



October 25, 2022

Ski Lift and Tow New Installation Plan Review/ Inspection Requirements

All new Passenger Ropeways are required to have plans submitted to the Department for review and approval prior to any installation. All plans must be submitted through the department's eSLA Portal (esla.wi.gov). If you require assistance with the eSLA Portal, please contact the district inspector in your area. See page 4 for the inspector map.

Plan submittal for Passenger Ropeways shall include all of the following:

- 1) A completed plan approval application form with the appropriate review fees
- 2) Three sets of clear, legible, and permanent copies of plans and one copy of specifications shall be submitted for review
- 3) Plans shall include the following as applicable to the system:
 - Name of owner and location of system,
 - Name and address of system designer,
 - Plot plan showing the location of the system with respect to property lines, easements, adjoining streets, alleys, electrical transmission lines and other hazards, and any other buildings or structures on the site,
 - Site plan and profile map showing the location of towers, power units, counterweights, and pits as applicable,
 - Clearances of towers, system path, and counterweights
 - Details of construction mountings, foundations, supports, sheave assemblies, and carriages:
 - Footing and foundation and anchorage block (if applicable) sizes, reinforcement sizes, locations, depths below grade, and strengths, etc.,
 - Drive station terminal, return station terminal, and tower framing including columns, cross arm, braces, beams/headers, base plates and connection details, strengths, materials used, sizes, dimensions of components, etc.,
 - Location, design, and connection details of tow handles to the "haul rope, if applicable,
 - Sheave and carriage anchorage and connections, and
 - Plans and structural calculations correspond to one another.
- 4) Structural data including structural calculations, soil bearing capacities, live loads & itemized dead loads, unit stresses for structural materials, wire rope strengths, and capacities.

Please note: The department may request additional information be provided in order to determine the adequacy of the design of the tramway, lift, or tow.

Please Note: See SPS Table 203.12-2 for inspection fees for passenger ropeways

Acceptance Inspection for Passenger Ropeways shall include all of the following:

- 1) At least one set of department-approved plans is available on site, and the Conditional Approval letter is attached.
- 2) Inspection of each Footing/ Foundation and components prior to any placement of concrete
- 3) Final inspection of the completed lift (Signs, Load/Unload Ramps, training documentation, etc.) prior to operation to the public.

In addition to the above inspection requirements, the following additional inspection items are required based on the type of Passenger Ropeway listed on the next pages.

Gondola:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- adjustment of brakes to design deceleration rates and baseline brake torque testing;
- minimum clearances for carriers, track cable(s), and haul rope sags under the most adverse static loadings;
- proper alignment of track cable saddles and haul rope sheave units;
- proper track cable to saddle angles and unhindered inline motion of track cable in saddles as applicable;
- actual testing of evacuation equipment and procedures at the most difficult location;
- proper location of towers and terminals in accordance with the plans and specifications. Terminal and tower rope/cable working points shall be documented by an “as built” survey, and any variation from the design drawings shall be noted and approved by the engineer responsible for design;
- slip testing of carriage haul rope clamps, if used, for required force.

Detachable grip aerial lifts:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- adjustment of brakes for stopping distance and brake torque testing;
- minimum clearances for carriers, track cable and haul rope sags under the most adverse static loadings;
- proper alignment of track cable saddles (as applicable) and haul rope sheave units;
- proper track cable to saddle angles and unhindered inline motion of track cable in saddles as applicable;
- actual testing of evacuation equipment and procedures at the most difficult location;
- proper location of towers and terminals in accordance with the plans and specifications. Terminal and tower rope/cable working points shall be documented by an “as built” survey, and any variation from the design drawings shall be noted and approved by the engineer responsible for design.

Fixed grip aerial lifts:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- adjustment of brakes for stopping distance and brake torque testing;
- minimum clearances for haul rope sags under the most adverse static loadings;
- proper alignment of haul rope sheave units;
- actual testing of evacuation equipment and procedures at the most difficult location;
- proper location of towers and terminals in accordance with the plans and specifications. Terminal and tower rope working points shall be documented by an “as built” survey, and any variation from the design drawings shall be noted and approved by the engineer responsible for design.

Fixed grip aerial lifts:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- adjustment of brakes for stopping distance and brake torque testing;
- minimum clearances for haul rope sags under the most adverse static loadings;
- proper alignment of haul rope sheave units;
- actual testing of evacuation equipment and procedures at the most difficult location;
- proper location of towers and terminals in accordance with the plans and specifications. Terminal and tower rope working points shall be documented by an “as built” survey, and any variation from the design drawings shall be noted and approved by the engineer responsible for design.

Surface lifts:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- adjustment of brake(s) and/or rollback devices if installed;
- haul rope sags;
- proper alignment of haul rope sheave units;
- retraction of towing devices;
- proper location of towers, bents, and terminals in accordance with the plans and specifications. Terminal and tower haul rope working points shall be documented by an “as built” survey, and any variation from the design drawings shall be noted and approved by the engineer responsible for design.

Tows:

- tightness of all structural connections;
- lubrication of all moving parts;
- alignment and clearances of all open gearing;
- installation and alignment of all drive system components;
- position and freedom of movement of counterweights or other tension systems and carriages;
- haul rope alignment at entrance to bullwheels;
- operation of all electrical components, including circuit protection and grounding;
- horizontal and vertical clearances (see 6.1.1.5.1 through 6.1.1.5.3);
- terminals for correct location and installation in accordance with plans and specifications;
- condition of haul rope splice.

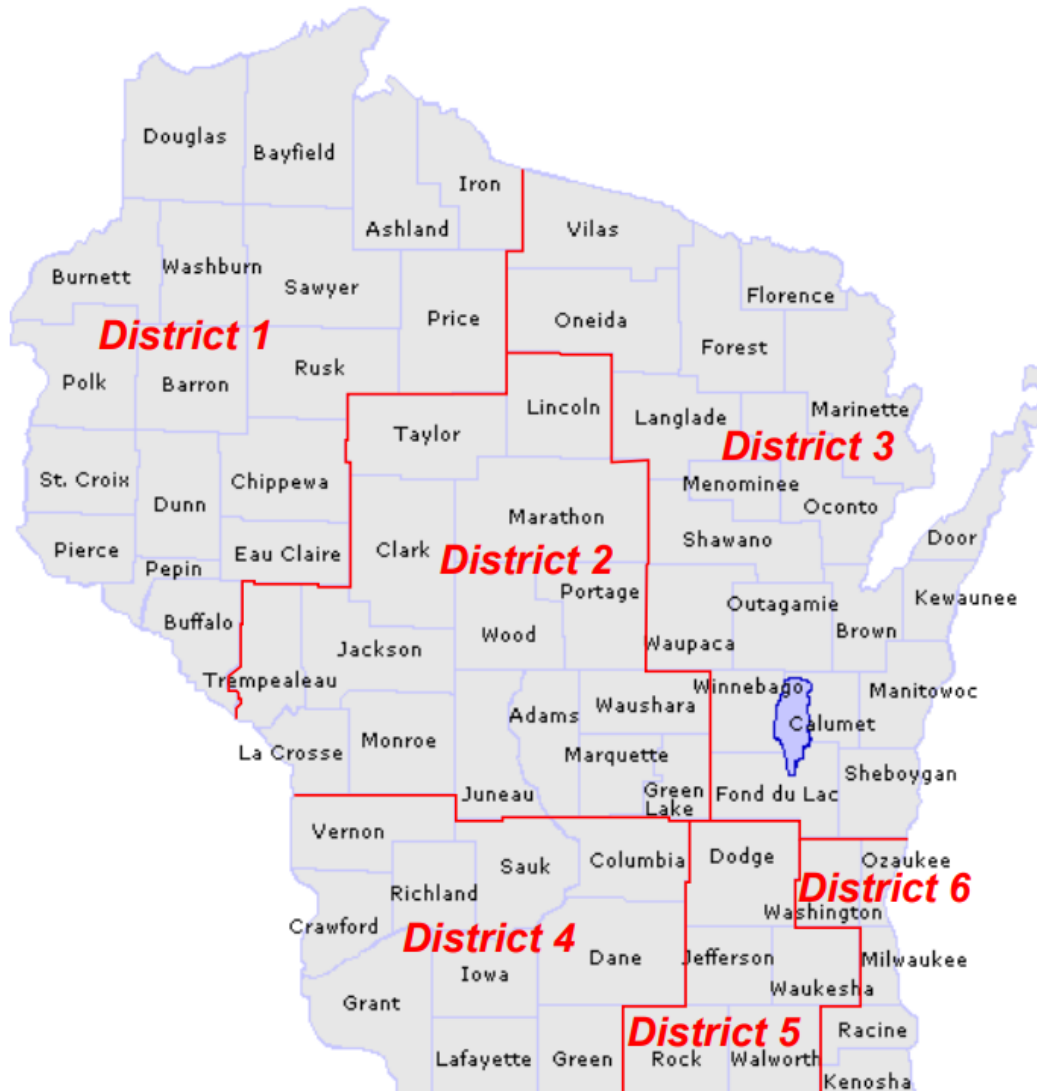
Conveyors:

- tightness of all structural connections;
- lubrication of all moving parts;
- installation and alignment of all drive system components;
- proper function of belt tensioning components;
- conveyor belt alignment;
- conveyor belt splice (see 7.1.4.1);
- operation of all electrical components including circuit protection and grounding;
- path width and clearances (see 7.1.1.4.2, 7.1.1.5);
- conveyor installed in accordance with plans and specifications;
- if installed, adjustment of brake(s) for stopping distance and/or rollback device tested.

Please note:

- The department may request additional information be provided to determine the adequacy of the tramway, lift or tow design.
- See [SPS Table 302.12-2](#) for inspection fees for passenger ropeways
- A notice shall be given to the department at least 5 business days prior to the time the passenger ropeway will be ready for acceptance inspection

Please reach out to your area inspector (<https://dsps.wi.gov/Documents/Programs/Maps/PublicSafety.pdf>) for more information.



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