



**HOGAN ASSOCIATES**  
*Building & Environmental Consultants*

September 15, 2014

Ms. Nancy Brosz,  
President, Tri Park  
Brattleboro, VT

Re: Property Condition Assessment  
Tri Park Cooperative  
Brattleboro, VT

Dear Ms. Brosz:

At your request, Hogan Associates has completed a Property Condition Assessment for the above-referenced property. Please find enclosed the final report.

Thank you for asking Hogan Associates to perform this important service for you. If you have any questions regarding this report, please contact me at (508) 865-4360.

Sincerely,

Hogan Associates

Joseph Hogan  
Principal Consultant

Enclosure: Final Report

cc: Mr. Jeremiah Ward, CDI

P.O. Box 426,  
Sutton, MA 01590  
508-865-4360



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*Building & Environmental Consultants*

## Property Condition Report

Prepared for:

Ms. Nancy Brosz  
President  
Tri Park Cooperative  
Brattleboro, VT

Subject Property Location:

Tri Park  
Brattleboro, VT

Date Issued:

September 15, 2014

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## **EXECUTIVE SUMMARY**

Hogan Associates (“HA”) has performed a Property Condition Assessment (PCA) of a 313 site manufactured home community (MHC) located in three separate sites in Brattleboro, VT known as Tri-Park Cooperative, (the “Property”). The purpose of the assessment was to identify existing physical conditions, defects present, deferred maintenance items, and general conditions associated with infrastructure systems and site improvements to the Property.

### **Scope**

This PCA is based on a visual site reconnaissance, records review, and interviews with key personnel to determine the current physical condition of the Property. The systems and components assessed for this report were water distribution systems, sewer systems, site drainage, topography, roads, utilities, life & safety, and common buildings. General physical conditions of accessible systems and components, defects, deferred maintenance, recommendations to correct deficiencies, and opinions of expected probable costs are provided in this report.

### **Findings**

The general physical condition of this property compares average to similar properties inspected by our firm. However, our observations and findings indicate significant deferred maintenance and several improper conditions subsequent to original construction. Primary areas of deferred maintenance include: Glen Park And Black Mountain Sewer systems and Mountain Home storm water, electric service, topography, and bridges.

#### **Sewer Systems**

Glen Park community sewer system is at the end of its useful life and replacement should be anticipated soon. The Black Mountain sewer system is nearing the end of its useful life and replacement of that system should be anticipated within three years. Drainage improvements are also recommended for the Mountain Home and Black Mountain communities.

#### **Electric**

The electrical system for the Mountain Home community is generally in fair to poor condition. Although approximately 70% of the Mountain Home community has updated electrical services, we have identified numerous areas as improper and unsafe electrical conditions as described in this report with numerous safety hazards.

#### **Bridges**

The bridges for the Mountain Home community are generally in fair condition with one bridge nearing the end of its useful life. Further detailed bridge assessments by qualified professionals

are required for more detailed costs, scope, and required work. We have only determined overall conditions with cost estimates based on preliminary visual inspection and review of a bridge assessment report by SVE.

## **Topography**

The presence of 41 homes located within a flood way and flood zone of the Mountain Home community presents an ongoing potential for future flooding and life/safety concerns for Mountain Home residents. 18 of the homes in the floodway zone, area of highest flood potential, should be addressed soon with highest priority.

## **Conclusions**

Deferred maintenance subsequent to original construction and development of the Property has resulted in deterioration of several site components within the Property. Sewer system replacement is recommended now for Glen Park. Sewer system replacement for Black Mountain is recommended within three years. Drainage improvements are recommended for Mountain Home and Black Mountain communities. The presence of improper and unsafe electrical conditions within the Mountain Home community should also have priority for repairs and replacement based on safety hazards present. The two bridges located within the Mountain Home community require repairs and/or replacement. One bridge is nearing the end of its useful life and one bridge requires repairs. Both bridges require further detailed assessment by qualified professionals.

The homes located on Village Drive and Brookwood Drive in the Mountain Home community flood zone present ongoing life/safety concerns. Tri-Park should coordinate with local and state authorities to develop a plan of action to address flood concerns. Relocation of existing homes to non-flood zones will present significant costs associated with developing land, infrastructure, and the movement of homes. These costs are considered to be significant.

We recommend that you consult with professionals, repair contractors, service companies, and others to provide further analysis and specifications for exact nature and scope of required repairs as pointed out above and in this report and other repairs which may be required as determined through further investigation or the performing of work in progress, and to acquire firm bids for making such repairs or replacement. The above described findings along with other deferred maintenance items within the Tri-Park Cooperative are further discussed followed by conclusions and suggested actions which require repair, replacement, or further evaluation of components with estimated ballpark type costs for repairs.

Table ES 1 **PROJECT SUMMARY**

This table displays estimated ballbark type costs over 10 years. The estimated costs are preliminary and are based upon Hogan Associates experience in conducting similar projects. The actual cost will be affected by factors such as project duration, site access, market conditions, and other contingencies applied by the owner(s). This project summary is not to be used alone. The attached report is intended to be read in its entirety.

Table ES 1 Project summary

Item	Good	Fair	Poor	Action*	Immediate Needs	Capitol Reserves**
Sewer Collection System			X	IR	295,000	305,000
Water Distribution System	X			NM		
Storm Water Drainage		X		IR	118,000	55,000
Electric		X		IR	236,500	
Oil Tanks		X		IR, NM		
Roads		X		IR,NM	215,000	468,500
Topography			X	IR,NM		
Life/safety			X	IR		
Common Building		X		IR	17,500	

\* Action: NM = Normal Maintenance, IR = Immediate Repair/Replacement, RR = Replacement Reserves, NA = Not

\*\* Un-inflated up to 10 years

Immediate and reserve summary	Term (yrs)	Un-inflated Costs	Total Expenses Adjusted Inflated
Immediate Repair and Deferred Maintenance Expenditures	0-2 yrs	882,000	N/A
Replacement Reserves	3-10 yrs	828,500	1,759,166

## **1.0 INTRODUCTION**

Hogan Associates (“HA”) was retained by Tri park Cooperative to conduct a Property Condition Assessment (PCA) of a 313 multi site manufactured home community (MHC) located in Brattleboro, VT known as Tri-Park Cooperative (the “Property”). This assessment was authorized on July 28, 2014 and performed in accordance with the proposal and scope of work for Property Condition Assessments. This PCA and report was prepared by Mr. Joseph Hogan, Principal, Hogan Associates.

On August 26-28, 2014, Mr. Hogan (HA) conducted a site reconnaissance and inspection of the physical conditions of the Property and associated infrastructure and site improvements. HA’s investigation included a review of local government agencies, plans on file, compliance status with fire and building departments, interviews with key personnel, site inspection of infrastructure systems, and cost estimations of recommended immediate and long term repairs and improvements for the Property.

### **1.1 Purpose**

The purpose of this PCA was to observe and document accessible infrastructure, common building systems, and site improvements to assess the general conditions which may significantly affect the value of the property, and determine if conditions exist which may have a significant impact on the continued operation of the Property during the next 10 years.

### **1.2 Scope of Services**

This PCA is based on a visual site inspection and assessment, records review, and interviews with key personnel to determine the current physical conditions of the Property excluding individual homes. The systems and components assessed for this report were water distribution systems, sewer systems, site drainage, topography, roads, utilities, life & safety, and common buildings. General physical conditions of accessible systems and components, defects, deferred maintenance, recommendations to correct deficiencies, and opinions of probable cost are provided in this report. The PCA is conducted in general accordance with ASTM 2018-08. Flood zone concerns and re-location of existing homes and costs are outside the scope and limitations of this assessment.

### **1.3 Limitations**

Due to physical and cost limitations inherent to this assessment, HA does not warrant that the Property is free of defects or all defects have been identified. As such, no absolute determination of conditions are made. No other warranties are implied or expressed. There is a possibility that even with the proper application of the PCA and assessment methodologies, there may exist at the Property conditions that could not be identified within the scope of this assessment or which were not reasonably identifiable

from available information or interviews conducted. The findings, opinions, and conclusions presented in this report are based on the site conditions observed, interviews, and information reviewed and recorded at the time of this assessment. The findings, conclusions, and recommendations presented in this report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services. Sewer systems in Glen Park and Black Mountain were generally not accessible for visible inspection and the reliance on interviews for materials and conditions was employed. This assessment is intended to reduce but not eliminate uncertainty and conditions with physical conditions at the Property. The PCA is not a building code, safety, regulatory or environmental compliance inspection. If any additional information is encountered concerning the facility, it should be forwarded to HA for re-evaluation of the assumptions, conclusions, cost estimations, and recommendations presented herein. The recommendations and opinions of cost provided herein are for observed deficiencies based on the understanding that the Property will continue operating in its present use and classification. Improper conditions may be present which were not visible at the time of the assessment.

#### **1.4 Use Reliance**

This report, both verbal and written, is for the benefit of Tri Park Cooperative. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of HA.

#### **1.5 Document Review and Interviews**

The following people and organizations were contacted and interviewed prior to and during the site visit and report preparation:

- Ms. Nancy Brosz, President, Tri Park
- Mr. Bill Hodgeman, Tri Park Maintenance Supervisor
- Ms. Doreen Bacon, Tri Park Office Manager
- Mr. Peter Lynch, Brattleboro Assistant Fire Chief
- Mr. Steve Barret, Director of Public Works, Brattleboro
- Mr. Rod Francis, Planning Director, Brattleboro
- Mr. Chris Hayes, Certified Water Treatment Operator
- Tri Park Coop Residents (Several)

## **Documents**

- Tri Park Resident Infrastructure Survey
- Consumer Confidence Reports, water quality reports, Glen and Black Mountain
- 2008 Mountain Home Oil storage tank assessments
- SVE Bridge Assessment Report, 2009
- Water and Sewer Operating Agreement, Brattleboro, 2011
- Floodplain maps, The University of Vermont, 2012
- FEMA Maps
- Google Maps
- Site Plans, Mountain Home Water and Sewer, SVE, 2006
- Water and Sewer Site Plans, Black Mountain, Glen Park, (limited details)
- Brattleboro Water Bills
- Tri Park electrical assessment
- Brattleboro Planning Minutes

## **2.0 OVERALL GENERAL DESCRIPTION**

The Tri Park Cooperative Property consists of three separate sites. The main site is called Mountain Home. Mountain Home consists of 263 homes. Mountain Home is located on the northerly side of Marlboro Road in Brattleboro, VT.

The second site of Tri Park Cooperative is called Glen Park. Glen Park consists of 23 homes and is located on the north easterly side of Marlboro Road in Brattleboro, VT.

The third site of Tri Park Cooperative is called Black Mountain. Black Mountain consists of 27 homes and is located on the easterly side of Black Mountain Road in Brattleboro, VT.

### **2.2 Zoning**

All properties are located in the PUD district.

### **2.3 Overlay Districts**

Wetlands were observed on the Mountain Home site in areas adjacent to the two streams present. Numerous homes within the mountain home community are located within the floodway and flood zones according to FEMA Flood Insurance Rate Map number FM50025C0501E and presented in the appendix of this report. Wetlands are also present near Glen Park in areas adjacent to the river. Homes within Glen Park community are also within flood zones according to FEMA Flood Insurance Rate Map number FM50025C0501E. Wetlands may or may not be present in the Black Mountain. The Black Mountain community is not located within a flood zone according to FEMA Flood Insurance Rate Map number FM50025C0389.

### **2.4 Historical Information**

The Properties for all three communities were initially developed in the 1950s and 1960s. Subsequent phases of homes were constructed. Recommend further environmental due diligence.

### **2.5 Municipal Services**

Each property site for Tri-Park is serviced with municipal water supply service and municipal sewer service from the town of Brattleboro. Electric service is provided by Green Mountain Power.

### **2.6 On-Site Services**

No private water wells were observed or reported. No private on-site septic systems were observed or reported present.

## **2.7 Number of Homes**

A total of 263 homes are present in the Mountain Home community. A total of 23 homes are present in the Glen Park. The Glen Park community is a 55 and older community. A total of 27 homes are present in the Black Mountain community. The number of homes has changed in recent years as a result of damaged or removed homes.

## **2.8 Common Buildings**

One common office building is located in the Mountain Home community. A maintenance building is also located within the Mountain Home community. A laundry building is located within the Glen Park community. Several small storage sheds are located within the Tri-Park communities.

## **2.9 Site Descriptions**

The Mountain Home site consists of an irregular shaped parcel of land on the northerly side of Marlboro Road. The Property has two streams with flood basins at the south side. The property has a significant steep upward slope toward the North side of the property. The southeastern portion of the property is relatively flat. The Mountain Home site is adjacent to another park on Deepwood Drive. Deepwood Drive has right of way and easement through the Mountain Home community for access to Marlboro Road. Heavy vegetation and trees are present throughout community. Two separate road entrances are present with access to Marlboro Road via two bridges into the community. A total of 18 separate named roads are present on the Property and presented in the appendix.

Glen Park site consists of an irregular shaped parcel of land on the north easterly side of Marlboro Road. The property is located adjacent to the Whetstone Brook. The property is relatively flat. One road entrance to the community is present with access to Marlboro Road. The road consists of one hook shaped road called Glen Dr.

Black Mountain site consists of an irregular shaped parcel of land on the north easterly side Black Mountain Road. The property is located at the base of a hill. The property is relatively flat. Two road entrances to the community are present with access to Black Mountain road. The site has one road named Crescent Drive.

## 3.0 INFRASTRUCTURE DESCRIPTION AND OBSERVATIONS

### 3.1 Sewer Collection System

#### *Description:*

All three Tri Park communities discharge wastewater to the town of Brattleboro sewer system.

#### **Mountain Home**

A recent sewer collection system upgrade was recently completed two years ago for the Mountain Home community. The system consists of 8" PVC main pipes, numerous manhole structures, cleanouts, and 4" PVC service pipes to homes. The system is all gravity. We did not observe any lift stations. The town of Brattleboro maintains all the components of the sewer system up to individual homes.

#### **Glen Park**

Sewer system within the Glen Park community consists of 4" bituminous fiber pipe made from asphalt impregnated layers of tar paper and wood pulp pressed together. This type of sewer pipe is commonly referred as "Orangeburg" pipe. This pipe is used as both mains and lateral service to home connections.

Although requested, no sewer construction, as-builts, or site plans were provided or available for review for the sewer system. With this restricted information along with no manholes observed, the assessment of the system was limited. However, our observations indicate approximate condition and materials based on interviews with Tri Park staff and local regulating authorities.

The system is all gravity flow to the main collection pipe the town owns and maintains on the property. No sewage pump or lift stations are present. The Property sewer system is privately owned, operated, and maintained by Tri Park according to the Brattleboro DPW. The town may perform sewer maintenance services for fees if requested.

#### **Black Mountain**

Sewer system within the Black Mountain community consists of 4" "Orangeburg" pipe. This pipe is used as both mains and lateral service to home connections. Although requested, no sewer construction, as-builts, or site plans were provided or available for review for the sewer system within Black Mountain. However, our observations indicate approximate condition and materials based on interviews with Tri Park staff and local regulating authorities. Reports of at least one clay pipe were present.

The system is all gravity flow to the main collection pipe. The Property sewer system is privately owned, operated, and maintained by Tri Park according to the Brattleboro DPW. The town may perform sewer maintenance services for fees if requested.

No sewage pump or lift stations are present for the Black Mountain sewer system. One large pump station is owned and operated by the town of Brattleboro and located on the southwest side of the property and used for Brattleboro sewer system. The pump station is scheduled for closure soon.

#### *Observations/Comments:*

##### **Mountain Home**

The overall condition of the sewer system is good with remaining useful life of approx. 40-50 years. No reports of sewer back-ups, leaks, odors, etc were reported by management. Inspection of the system was generally in good condition.

##### **Glen Park**

The overall condition of the Glen Park sewer system is poor with no remaining useful life. The system is at the end of its useful life and total replacement is recommended soon. Reports of sewer backups and sewer pipe breaks were recently reported for this community. Maintenance and repairs appear to be escalating.

The Orangeburg sewer pipe is generally in poor condition. This type of sewer pipe has an expected useful life of only 40-50 years with no remaining useful life. The condition of the pipe is generally poor with areas of sumps, cracking, splitting, and some reports of periodic back-ups which require repair jetting and rooting of the pipes which further deteriorate and damaged the pipes. This type of sewer pipe is typically and historically susceptible to moisture damage and pressure cracking from soils if not constructed with adequate soils and pea or crushed stone. Based on interview with DPW official, the water and sewer pipes do not have a minimum 10 foot separation distance. Total sewer system replacement is recommended soon for this park including engineering, plans, planning, and construction. Based on interview with DPW official, sewer connection fees would not be necessary, however plan reviews, filing, approvals, etc. would be necessary for several local authorities including conservation. We anticipate sewer system replacement components including 8" SDR 35 main pipes, 4" PVC service connections, cleanouts, approximately 4 to 6 sewer manhole structures, gravity system, engineering, construction, and materials.

## Black Mountain

The overall condition of the Black Mountain park sewer system is poor with approx. 1-3 years remaining useful life. The system is nearing the end of its useful life and total replacement is recommended within 3 years. Reports of sewer backups and sewer pipe breaks were previously reported for this community. Expect future maintenance and repairs to escalate.

The Orangeburg sewer pipe is generally in poor condition. The condition of the pipe is generally poor with areas of sumps, cracking, splitting, and some reports of periodic back-ups which require repair jetting and rooting of the pipes which further deteriorate and damage the pipes. Total sewer system replacement is recommended within 3 years for this park including engineering, plans, planning, and construction. Based on interview with DPW official, sewer connection fees would not be necessary, however plan reviews, filing, approvals, etc. would be necessary for several local authorities including conservation. We anticipate sewer system replacement components including 8" SDR 35 main pipes, 4" PVC service connections, cleanouts, approximately 4 to 5 sewer manhole structures, gravity system, engineering, construction, and materials

Table 3-1 Sewer System Conditions

Sewer Location/ Component	Condition	Material	Remaining Useful Life Years	Comments
<b>Mountain Home</b>				
Structures, main lines, laterals, connections	good	PVC, concrete structures	40-50 years	Recently upgraded system, no problems reported
<b>Glen Park</b>				
Pipes, structures, construction	poor	Orangeburg	0 years	Requires sewer system upgrade soon, backups and breakages reported
<b>Black Mountain</b>				
Pipes, structures, construction	Poor	Orangeburg	1-3 years	Require sewer system upgrade, reports of some breakages

## **3.2 Municipal Water Supply**

### *Description:*

All three Tri Park communities receive its potable water from the town of Brattleboro.

#### Mountain Home

A recent water distribution system upgrade was recently completed two years ago for the Mountain Home community. The system consists of a large pump station on Winding Hill Road, 8" Ductile Iron main water supply pipes, 3/4" copper service pipes to individual metered homes. A valve pit is located near each home consisting of copper piping, water meter, and pressure reducing valve. Numerous fire hydrants are located throughout the property. Several are flushing hydrants.

The town of Brattleboro maintains the main components of the water distribution system and pumping station including main water pipes, fire hydrants, pumping station, manholes, structures, assemblies, etc. Curb stop valves are present for each home. According to maintenance staff, several homes on Brookwood Drive has PVC distribution service pipe. Tri Park owns and maintains the water distribution system from the curb stop valves to the individual home shut off. Each home is individually metered by the town of Brattleboro.

#### Glen Park

The water distribution system for Glen Park was upgraded in 1994. Tri Park owns and operates the system. The system consists of 3" Ductile Iron Main service pipes with 3/4" copper service pipes. Curb stop valves are present for every two homes. The distribution system is considered a consecutive system with one water meter located in a water meter pit at the northern side of the property inside a concrete vault with water shut off, reducing valve, and water meter. The distribution system is monitored by a certified water treatment operator. Chris Hayes from Simon Operation Services is the certified operator. Monthly sampling is conducted on the water system.

#### Black Mountain

The water distribution system for Black Mountain was upgraded in 1999. Tri Park owns and operates the system. The system consists of 3" Ductile Iron Main service pipes with 3/4" copper service pipes. Curb stop valves are present for every two homes. The distribution system is considered a consecutive system with one water meter located in a water meter pit at the southern side of the property inside a concrete vault with water shut off, reducing valve, and water meter. The distribution system is monitored by a certified water treatment operator. Chris Hayes from Simon Operation Services is the certified operator. Monthly sampling is conducted on the water system

### *Observations/Comments:*

#### **Mountain Home**

The overall condition of the water distribution system for Mountain Home community is good with remaining useful life of approx 30-50 years with ongoing maintenance and isolated repairs.

The water distribution system has an ongoing maintenance issue with the pressure reducing valves inside the meter pits for individual homes. The valves most notably on the lower southern sides of the property are located in groundwater and are prematurely corroding and leaking, possibly from water quality conditions inside the meter pits. Numerous valves are required to be changed each year by maintenance staff. These reducing valves are considered Tri Park property. The valve replacement has become an ongoing maintenance problem. Further evaluation is recommended to find a permanent solution in lieu of replacing valves such as water treatment in meter pits, changing pit water supply connections, etc. Several instances of frozen pipes were reported with two isolated low water pressures in the community.

#### **Glen Park**

The overall condition of the water distribution system for Glen Park community is good with remaining useful life of approx 20-30 years with ongoing maintenance and isolated repairs. Review of water records indicate approximately 90 gallons per day water usage per home. This amount is considered average or slightly below average. According to maintenance staff, no consistent leaks or problems are associated with the water distribution system. Two leaks were reported from last winter as a result of freezing near homes. Review of water quality reports indicate no violations detected. Interview with the water treatment operator indicated no problems.

#### **Black Mountain**

The overall condition of the water distribution system for Glen Park community is good with remaining useful life of approx 30- 40 years with ongoing maintenance and isolated repairs. Review of water records indicate approximately 135 gallons per day water usage per home. This amount is considered average to slightly above average. According to maintenance staff, no consistent leaks or problems are associated with the water distribution system. However, leaks sometimes fail to be properly reported by residents. Review of water quality reports indicated several total coliform violations detected in 2013, no E. coli violations were present. Interview with the water treatment operator indicated no problems or violations detected in 2014 routine sampling. The certified operator indicated the 2013 total coliform problem was likely attributed to house #22, but could not be confirmed.

Table 3-2 Water Distribution System Conditions

Water Location/ Component	Condition	Material	Remaining Useful Life Years	Comments
<b>Mountain Home</b>				
Main water pipes, service connections, curb stops, fire hydrants, valves etc. maintained by Brattleboro	good	Ductile iron, copper, high pressure plastic,	30-50 years	Generally good condition, no leaks reported
Individual meter pits	Fair	brass pressure reducing valves, 3/4"	1-15 years	Southern sections of the property has frequent maintenance requirements, corroded valves, frequent replacements necessary
<b>Glen Park</b>				
Main water pipes, service connections, curb stops, pressure, flow, valves etc.	good	Ductile iron, copper	20-30 years	Generally good condition, several leaks at homes freezing last winter
Water quality	good	Sampling		No violations reported
<b>Black Mountain</b>				
Main water pipes, service connections, curb stops, pressure, flow, valves etc	Good	Ductile iron, copper	25-35 Years	Generally good condition, no defects reported, reducing valve, meter pit in good condition
Water quality	fair	Sampling		Total coliform violations reported in 2013, none in 2014

### **3.3 Stormwater Drainage**

#### *Description:*

##### **Mountain Home**

Road drainage for the Property is primarily by roadside swales constructed of rip rap typically leading to catch basins with subsurface drainage. Approximately 37 catch basins with subsurface drainage are present. Several drainage swales are located throughout steep slopes and sections of the middle to northern section of the property. All surface road drainage is directed towards the southern and eastern side of the property. No detention basins or retention ponds are present.

##### **Glen Park**

Road drainage for the Property is primarily by soil infiltration. One small drainage swale is located at the southern side of the property and discharging into a smaller stream. No subsurface drainage is present. No detention basins or retention ponds are present.

##### **Black Mountain**

Road drainage for the property is primarily by groundwater infiltration. One catch basin with sub surface drainage is located at the southern end of the property within the cul-de-sac. The catch basin discharges into a nearby drainage/infiltration pit beneath the surface. A drainage swale is located at the Eastern side of the property between the homes and the base of a large hill. The swale discharges into a nearby wetlands. No detention basins or retention ponds are present.

#### *Observations/Comments*

##### **Mountain Home**

The overall condition of storm water drainage within the Mountain Home Property is fair. Several areas of improper drainage were identified within the property. However, one moderate to significant area of improper drainage is located near the North Central sections of Valley Road, north in the area of reservoir road, and northern area of Windward Drive. We understand this area near Valley Road can become troublesome following heavy rain events. Improper drainage is a result of steep slopes, inadequate pipe sizes and discharge areas of drainage from areas west and north of Windward Drive. Drainage improvements are recommended on Windward Drive and Reservoir Road to improve drainage conditions. Several catch basin structures on Windward Road are recommended along with chimney structures for elevation changes between Winwood Road and reservoir road, and between reservoir road and Valley Road. Drainage pipe is recommended to direct water to the eastern side wetlands and brook. A site contractor/engineer is recommended for design and construction of the system.

A second area of moderate to significant improper drainage was identified on the mid section of Record Drive eastern side of the road. Water coming down this hill washes into a yard. One catch basin with drainage pipe is recommended.

Several isolated minor areas of improper road drainage with minor deterioration of asphalt or roads was observed throughout the middle to northern sections of the property.

Numerous catch basins observed along with numerous drainage pipes and drainage swales had excessive silt, dirt, and debris buildup. Deferred maintenance with cleaning catch basins and drainage pipes was observed. This dirt buildup within drainage pipes results in overflowed pipes, puddling, and standing water following or during heavy rain events. We highly recommend cleaning all catch basins and all drainage pipes throughout the entire property to improve storm water drainage. Catch basins and drainage pipes should be kept free and clear and maintained for proper storm water collection and discharge.

Most drainage swales throughout the property were reconstructed following the water and sewer project several years ago. According to staff, previous drainage swales were asphalt lined. Most drainage swales are now constructed of rip rap. Inspection of the drainage swales indicated growth, dirt, debris, silt, etc. buildup within the rip rap and making it difficult to clean and maintain the swales.

### **Glen Park**

Storm water drainage for Glen Park is generally fair to good. According to residents and management, no significant drainage problems are present within this park. Some standing water occurs following heavy rain events at the southern end of the property. This condition and any other low area may be improved with proper road pavement and grading following sewer system replacement to direct water away from roads. No additional subsurface drainage is recommended.

### **Black Mountain**

Storm water drainage for Black Mountain is generally fair to poor. Storm water from Road drainage fails to properly be directed to the South Eastern section of the property. The improper road drainage is causing deterioration of the road surface. Improved and new subsurface drainage with approximately 4-5 catch basins and subsurface drainage is recommended at the middle section of the property following eventual sewer system replacement and road paving. A site engineer is recommended for proper design and locations.

The south side catch basin and associated drainage pit often gets full following rain events and backs up into the street within the cul-de-sac. A new larger capacity drainage pit or leach field is recommended for this catch basin.

The drainage swale at the Eastern side of the property at the bottom of the hill has an improperly sized drainpipe leading into the wetlands area. The drainpipe often gets clogged with silt and dirt and cannot accommodate large amounts of water. The drainage swale is an earth swale and is overgrown with vegetation. A larger diameter drainage pipe is recommended for stormwater swale drainage discharge. We also recommend maintaining drainage swale to prevent water backups at the south Eastern side of the property. Table 3-3 illustrates the storm water drainage system within Tri Park.

Table 3-3 Storm Water Drainage Conditions

Stormwater Location/ Component	Condition	Material	Remaining Useful Life Years	Comments
<b>Mountain Home</b>				
Overall road drainage/site	Fair	Drainage swales, riprap, catch basins	10 to 20 years	Drainage swales are not asphalt lined, difficult to clean and maintain, some backups reported
Catch basins, subsurface drainage	Fair-poor	Catch basins, structures, drainage pipe	5-10 years	Cleaning of all catch basins and drainage pipes recommended now
Valley Road	poor	Drainage pipes and swales	0 years	Improper drainage areas, standing water, needs drainage improvements on Winward road, Reservoir Rd., Valley rd
Record Drive	Poor	Curbing, infiltration	0 years	Water spilling into homes, catch basin and drainage pipe recommended
<b>Glen Park</b>				
Overall road drainage/site drainage	Fair-good	Drainage swale	10-20 years	Future road paving may improve some road drainage
<b>Black Mountain</b>				
Catch basin	Poor	One catch basin	0-2 Years	The one catch basin at South side needs improvement
Overall road drainage	Fair-Poor	Infiltration	0 years	Approximately 4-5 catch basins recommended with subsurface drainage
Drainage swale	Poor	earth	0-2 yrs	Needs larger size discharge pipe and maintenance

### **3.4 Utilities**

#### *Description:*

Electric, telephone, and cable t.v. service is provided to all three parks by overhead wires and drop loop services in the roads and lateral services to meter bank panels with underground service. Green mountain Power is the electrical service provider. Homes are primarily heated with oil, some with propane.

#### **Electric**

The electric service is provided by overhead wires to drop loop services and meter panels attached to utility poles with underground laterals to homes and primarily to more updated meter bank panels. The meter panels have the main service wire, breaker disconnect, meter, and service wire underground to individual homes. Utility poles are located within the Properties. It is our understanding, the poles are the equipment and components of the Green Mountain Power. Main amperage for homes are typically 100 amp service with some isolated 60 amp fused services.

#### *Observations/Comments*

#### **Mountain Home Electric**

The overall condition of the electric service in the Mountain Home park is fair. However, numerous safety hazards associated with exposed wires, frayed wires, improperly secured and supported panels, inadequate service, and antiquated equipment are present. Approximately 70% of the electric service has been updated and in good condition and the remainder in poor condition with approx. 82 electric services in poor condition. It is our understanding Green Mountain power does not allow Tri Park to repair service wires and meter panels which are connected to utility poles. Complete updated service is required by the power company with meter bank electrical panels with underground lateral services from the polls to the meter panels if repairs or replacement are needed. An electrical meter assessment report from Tri Park for Mountain Home was also reviewed to determine service conditions. Table 3-4 illustrates all poorly rated electrical disconnect meter panels and shutoffs within the Mountain Home community. These listed electrical services are in poor condition with antiquated equipment and potential safety hazards. The listed equipment is typically at the end of its useful life and updated services are recommended soon.

Table 3-4 Poorly Rated Mountain Home Electric Disconnect Panels

Street Name	Home #
Brookwood Drive	2, 4, 6, 10, 12, 14, 16, 20, 22, 24, 26
Deepwood Drive	2, 4
Record Street	1, 3, 4, 5, 7, 9, 10, 11, 13
Stonewall Street	2, 4, 6, 7, 9, 10, 12, 14, 22, 24
Thistle Hill	1, 3, 4, 6
Trail Road	1, 3
Lynwood Street	13, 16, 18, 20, 21, 23, 26
Maplewood	1, 3, 5, 7, 9
Valley Rd	6, 8, 10, 12
Winding Hill Rd	3, 9, 11, 16, 17, 18, 20, 22, 24, 26, 27, 28, 29, 30
Winward Rd	11, 16, 18, 20
Village dr	2, 4, 6, 8, 10, 22, 24, 26
Wagon dr	1, 2

### **Glen Park Electric**

The overall condition of the electric service in the Glen Park is good. The entire community has updated electrical service with updated meter panels, disconnects, and electric service. No safety hazards or improper conditions were observed. No problems with power, interrupted service, flickering, etc. was reported.

### **Black Mountain Electric**

The overall condition of the electric service in the Black Mountain Park is good. The entire community has updated electrical service with updated meter panels, disconnects, and electric service with the exception of two services. Two electrical services are near completion with only some remaining electrical work required at #18 and #19 Crescent. No safety hazards or improper conditions were observed. No problems with power, interrupted service, flickering, etc. were reported.

### **Outdoor Fuel Storage Tanks**

Most homes are heated with heating oil with 275 gallon metal above ground outdoor oil storage tanks. Most tanks in Tri Park were in fair condition with minor to moderate

corrosion observed. A comprehensive oil tank evaluation was performed in 2008 for oil tanks in Mountain Home. The survey identified at least 10 tanks in need of repair or replacement. The repairs or replacement have been conducted including painting, leveling, installing proper footings or pads, or replacing tank entirely. Our inspection of oil tanks indicated minor to moderate corrosion on numerous tanks, several improperly supported on improper pads, and the oil tank for the office building is improperly supported.

Oil tanks observed in Glen Park and Black Mountain were generally in fair condition. Some moderate corrosion was observed on tanks and several tanks were not properly supported on pads.

It is our understanding two previous oil tank leaks occurred within the Tri-Park community several years ago. No oil dripping or leakage was observed on any tank. However,

All oil tanks on the property should be evaluated by an oil supply technician and environmental professional with any necessary repairs or replacement as needed to reduce the potential for any future leaks and contamination. The Tri Park should implement periodic inspections of all oil storage tanks. Further evaluation of any previous environmental conditions should be further evaluated by a qualified environmental professional for the entire property.

### **3.5 Roads**

#### *Description:*

#### **Mountain Home**

Roads in Mountain Home Park are constructed of base processed gravel and asphalt. The Property consists of approximately 6 miles lineal feet of roadway. Two main entrances are located on the south side of the property with access to Marlboro Road (Rt 9). The roads are named and are illustrated in the appendix of this report. The road widths vary slightly but typically range between 20' and 23' wide. Most homes have an asphalt driveway. No sidewalks are present on the Property. Roads are drained by gravity and adjacent soil infiltration along with numerous drainage swales and catch basins with sub surface drainage.

Tri Park owns and maintains two bridges for the subject property for access to Marlboro Road. The bridges span two separate Brooks. Bridge #1 is located at Dettman Drive crossing the Whetstone Brook and spans 55 feet and has a 3' wide sidewalk. Bridge # 2 is located on Winding Hill Road, crosses Halladay Brook and spans 32 feet with no sidewalk. Both bridges are constructed of steel beams with concrete decks on concrete abutments with steel guardrails.

#### **Glen Park**

Roads in Glen Park are constructed of base processed gravel and asphalt. The Property consists of approximately 900 feet of lineal feet of roadway. One main entrance is located on the south side of the property with access to Marlboro Road (Rt 9). The south side of Glen Street which intersects Marlboro Road, is town owned land with private homes. The road widths vary slightly but typically range between 26' and 30' wide. Most homes do not have a asphalt driveway, parking is on the road. No sidewalks are present on the Property. The road is drained by gravity and adjacent soil infiltration with one drainage swale. No sub surface drainage is present.

#### **Black Mountain**

Roads in Black Mountain Park are constructed of base processed gravel and asphalt. The Property consists of approximately 1,200 feet of lineal feet of roadway. Two entrances are located on the property with access to Black Mountain Road. The road widths vary slightly but typically range between 18' and 23' wide with a large area in the middle and small cul de sac at the south side. Most homes do not have a driveway, parking is on the road. No sidewalks are present on the Property. The road is drained by gravity and adjacent soil infiltration. One catch basin with sub surface drainage is located at the south side of the property.

## *Observations/Comments*

### **Mountain Home**

The overall condition of the roads within the Mountain Home community is good compared to similar properties inspected by our firm. Most roads within the community have been re-graded and paved following a water and sewer system upgrade to two years ago. Most roads observed have proper crowns and grading with adequate sub base and minimal cracking.

We identified six separate areas of fair to poor road asphalt surface conditions:

1. Winding Hill Rd., just north of Halladay Brook up to Village Dr. Approx. 5,000 s.f.
2. Deepwood Drive, beginning at Winding Hill north to Property Border on Deepwood Drive. Approx 8,600 s.f.
3. Wagon Drive, not paved, approx 4,800 s.f.
4. Trail Road, not paved approx. approx 2,000 s.f.
5. Windward Drive. Approx 75% of Road, Approx. 28,000 s.f.
6. Reservoir Road, not paved, approx. 22,000 s.f.

The above described areas of roads are usable and serviceable at this time. However, re-surfacing these sections of roads will give all road surfaces a good condition. Remaining useful life of these six sections is 2-3 years until further repairs are required. Remaining useful life of all other roads is approx 18-22 years.

Numerous areas of steep grades are present throughout the middle section and northern section of the property. A particular significant steep slope is present at the North Eastern side of Autumn Hill Road. One section of the road has wooden guardrails in fair to good condition. One larger section approximately 200-300' has improper and unsafe stones buried in soil on the edge of the road and used as guardrails. A proper metal vehicle roadside guardrail along this section of road is highly recommended.

### Bridges

A preliminary bridge assessment report for the two Mountain Home bridges was prepared by SVE Associates in May 2009. The report indicated the following bridge conditions:

#### *Bridge #1 at Dettman Drive crossing Whetston Brook*

This bridge was rated in overall good condition. The steel beams have some minor surface corrosion but otherwise in good structural condition. The abutments and wing walls are also in good condition. The report recommended patching a pothole on the

bridge deck. The report determined the bridge would not accommodate the 25 year storm event resulting in water flowing around the bridge abutments. The report has determined the bridge is deficient in with of the bridge for both traffic and pedestrian use of the sidewalk. The sidewalk is only 3 feet wide and should be 5 feet wide and is a potential pedestrian safety hazard. The report recommends the addition of a 5' pedestrian bridge constructed to the existing bridge for safety concerns and to bring the bridge width into compliance with AASHTO standards for road width in lieu of total bridge replacement at a likely cost of over \$1,000,000. We have provided estimated cost of installing a pedestrian sidewalk to the existing bridge and removing the existing side walk for added bridge width. However, the report indicates a comprehensive bridge assessment with flood stage hydraulics be conducted. We recommend this assessment of both bridges by a qualified professional prior to any bridge repairs, construction, or replacement.

Our inspection of the bridge #1 indicated structural steel beams and abutments generally in good condition. We observed several minor potholes on the bridge deck which should be repaired. We also observed the hand rail on the sidewalk of the bridge to be too short, bent and damaged, and openings too wide, especially for children. We recommend the bridge deck potholes be repaired and repair sidewalk handrail.

#### *Bridge #2 at Winding Hill Road crossing Halladay Brook*

This bridge was rated fair by SVE in 2009. Repairs to the southern bridge abutments were conducted in 2007. Seventh steel beams support the deck. All beams showed moderate to significant surface corrosion. Two beams have been crudely fabricated and are questionable for proper bridge support. The bridge abutments and wing walls were in good condition. The report indicates deficiencies as to the width of the bridge and pedestrian sidewalk. The report indicates the bridge is adequate to pass the 25 year storm event although bridge abutment issues remain. Report indicates the bridge has only several years of remaining useful life and complete replacement is recommended at an estimated cost of \$300,000.

Our inspection of bridge #2 indicated significant surface corrosion to steel beams and improperly sized fascia beams. The lack of pedestrian sidewalk is also a safety hazard. Since the report recommended replacement within a few years, approximately five years ago, we recommend replacement of this bridge within the next 2 to 3 years.

#### **Glen Park**

The overall condition of the roads within the Glen Park community is fair compared to similar properties inspected by our firm. Asphalt surfaces of the roads have moderate to significant cracking and deterioration. Several potholes and repairs were observed in the roads. Most roads observed have proper crowns and grading with adequate sub base.

Road drainage is by ground infiltration and one drainage swale. Road drainage is in fair condition with some heavy puddling following heavy rain events. This condition may be improved by future asphalt resurfacing. Remaining useful life of the asphalt surfaces is approximately 2-4 years, however complete resurfacing is recommended following sewer replacement. No driveways are present, parking is typically on the roadways. No sidewalks are present.

### **Black Mountain**

The overall condition of the roads within the Black Mountain community is poor compared to similar properties inspected by our firm. Asphalt surfaces of the roads have significant cracking and deterioration. Several potholes and repairs were observed in the roads. Sub base material is questionable. Road drainage is by ground infiltration and one catch basin at the South side of the property. Road drainage is in poor condition. Inadequate road drainage particularly at the North and West section of the roads has caused premature deterioration of asphalt surfaces. Additional catch basins are recommended at the time of Road resurfacing and sewer improvements. No driveways are present, parking is typically on the roadways. No sidewalks are present.

Table 3-5 illustrates the general Road conditions within the Tri Park community.

Table 3-5 Road Conditions and Remaining Useful Life

Road Location/Component	Condition	Material	Remaining Useful Life Years	Comments
<b>Mountain Home</b>				
Road base gravel, grading, widths, general construction	Good	base gravels, binder coat asphalt	18 to 22 years	Generally good condition, six areas of poor asphalt surfaces
Driveways	Fair-good	Binder coat asphalt, gravel	15 to 20 years	Normal maintenance
Sidewalks	poor	none	--	No sidewalks are present
Curbing	Fair	asphalt	15 to 20 years	Some curbing present to direct storm water
Drainage	fair	Catch basins subsurface drainage	2 to 5 years	Catch basins and swales need cleaning, improper swale construction, areas of improper road drainage
Guardrails on Autumn Hill Rd	poor	Stone, wood	0 years	Recommend additional vehicle guardrails
Bridge #1	Good-Fair	Steel, concrete	10-15 years	Improper handrail, improper sidewalk, structurally sound
Bridge #2	Fair-Poor	Steel, concrete	2-3 years	Significant surface corrosion, no sidewalk, question abutments
<b>Glen Park</b>				
Road base gravel, grading, widths, general construction	Fair	base gravels, binder coat asphalt	2 to 3 years	Asphalt resurfacing is recommended following recommended sewer replacement
Driveways	Poor	None		
Sidewalks	Poor	None		
Drainage	Fair	Swales	2 to 3 years	Drainage may be improved following resurfacing
<b>Black Mountain</b>				
Road base gravel, grading, widths, general construction	Poor	base gravels, binder coat asphalt	1-2 Years	Asphalt resurfacing is recommended following recommended sewer replacement
Driveways	Poor	None		
Sidewalks	Poor	None		
Drainage	Poor	Catch basin	0 years	Additional sub surface drainage should be added following resurfacing

### **3.6 Topography**

#### *Description:*

#### **Mountain Home**

The Mountain Home park is located in the direct vicinity of the junction of two river waterways. The Whetstone Brook flows at the southern section of the property. The Halladay Brook flows from the west and south section of the property. The two brooks join near Village Drive, Brookwood Drive, and Dettman Drive.

The south eastern section of the Mountain Home park is relatively flat, low lying ground abutting the Whetstone Brook to the south and wetlands to the east. Roads in this low lying area include Village Dr., Valley Rd., Edgewood Dr., and Woodvale Rd.

The above described areas with approx 41 homes are located within the floodways and flood zones of the two brooks with past, present, and future flooding concerns for Mountain Home residents in these areas.

The area of the Mountain Home park not within floodways or floods zones, just north of the brooks and west of the wetlands, is a steep grade and slopesl.

#### **Glen Park**

The Glen Park is located in a low lying area within the direct vicinity of Whetstone Brook to the east and south side of the community. No homes are located within the floodway of immediate flood concerns, however, most homes are located within the 100 year flood plain. The Glen Park is relatively flat in low lying area.

#### **Black Mountain**

The Black Mountain Park is located in a relatively flat area at the base of a large hill. The property is not located within a flood zone. The property is located on the easterly side of Back Mountain Road and on the easterly side of a brook. Some small wetlands area may be located at the southeast portion of the property.

### *Observations/Comments:*

#### **Mountain Home**

An operating agreement for the recent water and sewer project between the town of Brattleboro and Tri-Park, describes conditions relating to floodway flood zone areas within the Mountain Home Park. The conditions described in the operating agreement relate to the relocation of numerous homes within the community to areas outside of the flood zones. According to tri-Park management, approximately 41 homes are located within immediate floodway or the 100 year flood plain. Other homes have been demolished, removed, vacated, or elevated during the past several years following hurricane Irene.

Based on interviews with tri-Park management, residents, and local authorities, the location of these homes within the flood zones present potential life/safety concerns. Previous floods have risen above the bridges and flooded homes. The flood potential for this community is an ongoing life/safety concern. The Brattleboro fire department notifies residents within the community of potential storms, rising waters, flooding, etc. This warning enables residents to safely move out of the community during a storm event and prevent them from being trapped within the community.

The relocation of 41 homes for this community will present significant costs associated with developing land, infrastructure, and the movement of homes. These costs are considered to be significant and outside the scope and limitations of this assessment. Future assessments and studies by qualified professionals are required to determine locations, land development, costs, feasibility, funding, etc. If the subject homes are not within the Tri-Park monthly rents, adverse economic conditions to Tri Park will result in the loss of operating income.

The Mountain Home community is located in a heavily vegetated area with large overgrown trees throughout the property. According to management, an aggressive tree cutting, pruning, trimming budget is allocated each year to areas of worst concerns. We observed numerous areas throughout the property with overgrown vegetation, most notably large trees with overhanging branches above roofs of homes. We recommend an improved tree cutting and trimming maintenance schedule to remove all areas of unsafe overgrown trees.

Several areas of minor to moderate banking erosion as a result of steep grades and slopes throughout the property was observed. Numerous areas within the property, too many to identify, may require periodic maintenance or the construction of retaining walls. We recommend future budgeting and maintenance for these conditions.

## **Glen Park**

Ten homes were removed from Glen Park following hurricane Irene. These 10 homes were previously located in the floodway, or the immediate area of flooding on the Whetstone Brook. No immediate flooding concerns are present for the remainder of the homes in Glen Park, however all homes are located within a 100 year flood zone.

No overgrown vegetation and trees are located within this community.

## **Black Mountain**

The black mountain community is not located within a flood zone. Based on interviews, no flooding issues are present. Heavy overgrown trees and vegetation are located on the eastern side of the property at the base of the hill. We recommend tree pruning, trimming, or removal as needed to prevent large overhanging limbs on top of homes all over roofs.

### **3.7 Life Safety**

*Description, Observations, Comments:*

#### **Mountain Home**

The presence of 41 homes remaining within flood zones present an ongoing life/safety concern, particularly for residents being trapped within the community, and emergency vehicle access. Tri-Park cooperative should continue to work with local planning board authorities and local emergency response authorities in order to reduce or eliminate future potential home flooding concerns within the Mountain Home community.

Street lighting is provided to the community by overhead utility pole mounted street lights. Street lighting in the community was in good condition. Road signs, speed limit signs, etc. were present within the community. Fire hydrants are located throughout and were in serviceable condition. The nearest fire station is approximately 1.3 miles away. The lack of a sidewalk on one bridge, and a narrow sidewalk on the other bridge is a potential safety hazard. The bridge with a sidewalk has and unsafe railing and should be repaired.

#### **Glen Park**

Street lighting is provided to the community by overhead utility pole mounted street lights. Street lighting in the community was in good condition. Road signs, speed limit signs, etc. were present within the community. One fire hydrant is located at the

southern end of the property and was in serviceable condition. The nearest fire station is approximately .1 miles away. According to the Brattleboro fire Department assistant chief, no life/safety concerns or access issues are present for this community.

### **Black Mountain**

Street lighting is provided to the community by overhead utility pole mounted street lights. Street lighting in the community was in good condition. Road signs, speed limit signs, etc. were present within the community. One fire hydrant is located at the Southwest end of the property and was in serviceable condition. The nearest fire station is approximately 2.6 miles away. According to the Brattleboro fire Department assistant chief, no life/safety concerns or access issues are present for this community.

## **3.8 Common Buildings**

A 900 s.f. Office building is located in the mountain home community and used for meetings, office staff, documents, and general public use. The building is a manufactured home.

A pre-engineered maintenance building is located in the mountain home community. The building is constructed of steel beams and columns with metal siding. The building was constructed in 1994.

A 270 s.f. Single story wooden structure constructed of wood joists, studs, rafters, etc. on a concrete slab on grade is located within the Glen Park. The building is used for resident laundry service.

### *Observations, Comments*

#### **Office Building**

The overall condition of the office building within the Mountain Home community is fair to good. The metal pitched roof is in fair to good condition. Roof drainage gutters are missing. The exterior was generally in good condition. Driveway was in good condition.

The front wooden stairs and handicap access ramp is in poor condition. The stairs are missing risers. The handicap ramp is not ADA compliant. The wooden stairs at the left side of the building are not properly supported or secured. Missing joist hangers, missing footings, missing risers, etc.

An oil fired 2005 Thermo Pride forced warm air furnace is located in a utility closet rear right side with central air conditioning. The air conditioner is a split system with the condensing unit located outdoors and the evaporative cooler on the supply side of the furnace air handler. Ductwork is located above the ceiling with supply registers. Return air is through the closet. The unit was operating in air conditioning mode and was in good condition. A 275 gallon oil storage tank is located outside. The tank is improperly supported. Recommend repair oil tank supports. Electric service was in good condition, however recommend make distribution panel more accessible. Bathroom is generally ADA compliant. Windows and interior generally in fair to good condition. One older smoke detector was observed. Recommend replace with updated smoke detector.

### **Laundry Building**

The wooden framed laundry building in the Glen Park community is generally in good condition. The gas-fired hot water tank was in good condition. Electrical panel was in good condition. Roof and exterior were in good condition. The handicap access ramp is not ADA compliant. Some repairs are necessary for proper access to the door for wheelchair access. Exterior front side entrance light is missing with open exposed electrical wires. Recommend install light. A propane forced hot air furnace is located in this room. The unit was not operated but appears to be in good condition. The clothes dryer vents are improper material and a potential fire hazard. The vents are also located too low to the ground at the exterior and potential for snow cover. Recommend install proper solid metal pipe vents with proper height at the exterior.

### **Maintenance building**

The pre-engineered metal framed maintenance building is in fair condition. Some damage to the exterior metal panels was observed and should be repaired. Overhead doors were in good condition. An oil fired forced hot water boiler is located in the building along with an oil fired forced warm air furnace in the ceiling. The units were generally in fair condition. Oil tank was in good condition. Electrical is generally in good condition.

## 4.0 CONCLUSIONS

The general physical condition of this property compares average to similar properties inspected by our firm. However, our observations and findings indicate significant deferred maintenance and improper conditions subsequent to original construction. Primary areas of deferred maintenance include: Glen Park And Black Mountain Sewer systems, Mountain Home storm water, electric service, topography, and bridges.

The presence of 41 homes located within a flood way and flood zone of the mountain home community presents an ongoing potential for future flooding and life/safety concerns for residents. Based on interviews with local officials, residents, and management, 18 of the homes in the floodway zone, area of highest flood potential, should be addressed soon with highest priority. These homes are located on Village Drive and Brookwood Drive. The relocation homes for this community will present significant costs associated with developing land, infrastructure, and the movement of homes. These costs are considered to be significant. Future assessments and studies by qualified professionals are required to determine locations, land development, costs, feasibility, funding, etc. If the subject homes are removed from the Tri-Park monthly rents, adverse economic conditions to Tri Park will result in the loss of operating income.

The electrical system for the Mountain Home community is generally in fair to poor condition. Although approximately 70% of the Mountain Home community has updated electrical services, we have identified numerous areas as improper and unsafe electrical conditions as described in this report with numerous safety hazards. Black Mountain and Glen Park electrical systems are in good condition.

The Mountain Home water and sewer systems are generally in good condition. However, several road repairs and storm water drainage improvements are recommended. Drainage catch basins and drain pipes have excessive dirt and debris buildup and require cleaning now. Drainage swales are in fair condition. The bridges for the community are generally in fair condition with one bridge nearing the end of its useful life. Further detailed bridge assessments by qualified professionals are required for more detailed costs, scope, and required work. We have only determined preliminary conditions based on visual inspection and review of the bridge assessment report by SVE. The report was only preliminary and further investigations and assessments are required.

Glen Park community sewer system is at the end of its useful life and replacement should be anticipated soon. A site engineer is recommended now to initiate plans and permits for sewer system replacement. The Black Mountain sewer system is nearing the end of its useful life and replacement of that system should be anticipated within three years. Drainage improvements are also recommended for the Black Mountain community.

## 4.1 Recommendations

- The services of a qualified civil engineer or site professionals company should be obtained in order to conduct a comprehensive feasibility study as to the relocation of homes within the floodway and/or flood zone of the mountain home community. The study should include options for land development, home relocation, costs, etc. for the tri-Park Cooperative and future budgeting/operating/maintenance considerations. Tri Park should coordinate with local and state officials as to funding and potential grants for assessments.
- Tri-Park should seek the services of a qualified civil engineer to begin designing, planning, approvals, permits, etc. for sewer system replacement within the Glen Park community. The engineering firm should also provide plans to improve Mountain Home drainage conditions and Black Mountain conditions. Black Mountain drainage conditions should be incorporated into future sewer system replacement.
- A qualified commercial electrical contractor should be consulted to conduct the electrical system upgrades as described in this report for the Mountain Home community and remaining services of Black Mountain.
- The services of a qualified bridge consultant should be obtained by Tri-Park to determine and assess precise bridge conditions, remaining useful life, and options for bridge repairs or replacement.
- Tri-Park management should investigate contractors, methods, materials, etc. in order to alleviate corroded reducing valves in meter pits causing extensive maintenance conditions for the mountain home community.
- Tri-Park should institute a yearly oil storage tank inspection process by management personnel. The inspection should include conditions, recommendations for repair or replacement, and documentation. The process will reduce environmental contamination potential.
- Tri-Park should initiate a yearly catch basin and storm water pipe cleaning process including cleaning all catch basins and all drainage pipes and drainage swales on a yearly or biannual basis. Process will reduce improper drainage conditions within the property.
- Road pavement should be conducted in both Glen Park and Black Mountain following sewer system replacement.
- Road pavement repair should be conducted in Mountain Home community in

areas described in this report. Guard rails should also be installed as needed. Areas of wash out, cracked pavement, etc. should be repaired as needed.

- The presence of low overhanging limbs and trees and branches near homes in both Mountain Home and Black Mountain communities presents a safety hazard. It is our understanding Tri-Park maintains an aggressive tree cutting program and should be continued. We recommend routine inspections with documentation outlining all areas of recommended tree removal or trimming.
- Mountain home office building is in fair condition but we recommend new wheelchair and ADA compliant building. This will require new stairs and handicap access ramp. Other minor conditions to the laundry building and maintenance building are also recommended as described in this report.

We recommend that you consult with engineer professionals, repair contractors, service companies, and others to provide further specifications for exact nature and scope of required repairs as pointed out above and within this report which may be required as determined through further investigation or the performing of work in progress, and to acquire firm bids for making such repairs or replacement.

## **4.2 Priority Repairs**

Safety hazards and significant deferred maintenance items described in this report should be considered priority with immediate recommended repairs such as:

- Repair and replace all unsafe and improper electrical conditions in Mountain Home.
- Address Mountain Home Floodway and flood zone issues as described in the Water and Sewer Operating Agreement. Plan to address study, feasibility, and assessment of homes within floodways.
- Obtain services of civil engineering firm for sewer system upgrade in Glen Park. Additional services of bridge assessment and plans for Mountain Home stormwater drainage and Black Mountain.

### **4.3 Opinions of probable Costs**

Table 4-1 presents estimated ballpark type figures for repair and replacement costs for systems or components. Component repair costs are taken from industry accepted tables such as RS Means and HA's experience in conducting similar projects. Contractor's estimations, bids, or pricing were not obtained.

Actual unit component repair costs may be different than presented herein. It is necessary that you consult with service companies and repair contractors in respective categories to determine the exact scope of work for repairs and replacement and submit firm bids for making required corrections.

All quantities and areas quoted in this report whether used as a basis for developing costs or for other purposes are only approximate and cannot be relied upon as exact. Estimated costs will vary depending upon type and quality of materials selected for repairs and precise scope of work including future engineering plans and specifications. The figures for cost estimates are approximates only. It is recommended that cost estimates be obtained from at least three service companies, contractors, qualified technicians, etc for each component requiring necessary repairs.

Table 4-1: Opinion of Probable Costs for Repairs

Component	Quantity/Area	Current Repair Cost (Un-inflated)
<b>Sewer</b>		
Glen Park sewer system replacement	Approximately 4 to 6 manhole structures, 8" SDR 35 sewer mains,, 4" PVC lateral connections, cleanouts, gravity system, engineering, construction, materials, restoration	\$260,000 - \$330,000
Black Mountain sewer system replacement	Approximately 3 to 5 manhole structures, 8" SDR 35 sewer mains,, 4" lateral connections, cleanouts, gravity system, engineering, construction, materials, restoration	\$270,000 - \$340,000
<b>Sewer Sub Total</b>		<b>\$530,000 - \$670,000</b>
<b>Drainage</b>		
Mountain Home-Valley Rd, Reservoir Rd, Windward Rd drainage improvements, engineering, construction, materials	2 additional catch basins on Windward Rd connected to existing drain pipe, install large collection structure, install several chimney structures and piping to direct water to lower elevations across Reservoir Rd and Valley Rd.	\$70,000 - \$90,000
Mountain Home-Record Dr. drainage improvement	Install 1 catch basin structure with approx 125' of drain pipe	\$7,000 - \$9,000
Mountain Home-clean catch basins	Approx 37 catch basins and drain pipes throughout property	\$3,000 - \$4,000
Black Mnt road drainage improvements	Install 4-6 new catch basins with sub surface drainage, engineering, materials, construction	\$45,000 - \$65,000
Black Mnt catch basin improvement south side	Install large drain field, pit, or leaching area, engineering, construction, materials	\$20,000 - \$25,000
Black Mnt swale improvement	East side swale pipe discharge, install larger 12"-15" pipe	\$3,000 - \$5,000
<b>Drainage Sub Total</b>		<b>\$148,000 - \$198,000</b>
<b>Electric</b>		
Mountain Home - Replace and update individual home electric service disconnects, service wires, meter panels	Approximately 82 services in poor condition, replace with 100 amp service in compliance with codes and requirements	\$210,000 - \$260,000
Black Mountain electric service upgrades	#18 and #19 Crescent complete remaining electrical service work	\$1,000 - \$2,000
<b>Electric Sub Total</b>		<b>\$211,000 - \$262,000</b>
<i>Table 4-1 continued</i>		

<i>Table 4-1 continued</i>		
	<b>Roads</b>	
Mountain Home, 6 areas of cracked pavement, missing asphalt, areas of fair to poor road surface conditions	approximately 70,000 s.f. Roadways	\$125,000 - \$175,000
Mountain Home Bridge Replacement	Bridge #2 , Winding Hill Rd	\$320,000 - \$370,000
Mountain home bridge repair	Bridge #1, Dettman Drive pothole repairs, immediate sidewalk railing repair/improvement	\$2,000 - \$4,000
Mountain Home 5' Pedestrian Walkway Bridge attached to Dettman Dr. Bridge	55' span, 275 s.f. steel construction, materials, engineering	\$45,000 - \$65,000
Mountain Home corrugated steel vehicle guardrail installation	Northeast section of Autumn Hill Road, approx. 200-300'	\$6,000 - \$8,000
Glen Park asphalt re-surfacing	Resurface all roads following sewer system upgrade approx. 24,000 s.f., Apply base coat asphalt, finish wear coat asphalt, sub base and gravel to remain as	\$50,000 -\$60,000
Black Mountain Park asphalt re-surfacing	Resurface all roads following sewer system upgrade approx. 30,000 s.f., Apply base coat asphalt, finish wear coat asphalt, sub base and gravel to remain as, any sub base repairs if needed would be additional cost	\$62,000 -\$75,000
<b>Roads Sub Total</b>		<b>\$610,000 - \$757,000</b>
<b>Common Buildings</b>		
Office Building replace front stairs and handicap ramp, repair left side stairs, repair oil tank	Wood, ADA compliant ramp and building access	\$8,000 - \$10,000
Repair maintenance building	Exterior metal siding, rear side grading, general repairs	\$4,000 - \$6,000
Laundry building repairs	Repair handicap ramp for improved ADA compliance, repair light, dryer vents	\$3,000 - \$4,000
<b>Common Bldg SubTotal</b>		<b>\$15,000 - \$20,000</b>
<b>Total</b>		<b>\$1,514,000 - \$1,907,000</b>

#### **4.4 Capitol Improvement Plan**

Table 4-2 presents estimated ballpark type figures for long term (up to 10 years) of anticipated repair or replacement costs for major systems. Component repair costs are taken from industry accepted tables such as RS Means and HA's experience in conducting similar projects.

The plan outlines expected future costs of infrastructure and major systems. It does not address costs such as: yearly budgets for management fees; landscaping, trash pickup, snow plowing, road repairs, normal or ordinary repairs, pump repairs/replacement distribution cleaning, building maintenance, and blow-off, etc. other conditions not included such as drain cleaning, swale cleaning, plumbing repairs, valves, etc.





## **Appendices**

**Site Photographs  
Supporting Documentation**

## Black Mountain



Water meter pit



area of catch basins, cul-de-sac



Drainage swale base of hill



improper road drainage, wash out 1



Updated electric



Deteriorated road surface



overhanging trees

### Glen Park



Area of removed homes



grass swale



Deteriorated asphalt



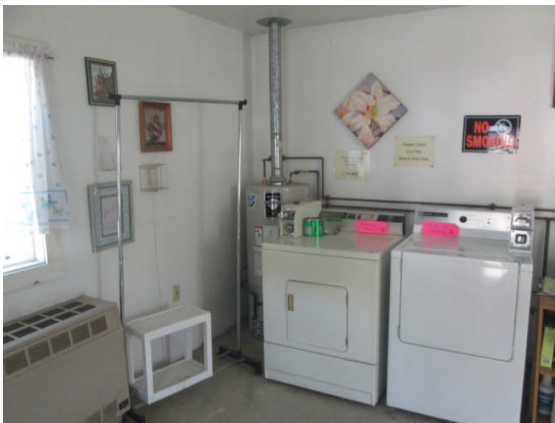
corrosion on tank, fair condition



updated electric



laundry building



Interior of laundry building



main water meter pit

## Mountain Home



Halladay Brook Bridge



Whetstone Brook Bridge



Antiquated electrical



marginal corrosion on tank



Unsafe electrical



blocked drainage pipe



office building



Maintenance building



interior maintenance building



Meter pit, typical



grass drainage swale, fire hydrant



Areas of improper drainage

