Practice: 383 - Fuel Break

Scenario # 1 Dozer

Scenario Description: **Actual Scenario # 1** **New York**

Fuel Break installation requires tree thinning, treating woody residue, pruning, and mowing. Thinning treatment and pruning is done by hand, treating woody residue (piling/burning, crushing, or off-site removal) and mowing are mechanized. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

Before Practice Situation:

Forest stand is overstocked with desirable and undesirable trees. Overstocking creates conditions conducive to wildfire movement across the landscape, and severe loss/damage of the forest stand. Shrub levels are high and significanly increase wildfire risk. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. The terrain is moderately to steeply sloped (1-30%), increasing difficulty as slope steepens.

After Practice Situation:

Fuel Break is installed at the property line or a key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees and pruned branches) are treated (piled/burned or lopped/scattered) so little remains in the fuel break and understory vegetation is mowed down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$1,745.98

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree Marking Paint	4	Acre	$6.19	$24.76
Materials	Herbicide, Triclopyor	4	Acre	$42.84	$171.36
Equip./Install.	Dozer, 140 HP	10	Hour	$136.36	$1,363.60
Equip./Install.	Chainsaw	80	Hour	$6.90	$552.00
Equip./Install.	Truck, Pickup	8	Hour	$40.77	$326.16
Equip./Install.	Mower, Bush Hog	8	Hour	$55.71	$445.68
Equip./Install.	Chemical, spot treatment, single	8	Hour	$62.08	$496.64
Equip./Install.	Pruning tools, hand tools	8	Hour	$1.09	$8.72
Equip./Install.	Pruning tool, pole saw	8	Hour	$7.76	$62.08
Labor	General Labor	80	Hour	$23.16	$1,852.80
Labor	Equipment Operators, Light	8	Hour	$24.05	$192.40
Labor	Equipment Operators, Heavy	10	Hour	$36.55	$365.50
Labor	Supervisor or Manager	12	Hour	$45.77	$549.24
Mobilization	Mobilization, Material, distance > 50	100	Dollar	$1.00	$100.00
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
Mobilization	Mobilization, medium equipment	1	Each	$282.78	$282.78

Total Cost: $6,983.91

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$1,309.48	EQIP-HU	$1,571.38
WHIP	$0.00	WHIP-HU	$ 0.00

383 **1** **Dozer**

Practice: 383 - Fuel Break

Scenario # 2 Dozer, Steep Slope

Scenario Description: **Actual Scenario # 2** **New York**

Fuel Break installation requires tree thinning, treating woody residue, pruning, and brush cutting. Thinning treatment, tree pruning and brush cutting are done by hand, treating woody residue (piling/burning, crushing, or off-site removal) is mechanized and hand treatment. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

Before Practice Situation:

The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. A fuel break is implemented to reduce the risk of a crown spreading wildfire. The terrain is steep, 40+%, which significantly reduces efficiency and increases cost of installation. More cutting of trees & brush and treatment of woody residue is accomplished using labor due to very steep slopes.

After Practice Situation:

Fuel Break is installed at the property line or key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory; branches on remaining trees are pruned to a minimum of 8 to 10 feet in height; all woody residue, thinned trees, pruned branches and cut brush, are treated.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$2,806.64

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Equipment Operators, Light	10	Hour	$24.05	$240.50
Labor	Equipment Operators, Heavy	10	Hour	$36.55	$365.50
Labor	Supervisor or Manager	20	Hour	$45.77	$915.40
Mobilization	Mobilization, Material, distance > 50	100	Dollar	$1.00	$100.00
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
Mobilization	Mobilization, medium equipment	1	Each	$282.78	$282.78
Materials	Tree Marking Paint	4	Acre	$6.19	$24.76
Materials	Herbicide, Triclopyor	4	Acre	$42.84	$171.36
Equip./Install.	Dozer, 140 HP	10	Hour	$136.36	$1,363.60
Equip./Install.	Chainsaw	160	Hour	$6.90	$1,104.00
Equip./Install.	Truck, Pickup	10	Hour	$40.77	$407.70
Equip./Install.	Mechanical cutter, chopper	10	Hour	$140.87	$1,408.70
Equip./Install.	Chemical, spot treatment, single	14	Hour	$62.08	$869.12
Equip./Install.	Pruning tools, hand tools	14	Hour	$1.09	$15.26
Equip./Install.	Pruning tool, pole saw	8	Hour	$7.76	$62.08
Labor	General Labor	160	Hour	$23.16	$3,705.60

Total Cost: $11,226.55

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$2,104.98	EQIP-HU	$2,525.97
WHIP	$ 0.00	WHIP-HU	$ 0.00

383 2 Dozer, Steep Slope

Practice: 383 - Fuel Break

Scenario # 3 Masticator

Scenario Description: **Actual Scenario # 3** **New York**

Fuel Break installation requires tree thinning, treating woody residue, pruning, and mowing. Thinning treatment and pruning is done by hand; treating woody residue (piling/burning, crushing, or off-site removal) and mowing are mostly mechanized. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

Before Practice Situation:

The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. Slope of terrain increases fire hazard. The terrain moderately sloped, 1-30+% increasing difficulty as slope steepens.

After Practice Situation:

Fuel Break is installed at the property line or key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees, pruned branches and brush) are mostly masticated but some is piled/burned, hauled of site or lopped/scattered) understory vegetation is cut down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$1,782.86

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree Marking Paint	4	Acre	$6.19	$24.76
Materials	Herbicide, Triclopyor	4	Acre	$42.84	$171.36
Equip./Install.	Chainsaw	60	Hour	$6.90	$414.00
Equip./Install.	Truck, Pickup	8	Hour	$40.77	$326.16
Equip./Install.	Mower, Bush Hog	5	Hour	$55.71	$278.55
Equip./Install.	Mechanical cutter, chopper	16	Hour	$140.87	$2,253.92
Equip./Install.	Chemical, spot treatment, single	8	Hour	$62.08	$496.64
Equip./Install.	Pruning tools, hand tools	8	Hour	$1.09	$8.72
Equip./Install.	Pruning tool, pole saw	8	Hour	$7.76	$62.08
Labor	General Labor	80	Hour	$23.16	$1,852.80
Labor	Equipment Operators, Light	5	Hour	$24.05	$120.25
Labor	Supervisor or Manager	12	Hour	$45.77	$549.24
Mobilization	Mobilization, Material, distance > 50	100	Dollar	$1.00	$100.00
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
Mobilization	Mobilization, medium equipment	1	Each	$282.78	$282.78

Total Cost: $7,131.45

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$1,337.15	EQIP-HU	$1,604.58
WHIP	$ 0.00	WHIP-HU	$ 0.00

383 3 Masticator

Practice: 383 - Fuel Break

Scenario # 4 Masticator, Steel Slope

Scenario Description: **Actual Scenario # 4** **New York**

Fuel Break installation requires tree thinning, treating woody residue, pruning, and brush cutting. Thinning is mechanized and hand cutting, tree pruning and brush cutting are done by hand, treating woody residue (piling/burning, crushing, or off-site removal) is mechanized and some hand treatment. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

Before Practice Situation:

The forest stand is overstocked with trees (desirable and undesirable) and is at risk of loss if a wildfire should occur. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load to rate a high to severe fire hazard. Slope of terrain significantly increases fire hazard rating due to preheating effect. The terrain is steeply sloped, 40+%, which significantly reduces implementation efficiency. More hand cutting and treatment of woody residue is accomplished using labor due to very steep slopes.

After Practice Situation:

Fuel Break is installed a the property line or a key locations to reduce crown fire spread. Size of fuel break is 4 acres; the width varies due to site conditions. The trees are thinned so open gaps are created in crown overstory, branches on remaining trees are pruned to 8 to 10 feet in height, all woody residue (thinned trees, pruned branches and brush) are mostly masticated but some is piled/burned, hauled of site or lopped/scattered) so little remains in the fuel break and understory vegetation is cut down to less than 1 foot in height. Cut stumps have been chemically treated to control sprouting.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$2,516.58

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree Marking Paint	4	Acre	$6.19	$24.76
Materials	Herbicide, Triclopyor	4	Acre	$42.84	$171.36
Equip./Install.	Chainsaw	120	Hour	$6.90	$828.00
Equip./Install.	Truck, Pickup	12	Hour	$40.77	$489.24
Equip./Install.	Mechanical cutter, chopper	20	Hour	$140.87	$2,817.40
Equip./Install.	Chemical, spot treatment, single	12	Hour	$62.08	$744.96
Equip./Install.	Pruning tools, hand tools	14	Hour	$1.09	$15.26
Equip./Install.	Pruning tool, pole saw	7	Hour	$7.76	$54.32
Labor	General Labor	120	Hour	$23.16	$2,779.20
Labor	Equipment Operators, Light	12	Hour	$24.05	$288.60
Labor	Equipment Operators, Heavy	20	Hour	$36.55	$731.00
Labor	Supervisor or Manager	12	Hour	$45.77	$549.24
Mobilization	Mobilization, Material, distance > 50	100	Dollar	$1.00	$100.00
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
Mobilization	Mobilization, medium equipment	1	Each	$282.78	$282.78

Total Cost: $10,066.31

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$1,887.43	EQIP-HU	$2,264.92
WHIP	$ 0.00	WHIP-HU	$ 0.00

383 4 Masticator, Steel Slope

Practice: 383 - Fuel Break

Scenario # 5 Hand Tools

Scenario Description: **Actual Scenario # 5** **New York**

Fuel Break installation requires tree thinning, treating woody residue, pruning, and mowing. Thinning treatment, pruning, brush cutting and treating woody residue (piling/burning, crushing, or off-site removal), is done by hand. Resource concerns are degraded plant condition - wildfire hazard, excess biomass accumulation & undesirable productivity and health.

Before Practice Situation:

Forest stand is overstocked with desirable and undesirable trees. Overstocking creates conditions conducive to wildfire movement across the landscape, and loss of the forest stand. Excess stocking is impacting the health of the desired forest ecosystem and wildfire hazard poses risk to humans, structures, air quality, plants and animals. Tree crowns are touching, trees retain limbs down to understory vegetation creating a "ladder" for fire movement into the overstory, and understory vegetation (brush and grasses) create a significant fuel load.

After Practice Situation:

A fuel break is installed by hand cutting trees, hand pruning remaining trees, piling and burning or removal of woody residue from tree cutting and pruning. FB installation is at property lines, around structures, at roadways, or other key locations to reduce continuity of vegetation cover. Width of fuel break varies based on site conditions.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$2,097.14

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tree Marking Paint	4	Acre	$6.19	$24.76
Equip./Install.	Chainsaw	240	Hour	$6.90	$1,656.00
Equip./Install.	Truck, Pickup	12	Hour	$40.77	$489.24
Equip./Install.	Pruning tools, hand tools	10	Hour	$1.09	$10.90
Labor	General Labor	240	Hour	$23.16	$5,558.40
Labor	Supervisor or Manager	12	Hour	$45.77	$549.24
Mobilization	Mobilization, Material, distance > 50	100	Dollar	$1.00	$100.00
				Total Cost:	$8,388.54

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$1,572.85	EQIP-HU	$1,887.42
WHIP	$ 0.00	WHIP-HU	$ 0.00

Practice: 383 - Fuel Break

Scenario # 6 Non Forest

Scenario Description: **Actual Scenario # 6** **New York**

A non forest fuel break occurs outside of forestlands where brush, grass and forbs dominate. Landuses where this scenario will be applied may be range, pasture or wetlands. The fuel break area is mowed/bushhog so standing vegetation is reduced to a low height. Resource concerns are degraded plant condition - wildfire hazard.

Before Practice Situation:

Wildfire movement is a concern within the designated area. Vegetation is tall, dense and continuous creating conditions conducive for fire movement across the landscape.

After Practice Situation:

A fuel break is installed by shredding/mowing/bushhogging a defined width at property lines, around structures, at roadways, or other key locations to reduce continuity of vegetation cover. Width of fuel break varies based on site conditions.

Scenario Feature Measure:

Area of Treatment

Scenario Typical Size:	4	Acre	Tot Unit Cost	$293.88

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Mower, Bush Hog	8	Hour	$55.71	$445.68
Equip./Install.	Truck, Pickup	4	Hour	$40.77	$163.08
Labor	General Labor	4	Hour	$23.16	$92.64
Labor	Equipment Operators, Light	8	Hour	$24.05	$192.40
Labor	Supervisor or Manager	2	Hour	$45.77	$91.54
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
				Total Cost:	$1,175.53

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$220.41	EQIP-HU	$264.49
WHIP	$ 0.00	WHIP-HU	$ 0.00