

Glacier National Park

Wilderness Project Minimum Requirements Analysis Worksheet

| PART ONE: Wilderness Project Proposal Information | |
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| Project Originator(s): | Mary Riddle |
| Division: | Science and Resources Management |
| MRA Preparer: | Roger Semler |
| Date: | April 26, 2018 |
| PEPC #: | 78972 |
| PMIS #: | GLAC 246349 |
| What is the <u>issue</u> or <u>problem</u> to be solved? | The 2017 Sprague Fire in Glacier National Park caused extensive damage to the Sperry Chalet National Historic Landmark and National Historic District. The fire destroyed all interior and exterior combustible elements of the dormitory building. Parts of the dormitory building that survived the fire include two chimneys, interior masonry footings and four exterior masonry walls. |
| What is the underlying need for the project? | There is high risk of further damage to or loss of this historic property and taking no action is not a viable option because of the high values of this area (National Historic Landmark, National Historic District, a number of historic register listed properties and important visitor facilities). The Sperry Chalet has a long history and tradition of providing an iconic and highly coveted visitor experience that should be continued for the next 100 years. This historic property is deemed integral to the "other features of value" quality of wilderness character given its proximity to adjacent lands that are recommended for wilderness designation and the connection the chalet has played in supporting wilderness experiences for park visitors. The project would need to be implemented in two phases anticipated to be over 2018 and 2019. It is necessary to complete both phases of this project during summer field seasons before high elevations experience another potential year of significant snowfall and or avalanches that could further impact the National Historic Landmark. |
| Location (attach map and/or photos): | Glacier National Park, seven miles east of Lake McDonald, at 6,500 feet elevation. Coordinates are: 48°36'16"N, 113°47'08"W. |
| What would happen if the need were not met? (NO ACTION) | The Sperry Chalet would be subject to considerable degradation or damage to or loss of the historic property and complete loss of the significant, historic and traditional Sperry Chalet experience for visitors to Glacier National Park. |

Wilderness Minimum Requirement Analysis (MRA)

STEP ONE: Determine if action is necessary or appropriate

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| 1 | Is the resolution of this issue covered by an existing Wilderness Plan or other NEPA decision document that includes wilderness minimum requirement considerations? | Answer: No |
| <div style="display: flex; justify-content: space-around;"><div style="text-align: center;">Yes ↓ <div style="border: 1px solid black; padding: 5px; width: 100px;">Implement action as approved</div></div><div style="text-align: center;">No ↓ <div style="border: 1px solid black; padding: 5px; width: 100px;">Continue PPF/MRA</div></div></div> | | If "Yes" provide name of document and approval date: |
| 2 | Has Superintendent determined this is an emergency in accordance with law & policy? | Answer: No |
| No ↓ | | Yes, Follow approved emergency SOPs/management plans. If they do not exist or have not gone through MRA, continue MRA. |
| 3 | List guidance provided in law and policy for resolution of the issue | See Management Policies Chapter 6, Director's Order #41 and other applicable laws, policies and directives. Add additional policy guidance as appropriate. |

WILDERNESS MINIMUM REQUIREMENT

Wilderness Act of 1964 - Prohibition Of Certain Uses Section 4(c) Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

NPS Management Policies 2006, § 6.3.5 Minimum Requirement

All management decisions affecting wilderness must be consistent with the minimum requirement concept. This concept is a documented process used to determine if administrative actions, projects, or programs undertaken by the Service or its agents and affecting wilderness character, resources, or the visitor experience are necessary, and if so how to minimize impacts. The minimum requirement concept will be applied as a two-step process that determines whether the proposed management action is appropriate or necessary for administration of the area as wilderness and does not cause a significant impact to wilderness resources and character, in accordance with the Wilderness Act; and the techniques and types of equipment needed to ensure that impacts on wilderness resources and character are minimized.

In accordance with this policy, superintendents will apply the minimum requirement concept in the context of wilderness stewardship planning, as well as to all other administrative practices, proposed special uses, scientific activities, and equipment use in wilderness. The only exception to the minimum requirement policy is for eligible areas that the Service has not proposed for wilderness designation. However, those lands will still be managed to preserve their eligibility.

When determining minimum requirements, the potential disruption of wilderness character and resources will be considered before, and given significantly more weight than, economic efficiency and convenience. If a compromise of wilderness resources or character is unavoidable, only those actions

that preserve wilderness character and/or have localized, short-term adverse impacts will be acceptable.

Although park managers have flexibility in identifying the method used to determine minimum requirement, the method used must clearly weigh the benefits and impacts of the proposal, document the decision-making process, and be supported by an appropriate environmental compliance document. Parks must develop a process to determine minimum requirement until the plan is finally approved. Parks will complete a minimum requirement analysis on those administrative practices and equipment uses that have the potential to impact wilderness resources or values. The minimum requirement concept cannot be used to rationalize permanent roads or inappropriate or unlawful uses in wilderness.

Administrative use of motorized equipment or mechanical transport will be authorized only

- if determined by the superintendent to be the minimum requirement needed by management to achieve the purposes of the area, including the preservation of wilderness character and values, in accordance with the Wilderness Act; or
- in emergency situations (for example, search and rescue, homeland security, law enforcement) involving the health or safety of persons actually within the area.

Such management activities will also be conducted in accordance with all applicable regulations, policies, and guidelines and, where practicable, will be scheduled to avoid creating adverse resource impacts or conflicts with visitor use.

While actions taken to address search and rescue, homeland security and law enforcement issues are subject to the minimum requirement concept, preplanning or programmatic planning should be undertaken whenever possible to facilitate a fast and effective response and reduce paperwork.

For more detailed guidance, see Director's Order #41 and the National Wilderness Steering Committee Guidance Paper #3: "What Constitutes the Minimum Requirements in Wilderness?"

NPS Management Policies 2006, § 6.3.4.3 Environmental Compliance

Managers contemplating the use of aircraft or other motorized equipment or mechanical transportation within wilderness must consider impacts to the character, esthetics, and traditions of wilderness before considering the costs and efficiency of the equipment.

NPS Management Policies 2006, § 5 Cultural Resources

The National Park Service will protect, preserve, and foster appreciation of the cultural resources in its custody.....

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| <div>4</div> <div>Is resolution of this issue necessary or appropriate to meet wilderness management objectives or the requirements of other laws, policies and directives?</div> | <div>Answer: Yes (appropriate)</div> |
| <div>Yes</div> <div>↓</div> <div>No</div> <div>↓</div> <div>Do not proceed with action</div> | <div>Explain: The Sperry Chalet is an iconic National Historic Landmark and national historic district located in a 25-acre enclave surrounded by lands recommended for wilderness designation (see 1974 Wilderness Recommendation). This historic property is deemed integral to the “other features of value” quality of wilderness character for the following reasons:</div> <ol style="list-style-type: none"> 1) The Sperry Chalet has a long history and tradition of providing lodging and food to park visitors travelling via foot or horseback and seeking a wilderness experience. 2) The chalet is historically integral to the adjacent wilderness lands as visitors gain access to the site via designated trails that pass through wilderness and often utilize the chalet as a basecamp for day trips that explore adjacent wilderness areas and/or as a layover location that supports longer trips deeper into Glacier’s wilderness. 3) The chalet is visible to park visitors from recommended wilderness as they approach the chalet and scenic vistas of Glacier’s recommended wilderness are visible to park visitors from the chalet. <div>Restoration of the chalet structure is consistent with the fundamental purpose of the National Park Service Organic Act to “conserve the scenery and the natural and historic objects and the wildlife therein and to provide for their enjoyment in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”</div> <div>Restoration of the chalet is consistent with the public purposes of wilderness in the national parks which includes recreational and historical use (2006 Management Policies 6.1 General Statement).</div> |
| <div>5</div> <div>Can the issue be resolved through visitor education?</div> <div>Yes</div> <div>↓</div> <div>Carry out visitor education</div> <div>No</div> <div>↓</div> | <div>Answer: No</div> <div>Explain: This is a structural restoration action that cannot be accomplished through visitor education.</div> |

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| 6 | Can the issue be resolved through actions outside of wilderness? | Answer: Yes (partially) |
| | <div style="display: flex; justify-content: space-around;"> Yes No </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> Conduct actions outside wilderness </div> | <p>Explain: Phase 1 of this action would involve the installation of a new roof and seismic walls on the chalet structure and Phase II would involve restoration of the structure's interior, completion of the roof and any remaining exterior work required. Both phases would occur within the 25-acre Sperry Chalet (non-wilderness) enclave, surrounded by lands recommended for wilderness designation. However, the transportation of construction materials, equipment, debris, food, supplies and personnel to and from the site would occur in recommended wilderness if the alternative selected involves the use of pack strings and/or personnel accessing the project site via the Gunsight Pass Trail.</p> |

PART TWO: Evaluate Alternatives, as appropriate determine the minimum tools, techniques and actions that would effectively resolve the issue while avoiding or minimizing adverse effects.

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| 7 | Describe in detail alternative ways to resolve the issue (include use of minimum tools as appropriate) | This Part Two analysis is pertinent to Phase I of the Sperry Chalet rebuilding project, proposed for the summer of 2018. |
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Alternative 1 Phase I (Pack String Emphasis): Install a roof (including a roof truss, sheathing, underlayment and covering) and seismic walls on the Sperry Chalet dormitory. This alternative would require several hundred pack string round trips via the Gunsight Pas Trail to transport approximately 200 tons of construction materials and equipment, food and supplies, and project personnel to the project site. Helicopter operations may be used on limited occasions to supplement transportation needs if the size, shape or weight of construction materials is not feasible for pack string transport, or if they present safety hazards for personnel handling the stock and/or visitors using the trail. The project would be accomplished by a 12-23 person crew, including a project manager, resource monitor, and support staff to feed the crews. Crews would live at the chalet site for approximately 16 weeks from July 1 to end of October. They would camp within the boundaries of the enclave in temporary tent cabins within proximity to the remaining structures at the site. Meals would be provided in a dining room either the one present on the site, or one that is brought in. Power tools and equipment will be utilized to complete the project, but hand tools will be utilized whenever possible and use of power equipment would be restricted during evening and early morning hours.

- What is proposed?
Install a roof (including a roof truss, sheathing, underlayment and temporary covering) and seismic walls on the Sperry Chalet structure.
- Does the project take place in the same location/footprint/trench used before, or in a previously undisturbed area?
The project will take place at the original/existing site of the Sperry Chalet dormitory.
- Would the project involve ground disturbance (cut or fill)? If so, how many cubic yards and where would materials be deposited (both temporarily and permanently)? If fill materials are taken, identify the specific site fill taken from and if the materials are native to the park. How would fill be "stored"?
No ground disturbance is planned.
- How much excavation would be necessary (quantify by width, length, depth, cubic feet, number or lines, etc.)?
None
- Would the proposal involve work in or near a known archeological site or other historic property?
The Sperry Chalet is listed on the U.S. Register of Historic Places (1977) and is a U.S. National Historic Landmark District Contributing Property. The chalet is identified in the Glacier National Park Foundation Document (2016) as an important resource.
- Would a staging area be required? If so, identify staging area(s), include map, what type of materials

and/or equipment and for how long? What would be the estimated square footage of the staging area?

Two staging areas will be required. 1) Off-site staging area to support the project will be established at the wastewater treatment plant spray field near park headquarters or outside the park. 2) On-site staging area will be required at the project site within the 25-acre Sperry Chalet enclave (outside of wilderness). Project materials and equipment that would be located in the staging area include: roofing and seismic wall construction materials (including steel, wood, and concrete) and food and supplies for project crew.

- How/where would construction debris be disposed of?

Project debris would be stockpiled at the on-site staging area (outside of wilderness) and removed in the same manner that the construction materials were transported to the site. Untreated wood scraps would be cut and stacked for later NPS or concessioner use.

- How much surface area would be disturbed, cleared, or denuded of vegetation (quantify by square footage, # of trees removed, etc.)?

Approximately one acre

- Would the project involve any geologic or hydrologic features/alter stream courses, surface or ground water flow?

No.

- Would the proposal involve structures, fill, or discharge into water (example: bridge crossing, boardwalk, gravel, culverts, etc.)?

No.

- Would the proposal affect water quality or quantity?

Impacts may occur from pack string generated fecal matter that could be deposited into the watershed at the Snyder Creek and Sprague Creek stream crossings. In addition, extensive use of pack strings may damage the trail tread and structure and result in soil erosion and sedimentation into the watershed.

- What changes would occur in land/facility use?

The facility and site would be restored to its original/previous use.

- What changes would occur to traffic flow or visitor circulation?

The Sperry Chalet project site would be temporarily closed to public access and entry during the construction period, with the exception of the public restroom facility and to a viewpoint to see the construction. Pack string operations on the Gunsight Pass Trail would likely result in some congestion, conflicts, and safety concerns for visitors who are sharing the trail. Temporary trail closures would be implemented at times to eliminate conflicts and for safety reasons.

- Would the proposal require aerial operations?

This alternative would involve limited use of helicopters to transport project materials, equipment, supplies, and personnel to and from the project site. All helicopter landing or sling load deliveries would occur at a secure staging area within the Sperry Chalet enclave (outside of recommended wilderness).

- Would the proposal alter visitor services, activities, or experiences?

The Sperry Chalet project site, excluding the public restroom facility, would be closed to public entry during the project and noise associated with the project may adversely impact visitor experiences for those using the nearby Sperry Backcountry Campground and/or visitors hiking through the area.

Pack and saddle stock operations on the Sperry Trail may result in substantial but temporary congestion and conflicts with park visitors who are sharing the trail. Temporary trail closures may be considered to eliminate those conflicts. Noise associated with helicopter operations, including overflights to and from the project site) may adversely impact visitor enjoyment and experience and opportunities for solitude.

- Where would the action take place?

The Sperry Chalet enclave (outside of recommended wilderness)

- When would the action take place?

July 1 through October 30, 2018

- What design and standards would apply?

The chalet dormitory would be restored to reflect its period of significance (1914-1949) using the original walls and site; and provides for some critical updates to current building codes and to improve life safety. The visitor experience would be very similar to what it has been for decades by using as much of the remaining historic fabric as possible. The historic capacity of the Chalet dormitory would be maintained at about 54 overnight guests and 11 staff members. Improvements would ensure its use for the next 100 years barring unforeseen events. Seismic walls would be added

to the dormitory to protect it from earthquakes, and provide some protection from avalanches. Fireproof materials would be used as much as possible in keeping with the historic design standards.

- What methods, tools and techniques would be used
This alternative would involve standard construction methods associated with the installation of a roof, including a roof truss, sheathing, underlayment and a roof covering. Motorized power tools and equipment will be required for certain aspects of the project, including but not limited to gasoline generator, compressor, power saws, and power drills.
- How long would it take to complete the action?
Phase 1 will take approximately four months.
- Are there environmental constraints that affect the timing of the action?
Due to extreme winter weather conditions, heavy snow pack and potential for destructive and/or dangerous avalanches, this action must be completed during the summer/early fall field season.
- What mitigation measures would be taken to minimize action impacts on park resources and values, and wilderness resources and character (where applicable)?
The timing and extent of helicopter operations and use of motorized equipment would be limited to the greatest extent possible to reduce potential impacts to the visitor experience, including solitude, natural quiet, etc., particularly for park visitors camping in the nearby Sperry backcountry campsite and/or hiking through the area. Pack string operations would involve one day round trips on an every-other day basis and would strive to travel on the Gunsight Pas Trail with as little impact as possible on park visitors.

**Wilderness Act of 1964, Section 4(c),
Prohibition Of Certain Uses:**

- temporary road
- use of motor vehicles, motorized equipment or motorboats
- landing of aircraft or other forms of mechanical transport
- structure or installation

Alternative 1:

List the Wilderness Act 4(c) prohibited uses proposed in this alternative, what they are proposed to be used for and why they are necessary to meet minimum requirements for the administration of the area for the purpose of the Wilderness Act.

This project would not involve any Wilderness Act, Section 4(c) prohibitions as all actions involving the use of motorized equipment and/or landing of aircraft (i.e. helicopters) would occur within the 25-acre Sperry Chalet enclave located outside of lands managed as wilderness. However the proposed action has the potential to impact wilderness character because the enclave is surrounded by recommended wilderness, therefore potential impacts have been considered through this Minimum Requirements Analysis.

Alternative 2 (Helicopter Operations and Pack String Combination): Install a roof (including a roof truss, sheathing, underlayment and covering) and seismic walls on the Sperry Chalet structure. The project would be accomplished by a 12-23 person crew, including a project manager, resource monitor, and support staff to feed the crews. Crews would live at the chalet site for approximately 16 weeks from July 1 to end of October, 2018. Project personnel would camp within the boundaries of the enclave in temporary tent cabins within proximity to the remaining structures at the site. Meals would be provided in the dining room on site or a temporary structure that is brought in. This alternative would include a combination of helicopter operations (150-220 round trips) and pack strings (35-60 round trips) to transport approximately 200 tons of construction materials and equipment, supplies and food for the project crew, and project personnel. Helicopter operations at the project site will be staged within the 25-acre Sperry Chalet enclave. Helicopter operations off-site will be staged outside of the park or in the park in the vicinity of the West Glacier Wastewater Treatment Plant. Power tools and equipment will be utilized to complete the project, but hand tools will be utilized whenever possible and use of power equipment would be restricted during evening and early morning hours. Pack string operations would involve one day round trips on an every-other-day basis via the Gunsight Pass Trail.

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- What is proposed?
Install a roof (including a roof truss, sheathing, underlayment and covering) and seismic walls on the Sperry Chalet structure.
 - Does the project take place in the same location/footprint/trench used before, or in a previously undisturbed area?
The project will take place at the original/existing site of the Sperry Chalet dormitory.
 - Would the project involve ground disturbance (cut or fill)? If so, how many cubic yards and where would materials be deposited (both temporarily and permanently)? If fill materials are taken, identify the specific site fill taken from and if the materials are native to the park. How would fill be "stored"?
No ground disturbance is planned.
 - How much excavation would be necessary (quantify by width, length, depth, cubic feet, number or lines, etc.)?
None.
 - Would the proposal involve work in or near a known archeological site or other historic property?
The Sperry Chalet is listed on the U.S. Register of Historic Places (1977) and is a U.S. National Historic Landmark District Contributing Property. The chalet is identified in the Glacier National Park Foundation Document (2016) as an important resource.
 - Would a staging area be required? If so, identify staging area(s), include map, what type of materials and/or equipment and for how long? What would be the estimated square footage of the staging area?
Two staging areas will be required. 1) Off-site staging area to support the project will be established at the wastewater treatment plant spray field near park headquarters or outside the park. 2) On-site staging area will be required at the project site within the 25-acre Sperry Chalet enclave (outside of wilderness). Project materials and equipment that would be located in the staging area include: roofing and seismic wall construction materials (including steel, wood, and concrete) and food and supplies for project crew.
 - How/where would construction debris be disposed of?
Project debris would be stockpiled in the staging area (outside of recommended wilderness) and removed in the same manner that the construction materials were transported to the site. Untreated scrap wood would be cut and stacked for use by NPS and or the Concessioner.
 - How much surface area would be disturbed, cleared, or denuded of vegetation (quantify by square footage, # of trees removed, etc.)?
Approximately one acre.
 - Would the project involve any geologic or hydrologic features/alter stream courses, surface or ground water flow?
No.
 - Would the proposal involve structures, fill, or discharge into water (example: bridge crossing, boardwalk, gravel, culverts, etc.)?
No.
 - Would the proposal affect water quality or quantity?
Minimal impacts may occur from pack string fecal matter that could be deposited into the watershed at the Snyder Creek and Sprague Creek stream crossings.
 - What changes would occur in land/facility use?
The facility and site would be restored to its original/previous use.
 - What changes would occur to traffic flow or visitor circulation?
The Sperry Chalet project site would be temporarily closed to public access and entry during the construction period, with the exception of the public restroom facility. Pack string operations on the Gunsight Pass Trail would likely result in some congestion, conflicts, and safety concerns for visitors who are sharing the trail. Temporary trail closures may be considered to eliminate those conflicts.
 - Would the proposal require aerial operations?
This alternative would involve the use of helicopters to transport project materials, equipment, supplies, and personnel to and from the project site. All helicopter landing or sling load deliveries would occur at a secure staging area within the Sperry Chalet enclave (outside of recommended wilderness).
 - Would the proposal alter visitor services, activities, or experiences?
The Sperry Chalet project site, excluding the public restroom facility, would be closed to public entry during the project and noise associated with the project may adversely impact visitor experiences for those using the nearby Sperry Backcountry Campground and/or visitors hiking through the area. A
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viewpoint will be designated where park visitors can observe the construction project.

- Where would the action take place?
The Sperry Chalet enclave (outside of recommended wilderness)
- When would the action take place?
July 1 through October 30, 2018
- What design and standards would apply?
The chalet dormitory would be restored to reflect its period of significance (1914-1949) using the original walls and site; and provides for some critical updates to current building codes and to improve life safety. The visitor experience would be very similar to what it has been for decades by using as much of the remaining historic fabric as possible. The historic capacity of the Chalet dormitory would be maintained at about 54 overnight guests and 11 staff members. Improvements would ensure its use for the next 100 years barring unforeseen events. Seismic walls would be added to the dormitory to protect it from earthquakes, fireproof materials would be used as much as possible in keeping with the historic design standards, and the structure would be strengthened to withstand strikes from potential avalanches.
- What methods, tools and techniques would be used
This project would involve standard construction methods associated with the installation of a roof, including a roof truss, covered with roof sheathing, underlayment and a roof covering on top. Motorized power tools and equipment will be required for certain aspects of the project, including but not limited to gasoline generators, compressor, power saws, and power drills. Whenever practical and feasible, non-motorized tools and equipment will be utilized.
- How long would it take to complete the action?
Phase 1 would take approximately four months
- Are there environmental constraints that affect the timing of the action?
Due to extreme winter weather conditions, heavy snow pack and potential for destructive and/or dangerous avalanches, this action must be completed during the summer/early fall field season.
- What mitigation measures would be taken to minimize action impacts on park resources and values, and wilderness resources and character (where applicable)?
The timing and extent of helicopter operations and use of motorized equipment would be limited to the greatest extent possible to reduce potential impacts to the visitor experience, including solitude, natural quiet, etc., particularly for park visitors camping in the nearby Sperry backcountry campsite and/or hiking through the area. Pack string operations would involve one day round trips on an every-other day basis and would strive to travel on the Gunsight Pass Trail with as little impact as possible on park visitors.

**Wilderness Act of 1964, Section 4(c),
Prohibition Of Certain Uses:**

- temporary road
- use of motor vehicles, motorized equipment or motorboats
- landing of aircraft
- other forms of mechanical transport
- structure or installation

Alternative 2:

List the Wilderness Act 4(c) prohibited uses proposed in this alternative, what they are proposed to be used for and why they are necessary to meet minimum requirements for the administration of the area for the purpose of the Wilderness Act.

This project would not involve any Wilderness Act, Section 4(c) prohibitions as all actions involving the use of motorized equipment and/or landing of aircraft (i.e. helicopters) would occur within the 25-acre Sperry Chalet enclave located outside of lands managed as wilderness. However the proposed action has the potential to impact wilderness character because the enclave is surrounded by recommended wilderness, therefore potential impacts have been considered through this Minimum Requirements Analysis.

Alternative 3 (Helicopter Operations Emphasis): Install a roof (including a roof truss, sheathing, underlayment, and roof covering) and seismic walls on the Sperry Chalet structure. The project would be accomplished by a 12-25 person crew, including a project manager, resource monitor, and support staff to feed the crews. Crews would live at the chalet site for approximately 16 weeks from July 1 to end of October. Personnel would camp within the boundaries of the enclave in temporary tent cabins within proximity to the remaining structures at the site. Meals would be provided in the dining room onsite or in a temporary structure brought in. This alternative would require approximately 150-220 helicopter round trips (depending on the size of the helicopter) to transport approximately 200 tons of construction materials and equipment, supplies and food for the project crew, and project personnel. Helicopter operations at the project site will be staged within the 25-acre Sperry Chalet enclave. Helicopter operations off-site will be staged outside of the park or in the park in the vicinity of the West Glacier Wastewater Treatment Plant. Power tools and equipment will be utilized to complete the project, but hand tools will be utilized whenever possible and use of power equipment would be restricted during evening and early morning hours. Pack strings may be used to transport materials or supplies on occasion when weather or other operational situations preclude the use of helicopter support.

- What is proposed?
Install a roof (including a roof truss, sheathing, underlayment and covering) and seismic walls on the Sperry Chalet structure.
- Does the project take place in the same location/footprint/trench used before, or in a previously undisturbed area?
The project will take place at the original/existing site of the Sperry Chalet dormitory.
- Would the project involve ground disturbance (cut or fill)? If so, how many cubic yards and where would materials be deposited (both temporarily and permanently)? If fill materials are taken, identify the specific site fill taken from and if the materials are native to the park. How would fill be "stored"?
No ground disturbance is planned.
- How much excavation would be necessary (quantify by width, length, depth, cubic feet, number or lines, etc.)?
None.
- Would the proposal involve work in or near a known archeological site or other historic property?
The Sperry Chalet is listed on the U.S. Register of Historic Places (1977) and is a U.S. National Historic Landmark District Contributing Property.
- Would a staging area be required? If so, identify staging area(s), include map, what type of materials and/or equipment and for how long? What would be the estimated square footage of the staging area?
Two staging areas will be required. 1) Off-site staging area to support the project will be established at the wastewater treatment plant spray field near park headquarters or outside the park. 2) On-site staging area will be required at the project site within the 25-acre Sperry Chalet enclave (outside of wilderness). Project materials and equipment that would be located in the staging area include: roofing and seismic wall construction materials (including steel, wood, and concrete) and supplies for project crew.
- How/where would construction debris be disposed of?
Project debris would be stockpiled in the staging area (outside of recommended wilderness) and removed in the same manner in which materials and supplies were transported to the site. Untreated wood scraps would be cut and stacked for later use by NPS or the Concessioner.
- How much surface area would be disturbed, cleared, or denuded of vegetation (quantify by square footage, # of trees removed, etc.)?
None.
- Would the project involve any geologic or hydrologic features/alter stream courses, surface or ground water flow?
No.
- Would the proposal involve structures, fill, or discharge into water (example: bridge crossing, boardwalk, gravel, culverts, etc.)?
No.
- Would the proposal affect water quality or quantity?
Very minimal impacts may occur from very limited pack string fecal matter that could be deposited at Snyder Creek and Sprague Creek stream crossings.
- What changes would occur in land/facility use?

The facility and site would be restored to its original/previous use.

- What changes would occur to traffic flow or visitor circulation?
The Sperry Chalet project site would be temporarily closed to public access and entry during the construction period, with the exception of the public restroom facility. Pack string operations on the Gunsight Pass Trail would likely result in some congestion, conflicts, and safety concerns for visitors who are sharing the trail. Temporary trail closures may be considered to eliminate those conflicts.
- Would the proposal require aerial operations?
This alternative would involve the extensive use of helicopters to transport project materials, equipment, supplies, and personnel to and from the project site. All helicopter landing or sling load deliveries would occur within the Sperry Chalet enclave (outside of recommended wilderness). A secure helispot with appropriate safety equipment will be established at the project site.
- Would the proposal alter visitor services, activities, or experiences?
The Sperry Chalet project site, excluding the public restroom facility, would be closed to public entry during the project and noise associated with the project may adversely impact visitor experiences for those using the nearby Sperry Backcountry Campground and/or visitors hiking through the area.
- Where would the action take place?
The Sperry Chalet enclave (outside of lands recommended wilderness designation)
- When would the action take place?
July 1 through October 30, 2018
- What design and standards would apply?
The chalet dormitory would be restored to reflect its period of significance (1914-1949) using the original walls and site; and provides for some critical updates to current building codes and to improve life safety. The visitor experience would be very similar to what it has been for decades by using as much of the remaining historic fabric as possible. The historic capacity of the Chalet dormitory would be maintained at about 54 overnight guests and 2-3 staff members. Improvements would ensure its use for the next 100 years barring unforeseen events. Seismic walls would be added to the dormitory to protect it from earthquakes and avalanches. Fireproof materials would be used as much as possible in keeping with the historic design standards.
- What methods, tools and techniques would be used
This project would involve standard construction methods associated with the installation of a roof, including a roof truss, covered with roof sheathing, underlayment and a roof covering on top. Motorized power tools and equipment will be required for certain aspects of the project, including but not limited to a gasoline generator, compressor, power saws and power drills. Whenever practical and feasible, non-motorized tools and equipment will be utilized.
- How long would it take to complete the action?
Phase I would take approximately four months
- Are there environmental constraints that affect the timing of the action?
Due to extreme winter weather conditions, heavy snow pack and potential for destructive and/or dangerous avalanches, this action must be completed during the summer/early fall field season.
- What mitigation measures would be taken to minimize action impacts on park resources and values, and wilderness resources and character (where applicable)?
The timing and extent of helicopter operations and use of motorized equipment would be limited to the greatest extent possible to reduce potential impacts to the visitor experience, including solitude, natural quiet, etc., particularly for park visitors camping in the nearby Sperry backcountry campsite and/or hiking through the area.

**Wilderness Act of 1964, Section 4(c),
Prohibition Of Certain Uses:**

- temporary road
- use of motor vehicles, motorized equipment or motorboats
- landing of aircraft
- other forms of mechanical transport
- structure or installation

Alternative 3:

List the Wilderness Act 4(c) prohibited uses proposed in this alternative, what they are proposed to be used for and why they are necessary to meet minimum requirements for the administration of the area for the purpose of the Wilderness Act.

This project would not involve any Wilderness Act, Section 4(c) prohibitions as all actions involving the use of motorized equipment and/or landing of aircraft (i.e. helicopters) would occur within the 25-acre Sperry Chalet enclave located outside of lands managed as wilderness. However the proposed action has the potential to impact

wilderness character because the enclave is surrounded by recommended wilderness, therefore potential impacts have been considered through this Minimum Requirements Analysis.

8 Evaluate the impacts or effects to wilderness character of each alternative

Alternative 1 (Pack String Emphasis)

Wilderness character effects (untrammeled, natural, undeveloped, solitude or a primitive & unconfined type of recreation, other features of value)

Positive impacts or effects:

- **Untrammeled Quality:** No positive impacts or effects
- **Natural Quality:** No positive impacts or effects.
- **Undeveloped Quality:** The use of pack and saddle stock represents a traditional wilderness skill that does not involve the use of aircraft landings or overflights.
- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** No positive impacts or effects.
- **Other Features of Value Quality:** Installation of a new roof and seismic walls on the Sperry Chalet structure would help preserve and protect the existing structure from deterioration or damage from weather and the elements and thereby have a substantial positive effect on this historic property that is integral to the surrounding wilderness.

Adverse impacts or effects:

- **Untrammeled Quality:** No adverse impacts or effects.
- **Natural Quality:** While minimally used in this alternative, helicopter operations have potential to temporarily displace wildlife, including raptor migrations in the vicinity of Mount Brown during the fall. Extensive use of pack strings would likely cause damage to the trail tread with subsequent soil erosion and sedimentation into the surrounding drainage. In addition, if the pack string use creates muddy or boggy sections of trail, some park visitors hiking on the trail may skirt wide of these areas and create off-trail impacts to surrounding vegetation and soil. Extensive use of pack strings may also impact water quality as a result of livestock depositing fecal matter in the watershed at stream crossings
- **Undeveloped Quality:** No adverse impacts or effects.
- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** The sights and sounds of human activity associated with the project that may adversely impact this quality include the extensive use of pack strings that may cause congestion, impact solitude, and prompt temporary trail closures on the Gunsight Trail. Additional impacts to solitude may result from occasional helicopter operations (sling load deliveries, landings, and overflights) to transport project materials, supplies, equipment and personnel to the site; construction activities on site using motorized power tools and equipment; and transportation of project debris from the site. The adverse impacts to visitors seeking solitude and "natural quiet" may be substantial during this project.
- **Other Features of Value Quality:** No adverse impacts or effects.

Alternative 2 (Helicopter Operations/Pack String Combination)

Wilderness character effects (untrammeled, natural, undeveloped, solitude or a primitive & unconfined type of recreation, other features of value)

Positive impacts or effects:

- **Untrammeled Quality:** No positive impacts or effects
- **Natural Quality:** No positive impacts or effects
- **Undeveloped Quality:** The use of pack and saddle stock represents a traditional wilderness skill

that has a positive effect on this quality.

- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** No positive impacts or effects
- **Other Features of Value Quality:** Installation of a new roof and seismic walls on the Sperry Chalet structure would help preserve and protect the existing structure from deterioration or damage from weather and the elements and thereby have a substantial positive impact on this historic property that is integral to the surrounding wilderness.

Adverse impacts or effects:

- **Untrammelled Quality:** No adverse impacts or effects.
- **Natural Quality:** Helicopter operations have potential to displace wildlife, including raptor migrations in the vicinity of Mount Brown during the fall. Intermittent use of pack strings would likely cause some damage to the trail tread with subsequent soil erosion and sedimentation into the surrounding drainages. In addition, if the pack string use creates muddy or boggy sections of trail, some park visitors hiking on the trail may skirt wide of these areas and create off-trail impacts to surrounding vegetation and soil. Use of pack strings may also impact water quality as a result of livestock depositing fecal matter in the watershed at stream crossings
- **Undeveloped Quality:** No adverse impacts or effects.
- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** The sights and sounds of human activity associated with the project that may adversely impact this quality include helicopter operations (sling load deliveries, landings, and overflights) and construction activities on site using motorized power tools and equipment. The use of pack strings on the Gunsight Pass Trail may also create congestion, user conflicts and safety hazards and impact solitude for visitors who encounter the pack strings. The adverse impacts to visitors seeking solitude and "natural quiet" may be substantial during this project.
- **Other Features of Value Quality:** No adverse impacts or effects.

Alternative 3 (Helicopter Operations Emphasis)

Wilderness character effects (untrammelled, natural, undeveloped, solitude or a primitive & unconfined type of recreation, other features of value)

Positive impacts or effects:

- **Untrammelled Quality:** No positive impacts or effects
- **Natural Quality:** No positive impacts or effects
- **Undeveloped Quality:** No positive impacts or effects
- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** No positive impacts or effects.
- **Other Features of Value Quality:** Installation of a new roof and seismic walls on the Sperry Chalet structure would help preserve and protect the existing structure from deterioration or damage from weather and the elements and thereby have a significant positive impact on this historic property that is integral to the surrounding wilderness.

Negative impacts or effects:

- **Untrammelled Quality:** No negative impacts or effects.
- **Natural Quality:** Helicopter operations have potential to temporarily displace wildlife, including raptor migrations in the vicinity of Mount Brown during the fall.
- **Undeveloped Quality:** No adverse impacts or effects.
- **Solitude or a Primitive & Unconfined Type of Recreation Quality:** The sights and sounds of human activity associated with the project that may adversely impact this quality include extensive helicopter operations (sling load deliveries, landings, and overflights) and construction activities on site using motorized power tools and equipment. The adverse impacts to visitors seeking solitude and "natural quiet" may be substantial but temporary and transitory during this project.
- **Other Features of Value Quality:** No negative impacts or effects.

| | | |
|---|---|--|
| 9 | Select the alternative that would most effectively resolve the issue while having the <u>least</u> overall adverse impact on park resources & values and wilderness resources, character and the visitor experience | <i>Note:</i> When selecting the preferred alternative for actions in wilderness, the potential disruption of wilderness character and resources will be considered before, and given significantly more weight than, economic efficiency and convenience. If a compromise of wilderness resources or character is unavoidable, only those actions that preserve wilderness character and/or have localized, short-term adverse impacts will be acceptable. |
|---|---|--|

Preferred alternative: Alternative 2 (Helicopter Operations/Pack String Combination)

Install a roof (including a roof truss, sheathing, underlayment and covering) and seismic walls on the Sperry Chalet structure. The project would be accomplished by a 12-25 person crew, including a project manager, resource monitor, and support staff to feed the crews. Project personnel would camp within the boundaries of the enclave in temporary tent cabins within proximity to the remaining structures at the site from July through October in 2018 and June through October in 2019. Meals would be provided in the dining room onsite or in a temporary structure brought in. This alternative would include a combination of helicopter operations (150-220 round trips) and pack strings (35-60 round trips) to transport approximately 200 tons of construction materials and equipment, supplies and food for the project crew, and project personnel. Helicopter operations at the project site will be staged within the 25-acre Sperry Chalet enclave. Helicopter operations off-site will be staged outside of the park or in the park in the vicinity of the West Glacier Wastewater Treatment Plant. Power tools and equipment will be utilized to complete the project, but hand tools will be utilized whenever possible and use of power equipment would be restricted during evening and early morning hours. Pack string operations would involve one day round trips on an every-other-day basis via the Gunsight Pass Trail.

Describe the rationale for selecting this alternative as the most effective in resolving the issue while having the least overall adverse impact on wilderness character. Include how impacts to wilderness character would be minimized and mitigated if possible.

The helicopter operations/pack string combination alternative represents the most effective and versatile means of resolving the issue and accomplishing an action that has been deemed necessary. Installation of a roof and seismic walls on the Sperry Chalet has been identified as a NPS and Department of Interior priority as a means of protecting the structure from further damage or destruction. Using pack strings to occasionally supplement the transportation of material to and from the site would support transportation needs when weather or other conditions precludes the use of helicopters. Utilizing helicopters to transport much of the supplies and materials would help project managers complete the project during the summer fall window of time when environmental and weather conditions are conducive to completing the project, as it is not considered feasible to conduct this project during the winter months due to severe winter weather and avalanche hazards.

The project would have a substantial positive impact on preserving a National Historic Landmark and National Historic District that are integral to the "other features of value" quality of wilderness character in the recommended wilderness that surrounds the property and important visitors wishing to experience the surrounding recommended wilderness. The sights and sounds of human activity that impact the solitude quality of wilderness character would be minimized by ensuring that helicopter flight paths do not follow park trails as much as possible and when helicopter operations are minimized during early morning and late evening hours at the project site. Impacts to the natural quality of wilderness character would be minimized by ensuring that helicopters are not operated near the Mount Brown raptor migration area during September and October. Transportation of project materials, equipment, and project personnel by helicopter and the use of motorized power tools and equipment at the project site would serve to reduce the overall duration of the project, thereby minimizing the duration of impacts to the solitude quality and restoring "natural quiet" to the Sperry Chalet area as soon as possible. Limiting the use of pack strings to transport materials, equipment and personnel to the project site via the Gunsight Pass Trail would minimize potential congestion, user conflicts (hikers vs. pack strings), safety hazards, and impacts to solitude on this extremely popular trail; minimize the potential for extensive damage to the trail structure; minimize impacts to soil and vegetation adjacent to the trail; and reduce the possibility of temporary trail closures associated with pack string operations. The use of pack strings as the primary means of transporting project materials, equipment, supplies and project personnel was not deemed feasible given the quantity and frequency of pack string round trips required to accommodate the approximately 200 tons of materials; the absence of overnight pack string staging area at the project site which would

necessitate daily round trips: the weight, size and shape of materials that are not feasible to pack; and the intensive impact to the welfare of the park's pack string based on the magnitude of operations.

All of the alternatives analyzed in Step 2 of this MRA were influenced by environmental factors that would make the execution of the project unfeasible during the winter months due to extreme weather conditions and avalanche hazard.

Table 1, on page 16, provides a comparison of the potential impacts and positive effects associated with the Step 2 alternatives analyzed. Given the historic significance of the Sperry Chalet and the MRA Step One determination that action was necessary, Step 2 of this MRA did not include a "no action" alternative

The MRA Part Two analysis is for Phase I only. The Part Two Analysis for Phase II will be prepared in Spring 2019. This will ensure that any lessons learned during Phase I can be included in Phase II.

List the Wilderness Act 4(c) prohibited uses proposed in the preferred alternative and explain how these uses are the minimum requirement needed by management to achieve the purposes of the area, including the preservation of wilderness character and values, in accordance with the Wilderness Act:

This project would not involve any Wilderness Act, Section 4(c) prohibitions as all actions involving the use of motorized equipment, mechanical transport, or landing of aircraft (i.e. helicopters) would occur within the 25-acre Sperry Chalet enclave located outside of lands managed as wilderness. However the proposed action has the potential to impact wilderness character because the enclave is surrounded by recommended wilderness, therefore potential impacts have been considered through this Minimum Requirements Analysis.

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Chief, Wilderness Stewardship Division,
National Park Service

Reviewed by: [Signature]
Chief Ranger

Date 5/10/18

Reviewed by: [Signature]
Chief of Science and Resources Mgmt.

Date 5/10/18

Approved by:

[Signature]
Superintendent

5/10/2018
Date

Sperry Chalet Restoration Project – Step 2 MRA Alternatives Comparison

| Alternative | Wilderness Character Quality | Effect or Impact (on Recommended Wilderness) | Impact Level (High, Moderate, Low, None) |
|---|---|--|--|
| # 1: Helicopter Support Emphasis | Untrammeled | None | N/A |
| | Natural | Wildlife displacement from helicopter noise and power tool use | Moderate to High adverse impact |
| | | Sedimentation & water quality at stream crossing, soil and vegetation damage from pack string use | Low impact |
| | Undeveloped | None in recommended wilderness | N/A |
| | Solitude or Primitive & Unconfined Recreation | Soundscape impacts from helicopter and power tool noise | High |
| | | Soundscape impacts from power tool use @ project site | Moderate adverse impact |
| | Other Features of Value | The action preserves National Historic Landmark which is integral to surrounding recommended wilderness | High positive effect |
| # 2: Helicopter Support & Pack String Combination | Untrammeled | None | N/A |
| | Natural | Wildlife displacement from helicopter and power tool noise | Low to moderate adverse impact |
| | | Sedimentation & water quality at stream crossing, soil and vegetation damage from pack string use | Low |
| | Undeveloped | None in recommended wilderness | N/A |
| | Solitude or Primitive & Unconfined Recreation | Soundscape impacts from helicopter overflights | Moderate adverse impact |
| | | Soundscape impacts from power tool use @ project site | Moderate adverse impact |
| | Other Features of Value | The action preserves National Historic Landmark which is integral to surrounding recommended wilderness | High positive effect |
| # 3: Pack String Emphasis | Untrammeled | None | N/A |
| | Natural | Wildlife displacement from helicopter and power tool noise | Low adverse impact |
| | | Sedimentation & water quality at stream crossings, soil and vegetation damage from pack string use | Moderate adverse impact |
| | Undeveloped | None in recommended wilderness | N/A |
| | Solitude or Primitive & Unconfined Recreation | Soundscape impacts from helicopter overflights | Low adverse impact |
| | | Soundscape impacts from power tool use @ project site | Moderate adverse impact |
| | | Congestion, potential user conflicts (between stock and hikers) and loss of solitude on Gunsight Pass trail corridor | Moderate adverse impact |
| | Other Features of Value | The action preserves National Historic Landmark which is integral to surrounding recommended wilderness | High positive effect |

Table 1