



"STAND FOR THE FOREST"

Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Cost Summary

| | Conifer | Hardwood | Total |
|-------------------------|----------------|-------------------|----------------|
| Gross Timber Sale Value | \$1,499,035.77 | \$0.00 | \$1,499,035.77 |
| | | Project Work: | (\$51,992.88) |
| | | Advertised Value: | \$1,447,042.89 |



"SUSTAINABLE FORESTRY"

Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Timber Description

Location: Portions of Sections 14, 23, and 24, T2N, R6W, W.M.,
Washington County, Oregon.

Stand Stocking: 20%

| Specie Name | AvgDBH | Amortization (%) | Recovery (%) |
|-----------------------|--------|------------------|--------------|
| Douglas - Fir | 17 | 0 | 98 |
| Western Hemlock / Fir | 16 | 0 | 98 |

| Volume by Grade | 2S | 3S | 4S | Total |
|-----------------------|-------|-------|-----|-------|
| Douglas - Fir | 2,117 | 1,721 | 233 | 4,071 |
| Western Hemlock / Fir | 85 | 193 | 6 | 284 |
| Total | 2,202 | 1,914 | 239 | 4,355 |

Comments: Pond Values Used: 3rd Quarter Calendar Year 2015.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$1,021.34/\text{MBF} = \$1,250/\text{MBF} - \$228.66/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$381.34/\text{MBF} = \$610/\text{MBF} - \$228.66/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):

Brand and Paint: $4,355 \text{ MBF} \times \$2/\text{MBF} = \$8,710$

Intermediate Supports: $10 \text{ supports} \times \$200/\text{support} = \$2,000$

Truck Assist: $320 \text{ hours} @ \$60/\text{hour} = \$19,200$

TOTAL Other Costs (with Profit & Risk to be added) = \$29,910

Other Costs (No Profit & Risk added):

Block/Waterbar Roads & Skid Trails: $20 \text{ hrs} \times \$150/\text{hour} = \$3,000$

Pile Landing Slash and Sort Firewood: $20 \text{ hrs} \times \$150/\text{hour} = \$3,000$

Equipment Cleaning: $3 \times \$1,000/\text{Piece} = \$3,000$

Temporary Gates: $2 @ \$1,000 \text{ each} = \$2,000$

Slash Treatment: $15 \text{ acres} \times \$150/\text{acre} = \$2,250$

TOTAL Other Costs (No Profit & Risk added) = \$13,250

ROAD MAINTENANCE

Move-in: \$4,000

General Road Maintenance: $4.7 \text{ miles} \times \$1,200/\text{mile} = \$5,640$

TOTAL Road Maintenance: $\$9,640 / 4,355 \text{ MBF} = \$2.21/\text{MBF}$



Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Logging Conditions

Combination#: 1 Douglas - Fir 71.34%
 Western Hemlock / Fir 37.44%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 8 **bd. ft / load:** 4600

cost / mbf: \$163.04

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 28.66%
 Western Hemlock / Fir 62.56%

Logging System: Shovel **Process:** Stroke Delimber

yarding distance: Short (400 ft) **downhill yarding:** No

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 12 **bd. ft / load:** 4600

cost / mbf: \$57.46

machines: Stroke Delimber (B)



STRONGER FORESTRY

Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Logging Costs

| | |
|-----------------------------------|---------------------------------------|
| Operating Seasons: 1.00 | Profit Risk: 10% |
| Project Costs: \$51,992.88 | Other Costs (P/R): \$29,910.00 |
| Slash Disposal: \$0.00 | Other Costs: \$13,250.00 |

Miles of Road

Road Maintenance: \$2.21

| Dirt | Rock (Contractor) | Rock (State) | Paved |
|------|----------------------|-----------------|-------|
| 0.0 | 0.0 | 0.0 | 0.0 |

Hauling Costs

| Species | \$ / MBF | Trips/Day | MBF / Load |
|-----------------------|----------|-----------|------------|
| Douglas - Fir | \$0.00 | 3.0 | 4.6 |
| Western Hemlock / Fir | \$0.00 | 3.0 | 4.0 |



~~"SUSTAINABLE FORESTRY"~~

Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Logging Costs Breakdown

| Logging | Road Maint | Fire Protect | Hauling | Other P/R appl | Profit & Risk | Slash Disposal | Scaling | Other | Total |
|------------------------------|------------|--------------|---------|----------------|---------------|----------------|---------|--------|----------|
| Douglas - Fir | | | | | | | | | |
| \$132.78 | \$2.25 | \$1.01 | \$57.65 | \$6.87 | \$20.06 | \$0.00 | \$5.00 | \$3.04 | \$228.66 |
| Western Hemlock / Fir | | | | | | | | | |
| \$96.99 | \$2.25 | \$1.01 | \$66.30 | \$6.87 | \$17.34 | \$0.00 | \$5.00 | \$3.04 | \$198.80 |

| Specie | Amortization | Pond Value | Stumpage | Amortized |
|-----------------------|--------------|------------|----------|-----------|
| Douglas - Fir | \$0.00 | \$579.37 | \$350.71 | \$0.00 |
| Western Hemlock / Fir | \$0.00 | \$449.84 | \$251.04 | \$0.00 |



Timber Sale Appraisal Two Storeys

Sale FG-341-2016-48-

District: Forest Grove

Date: December 03, 2015

Summary

Amortized

| Specie | MBF | Value | Total |
|-----------------------|-----|--------|--------|
| Douglas - Fir | 0 | \$0.00 | \$0.00 |
| Western Hemlock / Fir | 0 | \$0.00 | \$0.00 |

Unamortized

| Specie | MBF | Value | Total |
|-----------------------|-------|----------|----------------|
| Douglas - Fir | 4,071 | \$350.71 | \$1,427,740.41 |
| Western Hemlock / Fir | 284 | \$251.04 | \$71,295.36 |

Gross Timber Sale Value

Recovery: \$1,499,035.77

Prepared By: Mark Savage

Phone: 503-359-7437

TIMBER SALE SUMMARY
Two Storeys
Contract No. 341-16-48

1. **Location:** Portions of Sections Portions of Sections 14, 23, & 24, T2N, R6W, W.M. Washington County, Oregon.
2. **Type of Sale:** This timber sale is a 120 acre Modified Clearcut in two sale areas. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Washington County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in June of 2015. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Areas consists of medium to well stocked 60 year old Douglas-fir stands with minor amounts of western hemlock, true firs, and hardwoods. The average "take" Douglas-fir DBH is 17 inches in Area 1 and Area 2. The estimated average net per acre Douglas-fir volume in Area 1 is 29.3 MBF, and it is 38.8 MBF in Area 2.
7. **Topography and Logging Method:** Slopes within the sale areas range from 20% to 70% and are variable in aspect. Area 1 is 70% ground-based yarding, and 30% cable-based yarding. Area 2 is 4% ground-based yarding, and 96% cable-based logging. The average cable corridor length in Area 1 is approximately 300 feet and the maximum is approximately 600 feet. The approximate average skid trail length is 400 feet and the maximum is approximately 800 feet. The average cable corridor length in Area 2 is approximately 500 feet and the maximum is approximately 1,500 feet. The approximate average skid trail length is 75 feet and the maximum is approximately 100 feet.
8. **Access:** From Forest Grove travel north seven miles on Highway 8 to its junction with Highway 6 and turn left. Continue west on Highway 6 for 9.5 miles to Storey Burn Road. Proceed north on Storey Burn for approximately 3 miles to Area 1 of the timber sale..
9. **Projects:**

| | |
|--|-----------------|
| Project No. 1 - Road Construction and Improvement: | \$15,846.30 |
| Project No. 2 - Surfacing: | \$27,631.02 |
| Project No. 3 - Grass Seed, Fertilize, & Mulch: | \$777.61 |
| Project No. 4 - Road Blocking | \$2,278.47 |
| Move in and equipment cleaning: | \$5,459.49 |
| Total Credit for all Projects | \$51,992.88 |

PROJECT COST SUMMARY SHEET

Timber Sale: Two Storeys
 Sale Number: 341-16-48

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT**CONSTRUCTION**

| <u>Road Segment</u> | <u>Length</u> | <u>Cost</u> |
|---------------------------------------|----------------|--------------------|
| B to C | 26+60 | \$8,463.23 |
| D to E | 2+60 | \$1,033.47 |
| G to H | 14+20 | \$4,338.94 |
| | 43+40 stations | |
| | 0.82 miles | |
| <u>SUBTOTAL CONSTRUCTION =</u> | | \$13,835.65 |

IMPROVEMENTS

| <u>Road Segment</u> | <u>Length</u> | <u>Cost</u> |
|--|----------------|--------------------|
| A to B | 13+80 | \$778.16 |
| F to G | 15+85 | \$1,232.49 |
| | 29+65 stations | |
| | 0.56 miles | |
| <u>SUBTOTAL IMPROVEMENTS =</u> | | \$2,010.65 |
| <u>TOTAL PROJECT NO. 1 COST =</u> | | \$15,846.30 |

PROJECT NO. 2: SURFACING

| <u>Road Segment</u> | <u>Rock Amount</u> | <u>Rock Type</u> | <u>Cost</u> |
|--|--------------------|------------------|--------------------|
| A to B | 48 cy | Pit-run | \$548.16 |
| B to C | 130 cy | Pit-run | \$1,606.80 |
| D to E | 369 cy | Pit-run | \$4,232.43 |
| F to G | 95 cy | Pit-run | \$1,135.25 |
| G to H | 1,642 cy | Pit-run | \$20,108.38 |
| Total | 2,284 cy | Pit-run | |
| <u>TOTAL PROJECT NO. 2 COST =</u> | | | \$27,631.02 |

PROJECT NO. 3 GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = **\$777.61**

PROJECT NO. 4: ROAD BLOCKING

| <u>Road Segment</u> | <u>Cost</u> |
|--|-------------------|
| A to B | \$50.00 |
| B to C | \$740.47 |
| G to H | \$390.00 |
| Move in Excavator & Equipment Cleaning | \$1,098.00 |
| TOTAL PROJECT NO. 4 COST = | |
| | \$2,278.47 |

MOVE-IN & EQUIPMENT CLEANING

| | |
|--|-------------------|
| Grader | \$813.03 |
| Roller (smooth/grid) & Compactor | \$503.01 |
| Excavator (Large) - Equipment Cleaning | \$1,815.75 |
| Dozer (Large) - Equipment Cleaning | \$1,860.33 |
| Dump Trucks (10cy +) | \$467.37 |
| TOTAL MOVE-IN & EQUIPMENT CLEANING COST = | \$5,459.49 |

TOTAL ALL PROJECTS **\$51,992.88**

TOTAL CREDITS **\$52,000.00**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Two Storeys Sale Number: 341-16-48
 Road Segment: A to B Improvement: 13+80 stations
0.26 miles

PROJECT NO. 1:

EXCAVATION

| | | | | | |
|----------------------|-------|-------|------------|-----------|---------------------------------|
| Roadside brushing | 0.26 | mi @ | \$1,000.00 | per mi = | \$261.36 |
| Grade, ditch, & roll | 13.80 | sta @ | \$36.00 | per sta = | \$496.80 |
| | | | | | TOTAL EXCAVATION COSTS = |
| | | | | | \$758.16 |

CULVERTS - MATERIALS & INSTALLATION

Culvert Markers

2 markers \$20.00

TOTAL CULVERT COSTS = \$20.00

PROJECT NO. 1 TOTAL COST = \$778.16

PROJECT NO. 2:

SURFACING

| | | | | | |
|--------------|-------------|-----------|---------|---|-----------------------------------|
| | 12 " deep = | 65 cy/sta | | | |
| Spot Rock | 48 | cy of | Pit-run | @ | \$11.42 per cy = \$548.16 |
| Rock Total = | 48 | | | | |
| | 48 | cy of | Pit-run | | \$11.42 per cy = \$548.16 |
| | | | | | PROJECT NO. 2 TOTAL COST = |
| | | | | | \$548.16 |

PROJECT NO. 4:

| | | | | | |
|-------------------------|---|------|---|---------|-----------------------------------|
| Block to Vehicle Access | 1 | each | @ | \$50.00 | per each = \$50.00 |
| | | | | | PROJECT NO. 4 TOTAL COST = |
| | | | | | \$50.00 |

TOTAL COST = \$1,376.32

SUMMARY OF CONSTRUCTION COST

Timber Sale: Two Storeys
 Road Segment: B to C

Sale Number: 341-16-48
 Construction: 26+60 stations
0.50 miles

PROJECT NO. 1:

EXCAVATION

| | | | | | |
|-------------------------------|-------|-------|------------|------------|------------|
| Clearing & grubbing (scatter) | 2.44 | ac @ | \$1,078.00 | per acre = | \$2,633.13 |
| Balanced road construction | 26.60 | sta @ | \$110.00 | per sta = | \$2,926.00 |
| Turnarounds | 3 | ea @ | \$82.50 | per ea = | \$247.50 |
| Roadside landing | 2 | ea @ | \$165.00 | per ea = | \$330.00 |
| Landing | 1 | ea @ | \$314.00 | per ea = | \$314.00 |
| Grade, ditch, & roll | 26.60 | sta @ | \$36.00 | per sta = | \$957.60 |
| Construct Ditchouts | 8 | ea @ | \$50.00 | per ea = | \$400.00 |
| Winterization blocking | 1 | ea @ | \$50.00 | per ea = | \$50.00 |
| Winterization waterbarring | 22 | ea @ | \$27.50 | per ea = | \$605.00 |

PROJECT NO. 1 TOTAL COST = \$8,463.23

PROJECT NO. 2:

SURFACING

| | | | | | |
|--------------|-----|-------------|-----------|---|-----------------------------|
| | | 12 " deep = | 65 cy/sta | | |
| 0+00 to 2+00 | 130 | cy of | Pit-run | @ | \$12.36 per cy = \$1,606.80 |
| Rock Total = | 130 | | | | |
| | 130 | cy of | Pit-run | | \$12.36 per cy = \$1,606.80 |

PROJECT NO. 2 TOTAL COST = \$1,606.80

PROJECT NO. 3:

| | | | | | |
|-------------------------|------|-------|---|----------|---------------------|
| Grass seed & fertilizer | 1.22 | acres | @ | \$425.00 | per acre = \$519.05 |
|-------------------------|------|-------|---|----------|---------------------|

PROJECT NO. 3 TOTAL COST = \$519.05

PROJECT NO. 4:

| | | | | | |
|-------------------------|------|----------|---|---------|---------------------|
| Construct Tank Traps | 1 | each | @ | \$55.00 | per each = \$55.00 |
| Construct Waterbars | 22 | each | @ | \$27.50 | per each = \$605.00 |
| Grass seed & fertilizer | 2.44 | stations | @ | \$32.94 | per sta = \$80.47 |

PROJECT NO. 4 TOTAL COST = \$740.47

TOTAL COST = \$10,810.50

SUMMARY OF CONSTRUCTION COST

Timber Sale: Two Storeys Sale Number: 341-16-48
 Road Segment: D to E Construction: 2+60 stations
0.05 miles

PROJECT NO. 1

EXCAVATION

| | | | | | |
|-------------------------------|------|-------|------------|------------|----------|
| Clearing & grubbing (scatter) | 0.24 | ac @ | \$1,078.00 | per acre = | \$257.37 |
| Balanced road construction | 2.60 | sta @ | \$110.00 | per sta = | \$286.00 |
| Turnarounds | 1 | ea @ | \$82.50 | per ea = | \$82.50 |
| Landing | 1 | ea @ | \$314.00 | per ea = | \$314.00 |
| Grade, ditch, & roll | 2.60 | sta @ | \$36.00 | per sta = | \$93.60 |

PROJECT NO. 1 TOTAL COST = \$1,033.47

PROJECT NO. 2:

SURFACING

| | | 12 " deep = | 65 cy/sta | | | | | |
|--------------|-----|-------------|-----------|---|---------|----------|------------|--|
| D to E | 169 | cy of | Pit-run | @ | \$11.47 | per cy = | \$1,938.43 | |
| Turnaround | 20 | cy of | Pit-run | @ | \$11.47 | per cy = | \$229.40 | |
| Landing | 180 | cy of | Pit-run | @ | \$11.47 | per cy = | \$2,064.60 | |
| Rock Total = | 369 | | | | | | | |
| | 369 | cy of | Pit-run | | \$11.47 | per cy = | \$4,232.43 | |

PROJECT NO. 2 TOTAL COST = \$4,232.43

PROJECT NO. 3:

| | | | | | | |
|-------------------------|------|-------|---|----------|------------|---------|
| Grass seed & fertilizer | 0.12 | acres | @ | \$425.00 | per acre = | \$50.73 |
|-------------------------|------|-------|---|----------|------------|---------|

PROJECT NO. 3 TOTAL COST = \$50.73

TOTAL COST = \$5,316.64

SUMMARY OF CONSTRUCTION COST

Timber Sale: Two Storeys Sale Number: 341-16-48
 Road Segment: F to G Improvement: 15+85 stations
0.30 miles

PROJECT NO. 1

EXCAVATION

| | | | | | |
|--------------------------------------|-------|-------|------------|-----------|----------|
| Roadside brushing | 0.30 | mi @ | \$1,000.00 | per mi = | \$300.19 |
| Clean ditch & scatter waste material | 15.85 | sta @ | \$12.41 | per sta = | \$196.70 |
| Construct Roadside Landing | 1 | ea @ | \$165.00 | per ea = | \$165.00 |
| Grade, ditch, & roll | 15.85 | sta @ | \$36.00 | per sta = | \$570.60 |

PROJECT NO. 1 TOTAL COST = \$1,232.49

PROJECT NO. 2:

SURFACING

| | | | | | |
|--------------|-------------|-----------|---------|---|-----------------------------|
| | 12 " deep = | 65 cy/sta | | | |
| Landing | 95 | cy of | " | @ | \$11.95 per cy = \$1,135.25 |
| Rock Total = | 95 | | | | |
| | 95 | cy of | Pit-run | | \$11.95 per cy = \$1,135.25 |

PROJECT NO. 2 TOTAL COST = \$1,135.25

TOTAL COST = \$2,367.74

SUMMARY OF CONSTRUCTION COST

Timber Sale: Two Storeys Sale Number: 341-16-48
Road Segment: G to H Construction: 14+20 stations
0.27 miles

PROJECT NO. 1:

EXCAVATION

| | | | | | |
|-------------------------------|-------|-------|------------|------------|------------|
| Clearing & grubbing (scatter) | 0.98 | ac @ | \$1,078.00 | per acre = | \$1,054.24 |
| Balanced road construction | 14.20 | sta @ | \$110.00 | per sta = | \$1,562.00 |
| Turnarounds | 1 | ea @ | \$82.50 | per ea = | \$82.50 |
| Approach to landing | 1.70 | sta @ | \$110.00 | per sta = | \$187.00 |
| Landing | 3 | ea @ | \$314.00 | per ea = | \$942.00 |
| Grade, ditch, & roll | 14.20 | sta @ | \$36.00 | per sta = | \$511.20 |

PROJECT NO. 1 TOTAL COST = \$4,338.94

PROJECT NO. 2:

SURFACING

| | | 12 " deep = | 65 cy/sta | | | | |
|---------------------|-------|-------------|-----------|---|---------|----------|-------------|
| G to H | 923 | cy of | Pit-run | @ | \$12.25 | per cy = | \$11,306.75 |
| Turnaround | 20 | cy of | Pit-run | @ | \$12.25 | per cy = | \$245.00 |
| Junctions | 48 | cy of | Pit-run | @ | \$12.25 | per cy = | \$588.00 |
| Landing | 540 | cy of | Pit-run | @ | \$12.25 | per cy = | \$6,615.00 |
| Approach to landing | 111 | cy of | Pit-run | @ | \$12.25 | per cy = | \$1,353.63 |
| Rock Total = | 1,642 | | | | | | |
| | 1,642 | cy of | Pit-run | | \$12.25 | per cy = | \$20,108.38 |

PROJECT NO. 2 TOTAL COST = \$20,108.38

PROJECT NO. 3:

| | | | | | | |
|-------------------------|------|-------|---|----------|------------|----------|
| Grass seed & fertilizer | 0.49 | acres | @ | \$425.00 | per acre = | \$207.82 |
|-------------------------|------|-------|---|----------|------------|----------|

PROJECT NO. 3 TOTAL COST = \$207.82

PROJECT NO. 4:

| | | | | | | |
|----------------------------|---|------|---|----------|------------|----------|
| Block to Vehicle Access | 1 | each | @ | \$50.00 | per each = | \$50.00 |
| Excavator within area move | 1 | each | @ | \$340.00 | per each = | \$340.00 |

PROJECT NO. 3 TOTAL COST = \$390.00

TOTAL COST = \$25,045.13

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

| | |
|--------------|--------------------|
| Timber Sale: | <u>Two Storeys</u> |
| Sale Number: | <u>341-16-48</u> |
| Pit Name: | <u>East Larch</u> |

| | | |
|-------------------------|-----------------|-----------------|
| Pit-run: | <u>2,284 cy</u> | (truck measure) |
| Total truck yardage: | <u>2,284 cy</u> | |
| Total in place yardage: | <u>1,757 cy</u> | |

| | |
|------------|-------------|
| Swell: | <u>130%</u> |
| Shrinkage: | <u>116%</u> |

| | | | | | |
|---|---------------|--------|--------------|--------------------------------|---------------------------|
| Pit development, including clearing & grubbing of waste area, place overburden in waste area, spread & compact. | | | | | \$5,250.00 |
| Rip rock | <u>\$2.10</u> | / cy x | <u>1,757</u> | cy = | \$3,688.73 |
| Load dump truck | <u>\$0.80</u> | / cy x | <u>2,284</u> | cy = | \$1,826.80 |
| | | | | Subtotal: | <u>\$10,765.53</u> |
| Move excavator from Pt. A | | | | | \$353.84 |
| Move dozer from Pt. A | | | | | \$337.90 |
| Clean up pit | | | | | <u>\$700.00</u> |
| | | | | Subtotal: | <u>\$1,391.74</u> |
| | | | | TOTAL PRODUCTION COST = | <u><u>\$12,157.27</u></u> |
| | | | | ROCK DEVELOPMENT COST = | <u><u>\$5.32/cy</u></u> |

**CRUISE REPORT
TWO STOREYS
341-16-48**

1. LOCATION: Portions of Sections 14, 23, & 24, T2N, R6W, W.M., Washington County, Oregon.

2. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation (CV%) of 60%, an average stand diameter of 16 inches, a desired sampling error (SE%) of 9% and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 6 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:

Sale Areas 1 & 2 were cruised in 06/2015 with 44 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 4 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

250 trees were measured and graded producing a cumulative Basal Area sampling error of 6.2% and 7.2% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

a) **Height Standards:**

Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.

c) **Form Factors** were measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING

a) **Volumes and Statistics,** Cruise volume estimates, and sampling statistics, were derived from Super Ace 2008 cruise software.

b) **Deductions:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by ODF cruisers Mark Savage and Dax Strubb.

Prepared by:

Mark Savage

Date

Reviewed by:

Eric Foucht

Date

| TC PSTATS | | | PROJECT STATISTICS | | | | | | PAGE | 1 | | |
|--|------|-------|--------------------|----------------|-------------------|-----------------------------|----------------------------|---------------|-----------------|--------------|----------------|--------------|
| | | | PROJECT | | TWO | | STFIN | DATE | 10/5/2015 | | | |
| TWP | RGE | SC | TRACT | TYPE | | ACRES | PLOTS | TREES | CuFt | BdFt | | |
| 02N | 06 | 23 | 00A1 | 00MC | | 120.00 | 44 | 250 | S | W | | |
| 02N | 06W | 23 | 00A2 | 00MC | | | | | | | | |
| | | | PLOTS | TREES | TREES PER PLOT | ESTIMATED TOTAL TREES | PERCENT SAMPLE TREES | | | | | |
| TOTAL | | | 44 | 250 | 5.7 | | | | | | | |
| CRUISE | | | 43 | 250 | 5.8 | 17,276 | 1.4 | | | | | |
| DBH COUNT | | | | | | | | | | | | |
| REFOREST | | | | | | | | | | | | |
| COUNT | | | | | | | | | | | | |
| BLANKS | | | 1 | | | | | | | | | |
| 100 % | | | | | | | | | | | | |
| STAND SUMMARY | | | | | | | | | | | | |
| | | | SAMPLE TREES | TREES /ACRE | AVG DBH | BOLE LEN | REL DEN | BASAL AREA | GROSS BF/AC | NET BF/AC | GROSS CF/AC | NET CF/AC |
| DOUG FIR | | | 230 | 131.2 | 17.1 | 108 | 50.8 | 210.2 | 34,884 | 34,632 | 8,225 | 8,225 |
| WHEMLOCK | | | 2 | 4.0 | 9.5 | 89 | 0.6 | 1.9 | 274 | 274 | 53 | 53 |
| WHEMLOCK-L | | | 15 | 7.6 | 17.4 | 108 | 3.0 | 12.6 | 2,139 | 2,139 | 508 | 508 |
| NOB FIR | | | 3 | 1.2 | 19.9 | 119 | 0.6 | 2.5 | 464 | 464 | 104 | 104 |
| TOTAL | | | 250 | 144.0 | 17.0 | 108 | 55.1 | 227.3 | 37,762 | 37,510 | 8,890 | 8,890 |
| CONFIDENCE LIMITS OF THE SAMPLE | | | | | | | | | | | | |
| 68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR | | | | | | | | | | | | |
| CL | 68.1 | COEFF | SAMPLE TREES - BF | | | | | | # OF TREES REQ. | | INF. POP. | |
| SD: | 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | | | 5 | 10 | 15 | |
| DOUG FIR | | | 61.1 | 4.0 | 367 | 382 | 398 | | | | | |
| WHEMLOCK | | | 20.2 | 18.9 | 57 | 70 | 83 | | | | | |
| WHEMLOCK-L | | | 47.2 | 12.6 | 274 | 313 | 353 | | | | | |
| NOB FIR | | | 54.1 | 37.4 | 286 | 457 | 627 | | | | | |
| TOTAL | | | 61.1 | 3.9 | 362 | 377 | 391 | | 149 | 37 | 17 | |
| CL | 68.1 | COEFF | SAMPLE TREES - CF | | | | | | # OF TREES REQ. | | INF. POP. | |
| SD: | 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | | | 5 | 10 | 15 | |
| DOUG FIR | | | 57.5 | 3.8 | 87 | 91 | 94 | | | | | |
| WHEMLOCK | | | 34.2 | 32.0 | 9 | 14 | 18 | | | | | |
| WHEMLOCK-L | | | 44.7 | 11.9 | 65 | 74 | 83 | | | | | |
| NOB FIR | | | 45.1 | 31.2 | 69 | 100 | 132 | | | | | |
| TOTAL | | | 57.6 | 3.6 | 86 | 89 | 93 | | 133 | 33 | 15 | |
| CL | 68.1 | COEFF | TREES/ACRE | | | | | | # OF PLOTS REQ. | | INF. POP. | |
| SD: | 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | | | 5 | 10 | 15 | |
| DOUG FIR | | | 55.4 | 8.3 | 120 | 131 | 142 | | | | | |
| WHEMLOCK | | | 663.3 | 99.9 | 0 | 4 | 8 | | | | | |
| WHEMLOCK-L | | | 278.6 | 42.0 | 4 | 8 | 11 | | | | | |
| NOB FIR | | | 391.8 | 59.0 | 0 | 1 | 2 | | | | | |
| TOTAL | | | 54.3 | 8.2 | 132 | 144 | 156 | | 118 | 29 | 13 | |
| CL | 68.1 | COEFF | BASAL AREA/ACRE | | | | | | # OF PLOTS REQ. | | INF. POP. | |
| SD: | 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | | | 5 | 10 | 15 | |
| DOUG FIR | | | 44.1 | 6.6 | 196 | 210 | 224 | | | | | |
| WHEMLOCK | | | 663.3 | 99.9 | 0 | 2 | 4 | | | | | |
| WHEMLOCK-L | | | 268.0 | 40.4 | 8 | 13 | 18 | | | | | |
| NOB FIR | | | 374.0 | 56.3 | 1 | 3 | 4 | | | | | |
| TOTAL | | | 42.3 | 6.4 | 213 | 227 | 242 | | 72 | 18 | 8 | |
| CL | 68.1 | COEFF | NET BF/ACRE | | | | | | # OF PLOTS REQ. | | INF. POP. | |
| SD: | 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | | | 5 | 10 | 15 | |
| DOUG FIR | | | 51.8 | 7.8 | 31,931 | 34,632 | 37,333 | | | | | |
| WHEMLOCK | | | 663.3 | 99.9 | 0 | 274 | 548 | | | | | |
| WHEMLOCK-L | | | 278.0 | 41.9 | 1,243 | 2,139 | 3,035 | | | | | |
| NOB FIR | | | 377.1 | 56.8 | 200 | 464 | 727 | | | | | |

| | | | | | | | | | | |
|------------|------|--------------------|-------|------------------|--------|--------|-----------------|-----------|------|-----------|
| TC PSTATS | | PROJECT STATISTICS | | | | | | | PAGE | 2 |
| | | PROJECT TWOSTFIN | | | | | | | DATE | 10/5/2015 |
| TWP | RGE | SC | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt | |
| 02N | 06 | 23 | 00A1 | 00MC | 120.00 | 44 | 250 | S | W | |
| 02N | 06W | 23 | 00A2 | 00MC | | | | | | |
| CL | 68.1 | | COEFF | NET BF/ACRE | | | # OF PLOTS REQ. | INF. POP. | | |
| SD: | 1.00 | | VAR. | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| TOTAL | | | 48.9 | 7.4 | 34,745 | 37,510 | 40,274 | 96 | 24 | 11 |
| CL | 68.1 | | COEFF | NET CUFT FT/ACRE | | | # OF PLOTS REQ. | INF. POP. | | |
| SD: | 1.0 | | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| DOUG FIR | | | 48.4 | 7.3 | 7,625 | 8,225 | 8,825 | | | |
| WHEMLOCK | | | 663.3 | 99.9 | 0 | 53 | 106 | | | |
| WHEMLOCK-L | | | 273.5 | 41.2 | 299 | 508 | 717 | | | |
| NOB FIR | | | 374.7 | 56.4 | 45 | 104 | 163 | | | |
| TOTAL | | | 46.2 | 7.0 | 8,272 | 8,890 | 9,508 | 85 | 21 | 9 |

| T | | TSPCSTGR | | Species, Sort Grade - Board Foot Volumes (Type) | | | | | | | | | | Page | | 1 | | | | | | | | | |
|---------------------|--|----------|--|---|--|------------|--|---------------------------------|--|---------------------|--|-------------------------------|--|--------------|--|-------------------------|--|-------------|--|---------------------------|--|----------------|--|-------|--|
| | | | | Project: TWOSTFIN | | | | | | | | | | Date | | 10/5/2015 | | | | | | | | | |
| | | | | | | | | | | | | | | Time | | 3:45:33PM | | | | | | | | | |
| T02N R06W S23 T00MC | | | | | | | | | | T02N R06W S23 T00MC | | | | | | | | | | | | | | | |
| Twp | | Rge | | Sec | | Tract | | Type | | Acres | | Plots | | Sample Trees | | CuFt | | BdFt | | | | | | | |
| 02N | | 06W | | 23 | | 00A1 | | 00MC | | 53.00 | | 21 | | 119 | | S | | W | | | | | | | |
| S Spp | | So T | | Gr rt ad | | % Net BdFt | | Bd. Ft. per Acre Def% Gross Net | | Total Net MBF | | Percent Net Board Foot Volume | | | | | | Average Log | | | | Logs Per /Acre | | | |
| | | | | | | | | | | | | Log Scale Dia. | | | | Log Length | | | | Ln Dia Bd CF/ Ft In Ft Lf | | | | | |
| | | | | | | | | | | | | 4-5 6-11 12-16 17+ | | | | 12-20 21-30 31-35 36-99 | | | | | | | | | |
| DF | | | | CU | | | | | | | | | | | | 11 11 0.00 | | | | 7.6 | | | | | |
| DF | | | | 2M | | 50 | | 1.0 14,900 14,752 | | 782 | | 82 18 | | | | 2 1 97 | | | | 39 14 309 1.84 | | | | 47.7 | |
| DF | | | | 3M | | 43 | | .5 12,798 12,734 | | 675 | | 100 | | | | 3 12 85 | | | | 38 8 100 0.67 | | | | 126.8 | |
| DF | | | | 4M | | 7 | | 1,816 1,816 | | 96 | | 100 | | | | 50 50 | | | | 19 6 23 0.33 | | | | 78.1 | |
| DF | | Totals | | | | 83 | | .7 29,514 29,301 | | 1,553 | | 50 41 9 | | | | 4 5 5 85 | | | | 32 9 113 0.87 | | | | 260.1 | |
| WH | | L | | CU | | | | | | | | | | | | 6 0.00 | | | | 1.2 | | | | | |
| WH | | L | | 2M | | 33 | | 1,641 1,641 | | 87 | | 85 15 | | | | 9 91 | | | | 37 14 260 1.56 | | | | 6.3 | |
| WH | | L | | 3M | | 65 | | 3,130 3,130 | | 166 | | 100 | | | | 9 91 | | | | 39 8 111 0.70 | | | | 28.2 | |
| WH | | L | | 4M | | 2 | | 72 72 | | 4 | | 100 | | | | 100 | | | | 15 6 18 0.33 | | | | 4.0 | |
| WH | | L | | Totals | | 14 | | 4,843 4,843 | | 257 | | 66 29 5 | | | | 1 3 6 90 | | | | 35 9 122 0.83 | | | | 39.7 | |
| NF | | | | 2M | | 52 | | 549 549 | | 29 | | 46 54 | | | | 100 | | | | 40 16 384 1.83 | | | | 1.4 | |
| NF | | | | 3M | | 46 | | 481 481 | | 26 | | 100 | | | | 100 | | | | 40 9 125 0.81 | | | | 3.8 | |
| NF | | | | 4M | | 2 | | 20 20 | | 1 | | 100 | | | | 100 | | | | 14 6 14 0.35 | | | | 1.4 | |
| NF | | Totals | | | | 3 | | 1,051 1,051 | | 56 | | 48 24 28 | | | | 2 98 | | | | 35 10 157 1.02 | | | | 6.7 | |
| Type Totals | | | | | | | | .6 35,407 35,195 | | 1,865 | | 52 39 9 | | | | 4 5 5 86 | | | | 32 9 115 0.86 | | | | 306.5 | |

| Stand Table Summary | | | | | | | | | | | | | | | | |
|---------------------|-----|--------|-------|-----------|------------------|-------------|--------------|-------------|---------------|---------------------|-----------------------|-----------------------|---------------|--------|--------|-------|
| TC TSTNDSUM | | | | | Project TWOSTFIN | | | | | | | | | | | |
| T02N R06W S23 T00MC | | | | | | | | | | T02N R06W S23 T00MC | | | | | | |
| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees | | | Page: | 1 | | | | | |
| 02N | 06W | 23 | 00A1 | 00MC | 53.00 | 21 | 119 | | | Date: | 10/05/20 | | | | | |
| | | | | | | | | | | Time: | 3:45:32PM | | | | | |
| S Spe | T | Sample | | Av | Trees/ Acre | BA/ Acre | Logs Acre | Average Log | | Tons/ Acre | Net Cu.Ft. Acre | Net Bd.Ft. Acre | Totals | | | |
| | | DBH | Trees | FF 16' | | | | Ht Tot | Net Cu.Ft. | | | | Net Bd.Ft. | Tons | Cunits | MBF |
| DF | | 9 | 2 | 87 | 73 | 8.623 | 3.81 | 8.62 | 8.2 | 40.0 | 2.01 | 71 | 345 | 107 | 37 | 18 |
| DF | | 10 | 1 | 92 | 72 | 3.492 | 1.90 | 3.49 | 12.8 | 60.0 | 1.27 | 45 | 210 | 67 | 24 | 11 |
| DF | | 11 | 2 | 86 | 76 | 5.772 | 3.81 | 8.66 | 10.2 | 43.3 | 2.53 | 89 | 375 | 134 | 47 | 20 |
| DF | | 12 | 4 | 88 | 85 | 9.701 | 7.62 | 16.98 | 12.1 | 50.0 | 5.87 | 206 | 849 | 311 | 109 | 45 |
| DF | | 13 | 3 | 89 | 93 | 6.199 | 5.71 | 12.40 | 14.0 | 56.7 | 4.94 | 173 | 703 | 262 | 92 | 37 |
| DF | | 14 | 10 | 87 | 94 | 17.818 | 19.05 | 33.85 | 17.4 | 71.6 | 16.75 | 588 | 2,423 | 888 | 312 | 128 |
| DF | | 15 | 3 | 85 | 98 | 4.656 | 5.71 | 9.31 | 20.6 | 81.7 | 5.47 | 192 | 761 | 290 | 102 | 40 |
| DF | | 16 | 6 | 87 | 106 | 8.185 | 11.43 | 16.37 | 25.3 | 106.7 | 11.80 | 414 | 1,746 | 625 | 219 | 93 |
| DF | | 17 | 4 | 84 | 96 | 4.834 | 7.62 | 10.88 | 23.8 | 90.0 | 7.37 | 259 | 979 | 391 | 137 | 52 |
| DF | | 18 | 3 | 88 | 113 | 3.234 | 5.71 | 7.55 | 27.6 | 114.3 | 5.94 | 209 | 862 | 315 | 111 | 46 |
| DF | | 19 | 7 | 85 | 110 | 6.772 | 13.33 | 16.45 | 30.1 | 114.7 | 14.10 | 495 | 1,886 | 747 | 262 | 100 |
| DF | | 20 | 11 | 86 | 115 | 9.604 | 20.95 | 26.19 | 31.9 | 126.0 | 23.85 | 837 | 3,300 | 1,264 | 443 | 175 |
| DF | | 21 | 8 | 85 | 117 | 6.335 | 15.24 | 16.63 | 35.8 | 141.9 | 16.95 | 595 | 2,360 | 898 | 315 | 125 |
| DF | | 22 | 6 | 85 | 119 | 4.329 | 11.43 | 12.27 | 38.4 | 161.8 | 13.42 | 471 | 1,984 | 711 | 250 | 105 |
| DF | | 23 | 8 | 84 | 121 | 5.281 | 15.24 | 15.84 | 39.3 | 165.4 | 17.75 | 623 | 2,621 | 941 | 330 | 139 |
| DF | | 24 | 7 | 85 | 126 | 4.244 | 13.33 | 12.73 | 45.9 | 190.0 | 16.67 | 585 | 2,419 | 883 | 310 | 128 |
| DF | | 25 | 6 | 84 | 122 | 3.353 | 11.43 | 10.06 | 48.7 | 201.7 | 13.97 | 490 | 2,028 | 740 | 260 | 108 |
| DF | | 26 | 5 | 84 | 119 | 2.583 | 9.52 | 7.75 | 51.0 | 210.7 | 11.26 | 395 | 1,633 | 597 | 209 | 87 |
| DF | | 27 | 1 | 88 | 126 | .479 | 1.90 | 1.44 | 59.9 | 280.0 | 2.45 | 86 | 402 | 130 | 46 | 21 |
| DF | | 28 | 2 | 84 | 127 | .891 | 3.81 | 2.67 | 61.6 | 280.0 | 4.69 | 165 | 748 | 249 | 87 | 40 |
| DF | | 29 | 1 | 83 | 123 | .415 | 1.90 | 1.25 | 65.2 | 276.7 | 2.32 | 81 | 345 | 123 | 43 | 18 |
| DF | | 30 | 1 | 79 | 124 | .388 | 1.90 | 1.16 | 69.6 | 276.7 | 2.31 | 81 | 322 | 122 | 43 | 17 |
| DF | | Totals | 101 | 86 | 101 | 117.190 | 192.38 | 252.55 | 28.3 | 116.0 | 203.69 | 7,147 | 29,301 | 10,795 | 3,788 | 1,553 |
| WH | L | 15 | 1 | 86 | 111 | 1.552 | 1.90 | 3.10 | 24.8 | 105.0 | 2.46 | 77 | 326 | 130 | 41 | 17 |
| WH | L | 16 | 6 | 88 | 110 | 8.185 | 11.43 | 16.37 | 27.8 | 118.3 | 14.57 | 455 | 1,937 | 772 | 241 | 103 |
| WH | L | 17 | 2 | 86 | 92 | 2.417 | 3.81 | 4.83 | 26.7 | 102.5 | 4.13 | 129 | 495 | 219 | 68 | 26 |
| WH | L | 18 | 2 | 88 | 106 | 2.156 | 3.81 | 5.39 | 28.9 | 120.0 | 4.99 | 156 | 647 | 264 | 83 | 34 |
| WH | L | 20 | 1 | 89 | 125 | .873 | 1.90 | 2.62 | 32.2 | 143.3 | 2.70 | 84 | 375 | 143 | 45 | 20 |
| WH | L | 21 | 2 | 87 | 115 | 1.584 | 3.81 | 4.75 | 35.0 | 150.0 | 5.32 | 166 | 713 | 282 | 88 | 38 |
| WH | L | 27 | 1 | 86 | 115 | .479 | 1.90 | 1.44 | 56.6 | 243.3 | 2.60 | 81 | 350 | 138 | 43 | 19 |
| WH | | Totals | 15 | 87 | 108 | 17.246 | 28.57 | 38.51 | 29.9 | 125.8 | 36.79 | 1,150 | 4,843 | 1,950 | 609 | 257 |
| NF | | 17 | 1 | 87 | 120 | 1.208 | 1.90 | 2.42 | 29.8 | 125.0 | 1.73 | 72 | 302 | 92 | 38 | 16 |
| NF | | 20 | 1 | 89 | 119 | .873 | 1.90 | 2.62 | 30.8 | 130.0 | 1.94 | 81 | 341 | 103 | 43 | 18 |
| NF | | 25 | 1 | 93 | 119 | .559 | 1.90 | 1.68 | 49.8 | 243.3 | 2.00 | 83 | 408 | 106 | 44 | 22 |
| NF | | Totals | 3 | 89 | 119 | 2.640 | 5.71 | 6.71 | 35.2 | 156.5 | 5.67 | 236 | 1,051 | 300 | 125 | 56 |
| Totals | | 119 | | 87 | 102 | 137.076 | 226.67 | 297.76 | 28.7 | 118.2 | 246.14 | 8533 | 35,195 | 13,046 | 4,522 | 1,865 |

Log Stock Table - MBF
Project: TWOSTFIN

T02N R06W S23 T00MC

T02N R06W S23 T00M

Twp Rge Sec Tract Type Acres Plots Sample Trees
02N 06W 23 00A1 00MC 53.00 21 119
Page 1
Date 10/5/2015
Time 3:45:33PM

| S Spp | So rt | Gr de | Log Len | Gross MBF | % Def | Net MBF | % Spe | Net Volume by Scaling Diameter in Inches | | | | | | | | | | | |
|-------------------|----------|----------|------------|--------------|----------|------------|----------|--|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | | | | | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
| DF | | | CU | | | | | | | | | | | | | | | | |
| DF | | | CU 4 | | | | | | | | | | | | | | | | |
| DF | | | CU 6 | | | | | | | | | | | | | | | | |
| DF | | | CU 8 | | | | | | | | | | | | | | | | |
| DF | | | CU 12 | | | | | | | | | | | | | | | | |
| DF | | | CU 27 | | | | | | | | | | | | | | | | |
| DF | | | 2M 20 | 16 | | 16 | 1.0 | | | | | | | 8 | 8 | | | | |
| DF | | | 2M 28 | 12 | | 12 | .7 | | | | | | | | | 12 | | | |
| DF | | | 2M 40 | 763 | 1.0 | 755 | 48.6 | | | | | | 239 | 220 | 295 | | | | |
| DF | | | 3M 30 | 22 | | 22 | 1.4 | | | 8 | 14 | | | | | | | | |
| DF | | | 3M 32 | 15 | | 15 | 1.0 | | | 11 | 4 | | | | | | | | |
| DF | | | 3M 34 | 68 | .9 | 68 | 4.4 | | | 29 | 27 | 11 | | | | | | | |
| DF | | | 3M 36 | 21 | | 21 | 1.3 | | | 12 | | 9 | | | | | | | |
| DF | | | 3M 38 | 9 | | 9 | .6 | | | 9 | | | | | | | | | |
| DF | | | 3M 40 | 544 | .5 | 541 | 34.8 | | | 66 | 228 | 247 | | | | | | | |
| DF | | | 4M 12 | 4 | | 4 | .3 | | | 4 | | | | | | | | | |
| DF | | | 4M 14 | 13 | | 13 | .8 | | | 11 | 1 | | | | | | | | |
| DF | | | 4M 16 | 20 | | 20 | 1.3 | | | 20 | | | | | | | | | |
| DF | | | 4M 18 | 7 | | 7 | .5 | | | 7 | | | | | | | | | |
| DF | | | 4M 20 | 4 | | 4 | .3 | | | 4 | | | | | | | | | |
| DF | | | 4M 22 | 8 | | 8 | .5 | | | 8 | | | | | | | | | |
| DF | | | 4M 24 | 12 | | 12 | .8 | | | 9 | 3 | | | | | | | | |
| DF | | | 4M 26 | 23 | | 23 | 1.5 | | | 23 | | | | | | | | | |
| DF | | | 4M 30 | 4 | | 4 | .3 | | | 4 | | | | | | | | | |
| DF | | | Totals | 1,564 | | 1,553 | 83.3 | | | 226 | 277 | 267 | 239 | 228 | 303 | 12 | | | |
| WH | L | | CU | | | | | | | | | | | | | | | | |
| WH | L | | 2M 24 | 8 | | 8 | 3.0 | | | | | | 8 | | | | | | |
| WH | L | | 2M 40 | 79 | | 79 | 30.9 | | | | | | 25 | 41 | 13 | | | | |
| WH | L | | 3M 32 | 5 | | 5 | 2.0 | | | | 5 | | | | | | | | |
| WH | L | | 3M 34 | 10 | | 10 | 4.0 | | | 6 | 4 | | | | | | | | |
| WH | L | | 3M 36 | 4 | | 4 | 1.7 | | | 4 | | | | | | | | | |
| WH | L | | 3M 38 | 9 | | 9 | 3.6 | | | 9 | | | | | | | | | |
| WH | L | | 3M 40 | 137 | | 137 | 53.3 | | | 22 | 11 | 104 | | | | | | | |
| WH | L | | 4M 12 | 0 | | 0 | .2 | | | 0 | | | | | | | | | |
| WH | L | | 4M 14 | 1 | | 1 | .2 | | | 1 | | | | | | | | | |
| WH | L | | 4M 16 | 2 | | 2 | .8 | | | 2 | | | | | | | | | |
| WH | L | | 4M 18 | 1 | | 1 | .4 | | | 1 | | | | | | | | | |
| WH | | | Totals | 257 | | 257 | 13.8 | | | 45 | 20 | 104 | 33 | 41 | 13 | | | | |
| NF | | | 2M 40 | 29 | | 29 | 52.3 | | | | | | | 13 | 16 | | | | |
| NF | | | 3M 40 | 26 | | 26 | 45.8 | | | 4 | 4 | 17 | | | | | | | |
| NF | | | 4M 12 | 0 | | 0 | .8 | | | 0 | | | | | | | | | |
| NF | | | 4M 18 | 1 | | 1 | 1.1 | | | 1 | | | | | | | | | |
| NF | | | Totals | 56 | | 56 | 3.0 | | | 6 | 4 | 17 | | 13 | 16 | | | | |
| Total All Species | | | | 1,877 | | 1,865 | 100.0 | | | 277 | 301 | 389 | 272 | 282 | 332 | 12 | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---|------------------|------|------------------|-------------------------------|--------------|-------|----------------|---------------------|-------|----------------|------------|-------------|----|----------------------|------|-----|------|-----------|
| T TSPCSTGR | | Species, Sort Grade - Board Foot Volumes (Type) | | | | | | | | | | Page 1 | | | | | | | | |
| | | Project: TWOSTFIN | | | | | | | | | | Date 10/5/2015 | | | | | | | | |
| | | | | | | | | | | | | Time 3:47:11PM | | | | | | | | |
| T02N R06W S23 T00MC | | | | | | | | | | T02N R06W S23 T00MC | | | | | | | | | | |
| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees | CuFt | BdFt | | | | | | | | | | | |
| 02N | 06W | 23 | 00A2 | 00MC | 67.00 | 23 | 131 | S | W | | | | | | | | | | | |
| | | % Net BdFt | Bd. Ft. per Acre | | Total Net MBF | Percent Net Board Foot Volume | | | | | | | | Average Log | | Logs Per /Acre | | | | |
| S Spp | So T | | Gr rt | ad | | Def% | Gross | Net | Log Scale Dia. | | | | Log Length | | | | Ln | Dia | Bd | CF/ Lf |
| | | | | | | 4-5 | 6-11 | 12-16 | 17+ | 12-20 | 21-30 | 31-35 | 36-99 | Ft | In | Ft | | | | |
| DF | | | CU | | | | | | | | | | | 24 | 6 | | 0.00 | .6 | | |
| DF | | | 2M | 52 | .9 | 20,759 | 20,580 | 1,379 | | 77 | 23 | 0 | 1 | 1 | 98 | 40 | 14 | 299 | 1.73 | 68.8 |
| DF | | | 3M | 42 | .6 | 16,249 | 16,151 | 1,082 | 100 | | | 0 | | 12 | 87 | 38 | 8 | 96 | 0.59 | 168.0 |
| DF | | | 4M | 6 | .3 | 2,125 | 2,118 | 142 | 100 | | | 38 | 62 | | | 21 | 6 | 25 | 0.31 | 84.6 |
| DF | Totals | | | 99 | .7 | 39,133 | 38,849 | 2,603 | 47 | 41 | 12 | 2 | 4 | 6 | 88 | 34 | 9 | 121 | 0.83 | 322.0 |
| WH | | | 3M | 93 | | 459 | 459 | 31 | 100 | | | | | 100 | | 39 | 6 | 64 | 0.31 | 7.1 |
| WH | | | 4M | 7 | | 32 | 32 | 2 | 100 | | | 100 | | | | 12 | 6 | 10 | 0.23 | 3.2 |
| WH | Totals | | | 1 | | 491 | 491 | 33 | 100 | | | 6 | | 94 | | 31 | 6 | 48 | 0.30 | 10.3 |
| Type Totals | | | | | .7 | 39,624 | 39,341 | 2,636 | 48 | 40 | 12 | 2 | 4 | 6 | 88 | 34 | 9 | 118 | 0.82 | 332.3 |

| TC TSTNDSUM | | | | Stand Table Summary | | | | | | | | | | | | |
|---------------------|--------|--------|-------|---------------------|----------------|-------------|--------------|-------------|---------------|---------------|-----------------------|-----------------------|---------------|----------|--------|-------|
| Project TWOSTFIN | | | | | | | | | | | | | | | | |
| T02N R06W S23 T00MC | | | | | | | | | | | T02N R06W S23 T00MC | | | | | |
| Twp | Rge | Sec | Tract | Type | | | | Acres | Plots | Sample Trees | | | Page: | 1 | | |
| 02N | 06W | 23 | 00A2 | 00MC | | | | 67.00 | 23 | 131 | | | Date: | 10/05/20 | | |
| | | | | | | | | | | | Time: | 3:47:10PM | | | | |
| Spc | S T | Sample | | Av | Trees/ Acre | BA/ Acre | Logs Acre | Average Log | | Tons/ Acre | Net Cu.Ft. Acre | Net Bd.Ft. Acre | Totals | | | |
| | | DBH | Trees | FF 16' | | | | Ht Tot | Net Cu.Ft. | | | | Net Bd.Ft. | Tons | Cunits | MBF |
| DF | | 8 | 1 | 88 | 84 | 4.982 | 1.74 | 4.98 | 5.6 | 30.0 | .79 | 28 | 149 | 53 | 19 | 10 |
| DF | | 9 | 2 | 88 | 85 | 7.873 | 3.48 | 7.87 | 9.8 | 55.0 | 2.20 | 77 | 433 | 148 | 52 | 29 |
| DF | | 10 | 2 | 89 | 94 | 6.377 | 3.48 | 6.38 | 12.8 | 60.0 | 2.32 | 81 | 383 | 155 | 55 | 26 |
| DF | | 11 | 4 | 90 | 102 | 10.541 | 6.96 | 18.45 | 11.1 | 48.6 | 5.86 | 205 | 896 | 392 | 138 | 60 |
| DF | | 12 | 4 | 89 | 103 | 8.857 | 6.96 | 17.71 | 13.1 | 57.5 | 6.61 | 232 | 1,019 | 443 | 155 | 68 |
| DF | | 13 | 8 | 89 | 112 | 15.094 | 13.91 | 30.19 | 16.9 | 78.7 | 14.55 | 510 | 2,377 | 975 | 342 | 159 |
| DF | | 14 | 7 | 88 | 108 | 11.388 | 12.17 | 22.78 | 18.5 | 81.4 | 12.03 | 422 | 1,855 | 806 | 283 | 124 |
| DF | | 15 | 4 | 87 | 95 | 5.669 | 6.96 | 11.34 | 19.7 | 75.0 | 6.36 | 223 | 850 | 426 | 150 | 57 |
| DF | | 16 | 7 | 87 | 118 | 8.719 | 12.17 | 19.93 | 24.1 | 105.0 | 13.71 | 481 | 2,093 | 919 | 322 | 140 |
| DF | | 17 | 5 | 88 | 121 | 5.517 | 8.70 | 15.45 | 22.9 | 95.0 | 10.08 | 354 | 1,467 | 675 | 237 | 98 |
| DF | | 18 | 9 | 86 | 122 | 8.857 | 15.65 | 25.59 | 24.9 | 100.0 | 18.19 | 638 | 2,559 | 1,219 | 428 | 171 |
| DF | | 19 | 7 | 85 | 122 | 6.183 | 12.17 | 17.67 | 28.8 | 114.0 | 14.50 | 509 | 2,014 | 972 | 341 | 135 |
| DF | | 20 | 15 | 86 | 127 | 11.957 | 26.09 | 33.48 | 33.5 | 138.1 | 31.99 | 1,123 | 4,624 | 2,143 | 752 | 310 |
| DF | | 21 | 8 | 86 | 133 | 5.784 | 13.91 | 17.35 | 35.8 | 151.3 | 17.72 | 622 | 2,625 | 1,187 | 417 | 176 |
| DF | | 22 | 8 | 86 | 124 | 5.270 | 13.91 | 15.15 | 38.9 | 166.1 | 16.80 | 589 | 2,517 | 1,126 | 395 | 169 |
| DF | | 23 | 9 | 86 | 130 | 5.425 | 15.65 | 16.27 | 42.9 | 187.0 | 19.92 | 699 | 3,044 | 1,335 | 468 | 204 |
| DF | | 24 | 10 | 85 | 129 | 5.536 | 17.39 | 16.05 | 47.7 | 205.5 | 21.84 | 766 | 3,299 | 1,464 | 514 | 221 |
| DF | | 25 | 2 | 85 | 134 | 1.020 | 3.48 | 3.06 | 52.8 | 226.7 | 4.61 | 162 | 694 | 309 | 108 | 46 |
| DF | | 26 | 7 | 85 | 136 | 3.302 | 12.17 | 9.91 | 57.2 | 245.7 | 16.16 | 567 | 2,434 | 1,083 | 380 | 163 |
| DF | | 27 | 4 | 82 | 128 | 1.750 | 6.96 | 5.25 | 57.2 | 238.3 | 8.55 | 300 | 1,251 | 573 | 201 | 84 |
| DF | | 28 | 1 | 85 | 149 | .407 | 1.74 | 1.22 | 74.1 | 410.0 | 2.58 | 90 | 500 | 173 | 61 | 34 |
| DF | | 29 | 3 | 81 | 134 | 1.137 | 5.22 | 3.41 | 68.1 | 295.6 | 6.63 | 232 | 1,009 | 444 | 156 | 68 |
| DF | | 31 | 1 | 85 | 141 | .332 | 1.74 | 1.00 | 83.7 | 393.3 | 2.37 | 83 | 392 | 159 | 56 | 26 |
| DF | | 32 | 1 | 82 | 139 | .311 | 1.74 | .93 | 87.8 | 393.3 | 2.34 | 82 | 367 | 157 | 55 | 25 |
| DF | | Totals | 129 | 87 | 113 | 142.290 | 224.35 | 321.42 | 28.2 | 120.9 | 258.71 | 9,078 | 38,849 | 17,334 | 6,082 | 2,603 |
| WH | | 9 | 1 | 88 | 85 | 3.937 | 1.74 | 3.94 | 10.4 | 60.0 | 1.31 | 41 | 236 | 87 | 27 | 16 |
| WH | | 10 | 1 | 92 | 94 | 3.189 | 1.74 | 6.38 | 8.5 | 40.0 | 1.73 | 54 | 255 | 116 | 36 | 17 |
| WH | | Totals | 2 | 90 | 89 | 7.125 | 3.48 | 10.31 | 9.2 | 47.6 | 3.04 | 95 | 491 | 203 | 64 | 33 |
| Totals | | | 131 | 87 | 112 | 149.415 | 227.83 | 331.73 | 27.7 | 118.6 | 261.75 | 9172 | 39,341 | 17,537 | 6,146 | 2,636 |

Log Stock Table - MBF

Project: TWOSTFIN

T02N R06W S23 T00MC

T02N R06W S23 T00M

Twp Rge Sec Tract Type Acres Plots Sample Trees
 02N 06W 23 00A2 00MC 67.00 23 131

Page 1
 Date 10/5/2015
 Time 3:47:11PM

| Spp | S | So | Gr | Log | Gross MBF | % Def | Net MBF | % Spc | Net Volume by Scaling Diameter in Inches | | | | | | | | | | | |
|-------------------|---|----|----|--------|--------------|----------|------------|----------|--|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | | | | | | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
| DF | | | | CU | 24 | | | | | | | | | | | | | | | |
| DF | | | | 2M | 18 | | 3 | .1 | | | | | 3 | | | | | | | |
| DF | | | | 2M | 30 | 13.3 | 10 | .3 | | | | | 9 | | | | | | | |
| DF | | | | 2M | 32 | | 10 | .4 | | | | | | | 10 | | | | | |
| DF | | | | 2M | 40 | | 1,343 | 51.2 | | | | | 430 | | 424 | 445 | 33 | | | |
| DF | | | | 2M | 44 | | 24 | .9 | | | | | | | | 24 | | | | |
| DF | | | | 3M | 16 | | 5 | .2 | | | | | 5 | | | | | | | |
| DF | | | | 3M | 32 | | 78 | 3.0 | | | 57 | 20 | | | | | | | | |
| DF | | | | 3M | 34 | | 57 | 2.2 | | | 29 | 28 | | | | | | | | |
| DF | | | | 3M | 36 | | 21 | .8 | | | 17 | 4 | | | | | | | | |
| DF | | | | 3M | 38 | | 18 | .7 | | | 18 | | | | | | | | | |
| DF | | | | 3M | 40 | | 909 | 34.7 | | | 137 | 413 | 353 | | | | | | | |
| DF | | | | 4M | 12 | | 4 | .1 | | | 4 | | | | | | | | | |
| DF | | | | 4M | 14 | | 4 | .2 | | | 4 | | | | | | | | | |
| DF | | | | 4M | 16 | | 21 | .8 | | | 21 | | | | | | | | | |
| DF | | | | 4M | 18 | | 7 | .3 | | | 7 | | | | | | | | | |
| DF | | | | 4M | 20 | | 18 | .7 | | | 18 | | | | | | | | | |
| DF | | | | 4M | 22 | 2.1 | 23 | .8 | | | 22 | | | | | | | | | |
| DF | | | | 4M | 24 | | 26 | 1.0 | | | 26 | | | | | | | | | |
| DF | | | | 4M | 26 | | 14 | .5 | | | 14 | | | | | | | | | |
| DF | | | | 4M | 28 | | 10 | .4 | | | 10 | | | | | | | | | |
| DF | | | | 4M | 30 | | 17 | .6 | | | 17 | | | | | | | | | |
| DF | | | | Totals | | | 2,622 | 98.8 | | | 401 | 465 | 358 | 442 | 435 | 469 | 33 | | | |
| WH | | | | 3M | 38 | | 16 | 48.1 | | | 16 | | | | | | | | | |
| WH | | | | 3M | 40 | | 15 | 45.4 | | | 15 | | | | | | | | | |
| WH | | | | 4M | 12 | | 2 | 6.5 | | | 2 | | | | | | | | | |
| WH | | | | Totals | | | 33 | 1.2 | | | 33 | | | | | | | | | |
| Total All Species | | | | | | | 2,655 | 100.0 | | | 434 | 465 | 358 | 442 | 435 | 469 | 33 | | | |

VOLUME SUMMARY

(Shown in MBF)

Two Storeys**341-16-48****September, 2015****AREA 1: MC (53 ACRES)**

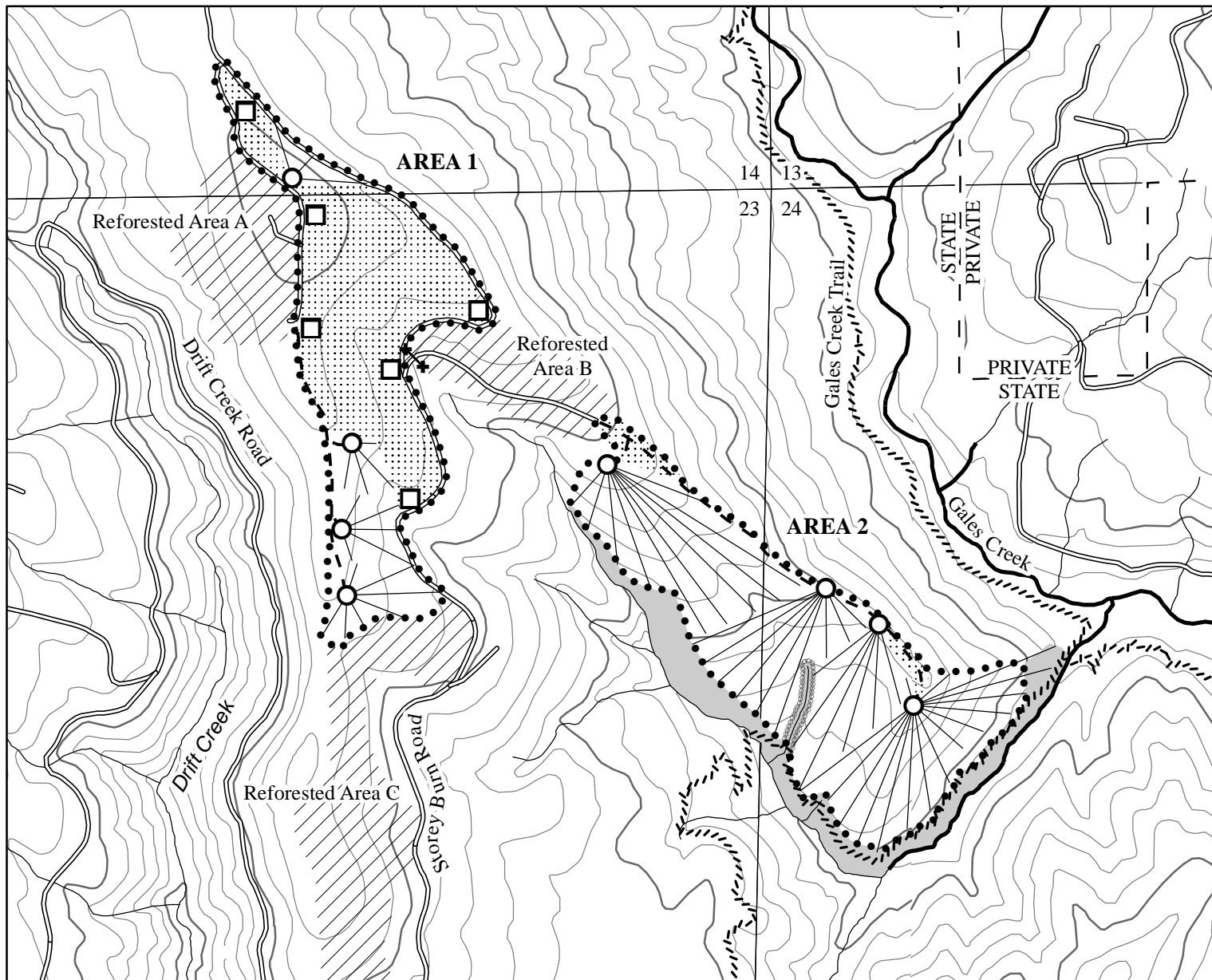
| SPECIES | | 2 SAW | 3 SAW | 4 SAW | TOTAL |
|-----------------|------------------|--------------|--------------|--------------|--------------|
| Douglas-fir | Cruise Volume | 782 | 675 | 96 | 1,553 |
| | Hidden D&B (2%) | (16) | (14) | (2) | (32) |
| | NET TOTAL | 766 | 661 | 94 | 1,521 |
| | % of Total | 50 | 43 | 6 | |
| Western Hemlock | Cruise Volume | 87 | 166 | 4 | 257 |
| | Hidden D&B (2%) | (2) | (3) | () | (5) |
| | NET TOTAL | 85 | 163 | 4 | 252 |
| | % of Total | 34 | 65 | 2 | |

AREA 2: MC (67 ACRES)

| SPECIES | | 2 SAW | 3 SAW | 4 SAW | TOTAL |
|-----------------|------------------|--------------|--------------|--------------|--------------|
| Douglas-fir | Cruise Volume | 1,379 | 1,082 | 142 | 2,603 |
| | Hidden D&B (2%) | (28) | (22) | (3) | (53) |
| | NET TOTAL | 1,351 | 1,060 | 139 | 2,550 |
| | % of Total | 53 | 42 | 5 | |
| Western Hemlock | Cruise Volume | 0 | 31 | 2 | 33 |
| | Hidden D&B (2%) | () | (1) | () | (1) |
| | NET TOTAL | 0 | 30 | 2 | 32 |
| | % of Total | 0 | 94 | 6 | |

SALE TOTAL

| SPECIES | | 2 SAW | 3 SAW | 4 SAW | TOTAL |
|-----------------|--|--------------|--------------|--------------|--------------|
| Douglas-fir | | 2,117 | 1,721 | 233 | 4,071 |
| Western hemlock | | 85 | 193 | 6 | 284 |
| Total | | 2,202 | 1,914 | 239 | 4,355 |



LEGEND

- Timber Sale Boundary
- Roads
- - New Construction
- Type F Stream
- Type N Stream
- ▤▤▤▤ Posted Stream Buffer Boundary
- ▤ Stream Buffer
- ▤▤▤▤ Recreation Trail
- Cable Landing
- Tractor Landing
- ◁ Cable Yarding Area
- ▤▤▤▤ Tractor Yarding Area
- ▤▤▤▤ Reforested Area
- 400 Foot Contour Band
- 80 Foot Contour Band
- ▤▤▤▤ ODF Property Boundary
- ▤▤▤▤ Sections
- ✂ Blockage

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-16-48
TWO STOREYS
PORTIONS OF SECTIONS 14, 23, & 24, T2N, R6W, W.M.
WASHINGTON COUNTY, OREGON

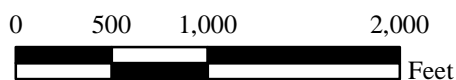
Forest Grove District GIS
September, 2015

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.



1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES TRACTOR CABLE

| | TRACTOR | CABLE |
|--------|---------|-------|
| AREA 1 | 37 | 16 |
| AREA 2 | 3 | 64 |
| TOTAL | 40 | 80 |