnesota Commissioner of Transportation. The Federal Highway Administration (FHWA) requires each state that receives federal funding for highways to develop its own utility accommodation policy under 23 CFR § 645.215(a).

**Utility Access Hole** – An opening in an underground utility system for the purpose of making installations, removals, inspections, repairs, connections, and tests.

**Utility Appurtenances** – Any incidental component of a utility, whether primary or secondary to its function, such as manholes, vaults, pedestals, cabinets, vents, and markers.

**Utility Facility** – A privately, publicly or cooperatively owned line, facility or system for producing, transmitting, or distributing communications, cable television, electric power, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public. This term includes utility-type facilities that are owned or leased by a government agency for its own use, or otherwise dedicated solely for governmental use. This term includes those facilities used solely by the utility that are a part of its operating plant. (See Minnesota Statutes §§ 161.45, 222.37, subd. 2, and 23 CFR § 645.207.)

**Utility Quality Level** – A professional opinion about the quality and reliability of utility information. There are four levels of utility quality information, ranging from the most precise and reliable, level A, to the least precise and reliable, level D. The utility quality level must be determined in accordance with guidelines established by the American Society of Civil Engineers in document CI/ASCE 38-02 entitled “Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.”

**Utility Relocation Plans** – Plans a utility owner supplies that depict all adjustments, removals, and relocations of their utility facilities to fully accommodate the construction of a project. MnDOT encourages utility owners to use the red, green, brown plan marking system.

**Utility Tunnel** – An underpass for one or more utility lines.

**Vent** – An appurtenance to discharge gaseous contaminants from a casing.

**Warranty Deed** – A deed that transfers ownership where the seller fully warrants that the seller holds clear title to a piece of real estate. The guarantee is not limited to the time the grantor owned the property; it extends to the property's origin.

**Wildflower Routes, Designated** – State highway routes designated as wildflower routes in consideration of quality prairie stands.