

Road Maintenance Plan

Summit Estates at Fischer

12/2/2022

Maintenance Priority Definitions

Urgent – Road surface and edges are unstable and deteriorating rapidly. Potholes are deeper than one inch and common. Road edges are crumbling and causing the road to narrow. Major reconstruction is needed, or lack of immediate action will lead to the need for major reconstruction. Need for repairs to potholes and edges, and resurfacing as soon as possible.

High – Road surface and edges are becoming unstable. Potholes are common but shallow. Edges are beginning to show deterioration. Surface deterioration is common. Immediate repair of potholes and edges is needed to stabilize the road. Resurfacing within six to twelve months is necessary to regain long term stability of road.

Medium – Road surface and edges are stable. Potholes, cracking, and surface deterioration are evident but minimal. Minor patching of potholes and cracks is needed to preserve road stability. Resurfacing within twelve to thirty-six months is needed to maintain road stability.

Low – Road surfaces and edges are stable. Potholes, cracking, and surface deterioration are absent or rare. Patching of small potholes, cracks, or edges may be needed occasionally as a matter of routine maintenance. Resurfacing is recommended at intervals greater than forty-eight months to maintain road stability.

Summit Estates Road Segments and Initial Priority Assessment

<u>Segment</u>	<u>2022 Priority</u>
<u>Lets Roll - 9720 LF</u>	
1 - Fischer Store Road to Entrance Gate 270 LF	High
2 – Entrance gate to Patriotic 840 LF	medium
3 - Patriot to Eagle 1285 LF -	medium
4 – Eagle to Liberty Bell 1925 LF -	urgent
5 – Liberty Bell to Stars and Stripes 620 LF -	high
6 – Stars and Stripes to Freedom 1345 LF -	medium
7 – Freedom to One nation 2365 LF -	medium
8 - One Nation to end 1070 LF -	high
<u>Stars and Stripes - 7475 LF</u>	
9E – Lets Roll to Freedom 2245 LF -	urgent

10E – Freedom to One Nation 1900 LF -	low
11W – Lets Roll to Creek culvert 1825 LF -	low
12W – Creek culvert to One Nation 1505 LF -	low

13 – United 330 LF -	high
-----------------------------	------

Freedom - 5015 LF

14 – Lets roll to Stars and Stripes 725 LF -	high
15 – Stars and Stripes to One Nation 1600 LF -	high
16 – One Nation to Liberty Bell 1305 LF -	low
17 – Liberty Bell to Lets Roll 670 LF -	medium
18 – Lets Roll to End 715 LF -	high

One Nation - 2115LF

19W – Stars and Stripes to Lets Roll 385 LF -	urgent
20E – Lets roll to Freedom 1410 LF -	low
21E – Freedom to end 320 LF -	high

Patriotic - 1425 LF

22 – Lets roll to end 1425 LF -	medium
--	--------

Eagle - 1930 LF

23W - Lets Roll to End 1625 LF -	urgent
24E – Lets roll to end 305 LF -	medium

Liberty Bell - 330 LF

25 - Lets Roll to End 330 LF -	high
---------------------------------------	------

Star Spangled - 330 LF

26– Freedom to End 330 LF -	high
------------------------------------	------

Total Estimated Road Length 28,670 LF

<u>Total estimated road length with urgent Priority</u>	6,180
High	6,310
Medium	8,235
Low	7,945

Specifications

Bridge and Culverts

Bridges and culverts should be inspected at least annually, and anytime there is a flow event that causes stormwater flows that might threaten the stability of the structure, or its inlet area or outlet area. Inspections should evaluate whether any damage has occurred to any part of the bridge or any culvert. For culvert inspections the inlet and outlet should be evaluated for any damage to any concrete components, aprons, or riprap. Areas adjacent to concrete components should also be inspected for erosion that might destabilize or undermine any part of the structure.

Sediment deposition in or near inlets and outlets should be removed by excavations so that design flows are not reduced.

Pothole Repair

- **Maintenance** – Any pothole should be filled and repaired as soon as practical after it is observed in order to prevent further damage to the road and to vehicles traveling on the road.
- **Potholes less than one inch deep** – Clean loose debris, rocks and foreign materials from pothole using broom or blower. Apply a coat of tack oil to exposed base and edges of pothole. Fill pothole with asphalt patch material or class C cold mix asphalt to a height of one-half inch above surface of adjacent road surface. Compact patch with a hand tamper, plate compactor, or vibrating roller until patch surface is level with adjacent road surface
- **Potholes greater than one inch deep** – Excavate loose base until firm compacted remaining road base is reached. Remove loose materials, rocks, and debris from pothole using broom or blower. Backfill pothole with moist road base to a level approximately one-half inch below road surface. Compact road base using hand tamper or plate compactor. Apply tack oil to base and pothole edges. Fill the remaining pothole with asphalt patch material or class c asphalt cold mix to a height of one-half inch above adjacent road surface. Compact patch using a hand tamper, plate compactor, or vibrating roller

Crack Sealing and Repair – Cracks will be cleaned to remove any debris and any unstable damaged surface material. The crack will then be filled with hot or cold asphalt oil, or a commercial product labeled for crack repair on asphalt surfaces. Cracks that have widened to a width greater than one inch (1”) should be considered for repair as described as **Surface Deterioration Repair**.

Deteriorating Edge Repair - damaged and loose material will be cleaned and removed from the area being repaired. If damage extends beyond the chips seal or asphalt surface into the compacted base substrate, road base will be added, moistened, leveled and compacted to a grade approximately one inch (1”) below the road surface and allowed to dry. The edge area will then be filled with hot mix, cold mix, or commercially available asphalt patch material to a level slightly above the existing grade and compacted using a hand tamper, plate compactor, pneumatic roller, or vibrating roller.

Surface Deterioration Repair – Surface deterioration more general than potholes should be addressed in the same manner as potholes, edge repair, or as described as severely deteriorating road surfaces under **Chip Sealing**. Significant surface deterioration is typically an indication that the road surface is failing and in need of maintenance and resealing.

Chip Seal – Chip seal surfaces require periodic maintenance by resealing with asphalt oil and chips. This maintenance should occur every eight (8) to ten (10) years, or anytime there is evidence that water is

seeping between compacted base and chipseal surface in order to prevent water from seeping under the surface and damaging the compacted base substrate.

Chips seal should only be applied to a smooth clean surface. Apply a layer of hot or cold asphalt oil, then apply a continuous surface of ¾ crushed limestone rock chips. Pea gravel or river gravel is not recommended because those products lack angular surfaces that allow the aggregates to interlock with each other and form a more stable surface. The chip seal application should be compacted with a pneumatic roller immediately after application. For new chipseal being applied to compacted road base two applications of chip seal are required. For reapplication of chip seal as a maintenance practice on existing chip seal surface over compacted base only one application is required as long as the road surface is not severely deteriorated exposing unprotected road base and all potholes deteriorated road edges and road surfaces have been repaired as described above..

In cases where an existing road surface is severely deteriorated exposing significant amounts the road base substrate maintenance chip sealing is no longer recommended. In these cases, the road surface and at least a portion of the substrate profile should be milled, leveled, watered, and well compacted. Then the chipseal process for a new road surface should be followed. An alternative to this process would be to remove debris, remove any unstable portions of the road surface, and then pave the area by laying down a two-inch-deep layer of class C or better hot mix or cold mix and compacting it properly.

References:

[Best Practices Handbook on Asphalt Pavement Maintenance \(mtu.edu\)](#)

[Chapter 4 Crack Sealing, Crack Filling, and Joint Sealing \(ca.gov\)](#)

www.islandcountywa.gov/PublicWorks/Roads/Maintenance/Pages/chipseal.aspx

txdot.gov/pub/txdot-info/cmd/cserve/specs/1993/standard/e316.pdf