ENVIRONMENTAL ASSESSMENT

FOR GEOTECHNICAL INVESTIGATIONS NEAR C-CAMP AND
IN THE PARK ENTRANCE AREA

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DENALI NATIONAL PARK AND PRESERVE

March 2005

Mention by the U.S. Department of the Interior National Park Service of trade names or commercial products does not constitute endorsement or recommendation for use.

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to assure that their development is in the best interests of all. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The National Park Service, Alaska Support Office, provided publication services.

March 2005

TABLE OF CONTENTS

1.0 PURPOSE AND NEED

The National Park Service (NPS) is proposing to conduct geotechnical investigations in disturbed and undisturbed areas near C-Camp at mile 3 of the park road and below the sewage lagoons at mile 0.5 of the park road in Denali National Park and Preserve (Denali), Denali Borough, Alaska.

The objectives of this proposal are to provide information on soil conditions (1) around the sewage lagoons and (2) near C-Camp for potentially siting additional facilities, including an Emergency Services Building, new access road, expansion of the maintenance area and utility upgrades. Most of these additional facilities were conceptually authorized by the 1997 Record of Decision for the *Entrance Area and Road Corridor Development Concept Plan* (DCP/EIS).

The current sewage discharge location has minimal soils with a perched water table on a confining layer. The present point of effluent groundwater discharge is out of compliance with the Clean Water Act and is under a Compliance Order by Consent by the Alaska Department of Environmental Conservation. The determination of a point of discharge is a critical component that must be determined to proceed with the project planning for the front country wastewater treatment facility.

This environmental assessment (EA) analyzes the NPS proposed action and a no-action alternative for geotechnical investigations near the sewage lagoon and at C-Camp. It has been prepared according to the National Environmental Policy Act of 1969 and regulations of the Council of Environmental Quality (40 CFR 1508.9).

1.1 BACKGROUND

Descriptions of the affected environment are included in the *1996 Draft DCP/EIS* and in the 2001 *Environmental Assessment for Construction of New Visitor Facilities in the Entrance Area of Denali Nation Park* (available at http://www.nps.gov/dena/home/planning/plans/frontcountryplan/fcea.html).

The C-Camp area (Figure 1, 2) has housed seasonal employees since it was constructed and used as a Civilian Conservation Corps encampment in 1938 and 1939. It presently has 33 cabins for seasonal employees. A 12,000 square foot auto shop and related three acre parking pad were established uphill of C-Camp in 1975. A 10,000 square foot buildings and utilities shop was opened in 2000 on a three-acre pad immediately uphill of the auto shop. These maintenance facilities share the service access road with the C-Camp housing area.

The sewage lagoon facility was constructed in the 1970s and serves many summer facilities in the entrance area. The area of the sewage lagoons has contains no wetlands.

1.2 LEGAL CONTEXT

The NPS Organic Act of 1916 directed the Secretary of the Interior and the NPS to manage national parks and monuments to:

> *…conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.* (16 U.S.C. 1)

The Organic Act also granted the Secretary the authority to implement

> *...rules and regulations as he may deem necessary or proper for the use and management of the parks, monuments and reservations under the jurisdiction of the National Park Service.* (16 U.S.C. 3)

In 1917, Congress established Mount McKinley National Park:

> *…as a public park for the benefit and enjoyment of the people . . . for recreation purposes by the public and for the preservation of animals, birds, and fish and for the preservation of the natural curiosities and scenic beauties thereof . . . said park shall be, and is hereby established as a game refuge.* (39 Statute 938)

Additions to the park were made in 1922 and 1932 (including the entrance area and the present-day C-Camp area) to provide increased protection for park values and, in particular, wildlife, and to provide suitable areas for administrative facilities.

The 1978 amendments to the 1916 NPS Organic Act and 1970 NPS General Authorities Act expressly articulated the role of the national park system in ecosystem protection. The amendments further reinforce the primary mandate of preservation by stating:

> *The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided for by Congress.* (16 U.S.C. 1-a1)

The Alaska National Interest Lands and Conservation Act of 1980 (ANILCA) added approximately 2,426,000 acres of pubic land to Mt. McKinley National Park and approximately 1,330,000 acres of public land as Denali National Preserve and re-designated the entirety Denali National Park and Preserve. ANILCA directs the NPS to preserve the natural and cultural resources in the park and preserve for the benefit, use, education, and inspiration of present and future generations. The Act further directs the NPS to manage for the continuation of customary and traditional subsistence uses in the 1980 park and preserve additions in accordance with provisions in Title VIII.

The NPS Organic Act and the General Authorities Act prohibit impairment of park resources and values. The 2001 NPS Management Policies uses the terms “resources and values” to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in the park’s establishing legislation. The impairment of park resources and values may not be allowed

unless directly and specifically provided by statute. The primary responsibility of the NPS is to ensure that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The evaluation of whether impacts of a proposed action would lead to an impairment of park resources and values is included in this EA. Impairment is more likely when there are potential impacts to a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

FIGURE 1 – PROJECT LOCATION

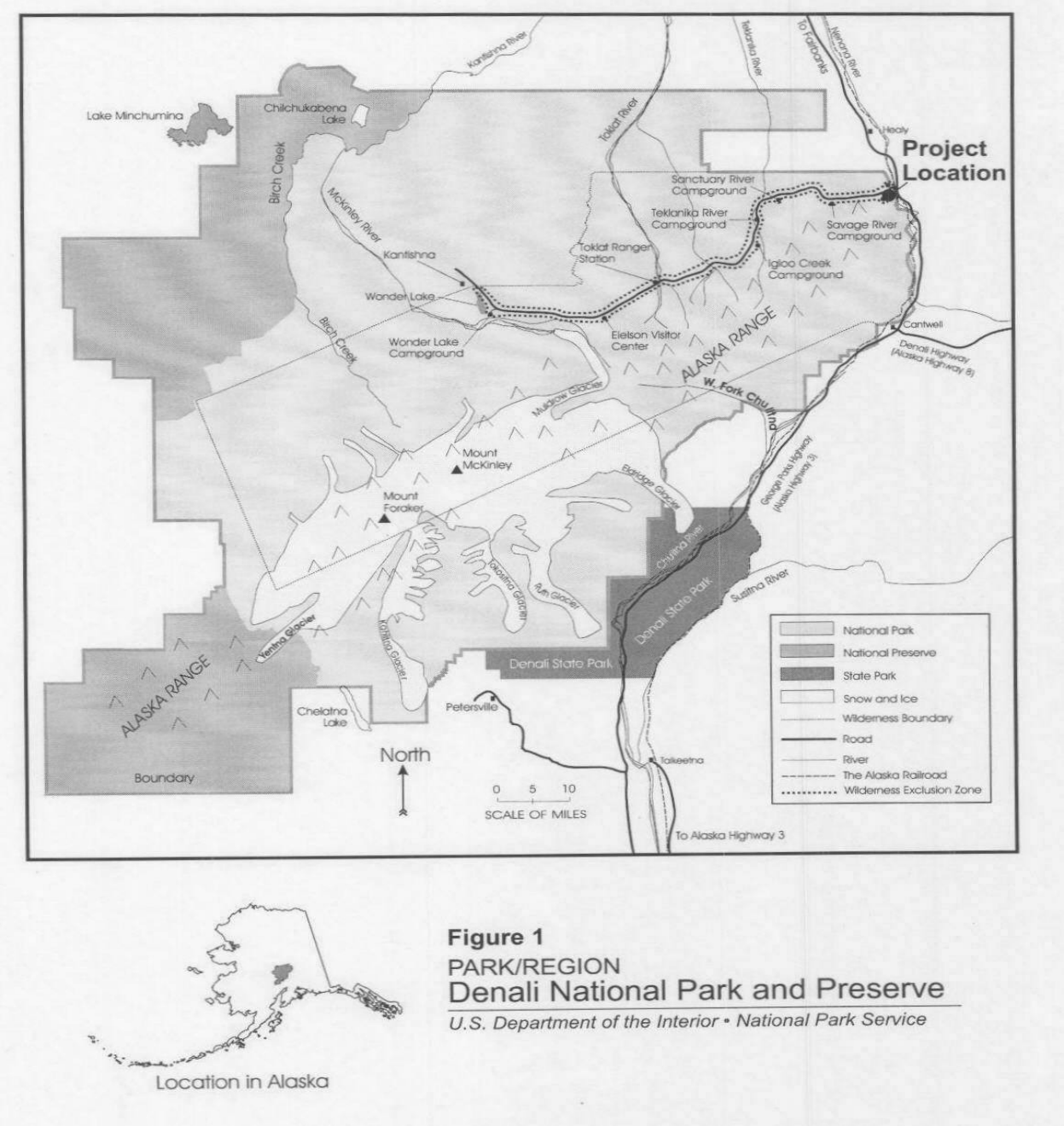


FIGURE 2 – ENTRANCE AREA – EXISTING CONDITIONS

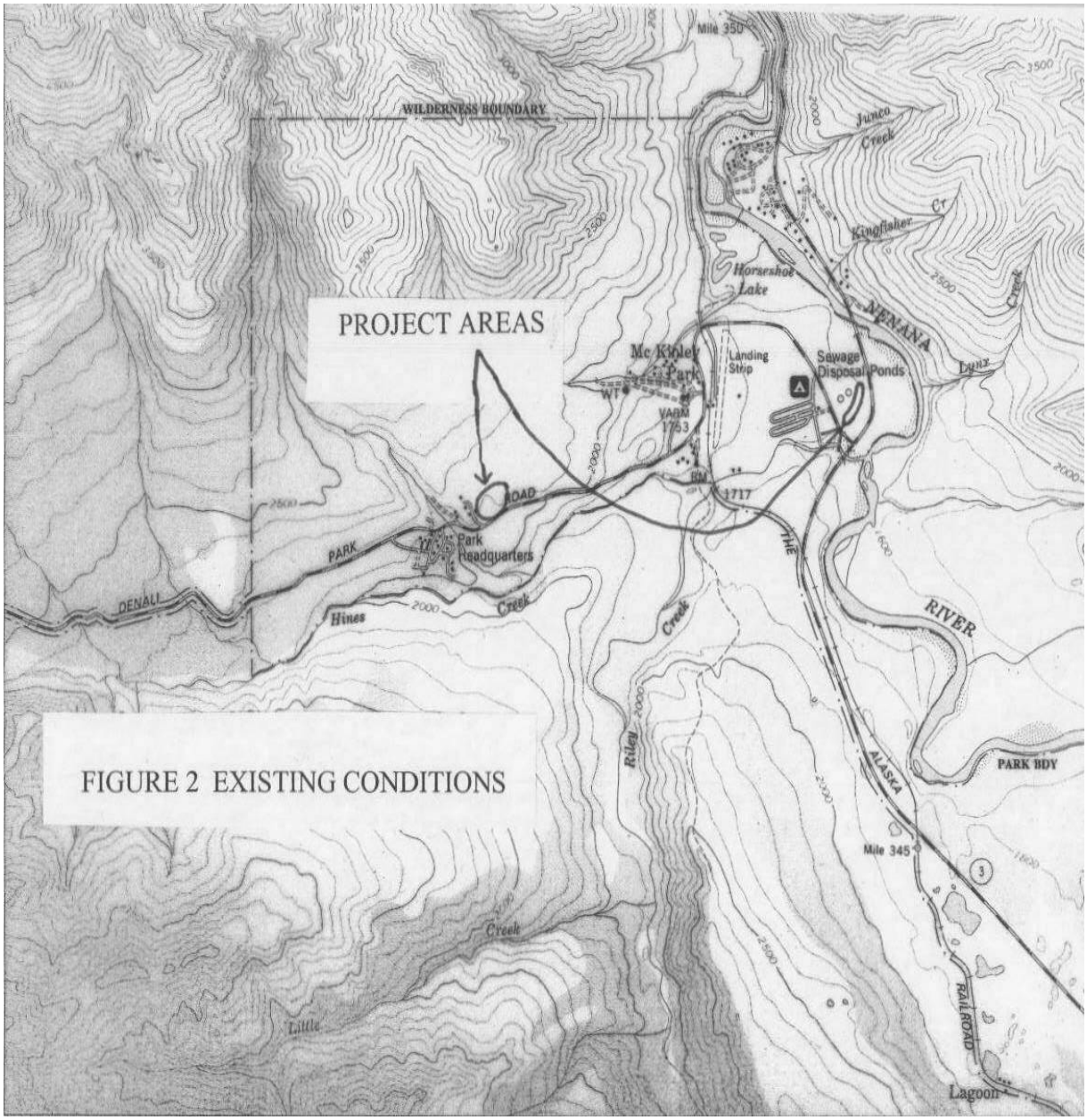


FIGURE 3 – C-CAMP ACCESS ROAD PROPOSED BORING LOCATIONS

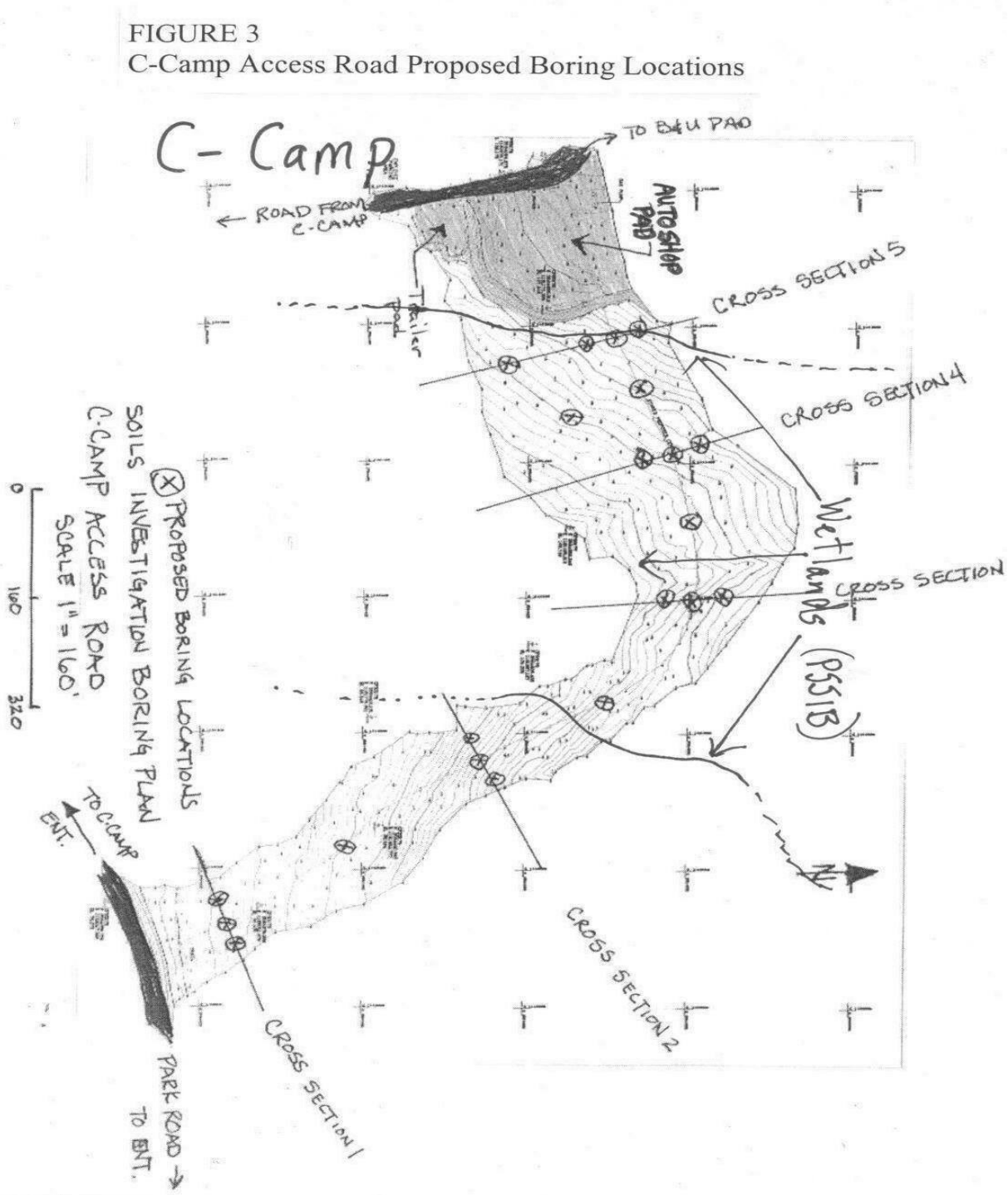


FIGURE 4 – EMERGENCY SERVICES BUILDING PROPOSED BORING LOCATIONS

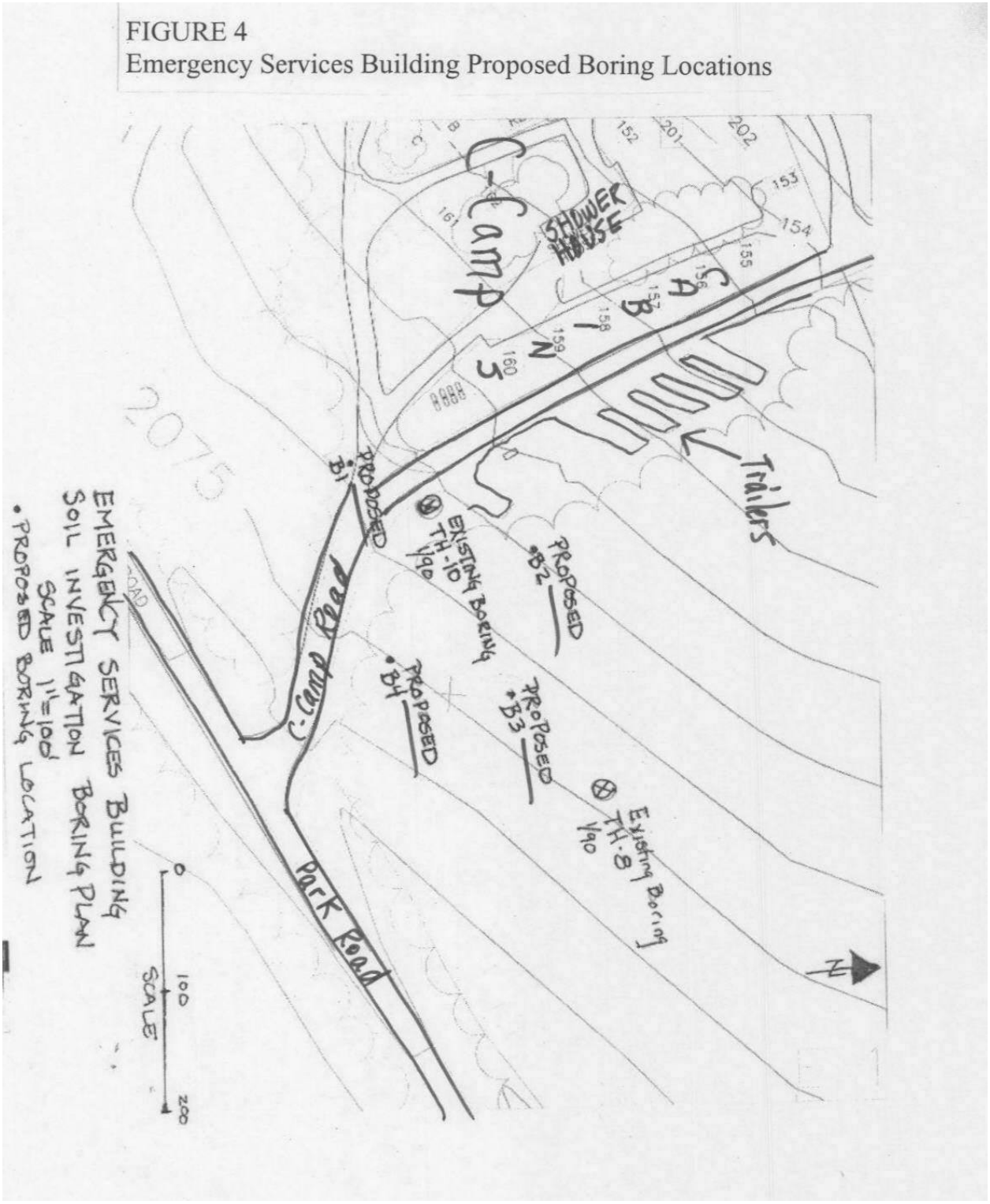
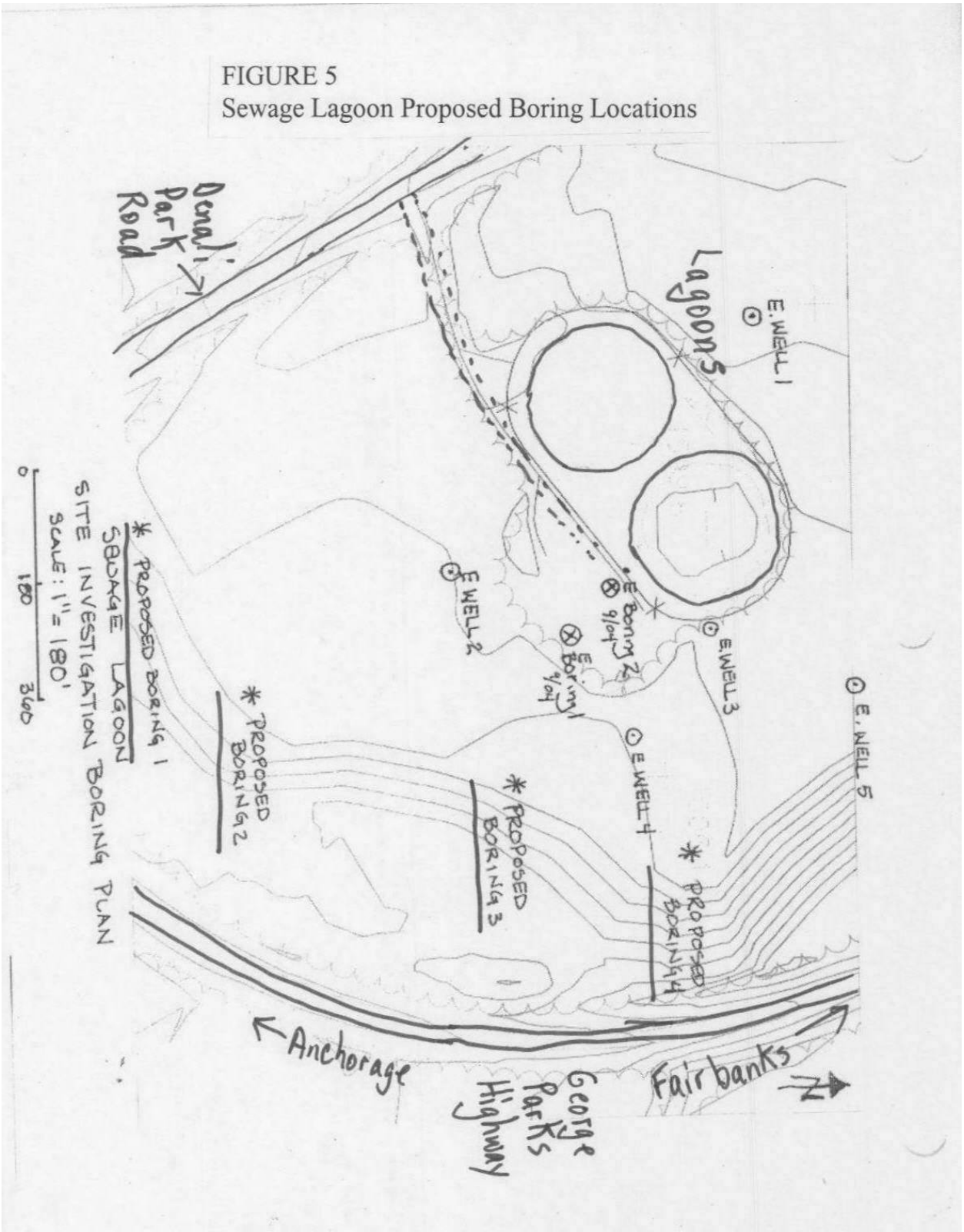


FIGURE 5 – SEWAGE LAGOON PROPOSED BORING LOCATIONS



1.3 IMPACT TOPICS

Impact topics are identified and form the basis for environmental analysis in this EA. A brief rationale is provided for each issue or topic that is analyzed in the environmental consequences section. Issues and topics considered but not addressed in this document also are identified.

1.3.1 Vegetation, Soils and Wetlands

Geotechnical investigations could crush or remove vegetation in the project area, including in wetlands.

1.3.2 Wildlife

Project activity and noise could disturb wildlife and cause animals to disperse from the project areas.

1.3.3 Cultural Resources

Soil coring and overland access activities could disturb currently unknown cultural resources.

1.3.4 Visitor Use and Enjoyment

Project activities could impact recreation and visitor use. Access by heavy equipment would require the cutting of a swath through the forest, about 4,000 feet long and 10 feet wide (0.9 acres total), that would be visible to visitors for a few years.

1.3.5 Park Management

The project would provide soils information for future planning.

1.4 ISSUES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

1.4.1 Air Quality

The project would have a negligible impact on air quality. The impacts would be short-term, only during periods of heavy equipment use.

1.4.2 Floodplains

The project is not located in a floodplain.

1.4.3 Natural Soundscape

The drilling work would have a minor effect on sound quality because it would occur over a short time period and would be adjacent to maintenance areas where the sounds of heavy equipment are common.

1.4.4 Wilderness

Project sites are in development areas that are excluded from wilderness designation.

1.4.5 Threatened and Endangered Species

The Endangered Species Act requires an analysis of impacts on all federally listed threatened and endangered species. In compliance with Section 7 of the Act, the U.S. Fish and Wildlife Service (USFWS) was consulted. No federally designated threatened or endangered species are known to occur within Denali National Park (pers. comm. Ted Swem, USFWS, Fairbanks, Alaska, June 9, 2000).

1.4.6 Subsistence Use

Subsistence uses are not allowed in the park entrance area, near C-Camp or on any of the lands of the former Mt. McKinley National Park. No adverse affects on subsistence activities would occur. See the ANILCA Section 810 subsistence evaluation and finding in the appendix.

1.4.7 Local Communities and Socioeconomic Resources

The proposed geotechnical investigations would have no impact on local communities.

1.4.8 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations,* requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed action would

not result in significant changes in the socioeconomic environment of the area, and therefore would have no direct or indirect impacts to minority or low-income populations or communities.

1.5 PERMITS AND APPROVALS NEEDED TO IMPLEMENT PROJECT

The wetlands involved are not jurisdictional wetlands for purposes of the Clean Water Act because there is no flowing water draining into a navigable waterway. In addition, Alaska, Army Corps of Engineers, Engineer District, Regional Condition C allows that simple borings in wetlands are already permitted under Nationwide Permit #6.

A wetlands Statement of Findings is not required for this project because it falls under the Excepted Actions sub-section, 4.2.A.1.g, Scientific measuring devices or similar devices, of NPS PM #77-1. (NPS 1998)

1.6 COSTS

The approximate cost of the proposal to conduct geotechnical investigations would be $40,000. The no-action alternative would have no additional cost.

2.0 ALTERNATIVES

2.1 ALTERNATIVE 1 – NO-ACTION ALTERNATIVE

Under this alternative, there would be no new geotechnical investigations on undisturbed ground in the C-Camp or entrance area. Normal, day-to-day park activities would continue. This is the baseline condition of analysis.

2.2 ALTERNATIVE 2 – CONDUCT GEOTECHNICAL INVESTIGATIONS NEAR C-CAMP AND ENTRANCE AREA (NPS PREFERRED ALTERNATIVE)

Under this alternative, the NPS would contract with an engineering company to bring in a Nodwell-mounted drill rig to take approximately 25 soil borings from areas around the perimeter of C-Camp and along a proposed new access corridor for C-Camp. A Nodwell is a tracked vehicle that exerts low ground pressure and can turn sharply around obstacles. Use of this type of vehicle would allow routes to be taken that would require removing fewer trees. Approximately 150 white spruce, hybrid black spruce/white spruce and aspen trees bigger than three inches in diameter within the routes to the drill sites would be cut near ground level ahead of the drill rig. None of the trees would have a diameter larger than 8 inches or be taller than 35 feet. The holes would be drilled to a depth of 35 to 60 feet. Three holes would be drilled on each of five cross sections along the proposed road alignment. Four holes would be drilled on the intermediate centerline on the proposed main access road. Two centerline borings would be drilled on a proposed spur road to lower C-Camp. Another four borings would be drilled around the site of a proposed emergency services building near the entrance to C-Camp. The work would be scheduled for May 2005, so that the snow cover and frozen ground would help protect the underlying vegetation and soils from disturbance from the vehicle use. The results from these borings would be evaluated and used for planning future development in the C-Camp area.

FIGURE 6 – NODWELL 110 ATV CARRYING A LIMITED ACCESS DRILL

Four soil borings would be taken from an area downhill of the sewage lagoons to determine if there are suitable soils for effluent discharge within the vicinity of the lagoon. Access to the site would be by Nodwell-mounted drill rig. Approximately 25 white spruce and aspen up to 8 inches in diameter would be cut down for access to the drill sites. Work would commence when the ground is still frozen. Some trees would be removed to allow access for drill rig. Placement of borings would attempt to minimize disturbance to vegetation.

The wetlands area near C-Camp would be drilled first to insure that snow cover and frozen ground would remain to protect the underlying vegetation and soils.

2.2.1 Mitigation Measures

Mitigation measures are specific actions that, if implemented, would reduce impacts, protect park resources and protect visitors. The following mitigation measures would be implemented under the action alternative and are assumed in the analysis of effects.

2.2.1.1 Vegetation, Soils and Wetlands. The project would be completed while snow cover and frozen ground help to protect the underlying vegetation and soils. Above-surface blocking would be used to level out equipment while drilling. No ground disturbance, other than the drilling itself, would be permitted. Park staff would flag the routes and the proposed drill hole sites to limit unnecessary damage to trees. Drill cuttings not saved for analysis would be put back in the hole, saved and disposed of off-site or broadcast evenly over the nearby snow and vegetation.

Fuel spill kits would be carried with heavy equipment.

Drilling fluids (e.g., clays, liquids, lubricants) would not be used, except for fresh, non-chlorinated water.

2.2.1.2 Wildlife. Staff would monitor the route selection to ensure that trees with raptor or other bird nests would be avoided.

2.2.1.3 Cultural Resources. If previously unknown cultural resources were located during construction, the project would be halted in the discovery area until cultural resource staff could determine the significance of the finding.

2.2.1.4 Air Quality. Contractors would be required to use best management practices (BMP) such as to control vehicle and equipment pollution. Equipment not in use would be turned off.

2.2.1.5 Sound Quality. Contractors would be required to use BMP equipment, such as mufflers to control vehicle and equipment noise.

2.3 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The no-action alternative would affect fewer park resources and therefore is the environmentally preferred alternative.

2.4 ALTERNATIVES CONSIDERED AND DISMISSED

Horizontal or directional drilling can be a useful tool for investigating subsurface features from a point on the surface to the side of the area being investigated or for the installation of conduit. It would be extremely expensive for the type of work proposed here where large-scale vertical profiles are needed.

TABLE 1 – SUMMARY OF THE ALTERNATIVES

Activity	Alt. 1 – No-Action	Alt. 2 – Proposed Drilling Program (Preferred Alternative)
Drilling	None.	25 holes near C-Camp and four near the sewage lagoons.
Access Needs	None.	About 4,000 linear feet of travel by Nodwell in a ten-foot wide path through forests to get to drill sites.

TABLE 2 – SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Topic	Alt. 1 – No-Action	Alt. 2 – Proposed Drilling Program (Preferred Alternative)
Vegetation, Soils and Wetlands	No impact.	Moderate impact from 0.9 acres of trees removed (approximately 150 trees) and five square feet of soil disturbed. Half of the activity would be on frozen wetlands.
Wildlife	No impact.	Minor impact from 0.9 acres of habitat loss (trees removed) and short-term disturbance from noise and activity.
Cultural Resources	No impact.	Negligible impact.
Visitor Use and Enjoyment	Moderate indirect impact if lack of soils information leads to sewage lagoon closure.	Minor impact from short-term noise from drilling machines and long-term removal of trees from 0.9 acres.
Park Management	Minor indirect impact from lack of soils information for planning upgrades of facilities near C-Camp and at sewage lagoons.	Beneficial impact from obtaining soils information to help plan facility upgrades.

3.0 ENVIRONMENTAL CONSEQUENCES

3.1 ASSUMPTIONS FOR IMPACT ANALYSIS

This chapter provides an evaluation of the potential effects or impacts of each of the alternatives on the resources described in the issue statements presented in the Purpose and Need chapter.

Direct and indirect environmental impacts of the alternatives are presented, as are long-term and short-term impacts.

The analysis assumes that the actions identified in the Mitigation Measures section (pages 12-13) of this EA would be implemented under the action alternative.

Cumulative impacts are analyzed. They add the project's incremental impacts to the impacts of other past, present and reasonably foreseeable actions. The cumulative impacts relate primarily to a predicted steady slight growth in visitation to the park and use of the park facilities.

3.2 ALTERNATIVE 1 – EXISTING CONDITIONS (NO-ACTION)

3.2.1 Vegetation, Soils and Wetlands

No impact.

3.2.2 Wildlife

No impact.

3.2.3 Cultural Resources

No impact.

3.2.4 Visitor Use and Enjoyment

Without soils information from the lagoon area, the sewage lagoon operation would be at risk of regulatory closure which would affect visitor use of the entrance area facilities. Such a closure would represent a moderate impact to visitor use and enjoyment.

3.2.5 Park Management

Under the no-action alternative, the lack of information about soil structure in the C-Camp and sewage lagoon areas could cause delays in planning and developing. Projects would not be built with inadequate soil structure information because facilities could be damaged by settling or frost heaving. Project delays would represent a minor indirect impact to park management.

3.3 ALTERNATIVE 2 – CONDUCT GEOTECHNICAL INVESTIGATIONS NEAR C-CAMP AND ENTRANCE AREA (NPS PREFERRED ALTERNATIVE)

3.3.1 Vegetation, Soils and Wetlands

3.3.1.1 Affected Environment. Two generic soil types occur in the project area. One soils type underlies forested areas and is gravelly, silty soil with humus layers supporting mosses and lichens. The type is common near the sewage lagoons, in the area immediately surrounding C-Camp and in the eastern end of the road investigation project (Figure 3). The second soil type occurs in wetland areas, which consist mostly of poorly drained clays. This type occurs in the middle of the project area east of C-Camp.

The vegetation types mirror the soil differences. On the drier soils near the lagoons, in the areas immediately surrounding C-Camp, and in the eastern end of the road investigation area, white spruce predominate, with some aspen. An understory of rose, blueberries and thin feather mosses would occur there. Wetlands provide important wildlife habitat and buffer surrounding areas from flooding. On the wetland soils, the trees would be almost all small black spruce/white spruce hybrids, and the understory would include Labrador tea, lowbush cranberry and thick feather moss accumulations or sphagnum mosses.

3.3.1.2 Impacts. Larger trees would be removed by chainsaw and the drill rig would break or crush additional small black spruce, white spruce and aspen on about 4,000 linear feet of 10-foot wide routes to the drill sites, or about 0.9 acres. The snow and frozen ground conditions would protect the shrubs, forbs and mosses, but most trees over 1 foot tall on the 0.9 acres would likely be broken, crushed or abraded by the passage of the drill rill. Some of the small trees and taller willows would spring back upright during the summer. The removal of trees on 0.9 acres of mixed coniferous forest and passage of the drill rig would have a direct impact on vegetation. In the context of the tens of thousands of acres of similar vegetation in nearby areas of the park, this impact to vegetation communities would be moderate.

The 29 drill holes themselves would be the only direct impact to soils. Other ground disturbance would be minimized by conducting the drilling on frozen, snow covered ground. There would be only about five square feet of surface disturbance from the 29 boreholes.

The surface vegetative cover would remain unbroken and there would be negligible impacts to wetland functioning. Impact to wetland soils would be negligible because of this small disturbance size, about five square feet. Wetland site hydrology, water storage and water level

fluctuations would be unaffected. The area of wetlands soils adversely impacted by the project would be very small, and activities would be conducted (including driving over the wetland with heavy equipment while the ground is frozen) so that there would be negligible impact on wetlands. The project would leave the vegetative cover unbroken, aside from the boreholes themselves.

3.3.1.3 Cumulative Impacts. The existing disturbance in the entrance area, between park headquarters and the Nenana River, is about 82 acres. Under this alternative, there would be a 0.9-acre increase to about 83 acres. Past development impacts have included homesteads, roadhouses, employee lodging, logging roads and other routes. The existing development includes cleared vegetation for the Visitor Center Complex, the Murie Science and Learning Center complex, the Wilderness Access Center, the Riley Creek Campground, the Riley Creek Mercantile, the water treatment plant, the airstrip, the railroad depot and the park road. Foreseeable projects approved in the DCP/EIS include addition to the sewage treatment plant, replacement housing, an emergency services building and utility upgrades at C-Camp. The incremental impact to the footprint of development in the entrance area would add about 1% to the total existing disturbance. The cumulative impacts of the vegetation removal and soil disturbance from past, present and future actions is moderate in context of the thousands of acres of taiga forest and other vegetation resources at the park entrance area. This alternative would contribute a minor increment to that total.

About three acres of wetlands have been impacted by previous road, trail and building construction in the park entrance area. The area contains about 25 acres of similar non-jurisdictional wetlands and over 100 acres on the slopes surrounding the C-Camp area. The project would have a negligible impact on about 0.4 acres of wetlands in the C-Camp area for a total wetland impact of 3.4 acres out of over 125 acres of wetlands in the C-Camp and entrance area. There would be cumulative minor loss of wetlands or wetlands function in the park, and this project would contribute a negligible increment to that loss.

3.3.1.4 Conclusion. The clearing of trees from 0.9 acres would result in moderate adverse impacts to vegetation and soils, and a negligible impact to wetlands. Impacts from this alternative on vegetation, soils and wetlands would not result in an impairment of park resources or values that fulfill specific purposes identified in legislation establishing the park or key to the natural or cultural integrity of the park.

3.3.2 Wildlife

3.3.1.1 Affected Environment. The most common wildlife species in the project area are red fox, snowshoe hare, red squirrel and various birds such as chickadee, raven, magpie and numerous migratory species. The area also provides moose habitat. Wetland areas provide important foraging areas for moose and habitat for migratory and resident birds, although moose are not known to calve or raise young so close to the existing activity at C-Camp or the sewage lagoons.

3.3.1.2 Impacts. Project activities such as drilling would temporarily produce activity and noise levels that would disturb wildlife and cause them to disperse. This local displacement would create a short-term impact to large and small mammals. Displacement would affect a small number of overwintering breeding birds such as redpolls and woodpeckers. Overall, affects on wildlife would be short-term and minor. Staff would monitor the route selection to ensure that trees with raptor or other bird nests would be avoided.

3.3.2.3 Cumulative Impacts. The amount of wildlife habitat disturbed in the entrance area would be the same as for vegetation disturbance. In the context of the thousands of acres of similar wildlife habitat that exist in the vicinity, this alternative would have a minor cumulative impact on the wildlife and wildlife habitat in the park entrance area, and actions of this alternative would contribute a minor increment to that cumulative impact.

3.3.2.4 Conclusion. The project noise disturbance and the clearing of trees from 0.9 acres of wildlife habitat would result in minor adverse impacts to wildlife. Impacts from this alternative on wildlife would not result in an impairment of park resources or values that fulfill specific purposes identified in legislation establishing the park or key to the natural or cultural integrity of the park.

3.3.3 Cultural Resources

3.3.3.1 Affected Environment. Cultural resources in the park entrance area include archeological sites and historic buildings and structures. Approximately 25 known cultural sites and features are located in the entrance area. No cultural resources are known outside the disturbed area near C-Camp or in the project area near the lagoons.

3.3.3.2 Impacts. Under this alternative direct ground disturbance would be limited to the 29 boreholes, a total of about five square feet. This would have a negligible impact on cultural resources. Project activities could affect currently unknown cultural resources, but the likelihood of encountering cultural resources in the drilling areas is slight. If previously unknown cultural resources were located during construction, the project would be halted in the discovery area until cultural resource staff could determine the significance of the finding.

3.3.3.3 Cumulative Impacts. Past development in the entrance area created the existing historic structures. Past development also caused impacts to the integrity of these cultural resources. Anticipated projects in the entrance area would be carried out to minimize impacts to known cultural resources, so the future impacts will be minor.

3.3.3.4 Conclusion. The drilling of 29 boreholes would result in negligible adverse impacts to cultural resources. Impacts from this alternative on cultural resources would not result in an impairment of park resources or values that fulfill specific purposes identified in legislation establishing the park or key to the natural or cultural integrity of the park.

3.3.4 Visitor Use and Enjoyment

3.3.4.1 Affected Environment. About 440,000 people visit Denali's entrance area annually. Even though the project area is near the park road and the State Highway, few visitors use the area downhill of the sewage lagoons, and few non-employees investigate the landscape adjacent to C-Camp. The view from the park road would be more important because far more visitors view the project areas from the park road than walk in the areas; however, the project areas would be mostly hidden from direct view from the park road.

3.3.4.2 Impacts. The project would have short-term impact on visitor use and enjoyment during project activity due to noise and equipment use. Heavy equipment frequently operates near the auto shop area above C-Camp. Visitors normally hear vehicle and equipment noise in this area. A small portion of the removed vegetation along the proposed new access route would be visible from the park road for years to come and would contrast with the expected management of park landscapes as protected.

3.3.4.3 Cumulative Impacts. The park entrance area has had various types of facilities developed during the last 90 years. In the context of historical development in the project area, the project's impacts to visitor use and enjoyment would be minor.

3.3.4.4 Conclusion. The clearing of trees from 0.9 acres and the noise from the drill rig would result in minor adverse impacts to visitor use and enjoyment.

3.3.5 Park Management

3.3.5.1 Affected Environment. The park currently lacks information about soils for planning future development.

3.3.5.2 Impacts. Under this alternative, new soils information would be beneficial for the design of a new access road to C-Camp and for other facilities. If a new access road to C-Camp were necessary, and if a new emergency services building were funded, then these two projects could be designed to avoid or mitigate concentrated ice-rich soils, for example. Soil borings around the sewage lagoons would provide managers with soils information to engineer alternatives that comply with wastewater treatment regulations. Because of the information provided, this alternative would have an overall beneficial impact to park management.

3.3.5.3 Cumulative Impacts. The existing development in the entrance area supports park management. This includes cleared vegetation for the Visitor Center Complex, the Murie Science and Learning Center complex, the Wilderness Access Center, the Riley Creek Campground, the Riley Creek Mercantile, the water treatment plant, the airstrip, the railroad depot and the park road. Foreseeable projects are those approved in the DCP/EIS. They also support park management and include addition to the sewage treatment plant, replacement housing, an emergency services building and utility upgrades at C-Camp. The current proposal would benefit park management and would add a minor incremental to the existing infrastructure.

3.3.5.4 Conclusion. Park management would benefit by having geotechnical information to plan upgrades to facilities.

4.0 CONSULTATION AND COORDINATION

4.1 LIST OF PERSONS CONSULTED

- Don Rice, Unit Leader, Regulatory Branch, Alaska District, U.S. Army Corps of Engineers, Anchorage, AK
- Ted Swem, U.S. Fish and Wildlife Service, Endangered Species Coordinator, Ecological Services Office, Fairbanks, AK
- Carl Roland, Plant Ecologist, Denali National Park and Preserve
- Ann Kain, Cultural Resources Manager, Denali National Park and Preserve
- Carol McIntyre, Raptor Ecologist, Denali National Park and Preserve
- Tamara Scholten, Project Engineer, Denali National Park and Preserve
- Joel Wagner, Wetlands Hydrologist, WASO, NPS

4.2 LIST OF PREPARERS

This EA was prepared by Steve Carwile, Compliance Program Manager, Denali National Park and Preserve with editorial assistance from Dick Anderson, Environmental Protection Specialist, Alaska Regional Office, Anchorage.

4.3 SELECTED REFERENCES

Code of Federal Regulations (CFR), Title 40, Chapter V, Council on Environmental Quality, Section 1508.9, *Environmental Assessment,* July 1, 2004.

Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe
1979. *Classification of Wetlands and Deepwater Habitats of the United States*. For the U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, FWS/OBS-79/31.

U.S. Department of the Interior, National Park Service (NPS)
1986. *General Management Plan,* Land Protection Plan, Wilderness Suitability Review, Denali National Park and Preserve, Alaska. Denver Service Center, NPS D-96-A.

1996. *Draft Development Concept Plan*/Environmental Impact Statement, Entrance Area and Road Corridor, Denali National Park, Alaska. NPS Denver Service Center, NPS D-244.

1998. *Procedural Manual 77-1: Wetland Protection,* Technical Report NPS/NR WRD/NRTR-98/203. Joel Wagner, Water Resources Division, Denver, October 1998.

2001. *Environmental Assessment for Construction of New Visitor Facilities in the Entrance Area of Denali Nation Park, Alaska*. On line at http://www.nps.gov/dena/home/planning/plans/frontcountryplan/fcea.html

APPENDIX

SUBSISTENCE – SECTION 810(a) OF ANILCA
SUMMARY EVALUATION AND FINDINGS

I. INTRODUCTION

This section was prepared to comply with Title VIII, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. It summarizes the evaluation of potential restrictions to subsistence uses in Denali National Park and Preserve that could result from the drilling of 29 holes for soil sampling in the park entrance area during the spring of 2005.

II. THE EVALUATION PROCESS

Section 810(a) of ANILCA states:

> *In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . the head of the Federal agency . . . over such lands . . . shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency -*
>
> *(1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;*
>
> *(2) gives notice of, and holds, a hearing in the vicinity of the area involved; and*
>
> *(3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.*

ANILCA created new units and additions to existing units of the National Park System in Alaska. Denali National Park and Preserve was created by ANILCA Section 202(3)(a):

> *The park additions and preserve shall be managed for the following purposes, among others: To protect and interpret the entire mountain massif, and additional scenic*

mountain peaks and formations; and to protect habitat for, and populations of, fish and wildlife, including, but not limited to, brown/grizzly bears, moose, caribou, Dall sheep, wolves, swans and other waterfowl; and to provide continued opportunities, including reasonable access, for mountain climbing, mountaineering, and other wilderness recreational activities.

Title I of ANILCA established national parks for the following purposes:

. . . to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing, fishing, and sport hunting, within large arctic and subarctic wildlands and on free-flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.

. . . consistent with management of fish and wildlife in accordance with recognized scientific principles and the purposes for which each conservation system unit is established, designated, or expanded by or pursuant to this Act, to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so.

The potential for significant restriction must be evaluated for the proposed action's effect upon ". . . subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives which would reduce or eliminate the use. . . ." (Section 810(a))

III. PROPOSED ACTION ON FEDERAL LANDS

Alternatives 1 and 2 are described in detail in the EA. Customary and traditional subsistence use on NPS lands will continue as authorized by federal law under both alternatives. Federal regulations implement a subsistence priority for rural residents of Alaska under Title VIII of ANILCA.

The NPS proposes to use a Nodwell-mounted drill rig to drill 29 holes in the area east of C-Camp and around the perimeter of the sewage lagoons. Soils information would be retrieved from the holes to be used in geotechnical evaluations for potential future facilities at C-Camp and for upgrades to the sewage lagoon. The sites are in the former Mount McKinley National Park wherein subsistence activities are not allowed.

IV. AFFECTED ENVIRONMENT

Subsistence uses within Denali National Park and Preserve are permitted in accordance with Titles II and VIII of ANILCA. Section 202(3)(a) of ANILCA authorizes subsistence uses, where traditional, in the northwestern and southwestern preserves of Denali National Preserve. Lands within former Mount McKinley National Park are closed to subsistence uses.

A regional population of approximately 300 eligible local rural residents qualifies for subsistence use of park resources. Resident zone communities for Denali National Park and Preserve are Cantwell, Minchumina, Nikolai and Telida. By virtue of their residence, local rural residents of these communities are eligible to pursue subsistence activities in the new (1980) park additions. Local rural residents who do not live in the designated resident zone communities, but who have customarily and traditionally engaged in subsistence activities within the park additions, may continue to do so pursuant to a subsistence permit issued by the park superintendent in accordance with state law and regulations.

The NPS realizes that Denali National Park and Preserve may be especially important to certain communities and households in the area for subsistence purposes. The resident zone communities of Minchumina (population 22) and Telida (population 11) use park and preserve lands for trapping and occasional moose hunting along area rivers. Nikolai (population 122) is a growing community and has used park resources in the past. Cantwell (population 147) is the largest resident zone community for Denali National Park and Preserve, and local residents hunt moose and caribou, trap, and harvest firewood and other subsistence resources in the new park area.

The main subsistence species, by edible weight, are moose, caribou, furbearers and fish. Varieties of subsistence fish include coho, king, pink and sockeye salmon. Burbot, dolly varden, grayling, lake trout, northern pike, rainbow trout and whitefish are also among the variety of fish used by local people. Beaver, coyote, land otter, weasel, lynx, marten, mink, muskrat, red fox, wolf and wolverine are important furbearer resources. Rock and willow ptarmigan, grouse, ducks and geese complete the park/preserve subsistence small game list.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife and other renewable natural resources. A subsistence harvest in any given year many vary considerably from previous years because of such factors as weather, migration patterns and natural population cycles. However, the pattern is assumed to be generally applicable to harvests in recent years with variations of reasonable magnitude.

V. SUBSISTENCE USES AND NEEDS EVALUATION

To determine the potential impact on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources that could be impacted.

The evaluation criteria are:

- the potential to reduce important subsistence fish and wildlife populations by (a) reductions in numbers; (b) redistribution of subsistence resources; or (c) habitat losses;
- the affect the action might have on subsistence fishing or hunting access; and
- the potential to increase fishing or hunting competition for subsistence resources.

The potential to reduce populations:

Land use activities could have temporary and/or long-term impacts on wildlife habitat, depending on the nature and extent of the disturbance.

The alternatives would not adversely affect the distribution or migration patterns of subsistence resources. Therefore, no change in the availability of subsistence resources is anticipated as a result of the implementation of this proposed action.

Restriction of Access:

All rights of access for subsistence harvests on NPS lands are granted by Section 811 of ANILCA. Denali National Park and Preserve is managed according to legislative mandates, NPS management policies and the park's General Management Plan. No actions under the alternatives described in the EA should affect the access of subsistence users to natural resources in the park and preserve.

Increase in Competition:

The alternatives should not produce any increase in competition for resources to subsistence users.

If, and when, it is necessary to restrict taking, subsistence uses are the priority consumptive users on public lands of Alaska and will be given preference on such lands over other consumptive uses. (ANILCA, Section 802(2))

Continued implementation of provisions of ANILCA should mitigate any increased competition, however significant, from resource users other than subsistence users. Therefore, the proposed action would not adversely affect resource competition.

VI. AVAILABILITY OF OTHER LANDS

Choosing a different alternative would not decrease the impacts to park resources for subsistence. The preferred alternative is consistent with the mandates of ANILCA, including Title VIII, and the NPS Organic Act of 1916.

VII. ALTERNATIVES CONSIDERED

The alternatives considered for this project were limited to 1) a no-action alternative, and 2) the proposed drilling plan for the area near C-Camp and near the sewage lagoons.

VIII. FINDINGS

This analysis concludes that the preferred alternative would not result in a significant restriction of subsistence uses.