

Exhibit 13

Northern Pass Project Visual Simulations and Methodology Description

Exhibit 13
Visual Simulations and Methodology Description

As noted in the DOE application, visual simulations were developed to provide a sense of what the Project will look like from various locations. In addition to the simulations that are listed below and part of this Exhibit 13, additional simulations can be found on the Northern Pass website.

Simulation sites:

Diamond Pond Road	Colebrook
Stark Highway	Stark
Lancaster Overlook	Lancaster
Weeks State Park	Lancaster
The Rocks Estate	Bethlehem
Mount Pemigewasset	Lincoln
Tripoli Road	Woodstock
NH Route 132	Ashland
Turtle Pond	Concord
Deerfield Town Hall	Deerfield

The development of simulations involves the following steps:

Step 1: Data Gathering

A. Site Visit

Site information for simulation viewpoint is recorded, including view location (GPS point), date, time and weather.

B. Site Photography

Site photographs were taken for use in simulation. Camera type, focal length (approx. 50-55mm), camera elevation, direction of view, and horizontal angle of view were noted.

Step 2: Model Creation

A. Base Map & Terrain Model

A digital base map is created of the project and view areas. GIS data, aerial photographs and USGS maps are used as needed. Using the base map and GIS data, a 3D digital terrain model

is created. Where forested, the terrain model is adjusted to account for the additional height contributed by trees.

B. Corridor/Structure Model

Corridor data and drawings obtained from Northern Pass, along with 3D digital models of proposed structures, are merged with the terrain model. Structures are then placed at their proposed locations and elevations. Structure elevations are set using LIDAR data.

C. View Setting

The existing conditions photograph is imported into the terrain model. The data gathered from the site visit is then inputted into the modeling program (VectorWorks 2008), and a "3D camera view" matching the original site conditions is created. A digital image of this view is exported for use in the next step.

Step 3: Simulation Rendering

A. Conditions Overlay

Using a photo editing and rendering program (Photoshop CS5), the exported digital image of the perspective view is precisely overlaid and registered to the original existing conditions photograph. Simulations are typically composed of panorama photos (50% overlap on either side of center frame) in order to represent the way views are perceived given the normal range of eye and head motion.

B. Structure/Conductors Placement

High-resolution images of the structure model (from SketchUp Pro 8) are placed at proper locations, scale and perspective to match the exported view image.

C. Final Rendering

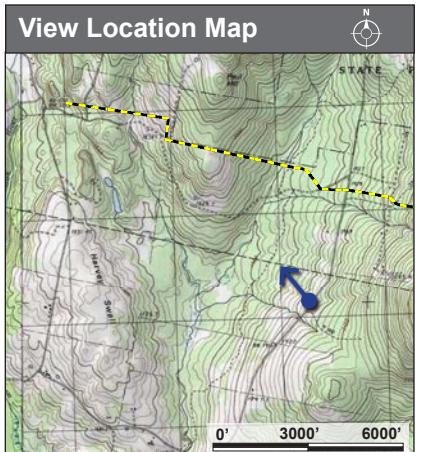
Structures and conductors are adjusted to mimic quality of light, distance and detail in the site photograph. The screening effects of vegetation and other visual obstructions are accounted for.

Existing Conditions from Diamond Pond Road, Colebrook

Northern Pass Transmission Project

6/27/13 LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information	
Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): N/A
	Right of way width: N/A
Photograph Information	Date and time: 10/11/12; 10:50am
	Weather conditions: Partly cloudy
	Location: Diamond Pond Road, Colebrook; facing North/ West 44.916468° N, -71.339899° W
	Camera elevation above sea level: 1,950' (594.4m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: N/A
	Software: Adobe Photoshop CS5
	Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop

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Visual Simulation from Diamond Pond Road, Colebrook - Lattice

Northern Pass Transmission Project

6/27/13 LandWorks

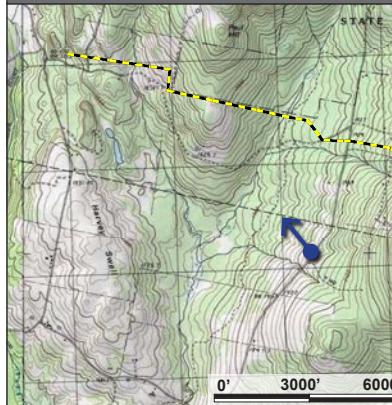
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice
	Height range of proposed transmission structures (visible): 90' - 120'
	Height range of existing transmission structures (visible): N/A
	Right of way width: 150' corridor on NPT property
Photograph Information	Date and time: 10/11/12; 10:50am
	Weather conditions: Partly cloudy
	Location: Diamond Pond Road, Colebrook; facing North/ West 44.916468° N, -71.339899° W
	Camera elevation above sea level: 1,950' (594.4m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.88 miles (1.42 km) Furthest: 1.65 miles (2.66 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Visual Simulation from Diamond Pond Road, Colebrook - Monopole

Northern Pass Transmission Project

6/27/13 LandWorks

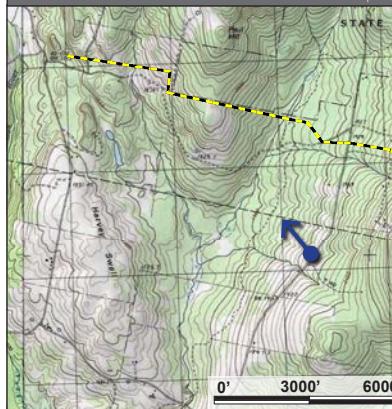
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal monopole
	Height range of proposed transmission structures (visible): 90' - 120'
	Height range of existing transmission structures (visible): N/A
	Right of way width: 150' corridor on NPT property
Photograph Information	Date and time: 10/11/12; 10:50am
	Weather conditions: Partly cloudy
	Location: Diamond Pond Road, Colebrook; facing North/ West 44.916468° N, -71.339899° W
	Camera elevation above sea level: 1,950' (594.4m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.88 miles (1.42 km) Furthest: 1.65 miles (2.66 km)
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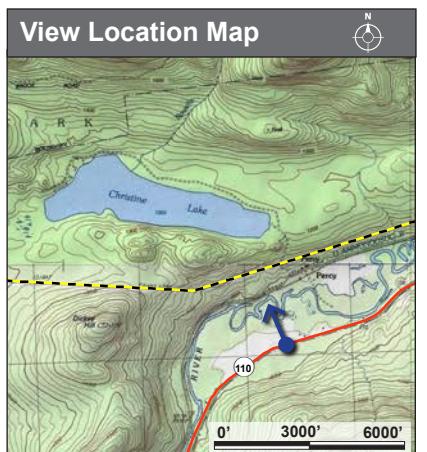


Existing Conditions from Stark Highway, Stark Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 43' - 56.5'
	Right of way width: 150'
Photograph Information	Date and time: 10/10/12; 11:00am
	Weather conditions: Partly cloudy
	Location: Stark Highway, Stark; facing North/ West 44.618249° N, -71.389579° W
	Camera elevation above sea level: 980' (298.7m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.50 miles (0.80 km) Furthest: 0.57 miles (0.92 km)
	Software: Adobe Photoshop CS5
Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop	

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Visual Simulation from Stark Highway, Stark - Lattice

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice, 115kV vertical galvanized monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 85' - 100' and 115kV 83.5' - 92.5'
	Height range of existing transmission structures (visible): Removed
	Right of way width: 150', no additional width required
Photograph Information	Date and time: 10/10/12; 11:00am
	Weather conditions: Partly cloudy
	Location: Stark Highway, Stark; facing North/ West 44.618249° N, -71.389579° W
	Camera elevation above sea level: 980' (298.7m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.50 miles (0.80 km) Furthest: 0.57 miles (0.92 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

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Visual Simulation from Stark Highway, Stark - Monopole

Northern Pass Transmission Project

2/27/13

LandWorks

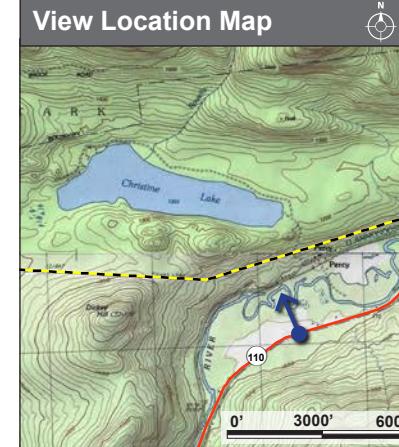
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal monopole, 115kV vertical weathered steel monopole (relocated)	
	Height range of proposed transmission structures (visible): HVDC 85' - 100' and 115kV 83.5' - 92.5'	
	Height range of existing transmission structures (visible): Removed	
	Right of way width: 150', no additional width required	
Photograph Information	Date and time: 10/10/12; 11:00am	Weather conditions: Partly cloudy
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	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5	
Technical Information	Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

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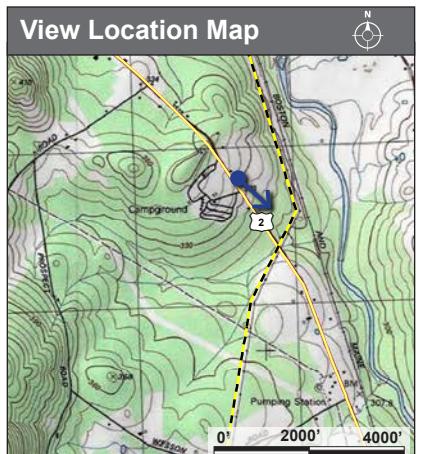
Existing Conditions from Lancaster Overlook, Lancaster

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 56.5'
	Right of way width: 150'
Photograph Information	Date and time: 10/10/12; 10:20am
	Weather conditions: Partly sunny
	Location: Lancaster Overlook on Rte. 2, Lancaster, facing South/East 44.468° N, -71.543° W
	Camera elevation above sea level: 1,120' (341.4m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.31 miles (0.50 km)
	Software: Adobe Photoshop CS5
	Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop

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Visual Simulation from Lancaster Overlook, Lancaster - Lattice

Northern Pass Transmission Project

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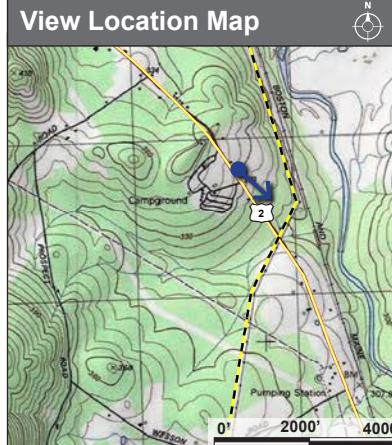
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice, 115kV vertical galvanized monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 105'-110' and 115kV 74.5' - 101.5'
	Height range of existing transmission structures (visible): Removed
	Right of way width: 150', no additional width required
Photograph Information	Date and time: 10/10/12; 10:20am
	Weather conditions: Partly sunny
	Location: Lancaster Overlook on Rte. 2, Lancaster, facing South/East 44.468° N, -71.543° W
	Camera elevation above sea level: 1,120' (341.4m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
	Distance to nearest visible structure: 0.26 miles (0.42 km) Furthest: 0.31 miles (0.49 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

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Visual Simulation from Lancaster Overlook, Lancaster - Monopole

Northern Pass Transmission Project

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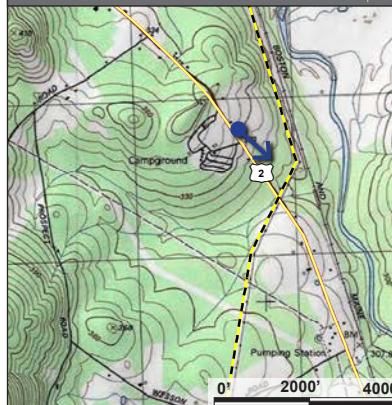
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal monopole, 115kV vertical weathered steel monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 105'-110' and 115kV 74.5' - 101.5'
	Height range of existing transmission structures (visible): Removed
	Right of way width: 150', no additional width required
Photograph Information	Date and time: 10/10/12; 10:20am
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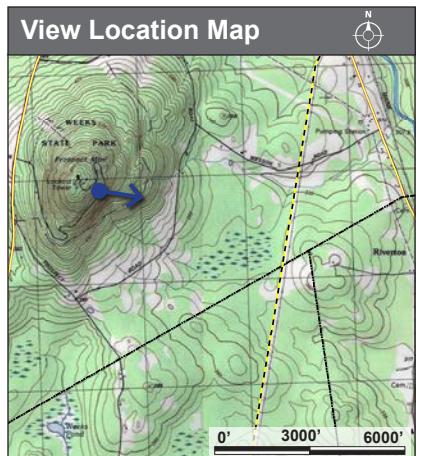
Existing Conditions from Weeks State Park, Lancaster

2/27/13

LandWorks

Northern Pass Transmission Project

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 43' - 61'
	Right of way width: 190'
Photograph Information	Date and time: 03/30/11; 10:35am
	Weather conditions: Bright overcast
	Location: East overlook at Weeks State Park, Lancaster; facing East 44.450° N, -71.568° W
	Camera elevation above sea level: 1850' (563.9 m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 1.14 miles (1.83 km) Furthest: 1.24 miles (1.99 km)
	Software: Adobe Photoshop CS5
Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop	

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Visual Simulation from Weeks State Park, Lancaster - Lattice

Northern Pass Transmission Project

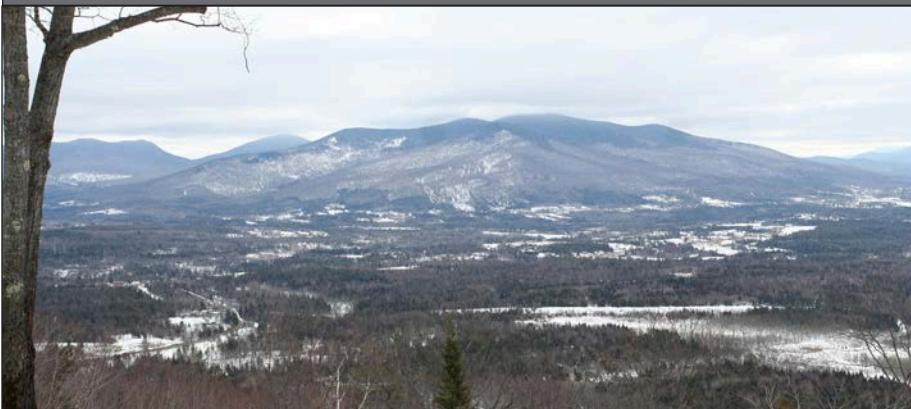
2/27/13

LandWorks

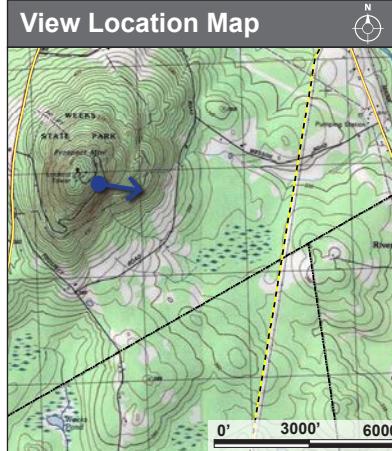
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice, 115kV vertical galvanized monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 85' - 100' & 115kV 74.5' - 88'
	Height range of existing transmission structures (visible): Removed
	Right of way width: 190', no additional width required
Photograph Information	Date and time: 03/30/11; 10:35am
	Weather conditions: Bright overcast
	Location: East overlook at Weeks State Park, Lancaster; facing East 44.450° N, -71.568° W
	Camera elevation above sea level: 1850' (563.9 m)
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Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Visual Simulation from Weeks State Park, Lancaster - Monopole

Northern Pass Transmission Project

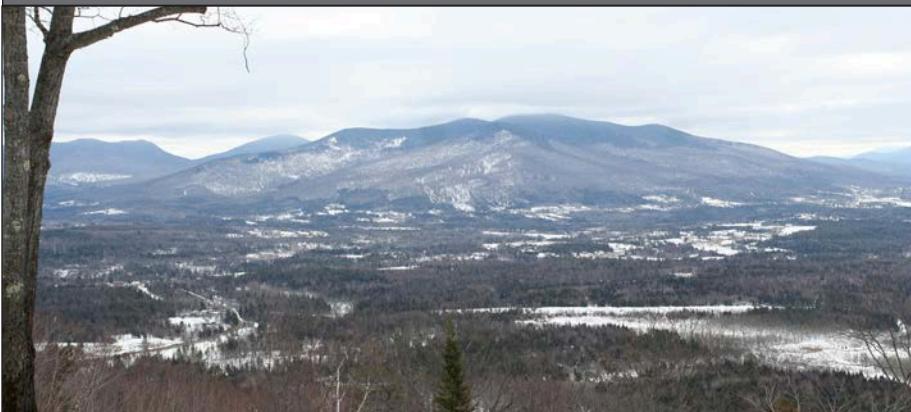
2/27/13

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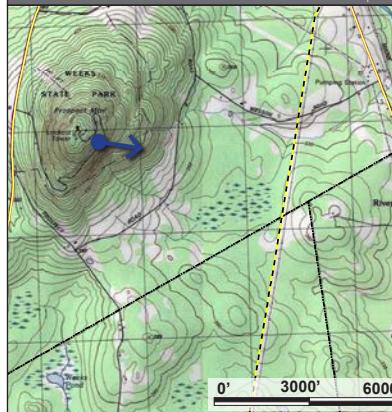
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

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PRELIMINARY

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Existing Conditions from The Rocks Estate, Bethlehem Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 43' - 56.5'
	Right of way width: 265'
Photograph Information	Date and time: 10/11/12; 3:00pm
	Weather conditions: Sunny
	Location: Tree and Mountain Overlook, The Rocks Estate, Bethlehem; facing North/East 44.282° N, -71.733° W
	Camera elevation above sea level: 1280' (390.2m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Distance to nearest visible structure: 0.61 miles (0.99 km) Furthest: 4.82 miles (7.76 km)	
Software: Adobe Photoshop CS5	
Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop	

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Visual Simulation from The Rocks Estate, Bethlehem - Lattice

Northern Pass Transmission Project

2/27/13

LandWorks

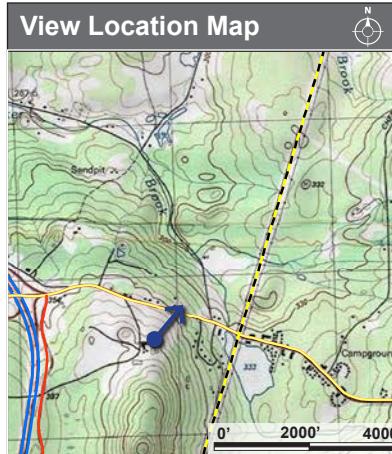
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice
	Height range of proposed transmission structures (visible): 80' - 110'
	Height range of existing transmission structures (visible): 43' - 56.5'
	Right of way width: 265', no additional width required
Photograph Information	Date and time: 10/11/12; 3:00pm
	Weather conditions: Sunny
	Location: Tree and Mountain Overlook, The Rocks Estate, Bethlehem; facing North/East 44.282° N, -71.733° W
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Visual Simulation from The Rocks Estate, Bethlehem - Monopole

Northern Pass Transmission Project

2/27/13

LandWorks

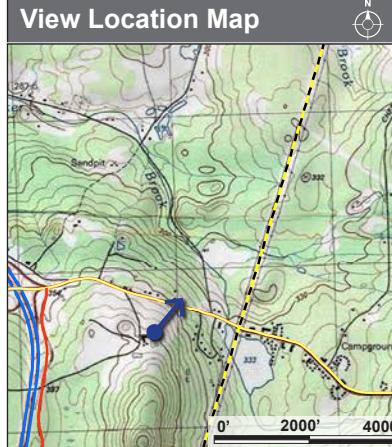
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



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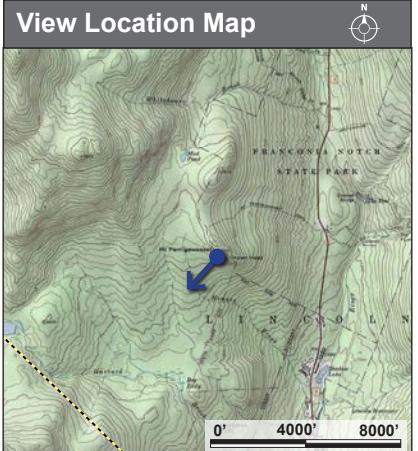
Existing Conditions from Mount Pemigewasset, White Mountain National Forest

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information	
Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 42' - 56'
	Right of way width: 150' WMNF Special Use Permit Area
Photograph Information	Date and time: 07/14/11; 10:25am
	Weather Conditions: Sunny
	Location: Summit Mt. Pemigewasset, Lincoln; facing Southwest 44.0976° N, -71.6996° W
	Camera elevation above sea level: 2,535' (772.6 m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 1.75 miles (2.81 km) Furthest: 1.97 miles (3.16 km)
	Software: PhotoShop CS5
Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop	

PRELIMINARY



Visual Simulation from Mount Pemigewasset, White Mountain National Forest - Lattice

2/27/13

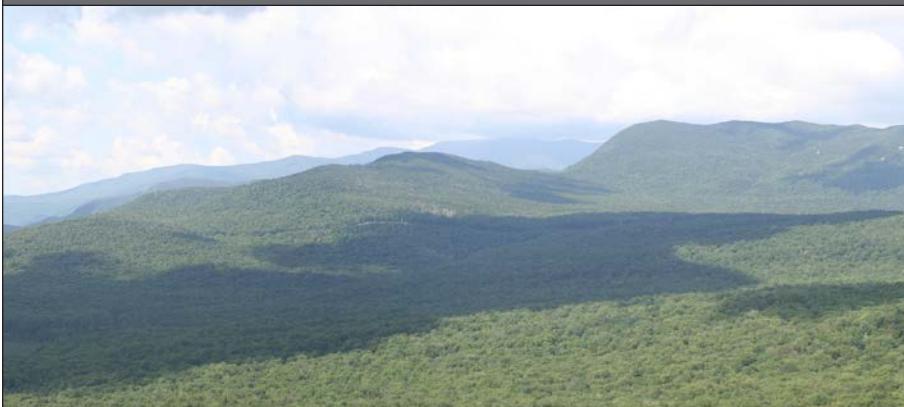
LandWorks

Northern Pass Transmission Project

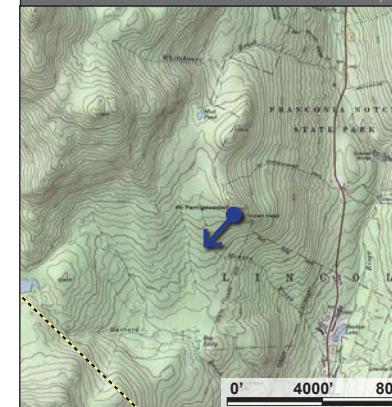
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice, 115kV vertical galvanized monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 75' - 100', 115kV 79' - 106'
	Height range of existing transmission structures (visible): Removed
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	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Data set 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

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Visual Simulation from Mount Pemigewasset, White Mountain National Forest - Monopole

Northern Pass Transmission Project

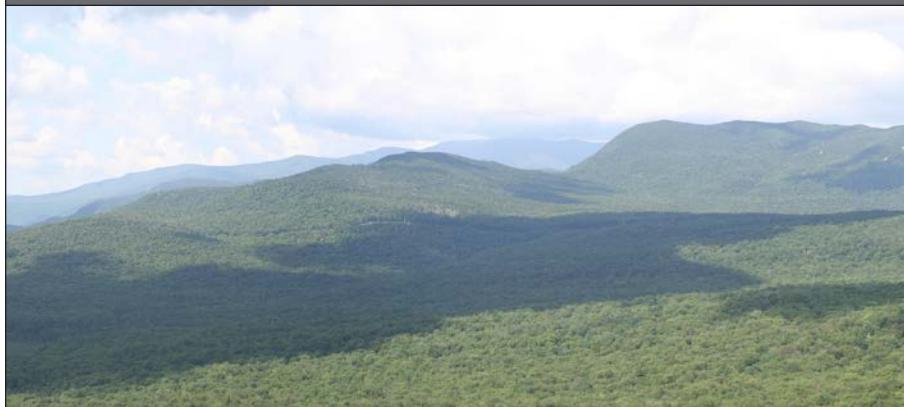
2/27/13

LandWorks

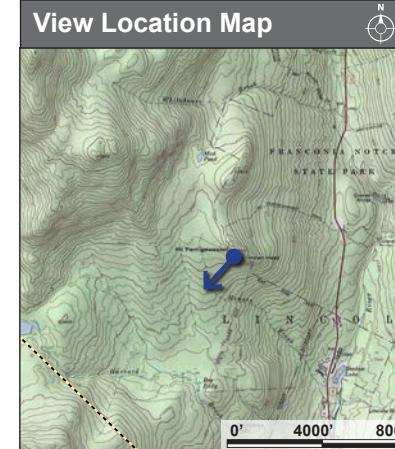
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal monopole, 115kV vertical weathered steel monopole (relocated)
	Height range of proposed transmission structures (visible): HVDC 75' - 100', 115kV 79' - 106'
	Height range of existing transmission structures (visible): Removed
	Right of way width: 150' WMNF Special Use Permit Area
Photograph Information	Date and time: 07/14/11; 10:25am
	Weather conditions: Sunny
	Location: Summit Mt. Pemigewasset, Lincoln; facing Southwest 44.0976° N, -71.6996° W
	Camera elevation above sea level: 2,535' (772.6 m)
	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 1.75 miles (2.81 km) Furthest: 1.97 miles (3.16 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Data set 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Existing Conditions from Tripoli Road, Woodstock

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A Height range of proposed transmission structures (visible): N/A Height range of existing transmission structures (visible): 42' - 47.5' Right of Way width: 225'
Photograph Information	Date and time: 03/24/11; 12:00 pm Weather conditions: Overcast Location: Tripoli Road (near Exit 31), Woodstock; facing North; 43.989° N, -71.673° W Camera elevation above sea level: 790' (240.8m) Simulation viewing distance: 18" (45.72 cm) Focal length (35mm equivalent): 56mm Distance to nearest visible structure: 0.56 miles (0.91 km) Furthest: 0.94 miles (1.51 km)
Technical Information	Software: Adobe Photoshop CS5 Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop

PRELIMINARY

Note: Existing photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop.



Visual Simulation from Tripoli Road, Woodstock - Lattice

Northern Pass Transmission Project

2/27/13

LandWorks

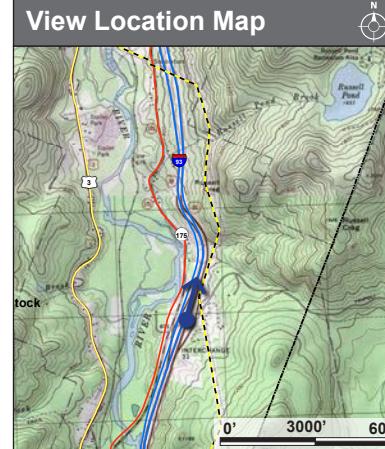
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal lattice
	Height range of proposed transmission structures (visible): 80' - 105'
	Height range of existing transmission structures (visible): 42' - 47.5'
	Right of Way width: 225', no additional width, 75' of additional clearing within existing ROW
Photograph Information	Date and time: 03/24/11; 12:00 pm
	Weather conditions: Overcast
	Location: Tripoli Road (near Exit 31), Woodstock; facing North; 43.989° N, -71.673° W
	Camera elevation above sea level: 790' (240.8m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
	Distance to nearest visible structure: 0.56 miles (0.91 km) Furthest: 0.94 miles (1.51 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Visual Simulation from Tripoli Road, Woodstock - Monopole

Northern Pass Transmission Project

2/27/13

LandWorks

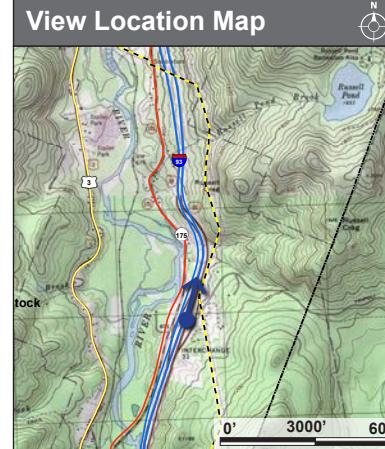
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HVDC horizontal monopole Height range of proposed transmission structures (visible): 80' - 105' Height range of existing transmission structures (visible): 42' - 47.5' Right of Way width: 225', no additional width, 75' of additional clearing within existing ROW
Photograph Information	Date and time: 03/24/11; 12:00 pm Weather conditions: Overcast Location: Tripoli Road (near Exit 31), Woodstock; facing North; 43.989° N, -71.673° W Camera elevation above sea level: 790' (240.8m) Simulation viewing distance: 18" (45.72 cm) Focal length (35mm equivalent): 56mm Distance to nearest visible structure: 0.56 miles (0.91 km) Furthest: 0.94 miles (1.51 km)
Technical Information	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5 Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Existing Conditions from Route 132, Ashland

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A Height range of proposed transmission structures (visible): N/A Height range of existing transmission structures (visible): 43' - 52' Right of way width: 225'
Photograph Information	Date and time: 05/09/11; 2:00 pm Weather conditions: Sunny with some clouds Location: Route 132, Ashland; facing North / Northeast 43.669° N, -71.646° W Camera elevation above sea level: 542' (165.2m) Simulation viewing distance: 18" (45.72 cm) Focal length (35mm equivalent): 56mm Distance to nearest visible structure: 0.05 miles (0.08 km) Furthest: 0.27 miles (0.44 km)
Technical Information	Software: Adobe Photoshop CS5 Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop

PRELIMINARY



Visual Simulation from Route 132, Ashland - Lattice

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HDVC horizontal lattice
	Height range of proposed transmission structures (visible): 90'-110'
	Height range of existing transmission structures (visible): 43' - 52'
	Right of way width: 225', no additional width required
Photograph Information	Date and time: 05/09/11; 2:00 pm
	Weather conditions: Sunny with some clouds
	Location: Route 132, Ashland; facing North / Northeast 43.669° N, -71.646° W
	Camera elevation above sea level: 542' (165.2m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
	Distance to nearest visible structure: 0.05 miles (0.08 km) Furthest: 0.27 miles (0.44 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Visual Simulation from Route 132, Ashland - Monopole

Northern Pass Transmission Project

2/27/13

LandWorks

Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: HDVC horizontal monopole	
	Height range of proposed transmission structures (visible): 90'-110'	
	Height range of existing transmission structures (visible): 43' - 52'	
	Right of way width: 225', no additional width required	
Photograph Information	Date and time: 05/09/11; 2:00 pm	Weather conditions: Sunny with some clouds
	Location: Route 132, Ashland; facing North / Northeast 43.669° N, -71.646° W	
	Camera elevation above sea level: 542' (165.2m)	
	Simulation viewing distance: 18" (45.72 cm)	Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.05 miles (0.08 km) Furthest: 0.27 miles (0.44 km)	
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5	
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)		

PRELIMINARY

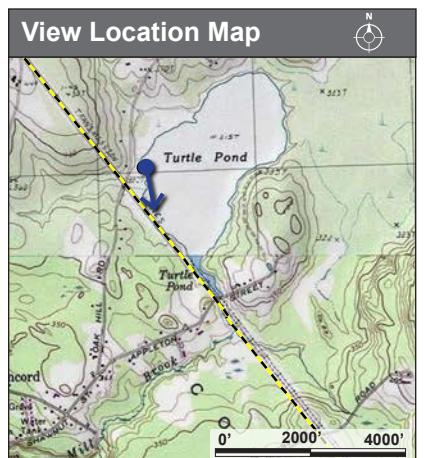
Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Existing Conditions from Turtle Pond, Concord Northern Pass Transmission Project

6/27/13 LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information	
Transmission Line Information	Proposed structure type: N/A
	Height range of proposed transmission structures (visible): N/A
	Height range of existing transmission structures (visible): 43' - 92.5'
	Right of way width: 257'-6";
Photograph Information	Date and time: 03/09/11; 2:56 pm
	Weather conditions: Cloudy
	Location: Off Oak Hill Road (Turtle Pond), Concord; facing South; 43.255° N, -71.521° W
	Camera elevation above sea level: 322' (98.1 m)
	Simulation viewing distance: 18" (45.72 cm) Focal length (35mm equivalent): 56mm
Technical Information	Distance to nearest visible structure: 0.15 miles (0.23 km) Furthest: 0.91 miles (1.46 km)
	Software: Adobe Photoshop CS5
Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and photomerged using Photoshop	

PRELIMINARY



Visual Simulation from Turtle Pond, Concord - H Frame

Northern Pass Transmission Project

6/27/13 LandWorks

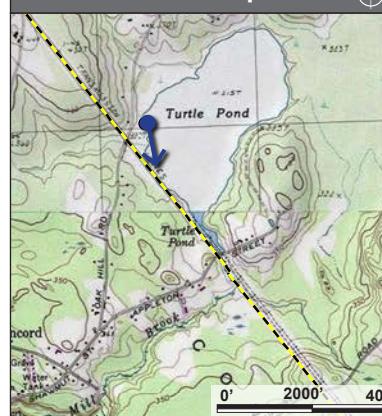
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: 345kV AC H frame, 115kV vertical monopole, 34.5kV distribution line
	Height range of proposed transmission structures (visible): 345kV 85' - 110' & 115kV 79' - 101.5'
	Height range of existing transmission structures (visible): 43' - 92.5'
	Right of way width: 257'-6", no additional width required
Photograph Information	Date and time: 03/09/11; 2:56 pm
	Weather conditions: Cloudy
	Location: Off Oak Hill Road (Turtle Pond), Concord; facing South; 43.255° N, -71.521° W
	Camera elevation above sea level: 322' (98.1 m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
	Distance to nearest visible structure: 0.14 miles (0.22 km) Furthest: 0.88 miles (1.41 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5
Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)	

PRELIMINARY

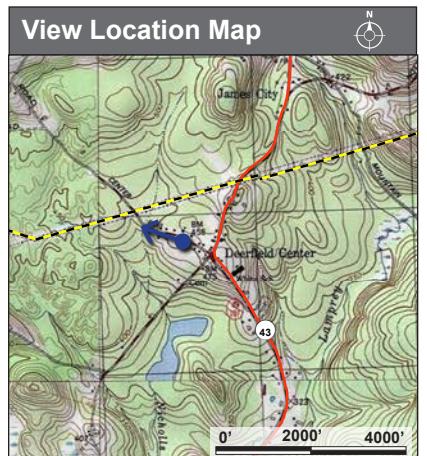
Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Existing Conditions from Deerfield Town Hall, Deerfield Northern Pass Transmission Project

2/27/13 LandWorks

Prepared by LandWorks, Middlebury, VT



Simulation Information

Transmission Line Information	Proposed structure type: N/A Height range of proposed transmission structures (visible): N/A Height range of existing transmission structures (visible): None visible Right of Way width: 200'
Photograph Information	Date and time: 4/14/10; 3:07pm Weather conditions: Sunny with some clouds Location: Deerfield Rd. at Town Hall, Deerfield; facing West 43.133° N, -71.243° W Camera elevation above sea level: 445' (135.6 m) Simulation viewing distance: 18" (45.72 cm) Focal length (35mm equivalent): 56mm Distance to nearest visible structure: N/A
Technical Information	Software: Adobe Photoshop CS5 Note: Photo is a panorama using 3 photos taken from a Cannon Rebel SLR and merged using Photoshop

PRELIMINARY



Visual Simulation from Deerfield Town Hall, Deerfield - Lattice

Northern Pass Transmission Project

2/27/13

LandWorks

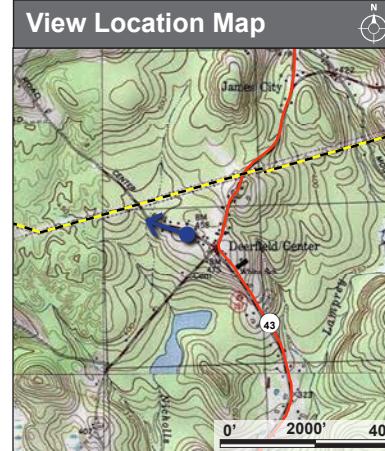
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: 345KV AC vertical lattice
	Height range of proposed transmission structures (visible): 120'-125'
	Height range of existing transmission structures (visible): None visible
	Right of Way width: 200', no additional width required
Photograph Information	Date and time: 4/14/10; 3:07pm
	Weather conditions: Sunny with some clouds
	Location: Deerfield Rd. at Town Hall, Deerfield; facing West 43.133° N, -71.243° W
	Camera elevation above sea level: 445' (135.6 m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
	Focal length (35mm equivalent): 56mm
	Distance to nearest visible structure: 0.20 miles (0.32 km) Furthest: 0.30 miles (0.48 km)
	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5 Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.



Visual Simulation from Deerfield Town Hall, Deerfield - Monopole

Northern Pass Transmission Project

2/27/13

LandWorks

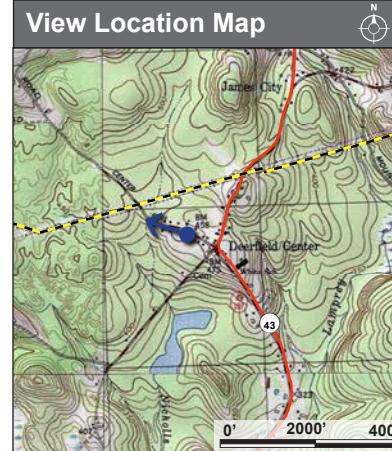
Prepared by LandWorks, Middlebury, VT



Existing Conditions Photograph



View Location Map



Simulation Information

Transmission Line Information	Proposed structure type: 345KV AC vertical monopole
	Height range of proposed transmission structures (visible): 120'-125'
	Height range of existing transmission structures (visible): None visible
	Right of Way width: 200', no additional width required
Photograph Information	Date and time: 4/14/10; 3:07pm
	Weather conditions: Sunny with some clouds
	Location: Deerfield Rd. at Town Hall, Deerfield; facing West 43.133° N, -71.243° W
	Camera elevation above sea level: 445' (135.6 m)
Technical Information	Simulation viewing distance: 18" (45.72 cm)
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	Software: Nemetschek VectorWorks 2008; SketchUp Pro 8; Adobe Photoshop CS5 Digital elevation data source: USGS National Elevation Dataset 1/3 Arc-Second (NED 1/3)

PRELIMINARY

Note: Simulation is based upon a preliminary design. Exact structure height, location and color will be finalized during the detail design and permitting process.

