LS POWER GRID

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TRANSMISSION VEGETATION MANAGEMENT PROGRAM (TVMP) PROCEDURE

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1.0 Introduction

Founded in 1990, LS Power (LSP) is a development and operating company focused on the power and energy infrastructure sector. LS Power Grid (LSPG) is LSP's power delivery division that operates and maintains LSPG's companies across the US. LS Power Grid owns and operates approximately 350+ miles of long-distance, high-voltage transmission infrastructure, and seven high-voltage substations in the United States. LS Power Grid currently operates in Texas, Delaware, and New York and continues to expand as new infrastructure is constructed and energized.

1.1 Purpose

The purpose of this document is to address the work processes utilized to support LSPG's Transmission Vegetation Management Program (TVMP) and NERC FAC-003 responsibilities as outlined in document #LSPG-POL-FAC003 (LSPG TVMP Policy). This document in collaboration with document #LSPG-POL-FAC003 and #LSPG-GDE-FAC003 (LSPG TVMP Identification Manual) along with various courses and trainings are used to train LSPG's staff and contractors and standardize activities as they relate to managing vegetation on the in-scope transmission systems for all LSPG entities. Requirements specific to State or Regional laws are addressed separately in the following state-specific subdocuments:

#LSPGNY-ADM-FAC003TVMPSA (LSPGNY TVMP New York State Addendum)

1.2 Scope

The scope of LSPGs TVMP procedure is to explain the tools, considerations, and processes LSPG's employees and contractors use to maintain a reliable electric transmission system with a defense-in-depth strategy to manage vegetation located in or adjacent to the ROW, thus managing the risk of vegetation-related outages and cascading events. The goal of LSPG's TVMP is to support the safe and reliable transmission of electrical power in an economically and environmentally sound manner.

1.3 Document Maintenance

The document owner is responsible for the maintenance of the document. Responsibilities include documenting reviews, revisions, and approvals. Five minor changes will be allowed without signatory approval. These changes may be for spelling, grammar, or correcting minor deficiencies. These changes shall be tracked by increasing the document version by a fractional point value. As an example, Rev 1.0 becomes Rev 1.1 indicating one minor revision from the signatory approval. Substantive or significant changes shall be reviewed and approved via signature. These changes shall be tracked by increasing the document version by a point value. As an example, Rev 1.0 becomes Rev 2.0.

2.0 Compliance

In our efforts to maintain safe and reliable transmission operations, LSPG aims to comply with the regulatory standards promulgated at all levels of governance. The North American Electric Reliability Corporation (NERC) was commissioned by The Federal Electric Reliability Commission (FERC) in 2005 to address the need for a more unified, reliable operating standard among the several largest transmission providers across the country. The original strategy put forth was titled "FAC-003-1", and contained

actionable requirements designed to help minimize the risk of vegetation-related outages that could have unprecedented cascading effects on the larger bulk electric system, if unchecked. FAC-003 continues to evolve and continue to govern the basic requirements for federal compliance related to the Transmission Vegetation Management Programs (TVMP) as a means of mitigating vegetation encroachments on or adjacent to transmission rights-of-way (ROW).

2.1 Federal, State, and Municipal Laws

As LSPG operates in various states, counties, cities, and townships, additional state and transmission line specific documents are available to address requirements that exist exclusively in these jurisdictions. LSPG employees and contractors are trained in relation to all applicable TVMP activities in the execution of their work at all levels. This helps to ensure all necessary considerations are appropriately addressed.

State regulatory entities such as Public Utility Commissions (PUCs) and Public Service Commission's (PSCs) may have additional requirements for transmission vegetation management work. State requirements are addressed in each state-specific section. Each individual county and city may have local requirements related to utility VM work that must be followed.

Examples of local requirements are permits for scheduled maintenance work, city tree ordinances, restriction on herbicide applications, or various signage and traffic control ordinances. It is LSPG's and its contracted counterpart's responsibility to make sure that they are compliant with local requirements prior to starting work.

2.2 Environmental Compliance

LSPG is committed to protecting the environment during construction, operations, and maintenance of their facilities. LSPG employees and contractors will adhere to all federal and state environmental laws and regulations. The following general information is to familiarize workers with basic environmental laws and the agencies that enforce them. Specific state environmental requirements will be detailed in each state manual or environmental policy for the LSPG system.

When Congress passed the Endangered Species Act (ESA) in 1973, it recognized that our rich natural heritage is of "aesthetic, ecological, educational, recreational, and scientific value to our nation and its people." It further expressed concern that many of our nation's native plants and animals were in danger of becoming extinct.

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) administer the ESA. Our primary responsibilities are for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon.

Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

Other considerations include working on Federal Lands, and with agencies that regulate land access and environmental consideration include but are not limited to:

- ACEC Bureau of Land Management
- USDA Forest Service
- National Park Service
- National Department of Indian Affairs

Environmental policy is also addressed in the state-specific documents and by other LSPG stake holders based on the requirements that exist in the line-ahead-span where work is assigned. LSPG field tools assist in identifying span level concerns and requirements. This helps to ensure all necessary considerations are appropriately addressed where work is being performed.

3.0 Safety

This section will provide awareness of policies, standards, and practices available to ensure the safety of the public and VM personnel involved in vegetation related line clearance activity.

Two important standards set the precedence for tree worker safety in the United States. The Occupational Safety and Health Administration (OHSA) 1910.269 and American National Standard Institute (ANSI) ZI33.1. Contract line clearance tree workers outline requirements of safe working practices along with other federal, state, or local laws, codes, or regulations applicable where the work is being performed.

OHSA 1910.269 are the requirements for vertical standards pertaining to the generation, transmission, and distribution of electricity. A specific section of OHSA 1910.269 requires that everyone performing tree work in proximity to electric hazards must be trained in relation to this hazard based on their working proximity.

ANSI Z-133 is the standard for arboricultural operations and safety requirements for pruning, repairing, maintaining, removing trees, and cutting brush. In short, ANSI Z-133 defines an electric hazard to exist anytime a tree worker, tool, tree or any other conductive object is closer than 10 feet from an energized conductor with a voltage of 50,000 volts or less. From this 10 foot baseline, 0.4 inches of required clearance is added for every 1,000 volts above the 50,000-volt baseline. ANSI Z-133 provides tables that outline minimum approach distances for both qualified and non-qualified tree workers based on voltage and elevation.

The ANSI A-300 standard presents performance standards for the care and maintenance of trees, shrubs, and other woody plants. The standard is intended as a guide for federal, state, municipal, and private authorities including property owners, property managers, and utilities. Whenever possible and practical, tree workers are expected to adhere to this standard when pruning trees near electric facilities.

National Electric Safety Code (NESC). Section 2IS.A.I states that vegetation that may damage ungrounded supply conductors should be pruned or removed with consideration to the line voltage class, species' growth rates, failure characteristics, right-of-way limitations, the vegetation's location in relation to the conductors, the potential combined movement of vegetation and conductors during routine winds, and sagging of conductors due to elevated temperatures or icing. Vegetation management should be performed as experience has been shown to be necessary.

The International Society of Arboriculture booklet titled "Best Management Practices for Utility Pruning of Trees" provides a good working summary of the principals included in ANSI A-300.

The North American Electric Reliability Council (NERC) requires that electric utilities to maintain their transmission systems in accordance with the mandatory vegetation management and maintenance standard set forth in the Energy Policy Act of 2005 section 1211 (FAC-003). These industry standards are designed to ensure safe and reliable operation of a transmission line system.

3.1 TVMP General Job Safety Awareness

Safety is a core value at LSPG. Safety is intentionally planned, discussed, and reviewed as part of our daily work scopes. Employees and contractors are encouraged to follow the guidelines of “If you see something, say something” & “If you say something, do something”. Stop work authority is the right of all personnel working or observing work throughout the day. Employees and contractors are always encouraged to put safety first and address changing work plans with updated safety protocols that proactively incorporate safety into our work practices.

This section highlights common safety hazards encountered while working in ROW easements so workers can address these concerns as they plan work. While these topics do not address all known hazards, employees and contractors should remain vigilant and constantly prepared as awareness is essential to their safety and that of others.

3.1.1 Energized Work Zone Safety Considerations

When working on transmission line easements all LSPG employees and contractors will act as if exposed electrical components are energized unless a person on site is holding a clearance for the identified workspace, the space is tested, and grounds are in place. Electrical clearance awareness is always an aspect of the work being performed and will be addressed in daily Pre-Task Analysis (PTA) plans. Workers will be aware of themselves, their equipment and vegetation, as well as their real-time potential to encroach energized line. Electrical Minimum Approach Distance (MAD) will be determined by the highest voltage present in the easement where work is being performed. Unqualified employees will ensure they maintain appropriate clearance while work is being performed. Unqualified workers will report and arrange for qualified employees and appropriate work conditions if a MAD needs to be entered.

3.1.2 Outdoor Work Zone Safety Considerations

Outdoor work exposes field resources to various types of hazards including:

- Weather
  - Hot and cold temperatures
  - Sun exposure
  - Wind, rain, and storm conditions
- Environmental
  - Poisonous plants
  - Stinging and biting insects/animals
  - Uneven and wet terrain
  - Hidden obstacles and tall grass/shrubs
  - Wildland fires and smoke

These aspects of work should be considered and addressed when identified as a potential threat in daily PTA planning.

3.1.3 Heavy Mechanical Work Safety Considerations

When the use of large equipment and/or heavy vehicle traffic is required, the following guidelines are encouraged and may be included in the treatment plan:

- The travel of vehicles and large/heavy equipment and trailers will be limited to the use of existing travel paths within existing easement and wire zones. The use of these existing paths will assist in the maintenance of these roads and allow for future access.
- Vehicle and equipment heights (including maximum reach heights) will be evaluated in relation to line clearances and designated spotters will be used to maintain clearance limits when height or reach is capable of encroachments.
- Precautions will be in place to manage fire hazards that may exist based on weather and fire conditions at the work sites. Vehicles and large equipment have the potential to start fires when hot surfaces come in contact with combustible materials.
- Traffic plans/controls will be in place when workers are exposed to public roadways and or access roads.
- Anyone operating vehicles and equipment will have current licensing and/or certifications and training.

Vehicle and equipment use will be in accordance with all safety, environmental, and public access requirements. These aspects of work should be considered and addressed when identified as a potential threat in daily PTA planning.

3.1.4 Manual Clearing Safety Considerations

When the use of ground resources and hand tools are required, the following guidelines are encouraged and may be included in the treatment plan:

- Employees/contractors will have sufficient training in relation to the tools in use (either powered or mechanical) before they are allowed to perform work on LSPG properties and ROWs.
- Tools will be inspected for defects and declared in good working condition upon each use before work begins. Tools with obvious or suspected damage will be removed from service and repaired or replaced before they can be used.
- Proper PPE will be identified based on a thorough PTA and be available and used during all work activities. Minimum dress will be long sleeve shirts, full-length pants, and safety shoes.
- Precautions will be in place to manage identified fire risks based on weather, fire conditions, and tool usage.

Employees/contractors will perform all work in accordance with all safety, environmental, and public considerations, and requirements. These aspects of work should be considered and addressed when identified as a potential threat in daily PTA planning.

3.1.5 Herbicide Application Safety Considerations

When the use of herbicide and spray equipment is required, the following guidelines are encouraged and may be included in the treatment plan:

- Employees/contractors will have sufficient training in relation to the herbicides and equipment in use (either powered or mechanical) before they are allowed to perform work on LSPG properties and ROWs.
- Equipment will be inspected for defects and declared in good working condition upon each use before work begins. Equipment with obvious or suspected damage/leaks will be removed from service and repaired or replaced before it can be used.
- Proper PPE will be identified based on a thorough task analysis and be available and used during all work activities. Minimum dress will be long sleeve shirts, full-length pants, and safety shoes.

Employees/contractors will perform all work in accordance with all safety, environmental, and public considerations, and requirements. These aspects of work should be considered and addressed when identified as a potential threat in daily PTA planning.

3.1.6 Helicopter Patrolling Safety Considerations

Power utilities have been expanding training programs to educate both pilots and utility crews in proper techniques to mitigate the risk of wire strikes. Modified low-level crew resource management (CRM) procedures, which incorporate linemen and patrol personnel into active crew roles and responsibilities, as well as enhanced pilot understanding of power line structures and hardware, have had a significant impact in reducing the number of wire strike incidents related to power line patrols. Achieving a broad reduction and/or elimination of wire strike incidents lies in training and education on what this hazard looks like, and in training pilots to include wire threat assessments in pre-operation planning. A proactive plan to use all available tools and follow proper communication and responsibility protocols is key.

Here are some tips on wire hazard mitigation:

- Avoid low-level flight whenever it is not essential to the operation.
- Become familiar with all known hazards in the operations area prior to low-level flight.
- Brief all crew and passengers to speak up and be specific if they see power lines, towers, or other obstacles.
- Look for all indicators of a power line (e.g., right of way clearing or support structures).
- Always cross transmission lines at the point of the supporting structure.
- Be prepared to climb out of the wire environment if any distraction or confusion occurs (e.g., irrelevant crew conversation, radio call, etc.).
- Assume that wires are always present in any unfamiliar operations area until proper high reconnaissance confirms otherwise.

Organizations exposed to low-level flight should consider an enhanced training program that provides specific tools and awareness of low-level hazards. Here are two examples:

- Wire Environment Training provides a basic knowledge of low-level CRM, utility rights of way, structures, and hardware that can provide early indicators on the possible presence of wires, as well as indicators on direction of the wire and other hazards.
- Human Performance Improvement (HPI) is essential training to help crews recognize personal biases that may interfere with effective CRM and risk assessment. This training also shows how human errors can occur and provides effective mitigation tools.

Another valuable training resource is the video:

"Surviving the Wires Environment" https://youtu.be/9ccxc6S4aWI

4.0 TVMP Procedural Requirements

In this section, employees and contractors can study the informational approaches, aspects of consideration for the various work activities, and process guidelines for the tools and processes employed for LSPG in managing the TVMP results. The desired TVMP results of LSPG are, but are not limited to:

- Public and worker safety
- Reliable electric service that allows for operational flexibility
- Compliance with regulatory and legal requirements
- Managing landowner land use and easement agreement requirements
- Environmental stewardship and habitat enhancement
- Reducing treatment costs by replacing mechanical, manual, and herbicide control methods with biological and cultural control methods for the long-range management and removal of targeted vegetation and plant species that could impact public safety and line reliability

4.1 TVMP Landowner Relationships and Land Rights

This section addresses the roles landowners can play when carrying out VM work and some of the significant elements that may need to be addressed with landowners while work is performed on their properties. Prior to entering private property for access to a LSPG line, the Think Power tool's landowner information should be reviewed, along with any applicable easements for any special considerations or agreements affecting the location. Think Power's landowner information log may also contain any special concerns or conditions required to enter these properties and perform maintenance work. Employees and contractors can be held liable for any damages resulting from a failure to comply with documented landowner directives.

4.1.1 Land Access and Easement Rights

A landowner easement is a common type of utility right-of-way document used to specify the shared-use conditions that come with owning land on or adjacent to active utility ROWs. Easements typically grant the right to conduct routine maintenance activities, including vegetation management, hazard tree removal, and both ingress and egress. Some easements may have more specific details added regarding the allowed activities within the right-of-way, often including restrictions on what landowners can do within the right-of-way.

Public Utility Commission (PUC)/Public Service Commission (PSC) tariffs and agreements with various state regulatory entities may give utility companies and their contractors the ability to enter private property for maintenance purposes regardless of the existence of an easement or prescriptive rights. The individual state requirements will be addressed in each state's manual.

When accessing properties all gates shall be left open or closed as they were found, or as the property owner instructs. Fencing damaged by LSPG agents will be restored/repaired, and fencing will be left in the condition in which it was found, or better.

4.1.2 **Landowner Notification**

LSPG will notify all landowners on record via phone, email, or mail informing them of the upcoming vegetation management operations, including herbicide applications. These communications should include contact information for landowner questions, comments, and concerns. Landowner advance notice calls, emails, or letters typically communicate a planned scope of work, contractor assignment, and the timing of the planned work. Refer to LSPG's landowner database for contact information. Phone communications are best utilized where landowners have requested specific communication protocols. Notes in the Think Power tool will generally communicate a need for these types of notice.

Where appropriate personal contact by contractor supervision is the preferred standard method for notifying residents of upcoming maintenance activities and is especially important any time a significant change is identified in the way the work will be performed. This practice is best for ROW easements close to the residents' dwelling. Landowner expectations are often influenced by the way in which work is completed during maintenance visits. Any time work is to be performed near the property owner's occupied premises, courtesy contact should be attempted. Such contacts will often minimize the risk of a future property owner dispute occurring.

In rural and non-maintained, non-landscaped areas, there is typically no need to search out property owners to notify them of the work LSPG has planned. Good judgment should be used in determining the extent of resident notification in these areas.

LSPG personnel will make all contacts with and conduct all negotiations with state agencies with the exception of herbicide inspectors that may enter the ROW work site at any time and inspect the ongoing work.

Existing roads and paths to and along the rights-of-way should be used when accessing LSPG easements.

4.1.3 **Refusals, Claim Investigations, and Follow-Up**

The LSPG employee or contractor performing the work will be responsible for the first attempt to resolve any landowner issues related to the work assignment. If the LSPG employee or contractor is unsuccessful in resolving the issue, then it shall be elevated to the appropriate VM manager. All landowner refusals, complaints and property damage claims should be reported to the LSPG VM manager where local communication methods are available. The Think Power landowner information data shall be updated to include refusals, complaints, and damage claims.

If a property owner refuses to allow the required tree work, employees shall not agree to reduced clearance or any other deviations from the project scope without the consent of LSPG VM staff. If threats are made to any LSPG representative or contractor, leave the area immediately and report the details to the VM manager. LSPG management/corporate security may get local law enforcement involved. All refusals shall be documented in Think Power tool logs report and passed on to LSPG VM staff for follow-up.

4.2 TVMP ROW Characteristics and Considerations

LSPG's TVMP uses a defense in-depth strategy to manage vegetation located on and adjacent to our transmission ROWs to minimize encroachments, thus preventing the risk of common vegetation-related outages. Various ROW characteristics are considered in the effective long-range management approaches applied by LSPG. This section will discuss these various characteristics used to create a consistent approach to what defines MVCD evaluations and treatments.

4.2.1 Compatible and Incompatible Vegetation

LSPG defines compatible vegetation as vegetation on or near a specific ROW site that has growth characteristics which allow it to thrive over the course of its lifetime without posing an encroachment risk to overhead facilities at that site. Incompatible vegetation is vegetation on or near a specific ROW site that could reasonably create an encroachment threat to facilities at some point during its lifetime.

Vegetation species and growth characteristics are not the only factors utilized to determine if a plant is compatible or incompatible in a line-ahead-span. Determining a plant's compatibility in a line-ahead-span evaluates the clearance between the vegetation, the conductor, and the specific site conditions that have the potential to influence plant growth in that span. This evaluation includes the sag and sway of the conductor as well as the movement of the vegetation.

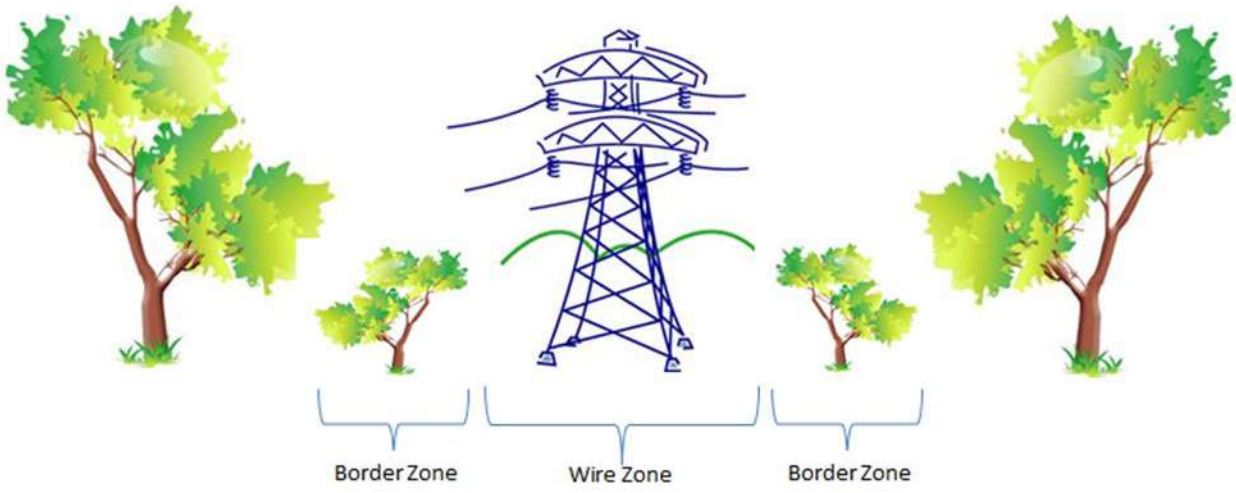
LSPG understands that the best vegetation management practices allow the existing vegetation to remain in place. Areas in which there is exceptional clearance beneath the conductor (areas such as river valley crossings or areas with depressions in topography) require fewer active controls. LSPG may allow vegetation to remain in its transmission ROW easement boundaries where LSPG determines that the expected mature height of the vegetation in a specific line-ahead-span will not encroach into the conductor and the vegetation will not otherwise interfere with the maintenance of the overhead line for the specific line-ahead-span in question. While species plays a role in this evaluation, species is not the determining factor. The LSPG TVMP Identification Manual is available and maintained to support these assessments.

4.2.2 TVMP Wire Zone/Border Zone Concept

Wire Zone/Border Zone concepts generally allow for different types and heights of vegetation in the ROW zones. This concept differentiates between the wire zone and the remaining border zone allowing for mitigation measures to achieve sufficient clearances for the protection of the transmission facilities.

Generally, this concept allows for different, yet compatible, vegetation types in these separate zones.

- **Wire Zone –** Area directly underneath the conductor(s). Desirable vegetation in the wire zone consists of low- growing forbs and grasses.
- **Border Zone –** Area that begins at the outside edge of the wire zone and extends to the edge of the easement or clearing limit. The border zone many contain additional low-growing woody plants and trees that do not exhibit grow-in or fall-in characteristics as conductors are not directly overhead.



Variable Row Width for all Zones

This concept helps LSPG employees and contractors appropriately evaluate vegetation based on the vegetation's position in the ROW as it relates to their potential for encroachment of a conductor's potential sag and sway. The wire zone/border zone concept, as applied by LSPG, does not require removal of tall-growing vegetation if; at maximum mature height, the vegetation would not come within the distances set forth in the Minimum Clearance Guidelines.

Vegetation with fall-in potential will always be removed from both the wire and border zones if the vegetation is within the existing clearing limits of the ROW. This concept supports LSPG's IVM strategies for biological and cultural controls, and the encouragement of diverse ecosystems that protect the safe and reliable operations of our systems.

4.2.3 TVMP ROW Easement Boundary

Easement boundaries are defined for each property segment based on surveyed land boundaries as described in the easement agreement associated to a specific landowner. For a line-ahead-span you may be subject to multiple easement boundary characteristics as you may cross multiple landowners. It is the responsibility of LSPG employees and contractors to act in accordance with easement boundaries (widths) and the associated easement language. Easement widths are best measured and marked from the line-ahead-span center as work is performed. Wire-Zone/Border-Zone characteristics can be applied inside of the easement boundaries for each line-ahead-span.

4.2.4 TVMP ROW Clearing Limits

ROW clearing limits may be less than the defined easement boundary. This is noticeable when mature tree lines are found inside of the defined easement boundary. Clearing limits are generally defined at the time transmission ROWs are cleared during original line construction and are directly related to specific engineering requirements for each line-ahead-span's need for conductor sway. When clearing limits are narrower than easement boundaries, considerations are to be evaluated when mature trees in the area require removal. If questions arise about conductor clearance as it relates to clearing limits, engineering resources can be consulted to understand specific line-ahead-span conductor sway

requirements and tree clearing needs. Cyclical side cutting requirements and danger tree evaluations may justify the significant expense of widening the clearing limits to match the easement boundary.

4.3 TVMP Wildfire Mitigation

LSPG encourages employees and contractors to assess vegetation and the threats it may cause if it becomes tinder or fuel for potential wildfires. LSPG will remove vegetation debris or chip all debris during vegetation removal activities in consideration of wildfire mitigation when appropriate. All dead and dying trees should be evaluated for removal both inside and outside of the immediate ROW. Wildfire threats should be included and noted with a VPR in annual inspections and detailed ground inspection notes.

4.3.1 TVMP Wildfire System Design and Controls

In accordance with LSPG's Storm Hardening Plan, LSPG constructs, operates, and maintains transmission facilities to meet or exceed industry design standards for the reliability of overhead transmission facilities and as a best practice means of reducing wildland fire risks.

LSPG designs and constructs transmission facilities to withstand intense weather conditions to ensure the operability of LSPG owned facilities and limit the risk of wildland fires due to transmission facility failures. Design and construction of LSPG's existing facilities meet or exceed the most recent NESC standards applicable at the time of construction. Furthermore, designs also contemplate best practices of neighboring utilities, as well as historic wind and ice loading conditions for the project region. While there are no specific code requirements for lightning protection, LSPG's design criteria does include lightning protection features consistent with best practices to limit risks of wildland fires. Structure and hardware inspections occur after construction and prior to energization to ensure conformance with design requirements. Additionally, LiDAR surveys are performed on newly constructed lines to verify congruence with critical design parameters and ensure that electrical clearances are adequate between energized and grounded objects, which include vegetation.

In accordance with LSPG's Storm Hardening Plan, LSPG utilizes automation features at remote transmission switching facilities which incorporate self-monitoring, intelligent electronic devices for protective relaying, Supervisory Control and Data Acquisition (SCADA), and communications. The control system monitors transmission line operations and relays notifications for line trips or equipment outages. All planned switching operations are performed and verified remotely in real-time. Any automatic switching that occurs due to system faults will generate electronic event records that are remotely accessible to LSPG engineers for post-event analysis. Certain event notifications will trigger aerial and/or ground inspections of the affected transmission line segment. Inspections occur on an as needed basis following natural disasters or severe storm events.

4.3.2 TVMP Wildfire Vegetation Considerations

Annual inspections of transmission line infrastructure are conducted at least every 18 months. Infrastructure is inspected for mechanical failures and component level degradation that could pose a fire initiation risk. Selective detailed ground inspections are programmatically scheduled in consideration of annual inspection findings. Substation inspections occur monthly to assess yard equipment, secondary systems and physical property including landscaping, which is also a component of the fire safety design.

LSPG does not currently employ a damage/outage prediction model for its transmission system. In the event of a predicted storm event, LSPG's operations personnel will monitor for outages, and respond to any outage events in accordance with its Emergency Operations Plan. If a sustained outage occurs

during a storm event and line damage is suspected, LSPG will assess damages immediately following the storm event that may include aerial inspections via helicopter or drone. Secondary detailed ground and structure inspections are also performed to fully evaluate wildland fire risks due to structure or conductor failures, and to determine the best course of action for remediation if necessary.

4.4 TVMP Off ROW Considerations

Vegetation outside of easement boundaries needs to be evaluated if the vegetation can grow-in or fall-in to the MVCD of the adjacent overhead lines. The horizontal tree canopy growth can reach from beyond the ROW easement boundaries and encroach into the overhead conductor spans. For each line-ahead-span canopy growth as well as conductor sway and vegetation movement should be evaluated for encroachment distances similar to grow-in from the Wire-Zone/Border-Zone areas. Additionally, vegetation should be evaluated for encroachment distances if the vegetation can fall towards the overhead conductor. While LSPG may not have direct easement language that grants rights for the removal of these trees, LSPG needs to work with landowners to address these threats to our systems. Annual and detailed ground inspections need to evaluate these conditions and include assessment notes and VPR assignments to support the monitoring of these conditions before they become a threat to LSPG systems.

4.4.1 TVMP Danger Tree Identification

A danger tree is any tall growing vegetation; outside of a clearing limit or easement boundary, tall enough to contact or enter any conductor's MVCD if it falls/grows towards the conductor including conductor sag and sway. A danger tree will not exhibit any obvious defects that would cause it to fall in non-storm conditions. A danger tree (tall enough to hit or enter any conductors MVCD) inside of easement boundaries or clearing limits will always be removed and therefore does not fit into this classification. Danger trees can be identified during detailed ground inspections utilizing laser measurement devices to evaluate the height of the conductor in the fall zone of the tree, the distance to the base of the tree from the closest conductor, and the height of the specific tree in question. Danger trees may also be identified in a line-ahead-span using satellite or LIDAR surveys. When a line-ahead-span runs through forested areas; meaning one or both sides of the easement boundary has trees tall enough to hit or enter any conductor's MVCD, danger tree evaluations need to be considered when annual and detailed ground inspections are performed. As long as the danger trees evaluated do not exhibit obvious defects (are not deemed hazard trees), the danger trees can remain in place. Any doubts related to the stability of a tree with the ability to encroach into the MVCD of any conductor should always be addressed in a timeframe consistent with the priority of the VPR assignment. Danger trees classified as Hazard trees will always be targeted for removal or mitigation and tracked to resolution.

It is important to understand that at LSPG the term danger tree is specific to trees outside of the easement boundary or clearing limits. Trees inside of the easement boundary or clearing limits with growth characteristics that will create an obvious and predictable encroachment of any kind will be removed in whole or in part in accordance with the land-use and easement allowances. Danger trees must be sufficiently obvious that they are noticed during the various types of ROW inspections performed.

It should be noted that the existence of danger trees outside of easement boundaries or clearing limits will always exist and therefore are considered an acceptable risk. Until utility system ROW design standards eliminate fall-ins by widening corridors or landowners (including state and federally held

lands) surrender their rights to the trees that border existing corridors these risks cannot be completely eliminated.

4.4.2 TVMP Hazard Tree Identification and Removal

At LSPG, a hazard tree is a danger tree that exhibits one or more of the following characteristics that would make it likely to fall:

- The tree displays excessive lean or splitting characteristics with a strong propensity to fall towards a conductor's MVCD.
- The tree has characteristics that provide for imminent tree failure due to structural defects or health and can fall towards a conductor's MVCD.
- The root system is compromised making fall-in a concern towards a conductor's MVCD.

A line-ahead-span with potential danger tree threats will be inspected during annual and detailed ground, treatment, and quality inspections for danger trees with the above characteristics. Vegetation identified as danger trees exhibiting any of the above characteristics will be identified as hazard trees and assigned VPR's or target dates to create action timelines. Hazard trees must be sufficiently obvious that they are noticed during the various types of ROW inspections performed. These target dates will be consistent with the assessed VPR to ensure that transmission systems are sufficiently protected from visible or obvious threats. Utilizing the Think Power tool and workflow, these VPR or target date assignments will be tracked to resolution.

With the exception of imminent threats, the first action required for hazard tree removal begins with identifying or obtaining the rights to remove the identified hazard trees. Secondly, line safety will be evaluated to ensure the proper system conditions are addressed to ensure system and crew safety during the removal of identified hazard trees. Additionally, the VPR or target dates will drive the urgency with which these trees are removed.

In the case of an identified VPR 1 or 2 (imminent threat) expedited actions will be taken and emergency protocols will be followed to ensure appropriate monitoring is in place until a resolution can be executed. The Think Power tool will be utilized to track these activities.

4.5 TVMP Integrated Vegetation Management (IVM)

Integrated Vegetation Management (IVM) at LSPG can be defined as a practice of promoting desirable, stable, low-growing plant communities – that will resist invasion by tall-growing vegetation species- through the use of appropriate, environmentally sound, and cost-effective control methods. IVM considers all factors necessary to construct a system that will produce vegetation conditions that are not only consistent with the intended or existing land use but are beneficial to their surrounding ecological communities. Methods of control can include a combination of mechanical, manual, herbicidal, biological, and/or cultural treatments. An IVM approach strives to manage vegetation and the environment by balancing the benefits of:

- Control method (applied vs. natural)
- Cost controls
- Public health and land use
- Environmental quality
- Regulatory compliance

IVM systems require the consideration of various environmental, social, and financial factors. The transition from the use of mechanical, manual, and herbicidal treatment methods (applied) to the existing biological, and cultural (natural) control methods that exist naturally in plant communities is the key to driving costs down and the improvement of the environment as a whole.

Mechanical, manual, and herbicidal approaches need to be implemented in a way that compliments the existing desirable plant species found in a ROW based on a line-ahead-span's engineered and topographical features. Supporting the existing vegetation in a ROW line-ahead-span that does not threaten the current or future condition of the MVCD of the conductor should be the first consideration in an IVM approach. Mechanical, manual, and herbicidal treatment plans should be planned in a way that compliments and supports desirable vegetation already in place. The following factors should be evaluated for consideration as these plans are designed:

- The potential for electrical outages from existing plant species in place
- Wildfire considerations
- Soil erosion controls
- Water quality
- Land use
- Access to electrical facilities
- Domestic and wild animal species present
- Regulatory and or legal land restrictions
- Public and worker safety

The above aspects in the mechanical, manual, and herbicidal treatments (applied) are utilized to remove and reduce the population of incompatible species. Compatible vegetation is encouraged, increasing it's ability to assist in the long-range management of each line-ahead-span on our system by outcompeting incompatible vegetation. As biological and cultural (natural) controls are established, the need for applied methods are reduced and small volumes of very targeted herbicide applications can be used to supplement existing natural controls. This gradual transition is known as cover type conversion, which generally results in accessible ROWs dominated by low growing plant communities that naturally resist the establishment of incompatible plant life.

The use of IVM practices on a transmission ROW can:

- Improve transmission reliability
- Reduce vegetation management costs
- Improve native plant, pollinator, and songbird habitat
- Provide other ecological benefits such as
    - Erosion control
    - Control of other invasive species
    - Support of wild and domestic animals
    - Create diverse habitats

These benefits can be summarized into three important categories:

- Improved safety and reliability of the system for the direct landowners/users and the electrical systems served
- The economic benefits of reduced long-range treatment costs for the utility and rate payers
- The environmental benefits for landowners and land users of the systems surrounding these transmission systems

LSPG recognizes these three aspects of our responsibility and constructs business processes that consider these benefits leveraging IVM practices to drive these results.

4.6 **TVMP Line-Ahead-Span Concept**

Line-ahead-span is a term utilized at LSPG to describe the segmentation of transmission line inspection zone for vegetation and the evaluation of MVCD and transmission line health. For each Transmission Line; with substations as endpoints, the line-ahead-span is defined by the following criteria:

- Beginning slightly behind the sequentially named Structure looking ahead-on-line for the length of conductor span
  - Example: Gray to Tesla Structure # 001 (GY-TS_001)
- Extending to the back of the next sequentially named Structure looking back-on-line
  - Example: Gray to Tesla Structure # 002 (GY-TS_002)
- For the width of the defined easement boundary
  - Example: 160 feet wide from center line
- Including all off-ROW trees for the length of the conductor evaluated to have potential fall-in risk as it relates to VPR's 1 and 2
  - Example: As identified by LIDAR or other accessed measurement protocol

At LSPG inspections related to MVCD are evaluated with the line-ahead-span approach to ensure the safety of the conductor in a specific span to ensure the following aspects of the MVCD are addressed:

- Engineered line characteristics such as
  - Structure heights
  - Continuous conductor span position (as observed)
  - Potential conductor sag
  - Potential conductor sway
- ROW and topographical characteristics such as
  - Wire Zone threats (grow-in)
  - Border Zone threats (grow-in/fall-in)
  - ROW clearing limits
  - ROW easement boundary
  - Off ROW threats (grow-in/fall-in)
  - Slopes
  - Elevations
  - Rise and falls
- Vegetation characteristics such as
  - Potential movement (non-storm conditions)
  - Predicted growth (grow-in based on the vegetation's specific environment)
    - Height (vertical reach)
    - Breadth (horizontal reach)
  - Potential Trunk, Root, and Limb Failure (fall-in non-storm conditions)
  - Aspects of Integrated Vegetation Management
  - Wildfire considerations

LSPG recognizes that the above listed characteristics can vary over the length of a transmission system or even within a singular line-ahead-span. By utilizing the line-ahead-span inspection approach, LSPG employees and contractors have the required focus and opportunity to make changes or simply support each span's requirements with planned treatments that ensures a long-range and long-lasting results

supporting each span's environmental requirements. The effect is a defense-in-depth strategy that supports our TVMP purpose and scope.

4.7 TVMP Defense-In-Depth Concepts

LSPG's TVMP pursues a defense-in-depth strategy that utilizes multiple layers of process related barriers to prevent program failures, in this case preventing vegetation-caused outages.

4.7.1 TVMP 1st Line of Defense Documentation and Training

LSPG's TVMP policy, procedure, manuals, tools, and training provide the first layer of protection by outlining a strategic approach that can be consistently applied to achieve a predictable result: the control of tall growing vegetation species in and adjacent to our transmission systems. These program documents are reviewed on a consistent frequency to ensure that updates that can lead to improvements are addressed in a timely manner. These updates address a growing system of assets, diversity in regional requirements, changes in regulatory policy, and lessons learned through the practice of our program.

4.7.2 TVMP 2nd Line of Defense Work Planning

The execution of LSPG's program activities or annual work plans provide the second layer of protection. Annual work plans provide visibility to our system needs based on assigned VPR's and allow for flexibility in the management of all planned and unplanned system needs. Annual work plans include visibility to:

- Annual MVCD system inspections and VPR assignments
- Follow-up detailed ground vegetation evaluations to produce next steps
- Planned work or treatments as it relates to Mechanical, Manual, and Herbicidal applications
- And finally quality and next step assessments

The above activities belong to a consistent workflow process tracked by specific a line-ahead-span's VPR target dates. This methodology ensures that sitework is completed timely by tracking work until the work is complete.

4.7.3 TVMP 3rd Line of Defense Progress Tracking and Review

Review and oversight of the annual plan, changes to the plan, and completed field actions becomes the third layer of protection for LSPG's TVMP responsibilities. As work is completed at all levels of activity (annual MVCD inspections, detailed ground vegetation inspections, treatments, and QA/next step assessments) the workflow process manages work completion assessments before the work is moved between steps in the workflow. Work can move forward and backwards based on the assessed findings and can be reassigned if additional work is required to achieve the desired result for the assigned work step. These reviews create an interactive work platform that allows for training or process improvement as work is being facilitated daily, weekly, or monthly. As field and office resources collaborate in the pursuit of targeted goals, the quality of the work product and long-range results are addressed. Additionally, as new VPR's are identified throughout the year the annual plan is assessed and adjusted to make sure the most critical aspects of system reliability are addressed first.

4.7.4 TVMP 4th Line of Defense Vegetation Priority Escalation

VPR's one and two are the fourth and final layers of defense in LSPG's defense-in-depth approach. Priorities one and two are available and tracked to ensure that field resources, landowners, and

community members have a process to report vegetation conditions likely to cause a fault. At any moment, through the proper channels, real time operations can be notified to evaluate the system reconfiguration and mitigations to remove the risk. Regardless of any line-ahead-span's current reported condition, the VPR assignment approach in our vegetation management Think Power tool allows for the escalation of priority and a singular approach to reporting threats that need to be tracked to resolution. With the combined efforts of people, process, and tools, LSPG is positioned to address the system reliability and safety requirements effectively and to completion.

4.8 TVMP Vegetation Identification and ROW Long-Range Management Objectives

As discussed in the TVMP Policy #LSPG-POL-FAC003 sections 4.3 and 4.4, LSPG utilizes VPRs 1-4 to identify and manage MVCD for each line-ahead-span to be able to understand what and when vegetation is required to be removed.

LSPG removes, prunes, and/or treats all incompatible vegetation (tall growing) that, under assessed growing conditions, could cause any type of encroachment or access issues. LSPG TVMP principles; as described in sections 4.2 through 4.6 of this document, are the basis for the control of vegetation (tall growing) both inside and outside of the transmission ROW. It is the responsibility of the LSPG TVMP participants to design and implement inspection and treatment activities, creating long-range outcomes in each line-ahead-span. The desired long-range result is to create areas dominated by compatible (low growing) vegetation while at the same time slowing or eliminating the establishment and growth of incompatible (tall growing) vegetation. LSPG treatment activities should focus on the reduction in the need for mechanical, manual, and herbicidal (applied) control methods by fostering the existing biological and cultural (natural) control methods. This sustainable management approach on LSPG ROW systems has a positive balancing effect on biodiversity. Properly managed landscapes can provide a full range of habitat types acting as reserves for pollinators, birds, mammals, and other wildlife species; ultimately increasing animal diversity, which is instrumental to sustaining biodiversity.

Mechanical and manual control methods will be used sparingly. These methods alone promote the growth of incompatible vegetation species and create more (not less) incompatible stems per acre. Whenever possible, herbicidal control methods are generally used in conjunction with or in place of mechanical and manual methods to achieve the desired long-rage results of LSPG's ROW TVMP. Herbicide application methods will be used in accordance with label instructions and will be applied in a manner that deposits the lowest practical amount of herbicide product into the environment.

Active agricultural or other land uses not interfering with the operation and maintenance of transmission lines and which eliminate the presence of incompatible vegetation (tall growing) are supported and encouraged.

Generally, LSPG does not remove vegetation that is not within the ROW easement boundary or clearing limit, unless the individual plant presents a risk (a true "hazard tree") of causing a line outage under predictable conditions.

4.9 TVMP Annual Planning and Execution

Annual plans are created prior to the beginning of each year. Annual plans will include visibility to the in-scope line assets and planned activities for each system in accordance with section 4.7 of the TVMP Policy #LSPG-POL-FAC003. While these plans may be developed and available long before the beginning of each budget year, the annual plans are not approved and finalized until the AssurX dates for each utility entity. Annual plans may include visibility to future years to allow for the advancement of future work if budgets and work scopes permit. The form of an annual plan is not limited to a single format but should include the following information for all planned activities:

- Description of planned activity
- Line asset name
- Line-ahead-span or series of spans
- Owner assignment
- Target Date
- Activity Notes
- Status

Annual plans help ensure, along with the Think Power work management tool, that all aspects of work are performed in advance of the planned dates.

Annual plans also help manage unforeseen changes in conditions that might delay or reschedule work. Changes to an approved plan need to be documented and approved, and notes need be taken to indicate what mitigating factors are in place if dates change. The Think Power tool and the annual plan activity notes provide documentation of these changes if needed.

Annual plans create the foundational information needed to forecast future budgets and help maintain fiscally responsible planning for managing TVMP activities, staff, equipment, and contractors.

4.9.1 TVMP Budget Submittal

In accordance with section 4.8 of the TVMP Policy #LSPG-POL-FAC003, annual budget forecasts will be developed and submitted to the VP of Operations and Maintenance as well as the appropriate accounting and asset management leaders. Annual budgets are generally due by mid to late July and are reviewed and approved by November of the previous year. The VM Manager will submit these budgets for each utility entity. The VM Manager will communicate foreseeable changes in need if plans change or emergency circumstance arise.

The Think Power tool helps track cost per line-ahead-span to help Managers understand cost over time, cost per acre, and cost per mile. This information can be used to help forecast accurate budgets and evaluate estimates submitted by contractors. The responsible use of rate payer funds is very important, and the use of these funds takes a high level of precedence as work is planned, managed, and performed. As IVM practices are applied and transmission ROW are managed appropriately, costs to manage should normalize and become predictable.

4.10 TVMP Think Power Tool Workflow and Field Application Overview

LSPG together with Think Power Solutions has developed a collaborative dashboard/workflow desktop management tool along with a field Logs applications for tablet and handheld devices to track transmission ROW vegetation activities. This tool is key to the execution and tracking of the annual work plan and budget in place for each year. The finalization of annual work plans are not complete on January 1st. Work is generally active as it is being approved. This tool consists of the following components to integrate office and field efforts in the execution of a defense-in-depth system management approach.

4.10.1 Think Power Tool Dashboard Location & Link

Use the following link to access the Think Power Tool Dashboard:
(https://one.thinkpowersolutions.com/)

4.10.2 Dashboard, Workflow, and Data Management Desktop Tools

Think Power tool dashboards, workflows, and data tables are available from the above listed hyperlink. These tools are cloud-based and is accessed with an approved user login. The VM Manager can set users up with the appropriate security based on the users' assigned roles and responsibilities. The following aspects of this tool are outlined in this document:

- Data table management facilitating:
  - The addition of new line-ahead-spans and systems
  - Access to data related to inspections including:
    - Annual inspections
    - Detailed ground inspections
    - Treatment reports
    - Quality and next steps assessments
    - Avian reports
    - Miscellaneous inspection reports
  - The addition or edits to known tree species types
- A system dashboard with high level KPI and map displays
- A document repository for comprehensive histories of line-ahead-span activities
- TVMP workflows including:
  - Annual inspection tracking
  - VPR notifications and next steps
  - Detailed ground inspection management and review
  - Treatment assignments and target date visibility
  - Quality and next step reviews
  - Avian reports
  - Miscellaneous inspection reports

4.10.3 Field Inspection Applications

The following activities are application based and operate from an IOS compatible tablet or device. These activities can operate with or without an internet connection.

- Pre-Task Analysis (PTA) report application
- Aerial/Ground map-based Inspection application

- Annual inspection LOGS based application
- Detailed ground inspection application
- Treatment report application
- Quality and next steps assessment report application
- Avian inspections report application
- Miscellaneous inspection report application
- Document repository containing line-ahead-span inspection and treatment activity history

Both the desktop and field inspection applications are interactive and give visibility to target dates, line-ahead-span's work status, recent activity notes, and next step progress. The desktop workflow and dashboards create visibility to active assignments and coordinate the execution of work plans based on prioritized target dates. The field inspection applications are designed to function with little to no internet access while work is being performed. Updates between the desktop and field applications are managed when internet connections are strong to avoid the loss of data or interruptions to assigned work. If the timing or communication is urgent then both field and office resources utilize cell or satellite communications options in real-time and the Think Power tools can be synchronized when internet resources are available.

4.11 Dashboard and Workflow Management

Office staff have oversight into annual work plans and upcoming system additions. Utilizing the Think Power database, dashboards, workflow processes, document repositories, and key performance indicators (KPI'S) office staff can track critical activities, target dates, and manage work assignments. The following aspects of work are addressed via the use of the Think Power desktop performance dashboards.

4.11.1 Data Table Management

The use of the Think Power tool begins with the administration of the database data structure. LSPG systems are categorically managed by the following hierarchical protocols:

- Utility Name
- Utility region
- System line segment name
- County
- Line-ahead-span name

For each line-ahead-span additional information is required to establish basic system initialization protocols such as:

- Structure type
- Structure height
- Structure description
- GPS latitude and longitude
- Narrowest line-ahead-span width
- Line-ahead-span length
- Landowner information
- Access information

- Access Restrictions

For each line-ahead-span, the database can then manage the retention of critical activity information related to workflow practices such as:

- Target dates
- Last Inspection dates and notes for
  - Annual inspections
  - Detailed ground inspections
  - Treatment reports & last treatment purchase order number
  - Quality and next steps inspections
  - Landowner communications
  - Access considerations
  - Encroachment status
  - TVMP structure action status

Lastly, a database of common tree species is managed providing key species characteristics such as:

- Common tree name
- Growth rate designation
- Growth height potentials
- Canopy growth potentials in width
- Utility region assignments

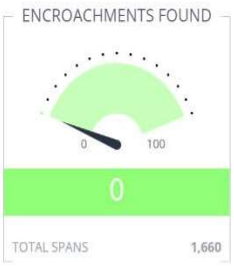
The management of the above data provides the backbone to the visibility and management of the in-scope assets managed in LSPG's TVMP processes. As systems are added or changed, the Think Power tool can be updated to track work at the line-ahead-span level as well as providing a system-wide view of planned work and work progress.

Line-ahead-span data contributes to the understanding of system characteristics that define work effort requirements. On average, a line-ahead-span at LSPG equates to approximately three acres of land. Average travel times to any specific property can vary greatly based on the mobilization point for the various aspects of work that may be required. By looking at both individual line-ahead-span work and collective line-ahead-span work in a geographical region, LSPG can plan efficient groups of work while managing the overall costs. Understanding mobilization requirements, volumes of work (acres, vegetation density, and vegetation size), uniform scopes of work, long-range management goals, and area timelines allows for similar work to be scheduled together and limit costs through efficiencies.

4.11.2 **Key Performance Indicators (KPI), Metrics, and Activity Maps**

LSPG tracks high level performance information to understand daily, weekly, monthly, and annual measures to evaluate TVMP progress and to ensure critical tasks are performed as planned. LSPG also looks at system mapping displays to visualize disparate data points to ensure a comprehensive plan is made as individual site tasks are identified. KPI, metric, and activity map dashboards help bring together various levels of activity occurring across our systems to ensure all aspects of work are being addressed holistically. Some of the key metrics evaluated are annual inspection performance, or how much of our systems still require inspection in a specified calendar term. This information can be

evaluated for all LSPG assets all the way down to a single system by line segment name. Measures such as line miles, line acres, span count, percent of spans inspected, percent of spans with vegetation findings, or spans with encroachments are monitored.



331.3 MILES INSPECTED

296.0 TOTAL MILES

6,293 ACRES INSPECTED

5,609 TOTAL ACRES

1,660 UNIQUE AERIAL INSPECTIONS

1,660 TOTAL SPANS

1,726 TOTAL STRUCTURES

ROW MILES	ROW ACRES	COUNTS
296.0 TOTAL MILES	5,609 TOTAL ACRES	1,660 TOTAL SPANS
331.3 AERIAL MILES INSPECTED	6,293 AERIAL ACRES INSPECTED	1,854 AERIAL INSPECTIONS
5.0 GROUND MILES INSPECTED	92 GROUND ACRES INSPECTED	31 GROUND INSPECTIONS
4.5 MILES TREATED	86 ACRES TREATED	25 TREATMENTS PERFORMED
4.7 POST-TREATMENT MILES INSPECTED	91 POST-TREATMENT ACRES INSPECTED	26 POST TREATMENT INSPECTIONS PERFORMED

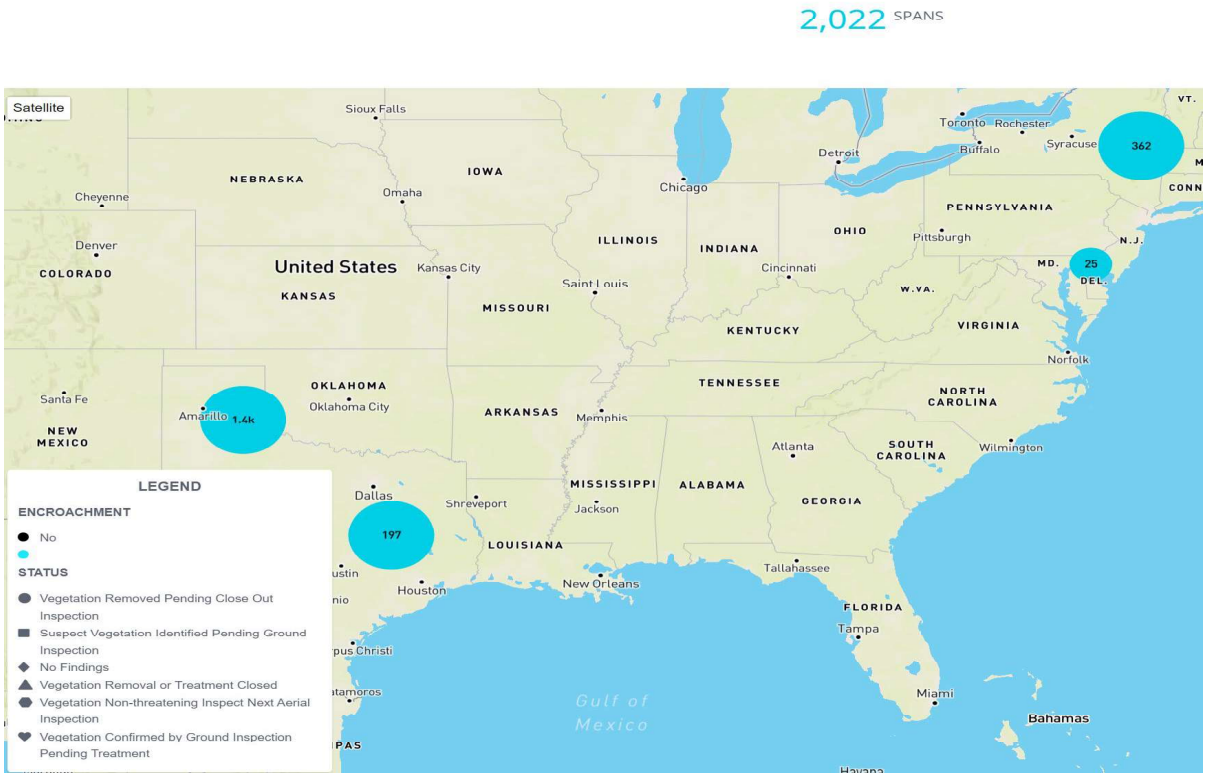
In addition to the metrics dashboards, data tables can be extracted to develop custom reports. Specific details related to the various forms of inspections performed can be designed to address various activities such as:

- Estimating
- Planned too Actual
- Hours Worked
- Equipment Used
- Herbicide type and total gallons
- Herbicide gallons per acre
- Cost per mile/acre
- Line-ahead-span trending

Because specific information is collected and digitized at the time the work is performed, specific performance data can be evaluated over time to understand if planned work is producing the desired results.

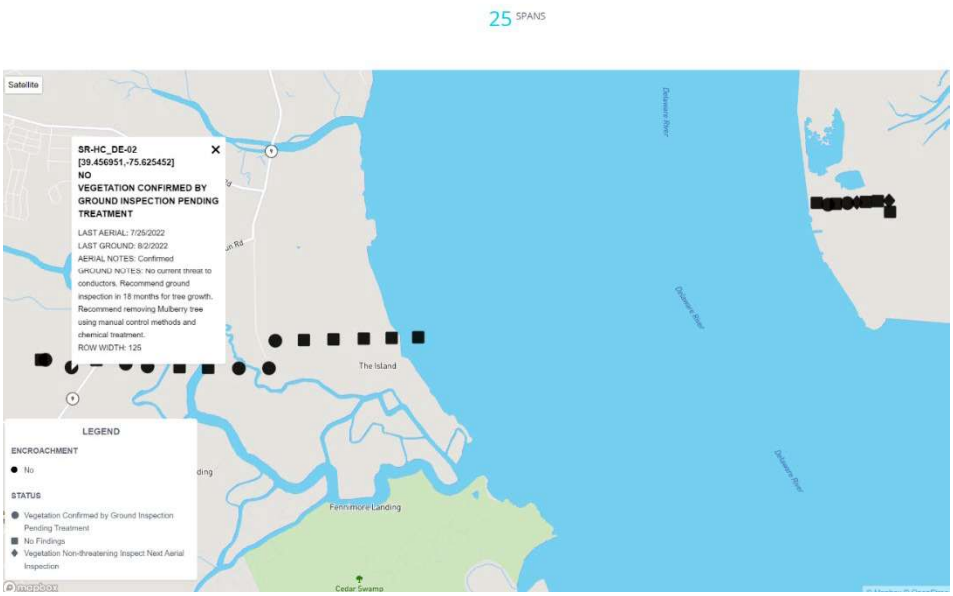
Activity maps provide an overview of LSPG systems locations and commonalities in LSPG's various geographic regions. Users can see the entire LSPG system all the way down to a singular line-ahead-span.

Broad System View

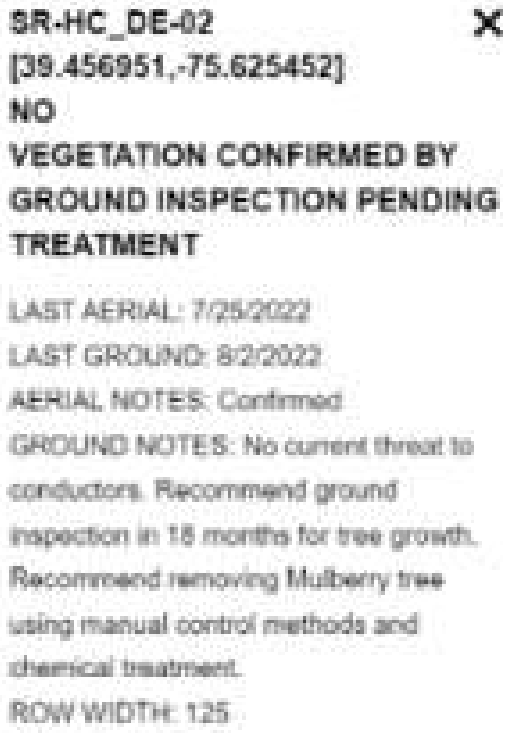


Legend

Line Focus View



Text Box for Individual Structure



4.11.3 **TVMP Workflow Processes**

The TVMP VM workflow processes track reports submitted from field resources (both internally staffed and contracted) so that daily work can be reviewed for conformance to our annual plan and more specifically the target dates and VPR's can be managed in advance of expiration. It is important to note that annual plans consider all projected target dates even if they extend into future plan years. This allows for efficient work planning and budget management. The VM workflow dashboards track the six primary aspects of work in the TVMP processes for all in-scope line-ahead-spans. They are:

- Annual MVCD inspection tracking
- Detailed ground inspection management and review
- Treatment assignments, completion, and target date visibility
- Quality and next step reviews
- Avian reports
- Miscellaneous inspection reports

4.11.4 TVMP Annual MVCD Inspection Review and Next Steps

All LSPG lines and line-ahead-spans will be inspected at least once per year via the Think Power field application. As a line-ahead-span is inspected one of the following options will be selected:

- **No findings –** No reportable MVCD concerns identified
- **Confirm Status –** Currently planned work and target dates will address identified MVCD concerns
- **Priority 1 (VPR 1) –** encroachment "***YES***", **24**-hour detailed ground inspection requirement
- **Priority 2 (VPR 2) –** encroachment "***NO***", **5** to **30** business day detailed ground inspection requirement
- **Priority 3 (VPR 3) –** encroachment "***NO***", **16**-month detailed ground inspection requirement
- **Priority 4 (VPR 4) –** encroachment "***NO***", **36**-month detailed ground inspection requirement

The above action buttons are responses to the following seven line-ahead-span status designations. Each status represents the planned work for the line-ahead-span and creates specific inspection criteria as it relates to the span. These statuses are broken into three color groups in the annual inspection tool in order to bring focus to the inspection requirements so that employees and contractors have an understanding of the inspection/work needs for each span. In addition to line-ahead-span status, inspectors will also see summary notes for the previous annual inspection, previous detailed ground inspection, and previous treatment report. This information provides inspectors with insight into the history, what is planned, and next steps so that inspections can complement each other over time and target dates can be managed to ensure the safety and reliability of our systems. Multiple layers of information come together providing a defense-in-depth protocol during each inspection activity. Presented below are the color grouping concepts and the associated inspection criteria for annual inspections:

Green Color Groups for Line-Ahead-Span Statuses

- **No Findings –** Line-ahead-spans where tall growing vegetation has not been previously identified

These line-ahead-spans normally have strong biological and/or cultural control methods in place and are not subject to significant threats from targeted tall growing plant species. They often fall under ground type classifications like low growing brush, grass lands, active agriculture, marshland, and commercial property. Inspectors can expect to see areas free from tall growing vegetation. In these spans inspectors can select "No Issues" or "Report Vegetation Issue" and assign a VPR. It is important to note that these line-ahead-spans will only be inspected during the annual inspections as no other work is planned for these spans.

Orange Color Groups for Line-Ahead-Span Statuses

- **Suspect Vegetation Identified Pending Ground Inspection –** A line-ahead-span previously identified with VPR pending a detailed ground inspection

- **Vegetation Confirmed by Ground Inspection Pending Treatment –** A line-ahead-span previously inspected that has been designated for vegetation removal/treatment
- **Vegetation Removed Pending Close Out Inspection –** A line-ahead-span where removal/treatment is complete and quality and next step work is expected
- **Vegetation Removal or Treatment Retreat –** A line-ahead-span that failed it's quality inspection and requires additional work

These line-ahead-spans are actively being managed to specific target dates assigned based on a previous detailed ground inspection or treatment. Inspectors are evaluating if the span is progressing in accordance with the predicted activity and if VPR/target date priorities need to escalate. In these spans inspectors will be able to select "Confirm Existing Issue" or "Report Vegetation Issue" and assign an escalated VPR if the current target date has been compromised.

Red Color Groups for Line-Ahead-Span Statuses

- **Vegetation Non-threatening Inspect Next Aerial Inspection –** A line-ahead-span with existing mature tall growing vegetation that has been inspected and deemed not to be a current or foreseeable threat to an overhead conductor based on the growth potential of the vegetation present including the design profile of the conductor including sag and sway.
- **Vegetation Removal or Treatment Closed –** A line-ahead-span where work has been performed in the past, but no current work is planned

These line-ahead-spans should be assessed with extreme care, as known vegetation issues exist and have been carefully evaluated for line clearances greater than fifteen feet. In these spans inspectors will be able to select "Confirm Existing Issue" or "Report Vegetation Issue" and assign a new VPR if new observations are made that conflict with past inspection information.

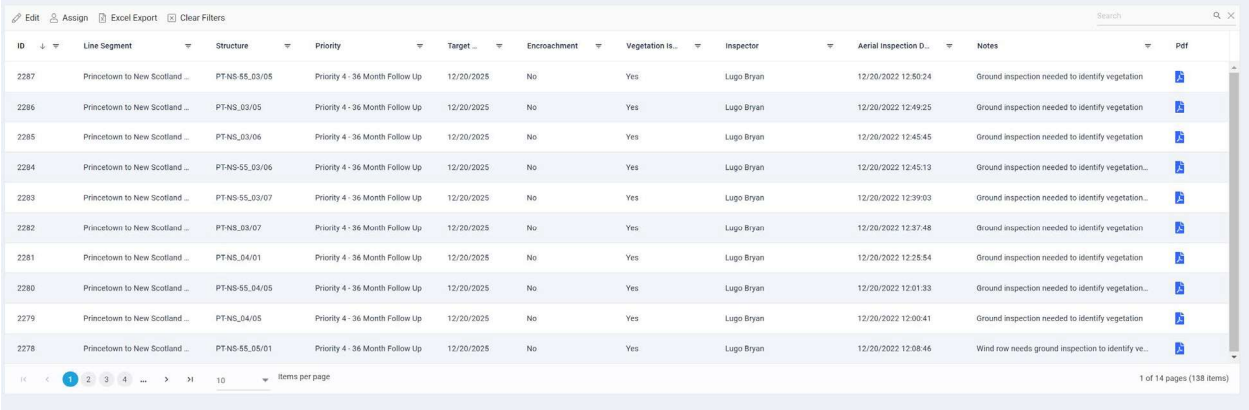
While the annual inspection process will be more fully described later in this document, the above information is displayed by line-ahead-span for all line-ahead-span inspections. Reports are generated for "No Issues" and "Confirm Existing Issue", but those reports will not be evaluated during this workflow process in most cases. In the case of a VPR -1 or VPR -2 the field inspection personnel will also communicate the findings in real-time to the appropriate contacts. In all cases the VPR sets the assigned target date by which each line-ahead-span must receive a detailed ground inspection. In accordance with the assigned target dates, all findings are reviewed for accuracy and next steps and appropriately moved to the next step in the workflow and assigned to a trained inspection resource for a detailed ground inspection before the expiration of the identified target date. Things that may be edited upon review are:

- **Clarifications to inspection notes –** When reviewing notes it is important to make sure the field resource has used language that is understandable as it relates to the photos and commonly understood terms so that next steps can be determined. Office resources may also review past line-ahead-span report activity for perspective.
- **Photos or photo enhancements –** If inspections are performed from the air, then photos taken during this process will need to be attached. Only photos taken at the time of the inspection will be used during this process. It may also be appropriate to edit photos for

clarification as inspection may have been performed at a pace that would not have allowed this during the real-time work.

- **Vegetation Priority Ratings may be escalated –** VPR's can be escalated if further review raises concerns not previously identified. VPR's will never be lowered as the field personnel have set a priority and that priority deserves the immediate attention assigned at the time of the inspection. During the detailed ground inspection, VPR's can be more thoroughly reviewed and updated with the appropriate measuring devices.

Once all findings are reviewed there is an option for each report to be sent back to the inspector for additional information, moved to the next appropriate step based on the assigned VPR, or be closed out based on collaborative reviews with the inspector. Report findings should be reviewed in a timely manner and assignments will be managed based on the assigned VPR and available resources and weather.

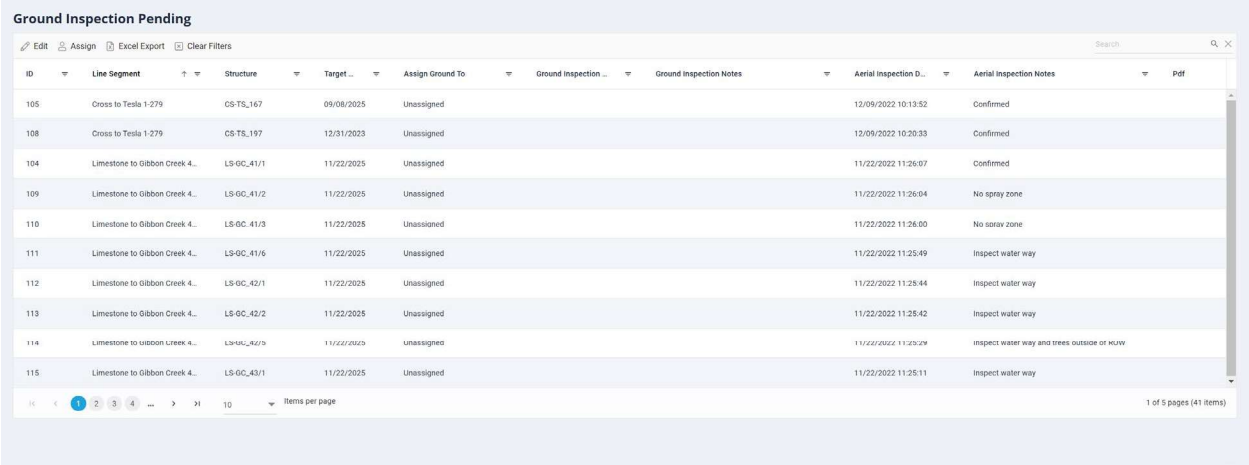


Annual inspection findings can be viewed in order of VPR/target date, by line segment, by structure order, by encroachment designation, by date performed, inspector, or notes. Access to the PDF viewable format is also available from this view.

4.11.5 TVMP Detailed Ground Inspection Review and Next Steps

A line-ahead-span in the status of "Suspect Vegetation Identified Pending Ground Inspection" will appear in the ground inspections pending workflow dashboard. A line-ahead-span in the workflow will have one of three statuses:

- **Unassigned –** no username will be assigned
- **Assigned –** user name is assigned
- **Assigned and Complete –** user name is assigned and ground inspection date and notes are populated



A line-ahead-span can be viewed in this dashboard in order of line segment, structure order, target date, assignment, inspection date, or inspection notes. Dashboard managers will have visibility to a line-ahead-span in their assigned region and will manage detailed ground inspections in accordance to the target dates assigned. Target dates cannot be edited at this point in the workflow and will be managed based on priority of date.

From the workflow dashboard, the following information should be reviewed and updated before assignment:

- **Work Order Reference –** Populate the work order in the work order reference field to ensure field resources have a proper understanding of where they should be tracking their time and expense as it relates to this assignment. Depending on the line segment and regional work areas, work orders may change from one line-ahead-span to the next
- **Landowner Contact Logs –** Ensure that landowner information is present and that contact notes contain any pertinent requirements that the field resource may need to be sensitive to
- **Access Logs –** Ensure that access considerations and restrictions are appropriately addressed so that field resources understand where to access this specific line-ahead-span and what they can expect. These notes may include information related to seasonal access restrictions, seasonal land use considerations (hunting, recreation, agriculture), wet condition and continuous travel restrictions, and/or equipment access restrictions

Dashboard reviewers should consider the following elements of work before assigning inspections:

- **Desired vegetation conditions –** Is it best to perform inspection in leaf-on or leaf-out conditions
- **Weather conditions and safety** – Is weather creating conditions that are not safe or conducive to this planned activity
- **Travel efficiency –** Make assignments to the field resource based on your expected order of travel. These assignments will be displayed in the order they are assigned and can help field resources be efficient in the use of their time

- **Availability of resources including tools –** Are trucks, trailers, UTV's, Drones, and/or inspection tools available to support access and completion of this task

It is best to make these assignments close to the work week the inspections are expected to be performed. This will ensure that assignments are in order and prioritized for field resources and reduces exposure to data loss. Dashboards should be reviewed frequently as various conditions may create new work as other activities are performed. Unassigned line-ahead-span entries are assigned by selecting the line item and selecting the assign icon.

As inspections are performed in the field and submitted with the field application, the following information is updated to the dashboard:

- Inspector Name, Inspection Date, and Inspection Time
- **Current Temperature –** Existing conditions affecting line sag at the time of inspection
- **Landowner Contact Log Notes** – This may include interactions with existing or new landowners if property has changed hands without notice to LSPG
- **Access Log Note –** This may include changes in the condition of the line-ahead-span as it relates to activity and structures
- **Vegetation Types and Evaluations –** This will include detailed ground inspections of the various types and kinds of vegetation found on this specific line-ahead-span and notes and photos related to the field observations
- **Conductor to Vegetation Height Evaluations –** This will identify the most threatening individual or group of vegetation based on current proximity and potential reach to the line. This evaluation will be the baseline for justification for the urgency of treatment or removal
- **Inspection Summary Notes –** This will narrate the condition of the line-ahead-span as found with information and recommendations for next steps or potential treatment activities. Most importantly, it will clearly describe the current target dates' acceptability, or what considerations justify its adjustment as it relates to next steps. Last it may recommend an inspection protocol if the existing vegetation can justifiably remain in place untreated due to system design, topographical features, and/or predictable vegetation characteristics
- **Photos –** Photos can be added at various levels of this document. Photos can help add meaning and understanding to the condition and safety of LSPG's system

When sorting by Inspection date or notes, completed detailed ground inspections will become obvious in the workflow dashboard. With the above information, office resources are responsible for evaluating field inspection information and making plans for next steps. In the case where the field inspection does not sufficiently clarify next steps, the office and field resources will collaborate to clarify report language.

It is acceptable for office resources to reassign the inspection report to the same or different field resource if the information collected is not acceptable. This can be a valuable training exercise for all parties involved. Keep in mind that these reports become evidence for our actions and justify the priority of our annual resources and budgets. This information will lead to the development of a scope of work or justify next steps. The cost to be correct in this initial evaluation will always lead to a better long-range management plan and create a more sustainable system supporting line safety, reliability, land use, and environmental conditions for each line-ahead-span.

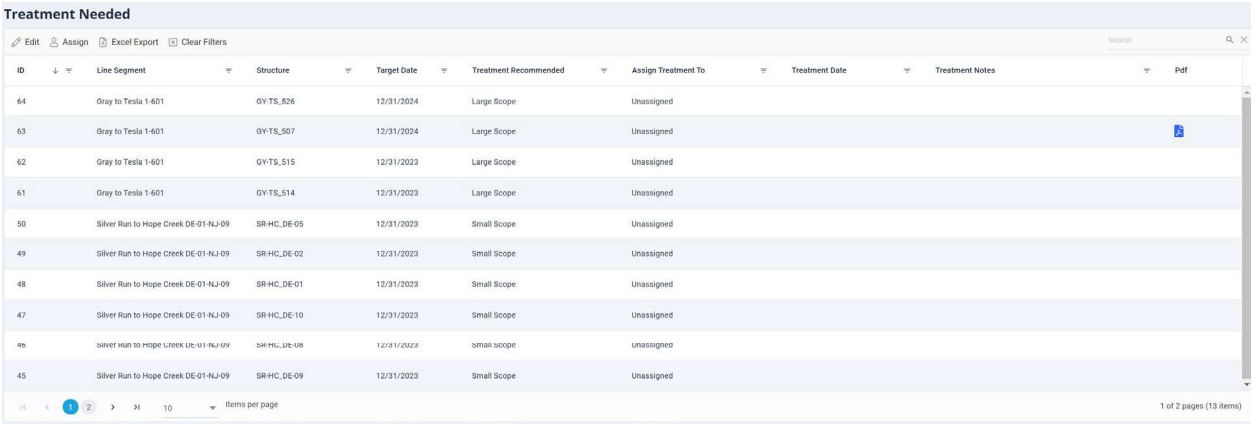
When reviews are complete, and the reported information is understood each line-ahead-span can be moved to one of the following Treatment Recommendations:

- **No Action Required –** Select this option if the detailed ground inspection has determined that the suspect vegetation issue identified does not pose a current or future threat to the line-ahead-span conductor in all sag and sway conditions. This will change the line-ahead-spans status from "Suspect Vegetation Identified Pending Ground Inspection" to "Vegetation Non-threatening Inspect Next Aerial Inspection" and change the target date to the next appropriate annual inspection requirement. Future annual inspections will show this line-ahead-span in a status that brings attention to this inspection finding and continues the management of the vegetation in the span
- **Large Scope Mechanical –** Select this option if the detailed ground inspection recommends removal of the vegetation in this line-ahead-span and there are trees that require heavy mechanical equipment for treatment. A mechanical designation does not eliminate the consideration for the use of herbicides but identifies that more than one method of control is required. This will change the line-ahead-spans status from "Suspect Vegetation Identified Pending Ground Inspection" to "Vegetation Confirmed by Ground Inspection Pending Treatment" and move the record to the next workflow dashboard
- **Small Scope Mechanical –** Select this option if the detailed ground inspection recommends removal of the vegetation in this line-ahead-span and there are trees that require manual ground-based activities for treatment. A mechanical designation does not eliminate the consideration for use of herbicides but identifies that more than one method of control is required. This will change the line-ahead-spans status from "Suspect Vegetation Identified Pending Ground Inspection" to "Vegetation Confirmed by Ground Inspection Pending Treatment" and move the record to the next workflow dashboard
- **Herbicide Application –** Select this option if the detailed ground inspection suggests that the line-ahead-span can be addressed with herbicidal methods and no mechanical methods are required. This will change the line-ahead-spans status from "Suspect Vegetation Identified Pending Ground Inspection" to "Vegetation Confirmed by Ground Inspection Pending Treatment" and move the record to the next workflow dashboard
- **New Detailed Ground Inspection –** In this case no action is required if the target date allows for the new action. If the target date will expire before the next recommended inspection contact the annual work plan manager to update schedules and have the new target date addressed. Simply add notes in the Inspection summary notes area indicating next steps if they do not already exist

It should be noted that detailed ground inspections can be performed and submitted without assignment from the dashboard tool. In this case employees and contractors can respond to field conditions as they identify work near the areas they are assigned. Employees and contractors are encouraged to look at adjacent line segments when working in the field if they believe that similar work exists and would improve the overall system conditions related to vegetation growth and line clearance. Another way to communicate adjacent line-ahead-span work is by noting requirements for multiple spans in the inspection summary notes of the inspection that was assigned.

4.11.6 **TVMP Treatment Report Review and Next Steps**

A line-ahead-span in the status of “Vegetation Confirmed by Ground Inspection Pending Treatment” or “Vegetation Removal or Treatment Retreat” will appear in the treatment needed workflow dashboard. A line-ahead-span in the workflow has one of three statuses:



- **Unassigned –** No username will be assigned
- **Assigned –** Username is assigned
- **Assigned and Complete –** Username is assigned, and treatment inspection date and notes are populated

Much like the detailed ground inspection process, the treatment report template contains landowner and access log information. Like the detailed ground inspection process, these logs should be reviewed to ensure that the information contained addresses the requirements for the planned activities. In addition to these considerations, one additional aspect of data is required to be addressed before a treatment report can be assigned. Every treatment report needs to reference an approved PO# with a vendor name before it is assigned. This will give the field inspection resource access to the scope of work, schedule, and planned vendor contact for each line-ahead-span assigned for treatment. Scope of work, purchase order development, landowner notifications, and scheduling are facilitated outside of the Think Power tool and in advance of treatment report assignments. Office resources should make sure that field resources, contractors, and landowners are aware of PO information in advance of work assignments and manage these assigned tasks in coordination with these efforts. The Think Power tool simply maintains visibility to upcoming and completed work as it relates to managing annual plan and budget activities.

Additionally, the target date for treatment can be updated at this time. Utilizing the notes from the detailed ground inspection, update target date for both the Think Power tool and the annual work plan. As work moves from targeted inspection planning to treatment planning, the annual work plan will need to be updated. With the details collected during the ground inspection work LSPG can better manage treatment activities based on target dates, work classifications, regional needs, and contractor crew capabilities. Line-ahead-spans can be grouped by classification, region, and line segment. They are then assigned to contractors based on budget availability, urgency, and planned work in each

regional location, thus limiting mobilization costs to site. Unplanned findings may be assigned to existing work packages in the same area if target dates allow. Work can be pulled in or pushed out based on the urgency related to maintaining the MVCD's of LSPG systems. The detailed ground inspection will support these changes and are documented in the previous steps.

As treatment activity reports are performed in the field and submitted with the field application, the following information is updated to the dashboard:

- Inspector Name, Treatment Date, and Time of Report
- **Crew Names** – The names of the contractors that performed work or that were present during the duration of the work
- **Landowner Contact Log Notes –** This may include interactions with existing or new landowners if property has changed hands without notice to LSPG
- **Access Log Note –** This may include changes in the condition of the line-ahead-span as it relates to activity, structures and the equipment that may access the property
- **Equipment List –** This will include a summary of the equipment utilized to perform the scope of work. All equipment used to mobilize and perform the work should be listed
- **Herbicide Product –** The label name and/or product mix name and ratio
- **Herbicide Gallons –** The number of gallons applied to the referenced line-ahead-span
- **Herbicide Log –** A description of the applications methods and conditions at the time of application. This should include information related to restrictions or special conditions if they exist. If no herbicide is used that should be stated here
- **Total Crew Hours –** All hours for the duration of the work for the referenced line-ahead-span. This may include mobilization if those hours are applicable to the scope of work and time and material rates
- **Treatment Summary Notes –** This will narrate the condition of the line-ahead-span as found and as left and the activities performed. Were the activities consistent with the planned scope of work
- **Photos –** A photo of as found and as left conditions will be provided. Photos of PTA and herbicide application logs should be included to provide evidence that safety and compliance concerns were addressed in the field. Add photos that can add to the perspective of the work performed or time and access requirements that support the execution of the planned scope of work.

When sorting by report date or notes, completed treatment reports will become obvious in the workflow dashboard. With the above information, office resources are responsible to evaluate field reports as compared to scope of work plans. If questions arise, office staff should communicate with field inspection resources and contractors to reach a resolution.

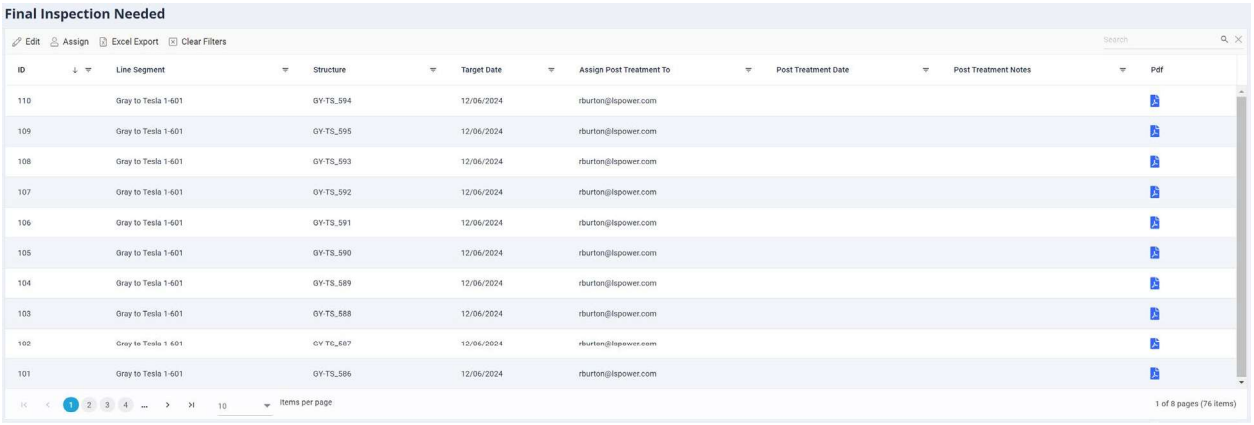
When reviews are complete and the reported information is understood, each line-ahead-span can be moved to the quality and next steps workflow dashboard by assigning the post treatment inspection to a qualified resource. This can be done in accordance with the appropriate timing related to the defined scope of work. This action moves the line-ahead-span record status from "Vegetation Confirmed by Ground Inspection Pending Treatment" to "Vegetation Removed Pending Close Out Inspection" status and to the next workflow dashboard for quality and next steps evaluations.

As mentioned previously, it should be noted that treatment reports can be created and submitted outside of the workflow giving field resources and contractors the ability to report real-time activity outside of the workflow processes. It is best practice to report all treatment activities and treatment reports are required if herbicide is used in some regions and states. If in question, it is best to report your activities via this tool.

4.11.7 TVMP Quality Inspection Review and Next Steps

A line-ahead-span in the status of "Vegetation Removed Pending Close Out Inspection" will appear in the quality inspections and next steps workflow dashboard. A line-ahead-span in the workflow has one of two statuses:

- **Assigned –** Username is assigned
- **Assigned and Complete –** Username is assigned, and quality next steps inspection date and notes are populated



These entries are already assigned when they appear in this dashboard and all associated information is contained from the previous review.

As quality and next steps assessments are performed in the field and submitted with the field application the following information is updated to the dashboard:

- Inspector Name, Quality and Next Steps Date, and Time of Report
- **Landowner Contact Log Notes –** This may include interactions with existing or new landowners if property has changed hands without notice to LSPG
- **Access Log Note –** This may include changes in the condition of the line-ahead-span as it relates to activity and structures and the equipment that accesses the property
- **Quality and Next Steps Summary Notes** – Review basic notes related to a field inspectors' acceptance or rejection of the treatment work performed. Notes for rejection should prescribe a specific defect and recommendation for correction and the target date required for treatment. Summary notes should also include recommendations for next steps so that the progress from applied control methods to natural control methods is fostered and the density of tall growing vegetation species is managed to a declining long-range result.

- **Photos** – Photo evidence should support the findings and clearly represent the progress or shortcomings of the previous work.

Quality and next steps inspection reports will not be closed out until the following report rudiments are complete:

- **Invoice # –** All associated invoice numbers are referenced for work performed on the noted PO
- **Treatment Cost –** A total estimated cost for the specific line-ahead-span segment is entered. This can be done by either a direct time and materials calculation for the span or a cost per acre/mile distribution calculated for the entire PO.

In the case the work is self-performed by LSPG internal resources then a simple note of self-performance is acceptable for the invoice and cost entries. One of three options can be selected in the close out of a quality and next steps inspection:

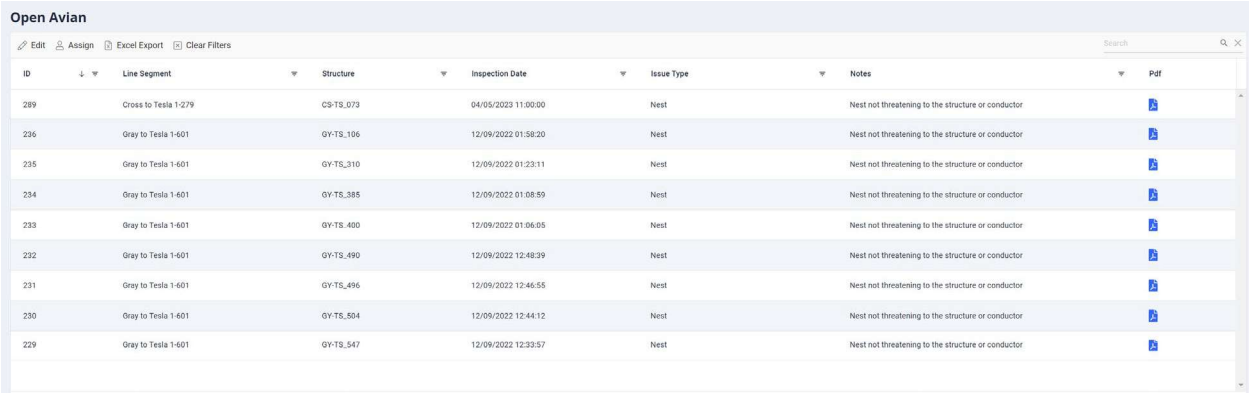
- **Treatment Accepted "No" no Next Steps –** The treatment scope or execution did **not** achieve the desired results and additional work is needed. With this option selected the line-ahead-span status will change to "Vegetation Removal or Treatment Retreat" and move back to the Treatment Needed workflow dashboard. The new treatment record for this line-ahead-span will display the quality assessment notes giving directions on a course forward for both the required activity and timeline.
- **Treatment Accepted "Yes" Next Steps Required –** The line-ahead-span is under control and planned work was successful. With this option selected the line-ahead-span status will change to "Vegetation Removal or Treatment Closed". Because next steps are required some manual efforts are required to set up the next planned activity for this line-ahead-span. The best course of action is a manual entry for the next inspection or treatment activity and some updates to the line-ahead-span status. Contact the Think Power administrator to facilitate this activity.
- **Treatment Accepted "Yes" no Next Steps –** The line-ahead-span is under control with foreseeable annual work plans and the last treatment achieved its intended long–range result. With this option selected the line-ahead-span status will change to "Vegetation Removal or Treatment Closed" and become red in future annual inspections.

At this point each line-ahead-span continues to be managed in the workflow so that the required work can be included in future annual plans and budget activities. This approach will assist in the transition from the use of mechanical, manual, and herbicidal treatment methods (applied) to the existing biological, and cultural (natural) control methods that exist naturally in plant communities and continue to reduce the costs to improve the environment for all land users. The end goal for all line-ahead-spans is that natural control methods become primary drivers in the management/elimination of tall growing vegetation. LSPG hopes that over time a very low volume targeted herbicidal or manual removal process can then be utilized to address seedling growth with annual inspection and treatment activities for each line-ahead-span.

4.11.8 TVMP Avian Inspection Review and Next Steps

Avian issues such as nests and dead bird reporting can be reported from the field with the Think Power LOGS tool with the avian inspection application. While we will not discuss reporting or resolution

requirements in this document, additional information can be found for each state in which LSPG operates from the environmental training documents. Reported issues can be located in the VM workflow dashboard under open avian issues. This information should be consulted when planning work on a line-ahead-span in collaboration with LSPG's environmental team.



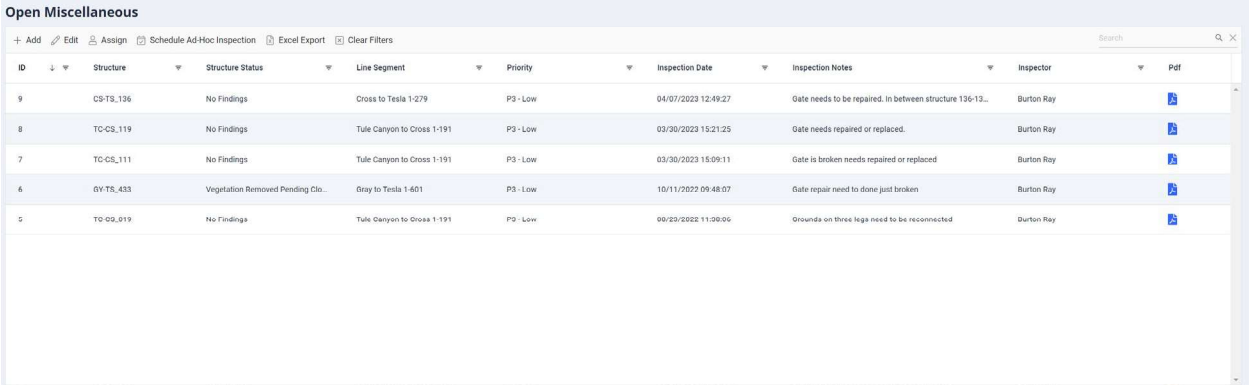
ID	Line Segment	Structure	Inspection Date	Issue Type	Notes	Pdf
289	Cross to Tesla 1-279	CS-TS_073	04/05/2023 11:00:00	Nest	Nest not threatening to the structure or conductor	
236	Gray to Tesla 1-601	GY-TS_106	12/09/2022 01:58:20	Nest	Nest not threatening to the structure or conductor	
235	Gray to Tesla 1-601	GY-TS_310	12/09/2022 01:23:11	Nest	Nest not threatening to the structure or conductor	
234	Gray to Tesla 1-601	GY-TS_385	12/09/2022 01:08:59	Nest	Nest not threatening to the structure or conductor	
233	Gray to Tesla 1-601	GY-TS_400	12/09/2022 01:06:05	Nest	Nest not threatening to the structure or conductor	
232	Gray to Tesla 1-601	GY-TS_490	12/09/2022 12:48:39	Nest	Nest not threatening to the structure or conductor	
231	Gray to Tesla 1-601	GY-TS_496	12/09/2022 12:46:55	Nest	Nest not threatening to the structure or conductor	
230	Gray to Tesla 1-601	GY-TS_504	12/09/2022 12:44:12	Nest	Nest not threatening to the structure or conductor	
229	Gray to Tesla 1-601	GY-TS_547	12/09/2022 12:33:57	Nest	Nest not threatening to the structure or conductor	

4.11.9 **TVMP Miscellaneous Inspection Review and Next Steps**

Non-Vegetation related issues can be reported by employees and contractors from the field with the Think Power LOGS tool with the miscellaneous inspection notes applications. These reports can help field resources notify LSPG of concerns that are identified as they are working near LSPG transmission assets. The reports will include the following information:

- The structure number closest to the issue
- The Inspectors name
- Inspection date and time
- **Priority 1-High –** May required an immediate outage or attention
- **Priority 2-Medium –** Should be evaluated for next steps
- **Priority 3-Low –** Creates visibility so the issue can be tracked or receive attention for resolution
- **Summary Notes –** Narrates the field personnel's concerns
- **Photos –** Provide additional perspective to the concern

These reports can be viewed from the Think Power structure inspection workflow dashboard and reviewed for advancement to the appropriate department that can address the identified concern. This tool is designed for field resources to report issues outside of their scope of work and may include vegetation issues if reported from other organizations. Vegetation issues reported will be transitioned to the Think Power tool VM workflow dashboard and addressed based on the priority assigned and MVCD evaluation.



4.11.10 **TVMP Document Repository and History**

All activity created by the following report types are kept as PDF formatted reports for history in the Think Power tool Docs repository.

- Annual Inspections by line-ahead-span
- Detailed ground inspections by line-ahead-span
- Treatment reports by line-ahead-span
- Quality and next step inspections by line-ahead-span
- Avian inspections by line-ahead-span
- Miscellaneous inspections by line-ahead-span
- Pre-Task Analysis (PTA) reports by date and crew

These reports are retained to support LSPG employee and contractor understanding of the history of each line-ahead-span and can be used to evaluate progress towards targeted results or to track tree growth characteristics for future evaluation. These reports are organized by state, region, line segment, line-ahead-span, and date. They are eventually moved to the LaserFiche archiving database for long-range management and reference. These documents should be retained for the life of the assets as they provide information that can help determine success for the line-ahead-span for the duration of its useful life. Much of the information from the PDF versions of this report is retained in the Think Power tool database, but these documents are representative of the overall activity and should be used to reference this information.

4.12 **TVMP Field Applications and Reporting**

As discussed, Think Power Solutions with LSPG has developed a collaborative dashboard/workflow desktop management tool along with a field applications (hand-held device driven) management software to track transmission ROW vegetation activities. In this section, focus will be given to the tablet applications or field use application side of the software. This hand-held device field application gives LSPG employees and contractors the ability to track their activities in real time and report on work as it is completed or as questions arise. The field application functions in the field without the need for a consistent internet connection. Employees and contractors can send and receive updates from their field tablets as internet is available throughout the day. It is always a good idea to use the starting and ending points of each day to update the field applications so that employees and contractors have access to the latest assignments and most recent data. In the case of emergency circumstances, the field application

tool is not intended for use as a real-time communication tool. Other devices are available for these types of communications. The field tool is intended to be used to track activity or report on progress for all field work including emergency related activities. Utilized in concert with other field tools and resources the Think Power field applications can bridge the gap of reporting the various types activities performed in the field that require additional evaluation for closeout in the office. The use of the think power dashboards and field application tools becomes critical to the execution of the daily tasks that make up the annual plans and budgets for each year.

This section will discuss the following aspects of the field execution of the annual work plans and budget:

- Annual line inspection requirements
- Detailed ground inspection requirements
- Scope of work and treatment development
- Tree removal/treatment report requirements
- Constrained work management requirements
- Quality management and next steps assessments
- Imminent threat resolution

The above activities address most of the work priorities directly related to the vegetation related responsibilities in LSPG's TVMP processes.

4.13 **TVMP Annual Inspection Requirements**

All LSPG line segments as defined in the TVMP Policy LSPG-TVMPLCY-FAC003 will be inspected as stated in section 4.7 Annual Work Planning. These inspections can be recorded utilizing one of two field applications designed for this work. The aerial inspection application and LOGS aerial structure inspection application are field inspection reporting tools designed to collect and initiate line-ahead-span inspection findings and create prioritized requirements for next steps as it relates to the VPR's assigned and the MVCD evaluations identified during this work. As discussed in section 4.11.4 of this document, TVMP Annual MVCD Inspection Review and Next Steps; these tools give LSPG field resources visibility to historic information related to each line-ahead-span and collects one of three responses to assign a VPR to its existing line status. Inspectors have information at each line-ahead-span and are trained to assess vegetation for the MVCD of overhead conductors. Inspectors determine if the current work plan will address the MVCD requirements or if a new VPR is required to ensure the safety and reliability of the system. Follow the instructions in this section to perform this work at each line-ahead-span and report your findings for next steps. It is important to refresh your tablets before each workday begins and as each workday ends, so field and office resources have visibility to the most recent information available.

Things that should be considered during these inspections include but are not limited to:

- Vegetation height assessment in wire-zones, border-zones, and fall-in risks outside of ROW easement limits
- Health assessments for vegetation outside of ROW easement limits
- Conductor clearance assessment including possible sag and sway characteristics as it relates to MVCD

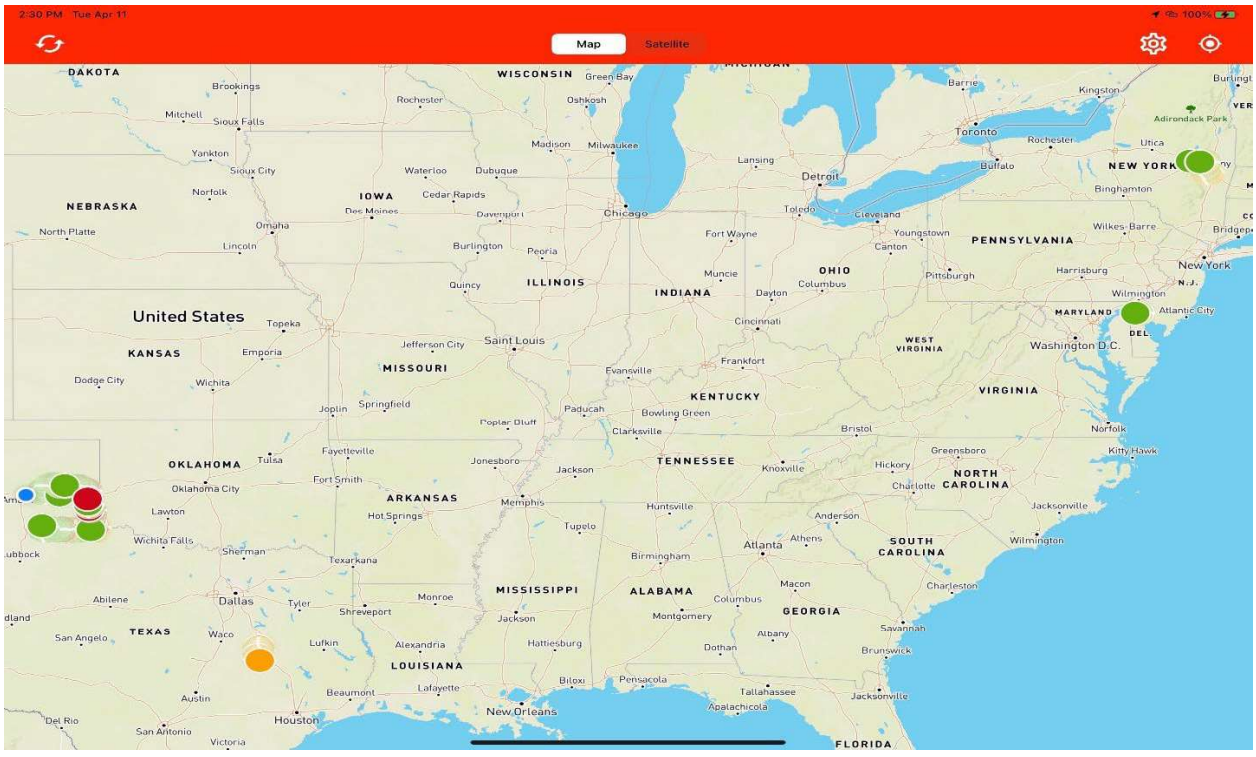
- Real-time and predictable vegetation growth and movement; including fall-in, as it pertains to current and future conductor clearances

Field resources performing these inspections will have training that supports these responsibilities and be proficient in MVCD and fall-in assessments. These inspections are not intended to be the final determination of the line-ahead-span's MVCD clearance. In some cases, the inspection format does not allow for detailed measurement. Inspectors should assign VPR's that recognize their limited ability to evaluate MVCD and ensure that the priority assigned is urgent enough to address line safety and reliability. Inspectors should use all available tools during inspections to ensure the proper information is collected to report the observed line clearance. MVCD clearance issues identified during this inspection will lead to next steps based on the priority assigned. All annual inspection findings will be evaluated for next steps.

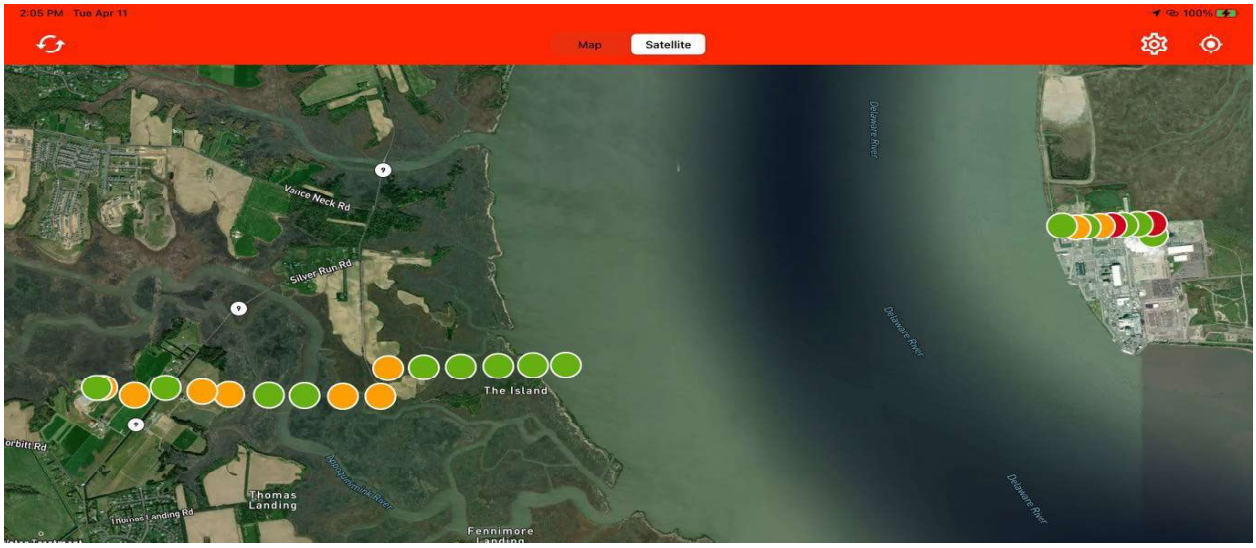
4.13.1 **TVMP Aerial Inspection Application**

The aerial inspection application was designed to be utilized from a helicopter inspection environment but can be utilized for all types of inspection travel platforms. This tool is a map-based platform that shows our transmission lines geospatially by structure so that each line-ahead-span can be evaluated for the MVCD considering sag, sway, and vegetation movement. This tool will work with or without a reliable internet connection. With internet connection, the user's location is tracked on the map with a blue dot in relation to the structures and has live google earth mapping features. Without an internet connection this tool may still track your location but will not have access to the live google mapping features.

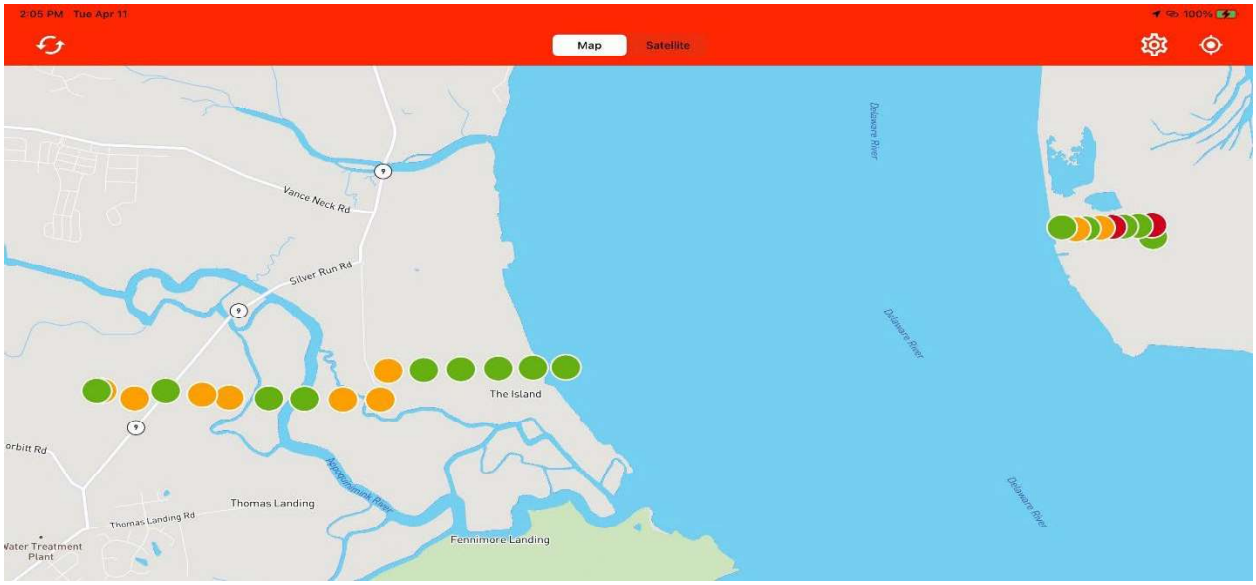
Entire System Map Without/Internet (blue dot = my location)



With/Internet Connection Zoomed to individual Line

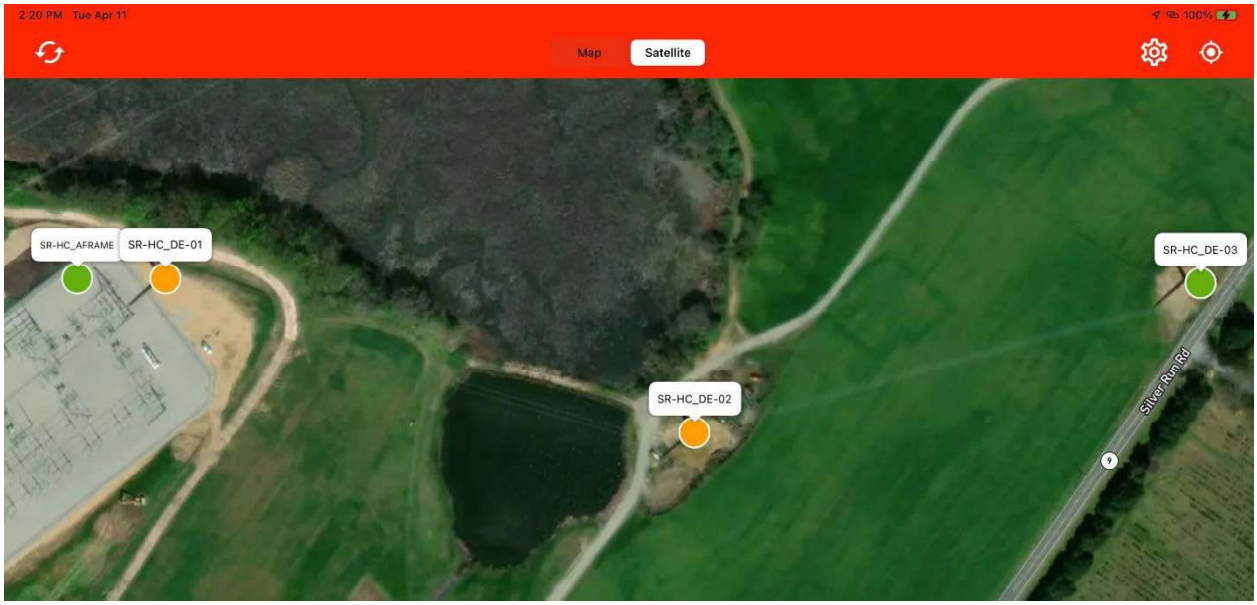


Without/internet connection Zoomed to individual Line

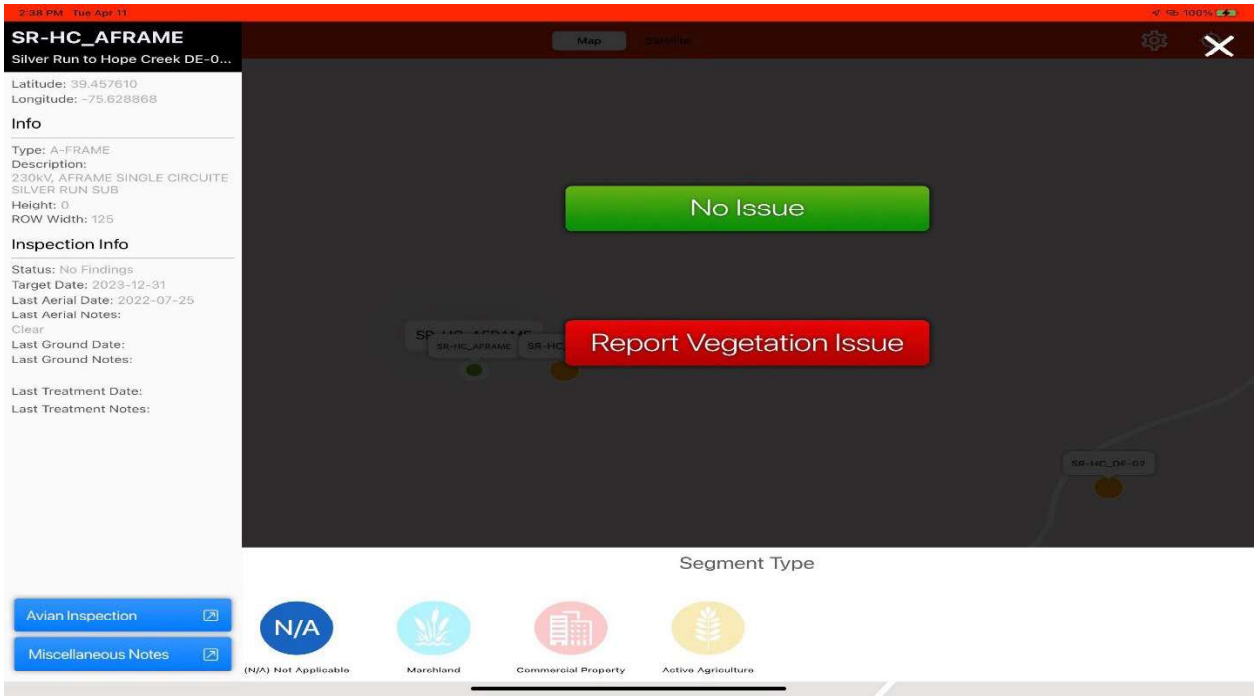


Each colored structure is a button and as discussed shows the various categories of findings that exist on each line (green, orange, red). As a user zooms to the structure naming view, they can follow the line as it is traveled and select each structure to report the current VPR for each line-ahead-span.

Zoomed Structure View with/Internet Connection (upload button = round arrows)



Green structure button view



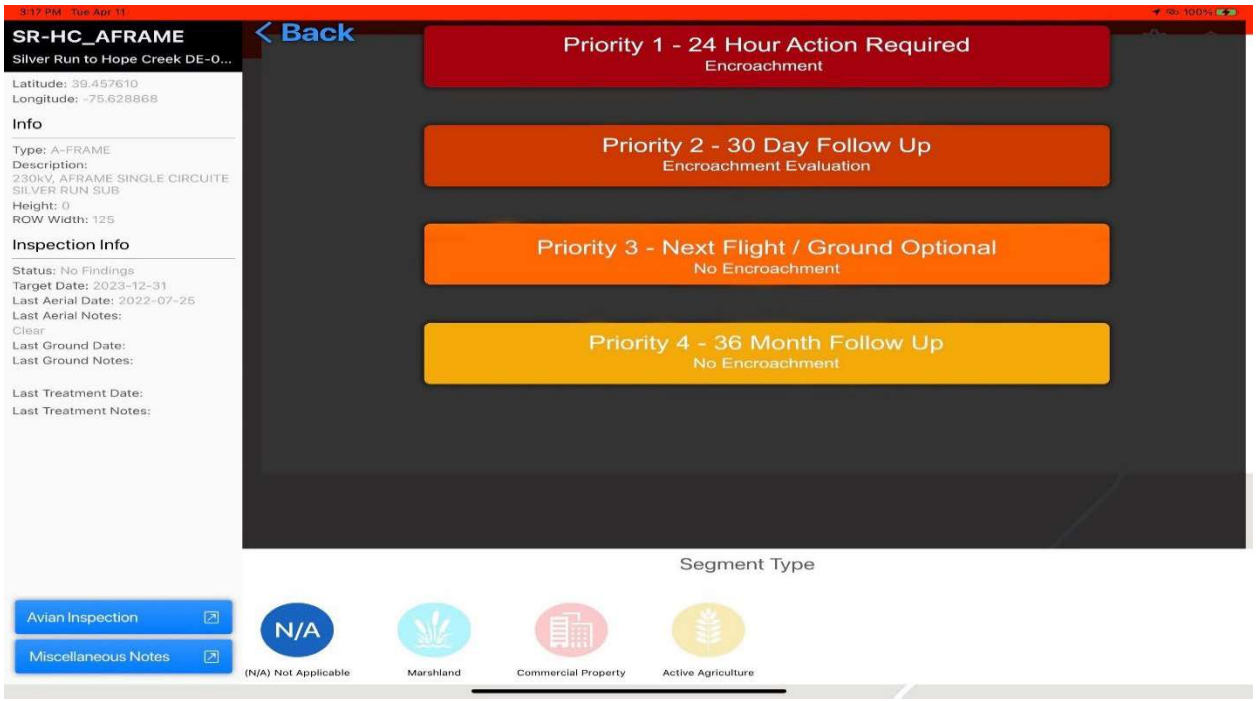
When selecting GREEN structure buttons the following five options will be available:

- **Segment/Ground Type –** This option should be populated but may be updated if something has changed. Use the following guidelines to classify each span. It is understood that each line-ahead-span can have multiple Segment Type classifications. This classification represents the most sensitive land access designation for the entire span. This can help field and office personnel understand land use and land access as it pertains to the most sensitive types of ground cover in the entire span. There is no right or wrong answer as this data is not critical to the overall TVMP processes at LSPG. It simply helps compile data that can be used at a high level to understand line segment tree densities and land use.
    - **N/A –** This classification is used for any line-ahead-span with threatening vegetation types or features that may cause this threat. Outside of vegetation it can be used to identify spans with roads, railroads, rivers, structures, etc. This classification gives visibility to areas where known threats exist that require additional attention.
    - **Marshland –** This classification indicates that wetlands exist and prevent the types of vegetation that can threaten an overhead conductor. This classification communicates that cultural and biological controls are in place that assist with vegetation management efforts. No vegetation issues exist in this span.
    - **Commercial Property –** This classification indicates that the property is developed and occupied, and that access may be subject to security protocol. This classification communicates that cultural and biological controls are in place that assist with vegetation management efforts. No vegetation issues exist in this span.
    - **Active Agriculture –** This classification indicates that the property contains agricultural activity and is sensitive to disturbance. This classification communicates that cultural and biological controls are in place that assist with vegetation management efforts. No vegetation issues exist in this span.
    - **Low Growing Brush –** This classification indicates that the vegetation in and around this property is low growing in this region and that line heights exceed threats from grow-in and fire intensity issues. This classification communicates that cultural and biological controls are in place that assist with vegetation management efforts. No vegetation issues exist in this span.
    - **Grass Land –** This classification indicates that the property is utilized mainly for grazing and grass is the desired plant community. This classification communicates that cultural and biological controls are in place that assist with vegetation management efforts. No vegetation issues exist in this span.
- **No Issue –** The span has no vegetation issues on or off ROW for the entire span of conductor including sag, sway, and vegetation movement.
- **Report Vegetation Issue –** Suspect vegetation is visible, and a follow up inspection is recommended. Additional instructions for this selection will be addressed later in this document.
- **Avian Inspection –** This button will move the inspector to the avian inspection report and can be used to report various bird related concerns including nesting, dead birds, and/or bird activities/damage. Additional instructions for this tool will be addressed later in this document.
- **Miscellaneous Notes –** This button will move the inspector to the miscellaneous inspection report and allow inspectors to report non-vegetation related findings about the structure or line-ahead-span conductor or ROW. This allows inspectors to create visibility to issues outside of their expertise and communicate the need for follow up to LSPG. Additional instructions for this tool will be addressed later in this document.

When a “segment type” is confirmed or selected and the “No Issues” button is selected the report will log the inspector’s name, date and time, and the structure button will change to blue indicating the inspection is complete, helping the inspector keep track of their progress.

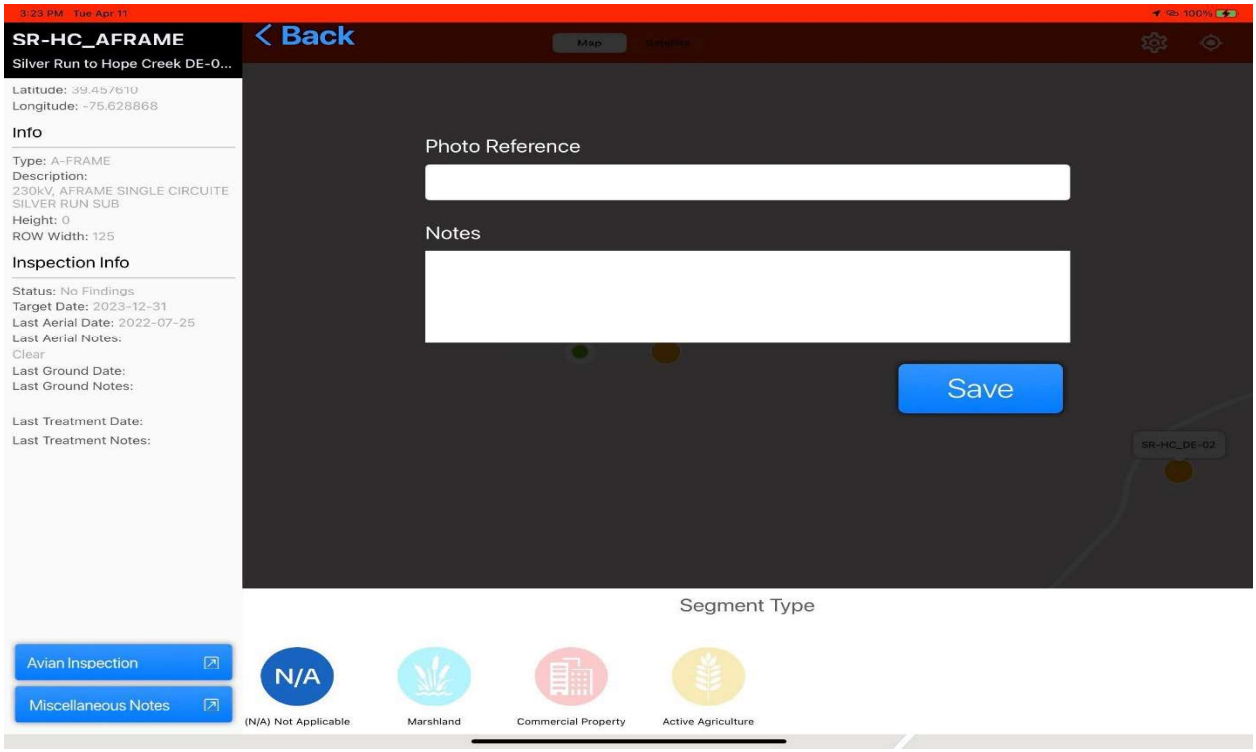
“Report Vegetation Issue” is selected when inspectors identify vegetation that appears to pose a potential threat to the overhead conductor in a line-ahead-span including sag, sway, vegetation movement, vegetation growth, and vegetation failure. Threats will be evaluated for all vegetation both inside and outside of the ROW easement boundaries. Keep in mind that danger trees (refer to the danger tree hazard tree information previously discussed in this document will not be reported unless the danger tree exhibits signs of defect or is considered a hazard tree.

If “Report Vegetation Issue” is selected the following screen will appear and the inspector will be asked to select from four VPR options.



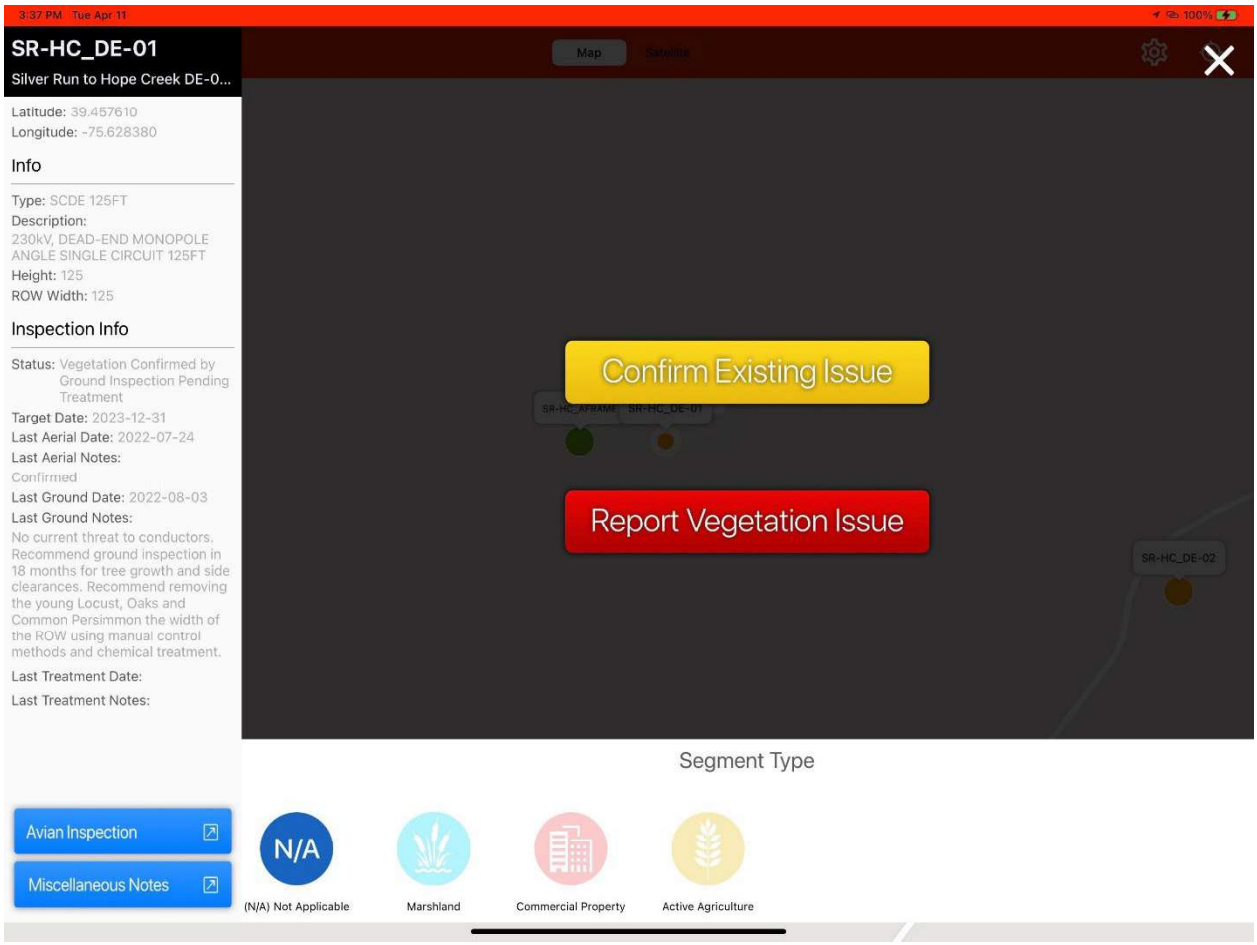
Inspectors will select the appropriate VPR as it relates to assessed MVCD as described in 4.4 Encroachment Threat Evaluations and Vegetation Priority Rating (VPR) of the TVMP Policy #LSPG-POL-FAC003. Follow the imminent threat protocol in section 6.1 of this document for VPR’s one and two.

Selecting one of the four above VPR's will take the inspector to the following screen.



As mentioned previously, this tool is designed for aerial use and photographic evidence may be captured with a separate device. In the photo reference field enter the information that will help identify the photos that belong to this report so they can be attached later. Enter notes that help describe the recommended follow-up activities needed to address the assigned VPR. Select save when all notes are complete. Selecting save will turn the structure button blue indicating the inspection is complete, assisting inspectors in keeping track of their progress inspecting each line-ahead-span. Repeat this process for all inspections performed each day. At the end of each day submit your inspection findings by selecting the upload button from the main screen. This will reset the data and update the tablet and desktop databases.

For **ORANGE** and **RED** structure buttons, the same five options will be available. Only one option will be different for these colored statuses. The “No Issue” button will be replaced by a “Confirm Existing Issue” button.



Confirming the existing issue means that inspectors understand the current line-ahead-span status, existing target date, and last inspection notes and agree that the planned activity for this span is sufficient to maintain MVCD including conductor sag, sway, and vegetation movement. Selecting this button will close the report and collect the inspector’s name, the date, and inspection time this action was performed. This structure button will turn blue indicating the inspection is complete assisting inspectors in keeping track of their progress inspecting each line-ahead-span. As daily field activities are uploaded, the progress for each line segment is updated in the Think Power dashboards and visibility to the inspection data becomes available for next steps and annual plan updates.

4.13.2 TVMP Aerial Structure Inspection LOGS Application

The LOGS inspection application compliments the aerial inspection application when inspectors are facilitating annual inspections from the ground. It allows inspectors to attach photos from the field when a VPR is assigned to a line-ahead-span. It is recommended that inspectors use the aerial version of the tool for all "No Issue" and "Confirm Existing Issue" selections, but transition to the LOGS tool so that photos can be attached in real time from the field. This will leave gaps (non-blue) in your aerial tool progress, but this should be manageable and more effective from a reporting standpoint. The information format is not the same, but the information requirements are the same when using the LOGS applications format, so inspectors are encouraged to review the information in the aerial tool before they move to the LOGS platform. LOGS forms can be submitted each day as work is completed when internet access is available.

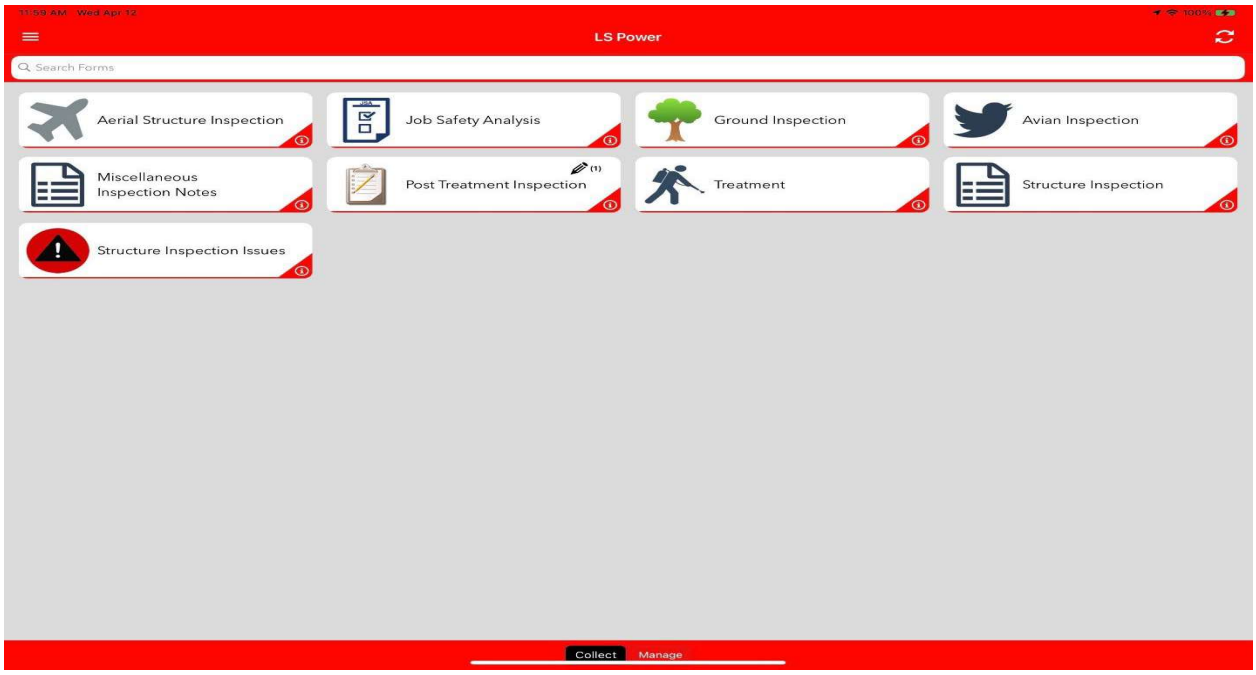
4.13.3 TVMP Unplanned/Unassigned Annual Inspection Reports

Under any circumstance, the annual inspection field reporting tool can be utilized to communicate a vegetation related concern from the field. If employees or contractors identify a concern and have access to the Think Power field application, they can submit an inspection with the associated VPR to initiate the process to address their concern. Field resources that have a concern can open the aerial inspection application and select the structure associated with the line-ahead-span to review it's current status and next planned steps for any given span. If they feel the planned activity does not address a site's current needs, then a new annual inspection report should be submitted with a VPR that addresses the observed threat. This will initiate the appropriate action for next steps. If field resources do not have access to the Think Power tool, contact an LSPG resource that can enter the concern and collaborate with them until the concern is documented or resolved. For VPR's one and two follow the imminent threat protocols in section 6.1 in this document.

4.14 TVMP LOGS Inspection Applications

The LOGS inspection applications toolbox in the Think Power platform contains the forms utilized to facilitate the following field inspection activities.

- **TVMP Annual Inspection Requirements –** See section 4.13
- **TVMP Detailed Ground Inspection Requirements –** See section 4.15
- **TVMP Tree Removal/Treatment Report –** See section 4.17
- **TVMP Quality Management and Next Steps Assessments –** See section 4.18
- **TVMP Avian Inspections –** See section 4.19
- **TVMP Miscellaneous Inspection Notes –** See section 4.20
- **Daily Pre-Task Analysis (PTA) –** See section 6.2
- **Structure Inspection –** Included in the LOGS tool platform but not relevant to this document
- **Structure Inspection Issues –** Included in the LOGS tool platform but not relevant to this document



The LOGS application toolbox can be loaded on any IOS compatible device. LSPG is currently utilizing iPad (model A2378) to facilitate work in the field (models may change as technology advances). Users can navigate the screen via touch screen or with a Bluetooth stylus. Users should make it a point to refresh this platform each day before work begins and before work ends. All the above functions will be available with or without internet connectivity. Photo uploads require a strong internet connection. As field resources are assigned inspections for an individual line-ahead-span, a number in parentheses will appear so users know they have work. Users will also receive a notice on their tablet that new tasks have been assigned.

4.15 **TVMP Detailed Ground Inspection Requirements**

A detailed ground inspection is assigned/performed when questionable vegetation is identified by one of the following occurrences.

- VPR assigned during an annual inspection
- Landowner notification
- Notifications from public observers, LSPG employees, and/or contractors working on other non-vegetation related scopes
- Post storm evaluations
- Vegetation conditions are observed in real-time in the field

The detailed ground inspection criteria apply to a line-ahead-span and evaluates the following attributes of the span:

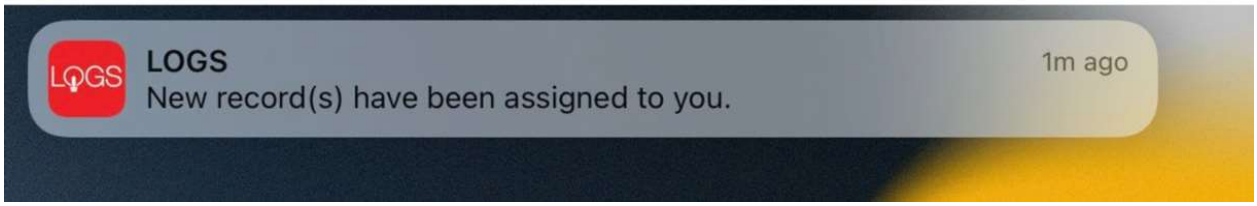
- Landownership, land use, and legal easement allowances and restrictions
- Site access, shared land use, site characteristics that create issues with activity on the span, site access restrictions that may limit access by date or by type of equipment or herbicide

- Vegetation species and growth characteristics including potential heights and potential growth rates
- MVCD of all conductors including sag, sway, and vegetation movement including failure (fall-in from outside of ROW easement boundaries and clearing limits)
- Next steps evaluations and recommendations including forecasted target dates for action
- Helpful photos supporting inspection notes and findings

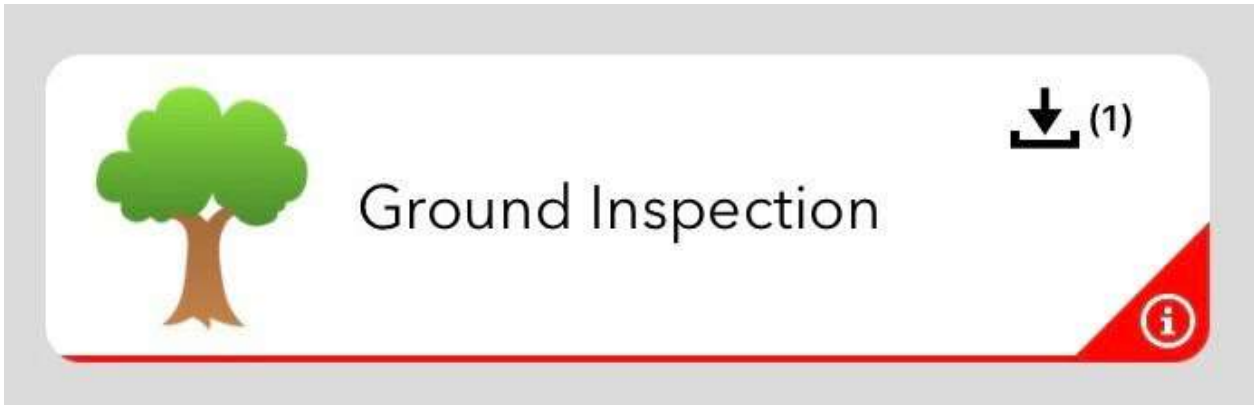
LSPG employees and contractors facilitating these inspections will be familiar with and trained on the following information to perform these inspections:

- Safety awareness training including
  - Use of daily Pre-Task Analysis (PTA) practices
  - Safe driving on and off road
  - Safe use of tools and PPE
  - ROW Situational awareness
- Landowner considerations including
  - Landowner communication and escalation
  - Access to landowner easement documents
  - Gate protocol
- Land access considerations including
  - State requirements for environmental considerations
  - Proper access from off ROW
  - Identification of access concerns and restrictions
- ROW characteristics including
  - Wire Zone Border Zone
  - Easement boundary vs. clearing limits
  - Off ROW inspection requirements
- Vegetation identification and assessment techniques including
  - Species ID and growth characteristics
  - Sapling vs. mature tree threat assessments
  - Compatible vegetation
  - Danger tree and Hazard tree identification
  - IVM strategies and desired long-range results
  - Wildfire considerations
- MVCD requirements including
  - The use of laser measurement devices to estimate vegetation and conductor heights and clearances
  - Understanding of VPR's and real-time vs. potential encroachments including sag, sway, vegetation movement, and vegetation failure
- Next steps assessments for
  - Large scope mechanical work
  - Small scope mechanical work
  - Commonly used herbicide applications
  - Predicting growth and setting target dates for removal of vegetation
  - Justification for additional inspections or no further action required
- Avian considerations
- Notifications for non-vegetation related concerns or miscellaneous Inspections
- Imminent threat identification and reporting

LSPG employees and contractors receiving the above training will be assigned a specific line-ahead-span that requires inspection. A notice will be received on the assigned inspector's field tablet as follows:

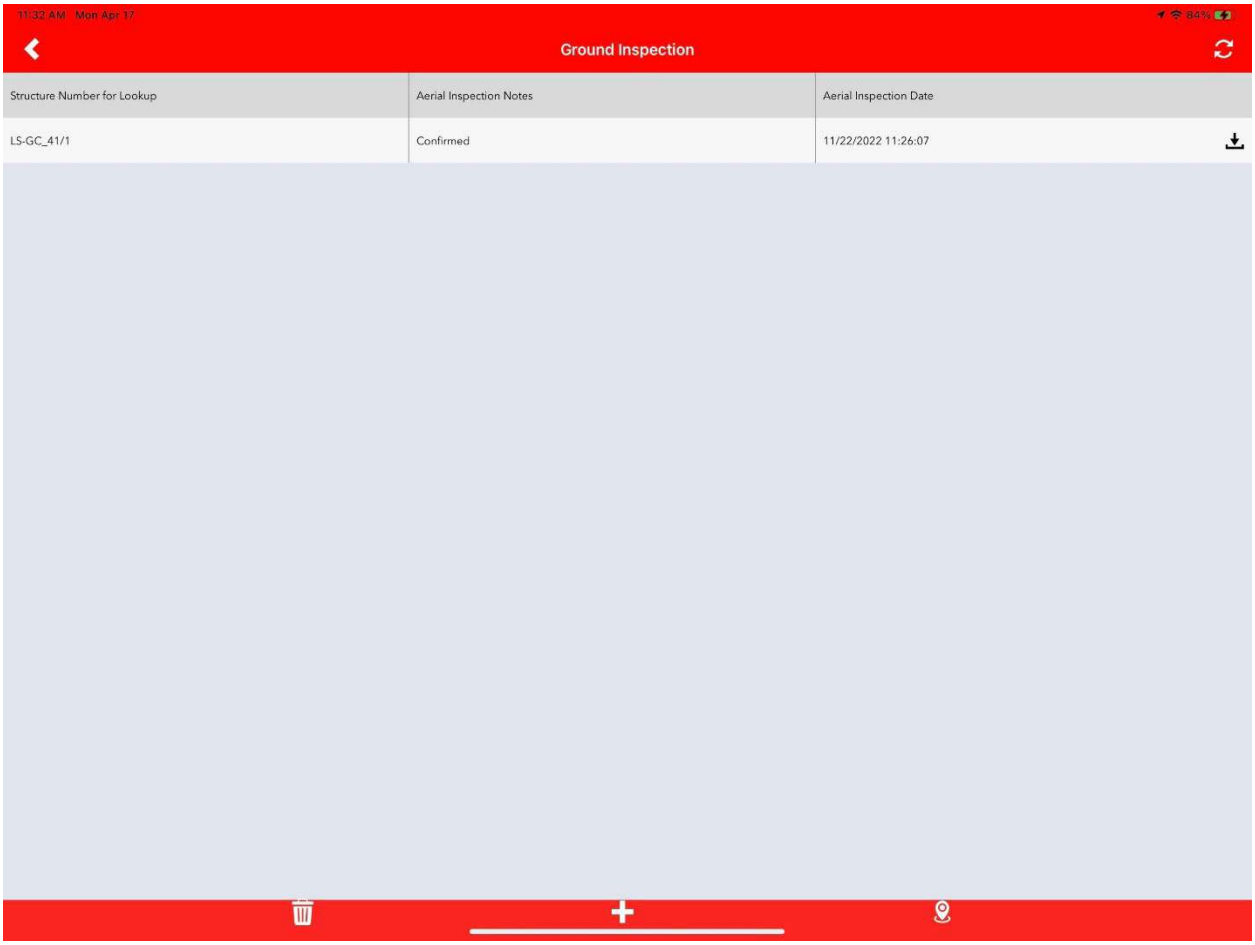


When these notices are received users can refresh their tablets to download the new assignment and the assigned task will be displayed in the LOGS application selection dashboard as a number in parentheses as depicted below.



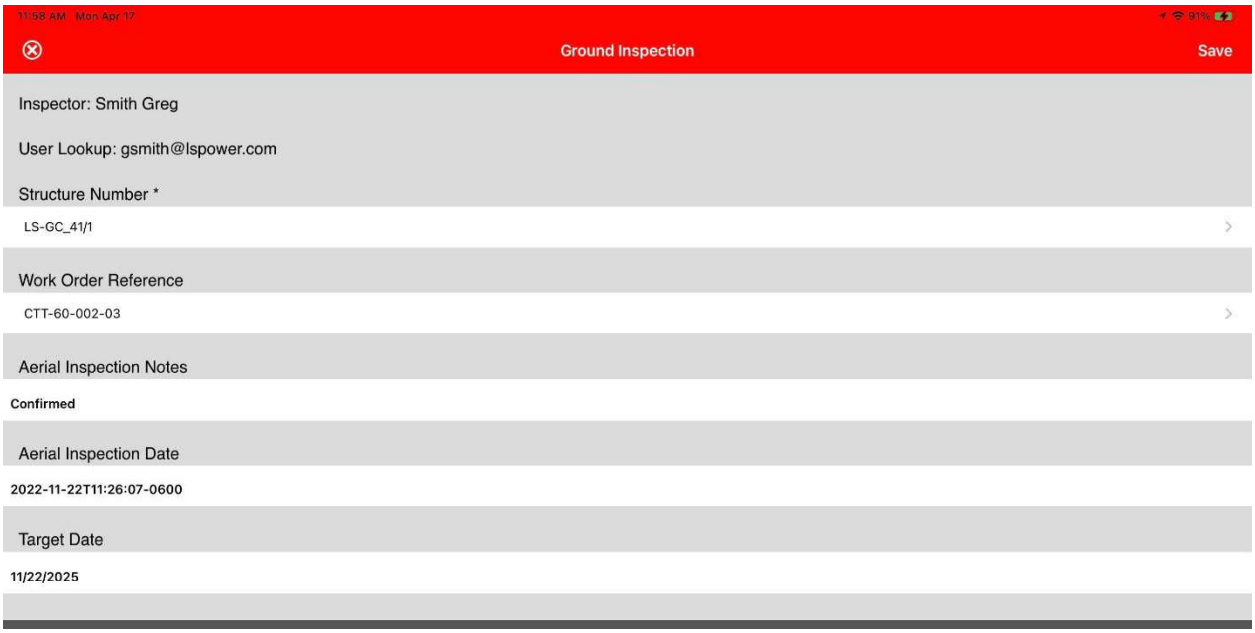
Users can select the "Ground Inspection" report button to access their assigned work and view all line-ahead-spans pending inspection.

When selected the following screen will appear.



This display will include all assigned work in this category. Users should review their daily assignments and plan travel routes that efficiently move them from line-ahead-span to line-ahead-span with the fewest stops and backtracking. Target dates should also be considered at the beginning of each day and work planned based on the most urgent dates.

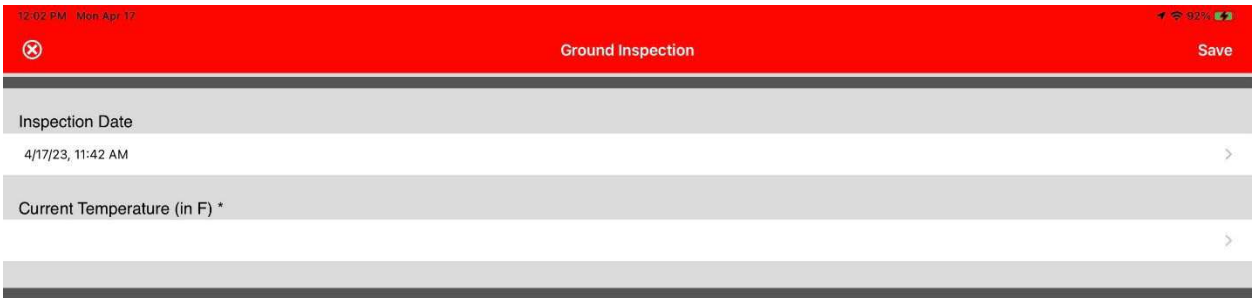
Users can advance to the collection form by selecting the desired line-ahead-span and will have visibility to the following information:



The user can then begin to view the header information for the assigned inspection including the following data:

- **Inspection Type –** Ground Inspection is the system title for the detailed ground inspection process.
- **Inspector –** The name of the person performing this inspection
- **User Lookup –** The inspector's email address. This is also the user's login name.
- **Structure Number –** The line-ahead-span structure number "LS-GC_41/1". The user needs to be at this structure to begin their work.
- **Word Order Reference –** Work Order numbers will be different but can be used to charge time, expense, and or materials related to the work performed.
- **Aerial Inspection Notes and Date –** This shows the inspector when the last MVCD assessment was performed and the associated notes. This information can assist the inspector in understanding historical work performed in the area.
- **Target Date –** This is the date created for the completion of the assigned inspection. Inspectors should prioritize their daily, weekly, and monthly work to ensure that work is completed in advance of assigned target dates. If work cannot be completed before the assigned target date, both field and office employees have a responsibility to communicate and find new resources to complete the work on time.

With a review of this information and when the inspector is physically in the correct line-ahead-span, the following steps can be followed to populate the information required for this report. The first two data entry points will be the current date and time and the current temperature.



The next data review and entry requirements are related to the landowner contact log section. This section both contains important landowner information and requires updated information on the activities performed and conditions found during the inspection. Inspectors will see the following information and be responsible for collecting the following notes:

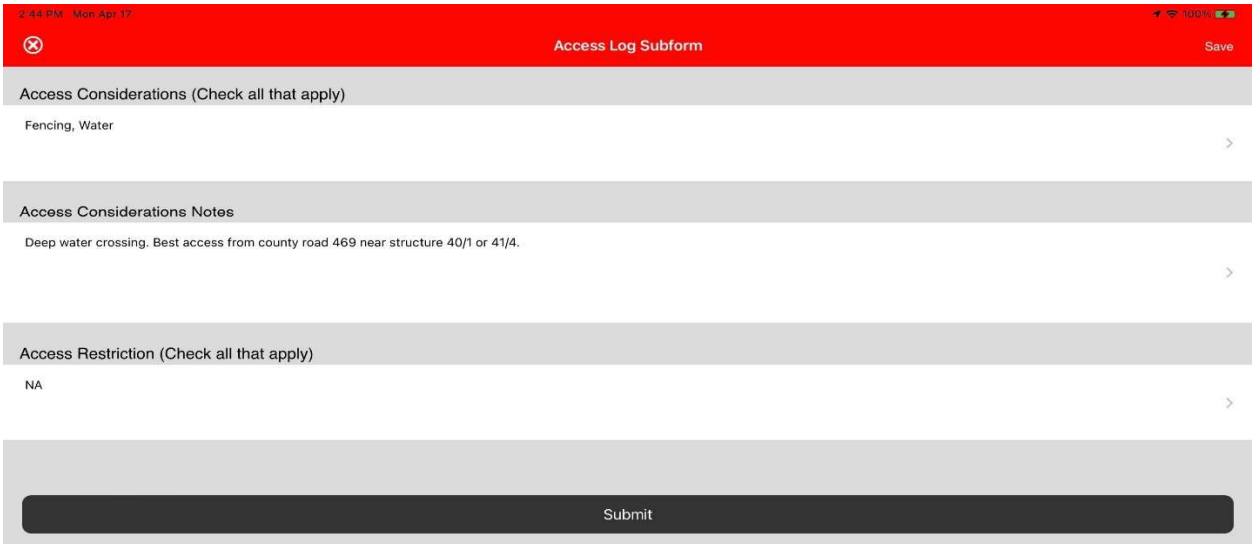
The Entry Form

- **Landowner Name –** Inspectors will see landowner names listed in order from the owner closest to the structure moving ahead-on-line.
- **Landowner Info –** Inspectors will see contact related information again listed in the same order.

- **Landowner Contact Notes –** This section can contain historic notes to help inspectors understand specific landowner requirements and should be updated to reflect the interactions between field resources and landowners; either in real time, or in advance of accessing the property. Inspectors should always strive to create a joint land use strategy when working on each landowner's property and communicate in a way that maintains respect for the people involved.

The next data review and entry requirements are related to the access log section. This section both contains; important access and access restriction information and may require updated information from the activities performed and conditions found during the inspection. Inspectors will see the following information and be responsible for collecting the following notes:

The Entry Form

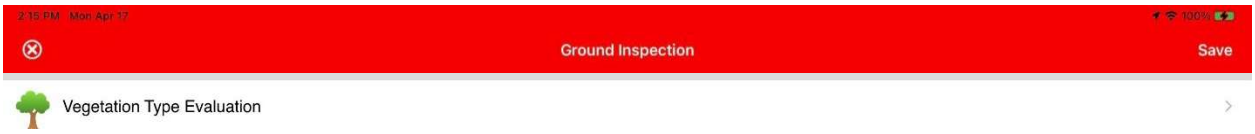


- **Access Considerations (Check all that apply) –** Select all associated access considerations from the following list.
  - **Fencing –** This denotes that fences are inside of the easement boundary and field resources are needed to maintain the conditions of fences and gates on the ROW.
  - **Shared ROW Overhead Power –** This denotes that power lines not owned by LSPG are inside of the easement boundary and need to be taken into consideration when working in a line-ahead-span.

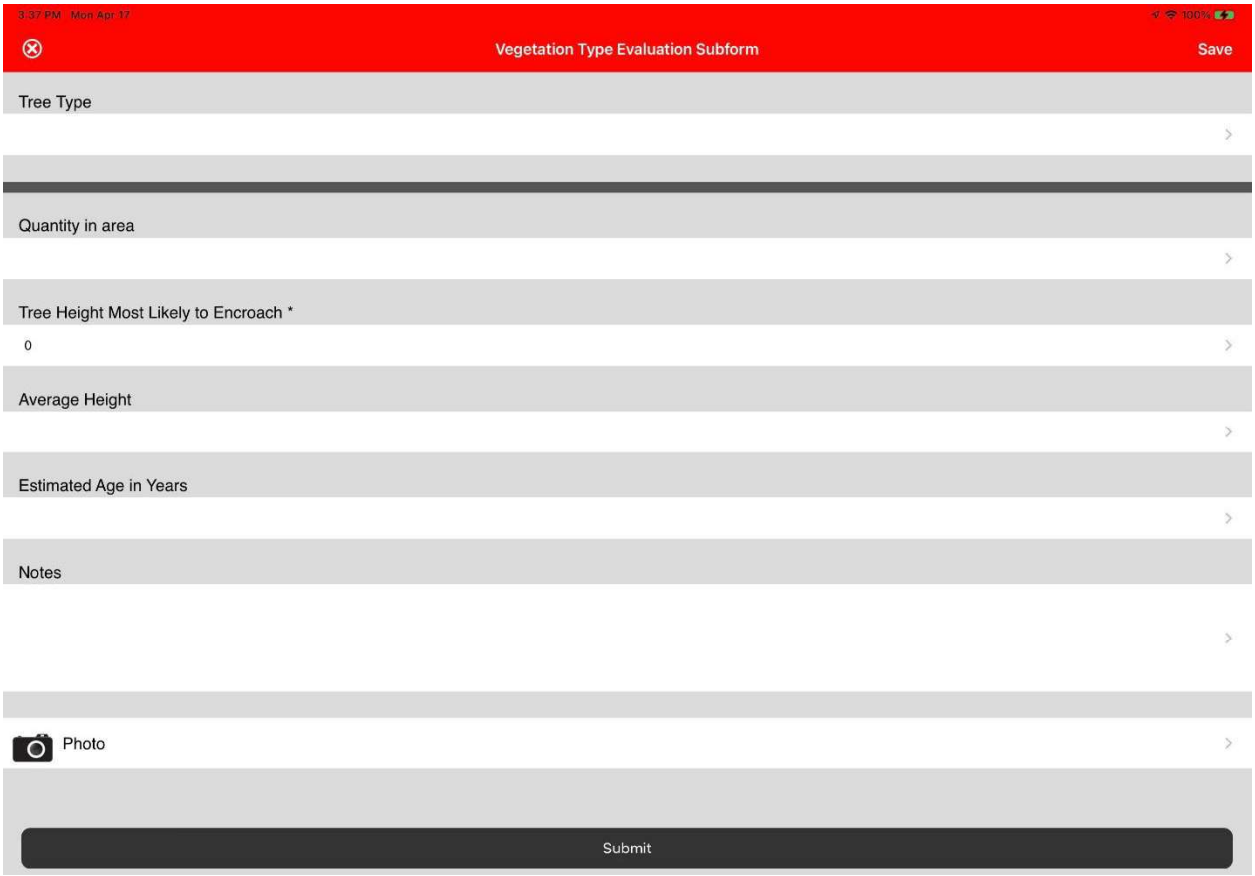
    - **Shared ROW Underground Gas –** This denotes that gas lines are present inside of the easement boundary and need to be taken into consideration when working in a line-ahead-span.
    - **Water –** This denotes that water is running or can collect inside of the easement boundary and needs to be taken into consideration when working in a line-ahead-span.
    - **Adjacent Roads –** This denotes that roads of any kind are inside of the easement boundary and need to be taken into consideration when working in a line-ahead-span.
    - **Remote Access –** This denotes that access to a line-ahead-span requires some form of special consideration because it is not easily accessible from the nearest public/private access point.
- **Access Consideration Notes –** Inspectors can review past notes and keep notes updated in this section. This helps LSPG employees and contractors understand details about the selected items identified or additional items to be considered that are not present in the list. Notes should also be added here giving directions to the nearest approved access point for a line-ahead-span. Additional access considerations may include the following:
    - Land use (hunting, farming, public access, livestock, or pets).
    - Stored materials (farm equipment, junk, structures).
    - Obstructions to continuous travel on a line-ahead-span.
- **Access Restrictions (Check all that apply) –** Select all associated access restrictions from the following list.
    - **Avian Nest Active/Inactive –** This denotes that nests may exist in the structure or nearby trees that need to be taken into consideration and may cause restrictions based on an identified bird species.
    - **Environmental –** This denotes that a specific environmental restriction applies that needs to be considered when working in a line-ahead-span.
    - **Cultural –** This denotes that a specific cultural restriction applies that needs to be considered when working in a line-ahead-span.
- **Access Restriction Notes –** Inspectors can review these notes to understand the nature of a restriction on the line-ahead-span they are working in or update these notes to bring awareness to changes they observe during their inspections that may create a new restriction.

The next data entry requirement is related to the vegetation type evaluation section. This section helps inspectors record information related to vegetation species, the species location, and densities on and off the ROW. This section of the tool allows for inspectors to create multiple entries into the inspection record to address either groups of vegetation or a specific plant to help create a line-ahead-span profile. Inspectors should create enough entries to address all aspects of the vegetation, both inside and outside of the line-ahead-span, that have the potential to impact the safety of the conductor being inspected. This section of information can help inspectors identify specific vegetation groups that require specific treatment actions or non-action. For example, if an inspector finds vegetation in both mature and new growth forms the inspector can make multiple entries to address the densities of these forms of vegetation and make recommendations to address each group. The reason for this is that the vegetation type evaluation data is designed to describe a specific species and population density based on vegetation size and age. If a single vegetation species has multiple classes of size and age, then multiple entries are needed to completely understand the single species in each line-ahead-span. Creating multiple entries for a single species also allows for the identification and evaluation of individual hazard trees on one or both sides of an easement. The range of techniques required to remove vegetation is dynamic and this report

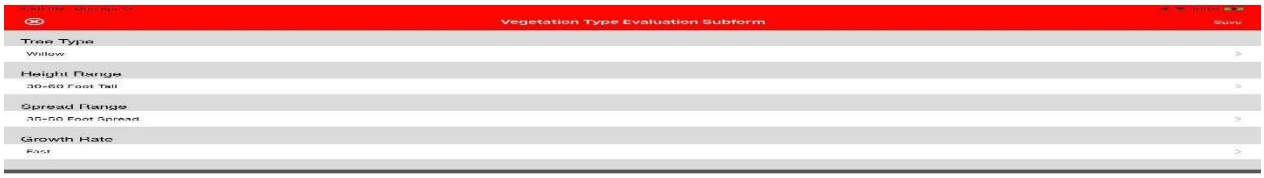
is designed to bring clarity to the best possible equipment or herbicides required to manage all the work present with a single mobilization if possible. Inspectors will see the following inspection form and will collect the following information for all vegetation present:



The Entry Form

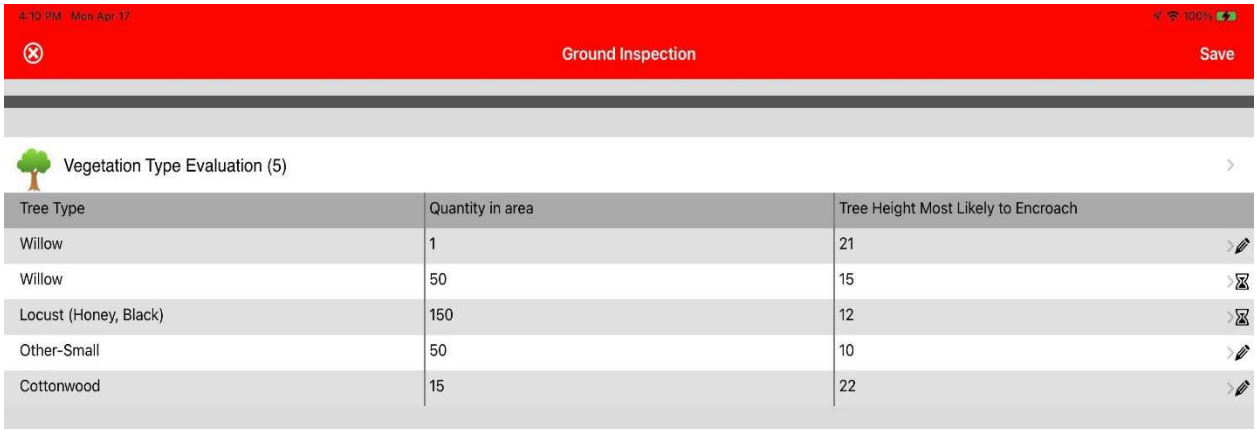


- **Tree Type –** Inspectors can select common vegetation species found in the region for the line-ahead-span assigned. When selected, the tree types, height range, spread range, and growth rate will populate. If vegetation is identified that is not in the list, then the inspector can select one of the following options and enter the information normally populated. The vegetation species can be added to the notes section if known, or help can be requested in the notes section for the vegetation species to be identified.
  - **Other–Large –** Vegetation above 60 feet
  - **Other–Medium –** Vegetation above 30 feet
  - **Other–Small –** Vegetation under 30 feet



- **Quantity in area –** The estimated or actual stem counts for the identified species group described for this entry. Keep in mind that entries will either relate to vegetation inside or outside of the easement and multiple entries will be required to describe both zones. Estimates may be used if counting stems is not easily done (quantities more than 50).
- **Tree Height Most Likely to Encroach –** The tallest plant for this group in the most obvious location to encroach the line. Consider potential grow-ins or fall-ins to select this plant.
- **Average Height –** Including the shortest and tallest vegetation for this group, describe the average height of this population.
- **Estimated Age in Years –** The age of the tree most likely to encroach.
- **Notes –** For the described vegetation group provide a recommendation and target date for treatment or next steps (next steps may include future ground inspections or no action).
- **Photo –** One photograph that accurately represents this group of vegetation.

Repeat this process as many times as needed to address all aspects of vegetation for the assigned line-ahead-span. The results may appear as follows in the completed form. Note, the pencil and hourglass symbols represent forms that have been submitted and completed or that are still being edited. All forms in this list will require the hourglass symbol before the submit option for the entire form can be selected. The pencil and hourglass rules apply to all sub-form sections in this document.

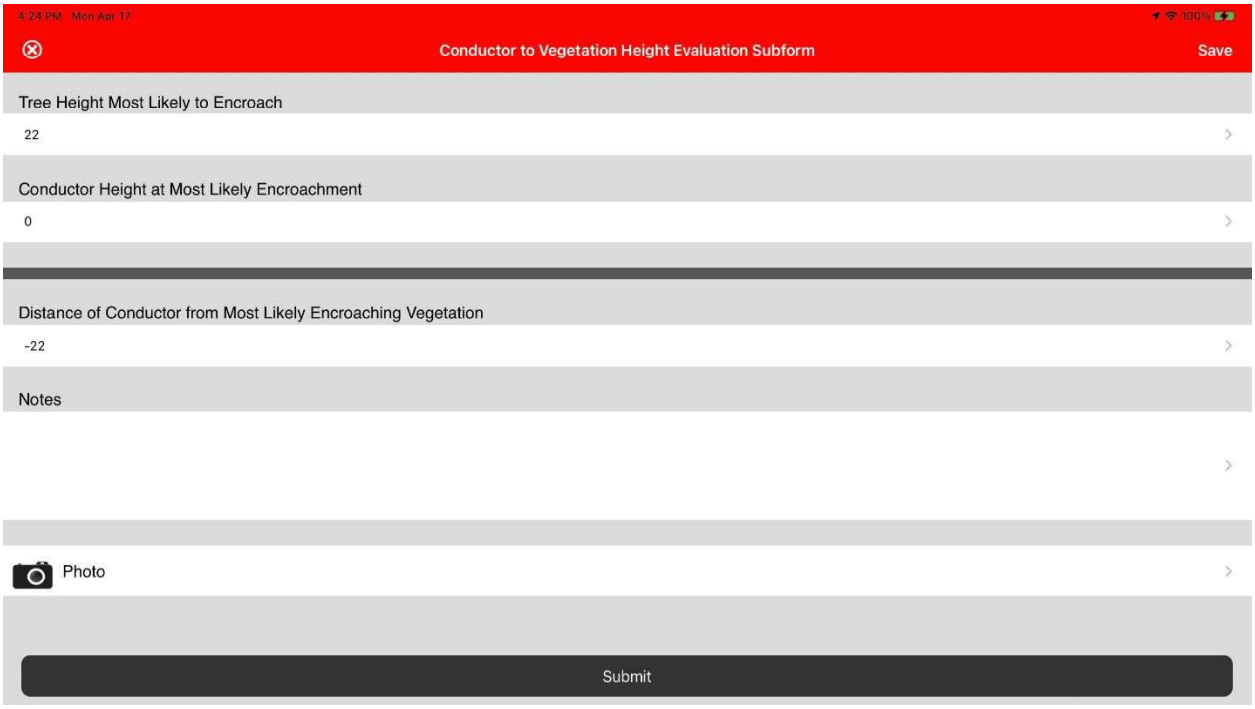


Tree Type	Quantity in area	Tree Height Most Likely to Encroach
Willow	1	21
Willow	50	15
Locust (Honey, Black)	150	12
Other-Small	50	10
Cottonwood	15	22

The next data entry requirement is related to the conductor to vegetation height evaluation or the MVCD evaluation for this line-ahead-span. Only one entry is required for this section. Inspectors need to identify the singular plant in the line-ahead-span that represents the most likely or imminent threat to the overhead conductor. Generally, this will be a single unit of vegetation with the fastest growing or failing characteristics that is closest to the conductor. This plant will be the foremost indicator of the required target date in the recommendation for removal. Essentially if work is performed based on the most significant threat in the span, then work for all vegetation will meet the goal of protecting the entire span. Inspectors will be asked to collect the following information for this data collection section. It should be

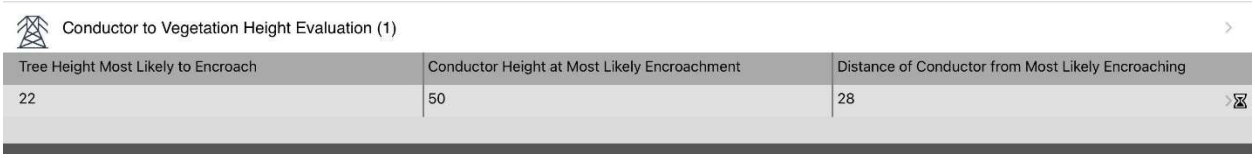
noted that the height for the tallest plant from the previous section will auto-populate in the tree most likely to encroach data field. If the auto-populated number is not correct, then inspectors will edit this field to match the plant being described in this section.

The Entry Form



- **Tree Height Most Likely to Encroach –** Measure the plant height for this entry. Measure the tallest plant closest to any conductor that will potentially grow-in or fall-in to the conductor. Factors like conductor sag, growth rate, current distance, or failure rate may determine which plant meets this criterion. If multiple plants exhibit the same potential, pick one plant for this measure, and use the notes section to describe the issue.
- **Conductor Height at Most Likely Encroachment –** Measure the conductor height from the ground or from the off-ROW plant and enter it here.
- **Distance of Conductor from Most Likely Encroaching Vegetation –** This measure will auto-calculate and needs to represent clearance distance between the vegetation most likely to encroach, or justify that conductor movement (sag, sway) and vegetation movement (growth, failure) will not create a problem.
- **Notes –** The notes here should detail the assessment of current and future conductor MVCD. These notes should help determine if action or no action is required for the entire line-ahead-span.

- **Photo –** Include photographic evidence of the current condition and the evaluated plant. The photo should include measures for the plant height, conductor height (near the plant), and the current conductor clearance.



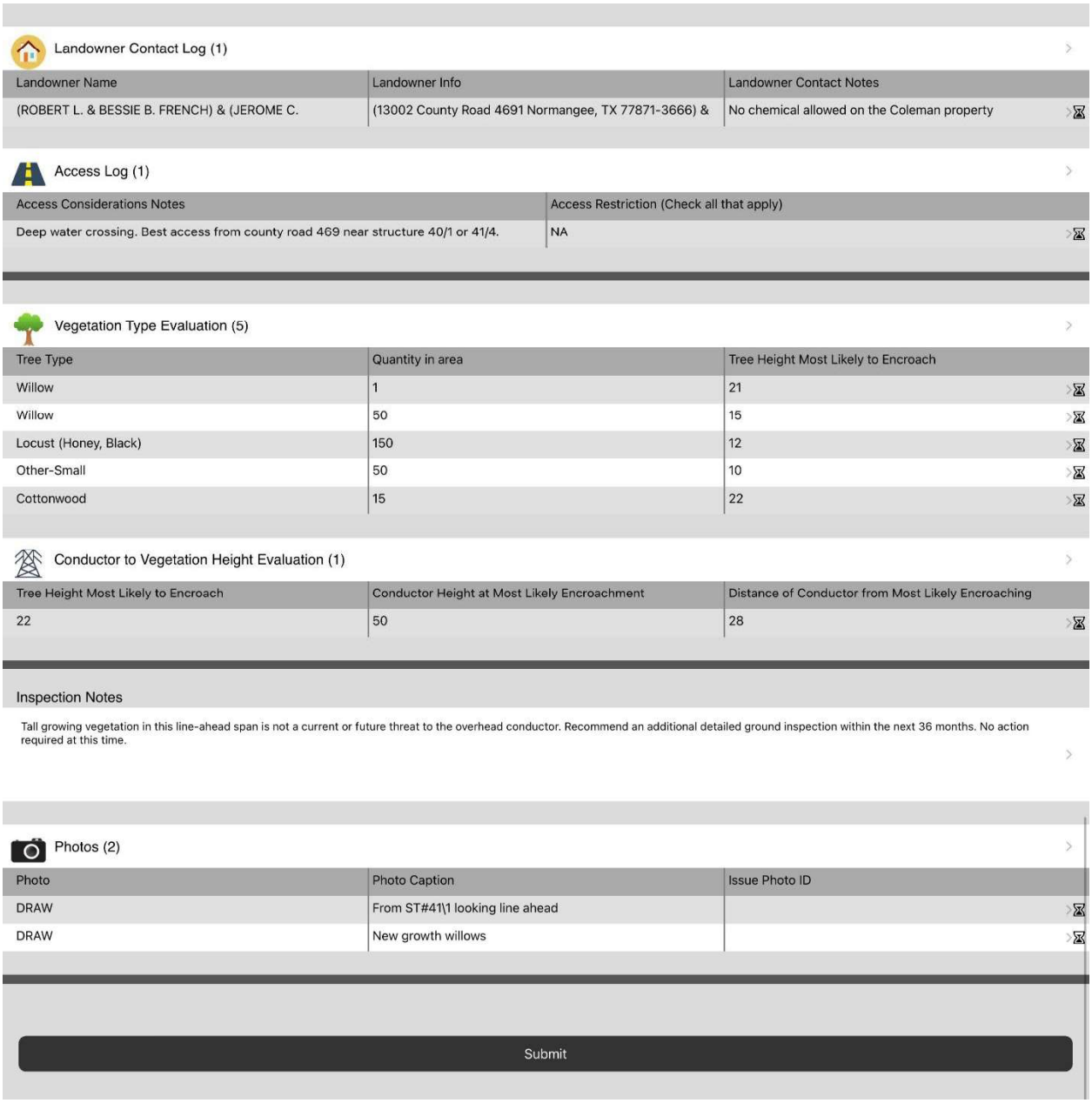
Conductor to Vegetation Height Evaluation (1)

Tree Height Most Likely to Encroach	Conductor Height at Most Likely Encroachment	Distance of Conductor from Most Likely Encroaching
22	50	28

The last data entry points are the general summary notes and photos. Inspectors need to assess all the collected information and present a next steps recommendation. Inspectors can use photos to show the line-ahead-span as found. These photos should help office reviewers understand the next steps recommendation.

- **Inspection Notes –** Next steps recommendation and summary of findings. This information helps reviewers understand the existing and future conditions and develop a scope of work for removal or justification for no action.
- **Photos –** Inspectors may take as many photos as needed. Use these photos to show overall conditions for the line-ahead-span and justification for next steps.

Example of Completed Form



Landowner Contact Log (1)

Landowner Name	Landowner Info	Landowner Contact Notes
(ROBERT L. & BESSIE B. FRENCH) & (JEROME C.	(13002 County Road 4691 Normangee, TX 77871-3666) &	No chemical allowed on the Coleman property

Access Log (1)

Access Considerations Notes	Access Restriction (Check all that apply)
Deep water crossing. Best access from county road 469 near structure 40/1 or 41/4.	NA

Vegetation Type Evaluation (5)

Tree Type	Quantity in area	Tree Height Most Likely to Encroach
Willow	1	21
Willow	50	15
Locust (Honey, Black)	150	12
Other-Small	50	10
Cottonwood	15	22

Conductor to Vegetation Height Evaluation (1)

Tree Height Most Likely to Encroach	Conductor Height at Most Likely Encroachment	Distance of Conductor from Most Likely Encroaching
22	50	28

Inspection Notes

Tall growing vegetation in this line-ahead span is not a current or future threat to the overhead conductor. Recommend an additional detailed ground inspection within the next 36 months. No action required at this time.

Photos (2)

Photo	Photo Caption	Issue Photo ID
DRAW	From ST#41\1 looking line ahead	
DRAW	New growth willows	

Submit

When all data entry sub-forms are complete and submitted (indicated by the hourglass symbol) the inspector can select the submit button. Once the tablet is connected to a good internet source and the ground report is submitted, the report is uploaded to the dashboard display and removed from the inspector's tablet. Reports should be submitted daily as the work is performed so that the information shared is reviewable while inspectors are still working in the same general area as reviewers may need to ask for additional information or clarifications. Reviewers will be experienced and knowledgeable in relation to the above activities and will collaborate with field inspection resources to ensure that reports are understandable and represent that a line-ahead-span is presently safe from threats as well as the foreseeable future. If a detailed ground inspection is not understandable or demonstrates a safety or reliability concern in the line-ahead-span, the inspection report will be re-assigned and the information in the report will be addressed until a clear and understandable path forward can be determined based on the content of the report.

Because the Think Power tool addresses line-ahead-span attributes and inspection records over the course of many years, these inspections may become more simplistic over time. The first time a line-ahead-span is addressed there may be many types of vegetation that require inspection and notes in order to give the line-ahead-span a complete review and provide enough detail for office resources to understand the conditions that exist. Over time, the inspections may become less rigorous as each inspection report adds to the last. Inspectors are encouraged to review past inspection reports in preparation for their assigned work. This perspective will help the field resources understand the nature of the assigned work and ensure that they capture the most important aspects of the ROW during the current inspection.

Inspectors in the field may also submit reports related to avian and non-vegetation related concerns. Avian inspection reports and miscellaneous inspection reports are available and should be utilized based on the requirements for the state in which you are operating. See sections 4.19 and 4.20 for instructions on the utilization of the Think Power inspection tools related to these responsibilities. See the state environmental policies related to these activities for training on the requirements for these reports.

4.15.1 **TVMP Unplanned/Unassigned Detailed Ground Inspection Reports**

Field resources can utilize the detailed ground inspection process in conditions where no assignment exists on their tablet. While conducting work on assigned line-ahead-spans, it is always good practice to look at neighboring line-ahead-spans. If field resources recognize additional work that can be performed with the assigned line-ahead-span, they can add notes to the summary or inspection notes of the assigned report recommending work in nearby spans or simply fill out and submit a report for each span identified. Employees and contractors with questions as to which method may be more effective should reach out to company resources and discuss the various options.

This tool may also be used to perform inspections related to post storm or outage evaluations. This tool is an effective way to communicate the need for next steps or simply document findings so they can support future work.

4.16 TVMP Scope of Work and Treatment Development

This section provides information to be used in developing scopes of work. None of the information in this section is representative of LSPG policy or procedure, as this information is for the most part representative of best management practices but not ultimately a list of requirements. LSPG employees can use this information but need to be aware of the following aspects of work that may not be addressed specifically in this section.

- Federal laws
- State laws
- Local, regional, and/or jurisdictional laws
- Permitting (all types)
- Land ownership, land use, easement language, public access and use, and adjacent roads (all types)
- Environmental and cultural considerations

All of the requirements above will need to be addressed based on the line-ahead-span being accessed as well as having a defined travel path to and from the nearest public access point. Work with LSPG environmental and legal and land management resources to obtain and develop these strategies. The remaining information in this section is intended to help create consistent language and focus for repetitive actions related to vegetation clearing, pruning, and herbicidal treatments.

4.16.1 Access Clearing

- Access roads will be maintained. Maintenance will include cutting, mowing, trimming and herbicide applications to maintain the roads free of all woody vegetation and encroaching vegetation necessary to keep the access road open and passable.
- All woody vegetation (living or dead) around gates on ROW shall be removed to allow full use and access.
- All woody vegetation (dead or alive) within a min. 10’ radius of structures and poles shall be removed.
- Vines on structures, poles and guys shall be cut in two places to create a minimum of a three foot (3’) cleared gap. The lower portion of vines should be treated with approved herbicides if available.

4.16.2 Stumps

- Stumps shall be cut as low as possible left no higher than 2 inches above ground level. Stumps imbedded into fences may be cut even with the top of the fence.
- Live hand cut hardwood stumps are recommended for treatment with approved herbicides to control re-sprouting.

4.16.3 Disposal

- Cut branches, limbs and tops that hang up in trees after pruning should be removed.
- Brush and debris not removed should be chipped, mulched, or lopped and scattered in a depth less than two inches if appropriate for the current land use.
- Firewood may be left on site and shall be left in manageable lengths and stacked neatly in a pile parallel to and at the edge of the ROW.

- Material left on site shall be placed in a location to prevent materials from entering any waterway or the likelihood of transport by floodwaters and will not impede access down the ROW.
- Brush clean-up/removal should be completed within 2 weeks in rural areas and 2 days in residential areas from date of work. Same day is preferred.

4.16.4 **Work Timing**

- When mechanical work is performed, the next steps should be considered to determine the timing of the work performed. If follow-up work is needed mechanical clearing should be performed so that regrowth of cut stumps and grasses do not interfere with next steps. Mechanical clearing of many types of woody vegetation creates regrowth (root suckering and stump sprouting) that may need to be chemically treated to fully eliminate the targeted species. If mechanical work is performed in the late summer and early fall, then herbicide work can be planned in the early spring months following, before grasses can outgrow the woody vegetation, making the herbicide work more effective.
- When herbicide work is performed, the vegetation growth activity and weather conditions can affect the effectiveness of various types of treatments. LSPG employees and contractors should understand the nature of the vegetation and herbicides planned for specific scopes of work and time applications to maximize the effectiveness of the herbicide used versus the vegetation targeted.

4.16.5 **Large-scope Mechanical Treatments**

Large-scope VM projects require heavy equipment to complete the work assignment such as lift trucks, tractors with brush shredding attachments, mechanical trimming equipment, skid-steers with various attachments, and/or aerial equipment. The use of this type of equipment requires trained and skilled operators that are aware of the unique hazards that exist when working in utility rights-of-way. Depending on the type of equipment used, special considerations may be involved to protect local environments such as storm water and fire protection plans and permits. In many areas the hauling of heavy or oversized equipment requires state permits. The contractor will be responsible for compliance with all applicable laws and regulations and obtaining permits.

- Side cutting “ground to sky” to the full ROW width(s) or obvious clearing limit. This includes any needed removals to reclaim to the full ROW width or clearing limits. Reclamation or widening shall also include the removal of any larger trees, dead or alive, (in contrast to existing floor vegetation) encroaching from the edge of the ROW to the wire-zone. Any tree on the ROW floor that does not have 21’ minimum clearance shall be removed.
- Mowing areas of the ROW that have high densities of targeted tall-growing tree species that are generally under 15’ tall when the ROW terrain allows. The mowing must not only reduce the standing biomass to ground level, but the resulting slash materials must also be mulched as much as possible so that these cut materials will not impede mobility by foot over the mowed ROW site.
- Tree removal when adjacent to an energized circuit shall be either: roped, guyed, or cut in sections below the conductors or a combination of both to prevent any possibility of the tree contacting the conductors or guy wires during the removal process. All trees cut shall be cut as close to the ground as practical but not higher than 2’’ above ground level and felled, limbed and bucked to a 4-inch top, logs will be left tree length (unless otherwise specified) and

material with lengths greater than 8 feet long will be moved to the edges of the ROW and piled or piled in an area designated by the Regional Forester. Logs will be piled on the property from where the trees were cut. Disposal of brush will also be designated by LSPG and will consist of either removal or chipping. All efforts will be made to prevent collateral damage to nearby trees and vegetation. Trees designated to be removed can be topped to prevent creating an encroachment.

- Chipping can be used as a method of disposal; slash shall be reduced to coarse chips. Chips shall be spread over the immediate area. Chips shall not be spread to depths exceeding 2'' unless otherwise directed by LSPG leadership. Chipping and spreading shall be conducted in such a manner that no chips enter a watercourse, cultivated field, or other areas where chips would affect the current land use. Chipping waste can also be placed based on landowner direction outside of easement boundaries.

4.16.6 **Small-scope Mechanical Treatments**

Small-scope VM projects are typically in areas with limited access or small amounts of work which may include climbing trees to prune, hand cutting brush, or felling and removing trees. These projects require workers using hand tools and lighter equipment. Hand tools may include tree climbing gear, limb pruners, hand saws, chain saws, and/or pole saws. Small equipment includes pickup trucks, ATVs, crew trucks, and brush chipping equipment.

Vegetation is either cut down or partially removed by trimming those portions of the tree that can reach the wire security zone. Mechanical cutting is usually performed with a chainsaw or brush saw. Trimming is normally performed with pole saws and loppers using the drop-crotch or natural trimming technique. Trimming is performed by tree workers either manually climbing the tree, or with the assistance of aerial lifts. Felling and trimming are labor intensive techniques, and to effectively control re-growth, they may be followed up with techniques using herbicides.

4.16.7 **Herbicide Treatments**

LSPG promotes the use of selective herbicides as part of their VM program. The application methods that are typical for this scope of work include basal bark, cut stump, hack and squirt, and foliage applications. All these application methods can be performed using low-volume mixes.

Low volume applications utilize a higher concentration of herbicides to the amount of water or oil in the mix. This method is used for lower brush densities and is applied with handheld equipment such as a backpack sprayer. Basal bark, cut stump and hack and squirt methods are for individual stem treatments and are best used with low-volume mixes. The applicator must exercise extreme care to avoid affecting non-targeted vegetation or animal life. The applicator should only use selective products and or selective application methods that minimize the impact on compatible vegetation such as grasses or other herbaceous plants on the ROW.

Broadcast herbicide treatments are typically for foliage applications that are blended for a total solution that ranges from 25 to 100 gallons per acre. This method utilizes mechanical equipment with large tanks and hydraulic sprayers and works best for high brush densities with average heights below

8 feet. The timing for foliage application typically runs from full leaf out generally between May 1st and end of September. This will vary depending on local conditions and growth seasons.

4.16.8 **Herbicide use and Best Management Practices**

All herbicide products, mix rates and application methods used on the LSPG system shall be labeled for industrial vegetation control on utility rights-of-way, and have prior approval from LSPG. All applications shall be made by licensed applicators as required in the state where they are operating, copies of the license shall be provided to LSPG prior to starting work. Products labeled for Industrial/ROW VM from all major manufacturers including BASF, Bayer, Corteva, DuPont, and Monsanto are approved for use on LSPG systems (generic products require approval). State restrictions may apply, see state specific guidelines for approved herbicides, suppliers, and mix rates.

Any brush treated in an aquatic area which requires an aquatically labeled herbicide shall be recorded on the contractor's application records provided to LSPG and reference location with GPS coordinates and/or structure numbers. All aquatic applications must follow the state requirements for documentation and inspection.

The contractor will be responsible for shipping, storage, handling and return or disposal of all herbicide containers. For larger herbicide projects LSPG recommends that the Contractor use pre-blended concentrates or ready-to-use mixes and delivered through returnable, reusable (R/R) supply containers, which are capable of tracking drum and batch numbers. Any herbicides that are not suitable for pre-blending and need to be added to the mix on site shall have the lot/batch numbers of the product recorded on the spray records.

LSPG is aware that there may be ROW Sections that are shared between LSPG and one or more other utilities. It is generally accepted among the UVM industry that in a shared ROW circumstance, the utility that is most threatened by vegetation conditions is expected to handle encroachment conditions as they arise. LSPG does not take responsibility for vegetation issues that threaten utilities sharing a ROW section with LSPG operated facilities.

4.17 **TVMP Tree Removal/Treatment Report**

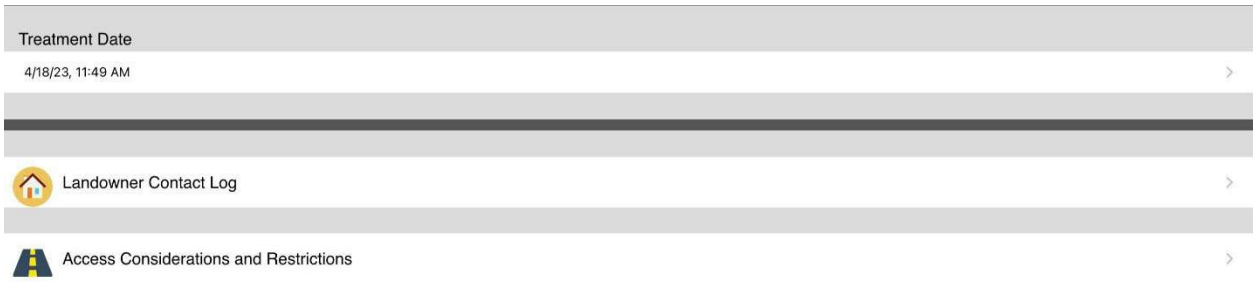
A treatment report is assigned/performed when questionable vegetation is identified for removal, pruning, and/or herbicide treatment. While the scopes of work may vary drastically, the treatment report is designed to help LSPG employees and contractors report on as-found/as-left site conditions and the activities performed while working in each line-ahead-span. Treatment reports should be submitted for each line-ahead-span worked daily. Treatment reports can be filled out by anyone with an understanding of the planned scope of work and should be submitted the same day the work is completed. This section will describe what information is provided and what information is collected for each treatment report submitted by line-ahead-span.

Inspectors can access assigned treatment reports from the LOGS tool under the following icon and will see all assigned work when selected.

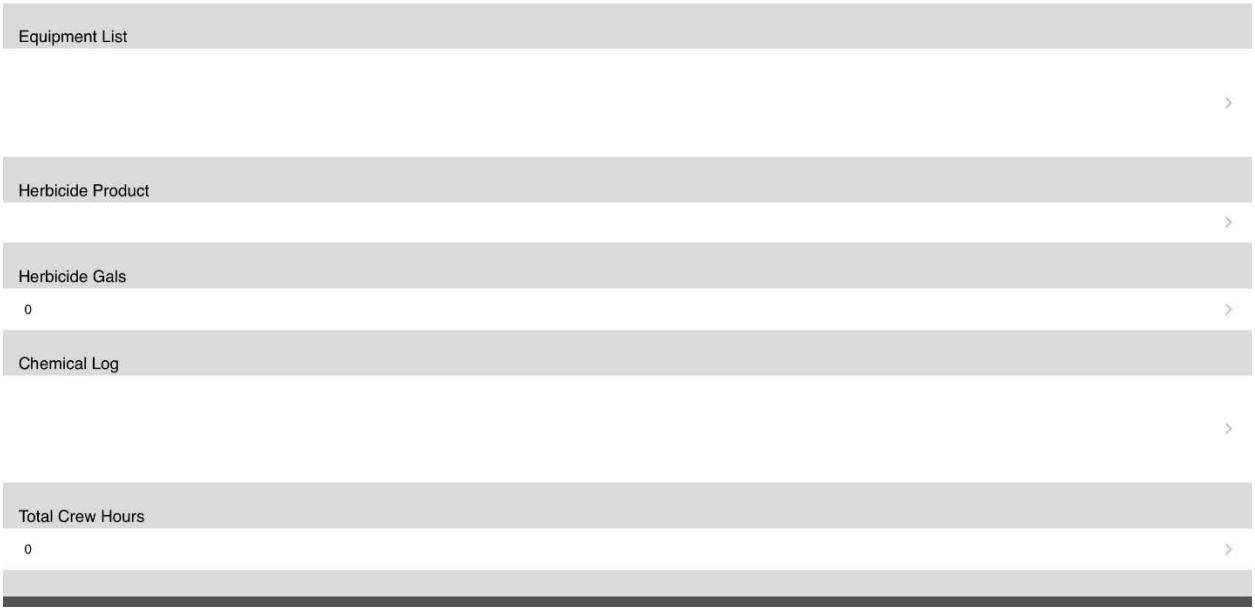
Inspectors can select a line-ahead-span from the option list assigned or use the plus symbol to open a blank form for the area being worked. Work related to external spend will always be tracked by line-ahead-span. We will first discuss the information available to inspectors in the treatment report.

- **Treatment Employee –** The name of the inspector overseeing the fieldwork.
- **Structure Number –** The structure for the line-ahead-span.
- **Ground Inspection Notes and Date –** The last date a ground inspection was performed, and a summary of the notes provided. The full report can be accessed through the DOCS portal.
- **Post Treatment Notes –** If this treatment is a retreat, then notes will be populated in this field for reference to what needs attention.
- **Target Date –** The deadline for the work to be completed.
- **Approval PO# –** Purchase Order reference number and name of the contractor performing the work. Field inspectors should have a copy of the scope of work that can be found with the PO # in Maximo.

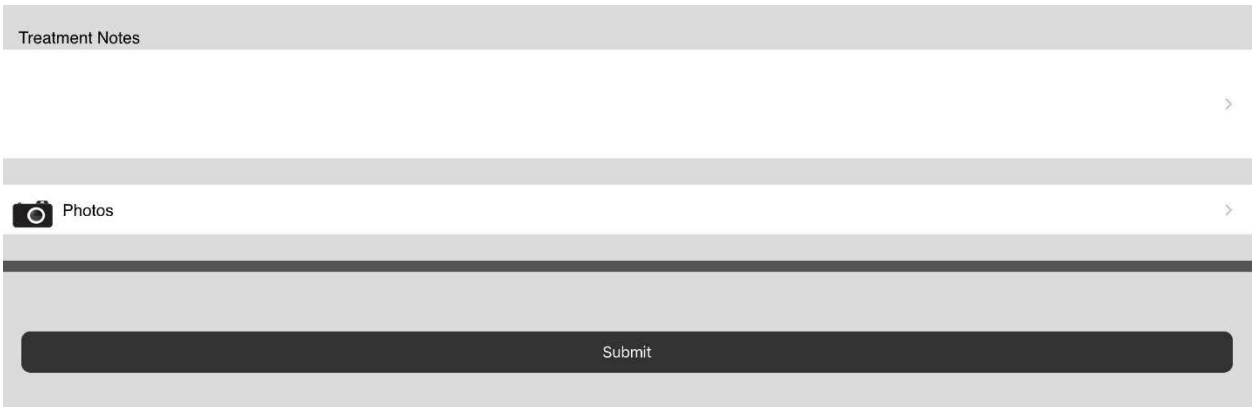
Once an inspector is familiar with the scope of work and above information, they can begin to populate the required data fields. In the section above the only data entry field is the Crew. Inspectors will enter the names of all employees involved in the work with a short description of their role (example: John Hancock – Equipment Operator). They will then proceed to the rest of the treatment report.



- **Treatment Date –** This date and time should represent when the work starts or ends.
- **Landowner Contact Log –** This sub-form works similarly to the detailed ground inspection and is used to create awareness of landowner names, contact information, and land use and awareness. Document any and all landowner communications that were made before, during, or after the work is performed.
- **Access Considerations and Restrictions –** This sub-form works similarly to the detailed ground inspection and is used to create awareness of land access and access restrictions that may be on the line-ahead-span. Review this information and keep it up to date.

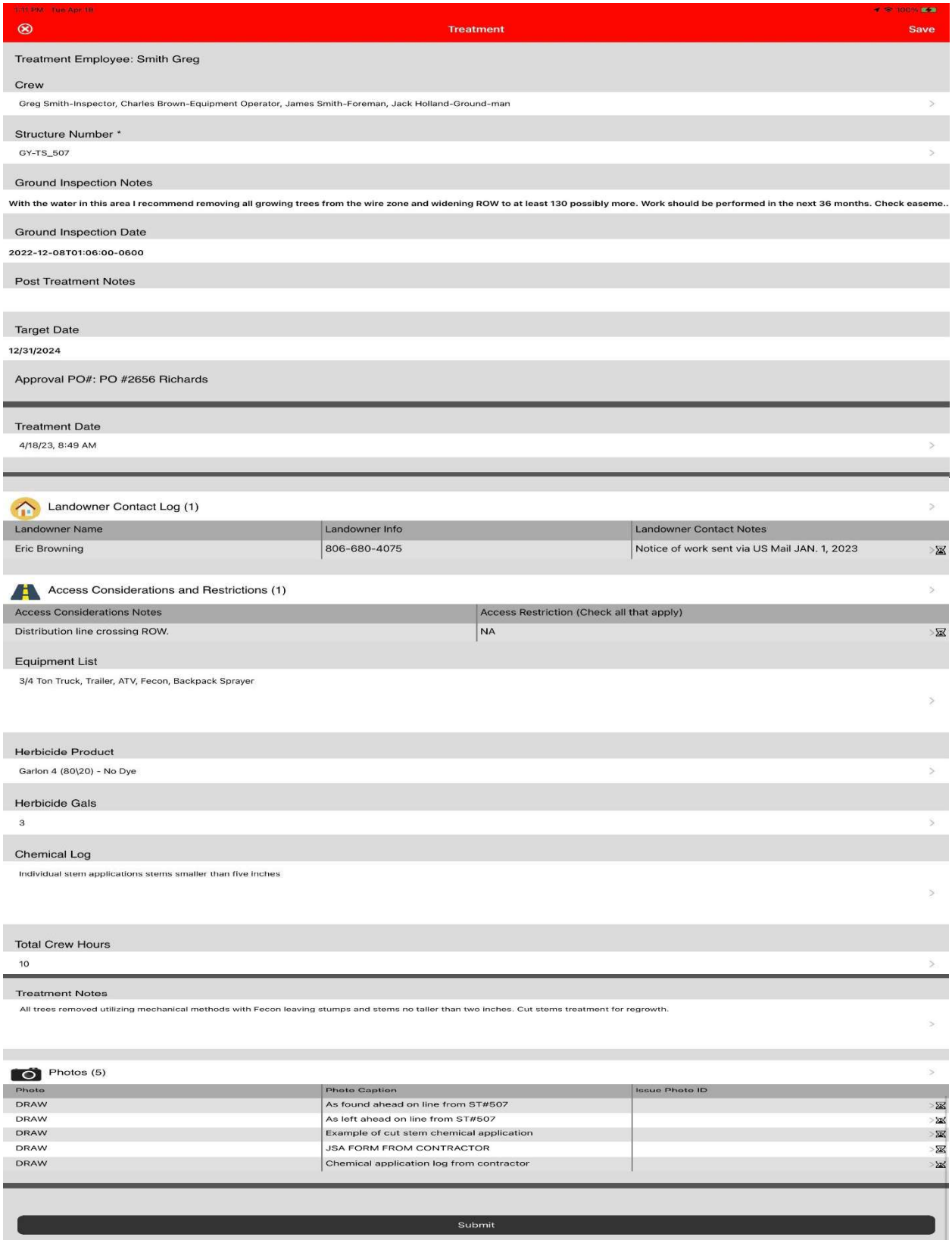


- **Equipment List –** List all billable or critical equipment utilized while treating the line-ahead-span. This will help in invoice reconciliation and identify if scopes of work completely addressed the needs for the site. If equipment is needed that was not planned in the original scope of work, make note of that here.
- **Herbicide Product –** The label name, product mix ratio, and active ingredients of any herbicides applied in this line-ahead-span.
- **Herbicide Gallons –** The volume in gallons of all herbicides applied.
- **Herbicide Log –** Methods, limits, conditions, and details needed to ensure that herbicides were used per label requirements and per state regulations and/or restrictions on the property. Each line-ahead-span may have the same vegetation to be treated but may have various application requirements based on easement language, state restriction/regulation, and the land features present.
- **Total Crew Hours –** The number of billable hours from the start of work to completion of work. The total number of hours required to work on this line-ahead-span. This information will help with invoice reconciliation and future work planning.



- **Treatment Notes –** This should summarize the work as performed. It can also denote concerns with the scope of work or performance of crews. The information here should state the result achieved and recommendations for next steps. Each treatment and inspection compliments past work and can give direction to future work.
- **Photos –** Provide “as found” and “as left” photos of the entire line-ahead-span. Additional photos that give insight into the type of work performed are acceptable but not required. Photos of PTA’s and herbicide application logs may also be added.

Example of Competed Form



1:11 PM Tue Apr 18 100%

Treatment Save

Treatment Employee: Smith Greg

Crew

Greg Smith-Inspector, Charles Brown-Equipment Operator, James Smith-Foreman, Jack Holland-Ground-man

Structure Number *

GY-TS_507

Ground Inspection Notes

With the water in this area I recommend removing all growing trees from the wire zone and widening ROW to at least 130 possibly more. Work should be performed in the next 36 months. Check easeme..

Ground Inspection Date

2022-12-08T01:06:00-0600

Post Treatment Notes

Target Date

12/31/2024

Approval PO#: PO #2656 Richards

Treatment Date

4/18/23, 8:49 AM

Landowner Contact Log (1)

Landowner Name	Landowner Info	Landowner Contact Notes
Eric Browning	806-680-4075	Notice of work sent via US Mail JAN. 1, 2023

Access Considerations and Restrictions (1)

Access Considerations Notes	Access Restriction (Check all that apply)
Distribution line crossing ROW.	NA

Equipment List

3/4 Ton Truck, Trailer, ATV, Fecon, Backpack Sprayer

Herbicide Product

Garlon 4 (80\20) - No Dye

Herbicide Gals

3

Chemical Log

Individual stem applications stems smaller than five inches

Total Crew Hours

10

Treatment Notes

All trees removed utilizing mechanical methods with Fecon leaving stumps and stems no taller than two inches. Cut stems treatment for regrowth.

Photos (5)

Photo	Photo Caption	Issue Photo ID
DRAW	As found ahead on line from ST#507	
DRAW	As left ahead on line from ST#507	
DRAW	Example of cut stem chemical application	
DRAW	JSA FORM FROM CONTRACTOR	
DRAW	Chemical application log from contractor	

Submit

When all sub-forms are submitted (denoted by the hourglass symbol), the treatment report is ready to submit by selecting the submit button after the photos section. Treatment reports should be submitted the same day the work is completed when internet service is available. All treatment reports will be reviewed and can be used to evaluate weekly/monthly invoices for completed work. Reviewers will collaborate with field inspection resources and contractors to clarify questions that may be related to the information collected.

Inspectors in the field may also submit reports related to avian and non-vegetation related concerns. Avian inspection reports and miscellaneous inspection reports are available and should be utilized based on the requirements for the state in which you are operating. See sections 4.19 and 4.20 for instructions on utilizing the Think Power inspection tools related to these responsibilities. See the state environmental policies related to these activities for training on the requirements for these reports.

4.17.1 **TVMP Unplanned/Unassigned Treatment Reports**

Treatment reports do not need to be assigned. Treatment reports need to be generated for all contracted work related to field treatments. Some exceptions apply but field workers should error on the side of reporting if questioning whether to report work.

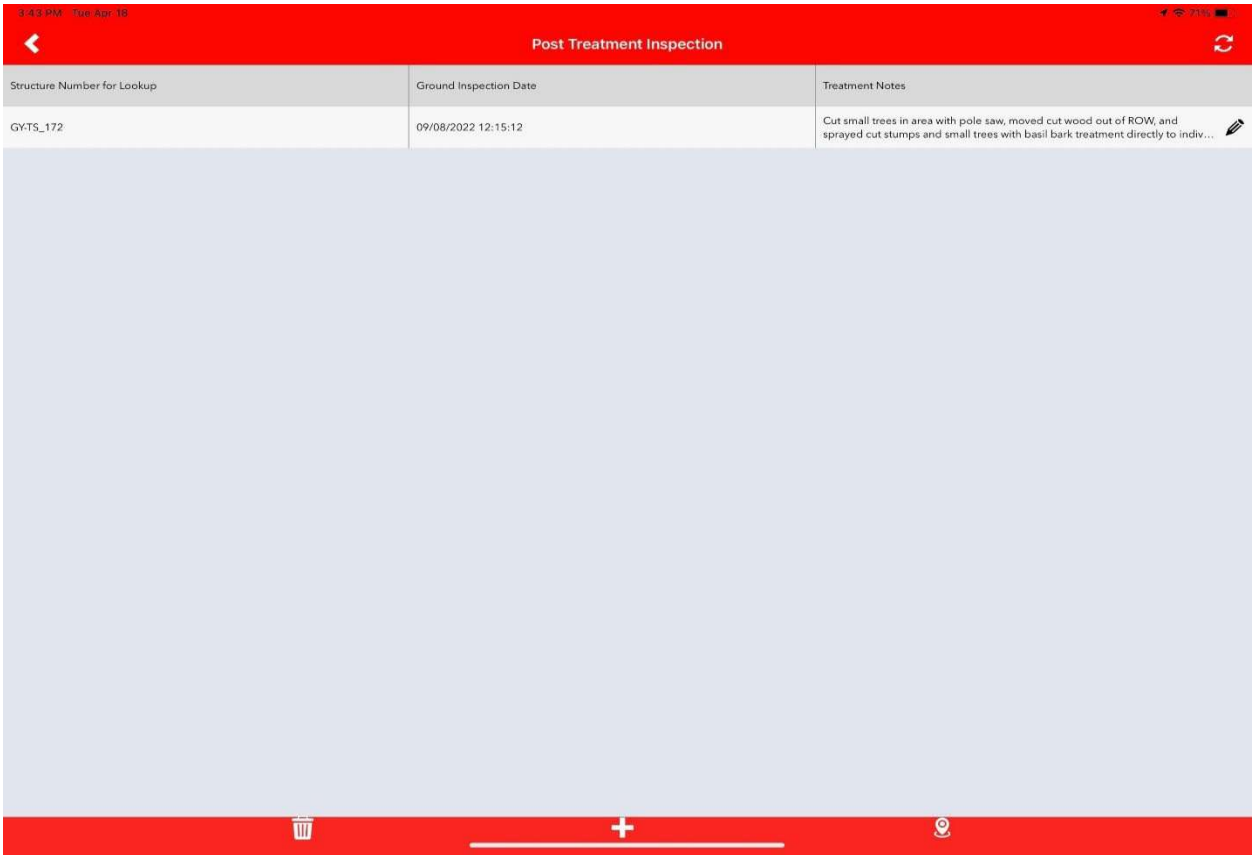
4.17.2 **TVMP Constrained Work Management Requirements**

If planned work is stopped for any reason, the treatment report assigned to the work will be used to maintain visibility and notes for all activity until a resolution can be facilitated. The portion of the treatment report related to the cause will be kept up to date until work is performed. Photos and notes can be used to track inspection progress and activity within the treatment report data entry fields.

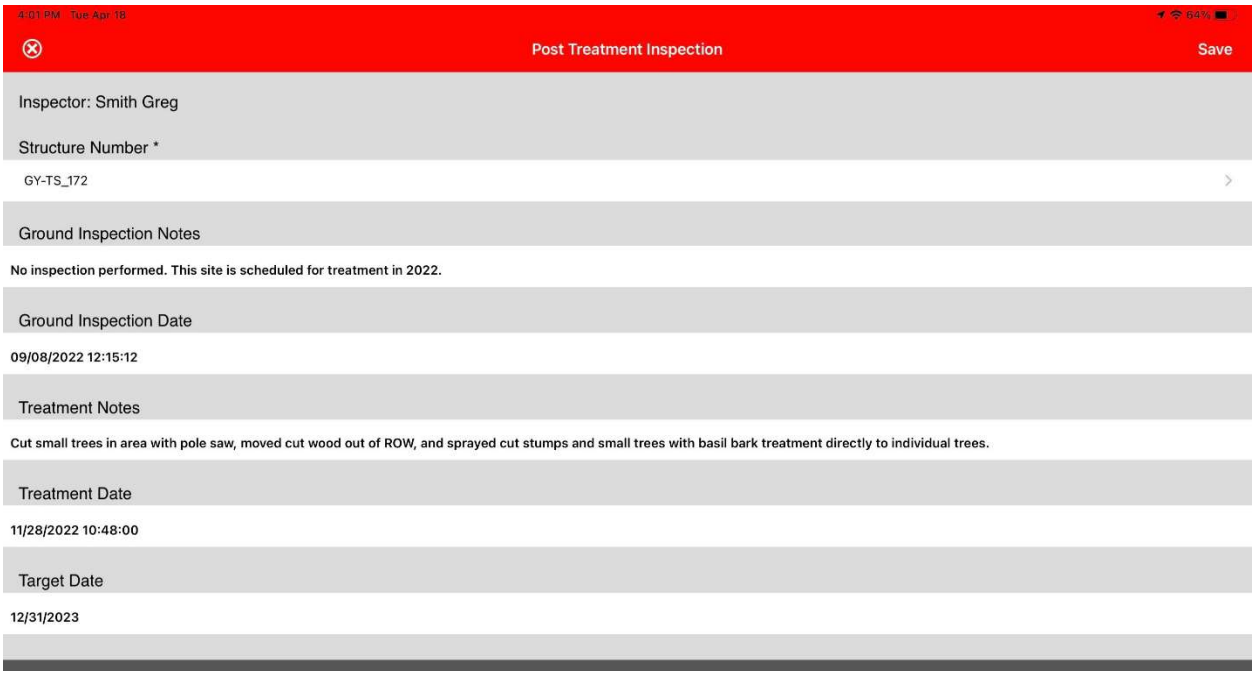
4.18 **TVMP Quality Management and Next Steps Assessments**

A post treatment inspection is assigned/performed after vegetation removal, pruning, and/or herbicide treatments are complete. While scopes of work may vary drastically, the post treatment report is designed to evaluate the quality of work performed based on the various defined scopes of work. It is also utilized to evaluate sites for next steps in treatment as LSPG works with landowners to manage land use and overhead conductor clearance. Inspectors can use the Think Power post treatment inspection form and sub-forms to track the progress towards the long-range management goals for the assigned line-ahead-span. Post treatment reports or quality management and next steps assessments should be submitted the same day the inspection is completed. This section will describe what information is provided and what information is collected for each post treatment inspection submitted for a line-ahead-span.

Inspectors can access assigned post treatment inspections from the LOGS tool under the following icon and will see all assigned work when selected.

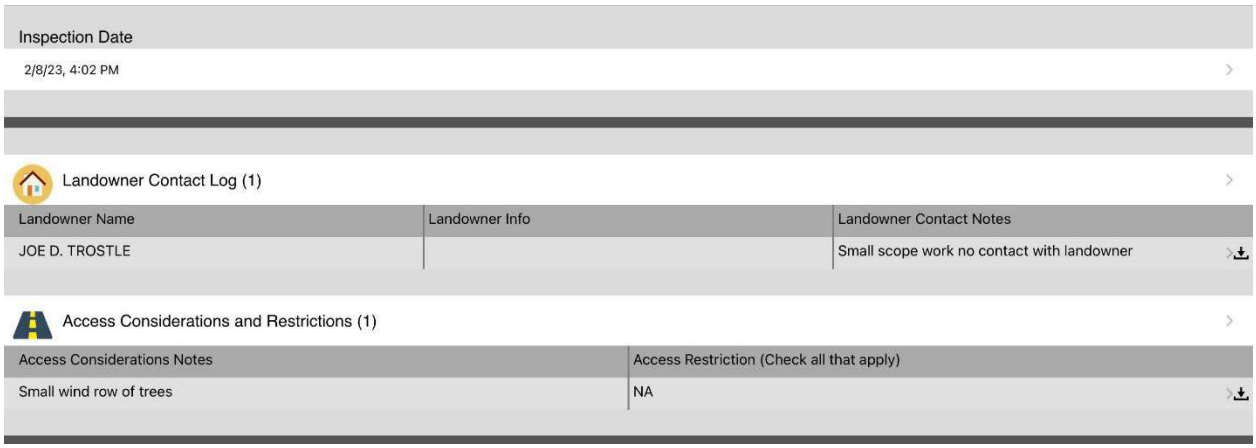


Inspectors can select the line-ahead-span from the option list assigned. Inspectors need to be familiar with the original scope of work and should review the original detailed ground inspection as they are expected to perform two tasks. First, they will assess if the work performed meets the warranty criteria from the original PO, second they will evaluate the site for next steps. We will first discuss the information available to inspectors for review.



- **Inspector –** The name of the inspector performing the assessment.
- **Structure Number –** The structure for the line-ahead-span.
- **Ground Inspection Notes and Date –** The last date the line-ahead-span was inspected from the ground and summary notes from that inspection.
- **Treatment Notes and Date –** The last date the line-ahead-span was treated and summary notes from that inspection.
- **Target Date –** The deadline for the work to be completed.

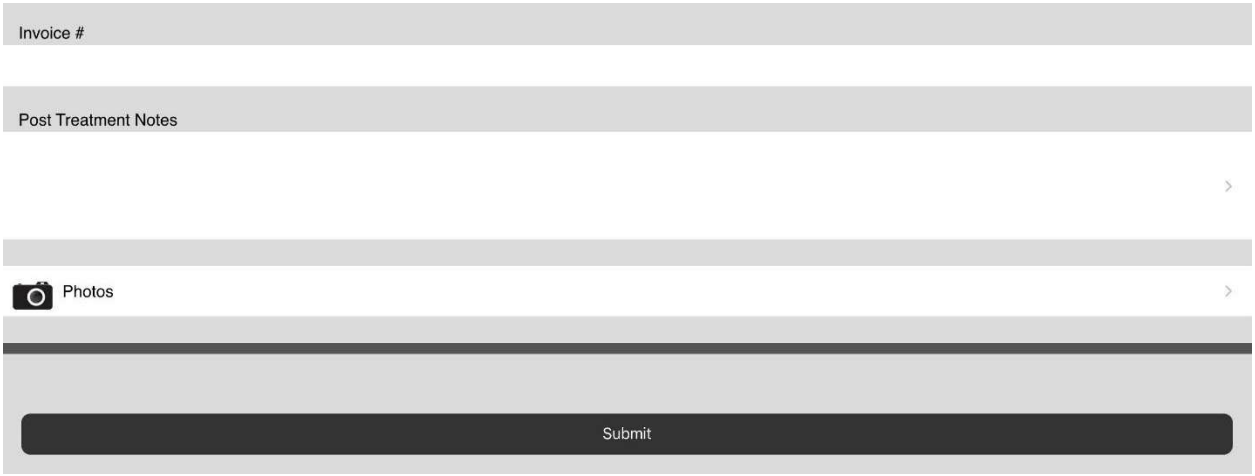
Once an inspector is familiar with the scope of work and the above information, they can begin to populate the required data fields as follows:



- **Treatment Date –** This date and time should represent when the work starts.
- **Landowner Contact Log –** This sub-form works similarly to the detailed ground inspection and is used to create awareness of landowner names, contact information, and land use and

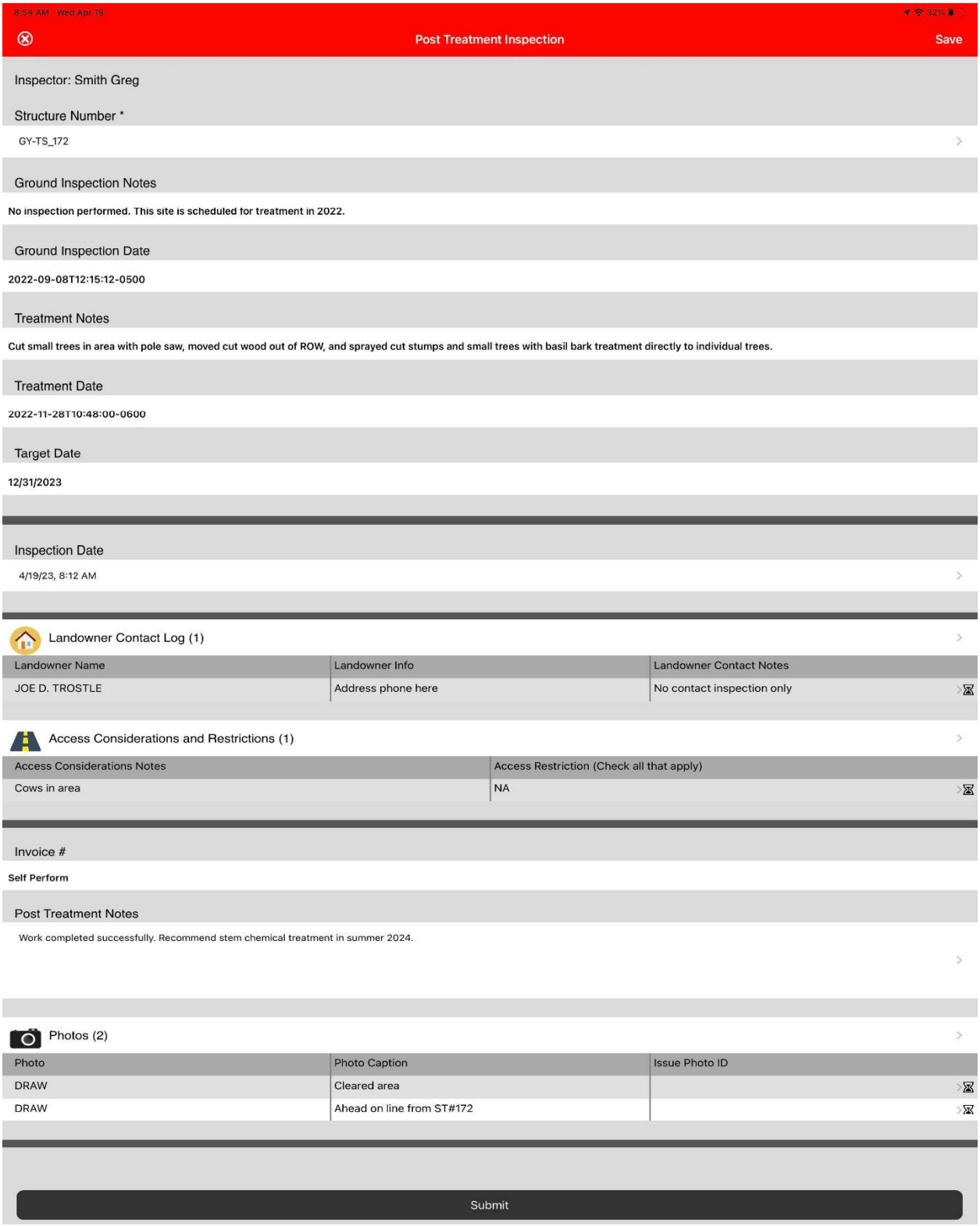
awareness. Document any and all landowner communications that were made before, during, or after the work is performed.

- **Access Consideration and Restrictions –** This sub-form works similarly to the detailed ground inspection and is used to create awareness to land access and access restrictions that may be on the line-ahead-span. Review this information and keep it up to date.



- **Invoice # –** This field may or may not be populated but is not a required entry for field inspectors to populate.
- **Post Treatment Notes –** Inspectors need to indicate if the work performed is acceptable or not. Inspectors also need to evaluate the next steps. Next steps can include follow-up inspections and additional work. With the next step recommendations, inspectors should include timing for the recommendations provided so the work can be budgeted in future years or performed based on priority for the current year.
- **Photos –** Inspectors can add photos to support findings. Photos should give insight into the effectiveness of the work and the next steps required.

Example of Completed Form



8:54 AM Wed Apr 19 — 32%

Post Treatment Inspection — Save

Inspector: Smith Greg

Structure Number *

GY-TS_172

Ground Inspection Notes

No inspection performed. This site is scheduled for treatment in 2022.

Ground Inspection Date

2022-09-08T12:15:12-0500

Treatment Notes

Cut small trees in area with pole saw, moved cut wood out of ROW, and sprayed cut stumps and small trees with basil bark treatment directly to individual trees.

Treatment Date

2022-11-28T10:48:00-0600

Target Date

12/31/2023

Inspection Date

4/19/23, 8:12 AM

Landowner Contact Log (1)

Landowner Name	Landowner Info	Landowner Contact Notes
JOE D. TROSTLE	Address phone here	No contact inspection only

Access Considerations and Restrictions (1)

Access Considerations Notes	Access Restriction (Check all that apply)
Cows in area	NA

Invoice #

Self Perform

Post Treatment Notes

Work completed successfully. Recommend stem chemical treatment in summer 2024.

Photos (2)

Photo	Photo Caption	Issue Photo ID
DRAW	Cleared area	
DRAW	Ahead on line from ST#172	

Submit

When all sub-forms are submitted (denoted by the hourglass symbol) the post treatment report is ready to submit by selecting the submit button after the photos section. Post treatment reports should be submitted the same day the work is completed as internet service is available. All post treatment reports will be reviewed, and reviewers will collaborate with field inspection resources and contractors to clarify any questions that may be related to the information collected. If the report's findings indicate that the work was not completed per specification, contractors will be notified, and the work will be reassigned for completion. Post treatment reports can be rejected and sent back to the treatment step in the workflow so that the warranty work can be tracked to completion.

Inspectors in the field may also submit reports related to avian and non-vegetation related concerns. Avian inspection reports and miscellaneous inspection reports are available and should be utilized based on the requirements for the state in which you are operating. See sections 4.19 and 4.20 for instructions on the utilization of the Think Power inspection tools related to these responsibilities. See the state environmental policies related to these activities for training on the requirements for these reports.

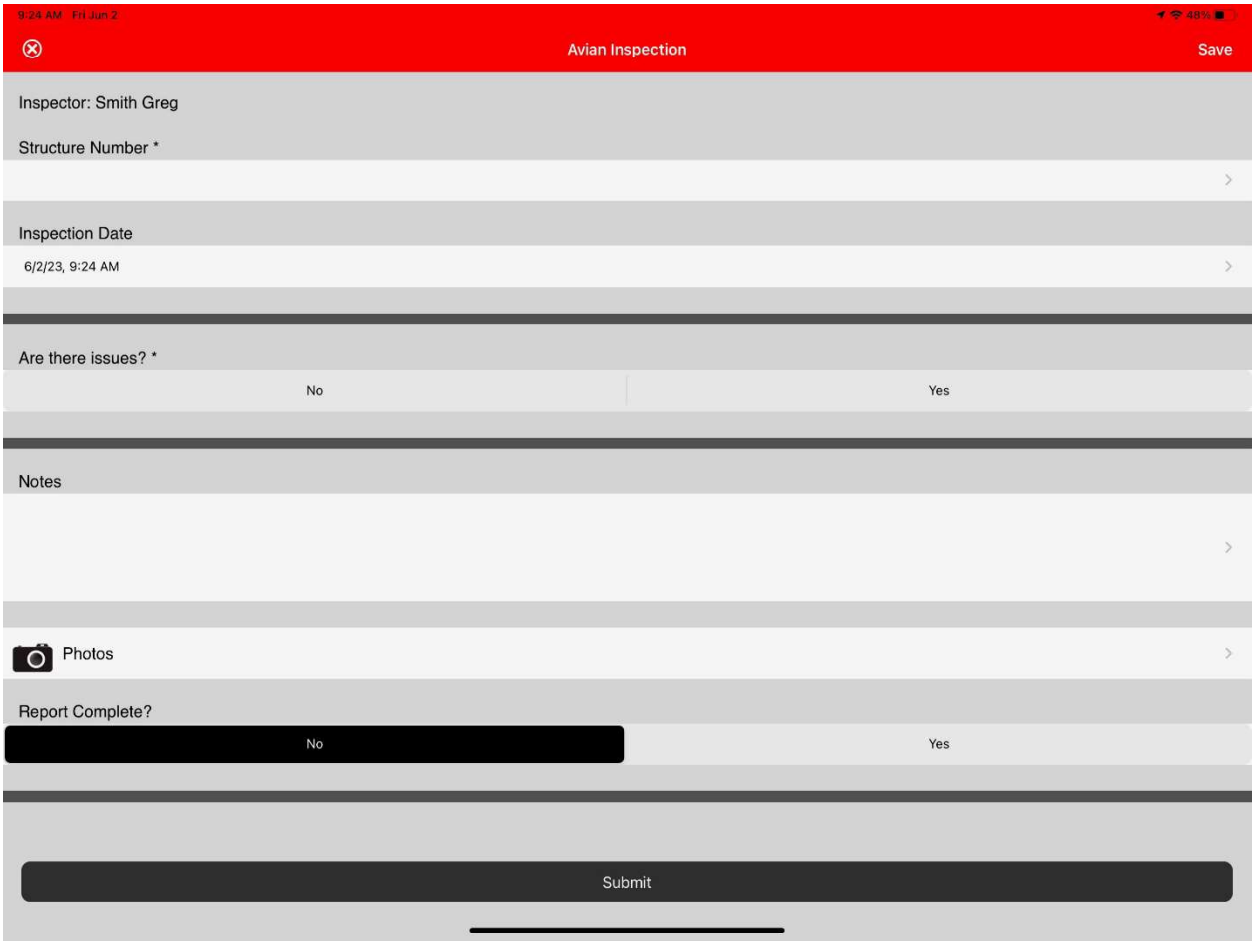
4.19 **TVMP Avian Inspections**

LSPG employees and contractors are trained when special restrictions apply to a line-ahead-span requiring sensitivity to protected bird species. The avian inspection application allows for field resources to report the following bird related information for each line-ahead-span:

- No bird related issues found/identified
- Nesting birds in trees or structures
- Dead bird found within the line-ahead-span easement

This information is reportable and then addressed by LSPG environmental resources. The Think Power tool creates visibility and tracking when required. Field resources can access this report by selecting the following LOGS application button.

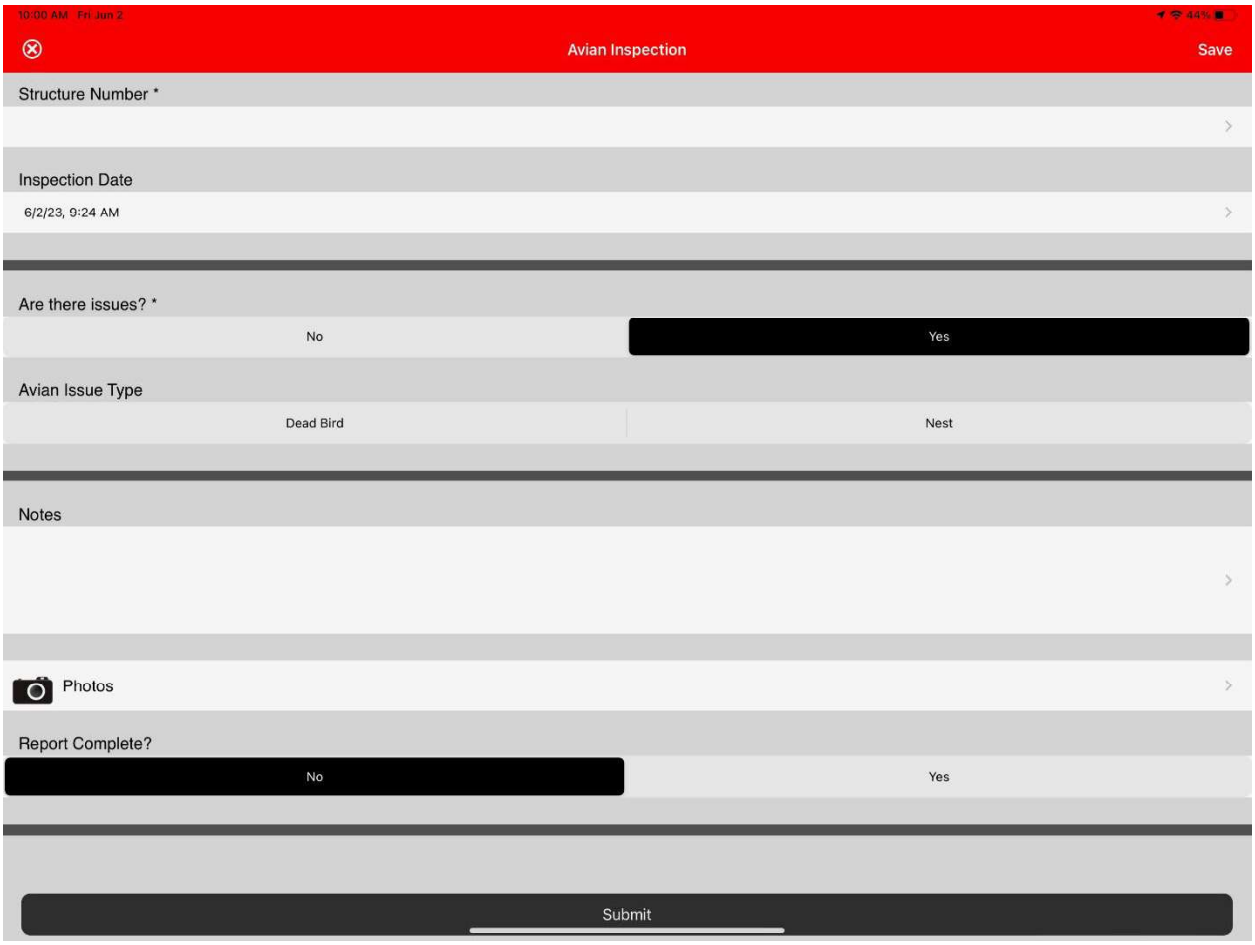
The following report template will be displayed.



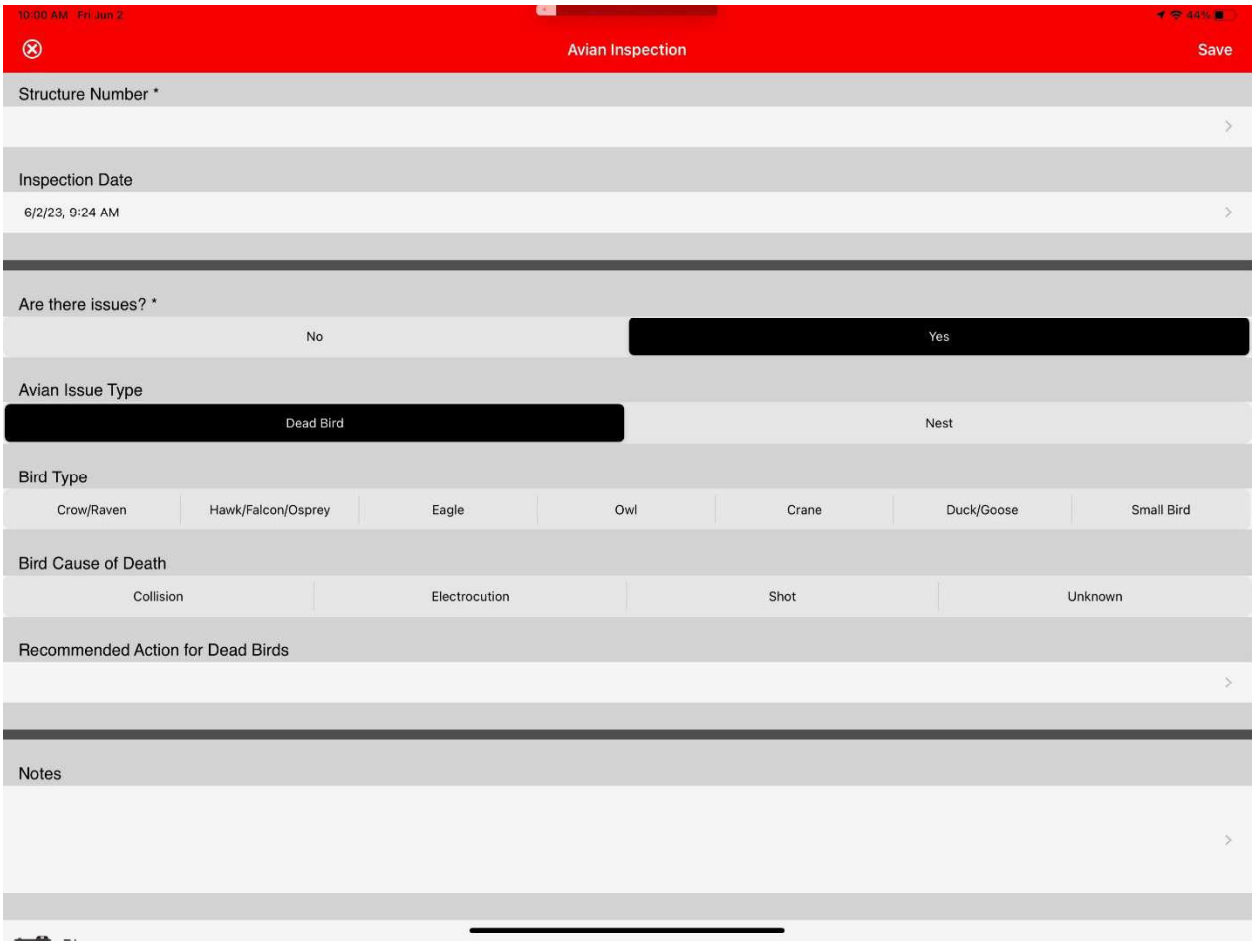
Field resources have the following options to help describe observed conditions:

- **Structure Number –** The structure number for the line-ahead-span closest to the concern or inspection
- **Inspection Date –** Date and time of the observation
- **Are there issues? –** "No" if an inspection was performed and nothing is observed, "Yes" if conditions exist that need visibility or that may need to be escalated

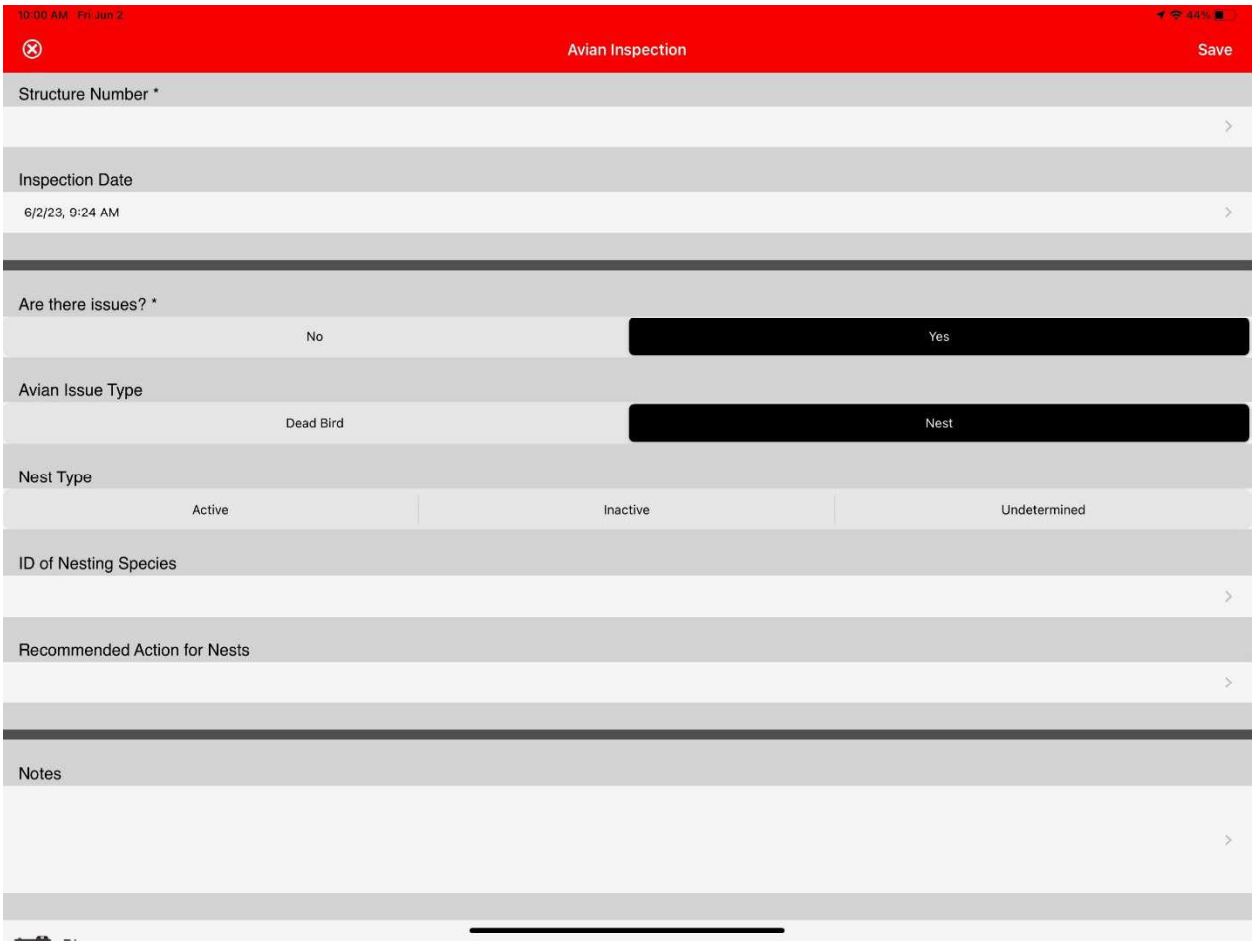
If "No" is selected, notes and photos can be provided to illustrate observed conditions but are not required. Field resources will select "Report Complete Yes" and select "Submit" if no further action is required. If "Yes" is selected additional options will appear as follows:



Field resources can choose to report a “Dead Bird”, a “Nest”, or can simply add notes to report other findings that are bird related. When “Dead Bird” is selected users can report a bird species (if known) and cause (if known). Based on training users will know or can ask what actions are appropriate for dead birds. In most cases leaving the bird as found is recommended. Field resources can add notes and photos and are encouraged to do so for these types of findings.



When “Nest” is selected users can report the status of the nest (if known) and provide prescribed next steps for review. Based on training users will know or can ask what actions are appropriate for bird nests. In most cases leaving the nest as found is recommended. Field resources can add notes and photos and are encouraged to do so for these types of findings.

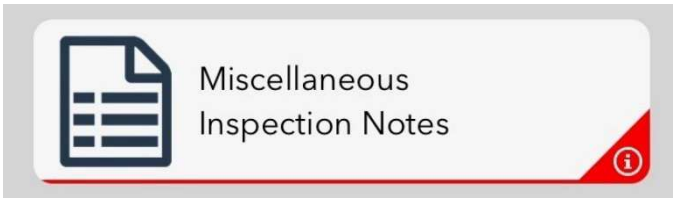


Reports should be submitted each business day or as internet is available.

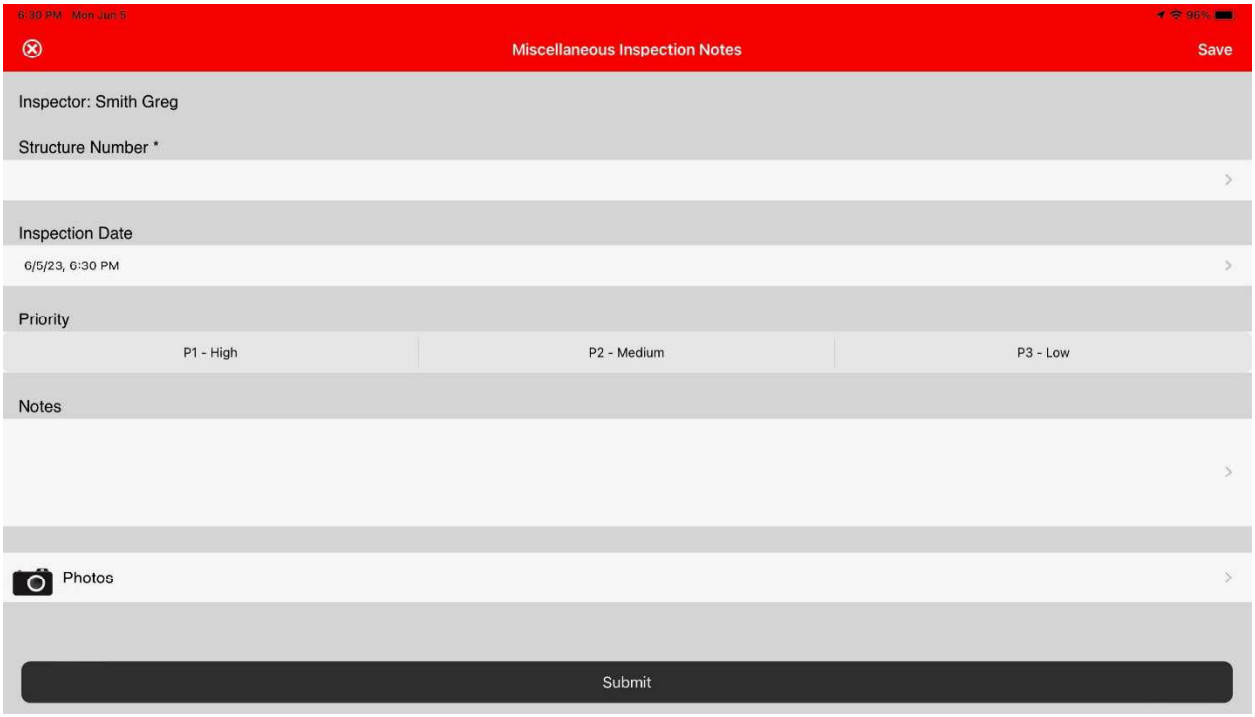
4.20 **TVMP Miscellaneous Inspection Notes**

Field resources may encounter reportable findings in the field and need to create visibility, so the identified concern based on the assessed priority. Miscellaneous Inspection Notes reports are designed so that any resource in field using the Think Power tool can report and assign a priority to observations made during the course of the day.

Field resources can access this report by selecting the following LOGS application button.



The following report template will be displayed.



Field resources have the following options to help describe observed conditions:

- **Structure Number –** The structure number for the line-ahead-span closest to the concern or inspection
- **Inspection Date –** Date and time of the observation
- **Priority –** Assign a priority based on the following options:
  - **P1 High –** Immediate attention required, also requires real-time notification to the subject matter expert (SME)
  - **P2 Medium –** Elevated attention required, should be looked at and next steps planned appropriately. Users should make a recommendation for an appropriate follow up
  - **P3 Low –** Attention is good, but no action may be needed now or in the near future
- **Note –** Description of the observed concern with a recommendation for action
- **Photos –** Pictures supporting the notes. Pictures can also be useful in identifying parts and part numbers if something is damaged and needs to be replaced

Reports should be submitted each business day or as internet is available.

5.0 Recordkeeping

LSPG uses a workflow application developed by Think Power for field activity data collection, work prioritization, and work history creation. While this tool is utilized to manage active workflows including inspections, treatments, landowner information, access notes, and quality assessments; the documents produced are our primary source of evidence for work performed annually to support this program. While supplemental reports and summaries of activities are regularly created and reported, specific activity related to any given line-ahead-span can be found in this tool or an alternate historical storage location. Document retention practices will support audit and compliance standards addressed outside of this document.

5.1 AssurX Tracking and Laserfiche

AssurX is a software system utilized at LSPG to manage document reviews and evidence retention related to high priority activities. TVMP documents and annual reports are managed and tracked with the assistance of the AssurX software application.

Laserfiche is a software utilized at LSPG to create, access, and retain company documents based on retention policies. LS Power Grid employees can access, and store documents utilized in the management processes for TVMP activities.

6.0 Qualifications and Training for Contracted Services and Staff

It is the responsibility of contractors to educate and train their respective field personnel in the concepts of safe, compliant, and effective vegetation management practices in accordance with both the scope of work provided and the job requirements of their respective roles. Field supervision can utilize LSPG project specifications and the Think Power Tool field application while working on LSPG rights-of-way.

LSPG will provide training to aid contractors in their understanding of the following topics:

- Landowner and land access, land restrictions, and landowner notification
- Reporting for field conditions that disturb planned/unplanned work
  - Field data collection and management
  - Imminent threat reporting
- Environmental and Cultural considerations
  - Discovery of and reporting of sensitive areas
  - Work considerations when near/in sensitive areas
- Think Power Application functions as relevant to work responsibilities

LSPG personnel may inspect field crews on a periodic basis to monitor work performance and to ensure compliance with LSPG's specifications, and all other LSPG-trained directives. Quality of performance can be evaluated based on:

- Compliance with all industry-wide safety regulations
- Clear understanding of performance expectations
- Quality of work (proper pruning techniques, stump heights, adequate clearances, proper disposal of brush, chips and wood, site clean-up, etc.)
- Productivity during billable work time
- Public Perception
- Effective and timely communication with LSPG VM staff
- Complete and accurate record keeping
- Equipment Maintenance

In addition to visits to active job sites, LSPG personnel will review completed jobs to evaluate effectiveness and quality to determine whether plans were understood and followed.

Contractors must be trained and qualified to perform their job duties in compliance with all applicable policies and work procedures prior to entering any LSPG job site. LSPG contractors are responsible for training their employees on their company policies and work procedures and documenting qualifications for each employee. Prior to working on LSPG ROWs, appropriate training topics may consist of some of the following:

- ANSI Z133 Standard
- OSHA 1910.269
    - Electrical Awareness
    - Equipment maintenance and operation
    - General work scope requirements
    - MVCD and Conductor clearance requirements
    - Plant identification and behavior

The contractor shall strictly comply with all herbicide labels requirements, all applicable, appropriate and relevant Federal and State regulations, all DOT hazardous material regulations, and DEC regulations including DEC wetland permit conditions, DEC SPDES permit conditions, DEC Temporary Revocable Permit conditions, DEC General Maintenance Permit conditions, and special conditions pertaining to herbicide application. Herbicide applicators will be licensed and certified and follow all applicable laws and regulations pertaining to the use of herbicides under the associated licensing.

6.1 TVMP Imminent Threat and Emergency Response Requirements

Safety is always the first concern when potential fault conditions exist. Safety of people, overhead lines, and property are the primary concerns. In conditions where vegetation is found to be inside of a conductor's MVCD, or poses an imminent threat to an overhead conductor, or in contact with, call one of the following controls centers immediately and work with the control desk until the lines are in a safe condition for the vegetation to be removed:

For Texas and Delaware systems, call one of the following numbers:

- **CTT Primary Control Center (PCC) –** 512-982-5800
- **CTT PCC Satellite Phone –** 8816-414-61605
- **CTT Backup Control Center (BCC) –** 512-982-5700
- **CTT BCC Satellite Phone –** 8816-414-61615

For New York systems, call on of the following numbers:

- **NYG Primary Control Center (PCC) –** 518-642-4800
- **NYG PCC Satellite Phone –** 8816-234-01951
- **NYG Backup Control Center (BCC) –** 518-642-4800
- **NYG BCC Satellite Phone –** 8816-234-01953

Upon receiving information about a potential threat, the LSPG control desk will work with VM organization to initiate the appropriate response and ensure the line conditions are addressed to protect people, reliability, and property until the vegetation is evaluated and addressed in a timely and safe manner. LSPG employees and contractors will follow the VPR 1 protocols to ensure imminent vegetation threats are addressed in a safe manner. This is an outline of basic protocols. Additional measures may be identified, documented, and addressed as work is performed.

- Notice received at LSPG control center of a possible vegetation threat or threat identified in the field
- Contact the Manager of Vegetation Management & Transmission System Operations
- Perform a detailed ground inspection while maintaining the appropriate clearance of the identified threat.
- Report the inspection findings to the appropriate control center and follow the appropriate protocol as received from the LSPG control center as it relates to forced outages, reductions in line ratings, and non-reclosing conditions
- Obtain the appropriate clearance information and identify a resource that will hold the clearance through the designated line conditions
- Based on the line condition; as communicated by the clearance, identify appropriately trained resources are dispatched to perform the appropriate work to remove the threat and facilitate a treatment inspection
- Release the clearance and facilitate a quality and next steps review to evaluate the remaining conditions and possible work
- Facilitate a lesson learned review to understand the conditions that created the threat and address and communicate the identified findings

The appropriate information will be communicated to the VP of Operations and Maintenance

6.2 Daily Pre-Task Analysis (PTA)

Because of the inherent risk's utility workers face, LSPG requires that PTA briefings are conducted at the start of work at each new work location. These briefings will need to address the specific work procedures, special precautions, hazards that may be present, emergency response measures, and any personal protective equipment that is to be made available.

PTA briefings should be performed on a frequency that addresses changes in work scope, personnel, and conditions.

Contractors working on LSPG properties are required to provide reports including the following information:

- Daily Pre-Task Analysis (PTA)
- Daily Chemical use logs
- Think Power reports as required

6.3 Stop, Think, Act, Ask, Review (STAR)

STAR is a principle, a program, or a technique that aims to promote safety, responsibility, and attention to detail in various settings. It involves pausing, thinking, performing, and checking an action to prevent errors, improve communication, and make outcome-driven choices. LSPG encourages contractors to remain aware of the following steps defining the STAR process:

- **STOP –** This step should be utilized by anyone authorized to be on a job site whenever unsafe conditions are observed. Don't rush into your jobs and familiarize workers with the stop work protocol.
- **THINK –** About what you are going to do and visualize alternatives before commencing a work action.
- **ACT –** Do the job safely, effectively and in accordance with work plans.
- **ASK –** If in doubt, ask. The stop work protocol may be utilized for this action.
- **REVIEW –** Did you do the job as safely as possible? If not, what can you do to make it safer next time?

Utilized effectively, the STAR process helps limit the occurrence of preventable safety violations and worksite injuries. This practice also encourages improvement by encouraging critical thinking prior to making VM activity decisions that could have large scale impacts on the transmission system or environment.

6.4 Training for LSPG Staff

LSPG will ensure that staff members are appropriately trained in LSPG processes that support the TVMP processes. Training provided will address aspects of TVMP processes supported by the assigned resource. LSPG staff members will participate in class and field related training designed to support the established processes and systems managed to ensure the reliability and safety of LSPG assets. This training will be documented in accordance with LSPG training protocols not contained in this document.

7.0 Contacts

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  - hholt@lspower.com
  - 512-931-9069

8.0 Glossary

Action Threshold or Vegetation Priority Rating (VPR) – A level of incompatible plant pressure (e.g. species, density, height, location or condition) at which vegetation management treatments may occur if needed to prevent conditions reaching the tolerance levels. LSPG uses these terms interchangeably.

Aerial Assessment/Inspection – Inspection done via aircraft/drone to assess Action Thresholds or VPR's of vegetation. Aerial inspections can be used to facilitate annul VPR assessments.

Aerial Imagery – Images captured from above (via satellite or other aerial device) that can provide an additional view of vegetation conditions.

American National Standards Institute (ANSI) – In the United States, a non-profit organization responsible for promulgating the industry-wide consensus and minimum standards for compliance.

ANSI Z133 – Standards put forth to ensure safe work processes while conducting tree care activities.

ANSI A300 – Standards put forth for the Arboriculture industry-accepted best management practices regarding tree care and management.

Annual Work Plan – Centralized documents detailing the vegetation management work required prior to the start of the next calendar or fiscal year. Annual work plans are prepared but may not be finalized until the end of Q1 of the year the work is planned. Annual work plans may include visibility to work planned in future years.

Annual Inspection – Think Power report or VPR assessment assigning target dates for follow-up assessment on each line-ahead-span determining the current and foreseeable health of the MVCD for each span including grow-in and fall-in considering the sag, sway, and movement of the conductor and vegetation.

Arboriculture – The practice and study of the care of trees and other woody plants.

Arborist – A professional who possesses the technical competence gained through experience and training to provide for or supervise the management of trees and other woody plants in residential, commercial, and public landscapes.

Basal Herbicide Application – A method of localized herbicide treatment. Herbicide is applied at the base of a plant (the bark or stem from the ground) up to knee height. The herbicide is usually mixed with an oil carrier to enhance penetration through the bark. These treatments can be done during the dormant season or active growing season.

Best Management Practice (BMP) – Best available industry-recognized courses of action, in consideration of the various associated ecological and socioeconomic benefits and limitations, based on scientific research and current knowledge and standards.

Biological Control – Management of vegetation by the establishment and facilitation of compatible, stable plant communities using various natural ecological agents such as competition, allopathy, animals, insects, or pathogens.

Blow-Out (Conductor Sway) – The movement of conductor swinging left or right of center creating a potential for contact with adjacent vegetation or materials.

Border Zone – Area that begins at the outside edge of the wire zone and extends to the edge of the easement or clearing limit. The border zone many contain additional low-growing woody plants and trees that do not exhibit grow-in or fall-in characteristics as conductors are not directly overhead.

Cascading Outage – The uncontrolled successive loss of power transmission triggered by an incident at any location. Cascading could result in widespread electric service interruptions that can sequentially spread beyond the initial area of effect.

Chemical Control methods – Management of vegetation using herbicides or plant growth regulators.

Clearing Limit – Engineered clearing limits less than the easement boundary. Clearing limits have engineering measures that define MVCD based on the Sag and Sway of the conductor and the distance to the defined boundary to the existing vegetation wall.

Compatible Vegetation – Vegetation on or near a specific ROW site that has growth characteristics which allow it to thrive over the course of its lifetime without posing an encroachment risk to overhead facilities at that site. Compatible vegetation is not defined by species, it is defined by predictable line clearance in a specific line-ahead-span. Because vegetation will grow to its established environmental conditions; and lines have variable sag and sway clearance profiles, all vegetation will be evaluated based on predictable measures and left in place if the appropriate line clearances exist regardless of the species of the plant.

Conductor Sag – The vertical difference in level between points of support (most commonly transmission towers) and the lowest point of the conductor. The calculation of sag and tension in a transmission line depends on the span of the overhead conductor.

Conductor Max Sag – The vertical difference in level between points of support (most commonly transmission towers) and the lowest point of the conductor under elevated loading conditions. Ambient temperature, loading temperatures, and ice can increase the sag between two points. Engineers design each line based on predictable loading criteria to estimate sag under maximum loading conditions and create minimum ground clearances that must be achieved during the construction phases. These sagging conditions can generally be found in the design criteria documents and are sometimes reflected in the plans and profile drawings.

Critical Clearance Zone (Conductor Security Zone) – The immediate space around phase wires defined by the radial distance in feet in all directions from the conductor, as determined by voltage, including sag and sway. LSPG identified this limit as 15 feet and results in escalated action thresholds. 15 feet is currently used on all voltages between 200kv and 345kv.

Danger Tree – Vegetation within striking distance of electrical facilities and equipment. Danger trees do not exhibit obvious defects that would cause the vegetation to fall under normal (non-storm) weather conditions. All danger trees inside of clearing limits or easement boundaries will be assessed and addressed appropriately. Danger trees outside of clearing limits and easement boundaries will be evaluated for obvious defects and classified as Hazard Trees when necessary.

Detailed "Ground Inspecting" – Think Power report to follow-up an assigned VPR utilizing advanced measurement tools and documenting conditions to properly assess/track the following attributes for any given line-ahead-span: landowner contact/interactions, access requirement/limitations, vegetation species/growth characteristics, conductor clearance, findings summary next steps, photos.

Easement – A legal document defining the collective right to access or use someone else's land for a specified purpose.

Easement Boundary – The legally defined boundary or edge ahead-on-line left and right of the center of the transmission line overhead. Easements are generally measured from the center but can be irregular in shape. Easement boundaries and rights need to be understood for access and work-related activities.

Electrical Conductor (Wire) – Any overhead or underground electrical device capable of carrying an electrical current including communication wires and uninsulated power lines and other such fixtures or apparatus. MVCD is measure from individual conductors.

Encroachment – Vegetation-related conditions that warrant a response resulting from vegetation that is near the MVCD including grow-in and fall-in conditions. See FAC-003 R1 1.1, 1.2, 1.3, and 1.4 and R2 2.1, 2.2, 2.3, and 2.4 for detailed definitions of the critical encroachment types.

Endangered – A classification assigned to specific species; by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, to be in danger of extinction through all or a significant portion of a defined range. Species identified with range on LSPG systems will be protected during O&M activities based on the regulatory requirements. LSPG's environmental business unit defines the actions/restrictions and where they apply to LSPG transmission systems by State.

Endangered Species Act – The Endangered Species Act was codified in 1973 and provides a means to identify, list, and protect certain species whose low population numbers made them vulnerable to extinction.

FAC-003-4 (or current rev.) – Set of standards promulgated by NERC/FERC to ensure transmission owners are operating within the realms of safety and compliance when conducting vegetation management operations ("4" is the current revision as of 6-2023 this may change, and policies will be updated with those changes).

Fall-In – The potential for vegetation parts to fall towards electrical facilities and result in a fault or sustained outage. The occurrence of a fault or sustained outage as a result of falling vegetation. Fall-In is a condition that will not be allowed inside of ROW clearing limits and should only be related to danger trees outside of clearing limits and easement boundaries.

Federal Energy Regulatory Commission (FERC) – The United States agency that regulates the transmission and wholesale sale of electricity and natural gas in interstate commerce and regulates the transportation of oil by pipeline in interstate commerce. LSPG is a transmission only company and fall under the regulator states in FERC that pertain to the transmission of power.

Geographic Information Systems (GIS) – Computer-based tools used to store, visualize, analyze, and interpret geographic data. Geographic data (also called spatial, or geospatial data) identifies the geographic location of features. Think Power uses this type of data to assist field working in identifying and tracking vegetation findings until the assessed threats can be resolved.

Grow-in – The potential for vegetation parts to grow into electrical facilities and resulted in a fault or sustained outage. The occurrence of a fault or sustained outage as a result of vegetation growing into electrical facilities. Grow-in should be assessed in all zones of a transmission ROW as vegetation can encroach a conductor vertically and horizontally.

Hazard Tree – Vegetation within striking distance with an obvious defect that could cause the vegetation to fall towards conductors. Hazard trees when identified will be monitored until rights are obtained and crews are scheduled for remediation efforts.

Herbicide – A chemical substance used to slow plant growth or kill a plant completely.

Imminent Threat – Observable condition which denotes that vegetation is posing an immediate threat to transmission system operation. Immediate Threats for LSPG represents a threat that is not reasonably predictable and demands a response within 24 hours of identification based on a VPR-1 designation.

Incompatible Vegetation – Vegetation on or near a specific ROW site that could reasonably create an encroachment threat to facilities at some point during its lifetime. Incompatible vegetation is not defined by species, it is defined by predictable line clearance in a specific line-ahead-span. Because vegetation will grow to its established environmental conditions; and lines have variable sag and sway clearance profiles, all vegetation will be evaluated based on predictable measures and left in place if the appropriate line clearances exist regardless of the species of the plant.

International Society of Arboriculture (ISA) – A paid membership association and credentialing organization that promotes the professional practice of arboriculture. The ISA focuses on providing research, technology, and education opportunities for tree care professionals to develop their arboricultural expertise.

Interconnecting Reliability Operating Limit (IROL) – A System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System. IROL systems are specifically classified and identified for each electrical system in operation.

Line-Ahead-Span – A term utilized at LSPG to describe the segmentation of a transmission line's inspection zone for vegetation and the evaluation of MVCD and transmission line health. For each Transmission Line; with substations as endpoints, the line-ahead-span is defined by the following criteria:

- Beginning slightly behind the sequentially named Structure looking ahead-on-line for the length of conductor span,
- Extending to the back of the next sequentially named Structure looking back-on-line,
- For the width of the defined easement boundary,
- Including all off-ROW trees for the length of the conductor evaluated to have potential fall-in risk.

Low-growing Plant Communities – A population of relatively short plants (e.g., grasses, shrubs, forbs, herbs) that can "outcompete" trees and tall-growing brush for sunlight and nutrients, thereby reducing the presence of trees.

Manual Control Methods – Management of vegetation using hand-operated tools such as chainsaws, handsaws and other small power tools.

Mechanical Control Methods – Management of vegetation using equipment-mounted saws, mowers, shredders or equipment with rubber tires or tracks.

Minimum Vegetation Clearance Distance (MVCD) – The calculated minimum distance stated in feet (meters) to prevent flash-over between conductors and vegetation, for various altitudes and operating voltages.

Natural disaster – Includes but is not limited to earthquakes, fires, tornados, hurricanes, landslides, wind shear, fresh gale, major storms as defined either by the applicable Transmission Owner or applicable Generator Owner or an applicable regulatory body, ice storms, and floods.

North American Electric Reliability Corporation (NERC) – A not-for-profit international regulatory authority whose mission is to assure the effective and efficient reduction of risks to the reliability and security of the electric grid.

New York State Department of Public Service (NYSDPS) – The Public Service Commission regulates electric, gas, steam, telecommunications/cable, and private water utilities in New York.

Ordinance – Legal document that defines a public municipal agency's authority, describes required conditions or response actions, establishes penalties for nonconformance, and identifies who is responsible for enforcement and oversight.

Post Treatment Inspection – Think Power report following up any treatment assessing quality aspects of the work performed and next steps needed to support long-term results. This report tracks quality and next steps related activities for a line-ahead-span including landowner contact/interactions, access requirement/limitations, quality summary assessment notes, and next steps recommendations.

Pruning – Removal of branches (occasionally roots) from a tree or other plant, using approved practices, to achieve a specified objective. The intent of pruning is to leave the tree in place without defect. Pruning is a temporary solution and will require future action.

Qualified Person (for Electric Power Generation, Transmission and Distribution) – One knowledgeable in the construction and operation of the electric power generation, transmission, and distribution equipment involved, along with the associated hazards. Qualified employees shall be trained and competent in: (1) the skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment; (2) the skills and techniques necessary to determine the nominal voltage of exposed live parts; (3) the minimum approach distances corresponding to the voltages to which the qualified employee will be exposed; and (4) the proper use of precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment. An employee who is undergoing on-the-job training and who, during that training, has demonstrated an ability to perform duties safely at his level of training and who is under the direct supervision of a qualified employee is considered to be a qualified employee for the performance of those duties.

Regrowth – Continued growth of vegetation after mechanical removal or cutting. Various plant species will respond to mechanical cutting by the re-sprouting of new stems from the remaining roots or exposed stems.

Right(s)-Of-Way (ROW) – A corridor of land used for a specific purpose such as an electric transmission line or pipeline.

Risk – The combination of the likelihood of an event and the severity of the potential consequences.

Structural Defect – Any naturally occurring or secondary conditions such as cavities, poor branch attachments, cracks or other abnormalities in the trunk, crown, or roots of the tree that may indicate an increased likelihood of structural failure.

Stump Treatment – A chemical method of spot treatment. Herbicide is manually applied to freshly cut stumps of broadleaf trees and shrubs to minimize or prevent re-sprouting.

Subcontractor – The person, partnership of corporation to whom a contract or work order is assigned.

Sustained outage – An interruption in power transmission lasting a minute or greater.

Think Power – Multi-use software program used to log and store vegetation-related inspection data.

Threatened Species – Threatened species are those designated to likely become endangered within the foreseeable future through all or a significant portion of their range.

Transmission system – A transmission line rated at a single voltage defined by its starting and ending point. Start and end may be defined by a structure, substation, or other line attribute. A transmission system may have multiple circuits and various structure configurations but will be in a singular ROW corridor. If the circuit splits between the starting and ending points, the line-ahead-spans are inspected and managed separately for those segments.

Treatment Report – Think Power report following up a detailed ground inspection or post treatment recommendation for a prescribed action. This report tracks work related activities for a line-ahead-span including landowner contact/interactions, access requirement/limitations, crew members, equipment used, herbicide used, herbicide gallons used, herbicide application method, general activities results summary, and photos as found and as left.

Tree – Five inch or greater in diameter per stem, generally six feet+ tall. Trees over 5 inches in diameter should be addressed based on their full species grow potential and based on their species growth rates. Threats to overhead conductor should be considered with these parameters in mind.

Tree Mature – Ten inch or greater in diameter per stem, generally ten feet+ tall. Mature trees can be evaluated for environmental growth characteristics and may not reach their species potentials based on limiting factors such as scarcity of water, nutrients, exposure to wind, disease, and damage. At mature ages trees are more predictable and may require monitoring rather than removal.

Unqualified Employees – Must maintain the minimum approach distances from overhead power lines. Work practices for these employees are covered by, particularly 1910.333(c) (3) Subpart S. Section 1910.269 does not apply to tree trimming operations performed by unqualified employees.

Utility – A public or private entity that delivers a public service, such as electricity or communications.

Utility Arboriculture – Branch of arboriculture that provides services to utilities. Often requires specialized equipment and training of workers and is subject to standards of practice that can vary from other areas of arboriculture. Frequently associated with electrical utilities, utility arboriculture services include but are not limited to utility line clearance pruning, right of way clearing and maintenance, and integrated vegetation management practices.

Vegetation – Live or dead plant material including trees, brush, shrubs, and grasses. Vegetation that can encroach overhead electrical components are the focus of the VM programs at LSPG. Alternatively, LSPG considers all forms of vegetation and utilizes IVM practices to ensure that VM activities are beneficial to more than just the focused goal of keeping electrical systems safe and reliable.

Western Electricity Coordinating Council (WECC) Transfer Path – High voltage power links located at critical interconnection points in the North American electrical grid. These portions of the system connect major grid elements together, which can make outage impacts more severe in these areas. WECC systems are specifically classified and identified for each electrical system in operation.

Wire Zone – Area directly underneath the conductor(s). Desirable vegetation in the wire zone consists of low- growing forbs and grasses.

Woody Brush (Saplings) – Less than five inches in diameter per stem; woody plant species, typically less than six feet tall. Regardless of plant species all woody brush under five inches in stem diameter can commonly be sprayed or mowed in a universal manner. What will not be universal is how plant species will respond to either herbicide or mechanical removal. Species should be considered when the removal of densely populated woody plants is considered. The tree species of woody brush species should determine the plants growth potential for height and growth rate. Threats to overhead conductor should be considered with these parameters in mind. Woody brush species identified as compatible in a line-ahead-span should be evaluated and left in place during removal activities.