

Long-Term Pavement Priorities Plan

Rollingwood, Texas

Prepared for:



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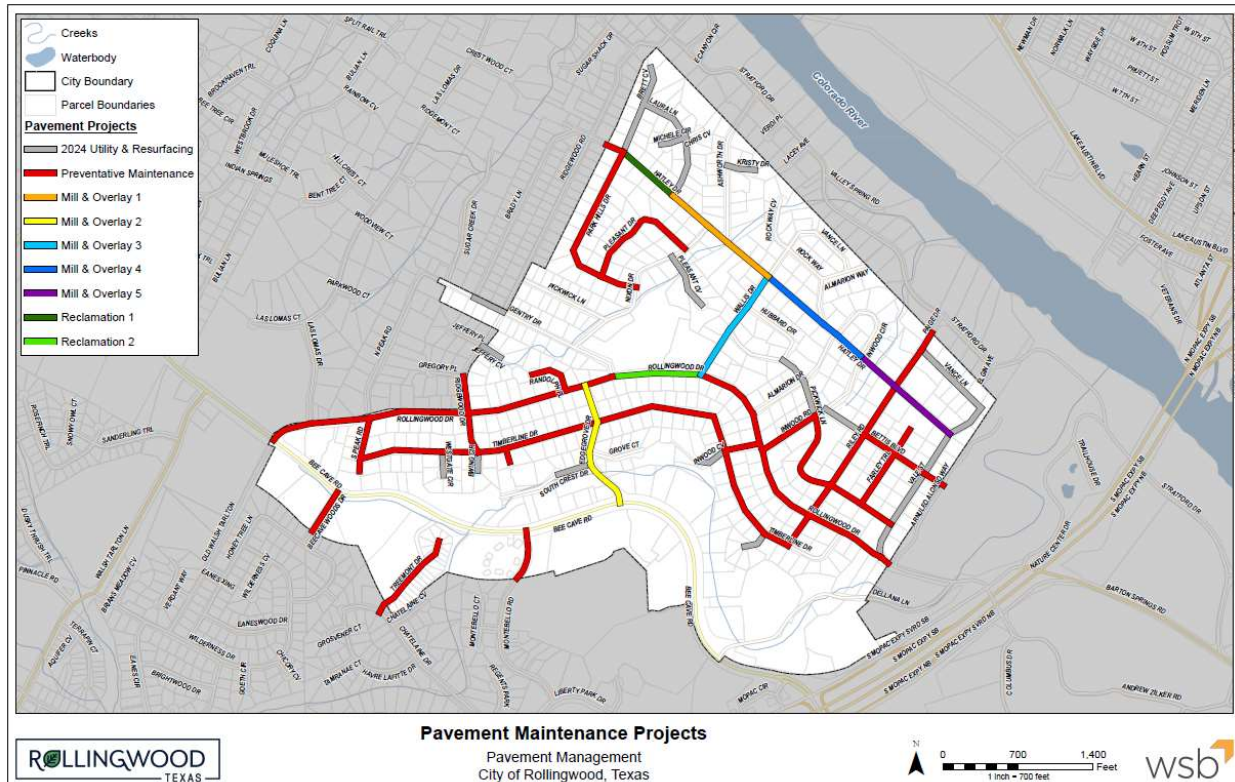
I. Executive Summary

This memorandum summarizes Rollingwood’s top priorities for pavement maintenance using the 2023 Pavement Management Report and condition ratings.

This memo groups segments and recommends a specific treatment type in accordance with Scenario 3 as described in the 2023 Pavement Management Report. The recommended maintenance strategy is to maintain the City’s pavement in the current (2023) condition the City of Rollingwood is accustomed to over the next five years.

This memo provides the top-priority street maintenance groupings to accomplish that goal. Projects are grouped into three treatment types: preventative maintenance by rejuvenation, 2-inch mill and overlay, and reclamation as shown in the following map.

Figure I.A. Rollingwood Pavement Maintenance Priority Map



Although an annual budget of approximately \$275,000 to \$300,000 appears necessary to keep Rollingwood’s pavement in the current (2023) condition, the level of funding for street maintenance selection may vary over time. This prioritization is meant to give the City a list of scalable projects to accomplish as funding becomes available. Cost estimates and project scoping notes are included in this memorandum.

II. 2023 Pavement Management Report Summary

The findings of the pavement inspection of the road segments in Rollingwood performed by WSB and completed in August 2023 were detailed in a 2023 Pavement Management Report. Pavement analysis was performed by WSB using the PAVER program to project the future condition of the City's pavement and make maintenance recommendations.

Here is a summary of the October 2023 Pavement Management Report:

- 10.4 miles of city roads were evaluated in Rollingwood.
- Most bituminous roadways at the time of inspection were in Excellent or Good condition, but several are approaching a critical condition stage if no maintenance is done. The following table shows how much of the City's pavement is in each condition category at the time of inspection.

Table II.A. 2023 Pavement Maintenance PCI Summary

Pavement Condition Index	Mileage	Percent of System by Area
Excellent Category (90.01 – 100.00)	2.8	27.5 %
Good Category (75.01 – 90.00)	6.0	58.8 %
Fair Category (58.01 – 75.00)	1.3	10.9 %
Poor Category (40.01 – 58.00)	0.3	2.8 %
Failed Category (0.00 – 40.00)	0.0	0.0 %
TOTAL	10.4	100%

- The weighted average Pavement Condition Index (PCI) for bituminous roads in Rollingwood in 2023 was 84.4. PCI is based on a 0 to 100 scale, with higher PCI values corresponding to better road conditions.
- Specific treatment types were recommended for the specific PCI rating of each roadway.

Methodology to Maintain Current Average PCI (Scenario 3)

Funding and Maintenance Scenario 3 from the 2023 Pavement Management Report examined what budget would be needed to maintain an average PCI of 84.4 over the life of the City's Capital Improvement Plan (CIP). If funds are spent optimally, the 2023 model showed that an annual budget of approximately \$275,000-\$300,000 is needed to ensure an average PCI of 84.4 is achieved each year until 2028. However, City funding and capacity change over time.

To maintain Rollingwood's PCI, WSB recommends prioritizing extensive preventative maintenance on "Good" condition segments to extend the life and condition of these segments. The City has many roads in this condition category and it is important to preserve these segments before they require more costly repairs. WSB recommends then addressing the "Fair" condition segments with a more structural improvement. Lastly, "Poor" condition streets can be restored with a more robust treatment to address any larger structural concerns before a full reconstruction is required.

III. Approach to Rollingwood's Pavement Maintenance Priorities

WSB acknowledges the City of Rollingwood has a current and ongoing water bond program that affects many of the City’s roadways. The City proactively required any pavement disturbed by the water bond program projects to be milled and overlaid as part of the waterline project(s). The City also has two drainage improvement projects that have or will impact roadways. Those projects included the following:

- Water CIP Bond Program Packages 1-4: Numerous streets throughout the City, each milled and receiving 2” of new Type D HMA.
- Hubbard-Hatley Drainage Improvements: Trench area asphalt repair.
- Nixon-Pleasant Drainage Improvements: Full-depth pavement repair with some areas receiving a 0-2” mill and overlay repair.

Before considering future pavement maintenance projects, WSB modified the City’s PAVER database to reflect the new Pavement Condition Index (PCI) for each newly overlaid street affected by the waterline and drainage projects. As a result, each newly milled and overlaid road was re-classified to the “Excellent” condition category. Therefore, the recommended pavement maintenance priorities will not involve maintenance on any of the newly repaired segments.

With the 2024 utility projects, the revised pavement condition indices by category are shown below.

Table II.B. Revised Pavement Maintenance PCI Summary Post-Utility Projects

Pavement Condition Index	Mileage	Percent of System by Area
Excellent Category (90.01 – 100.00)	3.9	37.1 %
Good Category (75.01 – 90.00)	5.0	50.1 %
Fair Category (58.01 – 75.00)	1.2	9.9 %
Poor Category (40.01 – 58.00)	0.3	2.8 %
Failed Category (0.00 – 40.00)	0.0	0.0 %
TOTAL	10.4	100%

All other remaining streets and their corresponding PCI ratings were considered when creating priority groupings for pavement maintenance.

Timing is important when considering which segment should receive maintenance. Over time, every street segment deteriorates. An appropriate fix for a street now will likely not be the most effective treatment in several years. WSB considered standard pavement degradation when prioritizing street repairs for the City but an inspection of each street should be completed before implementing any project to ensure no unexpected deterioration has occurred.

Also, not every street in Rollingwood is recommended to receive treatment at this time and therefore is not included in the priority lists. It is important to have contiguous, cost-effective groupings of streets from a pavement longevity perspective but also, more importantly, from a public relations perspective. Some streets may be in fair or good condition, but WSB

recommends waiting on treating a specific segment of the street to align with the adjoining segment, which may be in better condition.

Maintenance Recommendations

WSB recommends Rollingwood proceed with a single, widespread preventative maintenance treatment project as their first priority. This treatment type can reach many segments across the City due to the lower unit cost. There are many options for pavement maintenance treatments. WSB recommends rejuvenation for Rollingwood's streets.

Secondly, the City has many roads in "Fair" condition. The PAVER model in Scenario 3 shows to improve many of these specific segments, especially before they reach the point where they will need a much more expensive repair. The recommended treatment for "Fair" condition streets is a 2" mill and overlay for the full width of the street.

Lastly, WSB recommends funding reclamation projects to repair and restore the worst segments in the City, which includes two segments with "Poor" condition ratings. "Poor" segments typically display deterioration through the entire pavement section. At this stage of a pavement's life, a mill and overlay is no longer a long-term solution. Reclamation projects are a cost-effective way to replace the entire pavement section.

WSB performed detailed pavement inspections of all City streets in 2023. However, visual assessments cannot capture subsurface conditions. Since the recommended maintenance strategies are based on these visual inspections, a pavement forensic study should be conducted less than two years before all major maintenance projects (mill/overlay and reclamation) to ensure the proper repair is implemented. Pavement forensics include pavement coring.

Pavement coring has been shown to save cities money by ensuring the proper and most cost-effective project is implemented. A road that looks like it may need to be reclaimed based only on a visual inspection may be a candidate for a much less costly mill/overlay project if coring reveals the underlying pavement and base is still in good condition. Conversely, coring may reveal that implementing a mill/overlay on a project that looks like it should receive one would be a waste of resources because a more robust repair is needed to repair poor base or underlying pavement. Pavement core data also assists engineers in properly designing mill/overlay and reclamation projects. The pavement forensic information can be used to determine how thick a layer should be milled/overlayed or if stabilizer is needed during a reclamation project. The cost of pavement coring varies greatly depending on location, quantity of cores needed, and how much analysis is needed but can be roughly estimated at \$300-\$500/core. The number of recommended cores will depend on the segments in question and the conditions encountered in the field. The recommended frequency of cores can be as much as a multiple cores per block (if conditions vary significantly and questionable pavement is encountered) to one core for every few blocks (if conditions are consistent and no surprises are encountered). The cost of pavement forensic coring is a small investment to make sure a major pavement repair is properly designed and implemented. If needed, WSB can assist Rollingwood with coring and forensics.

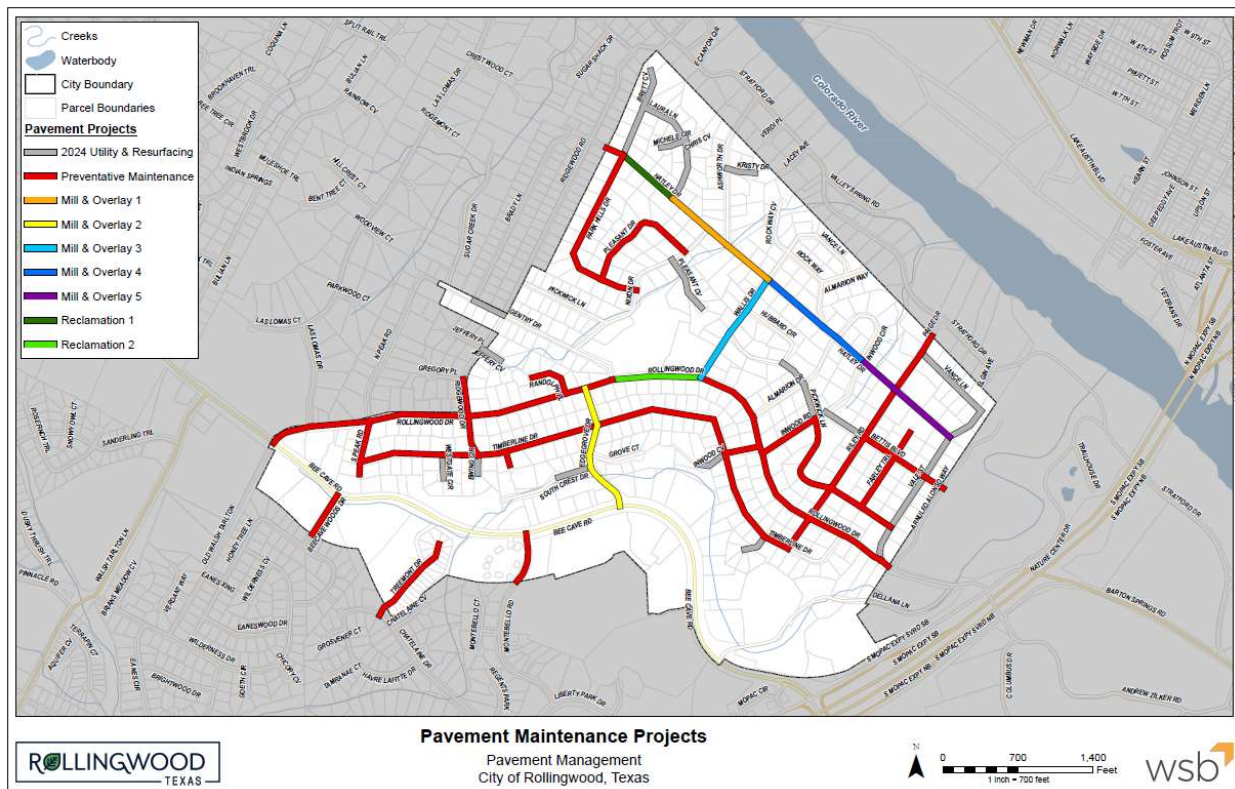
IV. Pavement Maintenance Priorities

Considering the City’s ongoing and planned projects and the desire to maintain the 2023 PCI ratings as recommended in the Pavement Management Report, the following treatment types are in order of priority for pavement maintenance in the City of Rollingwood.

1. Preventative Maintenance
2. Mill and Overlay
3. Reclamation

See the following map for Rollingwood’s pavement maintenance program’s priority order.

Figure IV.A. Rollingwood Pavement Maintenance Priority Map



Unit costs by treatment type are based on previous project estimates and bids for similar work in the Central Texas Area. The cost estimates do not include any additional items, such as curb and gutter replacements, striping, or soft spot repairs.

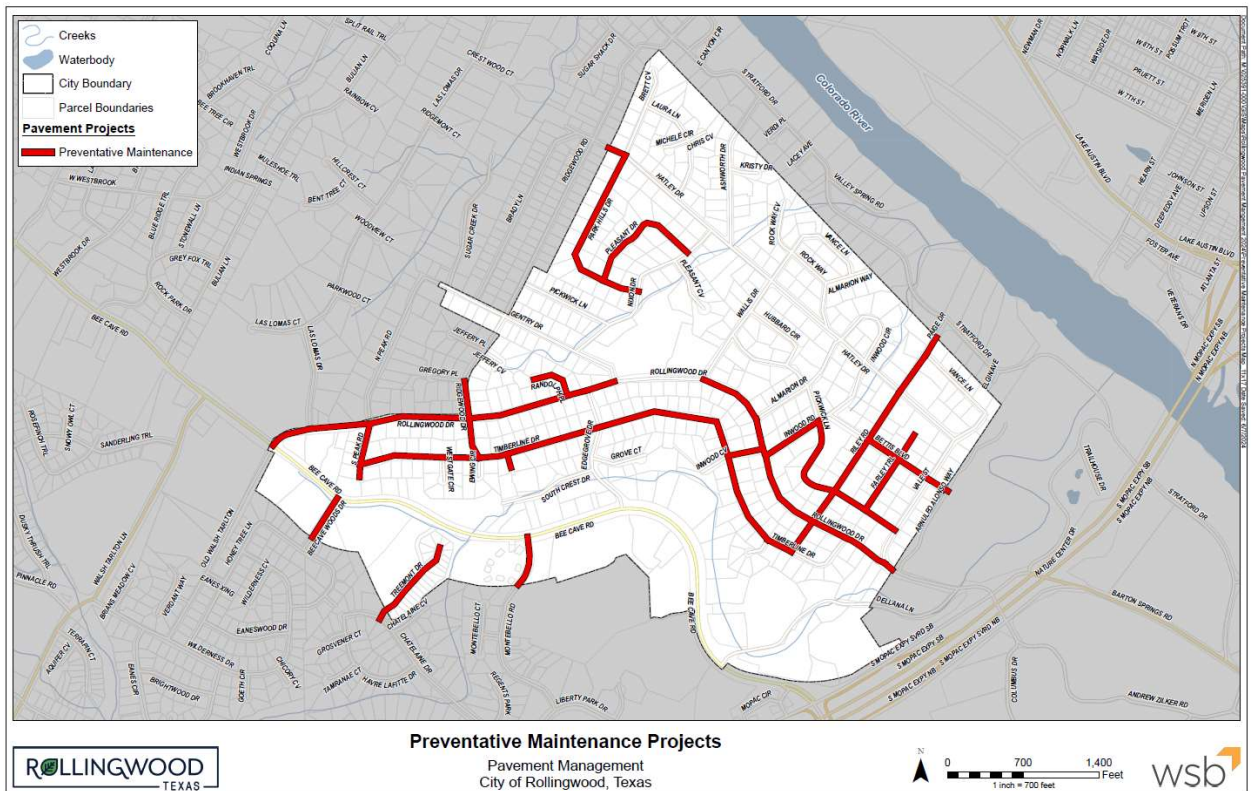
Priority 1 - Preventative Maintenance

Preventative maintenance is defined as treatment to an existing road that will help preserve and protect the pavement, while also slowing oxidation and deterioration. This type of maintenance improves the condition of the system without increasing its structural capacity.

After considering current, ongoing, or planned projects as listed in the previous section, WSB identified all streets that warranted a preventative maintenance treatment, based on the street's PCI rating identifying as "Good" condition and corresponding notes/photos. Priority preventative maintenance streets are shown in red on the map below. This includes approximately 4.5 miles of streets, or approximately 43% of Rollingwood's streets.

Keep in mind, not every "Good" condition street in Rollingwood is recommended to receive treatment as a Priority 1 group, and therefore is not included in this priority map. It is important to have contiguous, cost-effective groupings of streets from a pavement longevity perspective but also, more importantly, from a public relations perspective. Treating a short block of pavement in a neighborhood can increase the price for mobilization and cause some confusion or complaints from residents.

Figure IV.B. Priority 1 Pavement Maintenance Map



Common preventative maintenance treatment options include fog seals, chip seals, and rejuvenation applications, in addition to crack sealing and pothole repairs. The City Staff may choose what they feel is best for their pavements. From experience and our knowledge of Rollingwood's streets, WSB recommends rejuvenation treatment for preventative maintenance. Rejuvenator has one of the lowest costs of any preventative maintenance options and has proven cost-effective. WSB has worked with other communities, including Central Texas communities, who have had great success with a rejuvenation treatment called Reclamite®. Rejuvenators like Reclamite® improve the durability of asphalt pavement by preventing or reversing the oxidation that causes asphalt binder to dry out and crack. They also help seal out harmful moisture.

Reclamite® Rejuvenator Information

Reclamite® is an asphalt rejuvenator used across the United States. It contains selected maltene fractions that penetrate the asphalt pavement's surface, rebalancing the chemistry of the oxidized asphalt. It improves the durability of the pavement near the surface by sealing out moisture, restoring the asphaltene/maltene balance, and restoring the aggregate and asphalt bond. It also tightens new asphalt pavements that are open due to poor compaction and seals the surface. Applied as part of a routine pavement management program, Reclamite® can greatly extend pavement life.

Before treatment, the contractor sweeps the pavement to be treated. Reclamite® is diluted with 2 parts rejuvenator to 1 part water and applied at application rates between 0.07 gallons per square yard and 0.10 gallons per square yard. Reclamite® cures between 20 minutes and one hour after application with ambient temperatures of 40 degrees Fahrenheit or warmer. The pavement is then sanded at an application rate of 1-2 lbs. per square yard. The sanding allows for traffic to be reintroduced to the road within 2 hours of the application of Reclamite®. The following day, sand is swept with regenerative sweepers to ensure a clean and uniform appearance.

Soliciting bids for pavement rejuvenation would be based on a performance specification. Bids could be solicited for a single project or on an "as-needed" basis over a five-year period. The award of a bid would be based on the vendor's product specifications, experience, cost, and references. The required specifications would be included in the bid package. Bidders would be allowed to submit alternatives to the specification, with the following requirements:

- (a) List the proposed alternative in the section of the Bid Form giving the product name and price.
- (b) Furnish complete specifications and descriptive literature for the alternate as well as a one-gallon sample of the material proposed for use. Such descriptive and detailed information shall be complete and at least

equal in detail to the city's requirements for the standard item for which the alternate is offered.

(c) Submit a current Material Safety Data Sheet for the alternate materials. The City will give the alternate consideration. The Contractor may furnish only those alternate items included in his proposal and approved by the City before the award of a contract.

If no alternate is indicated on the bid sheet, the Contractor shall furnish the standard specified in the attached specifications.

Rejuvenation treatment application photos. The brown to tan/yellow dye goes away within 10-20 minutes. There is no change to the roadway surface color except for the rejuvenated pavement.



Before and after rejuvenation treatment (typical conditions)



Post treatment example: London Lane, Cedar Park, Texas. London Lane was constructed around 1991 and received rejuvenation treatment in 2006, 2011, and 2017.



Preventative Maintenance Alternatives

Another preventative maintenance technique that Rollingwood could use is a thin overlay. This repair is often called a “Thinlay” and involves repaving a street with a layer of asphalt that is thinner than a traditional overlay. The thickness of a thin overlay is typically less than 2 inches. This thin layer of pavement does little to increase the structural capacity of the road or to repair existing distresses. However, it does temporarily provide a brand-new driving surface for a lower cost than other repaving projects. The longevity and success of this type of project varies greatly depending on the condition of the underlying pavement. While effective in some situations, thin overlays should not completely replace other preventative maintenance or mill/overlay projects implemented in the City. This type of treatment is significantly more expensive than surface treatments like rejuvenators.

Fog sealing and chip sealing are other examples of preventative maintenance. However, fog seal typically does not last as long or provide the long-term benefits of rejuvenators. Chip sealing is an effective preventative maintenance treatment and is one of the most widely implemented preventative maintenance techniques. However, the cost is still nearly double that of a rejuvenator application.

Patching can also be considered preventative maintenance, but it is usually implemented on small areas of severe distress. Additionally, patching a road to increase its PCI does not provide long-term structural improvement. Patching may be necessary to keep roads in serviceable condition, but it should not be considered routine maintenance for every road.

Estimated Priority 1 Streets Preventative Maintenance Cost

Assuming all identified Priority 1 preventative maintenance streets are included in the scoped project, the estimated treatment cost is \$110,000 for rejuvenation treatment.

- Approximately 75,800 SY is the estimated quantity.
- The estimated unit cost for Reclamite® rejuvenation is \$1.30-\$1.50/SY. \$1.30/SY was used in the estimate.
- The unit cost includes evaluation by the qualified contractor to confirm applicability, distribution of letters/door hangers to each property along the project site, traffic control, pre-street sweeping, emulsion application, sand distribution, and next-day sweeping.
- The total cost of treatment of \$110,000 includes a 10% contingency.
- For the lowest unit price, we recommend all preventative maintenance streets be combined into one single project.
- This estimated cost does not include any additional work that the City may require in addition to pavement treatment.
- Typically, cracking seal before the treatment and restriping post-treatment is not required when using this type of rejuvenator.

Life of Treatment

Rejuvenation is estimated to last approximately 5 to 7 years. However, the life of the treatment and condition of the roadway will depend on the loading on the road, types of vehicles on the road, overall structural condition of the road, and quality of the treatment application. Some streets may require re-treatment after 5 years. Others may not require treatment for 10+ years.

Other Notes

In performing this treatment, it is recommended one half of the street be treated with traffic control for a one-way or shifted traffic. The remaining half of the street could be performed later in the day or the following day.

In the event rejuvenation is not recommended for a specific segment, this segment would need to be identified for an alternative treatment such as mill and overlay.

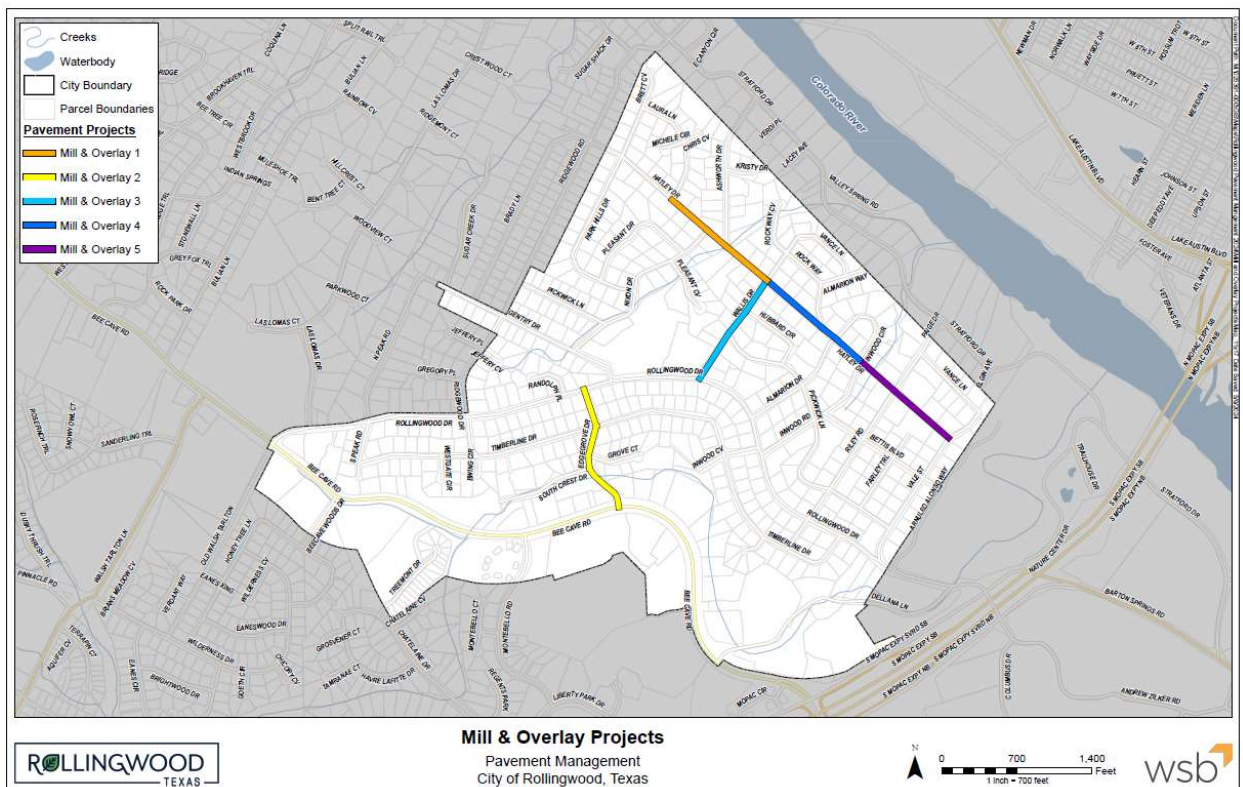
Priority 2 - Mill and Overlay

The second priority for the City of Rollingwood is a mill and overlay to address “Fair” condition streets. An overlay involves placing a new layer of bituminous material on top of an existing asphalt surface. A mill and overlay project requires grinding all or a portion of the in-place asphalt surface and topping the ground surface with a bituminous wearing course. This rehabilitation strategy provides a structural improvement to the roadway. Typically, a mill and overlay is at least 2 inches in depth.

Priority 2 groups include the following streets to receive a 2-inch mill and overlay. A map of these streets is shown in the following figure. This includes an approximate total of 1.1 street miles. Due to cost, the City may consider the following priority groups of streets to be implemented over multiple fiscal years.

1. Hatley Drive between Laura Lane and Wallis Drive
2. Edgewood Drive between Rollingwood Drive and Bee Cave Road
3. Wallis Drive between Rollingwood Drive and Hatley Drive
4. Hatley Drive between Wallis Drive and Inwood Drive
5. Hatley Drive between Inwood Drive and Vale Street

Figure IV.C. Priority 2 Pavement Maintenance Map



Keep in mind, not every “Fair” condition street in Rollingwood is recommended to receive treatment in a Priority 1 or 2 group. It is important to have contiguous, cost-effective groupings of streets from a pavement longevity perspective but also, more importantly, for a public relations perspective. Treating a short block of pavement in a neighborhood can increase the price for mobilization and cause some confusion or complaints from residents.

Estimated Priority 2 Streets Mill and Overlay Costs

Depending on funding and priority, Priority 2 streets are listed below with their corresponding cost estimate to mill and overlay.

1. Hatley Drive between Laura Lane and Wallis Drive
 - 3,600 SY for \$125,000
2. Edgewood Drive between Rollingwood Drive and Bee Cave Road
 - 3,800 SY for \$135,000
3. Wallis Drive between Rollingwood Drive and Hatley Drive
 - 3,400 SY for \$120,000
4. Hatley Drive between Wallis Drive and Inwood Drive
 - 3,500 SY for \$125,000
5. Hatley Drive between Inwood Drive and Vale Street
 - 3,400 SY for \$120,000

These estimates include the following:

- The estimated unit cost for a 2-inch mill and overlay is \$31.49/SY in 2023 dollars.
- The unit cost includes 2-inch mill full width of the pavement, contractor owns and removes millings, 2 inches of new Type D HMAC, rolling compaction, and site clean-up.
- The total cost of treatment for each grouping includes a 10% contingency.
- For the lowest unit price, it is recommended that as much quantity possible should be used when bidding a project.
- This estimated cost does not include any additional work that the City may require in addition to pavement treatment.
- The estimated cost does not include any pavement coring as recommended on Page 4.

Life of Treatment

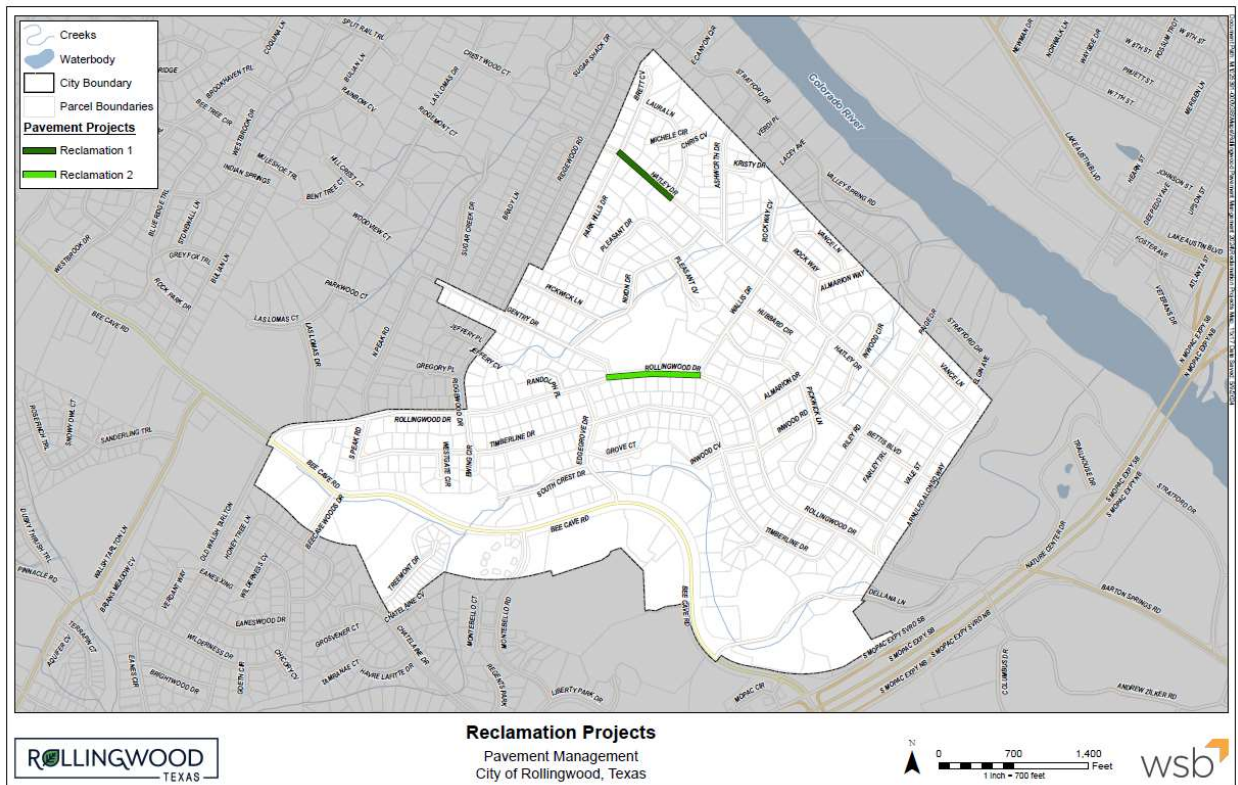
A 2-inch mill and overlay is estimated to last approximately 7-15 years. However, the life of the treatment and condition of the roadway will depend on the loading on the road, types of vehicles on the road, overall structural condition of the road, and quality of the treatment application. Some streets may require re-treatment after 7 years. Others may not require treatment for 15+ years. Additional pavement life can be achieved when the overlaid surface routinely receives preventative maintenance.

Priority 3 - Reclamation

Addressing the City’s poorest road conditions last is the recommended strategy for pavement maintenance in Rollingwood. Two segments in Rollingwood have a “Poor” condition rating. WSB recommends reclamation treatment for these two segments, totaling 0.3 miles of streets.

1. Hatley Drive between Park Hills Drive/Brett Cove and Laura Lane
2. Rollingwood Drive between Gentry Drive and Wallis Drive

Figure IV.D. Priority 3 Pavement Maintenance Map



The most common types of reclamation are *full-depth reclamations (FDR)* and *stabilized full-depth reclamations (SFDR)*.

FDR involves pulverizing the full depth of bituminous and a portion of the underlying materials. That material then gets blended together and placed as a sound base for new pavement. Typically, FDR reclaim depth is 12 inches, although it can be as deep as 18 inches. Excess FDR mixture may be removed to allow 6-inch lifts compaction. Additional rock may need to be provided if the mixture is expected to be deficient in crushing or gradation. The reclaimed mixture can be topped with different types of surface course, depending on the structural requirements and anticipated traffic level. A layer of tack coat needs to

be applied before the surface treatment to provide good bonding between the FDR mixture and surface course.

SFDR involves the same process but includes mechanical, chemical, or bituminous stabilization. The typical minimum depth of stabilization is 4 inches, but it can go as deep as 6 inches. Mechanical stabilization involves the addition of new aggregate or recycled materials. Chemical stabilization includes the addition of lime, cement, fly ash, calcium chloride, or other proprietary products. The asphalt additives can be foamed asphalt or asphalt emulsion. These stabilizing agents if combined with additives, can help optimize the FDR performance.

WSB expects a traditional FDR treatment to be the most cost-effective for these Rollingwood streets. This assumes sufficient pavement and aggregate base layers are present in the current pavement section. Pavement forensics can confirm if a reclamation project is needed and provide additional information needed to properly specify the reclaim depth.

Estimated Priority 3 Streets Reclamation Costs

Depending on funding and priority, Priority 3 streets are listed below with their corresponding cost estimate for full-depth reclamation.

1. Hatley Drive between Park Hills Drive/Brett Cove and Laura Lane
 - 1,900 SY for \$120,000
2. Rollingwood Drive between Gentry Drive and Wallis Drive
 - 3,900 SY for \$250,000

These estimates include the following:

- The estimated unit cost for a full-depth reclamation is \$55.98/SY in 2023 dollars.
 - The unit cost includes pulverizing the existing pavement, blending the pulverized pavement and underlying aggregate, removing excess blended material, compacting blended material, paving a new wear course layer, restriping, and site clean-up.
 - The total cost of treatment for each of these two groups includes a 10% contingency.
 - For the lowest unit price, it is recommended that as much quantity possible should be used when bidding/letting a project.
 - This estimated cost does not include any additional work that the City may require in addition to pavement treatment.
 - The estimated cost does not include any pavement coring as recommended on Page 4.
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Life of Treatment

When implemented correctly, reclamation treatments completely reset the life of a road. A properly reclaimed road should provide 15-30 years of serviceable pavement but that can be extended to over 100 years if preventative maintenance and mill/overlay projects are routinely implemented. However, the life of the treatment and condition of the roadway will depend on the loading on the road, types of vehicles on the road, overall structural condition of the road, and quality of the treatment application.

It is highly recommended the City perform pavement forensics as recommended on Page 4 to confirm reclamation and the type of reclamation to be performed on these two segments before the investment is made in these streets.

Prioritized Pavement Maintenance Costs

The following table includes the above-prioritized pavement maintenance recommendations and estimated costs. These cost estimates do not include ancillary items such as re-striping, curb and gutter replacements, manhole collars, etc. Additionally, these cost estimates are based on average unit costs for similar work. Project-specific needs will influence the actual cost of these projects. Additionally, all costs were estimated using typical current pricing. Future construction pricing is uncertain, and inflation may increase the price of this work, especially in the more distant future. If more detailed or expanded projects are desired, WSB can provide detailed project-specific cost estimates.

Table IV.A. Prioritized Pavement Maintenance Costs

Priority	Treatment Type	Location	Square Yards	Unit Cost	Estimated Cost	Budgetary Cost
1	Rejuvenation	City-wide	75,800	\$1.30	\$98,540	\$110,000
2A	Mill and Overlay	Hatley Drive between Laura Lane and Wallis Drive	3,600	\$31.49	\$113,364	\$125,000
2B	Mill and Overlay	Edgewood Drive between Rollingwood Drive and Bee Cave Road	3,800	\$31.49	\$119,662	\$135,000
2C	Mill and Overlay	Wallis Drive between Rollingwood Drive and Hatley Drive	3,400	\$31.49	\$107,066	\$120,000
2D	Mill and Overlay	Hatley Drive between Wallis Drive and Inwood Drive	3,500	\$31.49	\$110,215	\$125,000
2E	Mill and Overlay	Hatley Drive between Inwood Drive and Vale Street	3,400	\$31.49	\$107,066	\$120,000
3A	Full-Depth Reclamation	Hatley Drive between Park Hills Drive/Brett Cove and Laura Lane	1,900	\$55.98	\$106,362	\$120,000
3B	Full-Depth Reclamation	Rollingwood Drive between Gentry Drive and Wallis Drive	3,900	\$55.98	\$218,322	\$250,000
		TOTAL	99,300		\$980,597	\$1,105,000

In the 2023 Pavement Management Report, an annual allocation of \$250,000 to \$300,000 was the projected need to maintain the City's PCI rating to the 2023 condition. However, if the above projects were implemented over a five-year period, the annual allocation would be about \$221,000. However, as project costs are higher or lower than this amount, WSB recommends a

separate Capital Improvement Fund balance be maintained for these pricing and project cost fluctuations year to year.

V. Pavement Maintenance Project Notes

Rollingwood has many options at their disposal for pavement rehabilitation and preventative maintenance including reconstruction, reclamation, mill and overlays, and preventative maintenance that extend the life of a roadway. Each of these treatments should last several years and be cost-effective if correctly implemented at the right time. When developing a pavement maintenance project, the following are additional items to be considered.

Scope of Projects

Bid prices can vary year to year, depending on asphalt/emulsion pricing, availability of materials, and the time of year for the project. When scoping projects, we recommend including alternative bids for lower-priority pavement maintenance segments to allow the City the maximum flexibility in awarding projects.

Bid items for pavement maintenance should include not only the actual maintenance item, but also mobilization, bonds and insurance, any recommended or required pre-street sweeping, adjustments to valves or manhole covers, striping, pavement markers, curb and gutter replacements, valley gutter replacements, etc. Contract documents should address traffic control, notifications and timing of activities, right-of-way preparation, who owns the pavement millings, how to address “soft spots” in the pavement or subgrade once exposed, post-construction site clean-up, and addressing contractor damage to property or infrastructure. It is also important to specify the quality of the material and any testing requirements.

WSB recommends bidding projects in the Spring of each year and plan for construction activity in the warmer months of the year. We have experience with the greatest success for maintenance projects if the contractor is under contract in the summer when school is out of session.

Project Close-Out and Warranty

At the end of each pavement maintenance project, we recommend documenting project punch lists, final pay applications with remaining retainage, project acceptance date, and the warranty start date with the duration. Identify and set a calendar date on who and when a warranty walk-through will occur, typically 30 days before the warranty expiration date.

Maintenance Logs

Finally, we recommend keeping a detailed log of all street maintenance implemented in the City. Recording information such as the type of maintenance activity, month and year of implementation, how much it cost, the materials used, the age of the road during implementation, and any other testing results on that segment can prove helpful in the future. Maintenance logs can help determine what is working well for a City and what is not. Similarly, if a recommended maintenance strategy is not working well, reviewing details of the activity can help reveal why. This data can also contribute to enhancing the assumptions utilized in future PAVER modeling. This will ensure future recommendations will be based on accurate scenarios.

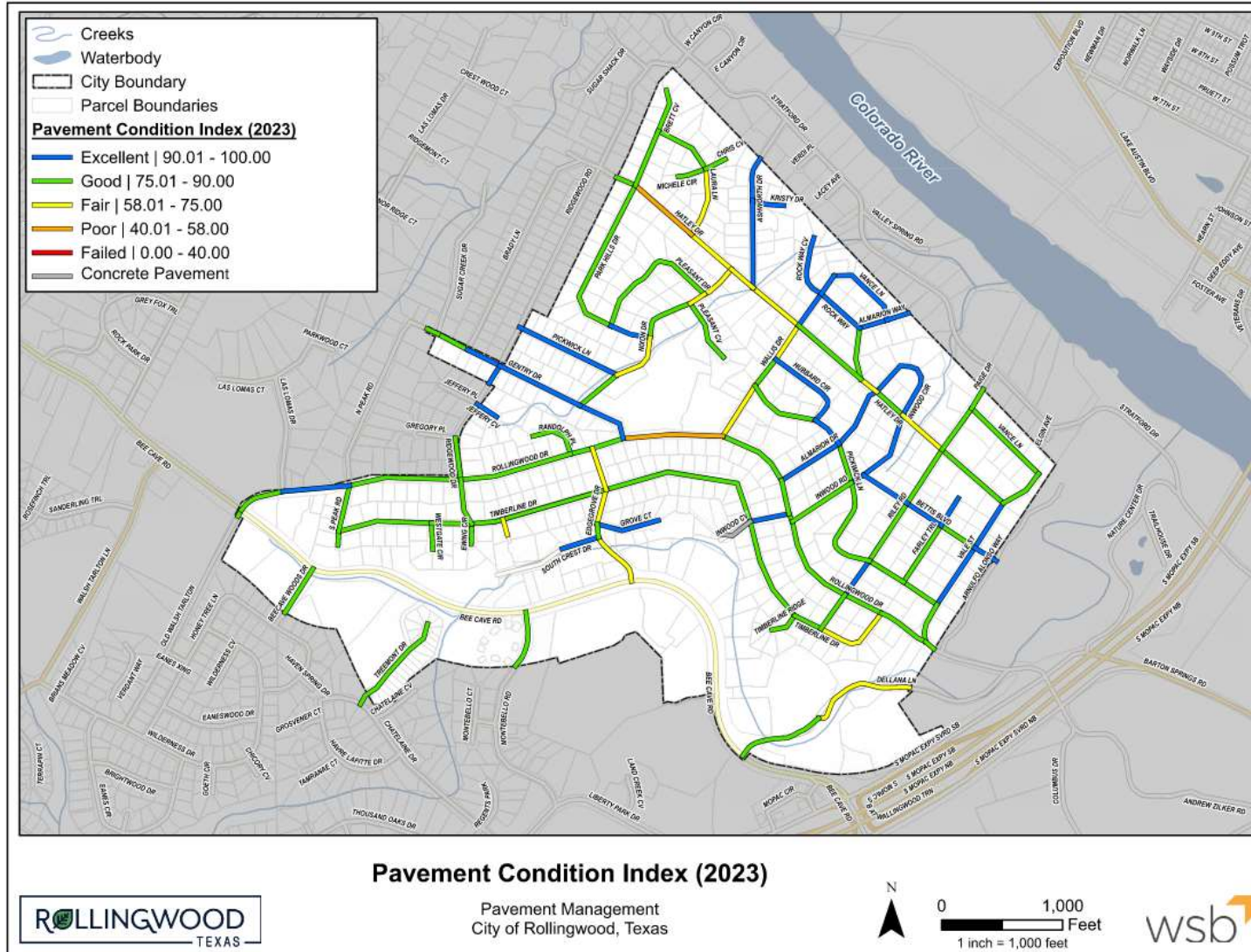
Untreated Streets

Keep in mind that not every street in Rollingwood is included in the top 3 priority treatment types or groupings. Segments categorized as being in “Excellent” condition are not shown in the priority groupings. There are some streets deemed “Good” or “Fair” condition that also are not included in the priority groupings. WSB recommends corrective maintenance on these segments to include pothole repairs, crack sealing, and street sweeping, as needed.

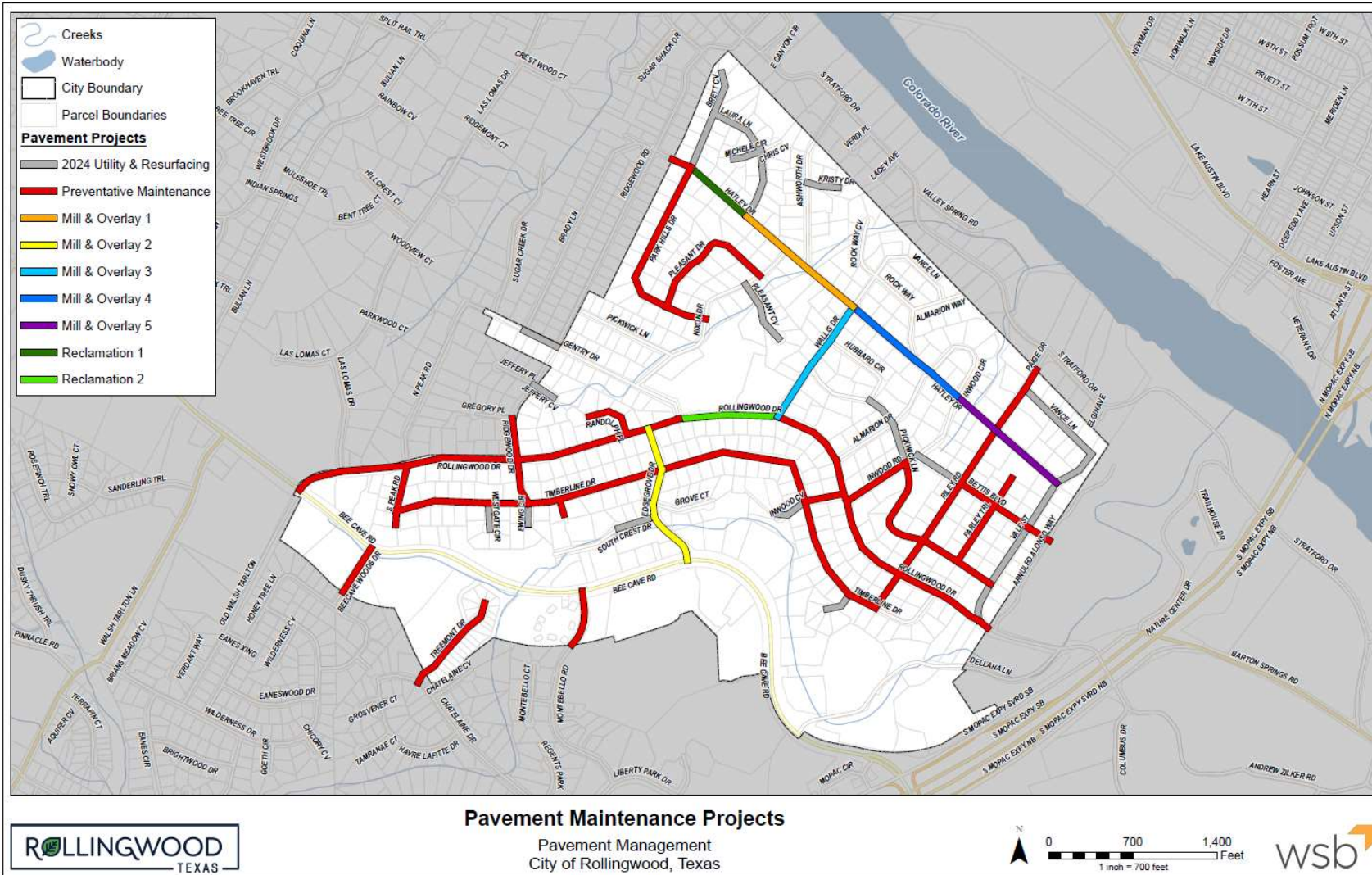
WSB recommends Rollingwood monitor all untreated streets over the next three to five years and continue to plan for annual pavement maintenance as part of the City’s annual budget.

Appendices

Appendix A: 2023 PCI Condition Category Maps



Appendix B: 2024 Pavement Maintenance Priorities – All Pavement Maintenance



Appendix C: 2024 Pavement Maintenance Priority Groupings (3 Maps by Treatment Type)

