



NPS
U.S. Department of the Interior

Grand Teton National Park
Wyoming

FINDING OF NO SIGNIFICANT IMPACT
Meadow Road Paving Improvements

Recommended:

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Superintendent, Grand Teton National Park

Date

Approved:

Michael T. Reynolds
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Serving Department of Interior Regions 6, 7, and 8

Date

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) published the [Meadow Road Paving Improvements Environmental Assessment](#) (EA) in June 2020. The EA examined alternative actions and environmental impacts associated with requests received from property owners in the Meadows subdivision (neighborhood) to pave an access route known as Meadow Road located within the administrative boundary of Grand Teton National Park. The Meadows subdivision consists of a group of Teton County certified subdivisions and adjacent tracts of land in which Meadow Road is the sole access route to and from these private properties. The EA evaluated two alternatives: Alternative 1 (No Action) and Alternative 2 (Paved Road from End of Existing Parking Area to Park Boundary). Alternative 2 reflects the requests received from property owners in the Meadows subdivision to pave Meadow Road and is the Proposed Action and NPS Preferred Alternative.

The need for action is for the NPS to determine whether to authorize requests to pave Meadow Road. Since the singular purpose of the road is to provide property owners and residents access to the Meadows subdivision, the need for the paving of the road is based solely on correspondence the NPS has received from some of the property owners in the subdivision beginning in 2015 and continuing through the EA public scoping period from June 26 to July 25, 2019. Rationale for the need is based on improved emergency access, accommodation of increased traffic levels, and a decrease of road maintenance costs.

This Finding of No Significant Impact (FONSI) explains why paving Meadow Road (Alternative 2) will not have a significant effect on the human environment. The statements and conclusions reached in this FONSI are based on documentation and analysis provided in the EA and the associated project file. To the extent necessary, relevant sections of the EA are incorporated by reference below. Because the EA was prepared prior to publication of the updated Council on Environmental Quality (CEQ) NEPA regulations (published July 16, 2020 and effective September 14, 2020), this FONSI has been prepared consistent with the requirements of the 1978 CEQ NEPA regulations and the 2015 *NPS NEPA Handbook*.

At this time, the NPS has not decided to select Alternative 2 for implementation and is not authorizing the paving of Meadow Road. Therefore, this FONSI will not serve as a decision document. Rather, the NPS will decide whether to authorize the paving of Meadow Road at such time as the property owners of the Meadows subdivision choose to proceed with the paving of the road either unanimously as individual property owners or as a single, formal entity authorized under Wyoming law to make binding decisions on behalf of all property owners in the subdivision. If an NPS decision results in authorization to pave the road, the NPS would be actively involved in engineering design reviews, issuance of authorization(s), and other related actions requiring federal oversight to ensure impacts to park resources are avoided or minimized. In addition, before making such a decision, the NPS will prepare a non-impairment determination consistent with the Section 1.4.7 of NPS Management Policies 2006 and relevant guidance. Ultimately, the public would also be notified of the decision.

ALTERNATIVE 2: PAVED ROAD FROM END OF EXISTING PARKING AREA TO PARK BOUNDARY (PROPOSED ACTION AND NPS PREFERRED ALTERNATIVE)

Under Alternative 2, the existing road surface of Meadow Road within the administrative boundaries of Grand Teton National Park would be paved to a width of 20 feet (two 10-foot travel lanes), with up to 8 feet of unpaved shoulder within previously disturbed areas. Prior to paving, the road profile would be raised slightly in three to four sagging areas with crushed

gravel. Existing ditches and ditch lead outs that divert runoff away from the road would be cleaned out, regraded where necessary, and reutilized. Pavement would consist of 2 to 2.5 inches of asphalt over 6 inches of crushed base (approximately 4 inches of existing road base plus 2 inches of supplemental). Because of the additional surface material, there would be an increase in road elevation, and some grading would occur both along roadside slopes that would be tied into the existing grade and within the existing roadside drainage ditches. The previously disturbed areas alongside the existing roadway would be cleaned and regraded to provide room for an adequate shoulder and to improve drainage. All of this work would remain within the previously disturbed shoulders. The reutilized ditch lead outs, and regraded areas would be revegetated using an appropriate and park-approved native seed mix and would be complemented by park approved nonnative, invasive plant management, controls, and treatments, as necessary. Proposed actions such as pavement overlay and road drainage features would be designed and constructed to avoid impacts to the irrigation ditch culvert crossing and irrigation surface water. If design changes were needed, supplemental analysis could be required. If a staging area is necessary, it would be located at the eastern portion of the proposed project area within the existing paved parking lot at the junction of Meadow Road and U.S. Highway 26/89/191. It is anticipated that construction would be completed in the mid-to late-summer months (August 1 – September 30). Heavy equipment would likely be used during construction, including, for example, a dump truck, loader, grader, and road roller needed to haul and distribute gravel, compact the surface, and apply pavement. Periodic road maintenance, which consists of maintaining existing roadside ditches and drainage features, would continue. The paved informal parking area would remain as-is. In addition, the project would implement a number of resource protection measures to minimize the degree and/or severity of adverse effects on wildlife and species of concern; vegetation; cultural resources; visitor use and experience; water quality; air quality; and public health and safety (see Attachment A).

Alternative 2 incorporates the mitigation measures provided in Attachment A of this document. While some of the mitigation measures have been revised (see Attachment B - Minor Edits to the Environmental Assessment), these revisions do not change the impact analysis in the EA.

FINDING OF NO SIGNIFICANT IMPACT

The paving of Meadow Road within the administrative boundaries of the park would not have a significant impact on park resources at the local population, community, and ecosystem levels. The 1978 CEQ regulations at 40 CFR Section 1508.27 identify ten criteria for determining whether an alternative will have a significant effect on the human environment. The NPS reviewed each of these criteria given the environmental impacts described in the EA and determined Alternative 2 would result in no significant direct, indirect, or cumulative impacts under any of the criteria.

The following impact topics were dismissed from full analysis, with a rationale for why there would be no potential for significant impacts, on pages 2 – 12 of the EA: the shrubland vegetation community, federally listed threatened and endangered species, migratory birds, other wildlife species and habitats, public safety, private property access, visitor use and experience, archeological resources, ethnographic resources, historic structures / cultural landscapes, viewsheds, and water resources. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of Alternative 2 would not violate any federal, state, or local environmental protection law.

The Jackson Hole greater sage-grouse population is at a historic low point based on number of males counted on leks, and winter habitat has been identified as the key limiting factor for this population (USRBWG 2014). Recent (2020) unpublished reports from the local sage-grouse working group and a sage-grouse technical team point to the correlation of above-average snowfall in the winters of 2016/17 and 2018/19 (which limited winter habitat availability) and the declining population (Stephenson Pers. Comm 2020). If implemented, paving would occur after August 1 to avoid any potential disturbance during the lekking and nesting time periods.

There would be a potential increased risk of individual sage-grouse mortality (about one to three individuals over a 30-year period) from vehicles traveling at or greater than the posted 25 miles per hour speed limit on Meadow Road and there is a potential for sage-grouse to avoid using foraging habitat along the paved road. In addition, paving the road may increase demonstrated behavioral avoidance of the road by sage-grouse resulting in a contraction of habitat availability, even though the habitat itself has not changed in terms of cover. However, long-term impacts on individual sage-grouse over an approximate 30-year period are not expected to have a substantial adverse effect on the species at the local population level. In consultation, the Wyoming Game and Fish Department analyzed the project and responded that given the proposed road improvement activity would take place within the existing footprint of disturbance, and no activity would occur between March 15 - June 30, the State considers this to be a *de minimus* activity (i.e., negligible); therefore, the proposed activity would not have effects at the local population level. To further minimize potential impacts on the local sage-grouse population, the NPS has extended this no activity window through July 31 (see attachment A).

When the effects of Alternative 2 are combined with other present and reasonably foreseeable future impacts (installation of fiber optic lines, increases in vehicle traffic, and implementation of the sage-grouse habitat restoration plan), the total cumulative impact on greater sage-grouse would continue to be adverse. The incremental impacts of alternative 2 would contribute slightly to, but would not substantially change, the impacts that are already occurring.

CONCLUSION

Alternative 2 (paving Meadow Road) does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). Alternative 2 would not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

ATTACHMENT A: MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

The following mitigation measures and best management practices would minimize the degree and/or extent of adverse impacts and would be implemented during the proposed project and are intended to be carried through during project development and implementation.

Traffic Control

- Develop and enforce a park-approved traffic control plan for use during construction to minimize disruption to residents and visitors and to ensure the safety of the public, park employees, and residents.
- Ensure traffic delays do not exceed 15 minutes (unless approved by park management). Notify residents in advance if longer delays are expected.

Road Construction and Maintenance

- Identify and define construction zones with construction tape, snow fencing, or other material prior to any construction activity. Use the zone to confine activity to the minimum area required for construction. Ensure construction activities, including material staging and storage, do not occur beyond the construction zone fencing.
- Ensure any temporary construction fencing complies with wildlife friendly fencing standards. Consult with the park's natural resource branch for assistance with specifications and appropriate design.
- Provide the park's Public Affairs Officer with project schedules and periodic updates of project work as soon as this information is known to minimize impacts to park operation's access.
- To minimize air and sound pollution associated with construction activities, limit warm up, cool down, and idling of construction equipment to the minimum duration recommended in the equipment owner's manual, taking into consideration ambient temperatures and other factors.
- Require motorized construction vehicles and equipment have properly functioning mufflers.
- Ensure all traffic enforcement and wayfinding signs meet NPS and park design standards.
- Ensure the location of all potential utility lines in work areas are field located and marked prior to work to avoid disturbance conflict.
- Control dust during construction by minimizing soil exposure, truck watering, and using other dust prevention methods.
- Keep all project zones trash free at all times.

Communications

- Inform contractors (construction workers and supervisors) about the special sensitivity of park values, regulations, and appropriate housekeeping.
- Require all construction personnel to attend a briefing on proper food/attractant storage and bear safety presented by a qualified member of the park's bear management team or their designee at least two weeks prior to the desired start date.
- Inform all contractors and subcontractors of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties.
- Report all wildlife-vehicle collisions to Teton Interagency Dispatch as soon as possible.
- Report any human-bear conflicts to Teton Interagency Dispatch Center immediately. Report any bear sightings to the park's Bear Management Office within 24 hours.

Erosion Control

- To minimize soil loss/erosion at the project site, implement erosion control best management practices including protection measures such as sediment traps, silt fences, erosion check screens/filters, or jute mesh, if necessary, to prevent the loss of soil.

Archeology

- In the event any unknown archeological resources are inadvertently discovered, notify the park's Cultural Resources Branch staff immediately upon discovery. All work within 600 feet of the discovery would be halted immediately and the site secured from further disturbance. Work within the discovery area would continue only after obtaining consent from Cultural Resources Branch staff. This consent may require adherence to site-specific protection measures that are developed in consultation with the Wyoming State Historic Preservation Office and interested tribes.

Vegetation

- Coordinate all project work with park vegetation specialists regarding invasive nonnative plant (weed) treatments, revegetation requirements, costs, and scheduling. To facilitate revegetation and nonnative invasive plant management, provide park with project documents and an estimate of potential ground disturbance at least four weeks prior to the start of construction. Within one month of completion of the project, provide the park natural resources staff with the as-built dimensions of the disturbed areas.
- Coordinate plant surveys for rare and/or sensitive, invasive, and nonnative species prior to ground-disturbing activities and during growing seasons when these species could be identified. NPS-authorized and appropriate invasive weed control measures would be implemented to monitor and mitigate impacts within the first three years (minimum) of construction. These control measures would include a combination of NPS-authorized manual, cultural, and chemical treatments.

- Ensure all vehicles and equipment on the job site are free of mud, dirt, and plant material using a method such as pressure washing prior to transport. Obtain inspection and verbal approval from the park resource management representative or delegated representative prior to offloading any construction equipment.
- Ensure materials used are clean of weeds and dirt debris before entering the park either by selecting a weed-free product, or if a material source fails an inspection, cooking material such as sand and gravel to 300°F. For larger rock and rip-rap, the rock can be separated from smaller dirt materials and washed prior to entering the park.
- Limit construction within the existing shoulders to the smallest area possible to reduce disturbance to soil and native plants and reduce the potential for the introduction and/or spread of nonnative invasive plants.
- To minimize potential effects to plants, locate staging and stockpiling areas in previously disturbed sites, away from visitor use areas to the extent possible. Return all staging and stockpiling areas to pre-construction conditions following project completion. Limit parking of construction vehicles to these staging areas, existing roads, and previously disturbed areas.
- For revegetation in roadside corridors, use a seed mix composed of native species that has been approved by the park.
- Herbicide applications within existing rights-of-ways and reclamation areas are to be carried out in accordance with regulations and labels. Coordination with weed control districts is encouraged.

Wildlife

- All project activities must comply with Grand Teton National Park's Superintendent's Compendium.
- Avoid construction activities before 8 a.m. and after 6 p.m. during the elk rutting and migration period (typically from September 1 to December 1 or as recommended by park biologists).
- Construction activities would be limited to between 30 minutes after sunrise and 30 minutes prior to sunset to avoid disturbance to wildlife.
- For living and working in bear country, ensure that all bear attractants are attended at all times. Store unattended attractants securely inside a building, a bear-resistant food storage locker (if available), in a hard-sided vehicle with doors locked and windows closed or in an Interagency Grizzly Bear Committee approved portable bear-resistant food storage canisters; or dispose attractants properly in a bear-resistant garbage receptacle. Do not leave unsecured attractants (i.e., not in a canister) unattended. Bear "attractants" include food, drinks, garbage, cooking utensils, dirty / soiled pots/pans/plates, stoves, grills (charcoal or gas), empty or full coolers, storage containers with food or previously holding food (except approved bear-resistant

canisters), beverage containers, pet food/bowls, and any odorous items that may attract a bear such as toiletries.

- Provide for proper storage and disposal of materials that may be toxic to wildlife. All potentially toxic attractants, including petroleum products, must be stored or disposed of in such a way that they are not available to bears.
- Separate construction debris from human food garbage and dispose of it in dumpsters that can be closed at night.
- For sage-grouse nesting and early brood-rearing activities, limit construction activities to the time frame between August 1 and September 30 to limit disturbance.
- For sage-grouse, vegetation removal should be limited to the minimum disturbance required by the project and limited to between July 1 and March 14 in areas that are within 4 miles of an occupied sage-grouse lek.
- Reclamation activities should re-establish native grasses, forbs and shrubs, and should be the standard prescribed in the State of Wyoming Greater Sage-Grouse Core Area Protection Executive Order 2015-4, Attachment E.
- To potentially reduce the likelihood of vehicle collisions with sage-grouse and other wildlife, develop and consider implementing speed reduction measures on the portion of the paved road within the administrative boundaries of the park.

ATTACHMENT B: RESPONSES TO CONCERNS AND ERRATA SHEET INDICATING TEXT CHANGES TO THE ENVIRONMENTAL ASSESSMENT

Responses to Concerns

The Grand Teton National Park Meadow Road Paving Improvements / Environmental Assessment (EA) was made available for public review during a 30-day period from June 4 through July 3, 2020.

Eighty-two pieces of correspondence were received and documented on the NPS Planning, Environment and Public Comment (PEPC) website.

The following are NPS responses to concerns that were raised by commenters on the EA. Responses to all substantive comments are included here followed by minor edits to the EA, where appropriate, including some modifications based on review comments.

In addition, some non-substantive comments, identified as being of high importance to the public or needing clarification, are also responded to here. The page numbers referenced are from the June 2020 Grand Teton National Park Meadow Road Paving Improvements Environmental Assessment.

PROPOSAL AND NEED

Comment Topic: Several commenters disagreed with the condition that the NPS authorize the paving of Meadow Road only “at such time as the property owners of the Meadows subdivision choose to proceed with the paving of the road either unanimously as individual property owners or as a single, formal entity authorized under Wyoming law to make binding decisions on behalf of all property owners in the subdivision.” Some of the commenters stated that a coalition of property owners in the Meadows subdivision that submitted the initial request to pave Meadow Road is a recognized formal entity authorized under Wyoming law and, therefore, this condition has already been met and there is no reason for the NPS to deny such a request.

NPS Response: The NPS stands by its determination that the coalition of property owners in the Meadows subdivision that made the initial request to pave Meadow Road is not a formal entity authorized under Wyoming law to make a binding decision on behalf of all property owners in the subdivision. Therefore, the condition will remain as written.

Comment Topic: Several commenters disagreed with the need for paving Meadow Road, including the rationale that a paved surface would noticeably decrease emergency response times, accommodate increased vehicle traffic as residential development increases in the future, and reduce long-term road maintenance costs.

NPS Response: The NPS commonly receives external requests from entities proposing actions on federally managed lands. Such proposals include specific rationale developed and provided exclusively by external project proponents. In these situations, the NPS typically makes it clear in the EA that the proponent’s rationale for the need is not the same as the NPS need for action under NEPA. The NPS need for action in this case is to determine whether to authorize requests to pave Meadow Road. The NPS has clarified this distinction in the EA via a text change erratum.

OTHER ALTERNATIVES

Comment Topic: One commenter suggested what they viewed as a third alternative (based upon the information provided on page 14 of the EA) to do all the preparation work leading up to paving, but instead of paving add dust retardant onto the top 2-3 inches of crushed gravel during grading and prior to compaction.

NPS Response: This alternative approach is consistent with work that is occasionally done on Meadow Road to replenish the unpaved road surface with additional material and to apply magnesium chloride as a dust suppressant on the existing road surface. Therefore, this approach is considered an element of routine maintenance and falls under Alternative 1 (No Action).

ISSUES AND IMPACT TOPICS DISMISSED OR NOT SPECIFICALLY IDENTIFIED

Vehicular Speeds and Public Safety

Comment Topic: Multiple commenters expressed concerns over the safety of a paved Meadow Road. These concerns were focused on the potential for increased speeds and the safety of the steep and curved portion of the road as it drops into the subdivision.

NPS Response: As noted under the public safety discussion on pages 8-9 of the EA, the current 25-mile per hour (mph) posted speed limit would remain and the existing road alignment, which includes existing lines of site limitations through the sagebrush flat and a descent down the bench with abrupt turns as the road approaches the subdivision, would remain unchanged under Alternative 2. These road features would likely discourage the potential for excessive driving speeds along Meadow Road if the road is paved. Additionally, the NPS would work closely with the entity responsible for paving the access route to develop and possibly implement speed reduction measures on the portion of the paved road within the administrative boundaries of the park.

Impervious Surfaces and Runoff Pollution

Comment Topic: One commenter stated that paved roads result in decreased groundwater permeability and increased stormwater runoff as compared to gravel roads and that paving the road would result in more asphalt/petroleum polluted runoff. The commenter also requested a more detailed analysis showing the differences between a paved surface and the existing gravel road as they relate to the following:

- Square footage of impervious versus pervious surface,
- Impacts to groundwater recharge and water quality,
- The anticipated increase in runoff to adjacent lands and waterways,
- A detailed list of the chemical makeup of the proposed asphalt surface; and
- The impacts to the public and wildlife from these chemical leaching into adjacent lands and waters.

NPS Response: As stated in the EA, the proposed project would replace about 2.67 acres of the existing permeable gravel base with an impervious paved surface; however, best management practices and design features implemented during past road maintenance activities (existing ditches and culverts), and continued in alternative 2, would reduce water runoff from the paved surface into the irrigation ditch, such that there

would be no measurable impacts on water quality, including stormwater runoff. A detailed analysis of the impacts on the differences between the proposed paved asphalt surface and the existing unpaved gravel surface on water resources is inconsistent with NEPA regulation and policy that data and analysis be commensurate with the importance of the impact. Accordingly, water resources, which include water quality, were dismissed from further analysis in the EA.

Road Dust and Use of Magnesium Chloride

Comment Topic: Several commenters requested additional analysis regarding how the application of magnesium chloride on the unpaved road to control dust impacts park resources. They requested additional citations on the impacts of this chemical treatment on the environment.

NPS Response: The following analysis has been added to the EA via the text change errata:

Magnesium chloride is currently used periodically as a dust suppressant on the existing gravel road surface and would continue to be used under Alternative 1 (No Action). Application of magnesium chloride has been associated with the browning of trees and stunted vegetation (EPA 2002). However, most damage symptoms occur within 20 feet of the road (Goodrich and Jacobi 2013) and therefore these impacts would be confined to a narrow swath of shrubland vegetation on either side of the road corridor and this community would not sustain population-level impacts. In addition, in order to properly maintain Meadow Road, the drainage swales that fall within this 20-foot buffer, would be kept free of mature vegetation; therefore, no mature vegetation would be impacted.

Carbon Footprint Analysis

Comment Topic: A request was made for a more detailed analysis of the proposed alternative regarding the carbon footprint of the asphalt surface, construction, and maintenance and a comparison of the alternatives.

NPS Response: Periodic maintenance of the existing road surface includes grading, cleaning and maintenance of roadside ditches and drainage features, dust abatement, and the addition of crushed gravel to the road surface. It is estimated that grading of the road surface occurs three to four times annually, depending on conditions. Each of these activities requires the use of mechanical equipment to varying degrees. Given the one-mile length of the road, seasonal fluctuations in vehicle use of the road, and the use of mechanized equipment for maintenance only 3-4 times annually, and implementation of either an asphalt or gravel road surface, the carbon footprint itself and the difference in carbon footprint between either alternative would be negligible, especially when compared to the overall carbon footprint of the park and the regional Jackson Hole area. A detailed analysis of the impacts on the carbon footprint is inconsistent with NEPA regulation and policy that data and analysis be commensurate with the importance of the impact.

Greater Sage-Grouse

Comment Topic: Several commenters expressed concern regarding the potential for people to drive over the posted 25 mph speed limit more frequently on the paved road surface, which could lead to increased collisions with sage grouse when compared to a gravel road surface.

NPS Response: A discussion regarding sage grouse and direct road mortality at speeds up to 45 miles per hour can be found on pages 23-24 of the EA.

Comment Topic: Several commenters expressed concern about how a paved road would adversely affect sage-grouse individuals, nearby lek areas, and the general local population from increased vehicle speeds on the road and the reduction of suitable habitat along the edges of the road.

NPS Response: As provided in the environmental analysis on pages 21-26, long-term impacts on individual sage-grouse over an approximately 30-year period are not expected to have a substantial adverse effect on sage-grouse at the local population level. In addition, the following mitigation measure has been added to the EA via text change errata:

To potentially reduce the likelihood of vehicle collisions with sage-grouse and other wildlife, the NPS would work closely with the entity responsible for paving the access route to develop and possibly implement speed reduction measures on the portion of the paved road within the administrative boundaries of the park.

With regard to impacts specifically on sage-grouse leks, the following additional information (underlined) has been added to the EA via text change errata:

The Jackson Hole sage-grouse population is at a historic low point based on number of males counted on leks, and winter habitat has been identified as the key limiting factor for this population (USRBWG 2014). Recent (2020) unpublished reports from the local sage grouse working group and a sage-grouse technical team point to the correlation of above-average snowfall in the winters of 2016/17 and 2018/19 (which limited winter habitat availability) and the declining population (Stephenson Pers. Comm 2020). Paving would occur after August 1 to avoid any potential disturbance during the lekking and nesting time periods.

Minor Edits to the Environmental Assessment

This section includes minor edits and technical revisions to the EA that resulted as a response to comments received from general commenters and consultants during the public review period. Page numbers referenced pertain to the 2020 *Grand Teton National Park Meadow Road Paving Improvements Environmental Assessment* (EA). The edits and technical revisions did not result in any substantive modifications being incorporated into Alternative 2, and it has been determined that the revisions do not require additional environmental analysis.

These Errata, when combined with the June 2020 Environmental Assessment and its supporting appendices, are the only amendment deemed necessary for the purposes of completing the EA.

In reference to the EA, the page number and topic heading are provided. Original text from the EA is identified to allow for comparison to the text change. Removed text is shown in ~~strikethroughs~~ and new text is shown in underlines.

Add. Page 1 at the end of the first paragraph: The Meadows subdivision consists of a group of Teton County certified subdivisions and adjacent tracts of land in which Meadow Road is the sole access route to and from these private properties.

Add. Page 1 at the beginning of the fourth paragraph: The need for action is for the NPS to determine whether to authorize requests to pave Meadow Road.

Add. Page 2 after the last paragraph: Application of magnesium chloride has been associated with the browning of trees and stunted vegetation (EPA 2002). However, most damage symptoms occur within 20 feet of the road (Goodrich and Jacobi 2013) and therefore these impacts would be confined to a narrow swath of shrubland vegetation on either side of the road corridor and this community would not sustain population-level impacts. In addition, in order to properly maintain Meadow Road, the drainage swales that fall within this 20-foot buffer, would be kept free of mature vegetation; therefore, no mature vegetation would be impacted.

Add. Page 13 before figure 2: Magnesium chloride is currently used periodically as a dust suppressant on the existing gravel road surface and would continue to be used under Alternative 1.

Replace. Page 14 last paragraph. ~~It is anticipated that construction would be completed in the mid- to late-summer months (July 1 – September 30).~~ **with** It is anticipated that construction would be completed in the mid- to late-summer months (August 1 – September 30).

Remove. Page 16 first bullet under Erosion Control. ~~Any topsoil removed from the site should be stored in suitable stockpiles to protect from loss or contamination during activities. Avoid mixing soil horizons during storage and replacement. Topsoils are to be replaced to original conditions.~~ This mitigation measure was removed since ground disturbance under Alternative 2 would be limited to within the previously disturbed road shoulders. Given the high potential for road surfacing material and debris within these drainage areas, the topsoil would likely not be suitable for stockpiling and re-use.

Replace. Page 18 seventh bullet under Wildlife. ~~For sage-grouse, vegetation removal should be limited to the minimum disturbance required by the project and limited to between July 1 and March 14 in areas that are within 4 miles of an occupied sage-grouse lek.~~ **with** For sage-grouse nesting activities, limit construction activities to the time frame between August 1 and September 30 to limit disturbance.

Add. Page 19 first paragraph. A bullet before “Reclamation activities should re-establish...”

Replace. Page 19 second bullet. ~~Encourage drivers traveling on Meadow Road to follow the posted 25-mph speed limit to minimize the potential of vehicles colliding with sage-grouse.~~ **with** To potentially reduce the likelihood of vehicle collisions with sage-grouse and other wildlife, the NPS would work closely with the entity responsible for paving the access route to develop and possibly implement speed reduction measures on the portion of the paved road within the administrative boundaries of the park.

Add. Page 23. Before the second paragraph: The Jackson Hole sage-grouse population is at a historic low point based on number of males counted on leks, and winter habitat has been identified as the key limiting factor for this population (USRBWG 2014). Recent (2020) unpublished reports from the local sage grouse working group and a sage-grouse technical team point to the correlation of above-average snowfall in the winters of 2016/17 and 2018/19 (which limited winter habitat availability) and the declining population (Stephenson Pers. Comm 2020).

Add. Page 29. Add the following reference:

Federal Highway Administration (FHWA)

2016 Center for Accelerating Innovation, Warm Mix Asphalt FAQs. Available on the internet at: <https://www.fhwa.dot.gov/innovation/everydaycounts/edc-1/wma-faqs.cfm#:~:text=HMA%20is%20manufactured%20in%20a,the%20aggregate%20with%20asphalt%20cement.&text=The%20mixture%20cools%20after%20compaction%20to%20form%20the%20asphalt%20pavement>. Updated November 21, 2016.

Add. Page 29. Add the following reference:

Environmental Protection Agency (EPA)

2002 Potential Environmental Impacts of Dust Suppressants: “Avoiding Another Times Beach,” An Expert Panel Summary, Las Vegas Nevada. Organized by University of Nevada, Las Vegas, U.S. Environmental Protection Agency.

Add. Page 30. Add the following reference:

Jacob, W.R.; Goodrich, B.A.

2013 “Magnesium Chloride Toxicity in Trees” Fact Sheet no.7.425. Colorado State University Extension. Colorado State University, U.S. Department of Agriculture. Available on the internet at: <http://www.ext.colostate.edu/pubs/garden/07425.html>

Stephenson, John A. Personal Communication

2020 Personal communication between Daniel Noon, NPS planner at Grand Teton National Park and John Stephenson, wildlife biologist at Grand Teton National Park. September 3, 2020.