



May 30, 2021

Greetings SMSA Members!

I hope that this newsletters finds you and your family safe and well. The SMSA Board wanted to update you on several projects 'in the works' as well as provide some information important to our Community.

Note that we have consulted with a civil engineer for guidance and a strategy to address key areas of concern within the SMSA road system. The report is attached for your information. Important findings and recommendations include adding "breakers" amongst other recommendations and addressing driveways that are causing damage to the HOA maintained roads. If you are experiencing these issues, the Board would like to work with you in coming up with a resolution.

Road work has occurred and will be occurring over the next several weeks with a focus on addressing drainage issues, repairing potholes, ditches and culverts. To minimize road issues around your area, please be sure to clean out your culverts and ditches regularly.

Next, to the best of our ability, we will notify homeowners in advance as to when road work will occur so you can plan accordingly as there may be travel delays.

Our goal is for roadwork to start in the Month of June 2021.

Last, road signs will be replaced / updated and thanks to a SMSA Homeowner, the SMSA sign at the entrance has already been refurbished!

Once again, please find the attached SMSA Roads report for your information and guidance. *Note that this report was provided to SMSA HOA as a donation; no SMSA Funds were expended.*

SMSA ROAD REPORT

Balzer & Associates

CIVIL ENGINEER REPORT FOR SUNDANCE MT. ASSOCIATION – May 2021

May 12, 2021: Civil Engineer Bill Moore, Balzer Engineering inspected SMSA Roads and provided initial recommendations regarding repair and maintenance. This report begins with a general overview of findings and then provides further details.

GENERAL OVERVIEW

Three areas to focus in maintaining gravel roads: "(1) drainage, (2) drainage, and (3) drainage".

(Bill Moore)

DEFINITIONS

- **“Breaker” or Grade Break** - An intentional rise in road elevation on a downhill slope, which causes water to flow to both sides of the road, where it can be collected in ditches or dispersed at a stable outlet. See https://www.dirtandgravel.psu.edu/sites/default/files/General%20Resources/Technical%20Bulletins/TB_Grade_Breaks.pdf
- **“Crown”, Road Crown:** Crown describes the side to side, or the cross-sectional shape of a road surface. Typically road segments are either center-crowned, in-sloped, or out-sloped. The degree of the side slope is typically measured in percent or degrees, or expressed as inches of fall per foot of road width. See https://www.dirtandgravel.psu.edu/sites/default/files/General%20Resources/Technical%20Bulletins/TB_Crown_and_Cross_Slope.pdf
- **Culvert:** A structure that allows water to flow under a road, railroad, trail, or similar obstruction from one side to the other. Typically embedded so as to be surrounded by soil, a culvert may be made from a pipe, reinforced concrete or other material. (Wikipedia)
- **Ditch** - a long narrow excavation dug in the earth as for drainage.
- **Invasive non-native plants:** Invasive plants pose a serious risk to ecosystems in Virginia. These plants are non-native or introduced to an ecosystem and can cause economic or environmental harm. They are costly to control, reduce productivity within forests, can grow faster than native species, and spread quickly. E.G.,
 - **Bamboo** – A giant reed-like invasive grass that is used commonly for privacy screening. <https://www.fauquiercounty.gov/government/departments-a-g/county-attorney/bamboo-ordinance>. Fauquier County Info.
 - **Multiflora rose** - an exotic **invasive perennial shrub**. See <https://www.ecolandscaping.org/07/landscape-challenges/invasive-plants/multiflora-rose-an-exotic-invasive-plant-fact-sheet/>
- **“Turnout “**– Turnouts are used to direct water away from the road into a vegetated buffer. area, and can be constructed on paved or gravel roads with or without ditches. **Turnouts** can be the width of a backhoe bucket, a bulldozer blade, or a handheld shovel. <https://awwatersheds.org/turnouts-do-it-yourself-conservation-practices/#:~:text=Often%20turnouts%20are%20simply%20extensions,stream%2C%20river%2C%20or%20lake>. (AWWA)
- **SMSA Association Roads:** SMSA roads maintained by the HOA. Lots in report are labeled S (Shenandoah County) and R (Rockingham County). Roadmap included.
- **Tar and Chip:** A low-cost alternative to asphalt, offering a more solid surface than plain gravel. See <https://www.thespruce.com/pros-and-cons-of-tar-and-chip-driveway-1398079>

Section I: SUMMARY OF FINDINGS

“THE MAJORITY OF SMSA ROAD ISSUES CAN BE RESOLVED BY ADDRESSING DRAINAGE ISSUES”.

1. Improving Drainage should be addressed every 300 feet on a gravel roads:
 - a) culvert repair or installation,
 - b) adding turnouts, or
 - c) ditch repair (cleaning, widening, or deepening.)

2. The foundation of SMSA roads appears to be in good sound condition. The crowns are good in *most* locations, however some areas need improvement.

3. Essential Issues
 - a. SMSA Association roads - Some areas should be marked with reflectors and or a guard rail be installed.
 - a. Several locations on SMSA maintained roads are being impacted by poorly maintained homeowners’ driveways.
 - i. This results in damage to the SMSA Maintained road[s].

4. Gravel: Additional gravel is will be needed only in some areas of SMSA roads.
 - a. If gravel is placed, it **MUST** be rolled to minimize it ending up in the ditches and culverts.
 - b. “Tar and Chip”: Advised not to *“waste SMSA money at this time. The most important thing to take care of first is the drainage issues”*. He added, once drainage problems are resolved, Tar and Chip may be an option however ongoing maintenance of ditches and culverts will still be required, (e.g., removing leaves and sticks).
 - c. **Addressing all drainage issues will result in needing less gravel on SMSA roads.**

A road maintenance manual was provided for SMSA reference and guidance.

Section II: DETAILED REPORT - See SMSA Road Map

SUNDANCE MT ROAD¹

1. MAIN ENTRY - A culvert at the property lines for the LOTS “A-C” properties are needed to prevent washout.
2. LOT S-20 Driveway - Driveway culvert needs cleaning; it is causing SMSA maintained road damage.
3. LOT S-25 – Culvert needed to prevent SMSA maintained road damage.
4. CULVERT MARKED ON MAP AS S-2 (or S-3) (immediately after the right bend in the road, just after the gravel storage area) – The right edge of the road (going up) has an immediate drop off and the road is narrowing in this area. It is highly advised guard rails be installed in this location or at the very least, reflectors to prevent driving too close to the road edge causing a cave-away. The left side of the road could possibly be built up to widen the area.

5. LOT R-6– Remove Bamboo in ditch/embankment.
6. LOT R-30 - Culvert needed to prevent SMSA maintained road damage.
7. LOT R-31 – (Downhill, right side of road): Area where gravel piled up at the road edge, blocking water drainage and creating ruts in the SMSA maintained road.
 - a. Steep drop-off, remove some gravel at the edge of the road to allow water to drain over the edge.

***NOTE:** This area must be looked at carefully as the edge may not be stable as there is a severe drop-off. A grader may be able to make light channels in the road surface to direct the water over the edge. However, if not done correctly, it can result in erosion of the road edge. Further guidance is suggested prior to moving forward with this recommendation.*

- b. At a lower level, culvert repair and a possible turnout could be added to divert water from flowing into another lot.
8. BETWEEN LOTS S-30 AND S-31 - Add a turnout to divert the water flow to minimize damage to SMSA maintained roads.
9. LOT S-32 – Add a turnout on the right side of the road (going downhill) to divert and reduce the water flow minimizing damage to SMSA maintained roads.
10. LOT S-34 - Add a culvert across the road to reduce water flow; remove gravel on road edges.
11. LOT S-39 – Road crown needs to be graded and re-shaped; ruts graded out.
 - a. Multi-flora rose bushes encroaching the ditches should be sprayed, killed, removed.

SHOTGUN SPRING ROAD¹

1. LOT R-6 – Homeowner’s driveway is causing ruts and damage to the SMSA maintained road.
 - a. R-6 driveway needs grading to re-route water flow.
 - b. Concern voiced regarding bamboo encroaching in ditches and affect SMSA maintained road; should be addressed now to avoid future issues.
2. LOT R-29 – SMSA maintained road needs grading to re-route water flow.
3. LOT R-23 AND R-28 -
 - a. A breaker should be added for the water draining downhill from R23 to R28.
 - b. Ditches need to be widened and deepened along this stretch of road to handle the flow of water.
 - c. Turnouts should be added to divert water in this area.
4. LOT R-15 – homeowner’s driveway is causing problems to the SMSA maintained road.
 - a. An additional culvert or turnout is needed.
 - b. R15 Driveway work needs to occur.
5. LOTS R-17 & R-18 – SMSA maintained road for access to Well R17.
 - a. Major grading is needed to re-build the crown
 - b. Ditches need to be deepened.

BERRYPATCH ROAD¹

1. LOTS R-23 AND R-28 – (Continuation of Shotgun note #3 above-
 - a. Major problem as water drains from Lot R-23 onto Lot R-28 causing gravel to be washed into R28. Possible culvert needed; note that rerouting water away from R28 may cause additional issues. *Suggest further guidance prior to moving forward with this recommendation.*
2. LOT R-27 – The culvert that crosses the road should have rock added to the bottom of the outflow to prevent it from deepening the hole it is creating.
 - a. Ditch maintenance is needed in this area.

BLUE SMOKE LANE¹

1. LOTS S-25, S-26- and S-27 (stretch of road) – Ditches need cleaning and if needed, deepened.
 - a. Additional culverts may help prevent ruts.
2. LOT S-27 – driveway is causing damage to SMSA maintained road.
 - a. Owner’s driveway needs ditch improvements, (cleaning, deepening, possible redefining) and
 - b. Culvert possibly needed.
3. LOTS S-6 AND S-7 – Ditches are non-existent; create ditches.

WALDEN LANE¹

1. LOTS S-11 AND S-13 – Adding a run off would help divert the water flow / drainage in this area.

NOTE: culvert located & clogged; needs clearing

INITIAL THOUGHTS AND RECOMMENDATIONS

This work may extend over more than one budget year as focus is on correcting drainage recommendations and prioritizing sections for annual maintenance. SMSA HOA can expect further recommendations on where to begin and work progress made. Regular, ongoing maintenance will be required but by correcting drainage problems, this should decrease overall.

SMSA HOA will not require as much gravel as in the past if drainage issues are attended to.

SMSA homeowners who have driveway problems may receive reduced rates by working together in coordination of upcoming road work. The Board will work with homeowners with driveways needing repair. It is not reasonable that ongoing costs of repairing SMSA maintained roads due to a homeowners’, property or plants should be part of the HOA yearly road maintenance budget.