REVISED DEVELOPMENT CONCEPT PLAN



# LAKE MCDONALD

## GLACIER NATIONAL PARK • MONTANA

UNITED STATES DEPARTMENT OF THE INTERIOR • NATIONAL PARK SERVICE

**RECOMMENDED:**

Wayne Malcom, Acting Manager — August 22, 1991
Central Team, Denver Service Center

H. Gilbert Lusk, Superintendent — September 4, 1991
Glacier National Park

**APPROVED:**

Lorraine Mintzmyer, Regional Director — September 16, 1991
Rocky Mountain Region

Printed on Recycled Paper

# revised development concept plan

LAKE MCDONALD
**GLACIER NATIONAL PARK • MONTANA**

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

## SUMMARY

The National Park Service plans to rehabilitate and improve visitor facilities and concession employee housing at the Lake McDonald Lodge area of Glacier National Park. Ongoing rehabilitation work on the historic lodge and cabins will be continued. Other new or rehabilitated facilities at Lake McDonald will include a new lodging structure and restaurant to replace an existing motel and coffee shop, a visitor contact station, replacement housing for approximately 60 percent of the concession employees currently housed on site, a maintenance building, and redesigned roads and parking. About 40 percent of the employees currently housed at Lake McDonald will be required to move outside the park. The concessioner will have several options for off-site employee housing: Employees could be encouraged to provide their own trailers or RVs; concessioner-owned living accommodations could be provided in existing or new structures; or other private interests could be encouraged to develop such facilities in the West Glacier area.

The current plan is a revision of a 1986 proposal to improve visitor services and concession employee housing at Lake McDonald. Concern about impacts on threatened bald eagles using the Lake McDonald area prompted a reevaluation of the earlier plan. The current plan is considered the most feasible of several options considered by the National Park Service and will have a less adverse impact on eagles than the 1986 plan. The current plan will relocate employee housing to a site on the northern end of the Lake McDonald development, avoiding the eagle roosting area south of the lodge. The site will be designed to retain as many trees as possible, and additional trees will be planted, to help make buildings and human activity less visible to eagles and to provide perching and roosting habitat. Construction will be timed to avoid disturbance during periods when eagles are nesting in the spring and migrating through the area in the fall.

The plan will remove all employee housing from the floodplain. Most of the existing dormitories will be removed, but the three that are historic structures will be retained and adapted for day uses. The Lake McDonald Lodge Historic District will be improved by removing the existing coffee shop building, which is an architecturally incompatible modern intrusion on the district. A new lodging structure will be constructed in the district, but it will be designed to be compatible with the existing rustic architecture to minimize its intrusion.

Access and circulation will be improved by simplifying vehicle access and encouraging people to walk between sites. The visual impacts of roads and parking will be reduced by softening their outlines and screening them with vegetation.

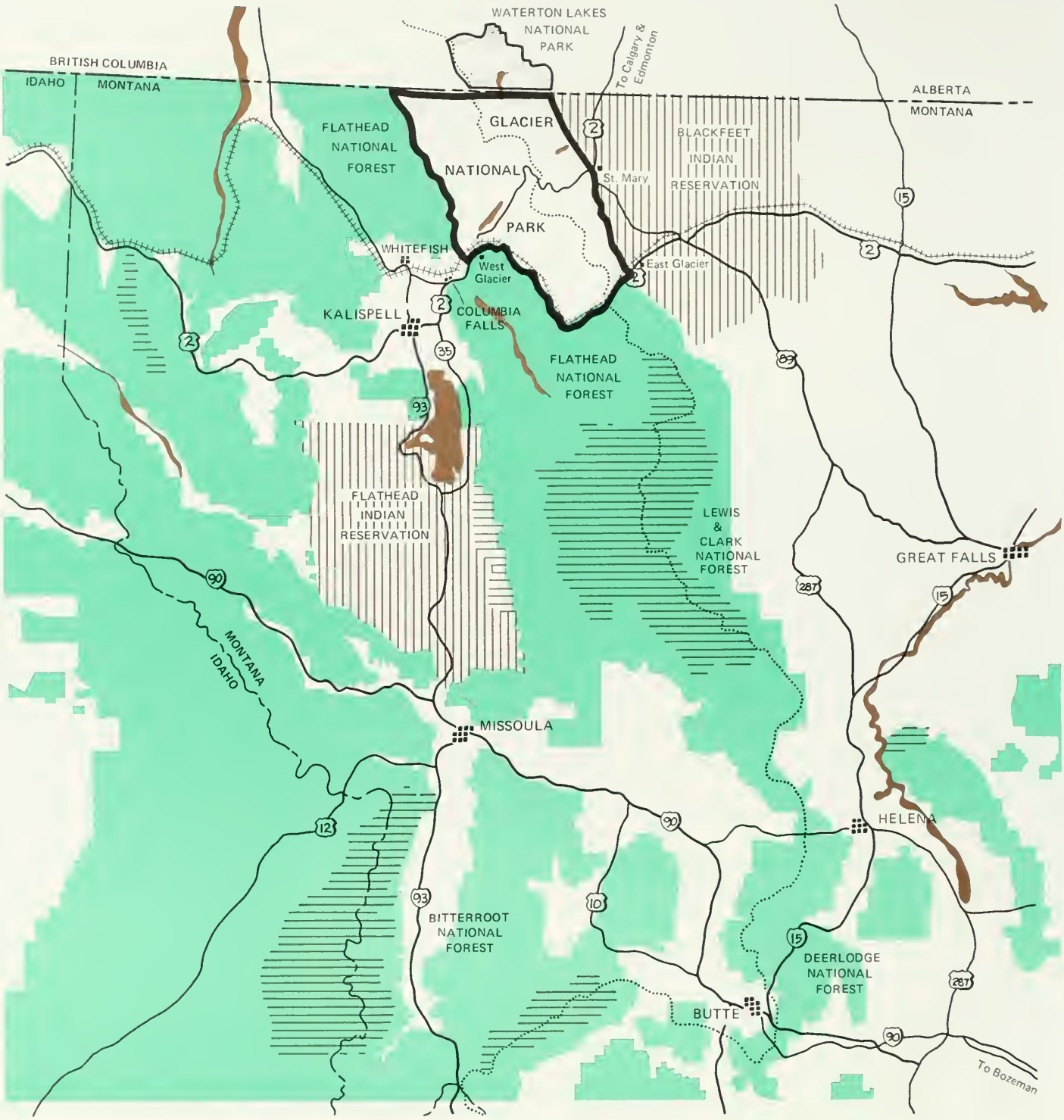
| ISSUE | DEVELOPMENT CONCEPT |
|---|---|
| Employee Housing | Construct a new dormitory behind the coffee shop; relocate some employees outside the park. |
| Village Circulation and Parking | Redesign the middle access road as the primary entrance/exit; provide a secondary exit road near the store; eliminate the south access road; consolidate parking. |
| Lodging | Remove motel units and develop replacement lodging near the cabins; move cabin parking to the central lot. |
| Food Service | Remove coffee shop and develop a new restaurant in the new lodging structure. |
| Service Station | Remove gas station; relocate post office to new lodge building. |
| Tour Boat Fuel Storage | Provide portable fuel storage tank meeting state standards and keep in maintenance area. |
| Recreation Hall | Convert Snyder Hall for recreation use. |
| Concession Maintenance Building | Develop at motel site. |
| Fire Station | Develop at motel site. |
| Visitor Contact | Remodel Garden Court dorm for contact station. |

## CONTENTS

## TABLES



## MAPS




CONTINENTAL DIVIDE
INDIAN RESERVATION
NATIONAL FOREST
WILDERNESS
AMTRAK (BURLINGTON NORTHERN RR)

NO SCALE

N

# REGION

## GLACIER NATIONAL PARK

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40030B

## INTRODUCTION

The Lake McDonald Lodge developed area is on the eastern shore of Lake McDonald about 11 miles north of West Glacier, Montana (see the Region, Location, and Vicinity maps). The village has a lodge with restaurant, guest cabins, a coffee shop, a general store, a gas station, a tour boat operation, a horse corral, and employee housing. Several additional cabins and a motel are situated on private lands near the general store (see Existing Development map).

The 1977 master plan for Glacier National Park identified Lake McDonald as one of the park locations where visitor service facilities will be concentrated:

> Lake McDonald...will continue to provide overnight lodge facilities, campgrounds, picnic grounds, camp stores, and food service. Private enterprise outside the park and adjacent to these areas will supplement these visitor service facilities, as appropriate. (NPS 1977)

The Going-to-the-Sun Interpretive Corridor map in the master plan lists these facilities and activities for Lake McDonald: trailhead, interpretation, lodge and food service, boating, and horseback riding.

## PURPOSE OF AND NEED FOR THE PLAN

A development concept plan (DCP) was approved for the Lake McDonald area in October 1986. The 1986 DCP was based on an environmental assessment (EA) published in March 1985. The plan proposed to build replacement concession employee housing just south of the village area. Recent research on bald eagle use has revealed that the Lake McDonald area, including the site proposed in the 1986 plan for replacement employee housing, is an eagle use area. This area's importance appears to have increased as a result of recent changes in fish populations and eagle movements at Lake McDonald. Because the bald eagle is an endangered species, the National Park Service (NPS) has had further informal consultations with the U.S. Fish and Wildlife Service. Through this process, the NPS regional director decided to reevaluate alternatives for the DCP.

This document presents a revised DCP for Lake McDonald. The revised plan readdresses most of the issues addressed in the 1986 DCP. However, it does not address whether to expand the visitor use season at Lake McDonald. That issue has parkwide implications and will be addressed in a new general management plan or winter use plan scheduled for the park in the next several years.

A draft plan and environmental assessment published in April 1990 analyzed a proposal and three alternatives, including the alternative of taking no action. In September 1991 the National Park Service approved a finding of no significant impact (FONSI). Based on consultations with the U.S. Fish and Wildlife Service, the Advisory Council on Historic Preservation, and the Montana state historic preservation officer, the plan is in compliance with section 7 of the Endangered Species Act and section 106 of the National Historic Preservation Act.

## PROBLEMS/ISSUES ADDRESSED IN THE REVISED PLAN

Concern about impacts on eagles is the primary reason for reevaluating development alternatives for the lodge area. The plan reevaluates how to meet concession employees' needs for housing, meals, recreation, and parking without conflicting with eagle management or other resource management or visitor use objectives for the Lake McDonald area. Concession employees are currently housed in substandard facilities that are in poor condition and do not meet minimum space requirements. Several concessioner housing facilities are in the 100-year floodplain of Snyder Creek, which creates a hazardous condition and violates NPS policies on floodplain management. Several concessioner housing facilities are interspersed with visitor facilities, creating an undesirable mix of visitor use and employee residential activities.

The plan also addresses the design of roads, parking, and walkways in the area. Three separate vehicle access routes into the village create visitor confusion and complicate controls on visitor use during critical eagle use periods. The primary entrance approaching the lodge is through a long, narrow parking lot, and there is no logical flow for first-time visitors. The spread-out parking facilities and lack of walkways and signing in key movement corridors inhibit pedestrian circulation in the village.

The plan also addresses how to meet fuel storage needs outside the 500-year floodplain. The tour boat concessioner has stored fuel in a trailer at a site near the mouth of Snyder Creek that is inside the 100-year floodplain, is prime eagle habitat, and has some visitor use. The trailer is a visual intrusion as well as a potential safety hazard.

The 1986 DCP called for a small concessioner maintenance building and a new NPS fire truck storage garage next to the concession employee housing area. These proposals were reevaluated in light of the concern for eagles and the limited buildable space in the area.

The planning project also reassessed the potential for impacts on the Lake McDonald Lodge Historic District. The modern architecture of the coffee shop is inconsistent with the rustic village character. Any new development would also have the potential to affect the significant values of the historic district. The plan includes measures to mitigate any potential impacts on cultural resources.

Some elements of the 1986 DCP were incorporated into the revised plan without further analysis. These include completion of the lodge rehabilitation project, conversion of Cobb house to offices, removal of the abandoned sewage treatment facility, and a new trail to Sprague Creek.

## MANAGEMENT OBJECTIVES

The following management objectives guided the preparation and analysis of the development plan for Lake McDonald:

Preserve bald eagle habitat and protect nesting and migrating eagles.

Remove employee housing from the floodplain.

Preserve historic resources and minimize impacts from new development.

Provide high quality visitor facilities and services.

Separate employee housing from visitor use areas.

Meet minimum housing standards for employees.

Develop facilities that are compatible with traditional development and the natural park environment.

Simplify vehicular circulation and parking.

Encourage pedestrian circulation in the developed area.

Meet visitor needs for information and orientation.

Maintain the overnight lodging capacity at Lake McDonald as specified in the master plan.

Minimize visual intrusions visible from inside the developed area and from Going-to-the-Sun Road and Lake McDonald.

Provide facilities that are accessible to visitors and employees with disabilities.

Lake
McDonald

Lake
McDonald
Lodge

Visitor
Cabins

Garden
Court
Building

Hydro and
Johnson
Buildings

Dispensary
Building

Girls Dorms
1 and 2

Motel

Gas
Station

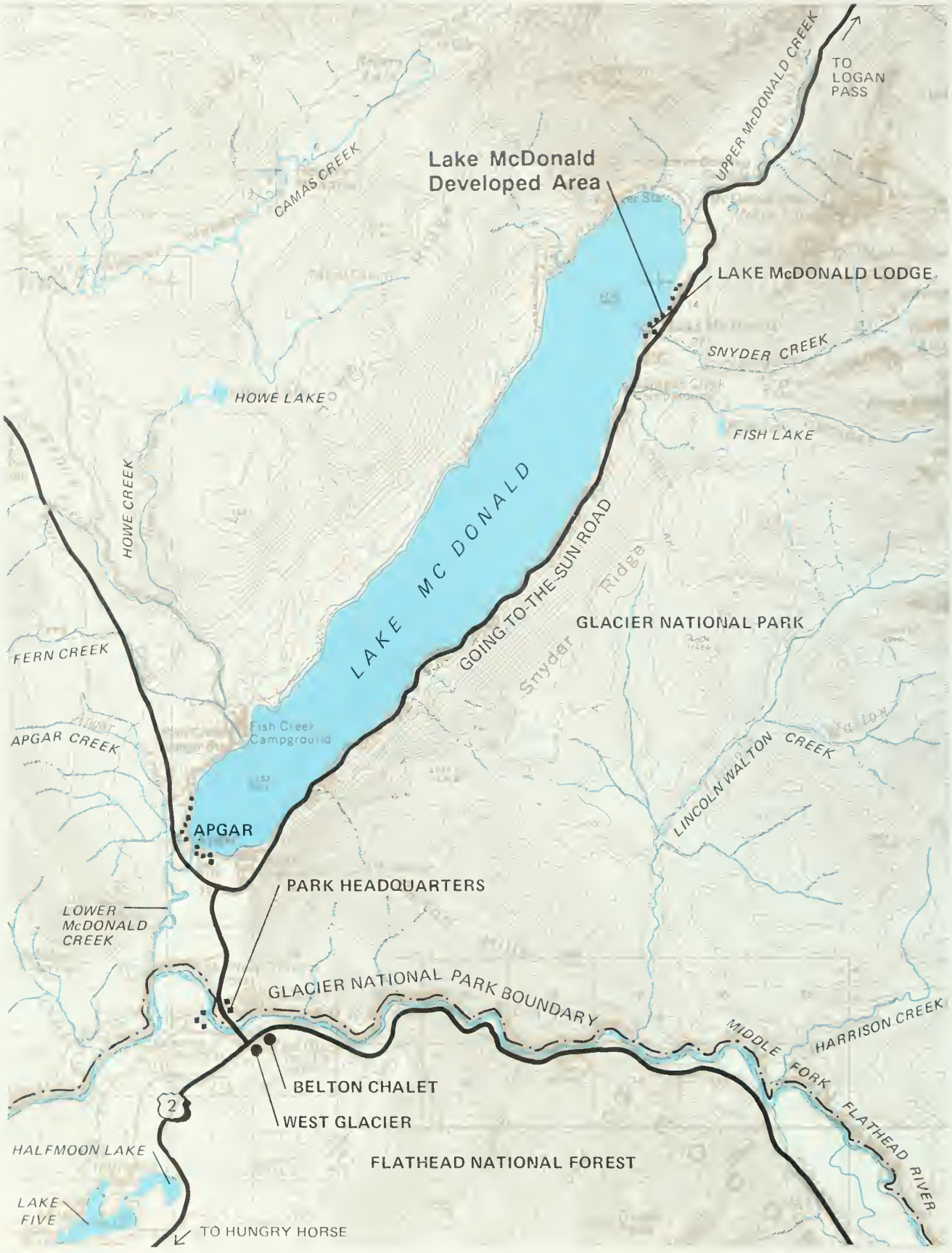
Coffee
Shop


# LOCATION

## LAKE McDONALD

GLACIER NATIONAL PARK

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • SEPT 91 • 117 • 40031C




0 1 2 3 Miles

North

# VICINITY

## LAKE McDONALD

GLACIER NATIONAL PARK

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40183


EXISTING DEVELOPMENT
LAKE McDONALD
GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40178A
NORTH
0 50' 100' 200'
PRIVATE LAND
ROADS, PARKING AND WALKWAYS
VEGETATION
BUILDING
LAKE MCDONALD
E 39 500
HISTORIC DISTRICT
MOTEL
NPS
E 39 000
PUM
GIRLS' D
CARETAKER'S
CA
E 38 500
3160
3170
3190
3170

# EXISTING DEVELOPMENT
## LAKE McDONALD
GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40178A

NORTH 0 50' 100' 200'

PRIVATE LAND
ROADS, PARKING AND WALKWAYS
VEGETATION
BUILDING

LAKE MCDONALD
HISTORIC DISTRICT
MOTEL
NPS CABIN
PUMPHOUSE
GIRLS' DORMS 1 & 2
CARETAKER'S HOUSE GARAGE
CARETAKER'S HOUSE
VISITOR CABINS
GARDEN COURT DORM
DISPENSARY
LAKE McDONALD LODGE
BOAT CONCESSION DOCK
SNYDER HALL
SEWAGE LIFT STATION
AUDITORIUM / EMPLOYEE RECREATION ROOMS
COBB HOUSE
LAKE MCDONALD
SNYDER CREEK
CARPENTER SHOP DORM
STORE
GAS STATION
FIRE TRUCK GARAGE
COFFEE SHOP
SPERRY CHALET TRAIL
HORSE CONCESSION
ABANDONED SEWAGE TREATMENT PLANT
SNYDER CREEK
JAMMER DORM
HYDRO DORM
JOHNSON DORM
BOYS' DORMS 1 & 2
WELL
COBB HOUSE GARAGE
LODGE AREA ROAD
GOING-TO-THE-SUN ROAD
LAKE MCDONALD LODGE HISTORIC DISTRICT BOUNDARY
NPS CABINS

## NATURAL RESOURCES

### Soils

Soils near the lodge are variable and generally of two types and origins. Lake McDonald occupies a basin formed from till deposited by Pleistocene glaciers. The till deposits have particles ranging from clay to boulders. The area next to Snyder Creek between the lake and Going-to-the-Sun Road is an alluvial fan of stream-deposited material. The alluvial material has particles ranging from sand to boulders. Both the alluvially and the glacially deposited soils have high load-bearing capacities and low productivity. Topsoil is quite shallow. Stream-deposited material has greater porosity than glacial till.

### Vegetation

The lodge and surrounding buildings are in dense forest composed of several species. Common tree species are western redcedar, western larch, western hemlock, Douglas-fir, black cottonwood, subalpine fir, lodgepole pine, paper birch, and Engelmann spruce. Cedar and hemlock are unusual in western Montana and are indicative of the fact that the Lake McDonald valley has a moist climate more typically found in the Pacific Northwest.

Common understory native plants are mountain lover, trillium, queencup beadlily, and false huckleberry. Clearings around the roads and lodge buildings are in lawns or artificially maintained open space supporting many nonnative species, such as Kentucky bluegrass, clover, oxeye daisy, and spotted knapweed.

The forest near the lodge is a mosaic of different types resulting from different fire histories and forest succession. The different forest types provide different qualities of habitat and screening. Near Snyder Creek between the lodge and the main road, and to the south, the forest is dense old-growth cedar/hemlock, with taller western larch and black cottonwood trees protruding above the lower forest canopy. Bald eagles use the taller larch, cottonwood, cedar, fir, and pine trees for perches and nighttime roosts. The lower forest canopy of cedar and hemlock screen the perching eagles from roads and activities around the buildings. Screening is a key factor in reducing the extent to which people approaching the birds flush them from their perches. Other forests around the lodge screen the buildings and parking lot from the lake and from Going-to-the-Sun Road.

### Wildlife

Common mammals in the lodge area are red squirrel, yellow pine chipmunk, Columbian ground squirrel, snowshoe hare, whitetail deer, and moose. Black bear occasionally pass through the vicinity of the lodge. Common birds in the area include gray jay, various thrushes, golden eagle, ruffed grouse, rufous and calliope hummingbirds, various woodpeckers, magpie, raven, and various warblers.

Fish in Lake McDonald are the nonnative kokanee salmon and lake trout, and native cutthroat trout.

### Threatened and Endangered Species

Threatened and endangered species present in the Lake McDonald valley include the endangered bald eagle (*Haliaeetus leucocephalus*) and the threatened grizzly bear (*Ursus arctos*).[1] The endangered gray wolf (Canis lupus) and endangered peregrine falcon (*Falco peregrinus*) use other areas in the park. Peregrine falcons migrate through the park in the fall, but there is no known nesting in the park. There are no threatened or endangered plants known in Glacier.

A resident pair of bald eagles nest on the northwest side of Lake McDonald and forage for fish in the shallow lake waters and inlet creeks along the west shore, at the head of the lake, and along the northeast shore. They are one of only six nesting pairs of bald eagles in Glacier National Park and about 80 nesting pairs in the state of Montana (USFWS 1986).
Eagle courtship and territorial defense behavior begin in February, and eggs are laid and incubated in March through April. While bald eagles are susceptible to disturbance whenever exposed to human activity, the consequences of disturbance are most detrimental during periods of nesting and fledging, which occur during late winter through early summer. After about May 15, other lakes in the area become ice free and are used by eagles for foraging. The adult birds avoid the Lake McDonald lodge area during the summer months, possibly because of human activity during that period (NPS 1988).

Survival of young in this area has been poor and at the current rate would not sustain a stable eagle population. It is below the level established for recovery of the species (USFWS 1986). Bald eagle nestlings did not survive in 1988 or 1989 at Lake McDonald. Food is often unavailable and is one factor that affects young eagle survival. The habitat of Glacier National Park is probably marginal because the low productivity and depth of the mountain lakes make fishing difficult and because severe spring storms occur during nesting season.

During the 1930s and 1940s, there were up to three nesting pairs of bald eagles at a time on Lake McDonald (NPS 1988). Since that time a number of factors have changed, including an increase in human activity in the area, the introduction of nonnative fish populations into Lake McDonald, and other alterations of the food chain, any or all of which could have contributed to the decline. To help mitigate human disturbance of eagles, restrictions have been placed on boating, hiking, and construction activity at Lake McDonald lodge and elsewhere.

For the past several decades migrating bald eagles have been congregating along lower McDonald Creek (the lake's outlet stream) and around upper Lake McDonald during November and December to feed on spawning kokanee salmon. The nonnative salmon were introduced into the upper Flathead River system in the early 1900s. In 1981 NPS personnel recorded a high number of 639 bald eagles at one time along lower McDonald Creek and on the lake. The

---

[1]On February 7, 1990, the U.S. Fish and Wildlife Service published an "advance notice of a proposal to reclassify or delist the bald eagle" (*Federal Register* 55:4209). This review is still in progress and may affect the classification of the eagle in the Lake McDonald area.

kokanee population migrating up the Flathead River seriously declined in 1986, resulting in a corresponding decline of autumn eagle use in the park. NPS staff counted fewer than 300 birds in 1986, fewer than 100 birds in 1987, 34 in 1988, and 25 in 1989.

Fish spawning appears to be stable at the head of Lake McDonald, including in Snyder Creek and other tributary creeks. The maximum number of eagles at one time counted in this area by NPS staff was 43 in 1986, 28 in 1987, 24 in 1988, and 14 in 1989. Eagle use is declining in this area as elsewhere, but the decline has not been as precipitous here, and therefore the area, which includes the lodge, is gaining in relative importance.

In addition to foraging for fish in the area, eagles perch on nearby tall trees during the day between intervals of fishing, and they roost overnight in nearby areas that provide shelter and favorable microclimatic conditions. The characteristics of roosts are not well understood, but they provide conditions that reduce the birds' loss of energy. Eagles use the taller trees next to Snyder Creek between the main road and the lakeshore for daytime perching. The larch-cedar-hemlock forest southeast of the lodge is an important overnight roost area (NPS 1988c). NPS staff have observed eagles being flushed away from perches at the lodge by human activities on both the land and the lake (NPS 1988c). In compliance with the park's *Bald Eagle Management Plan* (NPS 1978) the areas next to lower McDonald Creek and Lake McDonald Lodge are closed during critical eagle use periods to prevent the disturbance and displacement of eagles. The Park Service also requires the Lake McDonald tour boat concessioner to practice nonintrusive boat use on the lake.

Grizzly bear occasionally pass through the lodge area and around the head of the lake. Three confirmed sightings of grizzly bears or tracks within a 0.25-mile radius of the lodge were made in the four years between early 1986 and 1989. The densely forested environment of the lodge is generally poor grizzly habitat. Since 1986 fall spawning salmon have not appeared in sufficient numbers to attract bears. When salmon begin spawning in late October, the upper fourth of the lake, including the lodge area, is closed to boating and shoreline hiking. The Park Service also employs strict controls on garbage collection and storage, requiring the concessioner to remove garbage daily from the area. No emergency grizzly bear management actions (capture attempts or emergency closures) have been undertaken since at least 1980.

### Water Resources

Lake McDonald is the largest lake in Glacier National Park, with a surface area of 6,823 acres and a maximum depth of 464 feet. Snyder Creek flows west through the lodge area and into the lake, and upper McDonald Creek flows south into the lake about 1 mile north of the lodge. Water quality in the lake and its tributaries is typically excellent, with high clarity, high oxygen content, and low nutrient levels.

### Floodplains and Wetlands

The Lake McDonald Lodge complex was built on an alluvial fan deposited through the post-glacial period by Snyder Creek. The area is subject to late-spring flooding during periods when snowpack runoff is combined with prolonged rainstorms.

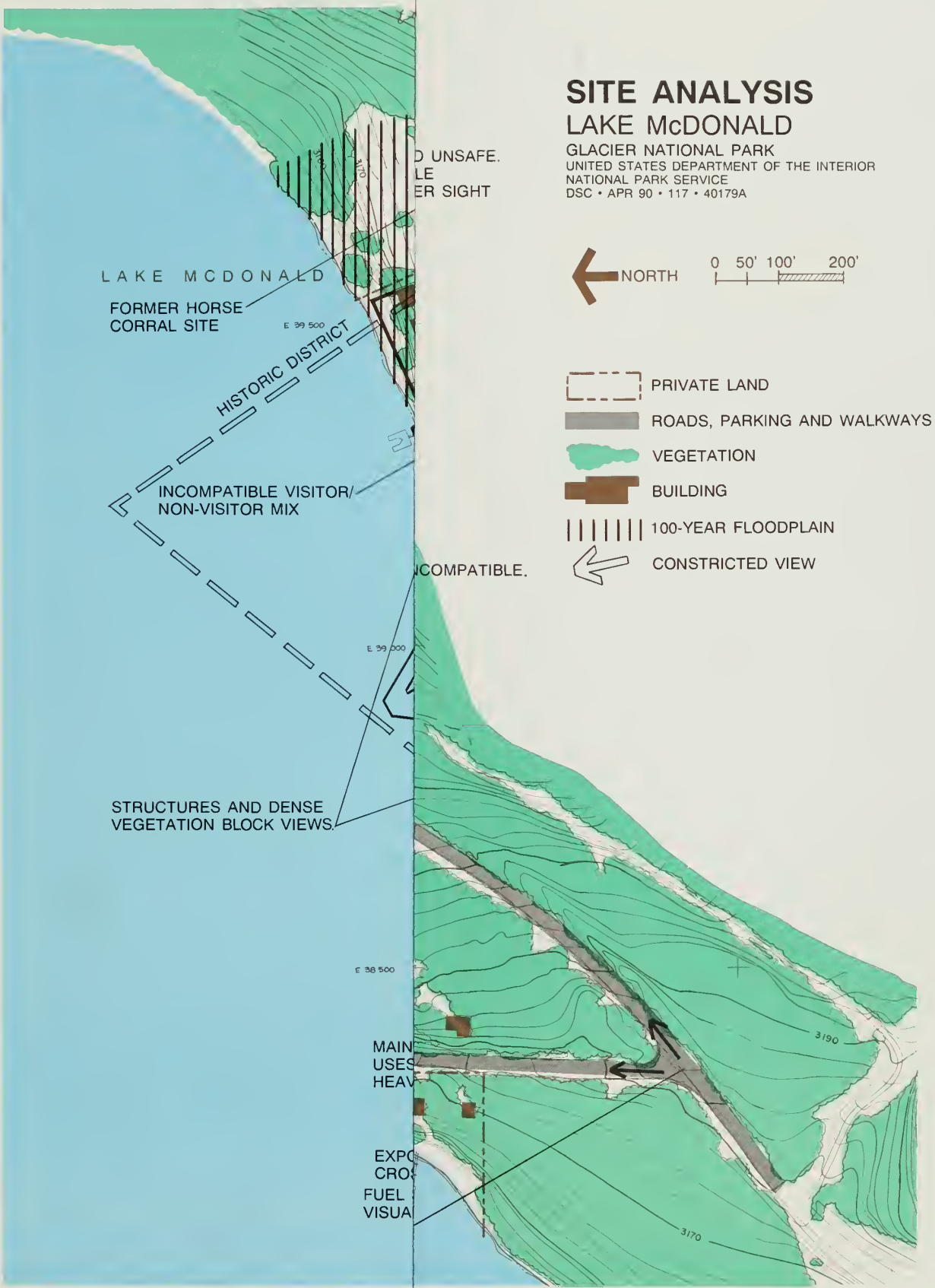
The Seattle District of the U.S. Army Corps of Engineers has provided the National Park Service with a map delineating the 100-year floodplain (see Lake McDonald Site Analysis map). The floodplain is very large compared to the flood flow because debris could block the channel and divert the water in an unpredictable manner. Hydraulic conditions and a slope of 5 to 6 percent in Snyder Creek through the Lake McDonald development make flood flows supercritical. Standing vegetation has only a minimal effect in slowing floodwaters. During a flood the stream gains so much force that it can move trees and yards of rock and debris, causing the channel to move back and forth. In previous floods one or both bridges became blocked by debris, causing floodwaters to build up behind them. Debris also collected at channel constrictions, like the one between the auditorium/recreation room building and the lodge. As water backed up behind the debris, it spread and increased the width of the flooded area.

The delineated 100-year floodplain does not necessarily mean that all buildings in the area would be destroyed in a 100-year flood, only that there is a possibility of damage. The Corps of Engineers estimated the 100-year flood flow at 3,000 cubic feet per second, which is not large enough to cause damage to all the buildings at the same time.

Facilities in the 100-year floodplain include the Lake McDonald Lodge, the auditorium/recreation room building, Snyder Hall, Cobb House and the adjacent garage, boys' dorms 1 and 2, two storage sheds, a sewer lift station, and the Johnson, Hydro, and Jammer dorms. Of these structures, the lodge, the auditorium/recreation room, Snyder Hall, Cobb House, and the garage are in the Lake McDonald Historic District, which is listed on the National Register of Historic Places. These culturally significant resources merit the most intensive efforts to protect them from flood loss. While the lodge is in the floodplain, it is not in a high-hazard area. The flood events would not be so unexpected, violent, or otherwise devastating that human lives would be in immediate or grave danger. The risk to life safety is minimal because of the size of the building and its multistory construction.

Floods in 1964 and 1975 were contained in an area relatively near the existing channel by the use of heavy equipment to modify and channelize Snyder Creek. This practice is no longer permitted out of concern for the safety of the equipment operators. The 1964 flood, which was estimated to be greater than a 500-year flood, caused the most damage at Lake McDonald. It inundated the lodge dining room and undermined its foundation. It filled Snyder Hall and the auditorium/recreation room with at least 4 feet of debris. Several trailers were floated from their footings, and two buildings were destroyed. In addition, the flood destroyed the foot-and-horse bridge and undercut Going-to-the-Sun Road around the Snyder Creek bridge abutments. The National Park Service estimated the total cost of damages to be $100,000 to $200,000 (1964 dollars). Damage to the area would have been greater if park personnel had not been at work using heavy equipment to clear the bridges and push the debris at the inlet into the lake.

There are no wetlands in or near the lodge area.


SITE ANALYSIS
LAKE McDONALD
GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40179A
NORTH
0 50' 100' 200'
PRIVATE LAND
ROADS, PARKING AND WALKWAYS
VEGETATION
BUILDING
100-YEAR FLOODPLAIN
CONSTRICTED VIEW
LAKE MCDONALD
FORMER HORSE CORRAL SITE
HISTORIC DISTRICT
INCOMPATIBLE VISITOR/ NON-VISITOR MIX
STRUCTURES AND DENSE VEGETATION BLOCK VIEWS
E 39 500
E 39 000
E 38 500
3190
3170
D UNSAFE.
LE
ER SIGHT
COMPATIBLE.
MAIN
USES
HEAV
EXPO
CRO
FUEL
VISUA

# SITE ANALYSIS

## LAKE McDONALD

GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC • APR 90 • 117 • 40179A

NORTH

0 50' 100' 200'

PRIVATE LAND
ROADS, PARKING AND WALKWAYS
VEGETATION
BUILDING
100-YEAR FLOODPLAIN
CONSTRICTED VIEW

LAKE MCDONALD

FORMER HORSE CORRAL SITE

HISTORIC DISTRICT

INCOMPATIBLE VISITOR/ NON-VISITOR MIX

STRUCTURES AND DENSE VEGETATION BLOCK VIEWS

MAINTENANCE AND HOUSING USES INCOMPATIBLE WITH HEAVY VISITOR USE AREA.

EXPOSED SANITARY SEWER LINE AT CREEK CROSSING IS A VISUAL INTRUSION.

FUEL STORAGE INCOMPATIBLE, UNSAFE, AND A VISUAL INTRUSION.

MAINTENANCE USES INCOMPATIBLE

LAKE MCDONALD

FLOODPLAIN AREAS CREATED BY RUNOFF DIVERSION.

TWO ENTRANCES IN CLOSE PROXIMITY

SHORT SIGHT DISTANCES

HORSE CORRAL

CARE TAKER'S HOUSE

DISPENSARY

FOCAL POINT

LODGE

SPERRY CHALET TRAIL

ABANDONED SEWAGE TREATMENT PLANT

DOUBLE ENTRY ROAD CONFUSING AND UNSAFE. INTEGRAL PARKING INCREASES VEHICLE ACTIVITY. INTERSECTION HAS SHORTER SIGHT DISTANCE DUE TO <90° CONFIGURATION.

ARCHITECTURAL CHARACTER OF COFFEE SHOP INCONSISTENT WITH HISTORIC DISTRICT STRUCTURES.

VILLAGE PARKING SPREAD OUT AND CIRCULATION PATTERN CONFUSING. ROADSIDE ANGLE-PARKING REQUIRES BACKING INTO TRAFFIC LANES.

EXCELLENT VIEW OF LODGE

EMPLOYEE RECREATION AREA USE INCOMPATIBLE.

GOING-TO-THE-SUN ROAD

HOUSING USE INCOMPATIBLE WITH FLOODPLAIN

LODGE AREA ROAD

HISTORIC DISTRICT BOUNDARY

LAKE MCDONALD LODGE

SHORT SIGHT DISTANCES AT <90° INTERSECTION

### Air Quality

Glacier National Park is designated a class I area under the provisions of the Clean Air Act (42 USC 7401 et seq.), which allows little additional deterioration of air quality. Air quality is good, with periods of regional haze and recorded acid precipitation. Forest fires and slash burning outside the park occasionally reduce visibility inside the park.

### Visual Quality

The Lake McDonald developed area is mostly hidden from Going-to-the-Sun Road and the lake because it is in a dense cedar/hemlock forest. Modern vehicles and buses parked in front of the lodge and cabins are intrusions on the historic setting of the area. The architectural style and color of the coffee shop are incompatible with the other structures in the area. The old, abandoned sewage treatment plant near the horse corral intrudes on the landscape visible to hikers and horseback riders. Some employee activities, such as sunbathing and volleyball games, conflict with visitor use of the area.

## CULTURAL RESOURCES

All the significant historic resources in the Lake McDonald developed area are included in the Lake McDonald Lodge Historic District, which was entered on the National Register of Historic Places in 1978 as a locally significant resource. The primary historic structure is the 21,000-square-foot main lodge building built in 1913-14 by a private owner, John L. Lewis. The lodge is a designated national historic landmark. It is a 3½-story rustic log structure containing a full-height lobby between two parallel wings of guest rooms. The lodge is attached to the northeast side of a log structure built in 1910 which now (greatly altered) serves as the dining room. A more recent kitchen wing adjoins the south side of the dining room. A row of 13 one-story cabins, most of which predate the lodge, extends northeast from the lodge along a path parallel to the lakeshore.

Ancillary structures that contribute to the overall rustic appearance of the district and date to the Lewis period (before 1930) are the Garden Court building (1927), Cobb House (1918), Snyder Hall (1911), the auditorium and recreation room building (1927), the barbershop or dispensary (1909), the caretaker's residence (1922), and the carpenter shop (1922). Historically significant structures listed on the National Register form that were built after Lewis sold his property to the government are the McDonald cabin (1935), which remained in private ownership until 1975, the lower stone bridge across Snyder Creek, built by the CCC in the early 1930s, and the general store, built by the Glacier Park Company around 1937.

Seven privately owned residences north of the lodge cabins are included in the National Register district as compatible structures. These lakeshore cabins were all built between 1918 and 1940.

The coffee shop, caretaker's garage, sewage lift station, gas station, girls' dorms 1 and 2, and boys' dorms 1 and 2 are in the historic district but, according to the National Register form, "exhibit no architectural uniqueness." This terminology is interpreted to mean that they are noncontributing structures and not eligible for the National Register of Historic Places. The fire

truck building was installed since 1978 and is not historic. The Hydro and Johnson dorms, both built in 1918, have since been moved from their original locations and were left out of the district. The motel and two miscellaneous structures (GNP 53 and 54) are listed as intrusions in the historic district.

Going-to-the-Sun Road, which passes through the Lake McDonald Lodge area, is a significant historic resource listed on the National Register of Historic Places.

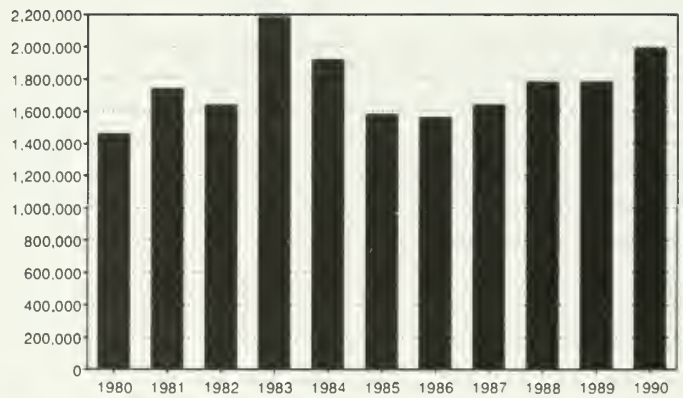
Because of the number and condition of historic resources, the occurrence of historic archeological resources is highly probable, although only one has been found in the study area during several project-specific surveys conducted to date.

No comprehensive park survey for archeological resources has been conducted. None of the archeological sites discovered in the site-specific surveys performed in the park to date will be affected by the plan. Any unsurveyed areas where land modification is planned will be surveyed prior to ground disturbance.

## VISITOR USE

Visitor use at Glacier National Park has fluctuated between 1.4 million and 2.2 million visits per year over the past 10 years (see figure 1).

Figure 1: Annual Visitor Use, 1980-90




People use the Lake McDonald area for overnight lodging, food service, hiking and horseback riding, boat rentals, and staging for tour boat and tour bus trips.

The Lake McDonald Lodge operates at or near capacity during the three summer months. Food service facilities are also intensively used. The gas station is not heavily used by park visitors. They must get a key in the store to operate the pumps, and gas is available about 11 miles away in West Glacier.

Except for lake use and horseback riding and hiking on the trail system emanating from the village, most visitor use occurs in the immediate Lake McDonald Lodge developed area. Some off-trail hiking also occurs on the Lake McDonald shoreline north and south of the lodge.

The lodge closes from mid-September to late May. Little visitor activity occurs in the developed area during these months. The Park Service closes the lodge area to visitor entry during the late fall and spring eagle use periods.

Private cabins in the lodge area are used as vacation cottages or summer residences and are not occupied in the winter.

## EXISTING DEVELOPMENT

Most visitor facilities at Lake McDonald are owned by the government and operated by three concessioners: Glacier Park, Inc. (GPI), Glacier Park Outfitters, Inc. (GPO), and Glacier Park Boat Company, Inc. (GPB). The motel is an inholding owned by GPI. Eight additional private parcels at the north end of the developed area and two at the southern end have residential development.

GPI operates the following facilities: Lake McDonald Lodge, including 32 guest rooms, a gift shop, a restaurant, and a lounge; 38 lodging units in 13 cabins along the lakeshore north of the lodge; 30 lodging units at the motel; a 120-seat coffee shop; a general store; and a gas station with a post office. GPI also operates a bus transportation system offering tours of the park out of Lake McDonald Lodge.

GPO operates horseback riding trips and pack trips out of a horse corral east of the lodge. This facility serves as the trailhead for trips to the Sperry Chalet in the mountains east of Lake McDonald.

GPB operates tour boat excursions and boat rentals at a dock near the lodge.

The National Park Service provides interpretive programs in the auditorium near the lodge. The Park Service maintains the roads, parking areas, walks, trails, bridges, and water and sewer systems for the developed area. The domestic water supply is a deep well. Most wastewater is pumped from the lodge area to a spray field near Apgar, which has adequate capacity. On-site septic tank/leach field systems are still used for the motel and some private residences.

About 160 GPI employees are now housed at Lake McDonald in 11 separate buildings. These buildings are deteriorated, do not meet minimum space requirements, are in the 100-year floodplain, and are in visitor use areas.

About six GPO employees rent an NPS cabin on the lakeshore just north of the guest cabins. About four GPB employees are currently housed in a cabin south of the lodge area.

The Lake McDonald Lodge developed area is accessible from three different points along Going-to-the-Sun Road. The main entrance is a divided access road with a planted median and parking along the outer edges of each lane (see Existing Development map). This main entrance takes visitors directly to the lodge at the center of the developed area. Another road that parallels Going-to-the-Sun Road and intersects it at the north and south ends of the development provides secondary access through the lodge area. Most of the development is consolidated in about 80 acres between Going-to-the-Sun Road on the east, Lake McDonald on the west, and the lodge area road intersections on the north and south. The horse corral is just east of Going-to-the-Sun Road.

## VISITOR EXPERIENCE

The general concept for Lake McDonald is to provide high quality visitor facilities, reasonable cost services, and site development that is compatible with the historic character of the area, while protecting critical natural resources such as the bald eagle and its riparian use zones. Primary visitor activities will continue to be lodging, dining, boating on Lake McDonald, bus tours on Going-to-the-Sun Road, and hiking and horseback riding on trails near the developed area.

The visitor experience will be improved by providing information services, simplifying traffic circulation, centralizing village parking, facilitating pedestrian circulation, and removing most concession employee housing from the center of visitor use areas. Lodging facilities will be clustered, encouraging visitors to walk in the lodge/cabin area. New or rehabilitated facilities will be accessible to visitors with disabilities. New development will comply with high visual quality standards in keeping with the splendid visual resources in Glacier National Park and the rustic historic setting at Lake McDonald Lodge.

This document does not propose any changes to the visitor use season at the Lake McDonald Lodge developed area.

## DEVELOPMENT

### Circulation and Parking

Circulation and parking will be redesigned to clarify traffic routes, enhance vehicular and pedestrian safety, increase the parking capacity, separate employee and visitor facilities, promote a pedestrian environment, and reduce vehicular traffic in critical bald eagle use areas.

The road network will be reduced by deleting the southern lodge area road link with Going-to-the-Sun Road (see Development Concept map). Access to the cabins at the south end of the developed area will be by a short driveway (the existing road pavement) ending in a cul-de-sac. The existing main entrance drives and parking at Lake McDonald Lodge will be removed and replaced by a two-lane, curvilinear access road connecting Going-to-the-Sun Road with the lodge area road and the circular drop-off loop at the lodge.

The Park Service will construct a 180-space central parking lot on the east side of the lodge area road, north of the new main entrance road, and opposite the caretaker's house. This lot will be roughly where parking is now and will contain spaces for passenger cars and oversized vehicles. Based on a 1985 survey of traffic on Going-to-the-Sun Road, 10 percent of the capacity should be for oversized vehicles. Close-in parking will be designated for people with disabilities. The 180 spaces will replace the existing 100 spaces near the coffee shop and east of the lodge and the 30 spaces currently scattered throughout the cabin area, and provide 50 additional spaces for day-use parking as specified in the 1986 plan. Some of the additional day-use parking will serve the visitor transportation system if one is established in the future, and some will accommodate employees who live off site and carpool to the lodge area for

work (see "Employee Living Accommodations," below, and the parking area calculations in appendix D).

The lodge area road will end just south of the lodge, across Snyder Creek, in a bus parking lot serving 10 small GPI tour buses and 3 large tour buses, which are typically brought in by large tour groups on cross-country or regional trips. The possibility of one-way traffic will be evaluated during site design.

Total parking proposed for the developed area is about 250 spaces, including 29 existing spaces at the store, 13 tour bus spaces, about 30 spaces for employees near the motel site, and about 180 spaces in the new central lot (which will include handicap spaces and oversized vehicle spaces). This total does not include the short-term check-in spaces in front of the lodge. Parking for the Sperry Chalet trailhead is currently provided in the main parking area at the site, and it will be incorporated into the new central parking area. It will not be separately designated in the new parking area, but chalet visitors will park closest to the corral on the east side of the lot where it will not conflict with other village parking needs.

The lodge area road will be retained intact north of the lodge to the store, where a circular drive (similar to a cul-de-sac) will be installed to aid traffic returning to the lodge. Internal circulation roads will lead from the circular drive to the private lands, the motel, and the new maintenance building and fire truck garage. The existing parking provided in front of the store (29 spaces) will remain. The parking spaces now provided in the cabin area will be removed and relocated to the new central parking lot. A drop-off zone and cul-de-sac will be provided at the end of the cabin access drive for visitor convenience upon arrival and departure. Other vehicle travel through the area will be discouraged through design treatments and signing, promoting a pedestrian-oriented setting. The existing short drive from the cul-de-sac to the north side of the lodge will be converted to a pedestrian walkway and access road for service vehicles only.

The Park Service will improve pedestrian access by adding walkways along the lodge area road. Walkways along the west side of the road will extend continuously from the lodge north to the store. Crosswalks will help pedestrians reach the east side of the road at the central parking area. Walkways along the east side of the road and next to the parking lot will connect the lot and lodge to the trail leading to the horse corrals. Pedestrian access will also be improved by a new footbridge to replace the existing one over Snyder Creek at the southwest corner of the lodge. The walkway behind the lodge will connect to a curvilinear walkway leading to the boat dock on the lakeshore. All the walkways and the bridge will be designed to be free of barriers to disabled persons, so that all visitors may enjoy them. These proposed walkway improvements will link the existing walkway segments throughout the site into a continuous paved pedestrian system that will facilitate visitor circulation in the lodge area.

A coordinated sign system will also assist visitor orientation and circulation in the area. All circulation improvements, vehicular and pedestrian, will comply with the Uniform Federal Accessibility Standards.

### Visitor Contact Station

As approved in the 1986 DCP, the Garden Court building will be remodeled into a visitor contact station, which will also include ranger office space and visitor rest rooms (see the schematic floor plan). The Garden Court building is centrally located just north and east of the lodge, in the core of the developed area. Its high visibility near the main entrance and proximity to other visitor facilities, makes it an ideal location for visitor-oriented functions. About one-half of the first floor (650 sf) will become a visitor contact station, with a counter, brochure and map displays, a small waiting area for visitors seeking information, a ranger's office, and an employee lavatory. The other half (700 sf) will become rest rooms to serve the needs of day-use visitors. The upper floor will be remodeled to house employees (see "Employee Living Accommodations," below).

### Visitor Lodging

The Lake McDonald Lodge provides 32 guest rooms and 13 rustic cabins with 38 units. (During recent rehabilitation work on the lodge and associated cabins, three rooms were removed from service.) The motel provides an additional 30 rooms, bringing the total number of existing guest rooms in all lodging facilities to 100. The lodge usually opens by early June and closes in late September.

The 1977 master plan for Glacier National Park states that concessioner-provided overnight accommodations are adequate and that modernization and upgrading of existing facilities is a key objective. Therefore, the proposal does not exceed the 1977 levels of overnight guest accommodations in the Lake McDonald Lodge area, which was 103 rooms. In those instances where guest rooms are removed or used for some other purpose, the plan proposes to replace those units, plus the three rooms removed since 1977, on a one-for-one basis.

As approved in the 1986 DCP, the Lake McDonald Lodge will continue to operate on its current site. The risk of flooding at the lodge will be further reduced by installing additional riprap on the north side of the creek (NPS 1986). Rehabilitation work will be completed on the lodge and associated cabins. This includes remodeling the kitchen to improve safety and increase functional efficiency, rehabilitating the second and third floor corridors and guest rooms to restore the historic character and improve the appearance, rehabilitating 14 cabins to preserve historic fabric and restore interior character, and providing a barrier-free path to the auditorium and boat dock.

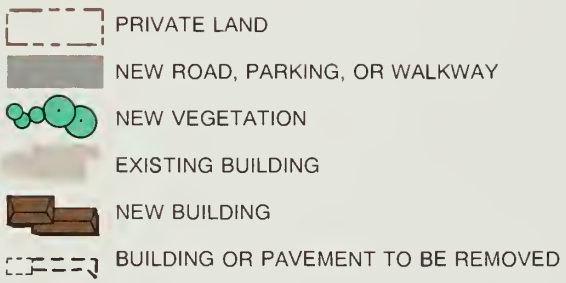
The 30 guest rooms in the motel will be removed, and replacement units will be constructed in a more appropriate location near the present cabin units (see Development Concept map). The new lodging structure will have up to 33 units to replace the 30 currently in the motel plus the three lost when the lodge and some of the cabins were rehabilitated. The new building will be architecturally compatible with the main lodge and adjacent structures in the historic district (see the "Design Guidelines" in appendix C). Appropriate landscape plantings will also be installed to reduce this new structure's impact on the historic scene.

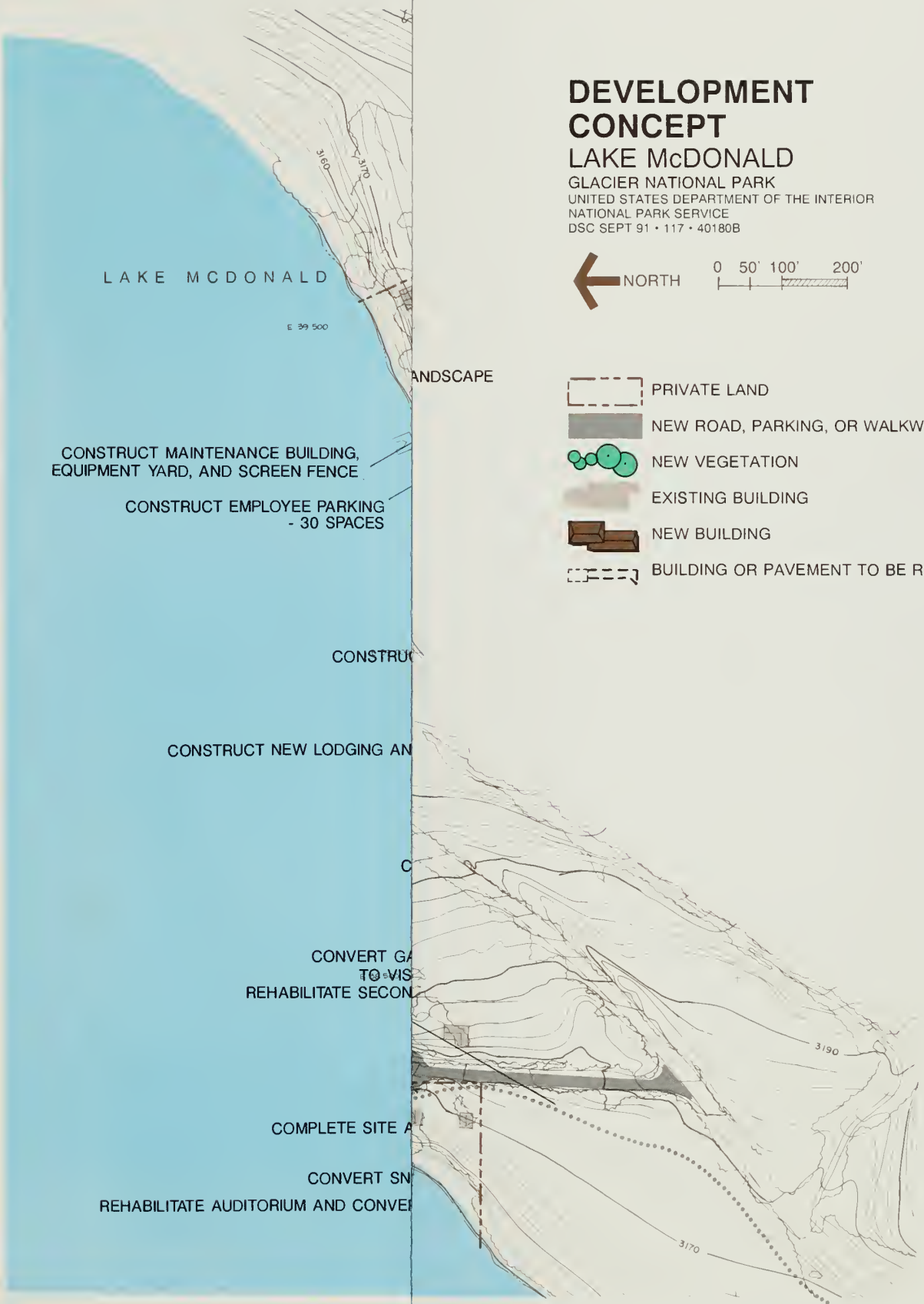
# DEVELOPMENT CONCEPT

## LAKE McDONALD

GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC SEPT 91 • 117 • 40180B



# DEVELOPMENT CONCEPT

## LAKE McDONALD

GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC SEPT 91 · 117 · 40180B

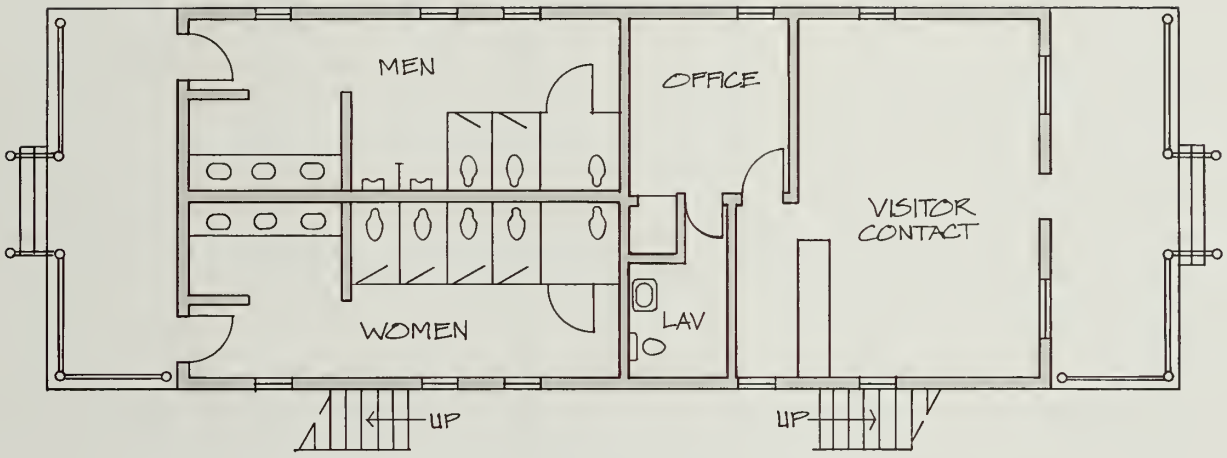
NORTH

0 50' 100' 200'

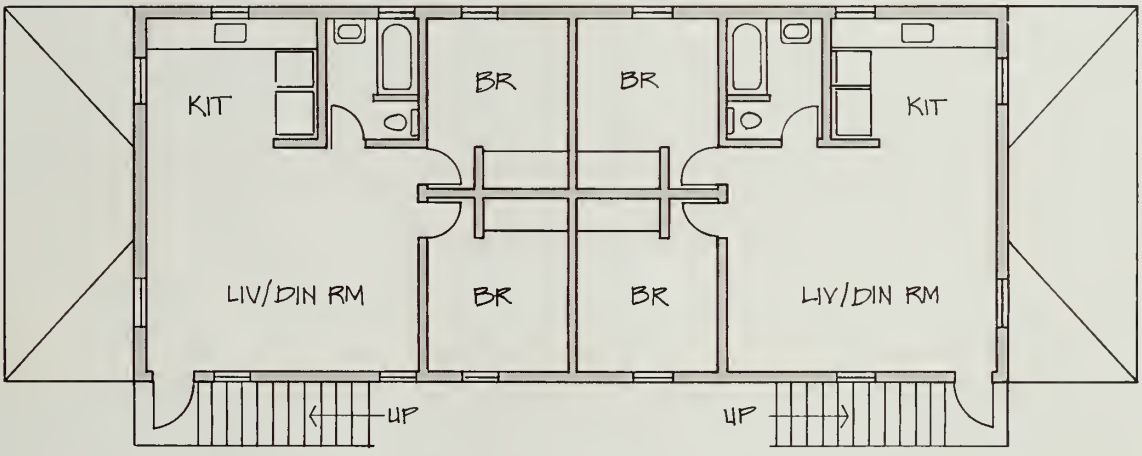
- PRIVATE LAND
- NEW ROAD, PARKING, OR WALKWAY
- NEW VEGETATION
- EXISTING BUILDING
- NEW BUILDING
- BUILDING OR PAVEMENT TO BE REMOVED

CONSTRUCT ROAD CONNECTION TO GOING-TO-THE-SUN ROAD
CONSTRUCT FIRE STATION GARAGE
CONSTRUCT CUL-DE-SAC
CONSTRUCT NEW DORMITORY - 46 ROOMS/86 PERSONS
ABANDONED SEWAGE TREATMENT PLANT
DEVELOP EMPLOYEE OUTDOOR RECREATION AREA
CONSTRUCT TRAIL CONNECTION TO HORSE CORRAL
CONSOLIDATE PARKING - 180 PARKING SPACES
CONSTRUCT NEW ACCESS ROAD AND LANDSCAPE FOR OPTIMUM LODGE VISTA
CONSTRUCT MAINTENANCE BUILDING, EQUIPMENT YARD, AND SCREEN FENCE
CONSTRUCT EMPLOYEE PARKING - 30 SPACES
CONSTRUCT PATH
CONSTRUCT NEW LODGING AND RESTAURANT
DROP ZONES
CONSTRUCT CUL-DE-SAC
REHABILITATE CABINS
SERVICE ACCESS
CONVERT GARDEN COURT BUILDING TO VISITOR CONTACT STATION
REHABILITATE SECOND FLOOR FOR HOUSING
COMPLETE LODGE REHABILITATION
COMPLETE SITE AND DOCK ACCESS WORK AROUND LODGE
REPLACE BRIDGE
CONVERT SNYDER HALL TO EMPLOYEE RECREATION SPACE
REHABILITATE AUDITORIUM AND CONVERT RECREATION SPACE TO INTERPRETIVE SPACE
ADAPT COBB HOUSE FOR OFFICES
CONSTRUCT TRAIL
CONSTRUCT CABIN ACCESS ROAD AND CUL-DE-SAC

LAKE MCDONALD
GOING-TO-THE-SUN ROAD
SNYDER CREEK
LODGE AREA ROAD
BAKERS
DISPENSARY




1ST FLOOR PLAN




2ND FLOOR PLAN

| | |
|---|---|
| 1ST FLOOR | |
| VISITOR CONTACT | 650 SF |
| RESTROOMS | 700 SF |
| SUBTOTAL | 1,350 SF |
| 2ND FLOOR | |
| 2 TWO BEDROOM APTS | |
| 2 @ 675 SF | 1,350 SF |
| TOTAL | 2,700 SF |

# SCHEMATIC FLOOR PLAN

## GARDEN COURT BUILDING

GLACIER NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

DSC • APR 90 • 117 • 40,184

### Food Service

Food service is needed in the Lake McDonald Lodge area to serve guests staying in overnight accommodations, campers staying at the two nearby NPS campgrounds, some of whom use the food and beverage services in the lodge area, and many day-use visitors and scheduled tour bus groups who stop to eat as they travel along Going-to-the-Sun Road.

The Lake McDonald Lodge dining room provides a table service restaurant with a finer dining atmosphere and a larger seating capacity better suited to handle the longer times required for restaurant service. The coffee shop provides less formal service; however, a 1980 study of concession facilities in Glacier concluded that the coffee shop "fails to meet the criteria of a fast-service, low-cost restaurant, which is needed for the area." Some type of moderate-cost, family-oriented food service is needed at Lake McDonald, particularly for day users who want a quick, inexpensive meal. The need for this service is most critical during the lunch hour, when patronage is heaviest.

The concession facility study recommended converting the existing coffee shop building to a fast-food restaurant. It also identified significant equipment changes and remodeling needed to accomplish the transition (NPS 1980). For several reasons, it is now proposed to remove the existing coffee shop and to replace it with a new facility in the proposed new lodging structure next to the present cabin units. The existing coffee shop building is intrusive on the historic scene of the Lake McDonald Historic District. Its incongruous "1960s" architecture dominates the approach to and entire east side of the lodge complex. The existing building is also in an area needed to consolidate visitor parking for the lodge area. Both of these problems will be solved by the proposed relocation of the coffee shop.

The new coffee shop (about 3,800 sf) will be a moderate-cost, family-oriented facility offering a limited menu and quick service. It will probably have a counter where visitors could place their orders and tables (about 120 seats). Visitors could eat inside or take food out. It might feature a single food item, such as chicken, tacos, pizza, or hamburgers, or a combination of quick-service items (chicken, fish, hamburgers, salad bar, etc.). The details of this coffee shop will be developed during facility design.

### Service Station

The Lake McDonald gas station building, the large paved area around the building, and the underground storage tanks will be removed. Gas service will be discontinued, and the post office function will be relocated to the new lodge/restaurant building. The aging underground storage tanks predate current federal regulations for underground storage of hazardous materials, and they would have to be replaced at considerable expense in their current location if the gas service was retained. Gas service is available in West Glacier, about 11 miles away. Gas pumps for concessioner vehicles will be provided near a new maintenance building proposed for the motel site at the north end of the developed area (see below).

### Employee Living Accommodations

Accommodations for concessioner and NPS employees are needed to replace current housing that is substandard and in poor condition, in the 100-year floodplain, and in visitor use areas, creating conflicts between visitors and employees. The proposal is to house about 60 percent of the employees on site in the Lake McDonald area. The other 40 percent will reside outside the park at facilities to be arranged by the employees or the concessioner. Employees living off site will provide their own transportation to and from work, and carpooling will be encouraged.

About 172 employees will be needed to serve the Lake McDonald Lodge area (the current 170 concession employees and two NPS employees to staff the proposed visitor contact station). On-site and off-site living accommodations for these employees are shown in table 1.

**Table 1: Concessioner and NPS Employee Living Accommodations**

| | Facility (Occupant)* | Rooms | Persons |
|---|---|---|---|
| On site: | New dormitory (GPI) | 46 | 86 |
| | Caretaker's house (GPI) | 2 | 2 |
| | Dispensary (GPI) | 1 | 1 |
| | Carpenter shop (GPI) | 2 | 6 |
| | Subtotal | 51 | 95 |
| | Garden Court (GPB) | 4 | 4 |
| | Cabin (GPO) | 1 | 6 |
| | Cabin (NPS) | 1 | 2 |
| | Subtotal | 6 | 12 |
| | On-site Totals | 57 | 107 |
| Off site: | To be determined** (GPI) | | 65*** |
| | Grand Total | | 172 |

*Occupant assignments are tentative and subject to adjustment during plan implementation.
**Off-site housing types will be determined by the concessioner and its employees.
***Up to 20 additional employees may be needed depending on the off-site housing option selected (see appendix B).

About 160 GPI employees are now housed in dormitory units which, by NPS standards for square footage, would normally be suitable for only 88 persons. All the dorms except three (Garden Court and girls' dorms 1 and 2) are in the 100-year floodplain of Snyder Creek. The following substandard dormitory buildings will be removed: boys' dorms 1 and 2, Hydro, Johnson, girls' dorms 1 and 2, and Jammer. Two dormitories, Snyder Hall and Cobb House, are historic structures and will not be removed. However, they can no longer be used as employee housing because they are in the floodplain. Snyder Hall will be converted to an

employee recreation center, and Cobb House will be converted for office use or other daytime activities, as specified in the 1986 DCP. As discussed above, the Garden Court building will be remodeled to serve as both a public use facility and employee housing.

Consideration was given to also retaining Johnson and Hydro dorms, which were built in 1918. However, it was determined that the high cost of rehabilitating these structures (estimated at $200,000) was not warranted by their usefulness or cultural significance. Both structures were relocated from their original sites, and both buildings have been significantly altered for their current functions. They are minor structures in the developed area that do not contribute architecturally according to the National Register forms for the historic district. Also, their floodplain locations would substantially restrict the buildings' potential for public or employee use.

To replace the existing dormitories, a new dormitory will be built behind the existing coffee shop (see the Development Concept map). The building will provide up to 46 rooms for 86 employees. The facility will also include a small employee laundry room and a small multipurpose recreation space (but this will not replace the primary indoor recreation space proposed for Snyder Hall).

The caretaker's house will continue to provide two apartment units, housing one employee in each unit, and the dispensary building will continue to house the nurse. The carpenter shop building, just northeast of the store, was recently converted into housing for six persons in two triple-occupancy rooms.

Glacier Park Outfitter employees will continue to be housed on site in a large government-owned cabin near the private cabins north of the lodge. Glacier Park Boats employees will occupy the second floor of the Garden Court building, which will be remodeled as discussed above. These housing units will offer kitchen facilities so that these concession employees will be independent from other concession employees at Lake McDonald. GPO and GPB will be minimally affected by this housing proposal. All on-site housing assignments are tentative and subject to adjustment during plan implementation.

The remaining 65 GPI employees will live outside the park at facilities to be arranged by the concessioner or the employees. This could be at the Belton Chalet complex (listed on the National Register of Historic Places) or other existing structures or new buildings in the West Glacier area. Another option that will work well with the aging U.S. work force will be to seek trailer spaces outside the park for older employees that have their own trailer or RV to bring to the area. This type of housing has been increasingly used at other national park areas where concessioners have had similar difficulties in retaining college-aged employees. Arrangements could be sought with local recreational vehicle campgrounds in the West Glacier area to provide long-term space rental at a reasonable cost. Additional information on these off-site options and their economic feasibility is contained in appendix B.

Lake McDonald employees will continue to need parking on site. Based on the 1988 concessioner policy of discouraging or prohibiting personal vehicles and on the actual number of vehicle permits issued to concessioner employees in 1988, the following criteria were developed to determine how much parking will be required to serve the housing facilities: Parking is needed for 100 percent of people living in single-occupancy units on site, for 21 percent of people assigned to double-occupancy and triple-occupancy units on site, and for

50 percent of all employees living off site. Employee parking at the Lake McDonald area will total only about 60 spaces. The total is based on a desired employee vehicle use rate, and the concessioner should make every effort to restrict employee vehicle use at the area to these levels. This will continue to require management restrictions so that only about one-third the employees have a vehicle at the site at one time. The parking spaces for people living on site will be near what is now the motel site. The total employee parking of 60 spaces will be divided between about 35 spaces at the motel site and about 25 spaces in the consolidated village parking area. See appendix D for additional information on parking needs.

An area next to the proposed employee dormitory will be used for an employee recreation area for field games such as volleyball and frisbee. Vegetation will screen the site from visitor use areas.

### Concession Maintenance Building

The 1986 DCP called for a new 800-square-foot maintenance building at Lake McDonald. Based upon a 1988 visual inventory of the existing space occupied by maintenance and materials storage functions in various buildings at the site, this size building will be too small. These functions are now housed in the caretaker's house garage, the Cobb House garage, and two small sheds. The area now dedicated to maintenance uses is estimated to be approximately 1,500 square feet. The new maintenance building should be about 1,200 square feet, and all maintenance and storage functions should be consolidated in that new, more efficient structure. The maintenance building will be constructed at the motel site after the motel buildings are removed (as discussed above). The concessioners' fuel storage will also be relocated to this site. GPI fuel storage will be in a new above-ground EPA-approved storage tank. GPB tour-boat fuel will be stored in a portable trailer or truck-mounted tank that will be parked in this area. The tanks will conform to state standards including provisions for containing a fuel spill. The mobile fuel trailer previously parked near Cobb House will no longer be permitted at the formerly used floodplain site.

### Fire Station

The existing fire station is poorly sited and too small for the fire truck and fire-fighting equipment. As proposed in the 1986 DCP, the station will be removed and a larger one built to replace it. The structure will be placed at the motel site near the new maintenance facility. This will remove the fire equipment from visitor use areas.

### Other Facilities

As stated above, Cobb House will be remodeled for office use or other daytime activities. Snyder Hall will be adapted and remodeled to serve as a recreation center and concessioner offices. The employee recreation currently occurring in the auditorium will be transferred to Snyder Hall, and the additional space in the auditorium will be used for interpretive programs. The auditorium building will be rehabilitated to preserve historic fabric, adapt the recreation space to interpretive functions, install an audiovisual system, add public rest rooms, and remove a severely deteriorated nonhistoric addition on the back of the building. The dispensary

building will be retained at its current site. The facility will contain a nurse's station, exam room with minor emergency equipment, and a small apartment for the nurse. The structure will be made accessible to persons with disabilities. These historic structures may also be considered for additional adaptive uses as they become available.

The abandoned sewage treatment plant will be removed as proposed in the 1986 plan.

As facilities in the Lake McDonald area are redeveloped, the existing utilities will be evaluated and rehabilitated as needed to bring them up to code. The existing sewage system has adequate capacity to support the changes proposed in this plan. A new well will be installed to upgrade the water system.

### General Provisions

Because of the complexity of the issues at the Lake McDonald Lodge area, flexibility should be allowed, within the spirit of the overall development concept, to relocate a function should unforeseen conflicts arise, especially between visitors and employees.

Any actions affecting cultural resources will comply with preservation laws, regulations, and policies governing such properties. Adaptive use of historic buildings in the floodplain will also conform with NPS floodplain management guidelines.

Proposed facilities, such as the new lodge, restaurant, and employee dormitory, will be designed to the highest visual quality standards, consistent with the historic district (see appendix C for design guidelines), and new structures should be designed to allow flexibility in use.

Any structure scheduled for removal from the Snyder Creek floodplain will be removed immediately upon the termination of existing use.

## EAGLE CONSERVATION MEASURES

Concern about possible impacts on bald eagles and compliance with the Endangered Species Act prompted the National Park Service to assess potential impacts in detail. The Park Service requested a team of eagle experts to meet and analyze the relative potential impacts of a series of development options and to formulate recommendations to mitigate the impacts. The eagle team was composed of professional biologists from Duke University, Montana State University, the U.S. Forest Service, the Montana Fish, Wildlife, and Parks Department, and the U.S. Fish and Wildlife Service.

The development options considered by the team included retaining the existing housing (no action); developing replacement housing on a site south of Snyder Creek (proposed in the 1986 DCP), a site behind the existing coffee shop, or the existing motel site; and relocating employee housing to park headquarters or outside the park. For the on-site housing options the team considered housing all 180 employees at Lake McDonald or housing only a minimum of 30 employees at the lake and housing the remainder off site.

The final plan is a combination of options 2(a) and 2(b) analyzed by the eagle team. Those options called for the use of the motel site to house either all 172 employees on site (alternative 2(a)) or to house only a minimum of 30 employees on site (alternative 2(b)). Both options included redesign of circulation routes and parking areas. The proposal of housing 107 employees on site was considered and adopted after the eagle team met. This proposal was based on the analysis provided by the eagle team and other planning considerations for the lodge area. The impacts of this proposal are expected to be between the impacts of options 2(a) and 2(b) analyzed by the eagle team.

Of all the options analyzed, those having the least impacts on eagles were those that would relocate all employee housing to park headquarters or to a site outside the park. However, those options were analyzed by NPS concession managers and determined to be economically infeasible for the concessioner (see appendix B). Of all the options involving on-site employee housing at Lake McDonald, the least disruptive to eagles would be the option of leaving the existing housing in place (the no-action alternative). This option was determined to be infeasible because it would perpetuate housing in the 100-year floodplain and because the existing facilities subject employees to substandard living conditions. The next best options for avoiding long-term impacts on eagles were to replace housing at either the coffee shop site or the motel site. The perceived differences among these two options was minimal. The coffee shop site was selected because it offered more buildable space and was removed from private lands in the area.

Based on the recommendations of the eagle team and NPS biologists, the plan precludes development in the eagle roost area south of the lodge. The lodge area road will be obliterated in the roost area to improve the habitat between the lake and Going-to-the-Sun Road. The critical perch trees near the mouth of Snyder Creek will be preserved. Care will be taken during design of the circulation and parking improvements and other landscape modifications to avoid removing important screening trees. To maintain other important perch and screening trees, no tree removal for vista clearing will be allowed along the lakeshore near the lodge (although some minor brush removal will be permitted to enhance views near the cabins). If increased human use of the shoreline north of the lodge occurs, the park staff will implement necessary control measures to avoid adverse impacts on bald eagles using that area.

The proposal will move about 40 percent of the employees off site, reducing the total overnight population at Lake McDonald (employees, guests, and private residents) by about 20 percent.

Habitat will be improved by undertaking an extensive tree-planting program using native species, including trees preferred by eagles. Conservation measures will also be incorporated into construction contracts. No construction activity will occur during the November-December migration period; no daytime construction will occur during the March 1 through May 15 portion of the nesting period; and more construction will be accomplished during the summer visitor season to reduce work needed during the off-season when eagle use near the lodge is greater.

## PLAN IMPLEMENTATION COSTS/PRIORITIES

Preliminary development cost estimates are summarized in table 2. Figures include construction costs, construction supervision, and contingencies. For additional details, see appendix A.

TABLE 2: SUMMARY OF ESTIMATED DEVELOPMENT COSTS

| ITEM | COST |
|---|---|
| Employee housing | $3,405,000 |
| Circulation and parking | 668,000 |
| Lodging | 3,904,000 |
| Food service | 1,231,000 |
| Service station | 41,000 |
| Concession fuel storage | 78,000 |
| Recreation hall | 316,000 |
| Concession maintenance building | 218,000 |
| Fire station | 116,000 |
| Visitor contact station | 223,000 |
| Utilities | 600,000 |
| 1986 DCP carryover items | 4,761,000 |
| Total | $15,561,000 |
| Advance and project planning | 2,970,000 |
| Grand total | $18,531,000 |

NPS policy requires the concessioner to undertake, to the extent it is economically feasible, all costs of its own facilities and utilities, roads, parking, and similar infrastructure. The responsibility for development funding will be subject to further negotiations between the concessioner and the National Park Service.

For health and life safety reasons and to comply with floodplain management guidelines, the top priority for development is a new concession employee dormitory. Additional information on priorities/phasing is included in appendix A.

Annual NPS operations and maintenance costs will increase by approximately $40,000. Implementation of the proposal will require additional seasonal personnel to staff the new visitor contact station.

The annual cost of concession operations will depend on the off-site housing option selected by Glacier Park, Inc. These costs are analyzed in appendix B. Operations costs for the other two concessioners will not be substantially affected by the proposal.

## CONSULTATION/LEGAL COMPLIANCE

The National Park Service consulted with the following agencies and organizations during the preparation of this document:

Advisory Council on Historic Preservation
Flathead County Planning Department
Glacier Park, Inc.
Montana State Historic Preservation Office
U.S. Fish and Wildlife Service
U.S. Forest Service

A newsletter describing project issues and inviting public input was distributed in December 1988. More than 60 responses to the newsletter were considered in preparing this document.

In June 1990 the National Park Service distributed the *Draft Development Concept Plan Revision/Environmental Assessment* (DCP/EA) for the Lake McDonald Lodge area of Glacier National Park for public review. The draft DCP/EA presented a proposal and three alternatives for issues being analyzed for the plan, and it included an analysis of their environmental impacts. Two public meetings were held, and about 170 written responses were received on the plan. The proposal was revised to reflect several major concerns expressed by reviewers. A finding of no significant impact (FONSI) for the revised plan was circulated for 30 days in June 1991 and approved on September 16, 1991. The approved FONSI is included in this document in appendix E.

Consultation with the U.S. Fish and Wildlife Service on the plan's impact on endangered species began during preparation of the 1986 DCP and extended into follow-up design work that ultimately precipitated reconsideration of development alternatives for the Lake McDonald area. NPS staff consulted with USFWS staff during preparation of this document, and a member of the eagle analysis team was a USFWS employee.

The draft DCP/EA was sent to the U.S. Fish and Wildlife Service for consultation under section 7 of the Endangered Species Act. A separate biological assessment was prepared by the National Park Service for the revised proposal and submitted to the Fish and Wildlife Service for concurrence in February 1991. In a response dated March 25, 1991, the Fish and Wildlife Service concurred in the NPS determination that the DCP is not likely to adversely affect endangered or threatened species in the area. Bald eagle conservation measures, including restrictions on construction activities in the lodge area, are listed in the plan section of this document.

Consultation with the Montana state historic preservation officer and the Advisory Council on Historic Preservation is being conducted in accordance with the programmatic memorandum of agreement to comply with the National Historic Preservation Act. To comply with section 106 of the act, the draft DCP/EA was sent to the Montana state historic preservation officer (SHPO) and the Advisory Council on Historic Preservation. The SHPO responded on July 31, 1990, expressing concerns about the NPS proposal to remove certain buildings that could be contributing elements to the historic district. On February 1, 1991, the Park Service submitted additional information to the SHPO documenting the lack of significance of these structures.

The SHPO responded on February 13 concurring in the finding that the buildings do not contribute to the qualities of the historic district. The Advisory Council responded to the DCP/EA review on August 8, 1990, and had no concerns regarding the proposal. The draft FONSI was sent to the SHPO and Advisory Council for their concurrence in the final plan and no objections were raised.

The final plan is in compliance with Executive Order 11988, "Floodplain Management," and its implementing guidelines. The plan will reduce impacts on the floodplains in the area and remove employee housing from the 100-year floodplain. There will be no negative impacts on natural or beneficial values of floodplains or wetlands resulting from the plan. Removing seven buildings from the 100-year floodplain of Snyder Creek will allow restoration to more natural conditions. The existing portable boat fuel storage facility has been removed from the floodplain, reducing the chance of water pollution in case of a flood. No new facilities are proposed for the floodplains.

## APPENDIX A: DEVELOPMENT COST ESTIMATES

| Priority/Action | | Gross Cost |
|---|---|---|
| **Employee Housing** | | |
| 1 | Construct 46-unit dormitory (16,100 sf) | $3,164,000 |
| 3 | Remodel second floor of Garden Court dorm as 2 two-room housing units (1,350 sf) | 223,000 |
| 1 | Construct parking at motel site, 35 spaces | 13,000 |
| 1 | Landscape plantings | |
| | Seeded area (1,235 sy) | 3,000 |
| | Trees (8) | 2,000 |
| | **Subtotal** | **$3,405,000.00** |
| **Visitor Circulation and Parking** | | |
| 3 | Obliterate center entrance roads (5,340 sy) | $56,000 |
| 3 | Obliterate portion of south lodge area road (3,865 sy) | 41,000 |
| 3 | Construct central parking, 180 spaces (8,125 sy) | 284,000 |
| 3 | Construct center entrance road (2,000 sy) | 66,000 |
| 3 | Construct bus parking and turnaround (900 sy) | 24,000 |
| 3 | Construct cul-de-sac at south end of service road for cabin access (430 sy) | 12,000 |
| 3 | Construct bus drop zone on lodge area road (180 sy) | 5,000 |
| 3 | Construct sidewalks (1,000 sy) | 59,000 |
| 3 | Construct cul-de-sac and exit road at north end of lodge area road (1,030 sy) | 28,000 |
| 3 | Obliterate coffee shop (6,600 sf) | 52,000 |
| 3 | Obliterate coffee shop service road (310 sy) | 4,000 |
| 3 | Landscape planting: | |
| | Seeded area (1,050 sy) | 3,000 |
| | Trees (130) | 34,000 |
| | **Subtotal** | **$668,000.00** |
| **Lodging** | | |
| 2 | Construct new 33-unit lodging building with post office (14,500 sf) | $3,800,000 |
| 2 | Construct drop zone and cul-de-sac at cabins (550 sy) | 14,000 |
| 2 | Obliterate caretaker's house garage (701 sf) | 11,000 |
| 2 | Obliterate parking at cabins (70 sy) | 1,000 |
| 2 | Construct sidewalks (180 sy) | 11,000 |
| 2 | Utility hook-ups: | |
| | Water( 50 lf) | 1,000 |
| | Sewer (50 lf) | 2,000 |
| | UG electric (100 lf) | 2,000 |
| | UG telephone (600 lf) | 5,000 |
| 2 | Landscape planting: | |
| | Seeded area (3,180 sy) | 8,000 |
| | Trees (51) | 13,000 |
| 3 | Remove motel buildings | 36,000 |
| | **Subtotal** | **$3,904,000.00** |

| | | |
|---|---|---|
| **Food Service** | | |
| 2 | Construct new restaurant (3,800 sf attached to new lodging building and including kitchen equipment) | $1,231,000 |
| | **Subtotal** | **$1,231,000.00** |
| **Service Station** | | |
| 3 | Remove service station/post office building (450 sf) | $5,000 |
| 3 | Remove UG fuel storage tanks (lump sum) | 27,000 |
| 3 | Obliterate service station pavement (1,000 sy) | 9,000 |
| | **Subtotal** | **$41,000.00** |
| **Concession Fuel Storage** | | |
| 3 | Install above-ground, gravity flow, fuel storage tanks at equipment yard: | |
| | Gasoline (1,000 gal) | $39,000 |
| | Diesel (500 gal) | 39,000 |
| | **Subtotal** | **$78,000.00** |
| **Recreation Hall** | | |
| 2 | Rehab Snyder Hall for employee recreation use and offices (1,187 sf) | $316,000 |
| | **Subtotal** | **$316,000.00** |
| **Concession Maintenance Building** | | |
| 3 | Construct maintenance building (1,200 sf) | $197,000 |
| 3 | Construct paved driveway (120 sy) | 3,000 |
| 3 | Construct gravel-surfaced equipment yard (575 sy) | 9,000 |
| 3 | Construct security fence/screen (260 lf with 15-ft gate) | 9,000 |
| | **Subtotal** | **$218,000.00** |
| **Fire Station** | | |
| 3 | Construct fire station garage (800 sf) | $115,000 |
| 3 | Construct paved driveway (45 sy) | 1,000 |
| | **Subtotal** | **$116,000.00** |
| **Visitor Contact Station/Public Rest Rooms** | | |
| 3 | Remodel first floor of Garden Court dorm for visitor contact station and public rest rooms (1,350 sf) | $223,000 |
| | **Subtotal** | **$223,000.00** |
| **Utilities** | | |
| 1-3 | Upgrade utility systems:<br>New well<br>Water and sewer system improvement<br>Backup generator | $600,000 |
| | **Subtotal** | **$600,000.00** |

| | | |
|---|---|---|
| **1986 DCP Carryover Items Not Included Above** | | |
| 3 | Convert Cobb House to offices (2,381 sf) | $267,000 |
| 2 | Rehab auditorium | 661,000 |
| 2 | Complete lodge rehab project | 2,515,000 |
| 3 | Complete cabin rehab project | 1,111,000 |
| 3 | Remove sewage plant (lump sum) | 66,000 |
| 3 | Construct trail to Sprague Creek (1 mi) | 26,000 |
| 2 | Install riprap on northeast side of Snyder Creek | 18,000 |
| 1 | Obliterate buildings: | |
| | Boys' dorms 1 and 2 | 20,000 |
| | Johnson dorm (1,672 sf) | 31,000 |
| | Jammer dorm (832 sf) | 9,000 |
| | Hydro dorm (671 sf) | 7,000 |
| | Girls' dorms 1 and 2 | 15,000 |
| | Existing fire station garage (288 sf) | 3,000 |
| | Garage (1,272) | 12,000 |
| | **Subtotal** | **$4,761,0000** |
| | **Total Gross Construction Costs** | **$15,561,0000** |
| | Advance and Project Planning | 2,970,000 |
| | **Grand Total** | **$18,531,0000** |

Note: NPS policy requires that, to the extent it is economically feasible, the concessioner shall undertake all costs of its own facilities and utilities, roads, parking, and similar infrastructure. The responsibility for funding will be subject to further negotiations between the concessioner and the Park Service. Costs are in gross figures, which include construction costs, construction supervision, and contingencies. Estimates are class C, meaning that they are derived from average costs for similar facilities in other NPS areas. There must be flexibility in applying designated priority numbers because of the unpredictable circumstances and uncertainties about funding sources. Construction of a new dormitory is top priority for life safety and health reasons. Existing nonhistoric dorm structures should be removed concurrently with or immediately following construction of the new dorm building.

## APPENDIX B: ANALYSIS OF CONCESSIONER COSTS AND OPERATIONAL FEASIBILITY

Several options for concessioner employee housing were considered as part of this project. They included new on-site housing at Lake McDonald, new concessioner-operated housing complexes off site at the park headquarters, off-site housing at the Belton Chalet or other existing structures or new buildings in the West Glacier area, and providing trailer spaces in the West Glacier area for employees with their own RVs. The costs to the concessioner of providing and operating an off-site housing complex were estimated in August 1989 and are shown in table B-1. An economic feasibility study of these options prepared in November 1989 indicated that it would not be economically feasible for the concessioner to build and operate a major new housing complex either at park headquarters or at West Glacier. At that time the option of providing trailer sites for employees was introduced and compared to the other options. The feasibility study is reproduced in this appendix, following table B-1.

### TABLE B-1: ADDITIONAL COSTS TO THE CONCESSIONER FOR AN OFF-SITE HOUSING OPERATION

| PROJECT | AT WEST GLACIER | AT HEADQUARTERS |
|---|---|---|
| **CAPITAL COSTS** | | |
| Kitchen equipment and employee dining (GPI est.)[1] | $250,000 | $250,000 |
| Transportation vans (GPI est.)[2] | 110,000 | 110,000 |
| **Totals** | **$360,000** | **$360,000** |
| **ANNUAL OPERATING COSTS** | | |
| Additional food inventory costs (GPI est.) | $ 1,500 | $ 1,500 |
| Additional employees (13, GPI est.)[3] | 40,000 | 40,000 |
| Transportation (7 drivers, gas, oil, maint.)[4] | 226,644 | 206,040 |
| **Totals** | **$268,144** | **$247,540** |

[1]Costs of furnishings for employee dining room are not included.
[2]Two vans at $55,000 each = $110,000 (provided by GPI).
[3]Thirteen additional employees are estimated for an off-site housing location (not counting transportation). Breakdown of these employees follows: 8.4 food-service employees for establishment of an off-site employee dining area; 1.5 dormitory security employees for nighttime security; 3.0 dormitory supervision/janitorial employees to provide additional supervision at off-site location. Cost for these employees is estimated at $39,792. The number of additional employees anticipated and the costs of wages were supplied by GPI.
[4]Transportation costs are based on GPI estimates of the number of trips required per day. Transportation mileage costs were computed at $3.00 per mile for all labor (seven drivers costing an estimated $20,608), insurance, fuel, oil, and vehicle maintenance X 11 miles one-way from Lake McDonald to Belton Chalet X 68 trips per day (generally every half hour from 5:30 am to 1:00 am) = 816 miles per day X 101-day operating season = 82,416 miles annually X $3.00 per mile = $247,248. To compute mileage expense from Lake McDonald to the park headquarters development site, use 10 miles one-way.

**ECONOMIC FEASIBILITY OF**
**LAKE MCDONALD DCP ALTERNATIVES**
**Branch of Concessions**
**Denver Service Center**
**November 1989**

## Financial Analysis

NPS policy requires that, to the extent it is economically feasible, the concessioner shall undertake all costs relating to construction of its own facilities as well as utilities, roads, parking and similar infrastructure.

The proposal and alternatives outlined in the DCP (September 89 draft) were analyzed to determine the economic feasibility of the concessioner funding the proposed development, taking into consideration the cost of construction, the 101-day operating season, and the concessioner's overhead expenses as reflected in their Annual Financial Reports (AFRs). This analysis reflects a heavy debt service for the concessioner as a result of the construction program with no additional revenue generating development to off-set construction costs. The Proposal and Alternative which locate employee housing off-site, would require an employee transportation system be established at an additional initial start-up cost plus a recurring annual operating cost to the concessioner. The analysis determined that, based on the estimated construction costs and the AFR financial data as reported by the concessioner, it would not be economically feasible for the concessioner to fund the major costs for these development proposals.

As a result of this analysis, a "Revised Proposal with Revised Concessioner Funding" was developed which calls for the concessioner to fund only the cost of converting the Stewart Motel (a private inholding owned by the concessioner) into employee quarters, plus other small miscellaneous projects. This alternative, due to the limited construction costs involved, has been determined to be economically feasible for the concessioner. There may be other economically feasible alternatives (those which would reflect minimized construction costs or perhaps a long-term phased-in construction program for the concessioner) which could also be developed.

Any cost allocations included within the draft DCP should be considered as tentative.

## REVISED PROPOSAL WITH REDUCED CONCESSIONER FUNDING

Under the following new concept, the concessioner (GPI) would retain on-site housing for approximately 100 employees utilizing the Stewart Motel, with an addtional add-on wing, as well as other cabins and structures located around the site. The rest of the GPI employees, approximately 60 (37.5 %) would be housed off-site; however, GPI could implement some or all of the following housing options:

1. GPI could elect to contract for off-site housing, on a seasonal basis, i.e., RV sites for employees with their own RV/travel vehicles, houses, apartments, cabins, motel rooms, etc., in the local communities. The concessioner would most likely receive a discounted rate when contracting for a block of rooms or RV sites on an extended (somewhat guaranteed) basis --at least less than an individual could obtain.

2. The concessioner could purchase a set number of small trailers, to be set-up at a local trailer site for use as employee housing in those instances where employees prefer to live off-site but do not have their own tailers.

3. The concessioner should accelerate their efforts to hire local residents who, presumably, would have their own housing in the area and thus eliminate the need to provide housing for 100% of their employees.

4. The concessioner could construct their own RV/Trailer Village sites for employee housing in the West Glacier or other local area.

5. The concessioner could implement the "Proposal" as outlined in the draft DCP or some modified version of a concession-operated employee housing facility.

At the present time, there are at least three RV campgounds in the West Glacier/Corum/Hungry Horse local area where sites may be available for employees. One of the camgrounds contacted has 200 sites with RV full hook-up rates for 1989 of $12.00/night or $180.00/month ($6.00/night). The number of sites and rates at the other campgrounds were not available as they have closed for the winter.

Based on an estimate of 1.5 employees per RV/trailer site or house, approximately 40 RV sites (or other housing) would be needed for the 60 GPI employees who reside off-site. This ratio is based on other park service areas which provide trailer sites for employees where often a husband and wife are both employed by the concessioner. The option of having trailer sites available for employees who desire to utilize their own trailers can provide the concessioner with an additional employment incentive for the older

or more senior employee who might not otherwise consider a job offer which included housing in a dormitory style structure with other employees who may not be in their age group, and where the use of their private vehicles for driving to/from the work site is not generally permitted.

In order to reduce the number of employee parking spaces needed at Lake McDonald, employees residing off-site should be encouraged to car-pool to/from work whenever possible. This concept provides for 30 parking spaces to accommodate those employees residing off-site and driving their private vehicles to work.

In an attempt to make off-site housing more attractive to, and equitable for, concession employees, GPI should consider offering some type of monetary incentive (bonus, additional salary, mileage costs, etc.) to employees to help offset the additional costs incurred with living off-site and commuting to/from the job site.

Under this concept, the other two concessioner's employees (GPB and GPO) would retain on-site housing for their employees, separate from the employee housing provided to GPI employees.

As mentioned earlier in the financial analysis, this concept, which includes housing approximately 60 GPI employees off-site, has been determined to be economically feasible for the concessioner.

## FINANCIAL PRO FORMAS
## ANALYSIS OF PROJECT COSTS

| CONCESSIONER COSTS: (1989) | Maximum Concessioner Funding | | | Rev.Proposal Reduced Conc Funding |
|---|---|---|---|---|
| Project | Proposal | Alt. "A" | Alt. "B" | "Revised" |
| Emp. Housing | $2,287,000 | $1,334,000 | $4,327,000 | $ 357,000 |
| Lodging (30) | 1,706,000 | 1,699,000 | - | - |
| New Food Svc. | 1,085,000 | - | - | - |
| Remove Svc Stn | 18,000 | - | 18,000 | 18,000 |
| Landscape | - | 2,000 | - | - |
| Fuel Storage | 10,000 | 10,000 | 10,000 | 10,000 |
| Emp Rec Hall Conversion | 30,000 | 30,000 | 30,000 | - |
| Maint. Bldg. | 143,000 | 139,000 | 143,000 | - |
| Trans. Vans/ Employees | 110,000 | - | 110,000 | - |
| 1986 DCP Items | - | - | - | 47,000 |
| **TOTAL** | $5,389,000 | $3,214,000 | $4,638,000 | $ 432,000 |
| **NPS COSTS:** | | | | |
| Circulation/ Parking | 525,000 | 376,000 | 376,000 | 525,000 |
| Fire Stn. | 65,000 | 65,000 | 65,000 | 65,000 |
| VC/Restrooms | 134,000 | 134,000 | 134,000 | 134,000 |
| 1986 DCP Items | 204,000 | 204,000 | 204,000 | 157,000 |
| Emp. Housing | - | - | - | 75,000 |
| Lodging (30) | - | - | - | 1,681,000 |
| Food Svc. | - | - | - | 1,085,000 |
| Maint. Bldg. | - | - | - | 143,000 |
| Emp. Rec Hall/ Conversion | - | - | - | 30,000 |
| **TOTAL** | $ 928,000 | $ 779,000 | $ 779,000 | $3,885,000 |

## APPENDIX C: DESIGN GUIDELINES

### INTRODUCTION

The Lake McDonald Lodge developed area has a natural, cultural, and architectural character that is internally consistent and should be preserved. The major portion of the development dates to just after the turn of the century and is in a historic district. Architecturally, the area is predominantly rustic style, utilizing natural, indigenous materials for construction. The Swiss alpine elements of the lodge and other major buildings in the region reflect their historic ties to the era of railroad-promoted tourism. The glaciated landscape with its rugged terrain, placid lake, and heavily wooded surroundings, provides scenery of unrivaled quality.

The following design guidelines are intended to facilitate site planning and architectural treatments that are compatible with the existing facilities and the park environment, not by dictating a precise design style, but rather by identifying criteria that should be met. The guidelines should be used to prepare and to evaluate facility designs for the Lake McDonald Lodge area, especially for places of high visibility and public use.

NPS eagle biologists should be consulted early in the design phase to ensure that the development concept plan intent to minimize impacts and enhance eagle habitat is carried out in the design phase. Cultural resource specialists should also be consulted to ensure that the plan's intent to preserve and enhance the historic scene is also implemented. The cultural resource compliance process will be documented in the Assessment of Affect form to be filed for each project in the historic district.

### SITE DEVELOPMENT

#### Historical Perspective

The site circulation pattern has been altered several times and no longer possesses significant historical integrity or visual value. As the area was originally developed, all buildings faced the lake, which was the best view and the only means of access to the remote site. All transportation was by boat until roads were built to Lake McDonald in the early 1920s. The new road access reversed the site circulation and the orientation of the structures' entries. A visitor's first view became the back of the buildings. Some improvements and adjustments were made to the lodge, such as adding new balconies, to dress up the facade. This "front door" issue was never entirely resolved and is still being addressed today.

The original alignment of Going-to-the-Sun Road passed close to the lodge and cabins along the current lodge area road. Parking for the lodge was along a wide circular access drive, while parking for the cabins was most likely scattered under the trees, as it still is. By 1934 the need for more and better hotel parking and to improve conditions that undoubtedly created congestion on the park's main artery had led to a bypass road around the developed area. A new boulevard access and parking configuration was developed for the hotel. Excess fill from the new cut was dumped in front of the lodge to make a new level, circular parking area. This parking area obstructed the view of the lower part of the building and complicated access to it. This poor solution for access and parking formed the framework for later development and contributed to the unfortunate siting of the coffee shop built in 1966.

No large-scale changes to this area and no opportunity to improve site circulation occurred again until 1987-88, when work to rehabilitate the lodge took place. As part of this project directed by the 1986 DCP, the fill in front of the lodge was removed, once again allowing an unobstructed view of the lodge and improving access to the building. The current DCP revision now proposes that the remainder of the 1934 parking and access drive be removed and replaced with facilities that better relate to the site.

### General Guidelines

The DCP proposes to preserve the traditional land use pattern that developed around the natural resource values (centered on the lake) and to separate the incompatible elements of visitation (automobiles and roads) from the more intimate, aesthetic, pedestrian uses. The lodge area road defines the border between the pedestrian and vehicle zones. Roads and vehicles will be relegated to the area farthest from the lakeshore. Pedestrian circulation is most compatible with the natural and cultural resources and will be encouraged in the prime resource area.

A rustic log theme was established during 1988 work on the landscape around the lodge, and that theme should be extended throughout the developed area. Site development deals with all aspects of a developed area except the buildings. Plantings, circulation routes, signs, lighting, and street furniture (benches and trash cans) are all important elements of site development and should be coordinated throughout the site. They play a major role in weaving the total development fabric and thereby reinforce and enhance visitor perceptions and experiences in the developed area.

### Roads

The criteria that should guide road and circulation redesign at Lake McDonald Lodge are greater safety, better clarity of circulation patterns, minimization of impacts on wildlife habitat, and separation of automobile traffic from visitor use areas. The DCP seeks to create a pedestrian-oriented enclave that has minimal contact or conflicts with the vehicular circulation system. Key to this concept is centralized parking for both day and overnight visitors.

To provide smooth traffic flow, parking should be off the street as much as possible, and any unnecessary entrances or roadway segments should be eliminated. There should be no redundancy of entries or roadways. Visitors should not be channeled into a situation lacking a smooth and safe way to retrace their route in the developed area. The new entrance road should be laid out to complement the site, accommodate other development, and provide a visually appealing and informative sequence of scenery. First-time visitors should feel relaxed, well-oriented, and not confused. The entrance road should have 11-foot lanes and 3-foot shoulders to carry anticipated traffic volumes. For flexibility there should be more than one exit to the developed area, but only one entry is preferred.

### Parking Lots

Parking lots should be located close to access roads and major visitor destinations. Parking should normally be segregated by vehicle type and users so that employees, visitors, and tour buses will not be competing for parking. The lots should be curvilinear and laid out to complement the site and to reduce their apparent size. Planting islands should separate the double rows of parking to reduce visual impact and to increase visitor comfort. The islands should be wide enough to support appropriate vegetation. Periodic pedestrian crossings should be incorporated into the islands to provide for direct access to surrounding sidewalks and paths and to prevent visitors from walking through the vegetation. The parking lot should be defined by a curb and gutter to delineate parking limits, protect pavement edges, limit erosion, and direct drainage.

### Walkways

Walkways should be separated from roads wherever feasible to give them a more parklike setting and to provide a higher margin of pedestrian safety. Points of visitor interest should be connected with walkways that are direct but not rigid, using long curves and short tangents in areas of less intense development. Walkways should be fitted to the site topography and features in a complementary

fashion. A hierarchy of walkway widths generally ranging from 4 to 8 feet, and even up to 12 feet, should be used, depending on the intensity of use expected, the overall development scale of the site, and the intimacy of the visitor experience. Walkway width should give pedestrians visual cues as they walk through an unfamiliar site, telling them if they are headed toward or away from major features. All pedestrian access routes should comply with the *Uniform Federal Accessibility Standards*. For example, steps should be avoided on walkways, and ramps should be 8 percent or less in slope.

Paving materials should be carefully considered to meet the criteria of barrier-free access, ease of maintenance, durability, and compatibility with naturally occurring materials and existing architectural elements.

**Vegetation**

Vegetation should be used to define spaces, frame and highlight site elements and natural features, direct visual interest, and guide traffic flow: Dense evergreen plantings can be used to screen unsightly views or private areas and to visually enclose more intimate areas. Their use might be most appropriate around mechanical systems, utilities, and other pedestrian hazards, or to define and protect sensitive sites. Baffle plantings, composed of canopy trees with an understory of dense, low, impassable shrubs, will be useful in providing visual orientation to an area while maintaining maximum control of circulation routes. They are extremely successful around the perimeter of features such as parking lots. Canopy plantings are well-suited to reducing the negative aspects of parking lots by shading the heat-absorbing pavement and blocking the sun from heating up auto interiors. Overhead foliage screening can also create pools of cooler shade along walkways and over patios and structures, creating a natural type of climate control. Finally, plants can be used to accent, enhance, or frame site features and buildings. In general, evergreen species are used most successfully for barriers and screening. Deciduous species are most successful for baffles and canopy plantings. Combinations of both plant types are used to blend the plants into the natural environment and prevent monotony in the landscape.

With a few exceptions, such as using annual plants in baskets hanging on buildings or in flower beds adjacent to the buildings, only native plants should be used for landscape materials. These include deciduous trees such as birch and black cottonwood and evergreens such as spruce, white pine, cedar, fir, larch, and hemlock. Generally, the deciduous species are found in lower, wetter areas along streams and lakeshores, while the evergreens dominate the higher elevations farther away from the lake and drainages. All these species have adapted to the area, are present throughout the site, and can be used together fairly easily and successfully.

When installing native plants, only materials grown or transplanted from the park's genetic pool should be used. Advance planning and propagation are critical to making the genetic pool objective work.

Due to their dark, year-round color, evergreens provide a continuous visual accent when placed near structures. The black cottonwood and birch have tall, broad crowns that suit them well for framing buildings and views. Birch and cottonwood trees are also recommended for the parking islands. All of these trees are susceptible to extremes of weather, and wind is the major enemy of the more mature evergreens, often blowing them down in less densely forested areas, such as the area near Lake McDonald Lodge. This type of destruction is infrequent, but should be considered when planting around structures.

Turf lawn and annual planting beds are a traditional and appropriate ground cover for areas next to the lodge or other areas subject to heavy visitor traffic. Native understory plants and grasses should be incorporated into other areas, where appropriate. Planting plans should preserve and complement existing trees and shrubs where possible.

### Signs

Any proposed new signs should be reviewed by the park's sign committee. An inventory of existing signs in the Lake McDonald Lodge area should be completed to determine any inadequacies or inconsistencies. New signs may be integrated into the existing sign system, or an entirely new system of signs may be devised.

All signs should be unified in character and should complement the architecture, scale, and indigenous materials of the area. The possibility of creating traffic control signs as well as directional/informational signs out of the same or complementary materials should be pursued.

A minimum number of signs should be used and their sequence and locations should be well-planned. Sign information should be brief, legible when viewed from a moving vehicle, and correct.

Traffic control signs should be located on road tangents instead of curves, for greatest visibility. Information signs should be mounted low to the ground, well back from roadways, and below the horizon line of drivers. Signs should not conceal pedestrians.

Signs should not block or dominate views or in any detrimental way intrude into the scenery. Vegetation must not obscure the text of a sign, but it may be used to focus attention to the sign or to screen distractions that might divert attention away from the sign. No signs should be lighted.

### Housing Areas

The DCP proposes to physically separate housing and lodging areas to the extent practicable to ensure that employee activities do not encroach on the visitor experience. Separation will also provide greater privacy for employees, and a more consolidated employee housing area should encourage a sense of community among the employees.

Landscape screening and barriers can be used between the employee housing area and visitor areas. Employee parking should be minimized, and walkways should be provided to encourage employees to walk to work; however, these walkways should be unobtrusive and narrow to avoid inviting visitor interest. Visitors should not perceive that they are being physically excluded from employee areas, but they should get an impression of semi-privacy through scaled-down site amenities, landscape plantings, and if necessary, signs.

## ARCHITECTURAL ELEMENTS

### Historical Perspective

The overall appearance of the Lake McDonald area today is the result of building that began in 1895 (prior to the establishment of Glacier National Park). Most of the early buildings were simple log structures with front porches built along the lakeshore facing the lake or along Snyder Creek. Some of these structures served as lodging for the influx of tourists, while others were built as private seasonal cabins. The main structure of the Snyder Hotel complex at that time was a frame building with wood siding painted white. This building dramatically stood out from the other, more rustic structures. It was apparently demolished to make way for the Lake McDonald Lodge (John Lewis's Glacier Hotel) which was built in 1914 and remains today as the largest structure in the developed area.

The Lake McDonald Lodge closely followed the themes that were being developed elsewhere in the park. For almost 50 years the Great Northern Railroad and its subsidiary, the Glacier Park Hotel

Company, dominated the development of concession facilities in and near the park. These facilities were built for use on a seasonal basis. Major hotels were built at East Glacier, Many Glacier, and Waterton Townsite. The company also established chalet complexes on Two Medicine Lake, Cut Bank Creek, Swiftcurrent Lake, Gunsight Lake, and two complexes on St. Mary Lake. These sites were connected by a network of roads, trails, and lake launches that were designed and often built and maintained by the railroad.

Louis Hill, president of Great Northern, not surprisingly likened the Glacier area to the Swiss Alps and envisioned a European motif for its development. His approach to funneling travelers through the area was also European in design – a railway, road, and trail network. A chalet-style architecture for tourist accommodations completed the Old World atmosphere. While development of the Lake McDonald area did not come under the control of the Great Northern Railroad until 1930, it was still under the direction of owner John Lewis, who closely followed all the development themes being implemented by the railroad.

The hotels were to provide a wilderness atmosphere. Built and furnished largely from local materials, these log and frame structures fit naturally into their environment and into the park's basic image. At Lake McDonald Lodge the rustic elements of the exterior include exposed log roof purlins, decorative logs projecting horizontally from the wall to appear as extended log joists, and the log structure and fine stickwork of the imposing balconies. On the lodge interior this influence is manifested by the towering western redcedars at the four corners of the 3-1/2-story open atrium with its massive log trusses crossing at the top of the lobby, a huge inglenook fireplace, rustic hickory furniture, and everywhere inside an assortment of skins, stuffed animals, and goat, elk, moose, deer, mountain lion, bison, and bear heads. Paintings of park landscapes and hunting scenes specifically commissioned to grace the walls of the hotel hung everywhere there was room. Framed copies of Great Northern Railroad scenic photographs used in the promotion of the park were also used, again emphasizing the wilderness and beauty of the park landscapes.

Included in this collection of images was an idealization of the American Indian. By this time the freely wandering native American was gone from this area. The remaining Indians had been relocated to reservations, where they lived in poverty as they were encouraged to learn the white man's ways. However, in the park there was a conscious effort to cultivate the 19th century romantic image of the noble native staged against the spectacular backdrop of scenic mountains, lakes, and glaciers. The primitive Indian fit well into the romantic concept of the wild, natural environment that the American visitor brought with him to the park. When lodging facilities were completed by the railroad in 1911-12, Blackfeet braves were brought from the reservations to the hotels, where they pitched their tepees and performed dances, acted as backcountry guides, and mingled with the visitors. The evidence of this interest in Indian culture at Lake McDonald Lodge is shown in the many Indian rugs that graced the floor, upholstered the couches, and hung over the railings of the lobby; the interesting stick figures and pictograph-type drawings on the face of the fireplace; the Indian sayings inscribed in the floor at each entrance and major hallway; the large murals painted on the second floor balcony depicting Indian camp life; and the totem pole that once stood outside the dining room. The primitive native American also fit well into the image of Glacier as a preserved wilderness where nature was unspoiled by the corrupting influence of industrial civilization.

Wilderness, however, was not Glacier's only image. The park was also thought of as the Alps of America. In developing park facilities, entrepreneurs such as Hill and Lewis provided the setting and transportation methods to mimic facilities found in Europe. In almost every magazine or newspaper story about the new park, Glacier became the "American Alps," the "crown of the continent," the "Alps of Montana," an "American Switzerland," or the "top of the world." The company plan was to appeal to a generally wealthy tourist, one that could afford the luxury of European travel but who could be persuaded to "See America First." The availability of first-class accommodations was necessary to make this happen. The physical aspects of the buildings at Lake McDonald that reflect the so-called Swiss alpine style are the clipped gable roofs, large overhanging eaves, large decorative brackets supporting

the eaves, stucco, and rough sawn wood siding in contrast to jigsaw decorative moldings. In addition, use of colorful annual plantings in beds, planters, and hanging baskets lent a refined and continental setting to the lodgings.

These hotels were not simply rows of rooms where a tired traveler spent the night and hurried on the next morning. They were created as theaters, stages adorned with the props of wilderness and its early inhabitants, where the guest participated in the frontier past. At the same time, they displayed a refinement and class to compete with similar types of lodging in Europe. These elements were skillfully blended together to give the buildings their unique but very appropriate character.

### Assessment of Buildings

**Historic District Structures.** Lake McDonald Lodge is the largest structure in the developed area and has been recognized as a national historic landmark. The rehabilitated building displays all the character themes discussed earlier. This building will remain as the prime historic resource and as the dominant structure providing a variety of services for both overnight guests and day users to this area.

The camp store, constructed in 1937, is the only other building that picks up the Swiss alpine theme. It exhibits all the elements of this style included in the lodge, plus its front-facing gable exhibits a decorated half timbering effect. This high-visibility structure is a primary contributor to the area theme.

The recreation/auditorium building and the Cobb House continue the rustic theme. Each of these buildings has some nice remaining exterior and interior detailing. These lower visibility structures still are contributors to the primary area theme.

Remaining buildings such as the Garden Court dormitory, the caretaker's residence, guest cabins 1-14, Snyder Hall, the dispensary, the carpenter shop, and the private cabins are contributing structures. They do not make strong statements in themselves. Although many have been altered from their original appearance, they still blend with the general, overall theme of the rustic style. The cabins also strongly display the early site development of the area, lined up in a row along the lakeshore.

**Nonconforming Structures.** Boys' dorms 1 and 2, girls' dorms 1 and 2, Johnson and Hydro dorms, the garages for the caretaker's house and the fire truck, and the gas station are structures with no architectural value. The dorms also are generally poorly sited and are substandard in meeting life safety and health requirements. The DCP proposes to remove all these structures.

The coffee shop, built in the late 1960s, has a commanding, central position at the crest of a low hill. Its use as the dominant food service facility at Lake McDonald other than the lodge dining room makes it a prominent structure. Its massing (one story with very low roof slope), color, use of materials, and large plate glass are awkward in relationship to the more theme-oriented buildings. Its central, prominent position and surrounding landscape ensure that no one misses that fact. The DCP proposes to remove the structure.

The motel is a major part of the lodging provided at Lake McDonald. Its location is functionally poor. It is fairly well-screened from the road behind the camp store, and it is screened from the lake by private residential cabins and trees. The two motel buildings contribute nothing positive to the area in terms of massing, style, theme, etc. They appear to have been built originally as single-story structures with later second-story additions. This ungainly facility appears to be in good condition, but its lack of a theme appearance, distance from the main lodge, and screened site would make it better suited for other site needs or demolition.

**Architectural Guidelines**

**Relationship.** Create an experience that is sympathetic with the role or purpose of each facility. Reinforce the previously developed themes on an appropriate level.

**Technology.** Protect fragile environment zones, including wildlife habitat, by incorporating the latest resource recommendations into designs. Use energy-efficient designs for new facilities.

**Buildings.** Preserve the integrity of the historic structures and district by relating new development to the character, themes, and scale of the older buildings.

Match the form of new buildings to the form of historic facilities. Consider base form type, roof form type (e.g., clipped gables) and types of form extensions.

Coordinate the proportions of new structures to the proportions of the historic buildings. Consider overall proportion and scale, main facade proportion, and proportions of details.

Make the height of new facilities similar to the height of adjacent historic buildings. If the new building is large, it should relate proportionally to the height and scale of the lodge. It is preferred, however, for new facilities to be subordinate to the building that clearly dominates a complex.

The rhythm of historic building spacing and fenestration or detail articulation should be maintained in the design of new facilities.

Blend the form articulation of new facilities with that of adjacent historic buildings and site elements. Choose materials and finishes, color, and texture that are compatible with surrounding buildings.

Comply with provisions of the secretary of the interior's standards and guidelines for rehabilitating historic buildings and with the NPS *Cultural Resources Management Guideline* (NPS-28).

Comply with the provisions of the NPS *Housing and Rehabilitation Guideline,* (NPS-76).

## APPENDIX D: PARKING AREA CALCULATIONS

### Parking Demand

| | |
|---|---|
| On-site Employee Parking Demand: | |
| Dormitory (86 @ 21%) | 18 |
| Caretaker's residence (2 @ 100%) | 2 |
| Garden Court (4 @ 100%) | 4 |
| Dispensary (1 @ 100%) | 1 |
| GPO cabin (6 @ 50%) | 3 |
| Total On-site Demand | 28 |
| Off-site Employee Demand: | |
| 65 employees @ 50% (avg. 2 per car) | 33 |
| **Total Employee Parking Demand** | **61** |

### Proposed Parking

| | |
|---|---|
| Proposed On-site Employee Parking: | |
| Motel area | 36 |
| Portion of village parking | 25 |
| | 61 |
| Existing Parking at Store | 29 |
| Proposed Tour Bus Parking | 13 |
| Proposed Consolidated Parking Lot:* | |
| Replace spaces south of coffee shop | 100 |
| Replace cabin parking | 30 |
| Additional spaces for proposed transportation system (6) and growth in day use (19) | 25 |
| Employee parking | 25 |
| | 180 |
| **Total Proposed Parking** | **283** |

---

Based on a 1985 survey of traffic on Going-to-the-Sun Road, 10 percent of these should be oversized (longer than 20-foot) spaces.

## APPENDIX E: FINDING OF NO SIGNIFICANT IMPACT for the Revised Development Concept Plan

Lake McDonald Lodge Area
Glacier National Park

### Introduction

In June 1990 the National Park Service (NPS) distributed the *Draft Development Concept Plan Revision/Environmental Assessment* (DCP/EA) for the Lake McDonald Lodge area of Glacier National Park. The DCP/EA presented a proposal and three alternatives for issues being analyzed for the plan, and it included an analysis of their impacts.

### Proposal

The intent of the proposal is to rehabilitate and improve visitor facilities and concession employee housing at the Lake McDonald Lodge area. Ongoing rehabilitation work on the historic lodge and cabins will be continued. Other new or rehabilitated facilities at Lake McDonald will include a new visitor lodging structure and restaurant to replace an existing motel and coffee shop, a visitor contact station, replacement employee housing for approximately 60 percent of the concession employees currently housed on site, a maintenance building, and redesigned roads and parking. Under this proposal about 40 percent of the employees currently housed at Lake McDonald will be moved outside the park to facilities to be arranged by the concessioner or by its employees. The concessioner will have several options for accommodating employees off-site, including the provision of company housing in existing or new structures in the West Glacier area and encouraging employees to bring their own trailers or recreational vehicles.

The redevelopment proposal is a revision of an approved 1986 plan to improve visitor services and concession employee housing at Lake McDonald. New information about the impacts of the 1986 plan on endangered bald eagles using the Lake McDonald area prompted a reevaluation. The current proposal will move about one-half of the employee housing to a site behind the existing coffee shop at the northern end of the Lake McDonald developed area, avoiding the eagle roosting area south of the lodge. The site will be designed to retain as many trees as practicable, and additional trees will be planted, to help make buildings and human activity less visible to eagles. Construction will be timed to avoid disturbance during periods when eagles are nesting in the spring and migrating through the area in the fall.

The proposal will remove all employee housing from the floodplain. Most of the existing dormitories will be removed, but the three that are historic structures will be retained and adapted for day uses. The Lake McDonald Lodge Historic District will be improved by removing the existing coffee shop building, which is an architecturally incompatible modern intrusion on the district. A new visitor lodging/food service structure and an employee dormitory building will be constructed in the district, but they will be designed to be compatible with the existing rustic architecture to minimize their visual intrusion.

Access and circulation will be improved by reducing vehicular access points, consolidating visitor parking, and encouraging pedestrian use. The visual impacts of roads and parking will be reduced by providing adequate planting areas.

### Alternatives

Three alternatives to the proposal were evaluated in the DCP/EA, including the possibilities of providing all concession employee housing on site, providing most housing off site, and taking no action.

Compared to the proposal, both the no-action alternative and the alternative of moving most employees off site would have a less adverse effect on eagles. The no-action alternative was determined to be infeasible because it would subject concession employees to substandard housing in the 100-year floodplain of Snyder Creek. The alternative of relocating all employees off site was determined to be economically infeasible for the concessioner. None of the alternatives, including the proposal, would substantially change impacts on bald eagles in the Lake McDonald area.

**Public Review**

About 380 copies of the DCP/EA were distributed through the mail and another 20 copies were distributed at public meetings. NPS news releases issued on May 16 and June 11, 1990, subsequent newspaper articles, and group notices generated interest in the plan. Public meetings were held at Lake McDonald Lodge on July 10 and in Kalispell on July 11. Other informal meetings were held on July 15 at the Lake McDonald Coffee Shop with a group of persons that own private land in the lodge area and on July 25 with the Flathead Wildlife Organization. A total of about 60 persons attended the four meetings.

The public review period ended on August 10, 1990. About 170 written responses were received. This included a pre-printed form response from a local group mailed in by about 100 individuals. A detailed summary of public comments is on file at park headquarters in West Glacier, Montana. The most significant comments are discussed below along with the NPS response. The DCP proposal was revised to address several of the comments received (see discussion below). A draft finding of no significant impact with a summary of the revised proposal was distributed for 30-day public review on June 7, 1991.

**Major Comments and National Park Service Response**

During the June 1990 review of the DCP/EA some reviewers disagreed with the proposal and all alternatives citing concerns for spending too much money and recommending putting a ranger behind the desk at the lodge. While the cost of rehabilitating and improving the developed area is significant, it is consistent with the need to protect park resources in the area, the importance of the facility to park visitors, and the need to provide employee housing that meets minimum NPS standards. Mixing visitor information services with lodge front desk activities causes increased congestion in the lodge and is not desirable for other visitors in the area. A separate contact station is proposed for those reasons.

Some reviewers objected to the draft plan's proposal to put employees in the motel building, citing conflicts with nearby private landholders. In response to this concern, the proposal has been revised to show a new dorm facility for the same number of employees at a site behind the existing coffee shop. The proposal was also revised to place the new maintenance facility at the motel site.

Based on some public review concerns about the impacts of circulation and parking area redevelopment and some additional NPS analysis, the circulation and parking concept has been revised to show larger vegetated islands between parking bays and to save additional trees, thereby reducing impacts on visual resources and wildlife habitat.

The DCP/EA was sent to the U.S. Fish and Wildlife Service for consultation under section 7 of the Endangered Species Act. A separate "Biological Assessment" was prepared by NPS for the current proposal and submitted to the Fish and Wildlife Service for concurrence in March 1991. In a response dated March 25 the Fish and Wildlife Service concurred in the NPS determination that the proposed project is not likely to adversely affect the threatened grizzly bear, or the endangered gray wolf, bald eagle, or peregrine falcon. Bald eagle conservation measures, including restrictions on construction activities in the lodge area, are listed in the DCP.

The DCP/EA was sent to the Montana State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation under section 106 of the National Historic Preservation Act. The SHPO responded on July 31, 1990, expressing concerns about the NPS proposal to remove certain buildings that could be contributing elements to the historic district. On February 1, 1991, the National Park Service submitted additional information to the SHPO documenting the lack of significance for these structures. The SHPO responded on February 13, 1991, concurring in the finding that the buildings do not contribute to the qualities of the historic district. The Advisory Council responded to the DCP/EA review on August 8, 1990, and they had no concerns regarding the proposal.

**Conclusion**

The proposal does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The proposal will not have a significant effect on the human environment. Negative environmental effects that could occur are minor and temporary in nature. There are no unmitigated adverse impacts on public health and safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risk, cumulative effects, or elements of precedence have been identified. Implementation of the action will not cause a violation of federal, state, or local law.

The proposal is in compliance with Executive Order 11988, "Floodplain Management," and its implementing guidelines. The proposal will reduce impacts on the floodplains in the area and remove employee housing from the 100-year floodplain. There will be no negative impacts on natural or beneficial values of floodplains or wetlands resulting from the proposal. Removing seven buildings from the 100-year floodplain of Snyder Creek will allow restoration to more natural conditions. The existing portable boat fuel storage facility has been removed from the floodplain, reducing the chance of water pollution in case of a flood. No new facilities are proposed for the floodplain.

Based on the foregoing, it has been determined that an EIS is not required for the plan and thus will not be prepared, and the *Revised Lake McDonald Development Concept Plan* is hereby approved.

Lorraine Mintzmyer 9/16/91

Regional Director, Rocky Mountain Region — Date
National Park Service

## SELECTED REFERENCES


LESICA, P.

1984 "Rare Vascular plants of Glacier National Park, Montana." Unpublished report, prepared for Glacier National Park, West Glacier, MT.

NATIONAL PARK SERVICE, U.S. DEPARTMENT OF THE INTERIOR

1977 *Final Master Plan, Glacier National Park.* Denver, Colo: Denver Service Center.

1978 *Bald Eagle Management Plan.* West Glacier, Mont.: Glacier National Park.

1980 "An Evaluation of Concession Visitor Services Facilities." Denver Service Center.

1981 *Environmental Assessment for the Development Concept Plan: Apgar/ Headquarters Area.* Denver Service Center.

1985a *Environmental Assessment for the Development Concept Plans for Lake McDonald, Sun Point/Rising Sun/St. Mary, and Many Glacier/Swift Current, Glacier National Park.* Denver Service Center.

1985b *Land Protection Plan: Glacier National Park*. Glacier National Park.

1986 *Development Concept Plans: Lake McDonald, Sun Point/Rising Sun/St. Mary, Many Glacier/Swift Current, Glacier National Park.* Denver Service Center.

1987 *Future Focus: A Management Strategy for Glacier National Park, 1987-1992.* Glacier National Park.

1988a *Housing Management Plan: Glacier National Park.* Revised. Glacier National Park.

1988b *Statement for Management: Glacier National Park.* Glacier National Park.

1988c "Basic Data on Bald Eagle Use of Lake McDonald (Head), Glacier National Park, Montana." Unpublished report by staff biologists B.R. McClelland and R. Yates. Glacier National Park.

1989a "General Vegetation Survey of Proposed Development Sites at Lake McDonald and Park Headquarters: Glacier National Park." Unpublished report by staff biologist R. Yates. Glacier National Park.

1989b "Final Report on Glacier Eagle Workshop." Unpublished report summarizing findings of a team of biologists that evaluated development alternatives in March 1989. Ed. by Lynn A. Maguire, Duke University, Durham, N.C. Prepared for Glacier National Park.

1990 *Development Concept Plan Revision and Environmental Assessment, Glacier National Park*. Public review draft. Denver Service Center.

U.S. FISH AND WILDLIFE SERVICE, U.S. DEPARTMENT OF INTERIOR

1986 *Pacific Bald Eagle Recovery Plan.* Portland, Ore.

YATES, RICHARD E.

1989 "Bald Eagle Nesting Ecology And Habitat Use: Lake McDonald, Glacier National Park, MT." M.S. thesis. University of Montana, Missoula, Mont.

## PLANNING TEAM

### CORE TEAM

Planner/Project Manager, Denver Service Center (DSC) - Richard Alesch
Landscape Architect, DSC - Keith Payne
Natural Resource Specialist, DSC - Bill Conrod
Architect, DSC - Paul Newman
Superintendent, Glacier National Park (GLAC) - Gil Lusk
Park Planner, GLAC - Robert Dunkley
Regional Liaison, Rocky Mountain Regional Office (RMR) - Wayne Gardner

### CONSULTANTS

Assistant Superintendent, Glacier National Park - Richard Peterson
Concessions Specialist, DSC - Reba Childers
Estimator, DSC - Ray Borras
Project Manager, DSC - Dick Steves
Engineer, GLAC - James Vekasi
Cultural Resource Specialist, GLAC - Bruce Fladmark
Concessions Specialist, GLAC - Martin Nielson
Acting Chief Ranger, GLAC - Bob Burns
Resource Management Specialist, GLAC - Gary Gregory
Wildlife Biologist, GLAC - Riley McClelland
Biological Technician, GLAC - Rick Yates
Glacier Park, Inc. staff
State Historic Preservation Office
Advisory Council on Historic Preservation
U.S. Fish and Wildlife Service
U.S. Forest Service
Cultural Resource Compliance Specialist, DSC - John Paige
Former Team Captain, DSC - Howie Thompson
Chief Scientist, RMR - Dan Huff
Regional Environmental Coordinator, RMR - Christine Turk
Chief Scientist, GLAC - Cliff Martinka
Eagle Analysis Team:

- Alan Harmata, Montana State University, Bozeman, MT
- Terry Grubb, U.S. Forest Service, Tempe, AZ
- Rob Hazelwood, U.S. Fish and Wildlife Service, Helena, MT
- Jim Vashro, Montana Department of Fish, Wildlife, and Parks, Kalispell, MT
- Gary Gregory, Glacier National Park, MT
- Lynn Maguire (facilitator), Duke University, Durham, NC



*U.S. GOVERNMENT PRINTING OFFICE 1991-0-573-040/40010




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 wise 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 the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Publication services were provided by the Branch of Publications and Graphic Design of the Denver Service Center. NPS D-185A September 1991