

## **FINDING OF NO SIGNIFICANT IMPACTS**

### **Gravel Acquisition Plan for Denali National Park and Preserve, Alaska**

The National Park Service (NPS) has prepared an environmental assessment (EA) to evaluate a plan to develop and use up to 375,000 cubic yards (CY) of mineral materials (rock, gravel, and sand) over the next ten years for road and other construction and maintenance projects along the Denali Park Road. The purpose of the gravel acquisition plan (GAP) is to update the 1992 Borrow Use Management Plan, which was intended to provide maintenance material for 10 years, and to address new project needs identified in the 1996 Denali Entrance Area and Road Corridor Environmental Impact Statement (Front Country EIS.) The NPS action will authorize extraction and processing of up to 293,000 CY of mineral materials from within the park over the next ten years. Any remaining needs using park resources will be addressed under the National Environmental Policy Act or imported from external sources. This plan implements a slightly modified version of phase 1 of the NPS/environmentally preferred alternative.

#### **Public Involvement**

The NPS released the GAP EA on May 27, 2003, for a 30-day public review and comment period. This review period was extended to July 7, 2003, pursuant to a request by a public interest group. Fifty copies of the EA were mailed to stakeholders and local libraries or made available at park visitor centers. The EA was also available on the Denali Park website at [www.nps.gov/dena](http://www.nps.gov/dena). The NPS received 15 comment letters or comment sheets from non-governmental organizations, commercial operators, private landowners, and individuals. Most of the comments addressed mineral material needs at the western end of the Denali Park Road and source sites in the Kantishna area. No comments were received from federal, state, or local governmental agencies. The commenters raised the following major concerns, which are addressed in more detail in the attached errata and NPS responses to comments (attachment A.)

1. The gravel plan should seek a sustainable approach to gravel needs by specifying: replenishable sites, greater use of external sources, construction and maintenance techniques to minimize source needs, and vehicle size limits to reduce damage to road surfaces.
2. For various reasons, the North Face Corner and Moose Creek Terrace sites should be removed from further consideration.
3. The NPS should implement a previous decision to reclaim the North Face Corner site.
4. The NPS should work with Kantishna area stakeholders to identify sites at the western end of the park road that are consistent with NPS site selection or screening criteria, including the Forest View site.

## **Alternatives**

The EA evaluated 5 alternatives as described below:

Alternative 1 - No-Action Alternative: This alternative would result in continued use of the approved material extraction sites at Teklanika Pit and Toklat River at the extraction rates approved in the 1992 Borrow Use Management Plan. It would also include the minimal extraction remaining at the North Face Corner to facilitate reclamation of that site and completion of a bus turnaround and visitor rest stop. All mineral material needs beyond the volume that could be supplied by the in-park resources would need to be imported from external sources.

Alternative 2 – Maximum Flexibility/Short Hauls: This alternative would result in authorization to extract mineral material from up to 8 sites and use of the North Face Corner for processing and stockpiling until reclamation at a future date. The 8 extraction sites would be Teklanika Pit, East Fork River, Toklat River, Beaver Pond, Boundary, Camp Ridge, Downtown Kantishna, and Kantishna Airstrip.

Alternative 3 – Minimum Visual Intrusion/Long Hauls: This alternative would result in the development of one new major extraction site at the western end of the park road in addition to Teklanika Pit and Toklat River, namely the Moose Creek Terrace site. Use of external sources would be emphasized for the first four park road segments. The NPS would enter into agreements with ADOT, the Alaska Railroad, or AHTNA Corporation to secure long-term use of material sites along the George Parks Highway. Teklanika Pit would be used primarily for stockpiling of external source material, and for minimal extraction and screening for road surfacing material only. All of these sites are distant or shielded from view of the visiting public on the Denali Park Road.

Alternative 4 – Phased Developments with Moderate Number of Sites (NPS Preferred): This alternative would authorize use of 5 extraction sites at any one time, including phased development at the western end of the park road, as needed. Sites in this alternative would include Teklanika Pit, East Fork River, Toklat River, Beaver Pond, Downtown Kantishna, and Moose Creek Terrace. The first phase would involve the extraction of material at Downtown Kantishna, with the goal to reclaim those former mining claims. The Moose Creek Terrace site would be developed only after Downtown Kantishna was exhausted and material was needed for projects at the western end of the park road.

Alternative 5 – Economic Alternative with Moderate Hauls (NPS Preferred): This alternative would be similar to alternative 4, except in phase 2 the North Face Corner site would be developed after Downtown Kantishna was exhausted and material was needed for projects at the western end of the park road.

## **Alternatives Considered but Eliminated from Further Consideration**

Two alternatives were considered but eliminated from further consideration in this EA.

1. Use only external gravel sources, and

2. Reduce long-term gravel needs with the use of new road surface technologies like chip-seal or hi-float.

A cost analysis was conducted, which showed the break-even point for purchasing and hauling gravel from external sources to the park road is near the Savage Bridge, plus or minus a couple of miles, due to truck-hauling costs and depending on the size and ownership of the gravel trucks. Therefore, using external sources to haul gravel beyond the Savage River Bridge becomes increasingly more expensive as trucks travel westward on the park road. In addition there would be impacts to the road surface from numerous passes by heavy gravel trucks.

Chip seal and hi-float road surfacing techniques involve the use of material other than native materials, which is inconsistent with the findings in the park road system evaluation and the desired character of the Denali Park Road beyond the Teklanika Bridge as defined in the 1996 Front Country EIS.

#### **Environmentally and NPS Preferred Alternative**

The EA identifies alternatives 4 and 5 as the environmentally and NPS preferred alternatives. The two alternatives are identical except for phase 2 near the end of the 10-year period, which directs the NPS to extract gravel from either the Moose Creek Terrace (alternative 4) or North Face Corner (alternative 5.) Both alternatives provide a moderate number of sites distributed along the park road with moderate haul distances. The two sites to be considered in phase 2 are similar in size, mineral material content, and impacts to wetlands and vegetation, but vary in terms of other impacts. In the EA the NPS stated it would evaluate public comment to aid in its decision to select one or the other preferred alternative. In general the public supports the two preferred alternatives minus phase 2 to develop either the Moose Creek Terrace site or the North Face Corner site. The North Face Corner would affect more Kantishna area visitors and their viewshed because of its location adjacent to the park road. The Moose Creek Terrace site is not adjacent to the park road but would require one-mile of upgraded road and would impact a previously undisturbed area, except for the unimproved mining access track through the area, enjoyed by local hikers and fall subsistence users.

As a result of public comment, the NPS preferred alternative is alternative 4 (or 5) in the EA minus phase 2. The NPS would not move to either the North Face Corner or Moose Creek Terrace in phase 2, but would reassess alternative sites at the western end of the park as the authorized volumes at Downtown Kantishna and Beaver Pond are exhausted in phase 1 of the plan. Other adjustments to the preferred alternative are:

- The final plan will include a slight increase in the ten-year gravel production at Beaver Pond from 19,000 CY to 20,250 CY, which was analyzed under alternative 2 and will not result in noticeable additional impacts to the area.
- There will be a reduction in the projected ten-year removal from East Fork River to about 30,000 CY from 54,000 CY because about 56 percent of the extraction area and stream channels are located outside of the Denali Wilderness. Gravel from East Fork River will be excavated to address emergencies (such as for slope

failures or washouts) and reconstruction projects in the Polychrome and Sable Pass areas. Up to 3,000 CY could be used each fall or stockpiled at the Ghiglione Bridge site near MP 42 in anticipation of these needs for the following year.

- External sources will be used for major projects along road segment 1 and for material needs along road segments 2 and 3 where economically and environmentally advantageous. Gravel from Teklanika Pit will be used primarily for maintenance surfacing, including a small amount for trail surfacing along segment one. Gravel excavation from Teklanika Pit would be authorized for a maximum of 73,250 CY, but because about 77,750 CY are estimated as needed along the first three road segments, including segment 1 from the entrance area to Savage Bridge, it is highly likely less than the authorized 73,250 CY will be extracted from Teklanika Pit.
- Because some of the unidentified future FHWA road re-construction projects requiring up to 70,000 CY of material may occur along the first three road segments, it is likely that a large portion of these estimated gravel needs would be imported from external sources. Depending on economic considerations and the total 10-year gravel needs along the first three road segments, as little as 5,000 CY or as much as 121,000 CY of gravel may be imported from external sources. Furthermore, external source material will be stockpiled in the Teklanika Pit during the shoulder seasons in fall and spring in anticipation for the summer seasonal needs to reduce adverse impacts to park visitors and to extend the life of the Teklanika Pit.

### **Mitigation**

The NPS will use the following measures to mitigate impacts from the final decision.

- External source sites will be used for mineral materials along the first three road segments (to mile 37) where it is economically and environmentally preferable to do so, and large volumes will be stockpiled near project sites during the shoulder seasons, when feasible, to avoid impacts to park visitors along the park road.
- Topsoil and overburden will be stockpiled adjacent to or close to extraction areas and used to reclaim used parts of borrow sites.
- Sites will be designed so that site restoration of the extraction area will blend in with the surrounding terrain to the maximum extent possible, and return natural functions and processes to the sites.
- Mirror channels in river floodplains will be reclaimed by natural water flows and unrecognizable within 5 years of extraction.
- Silt fences and other devices will be used to control sediment input into streams, rivers and other water bodies to protect water quality and aquatic habitat.
- Dust palliatives will be applied to the park road to reduce dust and the rate of surface material loss, especially fines, which will reduce maintenance requirements.
- Wetlands impacts will be compensated for on an acre for acre basis, at a minimum. Compensation will occur on mining claims in the Kantishna area recently obtained by the NPS that need reclamation.

- Screening and crushing will be conducted, to the extent possible, during shoulder seasons to minimize noise impacts on park visitors and wildlife.
- The NPS will reclaim up to 65 acres of previously disturbed area, including the 55-acres on the Downtown Kantishna site and several small to medium-sized former extraction sites. These sites are described in attachment B.

## **Environmental Consequences of the NPS Preferred Alternative**

Phase 1 of the preferred alternative, as modified above, will result in the disturbance of up to 44.6 acres of surface area, including the Downtown Kantishna area. This alternative will result in the disturbance of up to 8.4 acres of wetlands, including 5.6 acres of seasonally flooded gravelly floodplains in the East Fork and Toklat Rivers. By eliminating the North Face Corner and Moose Creek Terrace sites, the impacts to visitor use and wetlands will be reduced to minor impacts from moderate impacts.

The impacts to other park resources and values are detailed in the EA and will be as follows. Effects will be negligible or minor to air quality, hydrology, water quality, aquatic resources, wildlife and habitat, cultural resources, local economy, subsistence uses, and wilderness values. The overall impacts to geologic resources will be moderate because up to 293,000 CY of mineral material could be removed from finite supplies in the wilderness exclusion zone along the road corridor, of which 153,000 CY is not renewable. Importation of mineral materials from external sources to the first three road segments could result in moderate impacts on visitor use and enjoyment and park management because of increased dust, noise, and road damage. Environmental considerations and available funding for projects along the first three road segments would affect how much material could be imported from external sources. This material could be hauled during the shoulder seasons to minimize impacts to park visitors. Impacts to scenic integrity along the park road would remain at a moderate level because the five extraction and processing sites and associated activities would be visible for several years along 8.4 miles of the park road. The removal of the North Face Corner site and Moose Creek Terrace site would reduce the overall visible length of extraction area along the park road by less than one mile, but the adverse effects on the scenery for visitors in the Kantishna area would be dramatically reduced.

The cumulative effects to the above park resources and values would be minor to moderate when added to previous and projected park developments, mining-related impacts, and private developments along the park road corridor.

### **Decision**

The NPS will implement a slightly modified version of phase 1 of the preferred alternatives (4 and 5) described in the EA, and phase 2 to extract and process mineral material at either at the North Face Corner or Moose Creek Terrace will be withdrawn. The final plan calls for development and use of up to 292,500 CY of mineral materials from up to 5 sites along the park road in addition to importing up to 121,000 CY of

gravel from external sources over the next ten years. The final plan involves the following elements.

- Five source sites in the park with their associated maximum estimated extraction volumes will be Teklanika Pit (73,250 CY), East Fork River (30,000 CY and excluding the area in designated wilderness), Toklat River (110,000 CY), Beaver Pond (20,250 CY), and Downtown Kantishna (59,000 CY).
- The NPS will complete restoration of the North Face Corner area as soon as possible, including realignment of the Denali Park Road right-of-way and completion of a bus stop and visitor rest stop at this location.
- The NPS will maximize its extraction from the Downtown Kantishna site while restoring the natural functions of the area.
- The NPS will evaluate other potential material sites along the park road for the next planning period. Sites to be evaluated within the next ten years may include Old Teklanika Pit, Forest View, Boundary, Kantishna Airstrip, Friday Creek, Moose Creek Terrace, North Face Corner, Camp Ridge, and other locations north of the Kantishna Airstrip. Such evaluations will include consultations with Kantishna area stakeholders and site testing for materials quality and potential wetlands impacts, where not already conducted. Site testing will include separate NEPA compliance where required.
- The NPS will extend the application of dust palliatives where environmentally safe to reduce dust and to preserve road surface materials. The NPS will study the effectiveness of dust palliatives in conserving road surface materials.
- The NPS will reconsider alternative road construction and surfacing techniques to conserve mineral materials, such as chip seal or hi-float.
- Primary mineral materials stockpile sites will be Teklanika Pit, Ghiglione Bridge, Toklat Road Camp, Beaver Pond, and Downtown Kantishna.
- The mitigation measures noted above will be followed over the next ten years, including the reclamation of former extraction sites that are no longer needed and restoration of at least 8.4 acres of wetlands in the Kantishna Hills to compensate for wetlands lost from site developments.

### **Rationale for the Decision**

The decision will provide the NPS, its contractors, and the State-owned segment of the Denali Park Road with adequate gravel sources from along the Denali Park Road to complete projects specified in the 1996 Front Country EIS and to maintain the park road in a condition that is consistent with the road character analysis and safety requirements. This decision is responsive to public comments and provides flexibility to address projected construction and maintenance needs over the next decade. Though this decision will result in the extraction of up to 292,500 CY of mineral material from the park and the disturbance of up to 44.6 acres (including 42 acres at Downtown Kantishna), up to 65 acres of formerly disturbed acres will be restored (including up to 55 acres at Downtown Kantishna.) This decision will result in the disturbance of up to 8.4 acres of wetlands, including 5.6 acres of seasonally flooded gravelly floodplains in the East Fork and Toklat Rivers. This decision addresses NPS policies to avoid wetlands where feasible and compensate for wetlands damages on an acre for acre basis. This decision allows for the

evaluation of alternative construction and maintenance techniques and future potential mineral material source sites along the Denali Park Road corridor. As summarized above, this decision will result in negligible to minor impacts to most affected resources and moderate impacts to available gravel sources, scenic integrity along the park road, and visitor use depending on how much and when external gravel is imported into the park. The action will not result in the impairment of those resources that fulfill the specific purposes identified in the establishing legislation for the park or that are key to the natural and cultural integrity of the park and preserve.

This action complies with the Endangered Species Act, the National Historic Preservation Act, and Executive Orders 11988, 11900, and 12898. There will be no significant restriction of subsistence activities as documented by the ANILCA Title VIII, Section 810(a) summary evaluation and findings.

I find the decision does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council of Environmental Quality (40 CFR 1508.9), and environmental impact statement will not be prepared for this gravel acquisition plan.

Recommended: Paul R. Anderson 9/30/03  
Superintendent, Denali National Park and Preserve Date

Approved: Marcia Blazyn 10/15/03  
Acting Regional Director, Alaska Date

Attachment A: NPS Responses to Public Comments and Errata for GAP EA

Attachment B: Restoration Areas as Mitigation for the Denali Gravel Acquisition Plan

**ATTACHMENT A: NPS Responses to Comments and Errata to the Denali Gravel Acquisition Plan Environmental Assessment**

**ERRATA**

**Environmental Assessment  
Gravel Acquisition Plan  
Denali National Park and Preserve, Alaska  
September 2003**

**NPS Responses to Substantive Comments on the Gravel Acquisition Plan EA**

The NPS received a total of 15 sets of comments. These comments were either letters mailed to the superintendent, emails sent to the park web site, or comment sheets handed in after public meetings. The following parties made comments:

1. Denali National Park Wilderness Centers, Ltd.
2. National Parks and Conservation Association
3. Denali Citizens Council
4. Alaska Wildland Adventures
5. Paul Shearer
6. Russel Lachelt
7. Jeff Barney
8. Barbara Lachelt
9. Nancy Bale
10. Chuck Bale
11. Alan Seegert
12. John Bowman
13. David Braun
14. Noel Woods
15. Bruce Carr

Responses follow the comments below. Many of the comments are paraphrased or summarized from the original comments.

**1. Denali National Park Wilderness Centers (DWC)**

DWC-1 states the gravel plan should be framed with long-term sustainable management goals that are set by the road character definition and appropriate visitor facilities and visitor uses in previous park plans and road use limits in regulations. The plan should consider appropriate technologies to conserve finite gravel supplies such as calcium chloride application, chip-seal surfacing, and other appropriate technologies.



*The NPS agrees that both the need for gravel and the use of gravel should be held to high standards for sustainability. There should also be no adverse impacts to road character or to the safety of visitor use from the plan. The eastern two-thirds of the park road has both outside sources and renewable sources – such as the Toklat River site – to depend on and has had more miles of dust palliative/particle binder applied. The western third of the road has neither external sources nor renewable floodplain sites close by. The western projects during the life of this plan will emphasize strengthening the structure of the road in weak areas as well as applying a dust palliative to bind the surface to minimize gravel loss. There will be, for example, a geogrid installed under the whole 4 kilometers of the 2004 Mile 70-72 strengthening and re-surfacing project. Over the whole road the NPS agrees that it should employ gravel conservation measures such as dust palliatives and binders and consider road construction technologies where consistent with the Frontcountry EIS and other park road plans.*

DWC-2 indicates the gravel plan should consider but eliminate from further consideration the North Face Corner and Moose Creek Terrace sites because they are inconsistent with the site screening criteria stated on pages 1-16 to 1-17 in the EA, particularly criteria #2 and #7 for both sites and #4 for Moose Creek Terrace.

*Criterion #2 states a site and its associated access roads will not be significant intrusions on park road vistas and viewsheds. A gravel source immediately adjacent to the park road, such as a bench deposit, may be considered if it could be restored to a “natural appearance” within 2 years of opening and using the source. Both the North Face Corner and Moose Creek Terrace source sites are located on benches, which could be restored to blend with surrounding terrain within two years of completing extraction. Restoration of excavated areas could proceed as these sites are developed and before completion of activities at the sites, as have occurred at Teklanika Pit. Furthermore, the Moose Creek Terrace site is not along the main park road, nor is it visible from the park road, so this criterion does not apply to Moose Creek Terrace as written.*

*Criterion #4 states the source site will not involve major impacts to undisturbed wildlife habitat. Park wildlife biologists will analyze the sites to determine if the site is located within a significant, historic, or active wildlife habitat. The wildlife habitat and populations in the Moose Creek Terrace area are described in the EA on page 4-27, and the impacts at that site are summarized on pages 4-29 and 4-30 for alternatives 3 and 4. The additional loss of about 3 acres of wildlife habitat and the one mile of additional improved road and associated truck traffic would result in minor impacts to wildlife and their habitat in the park. For this reason the Moose Creek Terrace is consistent with this criterion.*

*Criterion #7 states the source site will not adversely affect major visitor use or destinations areas defined as visitor centers, bus stops, interpretive waysides, and pullovers. Neither shall such source sites adversely impact viewsheds from major visitor use areas. Visitor use areas may include sections of the park road that are heavily traveled by pedestrians walking from lodges to visitor attractions. Evaluation of the*

*North Face Corner site shows it does not meet this criterion and for this reason it should be removed from further consideration. Technically the Moose Creek Terrace site does not lie along the park road, but it is along a recognized popular pedestrian route to a bounty of unique natural resource values in the Kantishna area and the park as a whole. For this reason, the Moose Creek Terrace site was also removed from further consideration in this plan.*

DWC-3 states the final gravel plan should honor the existing extraction and reclamation plan for the North Face Corner as the final use of this site.

*The NPS plans to reclaim the North Face Corner this fall and next summer. The NPS will not revisit this site unless there is strong local public support to do so.*

DWC-4 indicates the Forest View site should be considered as a preferred site because it is consistent with site selection criteria and is strategically located. Strategic location of sites resulting in less truck hauling should be used as a selection criterion.

*The NPS considered Forest View (at Mile 81.7) in the preliminary list of potential sites, but dismissed it from further consideration because it was judged to be inconsistent with selection criteria 2 and 4 described above. The NPS was originally concerned that this site would be visible for several miles to the east and west along the park road and could not be easily restored to blend with adjacent area landforms. This site could be largely hidden from road traffic, however, if carefully developed along the northern side of the deposit only. A pond and wetland area immediately north of the site attracts moose and waterfowl, but these habitat types are not uncommon in this kettle pond area of the park. Visitor use of the area is light, compared to the North Face Corner and Moose Creek Terrace sites. The site was excluded from wilderness designation in 1980 due to potential as a gravel source. For these reasons, the NPS will re-evaluate Forest View Hill for a future gravel source site. Wetlands analysis and other resource impacts have not been evaluated at this time, so this site cannot be considered for this planning cycle until further analysis is completed.*

*The NPS agrees that reducing truck hauling distances and costs are worthy goals and evaluation criteria. Because there are a finite number of source sites that met the existing selection criteria, and the truck miles are affected by a cost analysis and projected gravel needs by road segment, we felt leaving the truck miles to the final analysis was the appropriate way to handle this issue. A summary of truck vehicle miles by alternative is provided in Table 4.5 of the EA. A cost analysis for the alternatives is in appendix B.*

DWC-5 asserts the Downtown Kantishna site should be re-evaluated for a maximum extraction of up to 200,000 CY rather than 59,000 CY.

*The NPS is purchasing the Downtown Kantishna site with the objective of restoring the natural functions of the area. Removing the mining tailings and re-contouring a significant portion of the site will help restore the natural functions and values of these segments of Moose Creek and Eldorado Creek. The NPS contracted a licensed hydraulic*

*engineer to produce the preliminary plans for this site, which were endorsed by the EA contractor and NPS Water Resources Division Wetlands Coordinator. The NPS will not create a large gravel pit in the Moose Creek floodplain that cannot easily be restored nor contradict the recommendations of a licensed hydraulic engineer or wetlands scientists without credible evidence that doing so is consistent with NPS goals and objectives .*

## **2. National Parks and Conservation Association (NPCA)**

NPCA-1 notes the number of potential gravel source sites and impacts in the Kantishna area are disproportionate compared to other sections of the park road, largely because the Kantishna area serves as a secondary entrance to the park for visitors.

*The NPS and public input acknowledge there are more potential gravel source sites in the Kantishna area. The Denali Entrance Area and Road Corridor EIS (Frontcountry EIS) discussed this fact, and the future potential needs are high for the park road and Kantishna Airstrip between mileposts 87 and 93. Fewer source sites are contemplated near the park entrance and first half of the park road because numerous external sources are near the entrance area. And NPS has a long successful history of gravel extraction at Teklanika Pit and Toklat River to service the middle sections of the park road. The NPS acknowledges the Kantishna area is an important visitor use area, and we are withdrawing planned extraction and processing from the North Face Corner or Moose Creek Terrace sites at this time because of the high visitor use and intrinsic values of these locations.*

NPCA-2 endorses extraction and reclamation of the former mining tailings at the Downtown Kantishna site with the caveat the NPS works closely with Kantishna Roadhouse and Denali Backcountry Lodge to mitigate adverse impacts to their guests.

*The NPS is retaining in its final plan the use and reclamation of the Downtown Kantishna site because it is consistent with direction in the Frontcountry EIS. The tailings need to be reduced and re-contoured to reclaim the former mining claims. The NPS plans to coordinate the timing and location of activities at this site to minimize adverse impacts to lodge and other park visitors to the area. The NPS would attempt to do the majority of the crushing and screening of gravel during shoulder seasons when visitor use is lowest.*

NPCA-3 endorses the use of the Beaver Pond site because it is in a low visitor use area and would require less hauling to project sites.

*The NPS plans to retain the use of the Beaver Pond site in the final plan for the reasons stated by NPCA and to use up to 20,250 CY from this site over the life of the plan.*

NPCA-4 supports consideration of the Forest View site near MP 81 because visitors spend little time in this area, which is closer to gravel needs along the park road.

*The NPS will re-evaluate the Forest View site for the next planning period by testing gravel quality and assessing in more detail the potential impacts to wetlands, scenic values, visitor use, and wildlife values and habitat. The NPS cannot reinsert the Forest View site into this planning cycle under this EA because the environmental impacts from development at this location have not been adequately assessed. Forest View lies near the boundary of road segments 9 and 10 (MP 80, EA figure 1.2), but the largest foreseeable projects are at MP 70-72 (best served from Beaver Pond at MP 70) and the Kantishna Airstrip and Kantishna Road segment rehabilitations (MP 89-93 best served from Downtown Kantishna at MP 91, see Frontcountry EIS appendix C and EA appendix A.) We are not convinced the Forest View site is needed during this planning cycle, but it may well be needed when other west end projects are identified...*

NPCA-5 notes the North Face Corner site is a very visible, high use area for park visitors and gravel extraction should end at this site as was originally agreed.

*The NPS acknowledges the values of this site and is beginning restoration at this site this year.*

NPCA-6 indicates development of the Moose Creek Terrace for gravel acquisition and improvement of the first mile of the access route to this site is inappropriate in relation to park purposes and plans for the area, particularly in light of recent NPS efforts to acquire inholdings and interests in the Moose Creek valley to reduce pressures for development in the area.

*Page 1-5 of the EA acknowledges the purposes of the park additions pursuant to ANILCA Section 202(3)(a) to protect fish and wildlife populations and habitat, provide opportunities and reasonable access for wilderness recreational activities, and permit subsistence activities where traditional. The NPS recognizes the fish and wildlife values in the Moose Creek valley, but the impacts to these resources were judged to be minor in the EA. Though day hiking and backpacking occur along the Moose Creek access route, this area does not qualify as suitable wilderness in either the park GMP/ Wilderness Suitability Study of 1986 or the Wilderness Recommendations of 1988. It is unlikely this area will become wilderness any time soon. Furthermore, the Frontcountry EIS directs the NPS to obtain gravel from the Moose Creek Terrace area after sources on private lands and previously disturbed areas in Kantishna have been exhausted. Nevertheless, the NPS is removing the Moose Creek Terrace site from the plan because of the public comment, and other gravel sources are available in the Kantishna area to serve NPS and public needs for access over the life of the plan.*

NPCA-7 states the NPS should keep maintenance needs at a minimal level while keeping access safe, but bus size and length have increased over the years requiring the road to be widened. NPCA therefore recommends the NPS establish vehicle size limits in addition to road use limits.

*The NPS will seek to reduce maintenance gravel needs through wider application of dust palliatives, careful grading and reuse of gravel lost over the sides of the road, and*

*investigation of road construction techniques that would reduce long-term gravel needs and still be allowed under the Front Country EIS and road character analysis. Bus configurations and sizes have changed and enlarged over the years, largely in response to the growing visitation and road use limits. The NPS has specified a length limit of 40 feet for buses used under the concession contract. Concession permits for the three lodges in Kantishna also specify the buses shall not exceed 40 feet in length. The weight of buses on the park road has increased by about 2,600 pounds since 1987.*

### **3. Denali Citizen's Council (DCC)**

DCC-1 questions the NPS estimated 10-year need for 375,000 CY of material and whether the NPS can move that amount of material. Furthermore DCC recommends the NPS move towards long-term sustainability and reducing the need for mineral materials.

*The NPS estimate for the next ten years is closer to 340,000 CY, but this was increased by 10% to account for unplanned or unforeseen needs such as a major slope failure along the Denali Park Road. Appendix A provides the NPS spreadsheet with annual estimates and the ten-year totals. This estimate does not cover estimates to correct potential slope failures at Mile 45, Polychrome Pass, or the Eielson Bluffs. The overall estimate with the 10% contingency factor is purposefully high to make sure adequate supplies are provided if needed. The annual amounts used are likely to be lower than the estimates with the 10% contingency factor.*

*The NPS would move much of the material over the next ten years, but not all of it. For large reconstruction projects along the Denali Park Road, contractors would likely be hired to produce and move much of the material.*

*Material needs over the next decade are likely to be higher than in subsequent planning periods as the NPS completes road reconstruction projects identified in the Front Country EIS. Future needs would likely be lower as road structure and safety problems are addressed, and coupled with wider application of dust palliatives and improved maintenance methods, the NPS should be able to lower the amounts needed for its mineral materials acquisition program.*

DCC-2 states the NPS should include alternatives that address methods to reduce materials needs such as matting, engineering cloth, dust palliatives, recovery of materials that migrate off the road, and use of materials from parts of the road that are over-wide.

*The EA states on page 2-26 under mitigation and monitoring for all alternatives that the NPS would apply dust palliatives to reduce the overall rate of surface material loss, which would reduce maintenance requirements. The use of various engineering methods such as matting and cloth are addressed in appendix C of the Front Country EIS under Road Repairs and Maintenance. This section of the appendix indicates road repair designs would "provide an optimum design to most effectively use gravel resources." Such designs may include curtain, French, and lateral drains, and geofabric, geogrid,*

*pipes, fillers, binders, and other engineering materials as appropriate for each project site. NPS road maintenance personnel already pull mineral materials from ditches and along the road to reapply onto the road surfaces. If future planning describes a goal for the maximum width of the gravel road between the Savage Bridge and the Teklanika Bridge – the section that was prepared for paving during the 1960s – there may be usable gravel available from the parts of the road that exceed that goal.*

DCC-3 believes the NPS should obtain a greater amount of material from external sources and conduct a cost versus benefits analysis on using more contracts for external gravel sources.

*The NPS contractor for this EA did complete a cost analysis for gravel produced from external sources compared to internal sources, see Appendix B. The break-even location by cost to produce and haul material to the park road from external and internal source sites was near the Savage River Bridge, plus or minus a couple miles depending on the gravel trucks used to haul the material. The NPS would use contractors and external gravel sources for large construction projects in the entrance area of the park up to the Savage Bridge and along the park road to points as far west as Igloo Canyon for some projects depending on the project size, location, and bid prices.*

DCC-4 believes the NPS should develop guidelines for overall bus weight and type because buses have become larger and heavier with more impact on road surfaces.

*See the NPS response to NPCA-7 above.*

DCC-5 believes the number of buses going to Kantishna should be limited to protect the quality of experience visitors to that area seek.

*The number of vehicles, including buses, allowed to transit to Kantishna are already limited by the Front Country EIS and its implementing regulations. The NPS presently has no defined limit on Kantishna buses, per se, but could address that issue in an upcoming Kantishna Development Concept Plan.*

DCC-6 strongly supports reclaiming the North Face Corner site and using mining tailings at Downtown Kantishna while rehabilitating that site.

*The NPS is restoring the North Face Corner site and will not revisit this site without strong public support to do so. See response to DWC's third comment above. NPS will develop Downtown Kantishna as a primary gravel source site at the western end of the park road.*

DCC-7 most strongly opposes any alternative including gravel extraction at Moose Creek Terrace because this action seems inconsistent with NPS efforts to buy and reclaim mining claims in the Moose Creek drainage, would impact hikers in the area, and development of such site would require building a mile of new road, which would be the first mile of a northern access road.

*See NPS responses to DWC-2 and NPCA-6 above. Development of the Moose Creek site would not require construction of new road, but the upgrading and strengthening of the mining access track already in use by inholder's farther upstream and subsistence users in the area. Nevertheless, the NPS will not develop the Moose Creek site at this time.*

DCC-8 asserts the Moose Creek Terrace site would impact subsistence hunting in the Moose Creek area, which has already been limited in the Kantishna area from developments in the area. DCC believes releasing the EA and closing the public comment period before the Denali Subsistence Commission could meet and review alternatives shows a lack of respect for subsistence values in the area.

*The EA addresses impacts to subsistence on pages 4-79 to 4-81 and includes an ANILCA Section 810 evaluation. These analyses recognize potential minor impacts to subsistence access and activities in the Moose Creek drainage if Moose Creek Terrace is included in the preferred alternative, but an existing firearms closure already limits hunting along the first mile of the Moose Creek access track and the Moose Creek Terrace site would result only in about one square mile of additional closure in the Kantishna area, a small addition compared to the available area for hunting in the Kantishna Hills. The NPS regrets the Denali Subsistence Commission was not apprised of this project and alternatives sooner and no disrespect is intended. Because of other comments, the NPS will refrain from developing the Moose Creek Terrace site during the next ten years.*

DCC-9 states Moose Creek may have wilderness suitability, and caribou habitat for fall migration and rutting should be protected.

*The Kantishna Hills were not found to be suitable for wilderness designation in the 1986 GMP/ Wilderness Suitability Review nor in the 1988 Wilderness EIS. Though the NPS has acquired numerous mining claims in the Kantishna Hills, the Moose Creek drainage continues to have private inholdings which are not likely to be acquired anytime soon. The NPS could propose to designate wilderness around an access road corridor in Moose Creek, as with the park road, and around private inholdings as appropriate. Such a planning process, however, is not now underway nor is it being addressed in the draft Backcountry Management Plan EIS.*

*Less than four acres of caribou habitat would be affected with development of the Moose Creek Terrace site, and the road upgrade would result in negligible increased habitat loss because this route is already used by inholders and subsistence users to Rainy Creek, Moose Creek, and Spruce Creek. Noise from gravel extraction, processing, and hauling would deter caribou from using a slightly larger area around the Moose Creek Terrace, but this area would still be relatively small. Caribou use of habitat in the Moose Creek Valley was evaluated in the 1990 Mining EIS and the 2000 draft Spruce Creek Access EIS. Up to 250 acres of caribou habitat were found to be adversely affected under the cumulative impacts of mining, but this was found to be a small portion of the total caribou habitat used by the Denali herd. The Moose Creek area was not found to be any more important to caribou than other areas north of the Denali Park Road. This EIS*



*admits, however, that the impacts to caribou are a function of the herd size. The draft Spruce Creek EIS determined that the Moose Creek Route would have disturbed about 10 acres of caribou habitat that would result in negligible to minor impacts to caribou habitat and behavior. Because human activity already occurs along the Moose Creek route and in the Kantishna area, we find the cumulative impacts to caribou from developing the Moose Creek Terrace site would be minor at most.*

DCC-10 indicates the long-term impacts from developing materials extraction, hauling, and processing at Moose Creek Terrace, which could last for decades due to the size of the deposit, were not adequately addressed and should require an EIS.

*The NPS already addressed the possible use of the Moose Creek Terrace deposits in the Front Country EIS, which indicated the NPS would first obtain mineral materials needs at the western end of the park road from private lands or previously disturbed sites in the Kantishna area before pursuing gravel extraction and processing along Moose Creek. This EA tiers from direction established in the Front Country EIS. The NPS recognizes the controversy surrounding this potential materials site, however, and is not pursuing use of this site until further analysis of alternative sites near the western end of the park road are completed and/or a long-term development concept plan is completed for the Kantishna area.*

DCC-11 states that more numerous pit sites distributed along the park road would reduce truck hauling distances and the concomitant impacts to the road, visitors, and wildlife. DCC feels that no alternative adequately addressed this option. DCC believes the plan should consider a pit at about mile 80-81 of the park road, which would reduce truck hauling impacts to park resources and visitors at the western end of the park road.

*The NPS developed alternative 2 "maximum flexibility/short hauls" with this goal in mind. This alternative included 8 extraction sites and one temporary processing site. Unfortunately this alternative resulted in more truck miles than alternatives 4 or 5 because processing of material from the Camp Ridge site would need to be hauled to North Face Corner or Downtown Kantishna until that area is enlarged enough to hold processing equipment. Also, half of the source sites are located near Kantishna, but this is largely by design because more of the future work is estimated to be near the western end of the park road and more final source sites were identified in this area. The NPS plans to take another look at Forest View (MP 81.7) and other source sites at the western end of the park road in the future. See also replies to DWC-4 and NPCA-4 above.*

#### **4. Alaska Wildland Adventures (AWA)**

AWA-1 suggests the NPS should seek to reduce road traffic by spacing gravel sources along the park road rather than developing a few sources in distant parts of the park. AWA supports using external sources for projects along the first 20-30 miles of the park road while using park sources for more distant parts of the park road.



*The NPS has tried to balance the number of source sites with their resource impacts with a reasonable spacing of source sites to reduce truck hauling distances. The NPS has survived for years with 2 to 3 source sites inside the park, but believes expanding to a moderate number of sites such as 5 would be more appropriate to reduce truck impacts to park resources and visitors. Numerous small extraction sites were used to build the road initially, but many of these have been converted to campgrounds, pullouts, storage areas, or abandoned. The NPS plans to restore many of the smaller sites no longer in use or no longer needed. The NPS agrees it should use external sources to the extent it is physically and economically reasonable to do so. We must also weigh the impacts of heavy dump trucks transiting the park road versus conserving park mineral resources. The first 30 miles of the park road, however, are generally wider and built to a higher standard than the last 63 miles of the park road. Only one source site is proposed within the first 30 miles (Teklanika Pit at MP 27.2.) We believe four other sites are equitably located along the park road at East Fork River (MP 43.6), Toklat River (MP 53.4), Beaver Pond (MP 70), and Downtown Kantishna (MP 92).*

AWA-2 states the North Face Corner project, providing some material, should be completed as soon as possible.

*The NPS agrees. See also responses to DWC-3, NPCA-5, and DCC-6.*

AWA-3 states the Moose Creek Terrace site should not be used because it would lead to a disastrous North Access Road and stimulate additional developments in the Rainy/Spruce Creek areas.

*Any source site developed at Moose Creek Terrace would be for NPS administrative purposes only. A North Access Road project would require its own separate EIS and identification of numerous large gravel source sites. The fact that the Moose Creek valley holds abundant gravel resources is well known in geological literature, but these resources cannot be used unless the use is consistent with park purposes, values, and plans, including ANILCA Title XI access. See also response to DCC-7 above.*

AWA-4 supports the use of mining tailings for a gravel source in the Kantishna area, but only where previous recent mining activity has taken place.

*The NPS plans only to extract and process mineral resources on previously disturbed surfaces at Downtown Kantishna only. Though this group of recently acquired mining claims covers about 80 acres, the NPS would operate on 55 acres or less and avoid undisturbed areas along the northwestern end of these claims.*

AWA-5 is concerned that heavy traffic on the Kantishna part of the road should not take place until those parts of the road are improved and better maintained. AWA is concerned that ADOT has nearly forgotten about this road segment but may not seek appropriate public input into protecting environmentally and visually sensitive areas. Furthermore, AWA wants the NPS to work more closely with ADOT before proceeding with gravel and road projects in the Kantishna area.

*The NPS recognizes that the Kantishna part of the Denali Park Road should be reinforced as necessary and appropriate before transiting the area with numerous heavy gravel trucks. The NPS agrees it should work closely with ADOT to coordinate road and airstrip projects in the Kantishna area. As noted above, gravel from NPS sites must be used only for NPS administrative purposes. Maintaining the Denali Park Road through the Kantishna area would be classified as an administrative purpose, and a memorandum of agreement with the ADOT covers maintenance on the State ROW section. Cooperation to provide funding for a reconstruction project is being discussed by DOI, ADOT and FHWA.*

AWA-6 supports maintaining the wilderness character of the Denali National Park and the park road in a condition compatible with the purposes of the park. AWA believes the park road should be improved and maintained only as much as necessary for safety and not to allow greater weights and speeds of vehicles on the road.

*As noted in chapter 1 of the EA the NPS will follow existing plans and directions for the Denali Park Road, particularly the 1986 General Management Plan, 1994 Road System Evaluation, and 1996 Entrance Area and Road Corridor Development Concept Plan. Road character is first articulated in the Road System Evaluation and adopted in the Road Corridor Development Concept Plan. There are no plans to allow increased speeds or greater weight vehicles on the road. Some sections of the road are generally too narrow for two vehicles to safely pass, and this is part of the managed road character, as emphasized in the Frontcountry EIS: "From Mile 30 to Mile 93 the road becomes a one-lane gravel road through rugged mountainous country with two-lane sections and pullouts for passing traffic." (Gravel EA, p. 2-17). In the 1960s the park road was widened and some curves were re-aligned between the Savage Bridge and Teklanika Bridge, in part to support the high volume of traffic to the Teklanika Campground, but in general to reflect the increase in vehicles now able to reach the park via the new Denali Highway that opened in 1957. Other sections have been widened in response to sight-distance concerns and to provide adequate pullouts. Inter-visible pullouts are being designed into new FHWA and in-house projects.*

*The NPS will seek to reduce maintenance gravel needs through wider application of dust palliatives, careful grading and reuse of gravel lost over the sides of the road, and investigation of road construction techniques that would reduce long-term gravel needs and still be allowed under the Front Country EIS and road character analysis. The NPS recognizes that the major safety problem with the road is soft shoulders and in combination with the FHWA is inventorying the entire road edge in 2004 in order to propose structural projects so that the full width of the road is reliable..*

## **5. Paul Shearer (PS), Kantishna Inholder**

PS-1 supports gravel extraction, transport, and stockpiling during the non-visitor season only with transport from short-haul stockpiles in summer only.

*In addition to Teklanika Pit and Toklat River sites, the NPS already uses other strategic small stockpile sites to preposition mineral materials in fall. Other sites include George Parks Highway at MP 234, MP 5 pit, MP 7 pit, Igloo Creek Bridge, Ghiglione Bridge, Moose Creek Pit, Dalle-Molleville, and Boundary Pit. As well-intentioned as the comment may be, it is impractical to put heavy trucks on the thawing road early in the season and it is rarely practical to move enough gravel during the non-visitor fall season to keep the road maintenance materials available for the next summer. The extra cost of double-hauling all material weighs against this idea.*

PS-2 indicates all extraction and stockpile sites should be located along the park road in the wilderness exclusion zone, except for potential sites west of the Kantishna Airstrip, which would avoid the visiting public.

*The NPS criteria used to identify potential material sites includes "the site will not be located in designated wilderness or lands being considered for wilderness designation" (EA page 1-16.) None of the alternatives in the Denali Wilderness Recommendations EIS (NPS 1988) identified any of the former mining district in the Kantishna Hills as potential wilderness. Potential source sites west and north of Kantishna Airstrip may contain source sites the NPS would want to evaluate in the future along with Forest View.*

PS-3 does not support gravel extraction and stockpiling at any sites that would impact park visitors visiting Kantishna Lodges, backcountry hikers, or those hiking along the Moose Creek or Park Road. In particular PS opposes use of the Moose Creek Terrace and North Face Corner sites because of impacts to scenic values and park visitors.

*The NPS site selection criteria on page 1-16 of the EA indicate no site would be a significant intrusion on park road vistas and viewsheds nor adversely impact major visitor use or destination areas. See also response to DWC-2 above.*

PS-4 indicates the North Face Corner site should be reclaimed, not expanded.

*The NPS agrees; see response to DWC-3 above.*

PS-5 states the NPS evaluation of the North Face Corner site expansion impact on scenic values as moderate is in error and should be described as "significant to extreme."

*The NPS followed definitions of impact levels in table 4-1 (page 4-2 of the EA) and assessed whether a source site could be restored to blend in with surrounding landforms after extraction and processing at the site was completed. Because the North Face site is located at a bench and could be restored to mimic the surrounding landform and the site is already impacted, the NPS believes the impact to scenic values would be somewhat long-term (10-20 years) over a small localized area, or moderate.*

PS-6 notes the EA (page i) indicates the Moose Creek Terrace site is distant or shielded from view of the visiting public on the Denali Park Road, but PS asserts a significant and

growing segment of the public visiting the Kantishna area hikes or travels along the Moose Creek Road. PS disagrees with the NPS judgment that impacts to scenic values from development of the Moose Creek Terrace site would be minor to moderate.

*The NPS followed definitions of impact levels in table 4-1 of the EA, which were derived from the Denali Backcountry Plan. We agree it is probably incorrect to assert the impacts would be minor to scenic values at this location. The NPS contractor decided this was the case because the site is not located along the park road. In taking a closer look at the definitions and analysis, the impacts to scenic values at this site would probably fall between moderate to major because the site would likely be used for a long time and is visible from along the Moose Creek Road and from much of the surrounding higher terrain. Page I, however, is correct in stating Moose Creek Terrace is not visible from the Denali Park Road. This is true, but the effects to the visiting public in the area were underestimated.*

PS-7 suggests the NPS should work more closely with Kantishna Inholders and other interested parties to identify appropriate material source sites to meet future needs in the Kantishna area.

*The NPS did hold a meeting with lodge operators and businesses in the Kantishna area in June 2002 before developing final alternatives and selecting final source sites; however, the NPS could do more to reach out to other Kantishna Landowners and other stakeholders before finalizing alternatives. The NPS would be interested in obtaining more definitive information about potential source sites west of Kantishna Airstrip from this commenter.*

## **6. Russell Lachelt (RS), Kantishna Inholder**

RS-1 opposes the use of the Moose Creek Terrace in any alternative because it would degrade a popular hiking area, require upgrading an old single track mining road that would lead to more use and facilities development in the area, and result in noise throughout that part of the Moose Creek valley from crushers, loaders, and trucks.

*The NPS recognizes there would be noise impacts and vehicle-pedestrian effects to visitors in the Moose Creek valley under alternatives 3 and 4, EA pages 4-58 to 4-60. Development of any other facilities at a gravel extraction site would need to be addressed in a separate NEPA document. The NPS may wish to address future needs in the Kantishna area for administrative and public facilities in a Kantishna Development Concept Plan. Upgrading the mining track would entail reinforcing the surface to sustain dump trucks with inter-visible turnouts, but the road could remain a single track surface for the most part. Nevertheless, the NPS will refrain from mineral materials extraction and processing in this planning cycle. See also responses to DWC-2, NPCA-6, DCC-7, PS-3, PS-6, and PS-7.*

RS-2 expressed concern that the road be improved only to a condition of adequate safety and not so improved to encourage faster travel of more day trips.

*The NPS agrees this is the goal. See also responses to AWA-6.*

RS-3 recommends the NPS implement only phase 1 of alternative 4 or 5 in the EA and seek additional material needs at the western end from either Beaver Pond or Forest View for phase 2.

*Following public comments, the NPS agrees with this basic strategy. The NPS will consider Forest View, additional extraction and processing at Beaver Pond and other potential sites near the western end of the park road after Downtown Kantishna is exhausted.*

**7. Jeff Barney (JB), Kantishna Inholder**

JB-1 supports continued gravel extraction at North Face Corner rather than new impacts at Moose Creek Terrace because NFC is already impacted, has road access, and has other human developments in the area. If a new site must be developed in the Kantishna area, JB supports extraction from the mining tailings at Downtown Kantishna.

*Due to overwhelming public opposition to extraction and processing at Moose Creek Terrace and North Face Corner, the NPS will focus its efforts at Downtown Kantishna first. Also this action is consistent with direction in the NPS Front Country Plan.*

**8. Barbara Lachelt (BL), Kantishna Inholder**

BL-1 indicates development at the Moose Creek Terrace site would damage foreground views from the Lachelt home site above Camp Denali and result in clouds of dust and roaring vehicles and buildings in this valley. Extraction from Downtown Kantishna would be less damaging to this view.

*See responses to other commenters above. The NPS will avoid gravel extraction and processing at the Moose Creek Terrace site during the life of this plan, use the Downtown Kantishna site, and evaluate other alternatives before Downtown Kantishna is exhausted.*

**9. Nancy Bale (NB)**

NB-1 urges the NPS to develop a final plan that meets reasonable gravel needs without sacrificing the Kantishna area or any other part of Denali and describes an example of another alternative that provides for gravel, shortens hauls distances, and reduces Kantishna impacts. This alternative would use:

- a. external sources for road segments 1-3 and Teklanika Pit mostly as a stockpile site and emergency gravel source;
- b. East Fork River and Toklat River as sustainable sources for mid-sections of the road; and
- c. Beaver Pond, Boundary, Downtown Kantishna, and Kantishna Airstrip (for airstrip projects only.)

*The NPS finds this proposed alternative compelling and similar to the one we plan to implement. The most difficult aspect of the alternative suggested above would be the Kantishna Airstrip site because of the preponderance of wetlands at that site and NPS policy to avoid wetlands where possible. The NPS preferred alternative would probably work without the use of Kantishna Airstrip because adequate gravel supplies could be obtained from Downtown Kantishna and Boundary sites at the western end of the park road. The East Fork site would not be authorized beforehand to obtain gravel from designated wilderness, and we estimate no more than 3,000 CY of material could be extracted annually from East Fork River on average. Also, none of the sites could be tapped for more gravel than is covered in the analyses of impacts. Therefore, we calculate from Table 2.1 and Table B1 the following maximum possible totals under this suggested alternative:*

SITE	VOLUME (Cubic Yards)
<i>External Sources</i>	<i>120,550</i>
<i>Teklanika Pit</i>	<i>73,250</i>
<i>East Fork</i>	<i>30,000</i>
<i>Toklat</i>	<i>110,000</i>
<i>Beaver Pond</i>	<i>20,250</i>
<i>Boundary</i>	<i>10,600</i>
<i>Downtown Kantishna</i>	<i>59,005</i>
<i>Kantishna Airstrip</i>	<i>15,000</i>
<b>TOTAL</b>	<b>438,655</b>

*Most likely the maximum totals from external sources and Teklanika Pit would not be realized nor needed. If 15,000 CY of material were extracted from Kantishna Airstrip, this would impact up to 1.5 acres of wetlands at the extraction site and access road. This alternative could address the NPS estimated needs over the next ten years, including the 10% contingency factor. Even without Kantishna Airstrip and Boundary this site could produce up to 413,055 CY.*

NB-2 urges the NPS to revisit some source sites listed on page 1-18 an eliminated from further consideration, particularly Forest View. Though in a lovely part of the park, this site could be disguised and is not in a heavily visited area.

*The NPS may revisit Forest View and other potential source locations near the western end of the park road in the future. Forest View would likely still violate criterion 2 because this hill could not be restored to mimic the surrounding landforms as a bench*

site could be. Furthermore, this site is located primarily in low tundra with alder shrubs mostly near the park road, making the site difficult to disguise from the park road. See also responses to DWC-4 and NPCA-4.

NB-3 states Moose Creek Terrace violates the NPS criteria for pit selection in terms of wildlife movement, visitor use, and in the viewshed of at least one lodge.

*The NPS agrees in part. See response to DWC-2. The NPS agrees use of Moose Creek Terrace would impact an important visitor use area. This site is not visible from any lodge buildings, but a short hike over a ridge to the east of Camp Denali buildings would make this site visible. Though wildlife values are known in the area, it is probably not any more significant habitat for wildlife movement than farther upstream or downstream where existing lodges occur.*

NB-4 states North Face Corner is located in an important visitor portal area, should be reclaimed soon, and violates NPS site selection criteria.

*The NPS agrees this site should probably be removed from consideration, restored as soon as possible, and probably violates at least one site selection criterion. See also responses to DWC-2, NPCA-5, and DCC-6.*

NB-5 indicates incremental increase in weight and number of vehicles on the park road affects gravel needs and the NPS needs to address criteria for weight of vehicles on the park road as well as numbers.

*The NPS already limits bus size and weight to some extent through concession contracts. See response to NPCA-7 above.*

NB-6 recommends the NPS use conservation measures to reduce annual gravel needs, such as dust palliatives, grading techniques, and construction practices. Develop a numerical model to show how much gravel is saved through use of dust palliatives.

*During a five-year test period (1995-2000) the NPS carefully documented where dust palliatives were applied along the park road, and maintenance staff is currently tracking dust palliative application rates and locations. NPS physical resources staff tried to make measurements of gravel loss along the park road in years past, but the segments were poorly marked and maintenance staff graded over the study locations because all segments need to be maintained, even treated segments. Federal Highways reports indicate the average rate of loss from gravel roads is about 1/2 inch per year, but these studies do not compare loss in areas with and without dust palliatives, nor reflect loss from roads used only from four to five months per year. The NPS would like to institute such a study to compare gravel loss rates on road segments with and without dust palliatives. We know from measurements in the park that road grading practices can affect gravel depths and road widths, and maintenance staff try to pull gravel back up from ditches and outside edges of the road to retain the gravel surface. This process has resulted in narrowing of the park road in places because not all of the material can be*

*returned to the road structure and surface and a widening in places where grading has lowered the road surface. Much material is lost beyond the reach of grading equipment, especially during dry windy conditions, because routine bus and vehicle traffic send dust and gravel fines well beyond the road prism. For this reason, the NPS believes a combination of dust palliatives and replacement gravel are needed to adequately maintain the current road configuration. For construction practices see response to DCC-2.*

#### **10. Chuck Bale (CB)**

CB states Moose Creek Terrace should be deleted from consideration for the following reasons:

- This area has beautiful riparian gardens,
- The Moose Creek route is used largely by visitors of all abilities for an easy, level hike with wonderful views,
- Mosquitoes are less of a problem here than elsewhere in Kantishna because of the sparse vegetation and free moving air,
- Caribou, moose, wolf, grizzly bear, and black bear move through this valley,
- Good birding occurs here including the unusual upland sandpipers, whimbrel, snowy owl, and other avian species,
- Fishing for grayling is popular,
- Berry picking and mushroom gathering are popular autumn activities,
- The road upgrade would stimulate more commercial development in the area,
- The Moose Creek Valley is unique within the road accessible part of the park,
- This site has not been previously disturbed as have all other candidate sites,
- Developing this site has implications for the North Access project.

*The NPS plans to remove Moose Creek Terrace from this gravel planning cycle for these and other reasons stated above. See also responses to DWC-2, PS-3, PS-6, and NB-3.*

CB-2 suggests adding Kantishna Airstrip, Camp Ridge, and Boundary to a final plan for west end gravel as needed.

*See response to NB-1 above. The NPS will likely review these other sites again in a future planning cycle.*

CB-3 asks exactly where the East Fork pit would occur, if a crusher would be set up there, and what constitutes an emergency?

*A site plan is provided in appendix C of the EA, but the upper reaches of the site extend into the designated Denali Wilderness. The NPS would not run heavy equipment into the wilderness, so this site would be reduced in size to avoid wilderness. A crusher would not be operated here. East Fork materials would be used as pit run for reconstruction projects and for emergencies such as for slope failures along Polychrome Pass and Sable Pass. About 2,000 CY could be stockpiled each fall by Ghiglione Bridge near MP 40.*



**11. Alan Seegert (AS)**

AS-1 supports sustainable extraction from river gravel bars such as at Toklat and East Fork River and asks if the McKinley River bar could be used at the western end of the park.

*The McKinley Bar is well within the Denali Wilderness with no motorized access available. Use of this site would take an act of Congress, which is not likely.*

**12. John Bowman**

JB-1 asks the NPS to consider weight limits for vehicles and use anti dust applications.

*See responses to NPCA-7, DCC-2, and NB-6.*

**13. David Braun**

DB-1 notes that NPS plans for the Kantishna Hills is to acquire and rehabilitate mining claims, not create new ones, so Moose Creek Terrace site seems contrary to that intent.

*Though the NPS EIS on Cumulative Impacts of Mining finds commercial mining inconsistent with the purposes and values for the park extension, the Front Country EIS identified the Moose Creek Terrace as a potential future gravel source in the Kantishna area so long as other private sources and previously disturbed sites were first exhausted. The NPS is sensitive to this issue, however, and for this and other reasons the NPS will not include the Moose Creek Terrace for the life of this plan.*

DB-2 states that building a mile long road to the Moose Creek Terrace would be a step in the direction of the northern access route and increased commercialization in Kantishna.

*The NPS would not build a new road but upgrade the existing route. See also responses to NPCA-6 and DCC-7.*

DB-3 asks NPS to eliminate North Face Corner and Moose Creek Terrace from the phased plans and consider spacing source sites more evenly along the park road.

*The NPS will eliminate these source sites from this planning cycle. See also responses to DWC-2 and NB-1.*

DB-4 asks NPS to preserve road material through reduced allowable weights of vehicles, dust palliatives, and road construction and grading techniques.

*The NPS already controls vehicle lengths and weights in the concession contract. The heaviest vehicles are probably loaded gravel trucks, particularly 18-yard side dumps used by contractors. The NPS plans to expand its use of dust palliatives once*

*environmental studies are completed and monitoring of effects is established. Road construction designs are addressed in the Front Country EIS. See also responses to DCC-2 and NB-6.*

#### **14. Noel Woods**

NW-1 states some consideration should be given to reclaim gravel pits for campgrounds and to accommodate a large demand for travelers with campers.

*Campgrounds and facilities along the park road were addressed in the 1996 Entrance Area and Road Corridor EIS. Camper vehicles are allowed only as far as the Teklanika Campground because the road becomes too narrow and winding after that for inexperienced drivers of large vehicles making this a public safety issue.*

NW-2 suggests it is prudent to keep costs as low as possible.

*The NPS agrees, and a cost analysis is contained in appendix B, which indicates the volumes to be obtained from the various sites under each alternative in such a manner to minimize costs. The cost analysis also shows the break-even point between hauling gravel from external sources and producing it from in-park sources. The NPS would consider hauling gravel deeper into the park from external sources if competitive bidding drives the prices down and internal sources are too limited for the proposed projects.*

#### **15. Bruce Carr**

BC-1 suggests the NPS stockpile material from external sources and use emergency pits as appropriate.

*The NPS plans to stockpile material from external sites at the Teklanika Pit, however, it is generally too expensive and damaging to the park road to haul gravel from external sources beyond Tattler Creek (near MP 37) of the park road. For this reason, the NPS finds it necessary to develop and use source sites beyond that point.*

BC-2 asks if the NPS considered using the Alaska Railroad to haul external sourced gravel.

*The NPS did not consider that option in this planning effort; however, there are many relatively large and close external sites. We believe loading onto railcars, offloading at a site not yet available in the park, and reloading back onto dump trucks to haul the gravel into the park would likely be cost prohibitive.*

**ATTACHMENT B:**  
**Restoration Areas as Mitigation for the Denali Gravel Acquisition Plan**

*George Parks Highway Pit MP 234*

About 1 acre at the back (north) side of this pit area where it drains into lower lying terrain could be restored. Much of this site is used for equipment storage and as a shooting range for law enforcement and wildlife management personnel.

*Mile 4 Pit*

About 1 acre could be restored here, where NPS had done some drainage and restoration work here in the mid 1990s. Additional work could be done in the improved drainage area.

*MP 7 Pit*

About 1 to 2 acres could be restored at the western end and back slope of this pit area. The area is used for equipment and supply storage and surplus equipment sales.

*Soapberry Turnout*

Up to 0.5 acre could be restored near the old vehicle pullout area.

*Toklat Alluvial*

Reclamation of this pit will probably be included as part of the construction of the Toklat Rest Stop. The specific area to be reclaimed depends on the final location of the Toklat Rest Stop.

*Mile 57 Pit*

About 20,000 square feet or just under 0.5 acre could be restored at this location.

*Moose Creek Pit, MP 74.8*

This pit has been reclaimed to the size NPS desires. The material stockpiles have been leveled and largely contoured, but fill material is needed on the northern edge of the site to make it blend in with the surrounding terrain.

*MP 76.8 Pit*

This 3,000-sq.-ft. (0.07 acre) pit about 40 feet on the north side of the park road could be reclaimed, and the Moose Creek and Hideout pits in either direction could be used for materials storage and equipment turnaround because material stored at this pit is visible from the park road.

*Boundary Pit, MP 87.6*

The southern part of this site would be retained as a parking area for lodge vehicles to disembark guests to visit the Wonder Lake area. The back slopes and pit floor of this parking area would be landscaped. About 1 acre of the northern part of the Boundary pit area and access road would be fully restored.

*North Face Corner, MP 89*

Slopes above this extraction site was started in summer 2003, and as soon as practicable thereafter the extraction area floor would be converted into a bus stop and visitor rest stop.

*Downtown Kantishna*

A large area, perhaps 55 acres in size, would be restored after extraction and processing of excess material and contouring of this floodplain site. This would occur near the end of the 10-year cycle.