



LANDS ROW MANAGEMENT AND TRANSMISSION ENGINEERING UNIFORM STANDARDS

INDEX

1. Plan Submittal, Review & Approval	Page 3
1.1 Plan Submittal Review	Page 3
1.2 Approval Types	Page 4
1.2.1 No Conflict Process	Page 4
1.2.2 Private Development Conflict Process	Page 4
1.2.3 Governmental Agency or Utility Conflict Process	Page 5
1.3 Construction Violations	Page 5
1.4 Possible Delays	Page 5
2. NV Energy's Clearances & Requirements	Page 6
2.1 Development within Transmission Corridors	Page 6
2.2 Conductor Clearances	Page 6
• Buildings and Structures	
• Signs	
• Fences	
• Gates	
• Streetlights, Parking Lights and Signals	
• Easement Widths	
2.3 Pole Clearances and Barriers	Page 7
• Steel protection barriers	
• Concrete protection barriers	
• Quick facts	
2.4 Grounding Requirements	Page 8
2.5 Access & Grade Changes	Page 8
2.5.1 Access	Page 8
• Maintenance Pads	
• ROW Access	
• Bridges & Culverts	
2.5.2 Grade Changes	Page 8
2.6 Gated Communities	Page 8
2.7 Existing Transmission Corridors	Page 8
2.8 Parallel Utilities	Page 8
2.9 Site Visibility Zone Requirement (SVZ)	Page 9

3. Relocations/Facility Safety/Pole Safety Agreements	Page 9
3.1 Relocation Agreement	Page 9
3.2 Facility Safety Agreement	Page 9
3.3 Pole Safety Agreement	Page 10
4. Documents and Letters	Page 10
4.1 Transmission Corridor Preliminary Review Notification	Page 10
4.2 Incomplete Application Plan Submittal Notice	Page 10
4.3 Acknowledgement of Responsibility	Page 10
4.4 Transmission Submittal Review Reminder	Page 10
4.5 No Conflict Letter	Page 10
4.7 Transmission Use Agreement Notification	Page 11
4.7 Governmental Agency and Utility Notification	Page 11
4.8 Construction Authorization	Page 11
4.9 Submittal Cancellation Notification	Page 11
Appendix A – Transmission Engineering Standards	Page 12
STD-D1 Steel Pole Barriers	Page 13
STD-D2 Trench Detail - Pole Stability	Page 14
STD-D3 Maintenance Access Dead-End Structure	Page 15
STD-D4 Maintenance Access Tangent Structure	Page 16
STD-D5 Condor Boom Truck Details and Specifications	Page 17
STD-D6 Concrete Pole barriers for Transmission poles	Page 18
Appendix B – <i>Application for Plan Submittal Review</i>	Page 19

The ROW Management Department manages and maintains NV Energy's existing and future transmission corridors. This includes Transmission corridors containing 69kV, 138kV, 230kV, 345kV or 500kV lines. The following are our procedures to receive and process your plans, when constructing improvements within or adjacent to a NV Energy transmission corridor.

1. PLAN SUBMITTAL, REVIEW & APPROVAL

It is necessary to submit your improvement plans for review if the property being developed is immediately adjacent to or contains NV Energy transmission high voltage facilities, easements or rights-of-way.

You will need to complete a "Land ROW Management Application for Plan Submittal Review" and include it with the drawings you are submitting. This will be your "Plan Submittal Package"

When the review process is complete, you will receive a written notice from the ROW Management Department. The types of notifications are further described in this Standards Document. These written notices must be provided to all Governmental entities when requesting drawing approvals and when permitting to proceed with your improvement plans.

1.1 Plan Submittal & Review

A "Plan Submittal Package" consists of an [Application for Plan Submittal Review](#) along with customer's improvement plans. (See Appendix B)

Applications are available at the information desk of our main building at 6226 W. Sahara or online at:

<http://www.nvenergy.com/business/newconstruction/newconstructionS/plansubmittals.cfm>

The improvement plans must contain, but are not limited to, the following:

- Grading Plans (must show existing and future grades)
- Utility Plans
- Building plans
- Profiles
- Site Development plans
- Landscape Plans
- Lighting plans
- Sign Details (if applicable)
- Grounding details (if applicable)

All sheets on the improvement plans must identify:

- The location of existing NV Energy transmission poles (with pole numbers, if available).
- The location and width of NV Energy easement/land rights for the NV Energy transmission facilities.

Without this information, the plans will be considered incomplete and will not be processed.

Please deliver the "Plan Submittal Package" (including all subsequent revisions) to the NV Energy's ROW Management Department for review, by hand or by mail to:

**NV Energy– Land Services
Attn: ROW Management Department
6226 West Sahara Avenue M/S 9
Las Vegas NV 89146**

Submittals will be reviewed by a NV Energy’s ROW Management. ROW Management will be your primary contact for information regarding your project. ROW Management will review the “Plan Submittal Package” for completeness and to determine the extent of the impact upon NV Energy’s Transmission easements or rights-of-way (ROW).

Incomplete submittals will not be processed. You will be notified if the submittal you have provided is incomplete. However, incomplete applications and drawings will not be returned. Written notification of the status of your submittal will be provided throughout the review process.

1.2 Approval Types

1.2.1 No Conflict Process

In the event there are no transmission corridors/facilities within or adjacent to the proposed development/property, ROW Management will issue a *No Conflict Letter*. No further action is required unless Applicant's revisions encroach upon NV Energy’s ROW.

1.2.2 Private Development Conflict Process

The ROW Management Department will send or e-mail notification confirming the receipt of the completed submittal package and provide contact information. In the event the proposed development encroaches upon NV Energy’s ROW, ROW Management will then prepare and send a “Transmission Use Agreement Notification” and an *Acknowledgement of Responsibility* to the applicant.

The Applicant must sign and return *Acknowledgement of Responsibility*, along with a check for the fees to the Coordinator. Both the *Acknowledgement of Responsibility* and the fees must be received before the project will be reviewed for compliance with electrical clearance, access, and maintenance requirements.

A reminder will be sent if the fees and, *Acknowledgement of Responsibility*, are not received within 30 days of the original request.

In the event the encroachment is in compliance, NV Energy ROW Management will issue a “Transmission Use Agreement”. In the event the encroachment is not in compliance, the plans will need to be revised and resubmitted or the Applicant must agree to relocate or modify NV Energy’s transmission facilities accordingly (See Section 3).

A private development project is not approved until a *Transmission Use Agreement* has been executed.

NOTE: The processing time for a *Transmission Use Agreement* is currently 4 to 8 weeks. Time starts once the signed *Acknowledgement of Responsibility* and the applicable fees are received.

1.2.3 Governmental Agency or Utility Conflict Process

The ROW Management Department will send or e-mail notification confirming the receipt of the completed submittal package and provide contact information. In the event the proposed development encroaches upon NV Energy's ROW, ROW Management will then prepare and send a *Governmental Acknowledgement of Responsibility* to the applicant.

The Applicant must sign and return *Governmental Acknowledgement of Responsibility*. The *Governmental Acknowledgement of Responsibility* must be received before the project will be reviewed for compliance with electrical clearance, access, and maintenance requirements. A reminder will be sent if the *Governmental Acknowledgement of Responsibility* is not received within 30 days of the original request.

In the event the encroachment is in compliance, NV Energy's ROW Management will issue two copies of the *Governmental Agency and Utility Notification Letter*. This document incorporates our *Transmission Use Agreement* terms and conditions in a format specific to Governmental and Utility projects. In the event the encroachment is not in compliance, the plans will need to be revised and resubmitted or the Applicant must agree to relocate or modify NV Energy's transmission facilities accordingly.

A Governmental Agency or Utility project is not approved until a *Governmental Agency and Utility Notification Letter* has been issued.

1.3 Construction Violations

The only documents that are considered approvals, thereby authorizing your project to proceed to construction are:

- *No Conflict Letter*
- *Transmission Use Agreement*
- *Governmental Agency and Utility Authorization.*

If your project goes to construction without any of these approvals, you are subject to a *Stop Work Order*. An additional "Advance Subject to Refund" fee of \$5000 will be assessed for each incident when our inspectors or staff members are called to the site.

1.4 Possible Delays:

These items most frequently delay the completion and approval of projects.

- Incomplete "Plan Submittal Package."
- Applicant does not return *Acknowledgement of Responsibility* and associated fees. (This document is sent to the Applicant after Transmission has reviewed the Plan Submittal Package)
- Drawings devoid of poles, easements, grading and other pertaining details.
- Improvements found to be not in compliance with electrical clearances, access, and maintenance requirements.
- Applicant does not provide requested revisions or information needed to complete the review process.
- Applicant's plans require relocation or modification of NV Energy's facilities.

2. TRANSMISSION ENGINEERING DEPARTMENT REQUIREMENTS

It is critical that the Transmission Engineering (TE) review all projects that contain NV Energy Transmission facilities. The following information may be used by engineers and planners to utilize and integrate NV Energy Transmission corridors within a given project. This information is provided as a reference. Compliance with these guidelines does not guarantee automatic approval of the project. Our standard drawings are referenced and included with this document.

2.1 Development Within Transmission Corridors

Development within or adjacent to Transmission corridors require a case-by-case review. All projects require NV Energy approval for conductor clearances. Customers are responsible for complying with all OSHA (Operational Safety and Health Administration) and NESC (National Electric Safety Code) minimum clearances within and outside NV Energy corridors.

NV Energy transmission corridors may be utilized (with the proper NV Energy authorization letter/agreement) for the following secondary uses:

- General Parking of operational vehicles not exceeding 8' in height. Non-operational vehicles and trailers are not allowed.
- Driveways
- Passive recreational parks
- Open space/wildlife corridors
- Bike, walking and hiking trails within existing ROWs; but not within NV Energy fee owned properties
- Free standing signs

This is also to inform you that it is necessary to obtain prior approval from NV Energy's ROW Management Department for future projects and any changes or revisions to this project.

Certain improvements, for safety and liability reasons, are typically not allowed within transmission corridors. These include, but not limited to, the following:

- Parking or storage of vehicles exceeding 8'
- Covered parking
- Parking lights
- Metallic fences or block walls
- Excavation, elevation or grade changes
- Parallel Utilities
- Buildings or structures
- Swimming pools
- Pine and palm trees
- Trash enclosures
- Playground Equipment
- Stockpiling of materials and equipment

2.2 Conductor Clearances

All projects require NV Energy approval for conductor clearances.

Note: Customers are responsible for complying with all OSHA and NESC clearances within and outside of NV Energy corridors. Clearance violations and/or encroachments will require redesign.

- **Buildings and Structures** - Buildings and structures are not allowed in NV Energy corridors. Architectural plans are required to be submitted for review when awnings and other projections/overhangs are to be checked for easement encroachments.

- **Signs** - Signs must meet the minimum vertical and horizontal clearances as the per NESC code. All signs must be grounded to the designated highest voltage on the existing transmission line(s) as outlined in the NESC (See Section 2.4 Grounding Requirements.)
- **Fences** - Fences must meet the minimum vertical clearance for the lines they are under. Continuous access to NV Energy corridors must be maintained. Metallic fences require adequate grounding. (See Sections 2.4 Grounding Requirements and 2.5.1 Access.)
- **Gates** – Gates must meet the minimum vertical clearance for the lines they are under. Access to NV Energy corridors must be maintained. The customer may use only approved universal locks and manual releases on electronic gates must be provided. Metallic gates require adequate grounding. (See Sections 2.4 Grounding Requirements and 2.5.1 Access.)
- **Streetlights, Parking Lights and Signals** - Parking lights must meet the minimum vertical clearance for the lines they are under. It is the Customer's responsibility to provide a detail of any streetlights, parking lights, and signals that are planned within a transmission corridor (See Sections 2.4 Grounding Requirements and 2.5.1 Access).
- **Easement Widths** -The minimum safe clearances for operation and maintenance of transmission lines may vary from the established ROW width. Calculations to determine the safety clearances will be completed by NV Energy transmission engineering and provided to the customer for reference.

2.3 Pole Clearances and Barriers

If NV Energy transmission poles are adjacent to a roadway or a driveway, certain conditions must be met to ensure the safety of the public and poles. (Refer Appendix A – STD-D1 and D6)

- **Steel protection barriers** – In parking lots and speed restricted streets, bollards may be required to protect the pole from low speed impact. (Refer Appendix A - STD-D1) Bollards can be installed on steel or wood poles.
- **Concrete Barriers** – Concrete Barriers may be required on poles located adjacent to vehicular traffic with speed limits more than 15mph. They may only be installed on steel poles and not on wood poles. (Refer Appendix A - STD-D6)

Quick facts:

- If the pole is located
 - **5 feet back of curb** – No barrier is required
 - **3 feet back of curb** – NV Energy prefers relocation of the pole. If pole is not relocated, a barrier is required. Sidewalk width must meet current ADA Standards.
 - **0 to 3 feet back of curb** – Relocation of the pole will be required.
- **Crash attenuators** may be necessary in certain conditions. A Pole Safety Agreement is required in that case. (See Facility Safety Agreement, Section 3.2)
- **Centerline medians** – NV Energy prefers relocation of the pole. However, a concrete barrier may be sufficient in some cases.
- NV Energy engineer all concrete pole barriers
- Barriers may be built by the customer or NV Energy Contractor
- Pole Safety Agreement is required with any concrete pole barriers (See Section 3.2)

2.4 Grounding Requirements

Any metallic object installed inside transmission easements will require adequate grounding per NEC and NESC standards. NV Energy may however require items that fall outside of the existing NV energy easement to be grounded. These items must also be approved for vertical clearance. The grounding must be designed for the highest voltage on the concerned transmission line.

Note: It is the customer's responsibility to provide an original copy of the grounding plans for NV Energy approval. The copy must be signed and stamped by an electrical engineer. The detail must spell out the transmission voltage (69kV, 138kV, 230kV, 345kV or 500kV) for which it is made.

2.5 Access & Grade Changes

2.5.1 Access

- **Maintenance Pads** – NV Energy has established the space required for conducting maintenance surrounding NV Energy poles, as shown on the Maintenance pad exhibits (See Appendix A, STD-D3 & STD-D4). Maintenance pad grades are required to be flat and unobstructed to allow for maintenance truck operation. Maintenance pad must be able to withstand the weight of NV Energy boom trucks (See Appendix A, STD-D5)
- **ROW Access** – Clear unobstructed access is required along the length of NV Energy ROWs. No gates or other obstructions are typically allowed (See Section 2.6 Gated Communities).
- **Bridges and Culverts** – Proposed Bridges and culverts within the development must be designed to withstand the weight of NV Energy boom truck (See Appendix A, STD-D5) if the bridges and culverts are to be utilized to access existing or future transmission corridors.

2.5.2 Grade Changes

It is strictly prohibited to remove or add grade around the pole without written approval from NV Energy. Existing grade must be maintained as much as possible. Grade modifications, either lowering or raising, requires a pole-by-pole review since grade changes almost always affect the integrity of the pole. In many cases, grade changes alone can trigger pole relocations.

2.6 Gated Communities

NV Energy corridors must be open and accessible for maintenance of poles. Corridors or facilities that are inside of gated communities cannot be blocked with walls.

Note: NV Energy must approve any exceptions.

2.7 Existing Transmission Corridors

Never assume that existing NV Energy transmission corridors are being fully utilized. Most are capable of accommodating additional lines and equipment, including underground lines and equipment.

2.8 Parallel Utilities

NV Energy typically does not allow other utilities like sewer, water, gas or irrigation lines to be built parallel to NV Energy lines within the transmission corridor/easement. Every effort should also be made to locate any above-ground installations such as valves and meters out of NV Energy easements.

2.9 Site Visibility zones Requirement (SVZ)

Sight visibility zones are required to be shown on customer drawings that meet local government code requirements for SVZs. If NV Energy's facilities are within the SVZ as designed, NV Energy will require relocation of its facilities to be outside of the SVZ.

Note: NV Energy requires relocation of its facilities within a SVZ even if a customer has acquired approval on their improvement plans and/or waiver by a local government agency.

3. RELOCATION/FACILITY SAFETY/POLE SAFETY AGREEMENTS

Any improvements determined to be in conflict with transmission facilities may require relocation or safety modification of the pole(s). A separate process must be followed. Relocation projects are subject to additional costs and require additional time. Due to the dynamic nature of our transmission grid, certain projects may only be completed during off peak electrical seasons and are subject to outage schedules. Design requirements and material availability may also impact these projects.

Note: A *Transmission Use Agreement* or *Governmental Agency and Utility Authorization* will still be required when a *Relocation Agreement*, *Facility safety Agreement* or *Pole Safety Agreement* is executed.

3.1 Relocation Agreement

Relocation Agreement is required when it NV Energy facilities are to be relocated or drastically modified to be in compliance with NV Energy requirements are standards. The Applicant/Customer will be assigned a NV Energy Project Engineer/Project Manager once the project is identified as a relocation project.

Relocation Procedures:

- Applicant submits 30%(or better) improvement plans to NV Energy ROW Management
- NV Energy provides preliminary cost estimate
- Applicant sends approval acknowledgement of cost estimate
- NV Energy prepares design and/or relocation agreement
- Applicant approves final design and revise the improvement plans to show Transmission Engineering's final design and resubmits drawings to ROW Management
- NV Energy prepares & approves *Relocation Agreement* & easements
- Applicant executes *Relocation Agreement*, exhibits, easements, *Transmission Use Agreement(s)* and/or *Governmental Authorization Letter*, invoice, & Special Use Permits
- NV Energy prepares & releases final construction turnover package (CTO)
- NV Energy sets construction schedule once all permits, agreements and easements are executed and outages are approved
- NV Energy starts construction

Note: The Project Engineer/Project Manger will not initiate a relocation/safety modification project without a signed agreement and receipt of fees. Governmental relocation/safety modification projects will not be initiated with out a signed agreement and a check or a purchase order number for the estimated amount of the project.

3.2 Facility Safety Agreement

Facility Safety Agreement is required when facilities that are installed or modified are concrete protection barriers, ground line collars or other facilities that are not associated with pole relocations. It may involve

fees and other costs if NV Energy is involved in engineering or construction activities (See section 3.1 for Relocation Procedures and see section 2.3 for Pole clearances and Barriers)

3.3 Pole Safety Agreement

A *Pole Safety Agreement* is a legal document, used at NV Energy's discretion that addresses the issues of liability and responsibility of individuals and/or parties. It is issued when improvement plans ultimately leave structures within or near public thoroughfares and/or when crash attenuators need to be installed. (See Appendix A, STD-D6)

4. DOCUMENTS AND LETTERS

The following are the types of written notifications you will receive in conjunction with your submittal and the Conflict Review Process. Each document is identified by name and a brief description is provided to define the purpose and indicate under what circumstances you will receive them.

4.1 *Transmission Corridor Preliminary Review Notification*

This letter is by the ROW Coordinator when the Customer requests a preliminary identification of our existing facilities and/or ROWs. These are typically requested for feasibility studies or site evaluations. It provides information about the submittal process. This is a stand-alone letter and does not give any type of approval to proceed.

4.2 *Incomplete Application Plan Submittal Notice*

This document is issued by e-mail when an Applicant has an incomplete "Plan Submittal Package". Attached to the e-mail will be a checklist that identifies the missing items. The Applicant must resubmit a new "Plan Submittal Package" for review. **Note:** All incomplete Plan Submittals will be discarded.

4.3 *Acknowledgement of Responsibility*

This document is provided by the ROW Management to identify the party responsible for authorizing NV Energy to proceed with the *Transmission Use Agreement* and to insure that they will return a completed agreement prior to construction. It also identifies the fee amount for the project. The Customer must sign and return the document with a check for the fee amount. Projects will not be processed further without a signed *Acknowledgement of Responsibility* and fees.

Note: No fee is assessed from Governmental Agencies and Utilities.

4.4 *Transmission Submittal Review Reminder*

The ROW Management will send a reminder to the Customer if the *Acknowledgement of Responsibility* and the applicable fees have not been received within 30 days of the original request.

4.5 *No Conflict Letter*

No Conflict letter is issued by ROW Management as notification that the project has been reviewed and determined that NV Energy's Transmission and/or facilities are not adjacent to submitted project.

4.6 *Transmission Use Agreement*

A *Transmission Use Agreement* is issued by ROW Management to the Customer after the satisfactory review of the customer plans. It defines the legal requirements of the development within NV Energy corridors and/or around or near Transmission facilities. It is project specific and contains the results of analysis of specific project requirements. Any changes or revisions to a project after the issuance of a *Transmission Use Agreement* will be considered a new project. A private development project is not approved until a *Transmission Use Agreement* has been executed.

4.7 *Governmental Agency and Utility Authorization*

These are issued only to Governmental Agencies and Utilities in place of a *Transmission Use Agreement*. Governmental/Utility projects still require the same review process as other projects. Any changes or revisions to a project after the issuance of a *Governmental Agency and Utility Authorization* will be considered a new project. A Governmental Agency or Utility project is not approved until a *Governmental Agency and Utility Authorization* has been executed.

4.8 *Construction Authorization*

Construction Authorization may be issued at the discretion of the Transmission Engineering Department (TED) to release specific portions of a project for construction before a *Transmission Use Agreement* is issued. This is not an approval of the project. The appropriate agreement or authorization must be completed before a project is approved.

4.9 *Submittal Cancellation Notification*

If a Customer notifies ROW Management that a project has been canceled, a *Submittal Cancellation Notification* will be sent.

APPENDIX A

TRANSMISSION ENGINEERING STANDARDS

STD-D1	Steel Pole Barriers
STD-D2	Trench & Pole Stability Detail
STD-D3	Maintenance Access for Deadend Structure
STD-D4	Maintenance Access for Tangent Pole
STD-D5	Condor Boom Truck Specifications
STD-D6	Concrete Pole Barriers