

Conceptual Project Approach to Schematic Design

Goose Bay Marina Concession Area Modernization Study

Prepared by:

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for:

Bureau of Reclamation
Pick-Sloan Missouri Basin Program
Canyon Ferry Unit - Montana

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Introduction

The purpose of this document is to provide a DRAFT conceptual project approach to the three schematic design options for modernized replacement facilities at Goose Bay Marina.

Background

The Goose Bay Marina Concession at Canyon Ferry Reservoir, Broadwater County, Montana, has been in existence since the early 1960's. The concession area is located north of Goose Bay in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 14, T. 9 N., R 1 E., MPM. Originally administered by the State of Montana, recreation management and concession oversight at Canyon Ferry was turned back to the Bureau of Reclamation (Reclamation) in 1993.

In 2010, the Draft Goose Bay Recreation Master Plan was completed by Reclamation. The purpose of the plan was to define the future concession and recreation opportunities that would be provided within the Goose Bay Planning Area. Through a thorough analysis process and with consideration of public comments, Alternative C was selected as the best option for the site. This alternative included the following suggested facilities and services:

- Store with Dock and Fuel
- Updated Potable Water System
- Updated Septic Systems
- RV Campsites (full service, electrical service only, and no service)
- Laundry
- 4 Park Cabins
- 3 Picnic Shelters
- Group Pavilion
- Replacement Docks
- Courtesy Dock
- Dry Camps (Tent Sites)
- Accessible Fishing Access
- Swim Beach
- Interpretive Signs
- Fee Stations
- Campground Host Residence

In addition to the above, Reclamation has also added an RV dump station, flush toilets and showers, vault toilets, a potable water fill station, updated electrical supply system, year-round storage for boats and RVs, a potential fish cleaning station, overnight boat trailer storage area, and day use / picnic areas to the planned facilities at the site.

The existing concessionaire contract expires on December 31, 2012 and the existing 31 mobile homes that are authorized under the current concession contract will be removed as required by 43 CFR Part 429 Subpart H due to compliance issues. The Omnibus Consolidated Appropriations Act of 1998, Public Law 105-277, 112 Stat. 2681, Title X (Canyon Ferry Reservoir, Montana) provides Reclamation with direct authority to investigate, plan, develop, operate, and maintain recreation facilities on land withdrawn or acquired for development of the project and to provide for public use and enjoyment of the land and water areas of the project.

Conceptual Project Approach

This document includes three potential approaches to a schematic layout at the site (layouts A, B, and C) with the option to institute a low, medium, or high level of development within any of the three layouts. With the exception of the existing well, new boat ramp, and concrete vault toilets in good condition, it has been assumed that all existing improvements will be removed from the concession area, including all of the mobile homes, the store, the residence, and most utilities. It

is also assumed that the well (with a replacement building) will remain in its current location; however, the existing shower facility will not remain. All layouts have been developed with consideration to retaining as many trees as practicable.

The schematic layouts primarily focus on the existing developed area without significant expansion into the northern portion of the undeveloped / dispersed use area located to the west.

The following subsections detail the rationale and perceived benefits and disadvantages to three potential schematic layouts. Any of the layouts can be developed with a low, medium, or high level of development as discussed in Subsection: Level of Development. For simplicity, all layouts shown in this document incorporate a high level of development which can easily be scaled back if low or moderate levels of development are selected.

Layout A

Layout A breaks camping areas into two distinct locations and expands the managed area to the west. Type of service sites have been separated so that all full service hookup sites are located in one area, as are all electrical pedestal only sites and no service only sites. A centralized “hub” has been established central to all day use and camping areas to include the residence, store, potable water fill station and shower/toilet/laundry building. Cabins are also incorporated along with a swim beach near day use amenities. An accessible trail is established heading down from the day use and boat ramp parking and traveling along and down the shore bank to the east. This layout provides the benefits of a more expanded camping area while still maintaining a centralized management area. A smaller day-use area is shown in this layout and camping near the shoreline becomes more of a focus.

Layout B

Layout B provides a heavy emphasis on day use of the site with a swim beach and several picnic areas. The “hub”, including the residence, store, and shower/toilet/laundry building are located back within the camping area away from the boat ramp and existing parking lot. Cabins and tent sites are provided near the shoreline to the east along with an accessible path to the boat dock by way of several switchbacks. Camping areas are set up to be “mixed service use” with full service hook ups, electric pedestals only, and no service sites interwoven throughout. This layout provides the benefits of clearly separating day use from overnight camping use; however, use of the contact center would likely be limited just to overnight users as it will not be highly visible from the day use area.

Layout C

Layout C provides a combination of Layouts A and B with a centralized hub as a focal point upon entering the site alongside an expanded and separated day use area. As in Layout A, type of service sites have been separated so that all full service hookup sites are located in one area, as are all electrical pedestal only sites and no service only sites. Cabins are located by themselves to the far east. Limited tent sites have been placed away from the shoreline and further up the hillside to provide more seclusion from higher developed sites. Long term covered storage and overnight trailer storage have also been shifted north and up the hill. The contact center is the first focal point as visitors enter the site and the RV dump station is located a considerable distance away from the main area to encourage dumping upon leaving. This layout provides the benefits of a large day use area close to the swim beach but also close to the contact center, and groups all overnight users to the east. Picnic and day use near the shore is encouraged rather than camping and several accessible paths to the water are provided.

Level of Development

Each of the above described layouts can be developed with a low, medium, or high level of development as discussed in Table 1.

Table 1. Proposed Levels of Development at Goose Bay Marina Concession Area

Low Level Development	Medium Level Development	High Level Development
<p>Store Approximately 400 SF – year round availability (with deeper water line) (single phase power and propane heat).</p>	<p>Contact Center Approximately 800 SF – increased retail and interpretation space, larger office. Year round availability, increased food services – more refrigerators and microwaves (no hoods, grills, or stoves) (deeper water line and single phase power and propane heat).</p>	<p>Contact Center Approximately 800 SF – increased retail and interpretation space, larger office. Year round availability, increased food services – more refrigerators and microwaves (no hoods, grills, or stoves) (deeper water line and single phase power and propane heat).</p>
<p>Self-Pay Fee Station Fee tube only.</p>	<p>Self-Pay Fee Station Fee tube and minimal site orientation signage.</p>	<p>Self-Pay Fee Station Fee tube and minimal site orientation signage PLUS interpretive information and BOR message.</p>
<p>Fueling Station 1,000 AST for vehicles with an option for the concessionaire to expand to on-water fueling for boats.</p>	<p>Fueling Station 1,000 AST for vehicles with an option for the concessionaire to expand to on-water fueling for boats.</p>	<p>Fueling Station 1,000 AST for vehicles with an option for the concessionaire to expand to on-water fueling for boats.</p>
<p>Fee-Based Shower Facility 4 unisex shower stalls</p>	<p>Fee-Based Shower Facility 6 unisex shower stalls</p>	<p>Fee-Based Shower Facility 8 stalls: 4 Men, 4 Women PLUS laundry</p>
<p>Flush Toilets Located in shower building – 4 unisex stalls</p>	<p>Flush Toilets Located in shower building – 6 unisex stalls</p>	<p>Flush Toilets Located in shower building – 8 stalls: 4 Men, 4 Women</p>
<p>Fee-Based RV Dump Station Located away from highly frequented areas. With holding tank only.</p>	<p>Fee-Based RV Dump Station Located away from highly frequented areas. With septic tank and leachfield.</p>	<p>Fee-Based RV Dump Station Located away from highly frequented areas. With septic tank and leachfield.</p>
<p>Central Trash / Recycling Center Minimal additional locations for accessibility.</p>	<p>Central Trash / Recycling Center Additional dumpsters / recycling options within the site as needed.</p>	<p>Central Trash / Recycling Center Additional dumpsters / recycling options within the site as needed PLUS dispersed dumpsters / recycling options in undeveloped areas as needed.</p>

Low Level Development	Medium Level Development	High Level Development
<p>Potable Water Fill Station Designed to fill RV holding tanks and water containers for visitors staying at sites without water hookups, visitors staying in tents, and visitors utilized day-use area.</p>	<p>Potable Water Fill Station Designed to fill RV holding tanks and water containers for visitors staying at sites without water hookups, visitors staying in tents, and visitors utilized day-use area.</p>	<p>Potable Water Fill Station Designed to fill RV holding tanks and water containers for visitors staying at sites without water hookups, visitors staying in tents, and visitors utilized day-use area.</p>
<p>Day Use Area Picnic tables and fire grills No interpretive signs</p>	<p>Day Use Area Picnic tables and fire grills PLUS picnic shelters and accessible shoreline trails and welcoming interpretive sign.</p>	<p>Day Use Area Picnic tables and fire grills PLUS picnic shelters and accessible shoreline trails PLUS group pavilion and group cooking area AND Swim Beach AND interpretive kiosk with BOR message.</p>
<p>1 Residence Designed for a potential concessionaire to bring in their own living quarters (e.g.. a mobile home, RV or 5th wheel).</p>	<p>1 Residence Designed for a potential concessionaire to bring in their own living quarters (e.g.. a mobile home, RV or 5th wheel).</p>	<p>1 Residence Designed for a potential concessionaire to bring in their own living quarters (e.g.. a mobile home, RV or 5th wheel) PLUS identified larger pad for 1 Host in remote location.</p>
<p>100 sites (35% Full Service, 35% Electric Service only, 30% No Service)</p>	<p>125 sites (45% Full Service, 30% Electric Service only, 25% No Service)</p>	<p>150 sites (50% Full Service, 25% Electric Service only, 25% No Service) PLUS 4 cabins / yurt locations</p>
<p>10 tent sites Walk-in configuration with parking</p>	<p>10 tent sites Walk-in configuration with parking</p>	<p>10 tent sites Walk-in configuration with parking</p>
<p>Inspection Station Widening of road and location identified for potential future invasive species inspection station equipped with power. No facilities constructed.</p>	<p>Inspection Station Widening of road and location identified for potential future invasive species inspection station equipped with power. Temporary / Portable facility with full utilities.</p>	<p>Inspection Station Widening of road and location identified for potential future invasive species inspection station equipped with power. Permanent facility matching the site architecture.</p>
<p>Fish Cleaning Location for potential future addition of a fish cleaning station – no infrastructure put in place (e.g. no leachfield). No initial development.</p>	<p>Fish Cleaning Location for potential future addition of a fish cleaning station – no infrastructure put in place (e.g. no leachfield). No initial development.</p>	<p>Fish Cleaning Full fish cleaning station with appropriate infrastructure as required by the State of Montana.</p>
<p>Boat Ramp and Parking Maintain and keep existing boat ramp and parking</p>	<p>Boat Ramp and Parking Maintain and keep existing boat ramp and parking</p>	<p>Boat Ramp and Parking Maintain and keep existing boat ramp and parking</p>

Low Level Development	Medium Level Development	High Level Development
<p>Loading Dock for Boat Ramp Identify location for concessionaire-provided loading dock at boat ramp.</p>	<p>Loading Dock for Boat Ramp Identify location for concessionaire-provided loading dock at boat ramp.</p>	<p>Loading Dock for Boat Ramp Identify location for concessionaire-provided loading dock at boat ramp.</p>
<p>Docks Location and improved access routes identified for mooring and anchoring docks. Potential for fishing piers to be integrated with mooring docks.</p>	<p>Docks Location and improved access routes identified for mooring and anchoring docks. Potential for fishing piers to be integrated with mooring docks.</p>	<p>Docks Location and improved access routes identified for mooring and anchoring docks. Potential for fishing piers to be integrated with mooring docks. Potential separation of short and long term docks.</p>
<p>Water Accessibility Establishment of accessible water access route. Establishment of accessible shoreline fishing opportunities.</p>	<p>Water Accessibility Establishment of accessible water access route. Establishment of accessible shoreline fishing opportunities.</p>	<p>Water Accessibility Establishment of accessible water access route. Establishment of accessible fishing pier. Establishment of multiple routes and locations.</p>
<p>Hydrants Dispersed throughout campground and day use areas as required by design guidelines.</p>	<p>Hydrants Dispersed throughout campground and day use areas as required by design guidelines.</p>	<p>Hydrants Dispersed throughout campground and day use areas as required by design guidelines and with increased frequency and convenience.</p>
<p>Vault Toilets Dispersed throughout campground and day use areas as required by design guidelines.</p>	<p>Vault Toilets Dispersed throughout campground and day use areas as required by design guidelines.</p>	<p>Vault Toilets Dispersed throughout campground and day use areas as required by design guidelines.</p>
<p>Water System Appropriate updates including new lines, deeper lines, possible treatment, storage options, and winterization for concessionaire and store</p>	<p>Water System Appropriate updates including new lines, deeper lines, possible treatment, storage options, and winterization for concessionaire and contact center</p>	<p>Water System Appropriate updates including new lines, deeper lines, possible treatment, storage options, and winterization for concessionaire and contact PLUS increased winterization for larger portions of the site</p>
<p>Septic Systems Separate septic systems for the campsites with sewer hookups, restroom / shower facility, store, RV dump station, residence, and fish cleaning station. Design effluent volume will remain under 5,000 gallons per day to avoid need for a groundwater discharge permit.</p>	<p>Septic Systems Separate septic systems for the campsites with sewer hookups, restroom / shower facility, store, RV dump station, residence, and fish cleaning station. Design effluent volume will remain under 5,000 gallons per day to avoid need for a groundwater discharge permit.</p>	<p>Septic Systems Separate septic systems for the campsites with sewer hookups, restroom / shower facility, store, RV dump station, residence, and fish cleaning station. Design effluent volume will remain under 5,000 gallons per day to avoid need for a groundwater discharge permit.</p>
<p>Year-Round Boat and RV Storage Fenced with capacity for 25 60-ft spaces</p>	<p>Year-Round Boat and RV Storage Fenced with capacity for 35 60-ft spaces</p>	<p>Year-Round Boat and RV Storage Fenced AND covered with capacity for 50 60-ft spaces</p>

Low Level Development	Medium Level Development	High Level Development
<p>Overnight Boat Trailer Parking Capacity for 25 75-ft spots</p>	<p>Overnight Boat Trailer Parking Capacity for 35 75-ft spots</p>	<p>Overnight Boat Trailer Parking Capacity for 50 75-ft spots</p>
<p>Maintenance / Storage Building 100 SF – removed location (light and power, but no water). Pre-fabricated structure matching architecture as close as possible.</p>	<p>Maintenance / Storage Building 250 SF – removed location (light and power, but no water). Pre-fabricated structure matching architecture as close as possible.</p>	<p>Maintenance / Storage Building 400 SF – removed location (light and power, but no water). Site built structure integrated with site architecture and character.</p>
<p>Dispersed Camping Areas Identification of dispersed camping areas throughout the site.</p>	<p>Dispersed Camping Areas Identification of dispersed camping areas throughout the site.</p>	<p>Dispersed Camping Areas Identification of dispersed camping areas throughout the site.</p>
<p>Tree Planting Tree planting at limited strategic locations.</p>	<p>Tree Planting Tree planting at several strategic locations.</p>	<p>Tree Planting Extensive tree planting throughout the site.</p>

Electrical Considerations

A preliminary analysis of the electrical needs for the three levels of development has been completed and is included in Attachment 1.

Next Steps

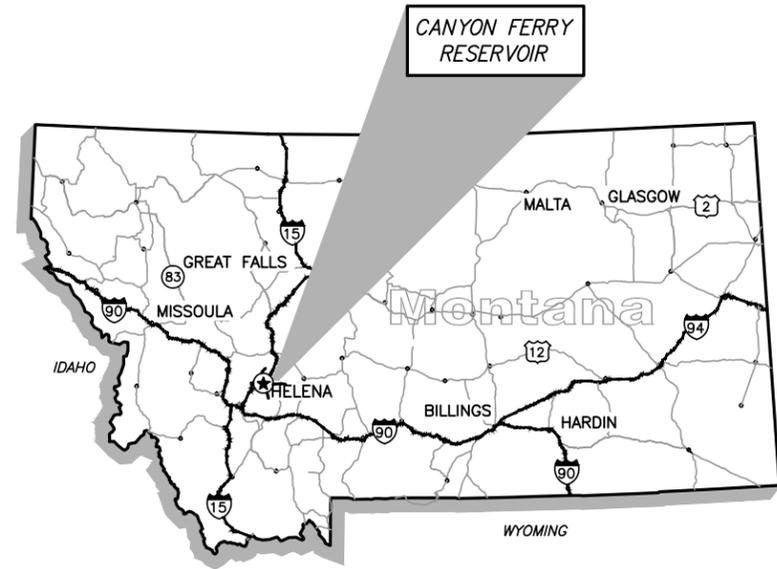
Upon review of this document, schematic designs will be prepared for three layout options. A draft of the schematic design is scheduled for completion at the end of February 2013.

UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF RECLAMATION

CANYON FERRY UNIT – MONTANA

GOOSE BAY MARINA

GOOSE BAY MARINA CONCESSION AREA
MODERNIZATION STUDY



MONTANA STATE VICINITY MAP

SYMBOL	DESCRIPTION	SCALE OF MILES	SCALE OF KILOMETERS
	INTERSTATE HIGHWAY	25 0 25 50	25 0 25 50 75
	U.S. HIGHWAY		
	STATE HIGHWAY		



INDEX

SHEET	TITLE OF SHEET
1	TITLE SHEET
2	SCHEMATIC LAYOUT 'A'
3	SCHEMATIC LAYOUT 'B'
4	SCHEMATIC LAYOUT 'C'

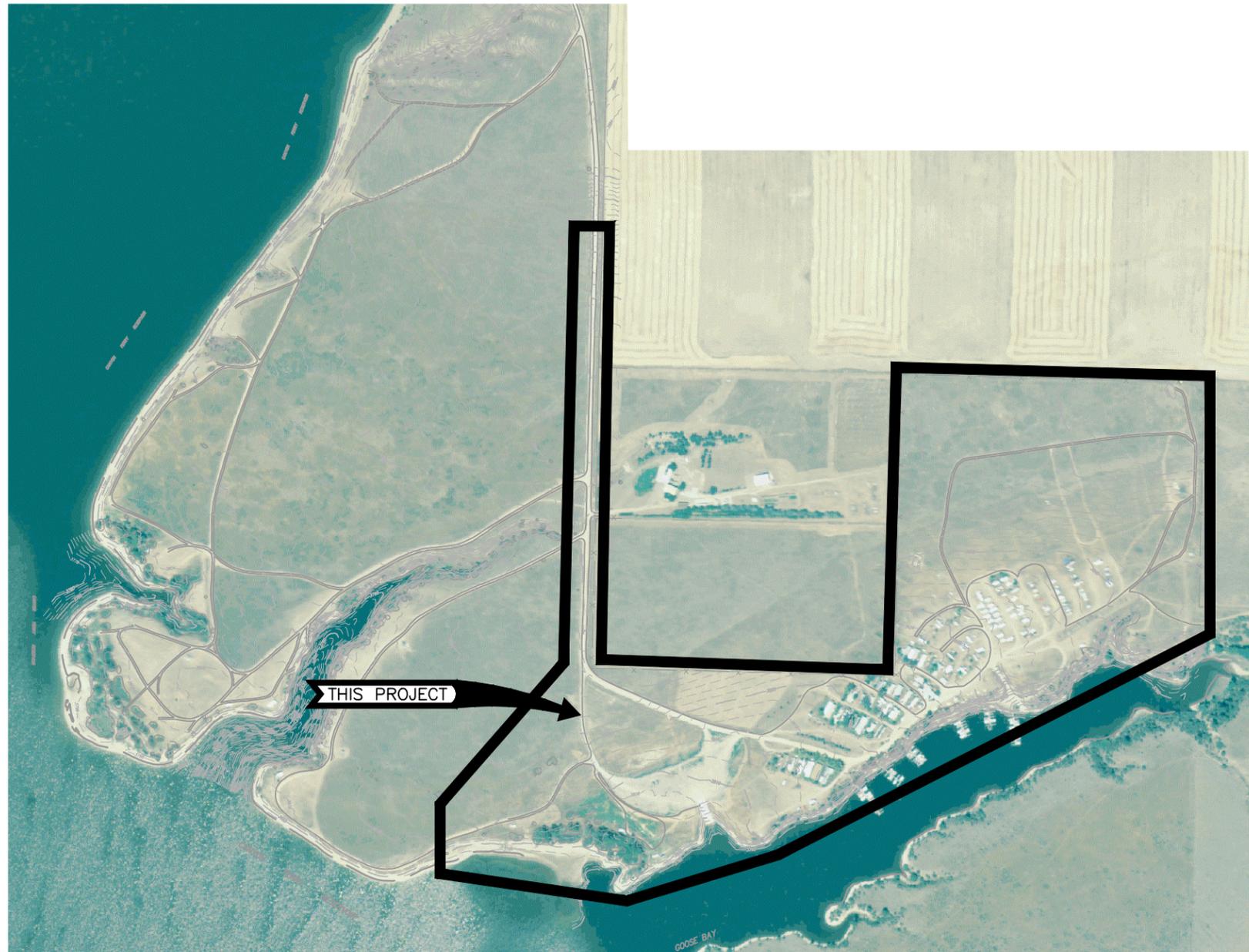
I Have Reviewed the Technical Aspects of These Drawings:

/s/ XXXXXXXX _____ Date _____
Teams Project Manager

/s/ XXXXXXXX _____ Date _____
CDI Manager

Technical Approval:
/s/ XXXXXXXX _____ Date _____
BOR xxxxxxxxxxxxxx

Approved By:
/s/ xxxxxxxxxxxxxx _____ Date _____
BOR LANDS MANAGER



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PICK-SLOAN MISSOURI BASIN PROGRAM
CANYON FERRY UNIT – MONTANA
GOOSE BAY MARINA
TITLE SHEET



CDI
DESIGNED J. KEHM
DRAWN C.G. LOBERGE
CHECKED
TECH. APPR.
APPROVED

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FIGURE 1

295-600-XXX
SHEET 1 OF 4



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SCHEMATIC LAYOUT 'A'



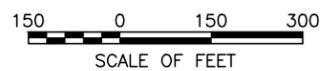
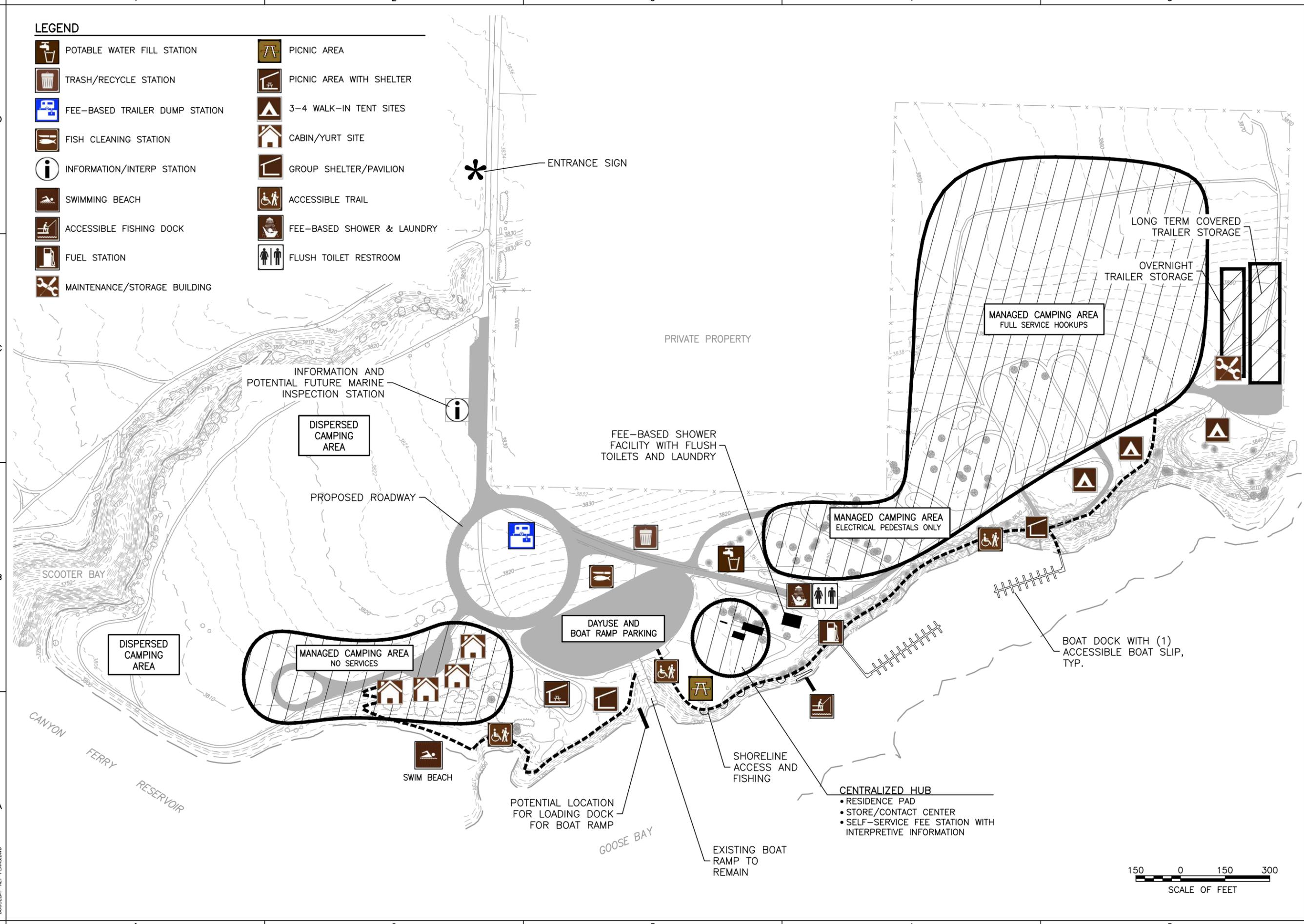
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CHECKED C.G. LABERGE
TECH. APPR.
APPROVED

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FIGURE 2

LEGEND

- | | | | |
|--|--------------------------------|--|----------------------------|
| | POTABLE WATER FILL STATION | | PICNIC AREA |
| | TRASH/RECYCLE STATION | | PICNIC AREA WITH SHELTER |
| | FEE-BASED TRAILER DUMP STATION | | 3-4 WALK-IN TENT SITES |
| | FISH CLEANING STATION | | CABIN/YURT SITE |
| | INFORMATION/INTERP STATION | | GROUP SHELTER/PAVILION |
| | SWIMMING BEACH | | ACCESSIBLE TRAIL |
| | ACCESSIBLE FISHING DOCK | | FEE-BASED SHOWER & LAUNDRY |
| | FUEL STATION | | FLUSH TOILET RESTROOM |
| | MAINTENANCE/STORAGE BUILDING | | |



CAD SYSTEM
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1

2

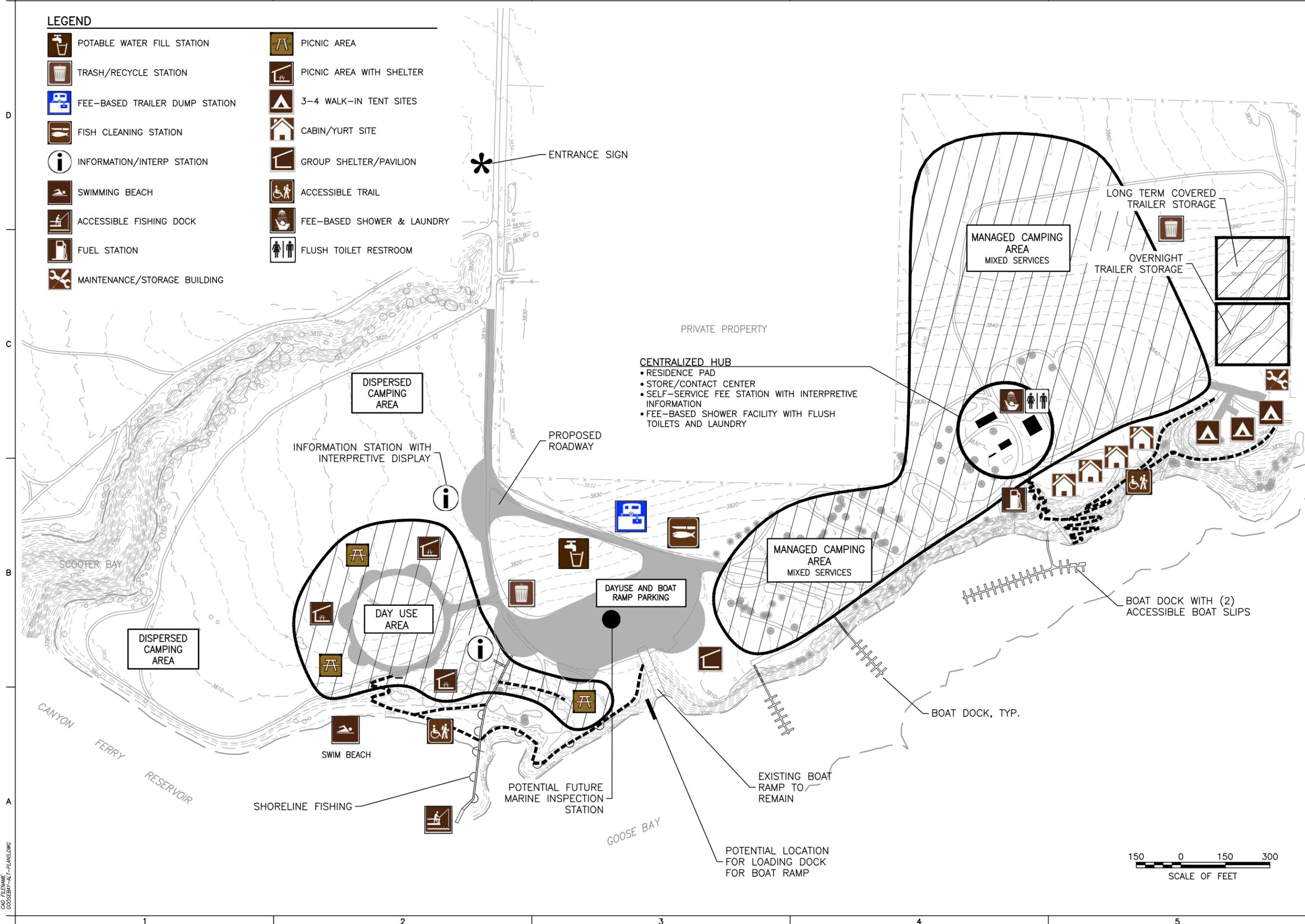
3

4

5

LEGEND

- POTABLE WATER FILL STATION
- TRASH/RECYCLE STATION
- FEE-BASED TRAILER DUMP STATION
- FISH CLEANING STATION
- INFORMATION/INTERP STATION
- SWIMMING BEACH
- ACCESSIBLE FISHING DOCK
- FUEL STATION
- MAINTENANCE/STORAGE BUILDING
- PICNIC AREA
- PICNIC AREA WITH SHELTER
- 3-4 WALK-IN TENT SITES
- CABIN/YURT SITE
- GROUP SHELTER/PAVILION
- ACCESSIBLE TRAIL
- FEE-BASED SHOWER & LAUNDRY
- FLUSH TOILET RESTROOM



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GOOSE BAY MARINA
SCHEMATIC LAYOUT 'B'



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 TECH. APPR.
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FIGURE 3

CAD SYSTEM
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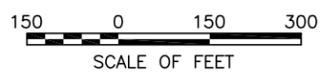
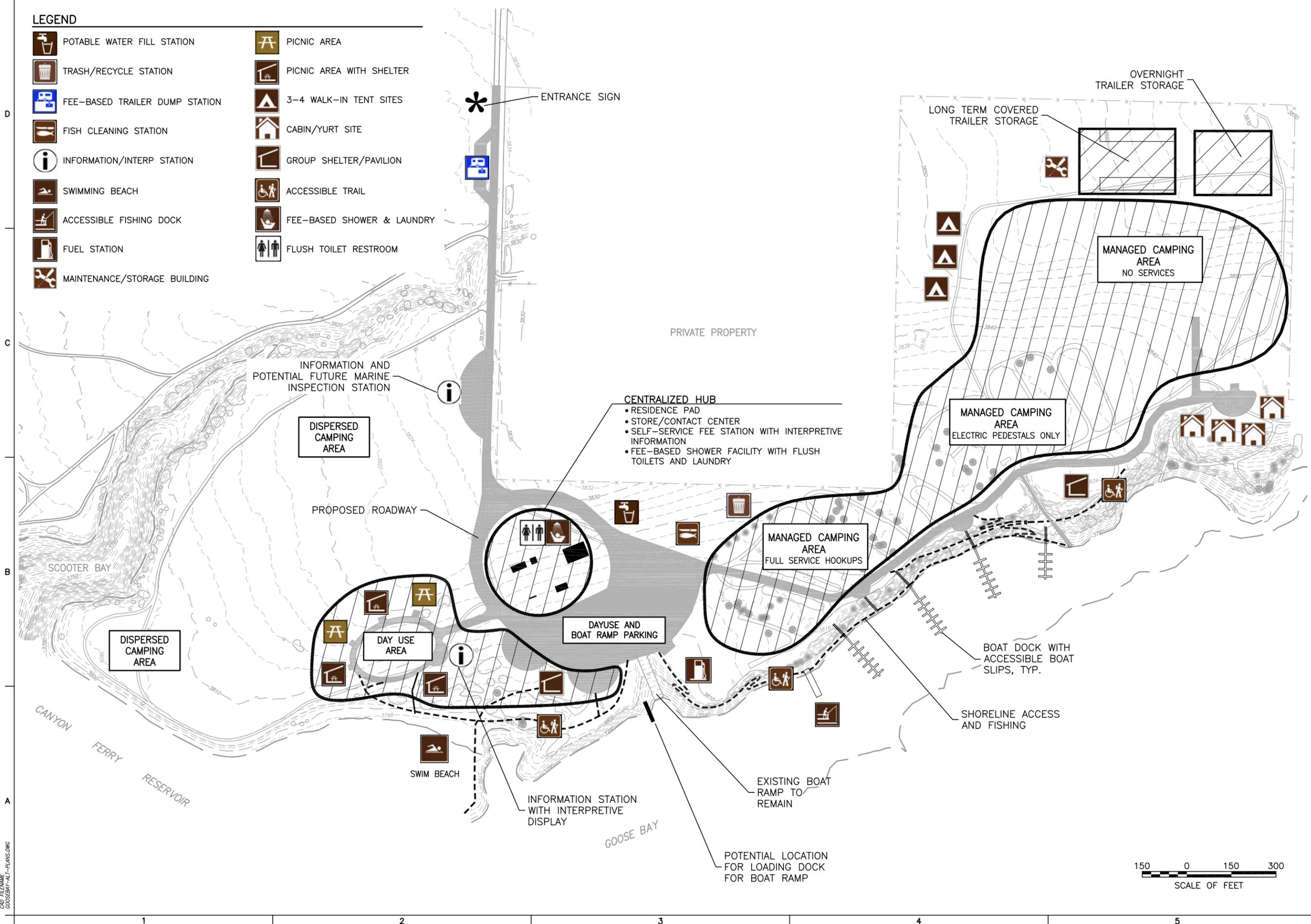


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FIGURE 4

LEGEND

	POTABLE WATER FILL STATION		PICNIC AREA
	TRASH/RECYCLE STATION		PICNIC AREA WITH SHELTER
	FEE-BASED TRAILER DUMP STATION		3-4 WALK-IN TENT SITES
	FISH CLEANING STATION		CABIN/YURT SITE
	INFORMATION/INTERP STATION		GROUP SHELTER/PAVILION
	SWIMMING BEACH		ACCESSIBLE TRAIL
	ACCESSIBLE FISHING DOCK		FEE-BASED SHOWER & LAUNDRY
	FUEL STATION		FLUSH TOILET RESTROOM
	MAINTENANCE/STORAGE BUILDING		



CAD SYSTEM
C:\P\PLANES
GOOSEBAY-ALT-PLANS.DWG

Attachment 1
Preliminary Electrical Analysis of Goose Bay Concession Area Modernization Study

PROPANE

Propane is currently provided to the site by Amerigas Propane, 503 N. Front Street, Townsend Montana, 59644, (406) 266-3815. Propane rates, as of November 15, 2012 is \$2.20 per gallon. There are several other propane providers in the area. Propane is typically used for heating buildings and cooking.



ELECTRICAL

Overhead, 14,400 volt, single phase, primary power is provided to the site by Vigilante Electrical Cooperative P.O. Box 1049 225 East Bannock Street, Dillon, Montana, 59725, (406) 683-2327. Primary power is routed to approximately seven transformers with 33 metered locations. These transformers reduce primary power to 120/240 volt secondary power for utilization at the campground/RV area mobile homes, the store, and other equipment. Three phase power is available along Canyon Ferry Road approximately 2.5 miles away from the site. Three phase power could be brought into the site at a cost of \$8.00 per foot. Based upon the projected build-out and type of equipment, three phase power is not required or anticipated.

As of November 2012, the utility company Residential Rate for all single phase uses is;

- Base Rate: \$21.00 per month plus
- Energy Charge: First 1,000 KWH used per month at 5.5¢ per KWH. Any usage over 1,000 KWH per month at 5.3¢ per KWH.
- KVA Charge: A monthly charge of 50¢ per KVA (KVA draw) for all billing KVA over 15 KVA

As of November 2012, the utility company Commercial Rate per month for all three phase uses is;

- Energy Charge: First 1,000 KWH used per month at 5.5¢ per KWH. Any usage over 1,000 KWH per month at 4.6¢ per KWH plus the higher of
- Demand Charge: All KW of billing demand per month at \$3.00 per KW or
- KVA Charge: A charge of \$1.00 per KVA of transformer capacity, but not less than \$25.00 per month or greater than \$100.00 per month.



It is recommended that primary overhead power, serving the project site, remain near the location where it currently enters the site and serves the campground/RV area. From this location, it is recommended that power be routed underground. This allows removal of the remaining overhead primary power, transformers, and power poles decreasing visual impacts associated with overhead power lines. The utility company will remove the overhead power lines, poles, and transformers at no cost. A new power

pole, transformer, and meter will need to be installed near this location at an estimated cost of \$1,500. This transformer and meter provides power to equipment near this location. Additional pad mounted transformers, meters, and direct burial primary power conductors would be installed by the utility company to meet additional power requirements. As of November 2012, the utility company cost for installing underground primary conductors is;

- ≤500 feet: \$18.00 per foot.
- 501 to 1500 feet: \$9.00 foot.
- ≥1500 feet: \$6.50 per foot.

The utility company would own and maintain these transformers and primary conductors. BOR will need to provide easements through the site to allow the utility company to maintain and service the equipment.

Transformer size, number and location depend on the buildout option selected and code requirements. The 2011 National Electrical Code (NEC) requires a minimum of 20 percent of all recreational vehicle sites, with electrical supply, to be equipped with a 50-ampere, 125/250-volt receptacles. A minimum of 70 percent of all recreational vehicle sites, with electrical supply, shall each be equipped with a 30-ampere, 125-volt receptacles. The remaining sites, with electrical supply, shall be equipped with either a 20-A, 30-A, or 50-A receptacle conforming to the configurations used for recreational vehicle supply cords. The NEC requires electrical services and feeders for Recreational Vehicle Parks to be calculated on the basis of not less than 9600 volt-amperes per RV site equipped with 50-ampere pedestals and 3600 volt-amperes per RV site equipped with both 20-ampere and 30 ampere pedestals. The NEC provides demand factors for site feeders and service-entrance conductors for a given number of sites. The demand factor for 36 RV sites or more is 41%.

LOW END BUILDOUT

Initial power requirements are based upon single phase power feeding a 400 square foot store, well pump, booster pump, miscellaneous lighting and power loads, and 75 RV power pedestals. Initial power estimates indicate an overall service size of 1,000 amps is required with power loads broken out as follow:

Store and maintenance building power: Provide transformer and 100 amp panel.

Well Building Power: Depending on location, install a transformer and 60 amp panel or sub-feed the panel from another service location.

RV Campground Power: 75 RV power pedestals with 20% consisting of 50/30/20 amp pedestals and the remaining 80% consisting of 30/20 amp pedestals. Provide up to five transformers each with 200 amp panels. Note that if all RV power pedestals are 50/30/20 amp pedestals the number of transformers required increases to eight based upon 200 amp panels each. The overall site service electrical load increases to 1,800-2,000 amps.

MIDDLE END BUILDOUT

Middle End power requirements are based upon single phase power feeding an 800 square foot store, well pump, booster pump, miscellaneous lighting and power loads, and 95 RV power pedestals. Initial power

estimates indicate an overall service size of 1,200 amps is required with power loads broken out as follow:

Store and maintenance building power: Provide transformer and 200 amp panel.

Well Building Power: Depending on location, install a transformer and 60 amp panel or sub-feed the panel from another service location.

RV Campground Power: 95 RV power pedestals with 20% consisting of 50/30/20 amp pedestals and the remaining 60 consisting of 30/20 amp pedestals. Provide up to five transformers each with 200 amp panels. Note that if all RV power pedestals are 50/30/20 amp pedestals the number of transformers required increases to eight based upon 200 amp panels each. The overall site service electrical load increases to 2,000-2,500 amps.

HIGH END BUILDOUT

High End power requirements are based upon single phase power feeding a 2,000 square foot store, well pump, booster pump, miscellaneous lighting and power loads, and 150 RV power pedestals. Initial power estimates indicate a 1,500 amp service is required with power loads broken out as follow:

Store and maintenance building power: Provide transformer and 200 amp panel.

Well Building Power: Depending on location, install a transformer and 60 amp panel or sub-feed the panel from another service location.

Covered Boat Storage Power: Depending on location, install a transformer and 60 amp panel or sub-feed the panel from another service location.

RV Campground Power: 115 RV power pedestals with 20% consisting of 50/30/20 amp pedestals and the remaining 60 consisting of 30/20 amp pedestals. Provide up to six transformers each with 200 amp panels. Note that if all RV power pedestals are 50/30/20 amp pedestals the number of transformers required increases to twelve based upon 200 amp panels each. The overall site service electrical load increases to 2,500-3,000 amps.