

Appendix ROD-2

Road Cards

Road Management Objectives

Purpose and Use

The road management objectives (RMOs) presented in this appendix establish the intended purpose and display design maintenance and operation criteria (as per FSH 7709.55) for each proposed (51451, 51009) and reconstructed (51540, 51543) National Forest System (NFS) road in the Navy project area. The information on the RMO form will be part of the Forest Transportation Atlas, a permanent database that can be updated periodically as access needs, issues, and budgets change (FSM 7711.03). The information on the site-specific design criteria form will be used during design, construction, and initial monitoring of any road work proposed in this document.

General Design Criteria

The general design criteria provide various descriptions of the type of road and the intended purpose and future use of the road. From this information, the maintenance and operation criteria can be developed. All Navy Timber Sale roads are constructed and maintained for silvicultural purposes. Wetlands will be avoided to the extent practicable. The practices described in BMP 12.5 will be applied to minimize impacts to wetlands where avoidance is not practicable. Therefore, all proposed roads meet the criteria for a silvicultural exemption from permitting under the Clean Water Act Section 404.

General Design Criteria and Elements are shown on the RMO portion of the road cards and are defined as follows:

- Functional Class: Local (L), Collector (C), and Arterial (A) classifications
- Service Life: Long (L) or Short (S), Constant (C) or Intermittent (I)

Operation Criteria

The operation criteria section includes a presentation of each of the five traffic management strategies identified in FSM 7731 (encourage, accept, discourage, prohibit, and eliminate) to be applied to different traffic classes on each road. The traffic management narrative describes what actions will be taken in order to apply each strategy. For example, if the strategy “eliminate” is prescribed for standard passenger and high-clearance vehicles, the narrative describes the method to accomplish this, such as removal of stream crossing structures, gating, etc.

Site-specific Design Criteria

The site-specific design criteria include road location objectives, wetland information, erosion control, proposed rock borrow sources, and all streams within the project area with proposed construction or rehabilitation of stream crossing structures.

Appendix ROD-2

Best Management Practices

The Forest Service recently issued National Core BMPs (USFS 2012). Directives for using these BMPs are currently in development. The Navy Timber Sale will implement the most up-to-date BMP guidance. Currently, this ROD cites the Alaska Region BMPs, which are fully described in FSH 2509.22 (USFS 2006). A crosswalk between the Alaska Region BMPs and the national BMPs has been placed in the project planning file for reference.

Some BMPs are implemented through the location of roads; others are translated into timber harvest and road contract provisions to ensure implementation.

Operational and Objective Maintenance Levels

Operational Maintenance Levels indicate the level of road maintenance, Maintenance Level (ML) 2, during sale-related activities. Objective Maintenance Levels indicate the long-term maintenance plan for the roads as described in the following definitions. Applicable maintenance levels for the project area are:

- **Maintenance Level 1 (ML 1):**
Roads are placed in storage between intermittent uses. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level.
After timber harvest is completed, roads would be evaluated for erosion potential and measures would be implemented to reduce sediment delivery from the road surface and fills and reduce the risk of crossing failure and stream diversion.
Road storage may include the removal of drainage structures and bridges, and construction of water bars, rolling dips and other necessary measures to protect resources including soils, water quality, fisheries, and wildlife. This is typically a long-term condition. The road remains in the NFS and may be reopened at a later date.
- **Maintenance Level 2 (ML 2):** Roads are maintained for high-clearance vehicles and monitored for resource protection. Traffic would be minor, consisting of logging trucks during sale operations, and administrative uses.

Alaska Forest Resources and Practices Act

Under the Alaska Forest Resources and Practices Act (AFRPA) all roads will be maintained as "Active" during harvest-related activities. After these activities are completed, the roads will be maintained as AFRPA class "Inactive" as shown on the road cards. These classes include:

- **Active:** A forest road being actively used for hauling logs, pulpwood, chips, or other major forest products, or rock and other roadbuilding materials.
- **Inactive:** A forest road on which commercial hauling is discontinued for one or more logging seasons, and the forest landowner desires

continuation of access for fire control, forest management activities, occasional or incidental use for forest products harvesting, or similar activities. Not open to motorized vehicles, but may be accessible to non-motorized users. Road drainage structures may or may not be removed.

One more AFRPA class, "Closed" is not used in this project:

- **Closed:** A road is closed when the following activities have been completed: a road is outslotted or waterbarred, or is left in a condition suitable to control erosion. The ditches are also left in a condition suitable to control erosion, and bridges, culverts, and fills are removed from surface waters.

The road segments are described using mileposts (MP) as beginning and ending points (Beginning milepost = Bmp; Ending milepost = Emp). Lengths are given in miles (mi). Road width is given in feet. Culverts are identified as cmp.

Blasting Restrictions Seasonal restrictions on blasting are required within ½ mile of active bald eagle nests. All nests are considered active from March 1-May 31; restrictions continue through August 31 unless nests are proven to be inactive.

During road construction, blasting operations will be designed to reduce the risk of mass failure on potentially unstable or saturated soils (BMP 14.6). Blasting and/or excavation under saturated soil conditions are restricted.

Erosion Control All erosion control measures are required to be in place before the end of the normal operating season, and maintained during operations outside the normal operating season.

See the roadcard location map (below) showing location of all existing and proposed project area roads.

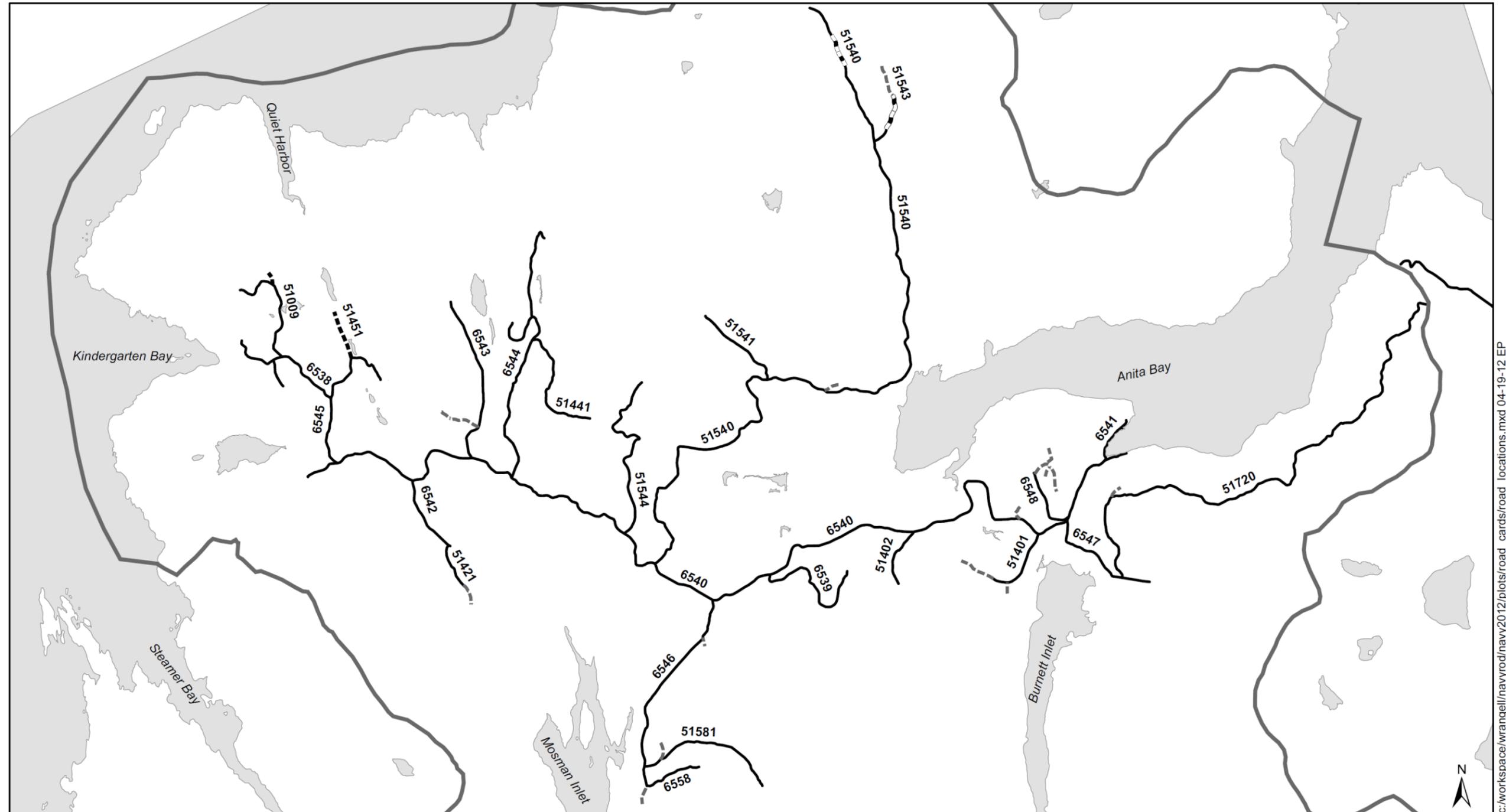
Temporary Roads

Temporary roads are decommissioned after harvest activities are completed. Decommissioning automatically involves pulling any culverts that were installed. Decommissioning activities result in the stabilization and restoration of unneeded roads to a more-natural state. They will not be driveable by motorized vehicles, but may be accessible to non-motorized users. Road drainage structures are removed and stream channels restored to their original contours. These roads are not part of the NFS road system.

Temporary roads are shown on the roadcard location map (below) and while they appear on road card maps which were produced for NFS construction and reconstruction, they do not have individual road cards. Temporary roads are shown on and described in the unit cards in Appendix ROD-1.

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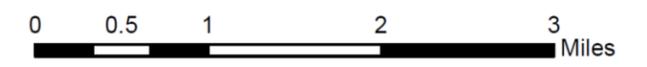


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- Project Area Boundary
- Water
- Existing Roads
- NFS Road Requiring Reconstruction
- Proposed Temporary Road
- Proposed NFS Road

Navy Timber Sale
ROD

Roadcard
Location Map

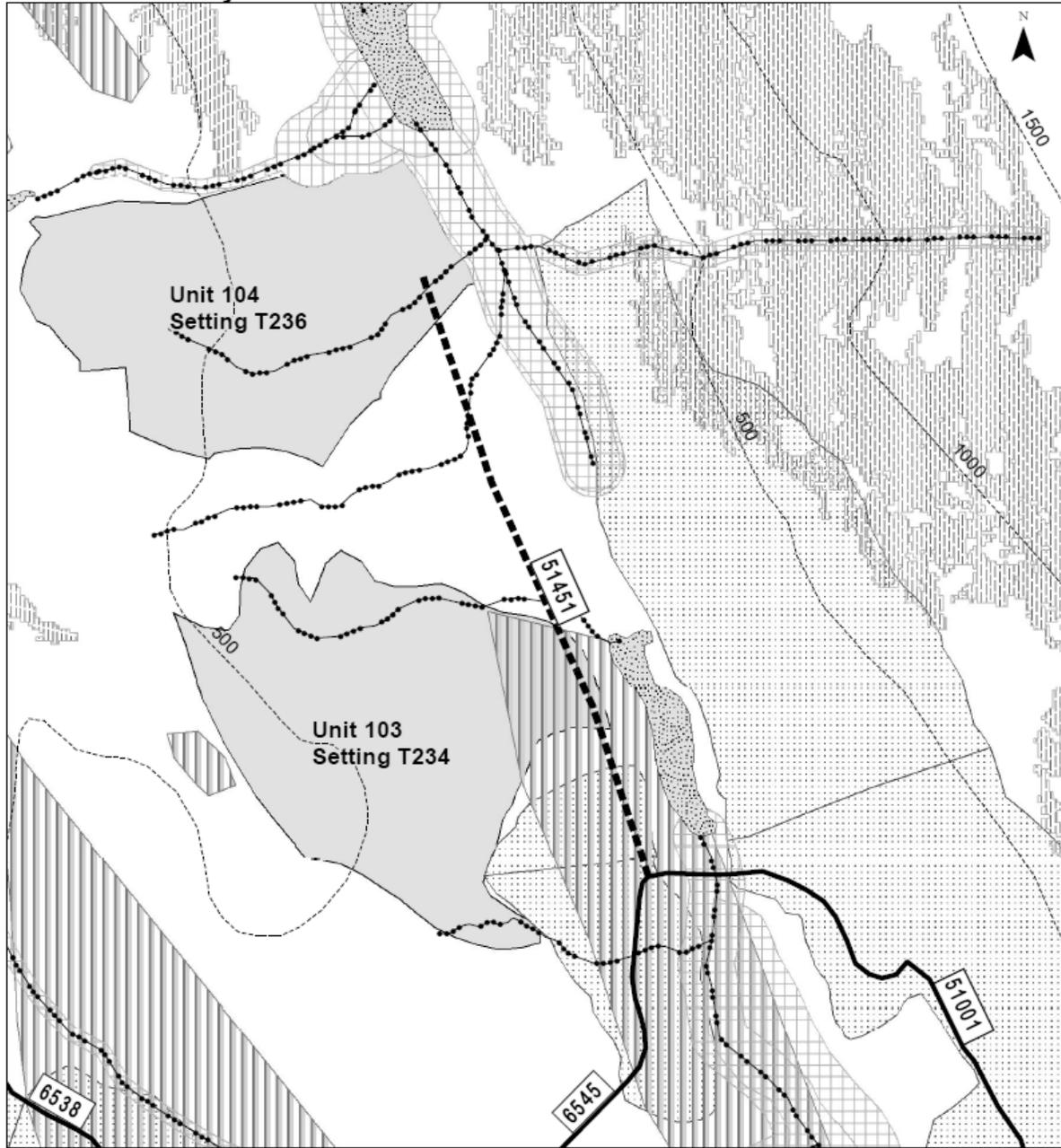


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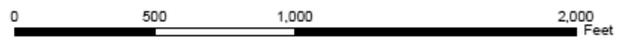
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Appendix ROD-2

Navy Timber Sale Selected Alternative Road 51451



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|--------------------------|-----------------------------------|------------------|
| Adjacent Proposed Units | Existing Roads | Stream Class I |
| Existing Harvest Units | NFS Road Requiring Reconstruction | Stream Class II |
| Slopes > 72% | Proposed Temporary Road | Stream Class III |
| Karst | Proposed NFS Road | Stream Class IV |
| Goshawk Nest Buffers | 100' contour | |
| Riparian Management Area | 500' contour | |
| Water | | |



Road Management Objectives

Project/FEIS: Navy		System: Anita Bay		Land Use Designation: TM, ML	
Route Number: 51451		Route Name: Lunch Time		Status: Planned	
Begin M.P.: 0.00	Length (miles): 0.48		Begin Termini: MP 1.18 of the 6545 Rd.	End Termini: MP 0.48 in Unit 104	

General Design Criteria and Elements

Functional Class: Local	Service Life: I	Traffic Service Level: D	Surface: Shot rock
Width: 14 feet	Critical Vehicle: Yarder	Design Vehicle: Log truck	Design Speed: 10 mph

Intended Purpose/Future Use: The intended purpose of this road is for timber management in Units 103 and 104. The road will be used for future timber management and administration.

Maintenance Criteria:

Bmp	Emp	Operational Maintenance Level Existing Condition	Objective Maintenance Level Desired Condition	AFRPA Class:
0.00	0.48	2		Active
0.00	0.48		1	Inactive

Operation Criteria

Highway Safety Act: No	Jurisdiction: National Forest System ownership
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Travel Management Strategies:

Encourage:	NA
Accept:	Non-motorized use after timber harvest.
Discourage:	Public use during the timber harvest.
Prohibit:	Motorized vehicles after the timber harvest.
Eliminate:	NA

Travel Management Narrative: During the period of timber harvest, the road will be managed as closed to motorized vehicles unless provided with a written authorization or for administrative activities (Maintenance Level 2). The road will be closed to public motorized use. After the timber sale the road will be managed as Maintenance Level 1. The road provides opportunity for current and future harvest. It is part of the minimum road system necessary for management in the Timber Production and Modified Landscape LUD.

District Ranger Approval (signature) _____ **Date:** _____

Appendix ROD-2

Site-specific Design Criteria Road No. 51451

Road Location: The purpose of this road is to access Units 103 and 104. The road travels northwest as it hugs the base of a ridge while avoiding the RMA buffer at the lower portion of the valley. Downhill yarding will be used for both units. The road maintains a relatively constant elevation along its length.

Wetlands: The road is located in forested wetlands between MP .20 and MP .45 due to alignment and grade constraints.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: Rock pits will require site-specific erosion control plans (BMP 14.18). The rock pit at MP 1.2 of the 6545 road was noted as a potential initial rock source. After construction of the initial road segment, it is expected that another small rock pit will be required, most likely near the end of this road.

Resource Information (If applicable):

Timber/Logging: N/A

Soils/Water: Adequate structures will be necessary for all unmapped crossings (BMP 14.17). After the timber sale, all crossings would be evaluated and treated as needed during road storage to reduce risk of failure.

Silviculture: N/A

Wildlife/Botany: Off-road equipment will be cleaned to remove seeds, vegetative matter and other debris, according to the timber sale contract, to help reduce the spread of invasive plant species.

Lands/Minerals/Geology/Karst: Mapped moderate-vulnerability karst in the eastern portion of the unit was not found to contain any features requiring protection within the unit or along the proposed road line accessing the unit.

Scenery/Recreation: N/A

Heritage: N/A

Stream Crossings

Road No. 51451

A.) Mi: 0.22	AHMU: IV	Channel Type: HC5	BF Width: 2-4 feet	BF Depth: NA	Substrate: cobble, gravel, silt
Gradient: 18%	Structure: 18-24" CMP		Passage Req'd: No	Timing Dates: None	

Narrative: N/A

B.) Mi: 0.37	AHMU: IV	Channel Type: HC5	BF Width: 1-3 feet	BF Depth: NA	Substrate: gravel, cobble
Gradient: 15%	Structure: 18-24" CMP		Passage Req'd: No	Timing Dates: None	

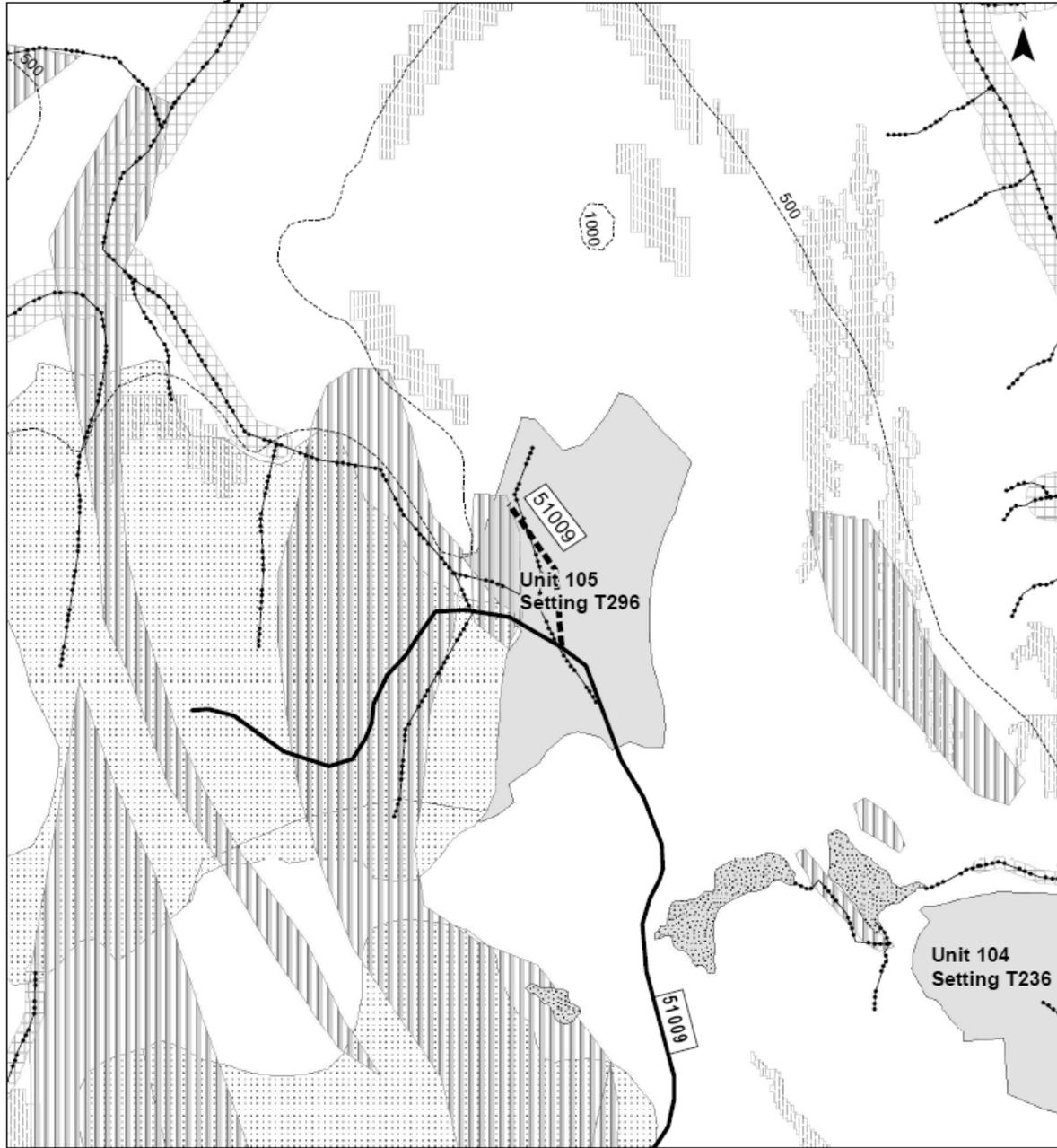
Narrative: N/A

C.) Mi: 0.47	AHMU: IV	Channel Type: HC5	BF Width: 1-3 feet	BF Depth: NA	Substrate: gravel, cobble
Gradient: 19%	Structure: 18-24" CMP		Passage Req'd: No	Timing Dates: None	

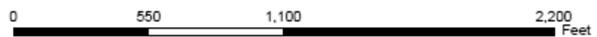
Narrative: N/A

Appendix ROD-2

Navy Timber Sale Selected Alternative Road 51009



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|--------------------------|-----------------------------------|------------------|
| Adjacent Proposed Units | Existing Roads | Stream Class I |
| Existing Harvest Units | NFS Road Requiring Reconstruction | Stream Class II |
| Slopes > 72% | Proposed Temporary Road | Stream Class III |
| Karst | Proposed NFS Road | Stream Class IV |
| Goshawk Nest Buffers | 100' contour | |
| Riparian Management Area | 500' contour | |
| Water | | |



Road Management Objectives

Project/FEIS: Navy		System: Anita Bay		Land Use Designation: ML	
Route Number: 51009		Route Name: Kindergarten Pass		Status: Planned	
Begin MP: 0.80	Length (miles): 0.12		Begin Termini: MP 0.67 of the 6538 Rd.	End Termini: MP 0.92 in Unit 105.	

General Design Criteria and Elements

Functional Class: Local	Service Life: I	Traffic Service Level: D	Surface: Shot rock
Width: 14 feet	Critical Vehicle: Yarder	Design Vehicle: Log truck	Design Speed: 10 mph

Intended Purpose/Future Use: The intended purpose of this road is for timber management in Unit 105. The road will be used for future timber management and administration.

Maintenance Criteria:

Bmp	Emp	Operational Maintenance Level Current Condition	Objective Maintenance Level Desired Condition	AFRPA Class
0.00	0.80	2	2	Active
		Planned Condition		
0.80	0.92	2		Active
0.80	0.92		1	Inactive

Operation Criteria

Highway Safety Act: No	Jurisdiction: National Forest System ownership
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Travel Management Strategies (MP 0.80-0.92):

Encourage:	NA
Accept:	Non-motorized use after timber harvest.
Discourage:	Public use during the timber harvest.
Prohibit:	Motorized vehicles after the timber harvest.
Eliminate:	NA

Travel Management Narrative: During the period of timber harvest, the road will be managed as closed to motorized vehicles unless provided with a written authorization or for administrative activities (Maintenance Level 2). The road will be closed to public motorized use. After the timber sale, the road from MP 0.80 to 0.92 will be managed as Maintenance Level 1. The road provides opportunity for current and future harvest. It is part of the minimum road system necessary for management in the Modified Landscape LUD.

District Ranger Approval (signature) _____ **Date:** _____

Appendix ROD-2

Site-specific Design Criteria Road No. 51009

Road Location: The purpose of this road is to access Unit 105.

Wetlands: The road has been located to avoid as much wetlands as possible.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: Rock pits will require site-specific erosion control plans (BMP 14.18). The rock pit at MP 0.9 of the 51009 road was noted as a potential rock source. Other potential rock sources are the nearby existing rock pits.

Resource Information (If applicable):

Timber/Logging: N/A

Soils/Water: Adequate structures will be needed for all unmapped stream crossings (BMP 14.17). After the timber sale, all crossings would be evaluated and treated as needed during road storage to reduce risk of failure.

Silviculture: N/A

Wildlife/Botany: Off-road equipment will be cleaned to remove seeds, vegetative matter and other debris, according to the timber sale contract, to help reduce the spread of invasive plant species.

Lands/Minerals/Geology/Karst: Moderate-vulnerability karst west of proposed road. Small solution (karst) features found along proposed road location contributing to Class IV stream. Limit soil disturbance to minimize potential sediment delivery to downslope karst area (BMPs 14.3, 14.5, 14.10, 14.12, 14.19).

Scenery/Recreation: N/A

Heritage: N/A

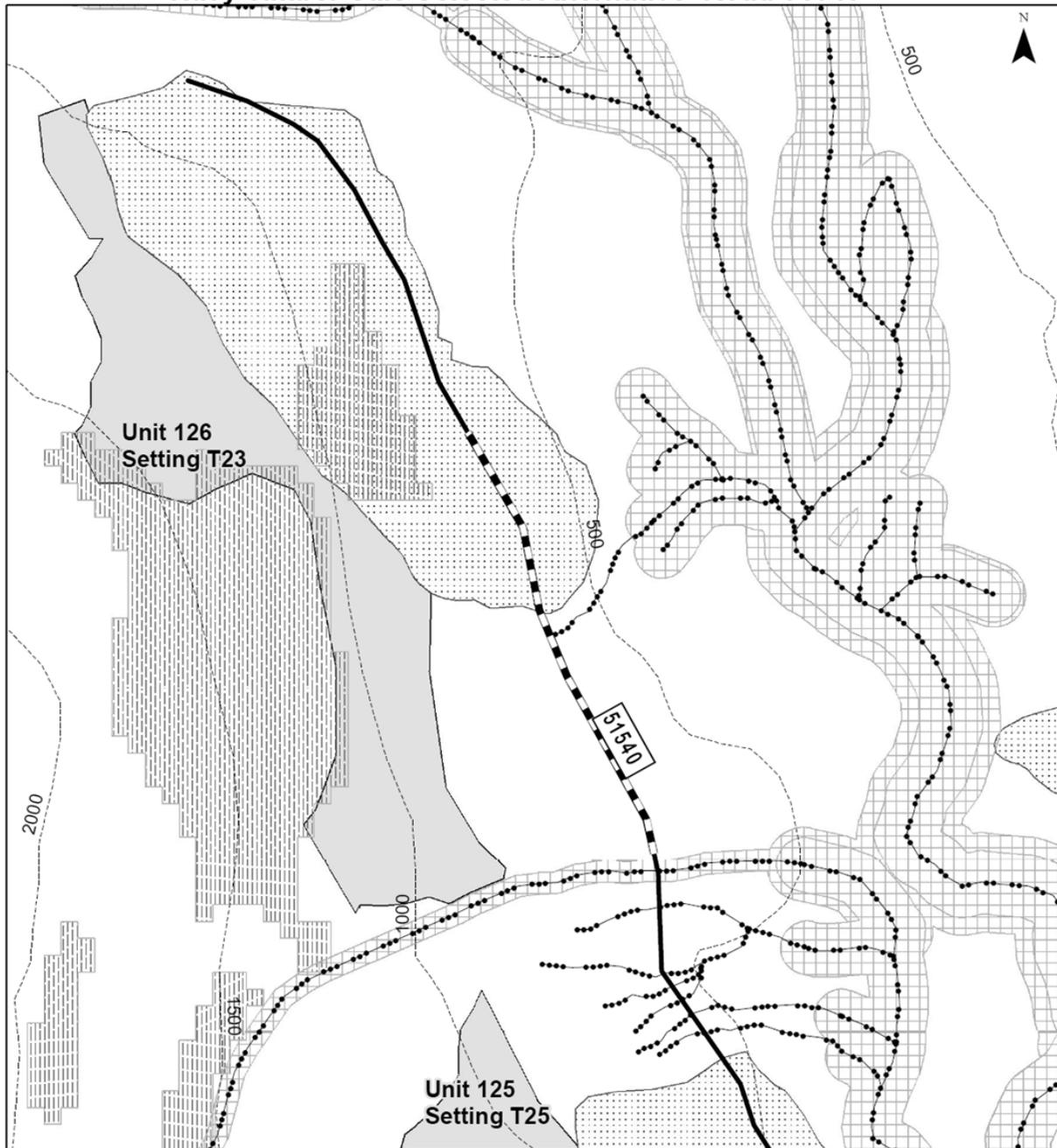
Stream Crossings
Road No. 51009

A.) Mi: 0.918	AHMU: IV	Channel Type: HC1	BF Width: 1- 3 feet	BF Depth: not noted	Substrate: bedrock, gravel, cobble
Gradient: 8-10%	Structure: 18-24" CMP		Passage Req'd: No	Timing Dates: None	

Narrative: N/A

Appendix ROD-2

Navy Timber Sale Selected Alternative Road 51540



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|--------------------------|-----------------------------------|------------------|
| Adjacent Proposed Units | Existing Roads | Stream Class I |
| Existing Harvest Units | NFS Road Requiring Reconstruction | Stream Class II |
| Slopes > 72% | Proposed Temporary Road | Stream Class III |
| Karst | Proposed NFS Road | Stream Class IV |
| Goshawk Nest Buffers | 100' contour | |
| Riparian Management Area | 500' contour | |
| Water | | |



Road Management Objectives

Project/FEIS: Navy		System: Anita Bay		Land Use Designation: TM	
Route Number: 51540		Route Name: Fishtrap		Status: Existing	
Begin MP: 7.64	Length (miles): 0.42	Begin Termini: MP 6.16 of 6540 Rd.	End Termini: MP 8.38 in Section 11		

General Design Criteria and Elements

Functional Class: Local	Service Life: I	Traffic Service Level: D	Surface: Shot rock
Width: 14 feet	Critical Vehicle: Yarder	Design Vehicle: Log truck	Design Speed: 10 mph

Intended Purpose/Future Use: The intended purpose of this road is for timber management in Unit 126. The road will be used for future timber management and administration.

Maintenance Criteria:

Bmp	Emp	Operational Maintenance Level Existing Condition	Objective Maintenance Level Desired Condition	AFRPA Class
7.64	8.06	1		Inactive
		Planned Condition		
7.64	8.06	2		Active
7.64	8.06		1	Inactive

Operation Criteria

Highway Safety Act: No	Jurisdiction: National Forest System ownership
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Travel Management Strategies (MP 7.64 -8.06):

Encourage:	NA
Accept:	Non-motorized use after timber harvest.
Discourage:	NA
Prohibit:	Public motorized vehicles during and after the timber harvest.
Eliminate:	NA

Travel Management Narrative: During the period of timber harvest, the road will be managed as closed to motorized vehicles unless provided with a written authorization or for administrative activities (Maintenance Level 2). The road will be closed to public motorized use. After the timber sale the road will be managed as Maintenance Level 1. The road provides opportunity for current and future harvest. It is part of the minimum road system necessary for management in the Timber Production LUD. After the timber harvest the road from MP 7.64 -8.06 will be closed and the structure at MP 7.64 will be removed, which will eliminate motorized access.

District Ranger Approval (signature) _____ **Date:** _____

Appendix ROD-2

Site-specific Design Criteria Road No. 51540

Road Location: The purpose of this road reconditioning is to access Unit 126. The existing 51540 road should be adequate for hauling with minimal maintenance up to MP 7.6. From MP 7.6 to MP 8.1 the road needs a couple of stream crossing structures replaced and minor maintenance, including replacing shot rock.

Wetlands: Wetlands exist along the proposed road reconditioning from MP 7.8 to MP 8.1. Reconditioning will avoid placing fill in wetlands.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: Due to the relatively minor nature of the road reconditioning, pit development will not be needed for this road. It is likely that rock will be needed to replace shot rock where necessary. The rock will most likely come from an existing rock pit.

Resource Information (If applicable):

Timber/Logging: N/A

Soils/Water: At MP 7.64, a removed bridge needs to be replaced with a structure. There are several blocked culverts on the existing road; culvert cleaning will be necessary to remove accumulated debris. There are also several erosion features that need to be corrected and ditches that need to be cleaned (BMPs 14.17, 14.20, and 14.5). After the timber sale, the bridge would be removed and all other crossings would be evaluated and treated as needed during road storage to reduce risk of failure.

Silviculture: N/A

Wildlife/Botany: Off-road equipment will be cleaned to remove seeds, vegetative matter and other debris, according to the timber sale contract, to help reduce the spread of invasive plant species.

Lands/Minerals/Geology/Karst: N/A

Scenery/Recreation: N/A

Heritage: N/A

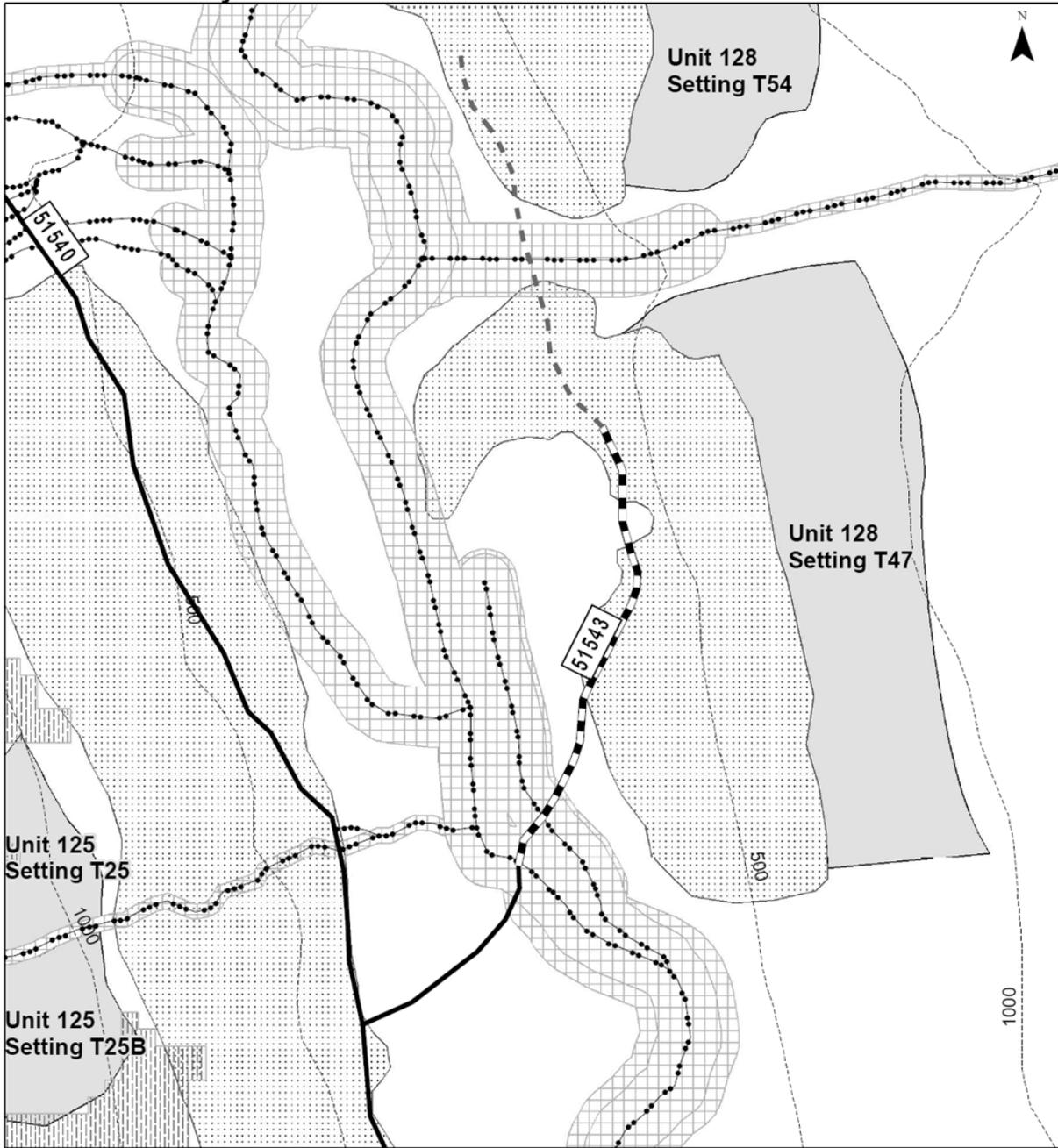
Stream Crossings
Road No. 51540

A.) Mi: 7.64	AHMU: III	Channel Type: HC6	BF Width: 29 feet	BF Depth: not noted	Substrate: boulder, cobble
Gradient: 23%	Structure: Bridge		Passage Req'd: No	Timing Dates: None	

Narrative: N/A

Appendix ROD-2

Navy Timber Sale Selected Alternative Road 51543



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|--------------------------|-----------------------------------|------------------|
| Adjacent Proposed Units | 100' contour | Stream Class I |
| Existing Harvest Units | 500' contour | Stream Class II |
| Slopes > 72% | NFS Road Requiring Reconstruction | Stream Class III |
| Karst | Proposed Temporary Road | Stream Class IV |
| Goshawk Nest Buffers | Proposed NFS Road | |
| Riparian Management Area | | |
| Water | | |



Road Management Objectives

Project/FEIS: Navy		System: Anita Bay		Land Use Designation: TM	
Route Number: 51543		Route Name: East Fishtrap		Status: Existing	
Begin MP: 0.18	Length (miles): 0.35		Begin Termini: MP 6.91 of the 51540 Rd.	End Termini: MP 0.53 in Section 12	

General Design Criteria and Elements

Functional Class: Local	Service Life: I	Traffic Service Level: D	Surface: Shot rock
Width: 14 feet	Critical Vehicle: Yarder	Design Vehicle: Log truck	Design Speed: 10 mph

Intended Purpose/Future Use: The intended purpose of this road is for timber management in Unit 128. The road will be used for future timber management and administration.

Maintenance Criteria:

Bmp	Emp	Operational Maintenance Level Existing Condition	Objective Maintenance Level Desired Condition	AFRPA Class
0.18	0.53	1		Inactive
		Planned Condition		
0.18	0.53	2		Active
0.18	0.53		1	Inactive

Operation Criteria

Highway Safety Act: No	Jurisdiction: National Forest System ownership
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Travel Management Strategies:

Encourage:	NA
Accept:	Non-motorized use after timber harvest.
Discourage:	NA
Prohibit:	Public motorized vehicles during and after the timber harvest.
Eliminate:	NA

Travel Management Narrative: During the period of timber harvest, the road will be managed as closed to motorized vehicles, unless provided with a written authorization or for administrative activities (Maintenance Level 2). The road will be closed to public motorized use. After the timber sale the road will be managed as Maintenance Level 1. The road provides opportunity for current and future harvest. It is part of the minimum road system necessary for management in the Timber Production LUD. After the timber harvest, the road from MP 0.18-0.53 will be closed and the bridge at MP 0.18 will be removed, which will eliminate all motorized access.

District Ranger Approval (signature) _____ **Date:** _____

Appendix ROD-2

Site-specific Design Criteria Road No. 51543

Road Location: The purpose of this road reconditioning is to access Unit 128. At MP 0.18, a large bridge has been removed.

Wetlands: Wetlands exist along proposed road reconditioning from MP 0.18 to MP 0.3. No additional fill will be placed in the wetlands. These wetlands will not be affected by the proposed road reconditioning.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: Due to the relatively minor nature of the road reconditioning, pit development will not be needed for this road. It is likely that rock will be needed to replace shot rock where necessary. The rock will most likely come from an existing rock pit.

Resource Information (If applicable):

Timber/Logging: N/A

Soils/Water/Fish: At MP 0.18, the bridge over Fishtrap Creek will need to be replaced. This is a Class II resident fish stream (Dolly Varden char verified) with a suggested construction timing window of June 1st to September 15th (BMP 14.6). At MP 0.22, a Class II stream has an existing 36" culvert. There are several culverts left on the existing road; culvert cleaning will be necessary to remove accumulated debris. The ditches will also need to be cleaned where necessary (BMPs 14.17, 14.20, and 14.5). After the timber sale, the bridge would be removed and the culvert at MP 0.22 evaluated and treated as needed to ensure fish passage. All other crossings would be evaluated as well, and treated as needed during road storage to reduce risk of failure.

Silviculture: N/A

Wildlife/Botany: Off-road equipment will be cleaned to remove seeds, vegetative matter and other debris, according to the timber sale contract, to help reduce the spread of invasive plant species.

Lands/Minerals/Geology/Karst: N/A

Scenery/Recreation: N/A

Heritage: N/A

Stream Crossings

Road No. 51543

A.) Mi: 0.18	AHM U: II	Channel Type: LC1	BF Width: 35 feet	BF Depth: not noted	Substrate: bedrock, boulder
Gradient: 2%	Structure: Bridge		Passage Req'd: Yes	Timing Dates: June 1 st -September 15th	

Narrative: N/A

B.) Mi: 0.22	AHM U: II	Channel Type: MM1	BF Width: 3-5 feet	BF Depth: not noted	Substrate: cobble, gravel
Gradient: 2%	Structure: 36" CMP existing		Passage Req'd: NA	Timing Dates: NA	

Narrative: 36" Pipe is present and will be evaluated at end of timber sale and treated as needed to ensure fish passage and reduce risk of failure. If it is removed, timing windows may apply.

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