

TIMBER SALE REPORT AND APPRAISAL
MIDDLE MANCOS INTEGRATED RESOURCE TIMBER CONTRACT
Sale Number - 12501

REGION TWO
SAN JUAN NATIONAL FOREST (13)
MANCOS-DOLORES RANGER DISTRICT (05)

Prepared / Recommended by: David Casey
David Casey - Supervisory Forester

Date: 08-04-16

This sale complies with section 6 (g) (3) (E)-(F) of the National Forest Management Act of 1976, Public Law 108-7, 36 CFR 223.1, the San Juan National Forest Land and Resource Management Plan approved September 2013, and the Decision Notice and Finding of No Significant Impact for the Burnt Ridge Aspen Management Project signed in June 11, 2015.

Approved by: Derek Padilla
Derek Padilla - District Ranger

Date: 8/4/2016

Reviewed by: _____
Timber Sale Accounting Center

SUMMARY OF RECOMMENDATIONS

Contract Type: 2400-13 (IRTC)

Specified Road Cost: n/a

Sale Volume: 3,690 CCF

Road Completion Date: n/a

Method of Sale: Sealed Bid, 30-day ad, Best Value

Sale Termination Date: 09-12-2019

Normal Operating Season: June 1 to Oct. 31

Method of Measurement: AS - weight scale

Deficit Sale: NO

Bid Guarantee: n/a

Minimum Performance Bond: \$ 3,100

Operations Fire Liability: \$2,600

Rate Adjustment: No

Advertised Minimum Bid Rates:

SPECIES – PRODUCT	ADVERTISED RATE
Live & Dead Aspen Misc. Conv.	\$ 6.33
Total Appraised Advertised Value	\$ 23,357.70

Contract Summary and Location

The Middle Mancos Stewardship Integrated Resource Timber Contract (IRTC) is part of the larger Burnt Ridge Aspen Management Project area. This project was developed to restore and regenerate over 4200 acres of aspen forest that is currently experiencing declining health and lacking overall age class diversity. Treatments were planned to include a combination of commercial coppice clearcut harvesting, prescribed pile burning and/or mastication. The Middle Mancos Contract is designed to harvest and regenerate 5 units. All of the cutting units will treat aspen stands using a combination of conventional ground-based mechanized logging and coppice clearcut harvest methods.

In addition to the traditional timber harvest and related activities, the stewardship contract would use additional service work items to:

- Enhance the aspen regeneration by felling and slashing premerchantable aspen stems and encroaching conifer in the stands.

The goods involved in this contract would be the merchantable (5.0”+ dbh) live aspen products. Aspen markets in the San Juan area have remained stable in recent years and it is anticipated that the value of these goods will more than offset the cost of the service work items. It is our intent to retain any residual receipts generated by this contract and apply those funds to future stewardship contracting projects on the Mancos-Dolores Ranger District of the San Juan National Forest.

The combination of aspen restoration harvest treatments and associated service projects proposed in this contract would contribute toward three of the seven land management goals identified in Section 323 of Public Law 108-7.

1. Road and trail maintenance or obliteration to restore or maintain water quality;
2. Removing vegetation or other activities to promote healthy forest stands, reduce fire hazards, or achieve other land management objectives;
3. Watershed restoration and maintenance;

The use of Stewardship authority as authorized by this law would allow us to support these needed restoration goals in the most financially efficient manner possible. The cost of the service items would be offset by the value of the timber products and the need for supplemental appropriated funds is not anticipated.

The Middle Mancos IRTC is located on the Mancos-Dolores Ranger District, San Juan National Forest. The project is located approximately 9 miles northeast of the town of Mancos, Colorado in Montezuma County. The primary access route to the sale is west out of Mancos on County Road-44 (Echo Basin Road) to Forest Service Road 566.

Legal Description: Portions of Sections 33, 34 & 35, Township 37 North, Range 12 West; New Mexico Principal Meridian, Montezuma County, CO.

Decision Notice Summary

The District Ranger approved the Decision Notice and Finding of No Significant Impact for the Burnt Ridge Aspen Management Project Environmental Assessment signed in June 11, 2015.

The decision as stated in the Decision Notice is:

... to implement Alternative 2 (Proposed Action) in its entirety as described in Section 2 of the EA including all sale area improvement projects as funding allows. The design criteria and best management practices describe in the EA will also be implemented.

This Decision includes the following actions. Maps are located in Appendix A of the EA.

Coppice Clearcut Regeneration Treatment with SMZs (~106 acres) (coppice not applied to SMZ) – See Maps in Appendix A of EA. Harvest includes the following:

- All merchantable trees removed, and unmerchantable trees that are over 15 feet in height will be felled or masticated on site to develop even-age structure.
- Slash will be disposed of by a) piling for later burning, b) lopping and scattering throughout the unit, or c) a combination of these methods. Slash will be left on-site for at least a year for drying prior to burning by Forest Service crews.
- Forestry best management practices (BMPs) will be implemented by establishing streamside management zones (SMZs) to protect riparian ecosystems.

- No new permanent system roads are planned to be built but up to 3.5 miles of temporary roads may be required to reduce need for excessive skidding. These roads will be decommissioned and obliterated within five years of the sale closure.
- This decision will not change roads available for public driving identified in the Mancos/Cortez Travel Management Plan.
- Regeneration harvests would be accomplished with commercial timber sales or a resource stewardship contract administered by the Forest Service.

Mitigation Measures & Design Criteria for the Middle Mancos IRTC

The following conditions will be included in the Timber Sale Contract in order to implement the design criteria detailed in the Burnt Ridge Aspen Management Project Environmental Assessment as well as Forest Plan Standards and Forest Service Timber Sale policy.

Vegetation - Prescriptions

Wildlife/Visual or Sapling size clumps will be left in or adjacent to the clear-cut harvest units and comprise 10-15% of the unit acres. These reserve clumps will function as snag and wildlife habitat, contain conifer that is undesirable to aspen harvest or serve as a visual screen to breakup clear-cut appearance near well traveled forest roads.

- a. Wildlife reserve clumps should be a group of live and/or dead trees, aspen or conifer, a minimum ½ acre in size but larger groups of 2-5 acres are recommended. Favor i) live and/or dead large diameter (>15") aspen or conifer with evidence of cavities, rot, broken tops, dead tops or lightning strikes, and ii) a basal area of 100 or greater. Locate clumps strategically to take advantage of existing conifer pockets, or pockets of large aspen trees, small-scale boggy areas or rocky soil, otherwise distribute evenly.
 - b. Visual reserve clumps – see visual quality below.
 - c. Sapling clumps – see #1. above.
 - d. Clumps of trees at entrance of temporary roads from main roads (where they occur) to screen and prevent travel on the temporary road.
- *These standards for reserve clumps were incorporated into the unit layout primarily by working around appropriate areas adjacent to the cutting units and including SMZs. Areas of regeneration were also reserved.*

Vegetation – Timing of Harvest

Normal Operating season for these SAD aspen sales will be June 10 thru Nov 15th. On units with a majority of dead, units may be required to be logged during a fall season (leaf off) of 9/15 thru 11/15 to promote aspen suckering during a leaf off time period. These units will not be more than 25% of the sale acres.

- *The Normal Operating Season for this sale is set at June 10th thru November 15th annually. Fall season logging will not be required for any units in this sale. (reference A.16 – Normal Operating Season)*

Winter harvest access is permitted under restrictions identified in the parent NEPA document. To prevent conflicts with winter recreation during winter logging operations FSRD 566 (Echo Basin road) will require a minimum of 2" of snow left on the road surface. This requirement will allow winter recreation activities to continue with minimal impacts from the logging. Winter logging will be restricted during the period of December 1st through February 15th. No hauling or snow plowing will be allowed on weekends (noon on Friday to 7:00 AM Monday) or on Federal holidays occurring during that period.

Vegetation – Landings, Skid Trails, Temporary Roads and Forest Roads

Minimize the size of landings because they tend not to readily regenerate by sprouting. Rip landings to a depth of 6-8 inches, following use to encourage coppice regeneration and reduce compaction. The overall objective will be that 40-50% of the landing area has exposed mineral soil, or that on 40-50% of the landing, slash does not block sunlight from reaching the ground surface. Pile landing slash or redistribute back into the harvest unit if necessary to meet this objective.

Location of skid trails shall be agreed upon by the Forest Service prior to their use.

- *Landing and skid trail locations will be approved in advance by the Forest Service and size will not exceed that needed for efficient operations. Landings will be rehabilitated following the completion of the contractor's activities. (reference G.4.2.2 - Landings & Skid Trails; K-F.3.4# - Obliteration of Temporary Roads, Skid Trails and Landings)*

All temporary roads used by the contractor would be decommissioned following harvest. Decommissioning would include outsloping (if possible), constructing non-drivable waterbars, scarification of the road surface to a depth of approximately one foot, seeding of the roadbed for the entire length and width with the seed mix listed below, and removal of all culverts to restore the stream channel to approximately its original plan and profile. The non-drivable waterbars shall be located according to the spacing chart in the transportation plan. None of these temporary roads will be added to the Forest Service road system. Final determination of need, location and length of temporary roads is requested by the timber-sale contractor, and approved by the Forest Service Timber Sale Administrator.

- *Temporary road locations will be approved in advance by the Forest Service and size will not exceed that needed for efficient operations. All temporary roads will be obliterated and seeded to Forest Service specifications following the completion of contractor's activities. (reference F.1 – Authorization; K-F.3.4# - Obliteration of Temporary Roads, Skid Trails and Landings; K-G.6.0.1# – Erosion Control Seeding)*

Wildlife

Personnel involved in timber marking and burning should be trained in raptor nest identification. This will allow project personnel to become familiar with raptors and to conduct nest searches during burn project layout activities.

If an active goshawk nest is found during layout, a ¼ mile no-activity (mechanical treatment) buffer will be placed around the nest site from March 1 – August 15, and a 30 acre no-cut buffer will be also

placed around the nest. If active nest is found post sale award, wildlife biologist will be notified, nest will be surveyed and proper mitigation will be determined.

- *Pre-sale personnel are trained in Goshawk ID. No goshawks or nests were discovered in pre-sale activities. In the event that sites are discovered after sale award, the Contracting Officer may interrupt the Contractor's operations. (reference K-G.2.4 - Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources)*

Surveys for purple martins will be conducted in analysis area prior to any treatment of units that border meadows and ponds. If nests are found outside of the 50 m buffered area, the buffered area will need to be extended to include the nest trees. Leave a 150 foot mature aspen buffer between cutting unit, and meadows that contain purple martin nesting colonies

- *No purple martin nesting sites were discovered during layout or pretreatment surveys.*

To retain potential habitat for the Northern Leopard Frog, buffer wetlands a distance equal to 2 times the maximum diameter of the wetland up to 150 feet.

- *All units in the Middle Mancos IRTC contain SMZs which buffer streams. Buffers were also created around small wetlands on units 3 and 5. A larger wetland east of unit 3 was avoided during layout.*

Cultural Resources

Any 'Eligible' or 'Need Data' sites within the project area would be avoided by project activities. During Marking and Cruising of the clearcut harvest units, layout of the mastication unit or pre-monitoring of the landscape burn areas, notify the District archaeologist if any historical (50+ year old) arborglyphs are found. The District archaeologist will determine if the glyph is of historical interest and if so record the site and the trees will be protected from harvest activities. If any additional cultural resources are discovered during project activities, activity at that location would cease and the District Archaeologist would be notified. The discovery would then be recorded and assessed, and the appropriate mitigations and consultations would be completed. The decision on whether to continue implementation at that location would be based on this assessment and consultation.

- *Trees containing historic arborglyphs were not identified in this project. In the event that sites are discovered after sale award, the Contracting Officer may interrupt the Contractor's operations. (reference G.2.4 - Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources)*

Public Health/Safety

Safety signing and other warning measures will be required during logging operations to protect the public and administrative personnel and to prevent accidents. Contractors are required to follow all traffic laws and can be issued citations if they do not.

- *Contractor will be required to furnish and maintain temporary traffic controls sufficient to warn of potentially hazardous conditions at key locations. (reference G.3.3 - Safety)*

Rangeland Resources

Loggers will be required to keep fences in good repair during operations. Wherever possible, the contractor should use existing gates for access to cutting areas. No fences are to be cut unless absolutely necessary and agreed to in writing by the timber sale administrator. In most cases where fences lie within cutting units, design skidding patterns to be parallel to fence lines, to pull timber away from fences, or to go through existing gates. In the event temporary roads and skid trails are needed to cross fences at other than existing gate locations, these breach points must be double H-braced on each side of the cut and closed with wire or a metal gate. Any fences damaged by loggers will be the responsibility of the timber contractor to repair immediately.

- *Contractor is required to protect and/or repair all improvements. Fences shall not be cut unless the fence has been properly braced to prevent loss of tension. (reference G.2.2 - Protection of Improvements; K-G.2.2.3 - Protection of Fences)*

Noxious Weeds

Hydro-axes or mastication equipment will be cleaned at an offsite location prior to entering the project area. Logging equipment will be subject to contract clauses for equipment cleaning. Pickup trucks and passenger vehicles are not subject to this requirement. If mastication equipment is removed from the project area, it will again be cleaned at an offsite location prior to re-entering the project area.

- *Cleaning of off-road equipment that last operated in an area that was infested with invasive species will be governed by contract provision G.3.5-Equipment Cleaning. (reference G.3.5 Equipment Cleaning)*

Soil and Water

Buffer perennial streams and wetlands by 100ft or by the mean height of mature dominant late-seral vegetation, whichever is greater (see also Leopard Frog criteria). Do not drive machinery in riparian areas. Do not reduce/mechanically treat riparian-wetland vegetation.

- *To protect intermittent and perennial streams and wetlands SMZs have been establish. No harvesting or equipment use will be allowed in the 25 feet closest to the water feature. Within the outer bands of the SMZs (50-100 feet) a partial harvest will be applied. (reference G.5 – Streamcourse Protection)*

Restrict hydro-mowing and timber harvest activities during periods of spring snowmelt and periods of heavy rain when soils are too wet. Soils are too wet when the moisture content exceeds the plastic limit. If soils within 6 inches of the surface can be rolled into threads 3 millimeters in diameter without breaking or crumbling, they are too wet.

- *Equipment shall not be operated when ground conditions are such that excessive damage will result. All temporary road work and all mechanized felling, processing and/or skidding shall be restricted annually from March 1st to May 31st. (reference G.6 - Erosion Prevention & Control; K-G.3.1.2# - Contract Operation Restrictions)*

CONDITIONS OF SALE

Silvicultural Prescriptions:

Matt Rathbone, a certified R2 silviculturist, prepared and approved the detailed stand prescription, and marking guides, for the harvest units. The selected harvest method for these aspen stands is an even-age harvest method using a clearcut-coppice system with Streamside Management Zones (SMZs) established where appropriate. The prescription was developed to meet the objectives of the selected alternative.

Marking and Volume Determination Summary:

This contract implements one of two planned timber sales under the Burnt Ridge Aspen Management Project. All of the cutting units will treat Aspen stands using a combination of conventional ground-based mechanized logging and coppice clearcut harvest methods. Each cutting unit was flagged with orange flagging, marked in Orange tracer paint, and GPS'd to determine the area. A detailed GPS acreage determination report is included in the presale folder and includes the specifications that were used to ensure the accuracy of the GPS data since this is used to determine the final sale volume.

The unit boundaries were marked with Orange tracer paint using procedures specified in the marking guide and R2 Timber Cruising Handbook. Paint used for this marking was **Orange Rain Resistant Lot #A0472** and **Orange Aerosol Lot #X0186**. Stream Management Zone boundaries in all units are marked with **Pink Aerosol Lot #W0640** and **E0489**. **Designated cut trees within the SMZs are marked with Blue Aerosol Lot #B0601.**

The Middle Mancos Timber Sale Cruise Plan contains detailed information about the cruise design and implementation. Matt Rathbone, a R2 certified cruise designer, prepared the plan. The cruise sale-as-a-whole sampling error of 14.6% is within the error standard of 30% for a scaled sale with an estimated value between \$15,000 and \$35,000. The cruise plan and cruise report are located in the presale folder. A satisfactory field check cruise was completed for this sale and the audited report is filed in the cruise folder.

Method of Measurement:

The live and dead aspen volume will be measured using a total weight scale system. An adjusted weight factor for live and dead aspen, based on the cruise percentage of live and dead will be used to weight scale the sale volume. The cruise indicated 3690 CCF of live Aspen. The combined weight factor for this sale will be based on (84.4%) live aspen and (15.6%) dead aspen. This calculation was performed using a spreadsheet developed by Gerry Ryszka, Regional Measurements Specialist, and came to **57.75 LBS** per cubic foot.

Scaling by load count has been determined to be an accurate and economical method of measurement for the low value mixed conifer sawtimber that is included in this contract. Known scaled data from

the comparable Upper Lost Timber Sale was examined in order to determine a reasonable average volume per load. 51 loads of conifer were hauled from 2007 to 2012 from the Upper Lost sale for a total net volume of 519.63 ccf. This results in an average volume per load of **10.19 CCF**

Harvest Operations:

All the sale units can be harvested with ground based skidding equipment. The area is well roaded so no new classified roads will be built as part of the sale. The volume can be efficiently removed by using NFSR 566, NFSR 333 and related spur roads. NFSR 333 and 333.A are designated as Level 1 roads and need to be opened and brought back to operational status. The existing closed roadbeds and any new short spurs or temporary roads that are constructed will be treated as temporary roads in the contract and obliterated by the contractor after use. A detailed logging plan and map as well as a road maintenance plan are included in the presale folder.

Regeneration:

The aspen clearcut units will typically vegetatively regenerate after cutting. Aspen throughout the San Juan NF has a history of successful coppice regeneration after clear cutting. The National Forest Management Act (NFMA) of 1976 requires monitoring of the natural regeneration to ensure that the stands are adequately stocked within 5 years of harvest. This cost will be made an essential project within the KV plan.

Associated Plans:

Brush Disposal Treatment Plan (FS-2400-62) - describes slash treatment obligations and costs for the Forest Service. Deposits will be collected from the Contractor to cover the Forest Service cost of burning slash piles on the landings.

Sale Area Improvement and K-V Collection Plan (FS-2400-50) – describes KV projects and the estimated cost of completing them. The following projects are listed by priority in the EA. These items qualify for Knutson Vandenberg (KV) funds that are collected from timber sale receipts. Essential KV tasks are associated with reforestation and would be funded prior to non-essential KV tasks.

Essential KV tasks include,

- **Regeneration Monitoring** - Surveys to monitor the success of aspen regeneration developed vegetatively from sprouts would be planned in all cutting units. These surveys are conducted the 1st year, 3rd year and 5th year (if necessary) after harvest. Effects of browse on aspen regeneration would be monitored on stocking surveys and problem units would be identified.

Non-Essential KV tasks include,

- Noxious Weed Treatment – Inventory and treatment of noxious weeds as needed within the sale area boundary. Treatments may occur multiple times and anytime within five years after close of the sale.
- Closure or Rehabilitation of unauthorized motorized routes (top of Burnt Ridge area)
- Rehabilitation and exclosure protection of a spring (tributary of Deer Lick creek)
- Replacement of culverts along FSR 566 loop

TIMBER APPRAISAL PREMISES

Appraisal Summary

- Base data from Region 2 **BULLETIN NO. BU230716 (August 18th 2016)**
- Aspen rates will not be subject to quarterly stumpage rate adjustment due the lack of a suitable index.
- Hauling and Logging fuel cost adjustments were included as directed in the Bulletin.

Current Appraisal Base Data

BULLETIN NO. BU230716 (August 18th 2016)
BASE DATA PERIOD: 3rd QTR CY15 – 2 nd QTR CY16
APPRAISAL BASE PERIOD: 6-16
BASE INDEX (per MBF) White Woods: 361.32
BASE INDEX Adjusted to CCF: N/A

BASE PRICE/COSTS	
SPECIES:	Aspen POL
Adjusted Base Period Price:	2.82
Base Skid-Yard Cost	n/a
Base Haul	0.00
Base Road Maintenance	4.43
Base Slash	0.00
Base Temp Roads	2.39

Sale Statistics

	Units	Sale Total or Avg.	Live Aspen
Gross Volume	CCF	3690	3690
Average Total Defect/Breakage	%	7%	7%
Contract Volume(Net)	CCF	3690	3690
% Net Volume By Species/Group	%	100%	100%
Ave. Net Volume/Tree	CF	19.7	19.7
Ave. Net Volume/Acre	CCF	30.8	30.8
BC ration	n/a	5.06	5.06
Quad Mean DBH/Species	Inch	11.4	11.4
Total Number of Trees	Trees	22,911	22,911

Cruised Timber Volume By Cutting Unit (CCF)

Cutting Unit	Payment Unit	Acres	L & D Aspen		Cutting Unit Volume
			ASL (Aspen- Live)	ASD (Aspen- Dead)	
1	1	16	718	0	718
1Z	1	6	37	0	37
2	2	21	682	0	682
2Z	2	1	11	0	11
3	3	14	628	0	628
3Z	3	1	6	0	6
4	4	29	942	0	942
4Z	4	3	25	0	25
5	5	14	628	0	628
5Z	5	1	13	0	13
TOTAL		106	3690 (100%)	0 (0%)	3690

Road Maintenance

The basic unit cost rates used to calculate road maintenance are from the San Juan National Forest Road Maintenance and Temporary Road Cost Guide prepared by Gary Ferdinando. These rates include applicable contractor overhead on both labor and equipment.

Pre-Haul Maintenance will be performed by the contractor on the following roads per contract provision K-F.3.1# specifications. It is assumed these maintenance items will be performed once, before hauling is begun.

Level I Roads:				
NFSR 333	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805), Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 635/mile	2.0 miles	\$ 1270
NFSR 333A	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805), Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 635/mile	0.7 miles	\$ 445
NFSR 420	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805), Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 635/mile	.75 miles	\$476
Level III Roads:				
NFSR 566	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805) Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 635/mile	6.5 miles	\$ 4,127
Total Pre-Haul Maintenance:			9.95 miles	\$6318

During Haul Maintenance will be performed by the contractor on the following roads per contract provision K-F.3.1# specifications. For appraisal purposes, it is assumed these annual maintenance items will be performed during just **one** season of active hauling.

I Roads:				
NFSR 333	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805) & Misc. Structures (T808)	\$ 390/mile	2.0 miles	\$ 780
NFSR 333A	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805) & Misc. Structures (T808)	\$ 390/mile	0.7 miles	\$ 273
NFSR 420	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805), Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 390/mile	.75 miles	\$292
Level III Roads:				
NFSR 566	Ditch Cleaning(T802), Surface Blading(T803), Drainage Structures(T805) & Misc. Structures (T808)	\$ 490/mile	6.5 miles	\$ 4530
Total During-Haul Maintenance:			9.95 miles	\$ 5875

Post Haul Maintenance will be performed by the contractor on the following roads per contract provision K-F.3.1# specifications. It is assumed these maintenance items will be performed once, after hauling is completed.

Level I Roads:				
NFSR 333	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805) & Misc. Structures (T808)	\$ 390/mile	2.0 miles	\$ 780
NFSR 333.A	Ditch Cleaning(T802), Surface Blading(T803), Surfacing	\$ 390/mile	0.7 miles	\$ 273

	Repair(T804), Drainage Structures(T805) & Misc. Structures (T808)			
420	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805), Roadway Vegetation(T807) & Misc. Structures (T808)	\$ 390/mile	.75 miles	\$476
Level III Roads:				
NFSR 556	Ditch Cleaning(T802), Surface Blading(T803), Surfacing Repair(T804), Drainage Structures(T805) & Misc. Structures (T808)	\$ 390/mile	6.5 miles	\$ 2,535
		9.95 miles	Total	\$ 4064

Total Contractor Maintenance Cost: \$6,318 + \$ 5875 + \$ 4064= \$16,257 (\$4.40/CCF)

Surface Rock Replacement Deposits

FOREST PRIMARY TIMBER SALE HAUL ROADS WITH AGGREGATE SURFACE

(ELIGIBLE FOR SRR COLLECTIONS)

(a) Road Number	(b) Length (Miles)	(c) Base Rate/CCF/mile	(d) Rate/CCF/mile w/ F.S. OH @ 26%	(e) Deposit Rate/CCF	(f) Segment CCF	(g) Total Deposit per Segment
FSR 566 (Unit 3 to USFS BDY)	6.5	0.3	0.378	2.457	3,690	\$9,066.33
			0.000	0.000		\$0.00
			0.000	0.000		\$0.00
TOTAL MIDDLE MANCOS TIMBER SALE						\$9,066.33
COST PER CCF (3690 CCF)						\$2.46

Maintenance Summary:

	Total Cost	Volume	\$/CCF
Contractor Required Performance	\$16,257.00	3,690 ccf	\$ 4.40
Surface Rock Replacement Deposits	\$ 9,066.33	3,690 ccf	\$2.46 ✓
TOTAL ROAD MAINTENANCE COST	\$ 25,323.33	3,690 ccf	\$ 6.86 ✓

Temporary Roads Construction & Decommissioning

Temporary road costs include clearing & grubbing if applicable, excavation, obliteration, seeding and mobilization costs. The basic unit cost rates used to calculate road maintenance are from the San Juan National Forest Road Maintenance and Temporary Road Cost Guide prepared by Forest Service engineering staff. These rates include applicable contractor overhead on both labor and equipment. See the Temporary Road Cost Estimate spreadsheet for additional details.

Temporary Road Number	Miles	Access Unit	Cost per Per Mile	Cost per Per Road
Temp 1	0.1	Unit 1	\$8,409	\$ 841
Temp 2	0.33	Unit 1	\$8,409	\$2,775
Temp - 3	0.18	Unit 2	\$8,409	\$ 1514
Temp - 4	0.28	Unit 4	\$8,409	\$ 2354
TOTAL MILES:	0.89			
		TOTAL TEMP ROADS:		\$ 7,484
		PROJECT MOVE IN:		\$ 932
		TOTAL TEMP ROAD COST:		\$ 8,416
		TOTAL COST PER CCF (3690 ccf):		\$2.28/ccf

Haul Costs

P.O.L. (Aspen) Haul Cost Adjustment to Mancos, CO

Because of the relatively high proportion of live Aspen it is assumed that the nearest operating mill to this timber sale that is capable of processing this volume & type of material is Western Excelsior located outside Mancos, CO. P.O.L. specific sale adjustment is calculated by subtracting the average haul mileage from the sale haul mileage and multiplying by the haul rate of \$0.17/CCF/mile. The TEA database average haul distance for P.O.L. is a constant 52 miles. (FSH 2409.22, Chap. 71.71)

Haul mileage from the Middle Mancos Contract Area to Mancos, CO is approximately 13 miles.

$$13 \text{ mi.} - 52\text{mi.} = -20\text{mi.} \times \$0.17/\text{CCF}/\text{mile} = - \$ 6.63/\text{CCF}$$

Slash Disposal

According to the provision, K-G.7# - Slash Treatment, the Contractor will be required to pile all slash that is left at landings following whole-tree yarding. These piles will be burned by Forest Service force account crews when conditions allow. BD deposits will be charged to the contractor and collected to offset the cost of this burning operation. It is estimated that the burning can be accomplished in two days by a crew consisting of one GS-9 and two GS-7s. Daily rates are approximations from the WorkPlan system.

$$\begin{aligned} \text{GS-9} * \$260/\text{day} * 2 \text{ man-days} &= \$520 \\ \text{GS-7} * \$200/\text{day} * 4 \text{ man-days} &= \underline{\$800} \\ &= \$1320 \end{aligned}$$

$$\text{Inflated to 2017} = \$1320 * 1.0404 = \$1373$$

$$\begin{aligned} \text{National Collection Rate (Program Support)} &= \$1373 * 1.41 = \$1936 \\ \text{or, } \$1,936/3690\text{ccf} &= \$0.52/\text{CCF} \end{aligned}$$

Contractor Performance Contractual Items

Unusual Adjustments

Unusual adjustments are sale adjustments made necessary for cost or value items that are not reflected in the appraisal database. (FSH 2409.22, 51.6) N/A

Contractor Liability Limit per Operations Fire (reference A.14 & H.4.1)

Firefighter Type 2 (crewmember)
AD-C Wage rate (FSH id5109.34-2011-1) = \$17.40/hr.

Estimated number of persons needed to operate the sale = 4
\$17.40/hr. x 12hr. day x 4 persons x 3 days = \$ 2,505.60
Rounded up to **\$2,600**

Stewardship Projects (reference A.4.3 & K-G.9#)

The Middle Mancos Integrated Resource Timber Contract (IRTC) would use contract service work to complete felling and slashing treatments on the residual sub-merchantable and small diameter aspen and conifer trees that remain on site after commercial logging operations have removed the designated merchantable timber. Provision K-G.9# - *Stewardship Projects* contains the detailed project specifications.

Project #001 – Felling and Slashing Residual Trees

- Contractor shall fell all **live**, aspen and conifer trees which remain on site after the merchantable timber has been removed. This includes any trees that were damaged beyond recovery during logging operations. Trees shall be completely severed from the stump and stump height shall not exceed **twelve inches (12”)** from the ground surface as measured on the uphill side. Trees otherwise designated to be left standing (i.e., reserve trees, boundary trees or dead snag trees) should NOT be treated.
- All slash, including contractor cut trees not removed and all material resulting from the contractor’s operations shall be piled. Piles will be at least 10’ diameter and no longer than 30’ piles. Piles shall be a mixture of heavy and fine fuels with majority of heavy fuel on top of pile. No pieces bigger than 6’ in length shall be piled; if material is larger than 6’ it will need processed prior to piling. Piles shall be free of debris and compacted down several times with machine to avoid air pockets (smash the piles).

The minimum Performance Bond for this sale shall be the greater of either the estimated performance bond amount based on the advertised value or the calculated cost of the mitigation work required from the Contractor after one operating season.

The estimated Performance Bond Amount Is:

Advertised Value = $\$23,358 \times 0.1 = \$ 2,358$ (rounded up to \$ 2,400)