

Forest Preserve Work Plan
for
Construction of New Facilities and Expansion or
Modification of Existing Facilities
Fiscal Year 2023-2024
Project # 2023-NV-006

Region 5	Project Title Wakely Mountain Trail Bridge Replacement
--------------------	------------------------------------------------------------------

Project Type	Town(s)	County	Management Unit
Modification of Existing Facility	Lake Pleasant	Hamilton County	Moose River Plains Wild Forest/ Blue Ridge Wilderness

Description of Desired Condition(s) for Project:

The Wakely Mountain trail is popular hiking trail for fire tower enthusiasts and visitors to the region. The trail is classified as a class IV secondary trail and use is consistently moderate to high during the summer and fall months. The trail crosses between Moose River Plains Wild Forest, Blue Ridge Wilderness, and Wakely Mountain Primitive Area. Management actions are similarly listed in both UMPs.

Approximately one mile from the trailhead the trail traverses over a small, but flashy stream. An 18-foot bridge, constructed with scavenged timbers allows for passage over the unnamed stream. In recent years, the bridge has become dilapidated, resulting in unsafe conditions and an increase in stream bank erosion from users seeking an alternative crossing. This workplan is seeking approval to replace the old bridge, in the same location, using pressure treated dimensional lumber. This management action is allowable in each respective UMP and is necessary to protect natural resources. As a class IV secondary trail, acceptable maintenance statements recognize that higher use may warrant greater use of bridges for resource protection.

Both the MRPWF and BRW UMPs state “Though bridging or trail-hardening structures should not be provided at every wet spot, permitting a trail to pass unimproved through extensive wetlands or across streams with unstable banks can lead to unacceptable impacts to vegetation, soils, aquatic habitats, and natural visual character. On existing trails, significant wet areas should be avoided through trail relocation, where feasible. Where terrain restrictions prevent relocation, appropriate types of bridging or trail hardening should be installed where necessary to protect natural resources.”

Desired conditions and objectives from the 2006 BRW UMP are as follows: 1.)Provide visitors with a trail system that offers a range of wilderness recreational opportunities in a manner that keeps natural resource impacts and maintenance needs to a minimum. 2.)Aggressively maintain marked trails to appropriate wilderness standards. Emphasize resource protection and visitor safety rather than user convenience or comfort. Actions to meet these objectives include maintenance of bridges, including repairs and reconstruction.

Description of Project Specifications:

Preferred Management Action: The current bridge is approximately 18 feet long and 3 feet wide, constructed from scavenged timbers. Although the crossing is not wide, and water flow is mostly low, stream bank erosion is evident from past flood events, suggesting a tendency for the stream to become flashy at times. This workplan is proposing to slightly increase the length of the bridge, placing the sills an additional foot away from the streambank on each side. This will help safeguard the structure from flood events.

The replacement bridge will be constructed by Lands and Forests staff under low water conditions. Staff will transport all building materials to the site utilizing an ATV. Transport will follow CP-17 guidance and will only take place under

favorable weather and trail conditions. Construction will be done with pressure treated, dimensional lumber and be built 20 feet long and approximately 4 feet wide. A railing will be placed along the upstream side of the bridge, as per guidance for pedestrian bridges (Foot Bridge Guidance, 1986). The bridge design is based on the U.S Forest Service Standard Trail Plans "Timber Stringer Trail Bridge," with a few alterations to fit our project site. Bridge plans, site map, and photo documentation are attached to this workplan.

Description of Measures Taken to Avoid, Mitigate and Minimize Impacts to Natural Resources:

A.) Trees to Be Removed: No trees will be removed during the implementation of this workplan.

B.) Earthwork and Disturbance, Including Identification of Work Outside of the Project Footprint: This project will avoid significant terrain modifications and minimize soil disturbance. Earthwork will be exclusively associated with setting and leveling the sills for the bridge. There will be no work outside of the project footprint.

C.) Impacts to Streams, Waterbodies, and Wetlands: This project is specifically designed to avoid and minimize impacts to the unnamed stream. By providing resource users a single passage across the stream, erosion from foot traffic is drastically reduced, if not eliminated. The water level of the stream changes from season to season and observations indicate the stream has the potential to be "flashy" during periods of extended rain or storm events. To safeguard the new bridge from these changing conditions, the replacement will be approximately 2 feet longer and built slightly higher than the original bridge to accommodate higher water levels. As per the APA Wetlands data set, the project is not located in a classified wetland.

D.) Identification of Rare, Threatened or Endangered Species: A GIS search of available datasets revealed no instances of rare, threatened, endangered species, plant communities, or habitats in the vicinity of the project.

Analysis of Project Location and Design Alternatives:

No Action Alternative: During the planning process, a no action alternative was considered. The damaged bridge would be removed from the current crossing, and resource users would be left to ford the stream at various locations. The elimination of a single crossing would drastically increase natural resource impacts including erosion along the banks of the outlet, trampling of vegetation, and the creation of herd paths to alternative crossings downstream. Due to resource concerns, this alternative is not preferred.

Alternative 1: Preferred Alternative: Replace the bridge in the current location. The preferred option is to replace the bridge in the current location, using pressure treated and dimensional lumber as described above.

Alternative 2: Reconstruct the bridge using native timbers. Native timbers were considered for the replacement bridge. A survey of the location for suitable trees yielded no suitable timbers in proximity. Additionally, the capacity of treated lumber to remain sound for longer periods of time, is preferable over native timber use and aligns with ASLMP basic guideline directing structures be designed to require minimal maintenance.

Description of Use of Motorized Equipment and/or Motor Vehicles, if any:

An ATV will be used to transport bridge materials to the project site. Transport will happen exclusively on the old Wakely Mountain Road, in MRPWF, under favorable conditions to reduce impacts. All ATV use will be done in accordance with the CP-17 policy. A gas-powered chainsaw will be used to cut lumber to size.

Description of Applicable Standards for Accessibility by People with Disabilities:

Due to rugged and unsuitable terrain, the Wakely Mountain trail is not ADA accessible, therefore the bridge has not been designed following ADA specifications. If, in the future, the trail is rebuilt to become accessible, all structures will be modified to reach ADA compliance.

Other Relevant Considerations:

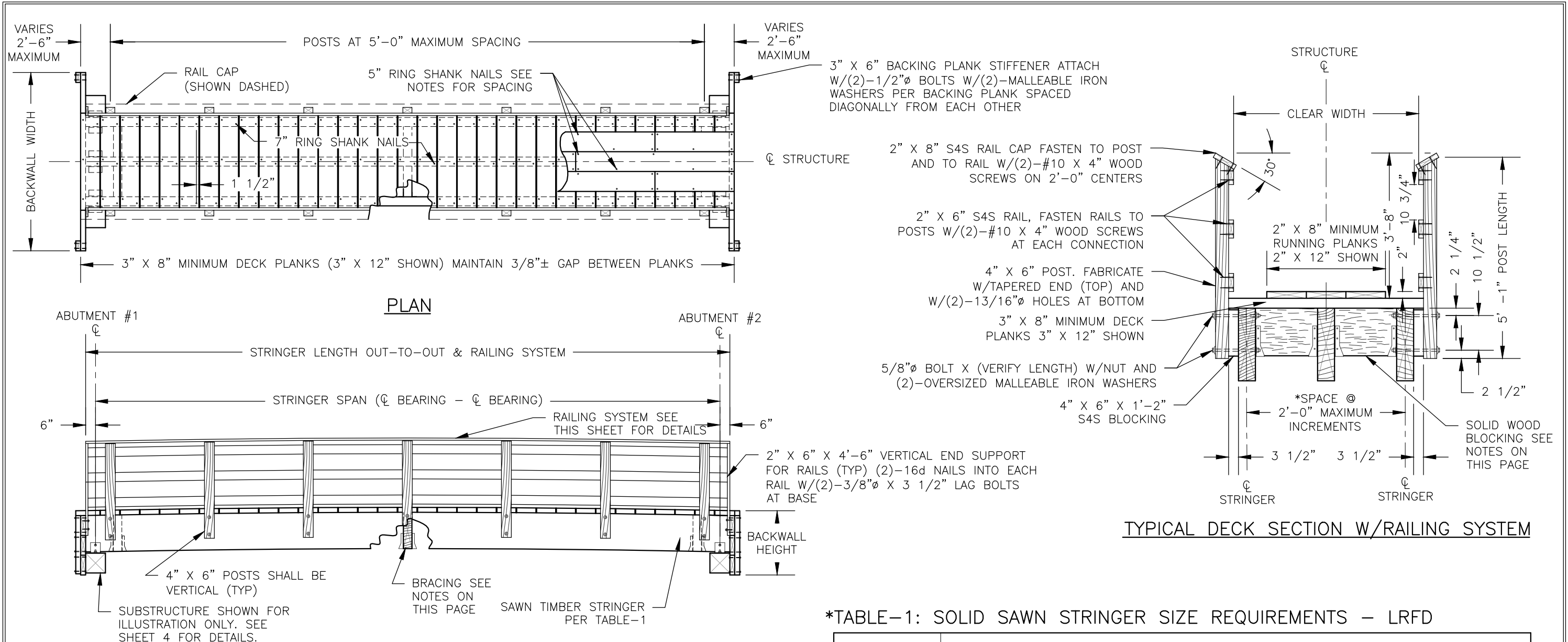
The Wakely Mountain trail is located partially within the Moose River Plains Wild Forest and Blue Ridge Wilderness and Wakely Mountain Primitive Area. This specific project is located along the boundary of Moose River Plains Wild Forest and Blue Ridge Wilderness, with the work and ATV use taking place in the MRPWF. Management actions for the trail are duplicated in each UMP.

Prepared by (Name & Title): Jaime Parslow, Natural Resources Planner **Date:** 2/13/2023

Phone: (518) 863-4545 ext. 2004

REGULATORY CLEARANCE CHECKLIST – STATE LANDS and CONSERVATION EASEMENT PROJECTS

PROGRAM	PERMIT	REQUIRED		SECURED BY	COMMENTS
		YES	NO	(NAME)	
Air Resources	Restricted Burning	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Mineral Resources	Mining	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Materials Management	Solid Waste Mgt. Fac.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Water	Dam Safety Review	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Const. in Flood Hazard	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Public Water Supply	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	SPDES	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Spills Management	Petro. Bulk Storage	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Lands and Forests	Unit Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NYS DEC	BRW 2006, MRPWF 2011
	Tree Cutting	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Protected Native Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Historic Preservation	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Fish and Wildlife	Freshwater Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Wild Scenic & Rec. River	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Compliance Services	Other Protection of Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	EAF	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Negative Declaration	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Env. Impact Statement	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Water Quality Cert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
DEC (other)	CP-17	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Blanket CP-17 for Wild Forest Motorized Use
	Commissioner (aircraft, motorized equipment)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Flight Request	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Contract Clearance Sh.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	DOB Exemption	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Other Agencies	APA MOU	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	APA Wetlands Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Corps. of Engineers	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Building Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Local Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Easements	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Highway Enter DOT	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Wastewater Disposal	<input type="checkbox"/>	<input checked="" type="checkbox"/>		



NOTES:

GRADE SHOWN = 0.0%, RUNNING PLANKS NOT SHOWN FOR CLARITY

- ALL DIMENSIONS IN TABLE-1 ARE NOMINAL (ROUGH SAWN). THE MINIMUM STRINGER DEPTH FOR BRIDGES WITH A PEDESTRIAN RAILING SYSTEM IS 15-INCHES. BRIDGES WITH STRINGER DEPTHS LESS THAN 15-INCHES SHALL HAVE CURBS ONLY. THE MINIMUM NUMBER OF STRINGERS IS THREE.
- FASTEN DECK PLANKS TO STRINGERS WITH TWO ROWS 5/16-INCH DIAMETER X 7-INCH RING SHANK NAILS PER PLANK AT EACH STRINGER. ALTERNATE SIDES.
- FASTEN RUNNING PLANKS TO DECK WITH 40d (5-INCH RING SHANK) NAILS AT 24-INCH SPACING. ALTERNATE SIDES WITH TWO AT EACH END.
- PROVIDE A MINIMUM 1/2-INCH SPACE BETWEEN BLOCKING AND BACKWALL FOR AIR CIRCULATION.
- SPLICE RAILS AT POSTS. RAILS SHALL BE CONTINUOUS FOR TWO POST SPACES. DO NOT LOCATE MORE THAN ONE RAIL SPLICE AT ANY ONE POST.
- BRACING REQUIRED AT THE ENDS OF EACH MEMBER. THE BRACING SHALL BE THREE-QUARTERS TO FULL DEPTH AND PLACED WITHIN A DISTANCE OF THE DEPTH OF THE BEAM FROM THE CENTERLINE OF BEARING. BRACING REQUIRED AT MID-SPAN FOR SPANS OVER 20 FEET LONG.
- WOOD BLOCKING SHALL BE BOLTED TO STRINGERS WITH STEEL ANGLES OR SUSPENDED IN STEEL HANGERS THAT ARE NAILED TO BLOCKS AND STRINGER SIDES

***TABLE-1: SOLID SAWN STRINGER SIZE REQUIREMENTS - LRFD**

**STRINGER SPAN (FEET)	TIMBER SPECIES - SOUTHERN PINE GRADE - NO.1				
	DESIGN LOADING IN POUNDS PER SQUARE FOOT				
	PEDESTRIAN LIVE LOAD		GROUND SNOW LOAD		
	**65	90	120	150	200
● 10	3" X 8"	3" X 10"	3" X 10"	3" X 12"	4" X 12"
● 15	4" X 10"	4" X 12"	4" X 14"	4" X 16"	6" X 12"
● 20	4" X 14"	4" X 16"	6" X 12"	6" X 14"	6" X 16"
▲ 25	6" X 14"	6" X 16"	6" X 16"	6" X 16"	6" X 20"
▲ 30	6" X 16"	6" X 18"	6" X 18"	6" X 20"	8" X 20"

● INSTALL BRACING WITHIN A DISTANCE OF THE DEPTH OF THE BEAM FROM THE CENTERLINE OF BEARING
 ▲ INSTALL BRACING WITHIN A DISTANCE OF THE DEPTH OF THE BEAM FROM THE CENTERLINE OF BEARING & MID-SPAN
 * STRINGER SIZE SHALL BE THE LARGER OF THE PEDESTRIAN OR GROUND SHOW LOAD SIZE REQUIRED FOR THE SITE CONDITIONS
 ** STRINGER LENGTH EQUAL TO STRINGER SPAN PLUS ONE FOOT
 *** REQUIRES REGIONAL BRIDGE ENGINEER APPROVAL



PROJECT NAME & LOCATION

DRAWING NAME
SAWN TIMBER STRINGER TRAIL BRIDGE
 SECTION 962 - SAWN TIMBER TRAIL BRIDGE TYPICAL ID STS

REVISION DATE
 NOT TO SCALE

DRAWING NO.
STD_962-10-02b
 SHEET OF

Wakely Mountain Trail Bridge Replacement Location Map

