

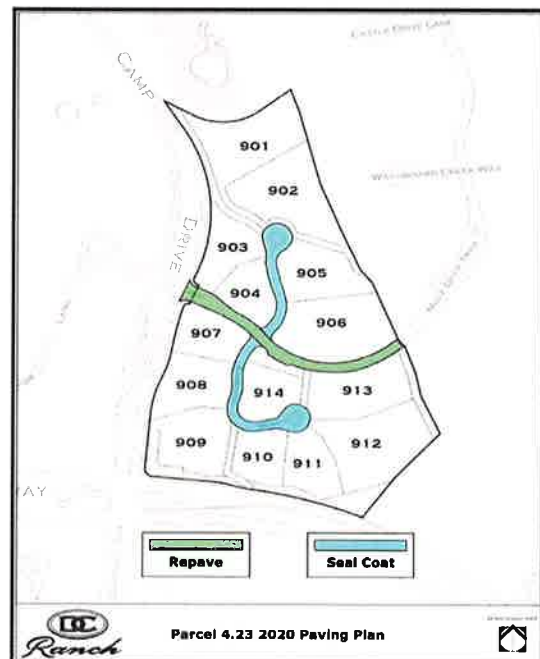
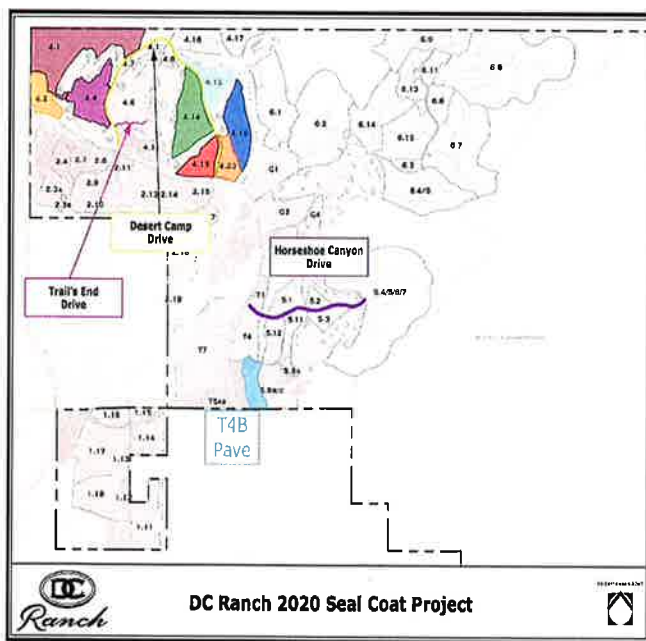


**DC Ranch Association
Board Report 5-4-2-2020 #4**

Subject Matter: 2020 Roadway Maintenance Project

Background: The Association maintains 54 miles of roadway surface. Maintenance work is scheduled on an annual basis in conjunction with a 30-year reserve plan that sets cycles for sealing and road replacement work.

Each year the roadway reserve plan is updated utilizing the services of a third-party consultant (PMIS). Maintenance Services Director Brad Bishop and I work closely with PMIS during this process. The reserve plan dictates the amount of work that is required annually. The map below shows the areas where roadway maintenance work is proposed for 2020. As you can see Country Club is this year's primary focus. All streets in the highlighted areas will be patched and sealed, except for a section of Mule Deer Trail (Parcel 4.23), which will be paved with a new road, because of the amount of patchwork needed. Additionally, the repair and sealing of Horseshoe Canyon Drive was planned for 2020. T.4B which is highlighted was not.



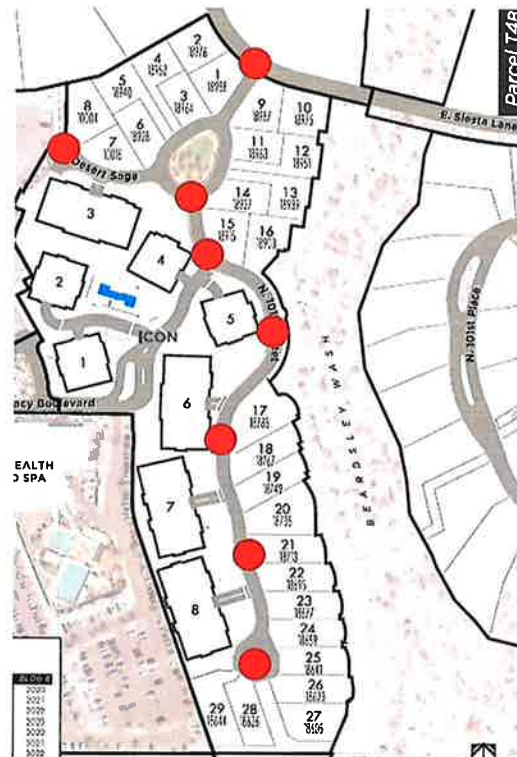
In January 2020, \$451,000 was estimated for the work as prescribed in this year's plan. Project specifications for repairs and replacement work are developed by PMIS and the work is then competitively bid (see table below). PMIS also developed the project specifications for the sealing work, however, this cost is a negotiated one, due to the product being used (HA5). This product is sole-sourced, meaning other contractors cannot bid it. We've used the HA5 product at DC Ranch for the past five years and it's performed well; it's known to be the best product on the market. Its life cycle is set on a seven-year rotation vs. the next best product (PMM) which is set on a five-year cycle (longer cycles to spread the expense/less disruption to the residents).

Patching and Paving Proposals			
TOTAL	PMIS, Inc. Estimate	Cactus	Pinnacle
Horsheshoe Canyon Drive	\$32,539	\$39,009	\$30,988
Parcel 4.19	\$10,096	\$12,773	\$9,650
Parcel 4.23	\$44,169	\$49,489	\$45,297
Parcel 4.14	\$5,349	\$5,405	\$5,198
Parcel 4.13	\$84	\$107	\$79
Parcel 4.4	\$5,349	\$6,000	\$5,198
Parcel 4.2	\$7,624	\$8,905	\$7,763
Desert Camp Drive	\$500	\$155	\$176
Grand Totals	\$105,710	\$121,843	\$104,349

The table below provides a snapshot of this year's proposed work.

DC Ranch Association 2020 Roadway Maintenance Project				
Parcel	Holbrook (sealing HA5)	Pinnacle (patching/paving)	Totals	Funding
4.01	\$49,802	\$0	\$49,802	
4.02	\$25,960	\$7,763	\$33,723	
4.04	\$31,217	\$5,198	\$36,415	
4.13	\$11,055	\$79	\$11,134	
4.14	\$18,684	\$5,198	\$23,882	
4.15	\$12,996	\$0	\$12,996	
4.19	\$15,599	\$9,650	\$25,249	
4.23	\$5,049	\$45,297	\$50,346	
Desert Camp Drive	\$94,470	\$176	\$94,646	
Trail's End	\$10,133	\$0	\$10,133	
Country Club Totals	\$274,964	\$73,361	\$348,325	\$342,000
Horseshoe Canyon Drive T.4B	\$45,311 \$0	\$30,988 \$119,271	\$76,299 \$119,271	\$60,000
Horseshoe Totals	\$45,311	\$150,259	\$195,570	\$60,000
Grand Total	\$320,276	\$223,620	\$543,896	\$402,000
Updated Reserve Plan (1-2020) Funding Requirement			\$451,000	
Notes:				
1) T.4B was originally slated for sealing (\$7,600) - there was a deal with ICON that they would replace it when the project was complete. That won't happen now. It should be replaced.				
2) 4.23 (Mule Deer Trail) was slated for patching (\$57,500) - it's cheaper to replace it.				
3) Arcadia funding of \$37,600 was pulled from plan in 1-2020 update.				
SQ. YD. Cost				
PMM	\$1.37			
HA5	\$1.57			

In addition to the work described above, installing new roads at T.4B (101st Street and East Desert Sage) is being proposed. The expense is part of the Horseshoe reserve. Our original plan was to seal it this year keeping it in semi-satisfactory condition until the ICON project completed (ICON committed to replacing 101st Street at that time). Due to ICON's current situation, it will likely be longer than originally thought for the ICON project to complete. The roads are not in good shape now and any cosmetic related work we do will not achieve a normal useful life because of that. Road replacement funding for T.4B is not currently loaded into the Horseshoe reserve plan because of ICON's commitment to replace it. Notwithstanding that, the road replacement fund for Horseshoe allocates more than \$3 million through 2047. The \$120,000 required to install new roads at T.4B will not have an impact on the Horseshoe reserve over time; the reserve is fully funded. An assessment of the two streets and related recommendation is provided in the form of an attachment from PMIS.

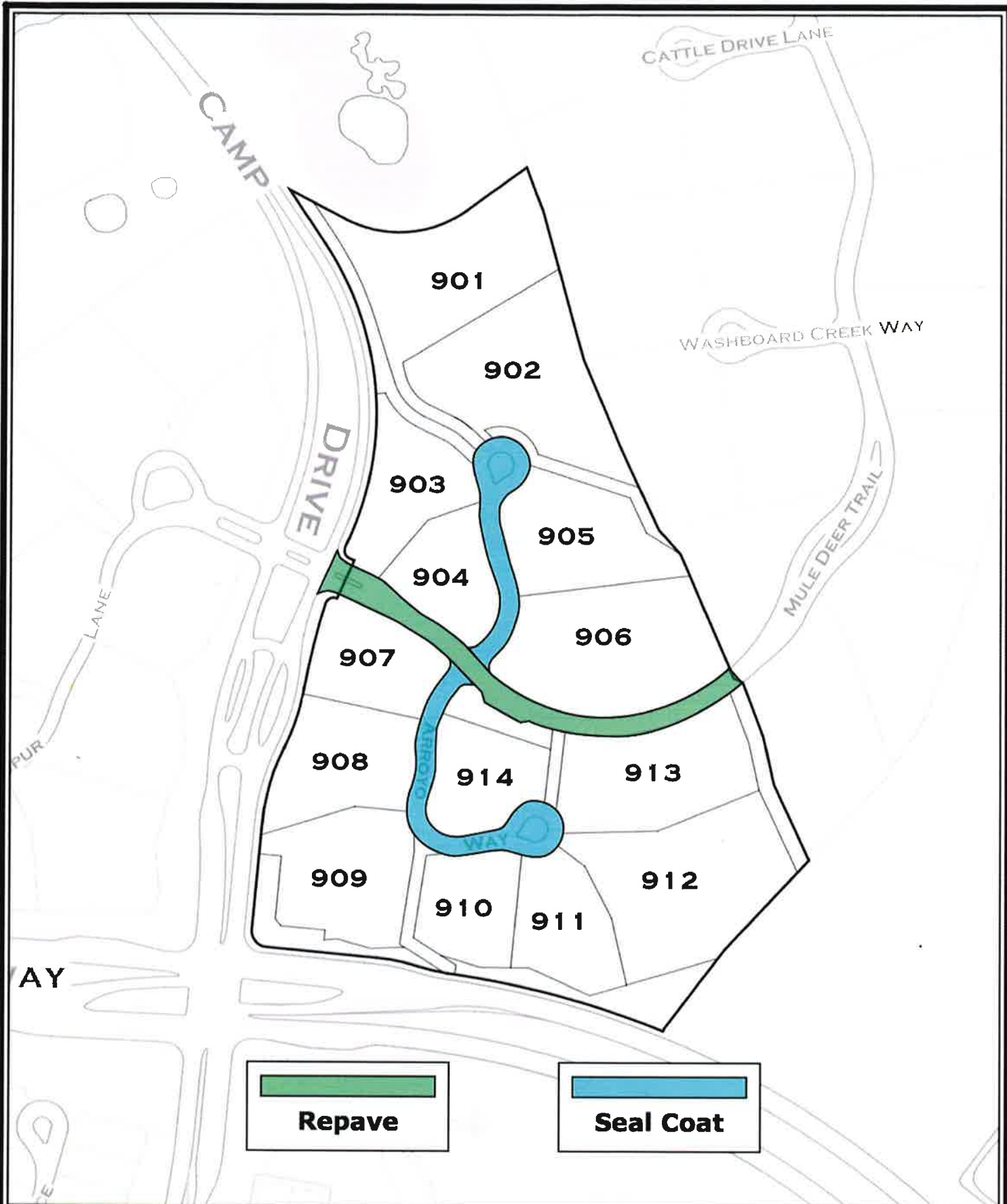


In order to complete the work being proposed, reserve funding will exceed this year's planned allocations (\$543,896 vs. \$402,000) by \$141,896.


Recommendation: Approve the proposed roadway maintenance project related work for 2020 in the amount of \$543,896.



Darren Shaw, Executive Director



AY


Repave


Seal Coat



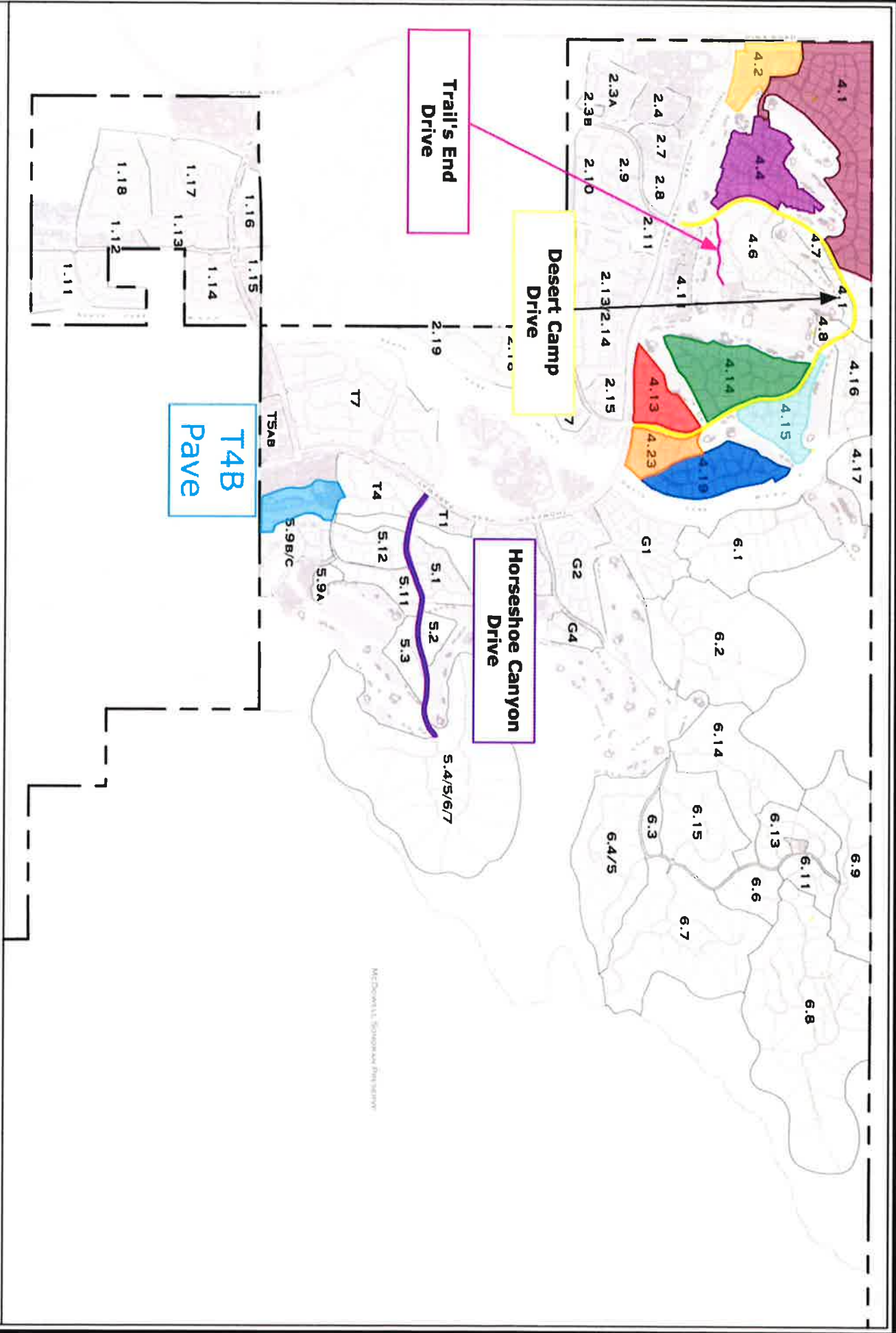
Parcel 4.23 2020 Paving Plan

20 SEPTEMBER 2007





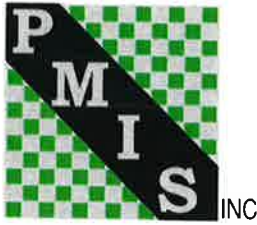
DC Ranch 2020 Seal Coat Project



McDown LLC, Sonoma, CA

20 SEPTEMBER 2007





Pavement Maintenance Information Source

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DC Ranch Association, Inc.
Scottsdale, AZ 85255
Darren Shaw

Subject: Parcel T4B asphalt

Mr. Shaw,

The biggest issue with the 101st Street and Desert Sage is the heavily deteriorated surface. Other than the patching for the utility trenches, there is very little structural damage. Therefore, resurfacing 101st Street and Desert Sage would be the ideal solution. There are three applications that we can use to do the resurfacing, the first is a type II slurry seal and the second is a hot mixed asphalt overlay, and the third is the complete removal and repave, of the asphalt surface.

The first application is a type II slurry seal which is an asphalt emulsion reinforced with a ¼" aggregate that is applied by a large truck with a sled on the back. Type II slurry seals are great for addressing rough surfaces and because it is only ¼" thick, it does not require the raising of utilities. The down side is that it takes six or more months to cure during which time it sheds excess sand (sloughing) requiring constant clean up. Type II slurry seals are also easily damaged by tires when a car is turning in place (known as power steering shear or twist marks) making it impractical in tight turning areas behind driveways parking stalls etc. As a result, type II slurry seal does not look very good during its 6+ month curing phase. Also, excessive twist marks that are made during the curing period will not cure out and will be visible until the pavement is either resurface again or removed and repaved. Finally, cracking that currently exists, including joint cracking from utility trenches, will reflect up through the type II slurry seal and will be clearly visible within a few months after application. Given the sloughing of sand, power steering shear (particularly the south half of 101st Street), and reflective cracking, we feel that the residents would be unhappy with the application.

The second resurfacing application is a hot mix asphalt overlay. Overlays consist of having new asphalt placed on top of the older asphalt. If there are no major structural issues in the original pavement and deterioration only exists on the surface, an overlay is a viable option. However, because an overlay will increase the elevation of the street, any utilities (manholes, water valve/sewer cans, and survey monuments) would have to be adjusted (removed and replaced) in order to be flush with the new asphalt. Unfortunately, Parcel T4B contains over 80 utilities that will need to be adjusted throughout its quarter mile length. The cost to adjust these utilities

makes up almost half the cost of the overlay. In addition to the cost, due to the overall number of utilities, residents would not be able to use the streets while they are being adjusted (this is in addition to shutdowns during the overlay itself), which can last as long three days in order for the concrete rings to cure. Also, reflective cracking can be anticipated in the initial form of hair line cracks, increasing in width with time. As a result, per contractors' bids for this project, a 1-inch overlay will cost \$47,032.92 with an additional cost of \$36,600 needed for utilities for a total of \$84,082.92 which includes the cost of striping and onsite fees.

The third application is to remove and repave all of the streets. Normally, removing and replacing asphalt that has a large amount of surface damage with little in terms of structural distress is excessive. However, due to the complications with the utilities, the cost to do an overlay 1-inch thick is almost equal total remove and repave throughout the parcel will result in a new pavement with a life of at least 30-years and can be done with minimal utility adjustments. Also, because all the old pavement will be removed, there will be no reflective cracking from underneath the new pavement. For this project, total remove and repave was included with the overlay bid as a secondary option, the cost to remove and replace came back at \$99,641 with striping and on-site facilities. The difference in cost between the overlay and remove and repave options was \$15,558.08 (15.6%) with the overlay being least costly of the two. The overlay is the less costly option, however, it does not address structural issues (trench patches) and it is only 1-inch of new asphalt versus 2 ½-inches of new asphalt with the total remove and replace, which will last longer than the overlay.

Overall, between a type II slurry seal, 1-inch overlay, and a total remove and replace, the recommendation is to select the remove and replace. The remove and replace option is a more comprehensive option that maximizes the value of the investment. Furthermore, regardless of what application is used, a seal coat will need to be done 12 to 18 months after the project is complete in order to protect the investment.

Thanks,
Patrick McDonald
PMIS, Inc.