

Section 6: Economic Analysis

Introduction

The following economic analysis was conducted using the guidance in Appendix 5. The analysis provides a starting point for the Madison County Wildland/Urban Interface Fire Mitigation Group and the responsible fire districts to begin mitigation project prioritization. It should be noted that while some projects provide an excellent return on investment other factors should be strongly considered and examined closely in the prioritization process. Life safety issues must always take precedence over costs. Other issues include:

- ❑ The number of structures in the subdivision
- ❑ The number of calls experienced in the area by the fire district
- ❑ Past fire history
- ❑ Seasonal use patterns
- ❑ Availability of funds
- ❑ Commitment and involvement of property owners
- ❑ Property aesthetics
- ❑ Environmental impacts
- ❑ Wildlife impacts

Vulnerability Zone Project Economic Analysis:

The following analysis was conducted based on a brief description of the project and the assumptions used to determine the scope and rough order of magnitude cost for the project. The information provided serves as a foundation for project prioritization and resource allocation. Detailed cost estimates may be required for grant applications.

East Bench – WUI Vulnerability Zone 1

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner, the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$45,278 avg. property value
- ROI – 9.1 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.

Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D

Due Date:

- ✓ *Develop a fuels reduction program or fire break program in the canyons and draws.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – Working with the appropriate property owners and the forest service, construct fire breaks in canyons and draws with dense fuels next to the forest service boundaries.

Assumption – The cost for a firebreak is \$3,000 per acre and approximately one acre of land will be used for each break. The cost of equipment is assumed to be \$10-15,000. The average cost per acre is assumed to be \$125.00.

Cost - \$3,125 per break
 Valuation: \$45,278 avg. property value
 ROI – 14.5 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
 Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program
 Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Rexburg-Madison County Emergency Services Dept., along with property owners, will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per Subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$45,278 avg. property value
- ROI – 1.5 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
 Resources: FEMA Assistance to Fire Fighters
 Due Date:

- ✓ *Apply for grants and local funding to procure wildland firefighting equipment.*

Project Description – Procure two wildfire suppression pieces of equipment to be used in all WUI Vulnerability Zones.

Assumption – Cost of equipment totals \$300,000. The equipment will be housed in Rexburg and Archer.

- Cost \$300,000
- Valuation – Must be applied to total value of all WUI Zones
- ROI – Life Safety

Responsible Party: Rexburg-Madison County Emergency Services Dept.
 Resources: FEMA Assistance to Firefighter grants
 Due Date:

Heise to North Fork of Snake River Junction – WUI Vulnerability Zone 2

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$52,534 avg. property value
- ROI – 10.5 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.

Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D

Due Date:

- ✓ *Develop a fuels reduction program.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will assist property owners in the development of a firewise/fuel reduction program. The project shall include mechanical treatments of properties within a 90' radius of structures and will be based on both removal of fuels and the insertion of appropriate types of landscaping. Two mitigation projects will be integrated together, the development of the fuel reduction program and the procurement of the equipment to support the project.

Assumptions – The cost per acre for mechanical treatment is \$3,000, assume a 90' treatment area would include work on only 1 acre or less of property and assume the average property value for the subdivision. The cost of the procurement of the equipment would be divided equally between all properties treated. The cost for the mechanical treatment equipment is estimated between \$10-15,000 divided by the number of properties treated.

- Cost – \$3,000 per acre/\$125.00 est. equipment cost per property
- Valuation - \$52,534 avg. property value
- ROI – 16.8 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.

Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program

Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Rexburg-Madison County Emergency Services Dept., along with property owners will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per Subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$52,534 avg. property value
- ROI – 1.8 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: FEMA Assistance to Fire Fighters
Due Date:

North Fork of the Snake River Riparian Area – WUI Vulnerability Zone 3

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner, the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$81,413 avg. property value
- ROI – 16.3 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D
Due Date:

- ✓ *Develop a fuels reduction program.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will assist property owners in the development of a firewise/fuel reduction program. The project shall include mechanical treatments of properties within a 90' radius of structures and will be based on both removal of fuels and the insertion of appropriate types of landscaping. Two mitigation projects will be integrated together, the development of the fuel reduction program and the procurement of the equipment to support the project.

Assumptions – The cost per acre for mechanical treatment is \$3,000, assume a 90’ treatment area would include work on only 1 acre or less of property and assume the average property value for the subdivision. The cost of the procurement of the equipment would be divided equally between all properties treated. The cost for the mechanical treatment equipment is estimated between \$10-15,000 divided by the number of properties treated.

- Cost – \$3,000 per acre/\$125.00 est. equipment cost per property
- Valuation - \$81,413 avg. property value
- ROI – 26.0 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program
Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Rexburg-Madison County Emergency Services Dept., along with property owners, will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$81,413 avg. property value
- ROI – 2.7 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: FEMA Assistance to Fire Fighters
Due Date:

West Desert Area – WUI Vulnerability Zone 4

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner, the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$47,606 avg. property value
- ROI – 9.5 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D
Due Date:

- ✓ *Develop a fuels reduction program.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will assist property owners in the development of a firewise/fuel reduction program. The project shall include mechanical treatments of properties within a 90’ radius of structures and will be based on both removal of fuels and the insertion of appropriate types of landscaping. Two mitigation projects will be integrated together, the development of the fuel reduction program and the procurement of the equipment to support the project.

Assumptions – The cost per acre for mechanical treatment is \$3,000, assume a 90’ treatment area would include work on only 1 acre or less of property and assume the average property value for the subdivision. The cost for the procurement of the equipment would be divided equally between all properties treated. The cost for the mechanical treatment equipment is estimated between \$10-15,000 divided by the number of properties treated.

- Cost – \$3,000 per acre/\$125.00 est. equipment cost per property
- Valuation - \$47,606 est. avg. property value
- ROI – 15.2 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
 Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program
 Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Rexburg-Madison County Emergency Services Dept., along with property owners, will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$47,606 avg. property value
- ROI – 1.6 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
 Resources: FEMA Assistance to Fire Fighters
 Due Date:

Menan Buttes – WUI Vulnerability Zone 4A

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Central District will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner, the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$76,545 avg. property value
- ROI – 15.3 : 1

Responsible Party: Central Fire District

Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D

Due Date:

- ✓ *Develop a fuels reduction program.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – The Central District will assist property owners in the development of a firewise/fuel reduction program. The project shall include mechanical treatments of properties within a 90’ radius of structures and will be based on both removal of fuels and the insertion of appropriate types of landscaping. Two mitigation projects will be integrated together, the development of the fuel reduction program and the procurement of the equipment to support the project.

Assumptions – The cost per acre for mechanical treatment is \$3,000, assume a 90’ treatment area would include work on only 1 acre or less of property and assume the average property value for the subdivision. The cost of the procurement of the equipment would be divided equally between all properties treated. The cost for the mechanical treatment equipment is estimated between \$10-15,000 divided by the number of properties treated.

- Cost – \$3,000 per acre/\$125.00 est. equipment cost per property
- Valuation - \$76,545 avg. property value
- ROI – 24.5 : 1

Responsible Party: Central Fire District

Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program

Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Central District, along with property owners, will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per Subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$76,545 avg. property value
- ROI – 2.6 : 1

Responsible Party: Central Fire District
Resources: FEMA Assistance to Fire Fighters
Due Date:

Green Canyon Creek/Teton River – WUI Vulnerability Zone 5

- ✓ *Develop a wildland/urban interface public education program.*
- ✓ *Develop an evacuation plan.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will conduct public education meetings for property owners in the WUI Zone. Educational materials will be provided. This project will be integrated with development of an evacuation program and will include all WUI Zones.

Assumptions – The integrated program cost would be \$5,000 for this zone. If the program saved one home because of actions of the homeowner, the ROI would be based on the cost divided into the value of the average property in the subdivision.

- Cost - \$5,000 (this zone)
- Valuation – \$62,081 avg. property value
- ROI – 12.4 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: BLM Community at Risk Program, FEMA Fire Prevention Grant, High Country RC&D
Due Date:

- ✓ *Develop a fuels reduction program.*
- ✓ *Apply for grants to procure equipment used for mechanical treatment projects.*

Project Description – The Rexburg-Madison County Emergency Services Dept. will assist property owners in the development of a firewise/fuel reduction program. The project shall include mechanical treatments of properties within a 90’ radius of structures and will be based on both removal of fuels and the insertion of appropriate types of landscaping. Two mitigation projects will be integrated together, the development of the fuel reduction program and the procurement of the equipment to support the project.

Assumptions – The cost per acre for mechanical treatment is \$3,000, assume a 90’ treatment area would include work on only 1 acre or less of property and assume the average property value for the subdivision. The cost for the procurement of the equipment would be divided equally between all properties treated. The cost for the mechanical treatment equipment is estimated between \$10-15,000 divided by the number of properties treated.

- Cost – \$3,000 per acre/\$125.00 est. equipment cost per property
- Valuation - \$62,081 avg. property value
- ROI – 19.9 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.
Resources: IDL/Forest Service Stevens Grant, BLM Community at Risk Program
Due Date:

- ✓ *Develop a year round static water source.*

Project Description – The Rexburg-Madison County Emergency Services Dept., along with property owners will work together to apply for grant funding to install three (3) 10,000-gallon underground static water tanks per subdivision.

Assumption – The cost for a 10,000-gallon water tank buried below the frost line is \$10,000. The State of Idaho Ratings Bureau requires a flow rate of 250 gallons a minute for two hours or a capacity of 30,000 gallons of water storage.

- Cost – \$30,000
- Valuation – \$62,081 avg. property value
- ROI – 2.1 : 1

Responsible Party: Rexburg-Madison County Emergency Services Dept.

Resources: FEMA Assistance to Fire Fighters

Due Date: