

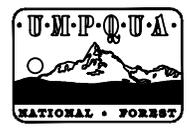
INDEX

| SHEET NO. | SHEET TITLE |
|-----------|------------------------------|
| 1 | Title & Signature Sheet |
| 2 | Vicinity Map |
| 3 | Estimate of Quantities |
| 4 | Culvert Listing |
| 5 | Culvert Construction Details |
| 6 | Worklists |

PROPOSED PROJECTS

| ROAD NO. | LENGTH | TYPE OF WORK |
|----------|----------|---------------------|
| 4776-300 | 0.36 mi. | Road Reconstruction |
| 4776-420 | 0.10 mi. | Road Reconstruction |

**U.S. DEPARTMENT of AGRICULTURE
FOREST SERVICE
UMPOUA NATIONAL FOREST**



**REGION 6
VICINITY MAP**



| | |
|--|--|
| RECOMMENDED BY: _____ DATE: _____ TRANSPORTATION ENGINEER | DESIGNED BY: _____ DATE: _____ |
| APPROVED BY: _____ DATE: _____ DISTRICT RANGER | PLAN IN HAND BY: _____ DATE: _____ |
| _____ DATE: _____ FOREST ENGINEER | REVIEWED BY: _____ DATE: _____ |

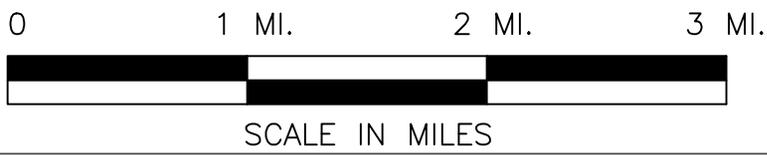
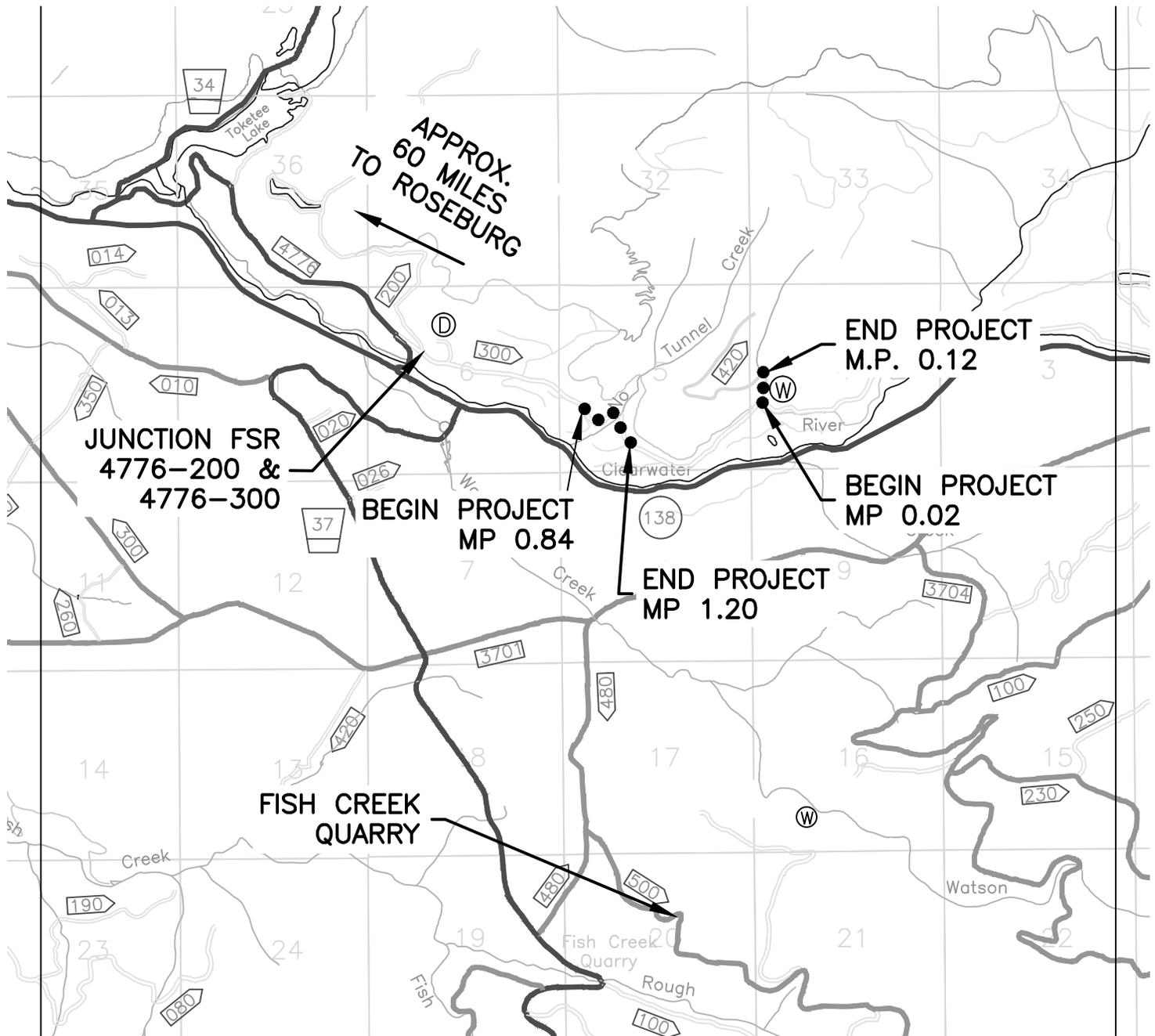
LONELY OAK TIMBER SALE



NORTH

LEGEND

- PROJECT LOCATION
- Ⓧ DISPOSAL SITE
- Ⓜ WATER SOURCE
- ROAD NUMBERS



LONELY OAK T.S. ROADS - ESTIMATE OF QUANTITIES

NOTES:

1. All volume unit pay items are measured in-place. All reference to quantities of excavated volumes refer to original (prior to excavation) volume.
2. See worklists and vicinity map for further description and location of work.
3. Units are measured as Actual Quantities unless denoted by an asterisk *. If denoted by an asterisk (*), the quantity is measured as a contract quantity in accordance with FP-03 109.2.

| | | |
|-------------------------------|-----------------|-----------------|
| Road No. | 4776-300 | 4776-420 |
| Project Length (miles) | 0.36 | 0.10 |
| Work Type | Recon. | Recon. |

4. All waste material, woody debris, slash or boulders shall be hauled and placed in disposal area, located on road 4776-330.
 5. Approved water source is located at road 4776-300, M.P. 2.17, T 27 S, R 4 E, Sec 4. See vicinity map.

| Pay Item | Description | Unit | Pay Items Quantities | Pay Items Quantities | Total Quantities | Remarks |
|-----------|---|-------|----------------------|----------------------|------------------|--------------------------------|
| 151-01 | Mobilization | L.S. | All Required | | ALL | Mobilization for all roads. |
| 203-01 | Removal of road closure barrier | Each | | 1 | 1 | |
| 203-01 | Removal of 36" diameter log across road | Each | | 1 | 1 | |
| 203-01 | Removal of metal culverts | Each | 2 | | 2 | Disposal off government land. |
| 251-10 | Hand placed riprap for Headwall, approximately 1 C.Y. Class 1 | Each | | 1 | 1 | Obtain from Fish Creek Quarry. |
| 322-32 | Haul and place stockpiled aggregate. Method B. | C.Y.* | 10 | 5 | 15 | Obtain from Fish Creek Quarry. |
| 602-63.24 | 24 inch corrugated metal pipe 0.064" thickness for steel, compaction method B | L.F. | 82 | | 82 | |
| 602-63.36 | 36 inch corrugated metal pipe 0.064" thickness for steel, compaction method B | L.F. | | 30 | 30 | |
| | | | | | | |
| | | | | | | |

U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE - THE PACIFIC NORTHWEST REGION 6
 UMPQUA NATIONAL FOREST - DIAMOND LAKE RANGER DISTRICT

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|----------------------------|---|--|---|----------------|
| APPROVED _____ DATE: _____ | DRAWN <u>GLEN THOMPSON</u> DATE: <u>5-26-16</u> REVIEWED _____ DATE: _____ | TIMBER SALE NAME: LONELY OAK | SHEET TITLE: ESTIMATE OF QUANTITIES | SHT. 3 OF 6 |
|----------------------------|---|--|---|----------------|

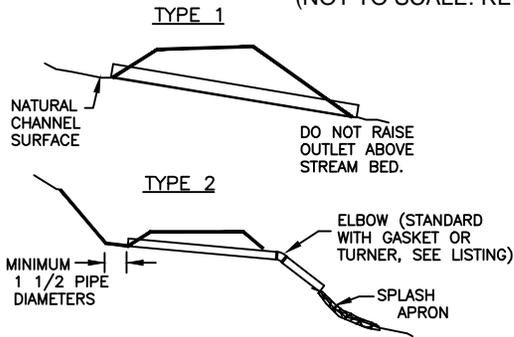
| LOCATION AND CULVERT LENGTHS | | | | | | INSTALLATION DETAILS AND SPECIAL SECTIONS | | | | | | | | | RIPRAP REQUIREMENTS | | | | | | | | | LONELY OAK TIMBER SALE CULVERT LISTING | | | | |
|--|-----------|-------------|----------|-----------|-------------|---|----------|------|------------------------|--------------|-------|---------------------------------|-------------|-----------|---------------------|-------|------|---------------------------------|-------|------|------------------|-------|------|---|------------------------|-------|---------|----------------------|
| DESIGNED | | | AS BUILT | | | CORRUGATED METAL PIPE | | | SPILLWAYS | | | BEVELED DROP INLET | | | HEADWALL | | | SPLASH APRON | | | SLOPE PROTECTION | | | | SUBGRADE REINFORCEMENT | | | |
| MP | STA. (FT) | LENGTH (FT) | MP | STA. (FT) | LENGTH (FT) | DIA. (IN) | TH. (IN) | TYPE | DOWN-DRAIN LENGTH (FT) | ANCHORS (EA) | ELBOW | DIA (INCH) | LENGTH (FT) | "B" ANGLE | CY | CLASS | TYPE | CY | CLASS | TYPE | CY | CLASS | TYPE | | CY | CLASS | TYPE | |
| Road #4776-300 | | | | | | | | | | | | | | | | | | | | | | | | | | | Remarks | |
| 0.84 | | 40 | | | | 24 | 0.064 | 3 | | | | | | | * | * | * | * | * | * | | | | | | | | *Riprap not required |
| 1.20 | | 42 | | | | 24 | 0.064 | 3 | | | | | | | * | * | * | * | * | * | | | | | | | | *Riprap not required |
| Road #4776-420 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.12 | | 30 | | | | 36 | 0.064 | 1 | | | | | | | 1 | 1 | H | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note:</p> <ol style="list-style-type: none"> 1) Staking for culverts has been completed by the Forest Service. Culvert lengths and locations are based on as-staked conditions. Install culverts as staked. 2) Excavations for new culverts and culvert replacements are generally deeper than existing culvert installations. Excavation of solid rock may be required in some locations. 3) Dimpled bands shall not be used on downpipes, elbows, or pipes laid on grades greater than 15%. 4) Unless shown otherwise, where cover heights exceed 11', culverts shall be cambered an amount equal to 0.5% of the culvert length. 5) Riprap shall be placed to the minimum dimensions shown on typical section drawings. 6) Riprap type abbreviations: D - Dumped (Mechanical in FP-03 Sec 251), H - Hand Placed, M - Machine Placed. 7) Minimum one foot subgrade cover over culvert installation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE - THE PACIFIC NORTHWEST REGION 6 UMPQUA NATIONAL FOREST - DIAMOND LAKE RANGER DISTRICT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| _____ DATE: _____ APPROVED | | | | | | DRAWN <u>GLEN THOMPSON</u> DATE: <u>5-26-16</u> REVIEWED _____ DATE: _____ | | | | | | TIMBER SALE NAME: LONELY OAK | | | | | | SHEET TITLE: CULVERT LISTING | | | | | | SHT. 4 OF 6 | | | | |

CULVERT CONSTRUCTION DETAIL

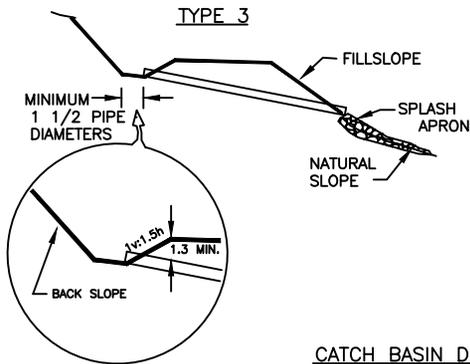
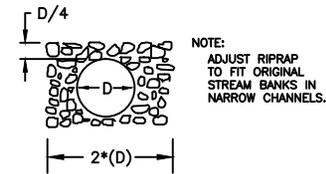
(NOT TO SCALE. REFER TO WORKLISTS.)

NOTES:

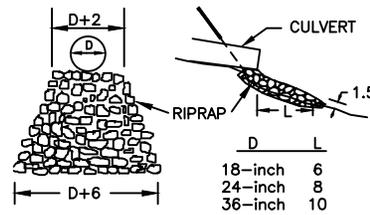
- 1) Conserve and utilize existing aggregate from roadbed at pipe excavation site.
- 2) Suitable material from existing excavation may be used as backfill material.
- 3) Replace conserved aggregate on road surface, supplementing the aggregate surface with 5 cubic yards of material obtained from Fish Creek Quarry.
- 4) Any unsuitable backfill material, woody debris, slash or boulders from excavation will be hauled to approved disposal sites (indirectly paid by Item 602-63.24 or 602-63.36).



HEADWALLS FOR TYPE 1

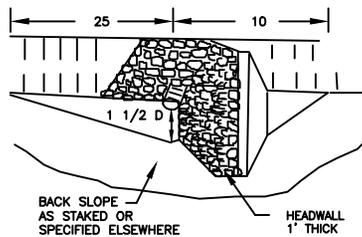


SPLASH APRON

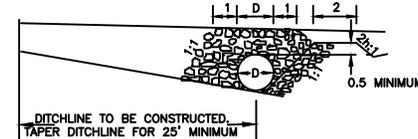


CATCH BASIN DETAIL FOR TYPE 2 & 3

HEADWALL - PLAN VIEW



HEADWALL - INLET PROFILE VIEW



U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE - THE PACIFIC NORTHWEST REGION 6
 UMPQUA NATIONAL FOREST - DIAMOND LAKE RANGER DISTRICT

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|----------------------------|-----------------------------------|-------------------------------------|---|--------|
| APPROVED _____ DATE: _____ | DRAWN GLEN THOMPSON DATE: 5-26-16 | TIMBER SALE NAME: LONELY OAK | SHEET TITLE: CULVERT CONSTRUCTION DETAILS | SHT. 5 |
| | REVIEWED _____ DATE: _____ | | | OF 6 |

| <u>MILE POST</u> | <u>SPECIFIED ROAD WORKLIST - ROAD 4776-300</u> | <u>PAY ITEM</u> | <u>QUANTITY</u> | |
|------------------|--|-------------------------------|-----------------|----------------|
| 0.84 | Begin specified road work. | | | |
| 0.84 | Remove existing 15" culvert and replace with a new 24" CMP. Excavate for suitable placement of 24" CMP, construct ditch dam & catch basin (indirectly paid by 602-63.24). See sheet 5 for notes and details. | 203-01 322-32 602-63.24 | 1 5 40 | EA CY LF |
| 1.20 | Remove existing 15" culvert and replace with a new 24" CMP. Excavate for suitable placement of 24" CMP and construct catch basin (indirectly paid by 602-63.24). See sheet 5 for notes and details. | 203.01 322.32 602-63.24 | 1 5 42 | EA CY LF |
| 1.20 | End specified road work. | | | |
| <u>MILE POST</u> | <u>SPECIFIED ROAD WORKLIST - ROAD 4776-420</u> | <u>PAY ITEM</u> | <u>QUANTITY</u> | |
| 0.02 | Begin specified road work. | | | |
| 0.02 | Remove existing earthen road closure barrier. | 203-01 | 1 | EA |
| 0.11 | Remove 36" log across the road. | 203-01 | 1 | EA |
| 0.12 | Install a new 36" CMP. Construct catch basin (indirectly paid by 602-63.36). See sheet 5 for notes and details. | 251-10 322-32 602-63.36 | 1 5 30 | EA CY LF |
| 0.12 | End specified road work. | | | |

U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE - THE PACIFIC NORTHWEST REGION 6
 UMPQUA NATIONAL FOREST - DIAMOND LAKE RANGER DISTRICT

| | | | | |
|-------------------------------|---|---|---|----------------|
| _____ DATE: _____ APPROVED | DRAWN <u>GLEN THOMPSON</u> DATE: <u>5-26-16</u> REVIEWED _____ DATE: _____ | TIMBER SALE NAME: <p align="center">LONELY OAK</p> | SHEET TITLE: <p align="center">WORKLISTS</p> | SHT. 6 OF 6 |
|-------------------------------|---|---|---|----------------|