FEASIBILITY REPORT

RIVERS BEND STREET RECONSTRUCTIONS

CITY IMPROVEMENT PROJECT NO. 17-02

January 19, 2017

Prepared By:

City of Ramsey
Engineering Department
7550 Rivers Bend
Ramsey, MN 55303
763-433-9820
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January 19, 2017

Honorable Mayor and City Council
City of Ramsey
7550 Rivers Bend
Ramsey, MN 55303

Re: Feasibility Report - City of Ramsey Improvement Project #17-02
Rivers Bend Street Reconstructions

Dear Mayor and City Council Members:

Transmitted herewith is a Feasibility Report for the proposed Rivers Bend Street Reconstructions project which examines the feasibility of reconstructing the bituminous street section and completing other appurtenant improvements.

This Feasibility Report examines the scope of the proposed improvements, explores estimated costs and available funding sources, defines a preliminary project schedule, and determines the necessity, feasibility and general cost-effectiveness of the proposed improvements, including any alternate designs, as well as whether the improvements would best be completed separately or in conjunction with another project.

I would be happy to discuss this report with you at your convenience. Please feel free to contact me at 763-433-9825 or bwestby@cityoframsey.com with any questions.

Sincerely,
City of Ramsey

Bruce Westby, PE
City Engineer

Enclosure

C: Kurt Ulrich, City Administrator
Diana Lund, Finance Director
Grant Reimer, Public Works Superintendent
Leonard Linton, Civil Engineer IV

CERTIFICATION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Bruce Westby, PE

Date: January 19, 2017 License No. 40116

I hereby certify that this plan, specification or report was reviewed for Quality Control and Quality Assurance purposes and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Leonard Linton, PE

Date: January 19, 2017 License No. 21112

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1. EXECUTIVE SUMMARY

City Improvement Project 17-02 proposes to reconstruct four street segments within the Rivers Bend residential neighborhood including 147th Lane between Xkimo Street and Waco Street, 148th Avenue between Yakima Street and Xkimo Street, Xkimo Street between 147th Lane and 149th Avenue, and Yakima Street between 148th Avenue and 149th Avenue. These streets total approximately 2,774 linear feet (0.53 miles) in length. A map showing the location and scope of the proposed improvements is included as ***Figure 1*** in ***Appendix A***.

These street segments in the Rivers Bend neighborhood were constructed in 1985 with between 2 inches and 3.25 inches of bituminous pavement, 4 inches class 5 aggregate base, surmountable concrete curb and gutter, and concrete storm sewer. The street was constructed to a width of 30 feet from face-of-curb to face-of-curb, and is centered within a 60 foot wide right-of-way. The storm sewer system consists of catch basins which drain runoff from the street to low-lying areas using concrete storm sewer pipes.

City staff evaluates and rates the condition of pavement sections on all city streets on an annual basis using the Pavement and Surface Evaluation Rating (PASER) system. In the fall of 2016, these street segments within the Rivers Bend neighborhood were rated with PASER ratings of 3, which indicates this street is past the point of applying mill and overlay improvements. The current condition of these streets requires City staff to patch the streets at least once per year, particularly before winter so the street can be plowed without further damaging the pavement in the process. Pictures of this street segment are located in ***Appendix A***.

Proposed improvements include removing and replacing all damaged concrete curb and gutter sections, and reconstructing the existing bituminous pavement section using a process called Full Depth Reclamation, or FDR. For this project, the FDR process would involve milling the entire existing bituminous pavement section, along with about 1 inch of the existing aggregate base. This reclaim material would then be placed on top of the reshaped and compacted subgrade, after which 3.5 inches of bituminous pavement would be placed on top. This would result in a 7-ton pavement design, which is a typical design for residential streets.

The existing storm sewer system is in good condition. Only casting adjustments are proposed.

The engineer's opinion of probable costs for completing the proposed improvements on Rivers Bend as outlined in this report is $283,000. Estimated costs include 23% indirect costs for administrative, engineering, finance and legal costs. A summary of the engineer's opinion of probable costs is included in ***Appendix B***.

A total of 44 parcels have been identified as receiving special benefit from the improvements. These parcels are identified in the preliminary Assessment Map and Roll which are attached in ***Appendix C***.

A total of twelve pavement corings were completed by WSB and Associates (WSB) to assist with the preparation of this report. WSB offered pavement design recommendations which were considered and incorporated to varying degrees while preparing this report. A copy of WSB's report is attached in ***Appendix D***.

This improvement project, which is listed in the City's current Capital Improvement Program, is proposed to be funded using a combination of special assessments to benefiting properties, street reconstructions bond proceeds, and stormwater utility funds.

Staff recommends using special assessments to pay for 25% of eligible improvement costs, which will be applied across 44 assessable properties using the "per lot" method of assessment, which is the typical method used for single family parcels having approximately the same size. All costs for this project are eligible for special assessments since the street is proposed to be reconstructed at its existing width, and since the existing and proposed pavement sections both meet 7-ton design standards meaning they are equivalent sections. This project does not include any ineligible project costs related to the use of special assessments.

Staff recommends ordering a special benefit consultation report for this project to verify that the proposed assessment amounts will not exceed the amount of benefit to any of these properties. If the report concludes that the benefit to any of the properties is less than the proposed preliminary assessment rate, Staff would propose to lower the assessment rate accordingly at the Assessment Hearing. However, if the special benefit consultation report verifies that the assessment rates as proposed are justified, Staff would propose to adopt the final assessment roll using the rate as preliminarily proposed.

Staff has not yet had an opportunity to discuss the proposed improvements or the use of special assessments to pay for a portion of the improvements with impacted property owners. However, prior to the Public Hearing Staff will contact and offer to meet with impacted property owners for the purpose of explaining the proposed improvements, how special assessments are proposed to be applied, and to discuss the proposed improvements in more detail and to gather their input on the project, including any information that should be explored in more detail during development of plans and specifications. Staff would then present this information to Council during the Public Hearing.

This project is necessary, feasible, and cost-effective from an engineering standpoint, and can be constructed as proposed herein. However, it would be most cost-effective to construct this project in conjunction with the Stanhope Terrace Street Reconstructions project, which is currently scheduled for construction in 2018.

2. INTRODUCTION

2.1 Authorization

The preparation of this report was authorized by the Ramsey City Council on January 10th, 2017. This project has been designated as City Improvement Project No. 17-02.

2.2 Program Overview

In support of the City's long-term Street Maintenance Program, the existing bituminous pavement section is proposed to be reconstructed, damaged concrete curb and gutter sections will be removed and replaced, and other appurtenant work will be completed as outlined in this report.

The City's pavement evaluation process involves a visual evaluation of each street's pavement surface based on the type, extent and severity of each pavement distress observed. Numerous types of pavement distresses may exist within a pavement section including, but not limited to, alligator cracking, block cracking, longitudinal cracking, transverse cracking, rutting, raveling, shoving, potholes and patches. This field data is then used to rate the pavement condition.

The City uses the Pavement and Surface Evaluation Rating (PASER) system to rate pavement condition. A PASER rating is a numerical index between 1 and 10 indicating the condition of a pavement based on the various pavement distresses recorded during visual observations. A PASER rating of 10 represents brand new pavement, while a PASER rating of 1 represents a pavement section that has fallen into complete disrepair requiring full street reconstructions.

In the fall of 2016, these street segments in the Rivers Bend neighborhood were rated with PASER ratings of 3.

2.3 Scope

City of Ramsey Improvement Project 17-02 proposes to reconstruct the existing bituminous pavement, to remove and replace damaged concrete curb and gutter sections, and to complete other appurtenant work on four street segments within the Rivers Bend residential neighborhood including 147th Lane between Xkimo Street and Waco Street, 148th Avenue between Yakima Street and Xkimo Street, Xkimo Street between 147th Lane and 149th Avenue, and Yakima Street between 148th Avenue and 149th Avenue. These street segments total approximately 2,774 linear feet (0.53 miles) in length.

The existing bituminous pavement is proposed to be reconstructed by removing the existing pavement and disposing of it off-site. The existing class 5 aggregate base would then be reshaped and compacted, and then 3.5 inches of new bituminous pavement would be placed on top. This would result in a 7-ton pavement design per the City's typical residential street design.

A map showing the location and scope of the proposed improvements is included as ***Figure 1*** in ***Appendix A***.

3. EXISTING CONDITIONS

3.1 Existing Pavement and Soil Conditions

The four street segments were constructed in 1985 with 2 to 3.5 inches of bituminous pavement, 4 inches class 5 aggregate base, B618 concrete curb and gutter, and concrete storm sewer. The street was constructed to a width of 40 feet from face-of-curb to face-of-curb, and is centered within an 80 foot wide right-of-way. Delineated parking lanes exist along both sides of the street. The existing posted speed is 35 mph along this entire segment of Rivers Bend. The storm sewer system consists of numerous catch basins which drain runoff from the street to adjacent low-lying areas using concrete storm sewer pipes.

The pavement was cracksealed and sealcoated in 1988 and 1995, and spot patching has been applied on an as-needed basis since. In 2016, Staff observed Pavement and Surface Evaluation Ratings (PASER) of 3 on all street segments.

While truck counts for these streets are not available, Staff believes it is reasonable to assume the average annual daily traffic (AADT) count is less than 1,000 vehicles, and that less than 5 percent of vehicles using these streets can be classified as truck traffic.

WSB and Associates (WSB) was employed to complete a total of twelve pavement corings. Their results showed an average bituminous pavement thickness between 2 and 3.25 inches, which was constructed over 4 inches class 5 aggregate base.

3.2 Watermain

Watermain was installed under all street segments in Rivers Bend. Staff believes the existing watermain is in good condition, and that no repairs will be required prior to reconstructing the pavement. However, if plans and specifications are ordered for the proposed improvements, staff proposes to hire a leak detection expert to ensure there are no detectable leaks. If leaks are detected, repairs would be made under separate contract before work commences on this project. Leak detection testing is estimated to cost $500.

3.3 Sanitary Sewer

Sanitary sewer was installed under each of the street segments in Rivers Bend. Staff believes the existing sanitary sewer is in good condition, and that no repairs will be required prior to reconstructing the pavement. However, if plans and specifications are ordered for the proposed improvements, staff proposes to hire a firm to televise the sewer to ensure the pipes are not deformed, cracked, or broken, and that all joints are sealed. If any issues are detected, repairs would be made under separate contract before work commences on this project. Sewer televising for this project is estimated to cost $2,800.

3.4 Storm Sewer/Drainage

Storm sewer exists along Xkimo Street. Based on design calculations completed by City staff, no modifications will be required to the existing storm sewer system.

3.5 Streets

3.5.1 Existing Typical Sections

The street was constructed to a width of 30 feet from face-of-curb to face-of-curb, and is centered within a 60 foot wide City-owned right-of-way.

3.5.2 Maintenance History

The pavement was cracksealed and sealcoated in 1988, and again in 1995. Spot patching has been applied on an as-needed basis since.

3.6 Land Use

Properties in the Rivers Bend neighborhood are zoned single family residential.

4. PROPOSED IMPROVEMENTS

4.1 Street and Stormwater Improvements

The four street segments within the Rivers Bend residential neighborhood proposed to be reconstructed include 147th Lane between Xkimo Street and Waco Street, 148th Avenue between Yakima Street and Xkimo Street, Xkimo Street between 147th Lane and 149th Avenue, and Yakima Street between 148th Avenue and 149th Avenue.

The scope of the proposed surface improvements is shown in ***Figure 1*** in ***Appendix A***.

4.1.1 Street Improvements

The streets in Rivers Bend are proposed to be reconstructed to match their existing width of 30 feet. All damaged surmountable concrete curb and gutter is proposed to be removed and replaced in kind. A typical section for the proposed pavement street reconstructions improvements is shown in ***Figure 2*** in ***Appendix A.***

The proposed reconstructed bituminous pavement design is designed to accommodate a 7-ton design in accordance with the City of Ramsey's design standards. City staff is proposing a pavement section design of 1.5 inches bituminous wear course, 2 inches bituminous base course, over 4 inches of existing aggregate base material after reshaping and compacting the base.

The proposed pavement design should result in a minimum pavement life of 30 years, assuming that proactive, regular pavement maintenance treatments are performed during the life of the pavement. While a 60-year design life would typically be targeted for a reconstructed street, this project is not proposing a full street reconstruction due to the good condition of the majority of the existing 30 year old curb and gutter. Therefore, only the bituminous pavement is proposed to be reconstructed at this time as it may make sense to replace the pavement section at the time the rest of the existing curb and gutter is replaced, which may be 30 or more years in the future.

4.1.2 Stormsewer Improvements

The existing storm sewer system is in good condition and is not proposed to be improved. The only proposed storm sewer improvements include repairing catch basin castings as needed. No stormwater quality treatment improvements are required for this project since the street is proposed to be reconstructed at its current width.

4.1.3 Geotechnical Considerations

WSB completed twelve (12) pavement cores along the streets in Rivers Bend as shown in their Pavement Evaluations and Recommendations report, attached in ***Appendix D***. WSB recommends leaving all intact existing curb and gutter in place, which staff estimates accounts for over 80% of the existing curb and gutter, which is only 30 years old. WSB also recommends reconstructing only the bituminous pavement. In total, this work is estimated to cost about half as much as a total street reconstructions while resulting in a

pavement design life of 30-plus years. In considering that the remaining curb and gutter will likely need to be replaced in around 30 years, a total street reconstructions could be evaluated at that time. Another benefit to this design is that it would result in minimal impacts to site access and traffic during construction.

4.1.4 Other Considerations

Driveways:
Existing driveways will need to be reconstructed to varying degrees. The limits of construction will vary with each driveway based on the elevations of the street and the parking lot, as well as the driveway pavement type. During design, staff will evaluate the construction limits for each driveway and will incorporate this into the plans, but as with all street reconstruction projects the exact limits of construction will be determined in the field during construction. Right-of-entry forms would be obtained from private property owners if work is required outside City right-of-ways and easements.

Irrigation Systems:
Developed properties along the project corridor may have private irrigation systems. Impacts to these systems may occur where the existing curb and gutter is being replaced. On past street reconstruction projects, the City repaired private irrigation systems that were damaged as part of the project. Staff recommends foregoing this practice on future projects. Instead, staff recommends notifying property owners in writing of the pending construction as far in advance of construction as possible to allow them to move their irrigation systems out of the construction area, and then replace it once work is complete.

Parking Restrictions:
Parking is currently allowed along both sides of the streets except for overnight parking per City code. During this project, parking is proposed to be restricted during allowable working hours also.

4.2 Stormwater Treatment

Stormwater retention and/or treatment improvements are not required for this project.

4.3 Water Main Improvements

No watermain improvements are proposed with this project.

4.4 Sanitary Sewer Improvements

No sanitary sewer improvements are proposed with this project.

4.5 Construction Methods

The existing bituminous pavement section will be reconstructed as outlined within this report.

4.6 Private Utilities

Staff has not yet met with the telephone, gas, power and cable utilities regarding this project. During preparation of plans and specifications, staff will meet with the private utility companies to discuss the proposed improvements as noted in the project schedule within this report. The alignment and footprint of the streets will be considered to minimize impacts to private utilities. No impacts to power poles or street lights are anticipated with this project.

Should any utility company indicate they wish to upgrade, replace and/or otherwise modify their services during this project, any such upgrades, replacements and/or modifications will be at the sole discretion and cost of the utility company.

4.7 Permits

Permits that are anticipated to be required as part of the proposed improvements include:

- MPCA General Stormwater Permit (NPDES)..... Grading and Storm Water

A stormwater permit from the Lower Rum River Watershed Management Organization will not be required with this project.

4.8 Right-of-Ways/Easements

It is anticipated that all improvements will occur within existing City right-of-ways and/or easements, with the possible exception of tying into private driveways and yards. It is therefore not anticipated that the City will need to acquire additional permanent right-of-way or easements for this project. As such, costs for right-of-way or easement acquisitions are not included in the probable project costs.

City staff will obtain any required right of entries.

5. FINANCING

5.1 Opinion of Cost

A detailed opinion of probable costs for the proposed improvements can be found in ***Appendix B*** of this report. The opinion of probable costs incorporates anticipated 2017 construction costs for the proposed improvements plus 23% indirect costs for administrative, engineering, financing and legal costs. Construction contingency costs are not included in the estimated costs.

City staff prepared the Feasibility Report in-house as part of staff's normal duties.

WSB and Associates, Inc. prepared their Pavement Evaluations and Recommendations report, which is included in ***Appendix D***, at a not-to-exceed cost of $3,290.

5.2 Funding

5.2.1 Assessments

The City's adopted Special Assessments Policy allows special assessments in an amount not to exceed 25% of eligible street reconstruction project costs to be levied against benefiting properties. Eligible project costs include costs required to reconstruct the street at its current width, and to reconstruct the pavement without increasing its structural capacity. Benefiting properties are considered to be any parcel that has their primary access onto any of the street segments being reconstructed. A total of 44 benefitting properties have been identified for this project. The Preliminary Assessment Map and Roll are included in ***Appendix C***.

The engineer's opinion of probable costs for eligible assessment costs totals $283,000. Assessable residential parcels are preliminarily proposed to be assessed for 25 percent of eligible project costs, which totals $70,752 and equals $1,608 per parcel. Assessment terms are proposed at ten years. Interest rates are proposed at two percent above the bond interest rate.

The "per lot" method of assessment identified in the City of Ramsey's Special Assessments Policy is proposed to be used to calculate assessments for this project. Properties which have their primary access onto one of the reconstructed streets are proposed to be assessed.

Special assessments have not been utilized widely in recent years for street reconstruction projects in Ramsey. In addition, State Statute and the City Charter do not allow for assessments to exceed the benefit to the property. Therefore, Staff may want to ensure that all assessments applied with this project will not exceed the benefit to assessed properties and may therefore request Council authorization to order a benefit appraisal consultation report for this project in accordance with the City's Special Assessments Policy at the time a construction contract is awarded.

5.2.2 City Contribution

The City contribution to the project will include all funding in excess of the amount collected through special assessments to benefiting properties which equals 75 percent of eligible project costs. No funds have been budgeted for this project.

The City's share of eligible project costs related to surface (street) improvements is proposed to come from the previously encumbered 5-year Street Reconstruction and Overlay Program bonds. Stormwater Utility Funds are proposed to pay for all storm sewer improvements.

Special assessments are proposed to pay back a portion of these costs based on the final assessments adopted by Council at the end of the project.

Table 1 illustrates the proposed project funding based on the proposed design outlined within this report. This funding program assumes construction will occur in 2018.

TABLE 1
Proposed Project Funding

	ASSESSMENTS	CITY FUNDS	TOTAL
Estimated Costs	**$70,752**	**$212,248**	**$283,000**

Total Estimated Project Cost		**$283,000**
Less Special Assessments (25%)	-	$70,752
Subtotal	**=**	**$212,248**
Less City Bonding Funds	-	$210,748
Subtotal	**=**	**$1,500**
Less Stormwater Utility Funds	-	$1,500
Total Remaining Cost	**=**	**$0**

6. PROJECT SCHEDULE

The proposed project schedule is as follows:

Council Orders Feasibility Report ..... January 10, 2017

Council Accepts Feasibility Report ..... January 24, 2017

Council Orders Public Hearing ..... June 13, 2017

Staff Publishes Notice of Public Hearing ..... June 16 & 23, 2017

Public Input Meetings ..... June, 2017

Council Conducts Public Hearing/Authorizes Plans and Specifications ..... July 11, 2017

Staff Conducts Private Utility Coordination Meeting ..... July/August, 2017

Council Approves Plans and Specifications/Authorizes Ad for Bids ..... December 12, 2017

Staff Advertises for Bids ..... December 15 & 22, 2017

Staff Receives Bids ..... January 16, 2018

Council Awards Contract ..... January 23, 2018

Contractor Begins Construction ..... May/June 2018

Contractor Completes Construction ..... September 7, 2018

Council Orders Assessment Roll/Hearing ..... September 11, 2018

Council Conducts Assessment Hearing ..... October 9, 2018

7. CONCLUSIONS AND RECOMMENDATIONS

City of Ramsey Improvement Project 17-02 proposes to reconstruct the bituminous pavement section, to remove and replace damaged concrete curb and gutter, and to complete miscellaneous appurtenant work on four street segments within the Rivers Bend residential neighborhood including 147th Lane between Xkimo Street and Waco Street, 148th Avenue between Yakima Street and Xkimo Street, Xkimo Street between 147th Lane and 149th Avenue, and Yakima Street between 148th Avenue and 149th Avenue. These street segments measure approximately 2,774 linear feet (0.53 miles).

It is the recommendation of City staff that City Project No. 17-02 is feasible, necessary, and cost-effective from an engineering standpoint. However, it would be most cost-effective to construct this project in conjunction with the Stanhope Terrace Street Reconstructions project, which is currently scheduled for construction in 2018.

The following Staff recommendations related to the proposed project are presented for Council consideration and concurrence:

1. Staff recommends reconstructing the four street segments within the Rivers Bend residential neighborhood including 147th Lane between Xkimo Street and Waco Street, 148th Avenue between Yakima Street and Xkimo Street, Xkimo Street between 147th Lane and 149th Avenue, and Yakima Street between 148th Avenue and 149th Avenue in conjunction with the Stanhope Terrace Street Reconstructions project in 2018.

2. Staff recommends ordering an assessment appraisal consultation report to ensure that the preliminary special assessments proposed herein will not exceed the benefit received as a result of the improvements in accordance with the City's Special Assessments Policy.

3. Staff recommends excluding private irrigation system work from this project, and from all future City Improvement Projects, and instead recommends notifying property owners of pending construction as far in advance as possible and instructing them to relocate the irrigation system(s) away from the construction area during construction, then allow replacement in or near the original location after construction is complete.

4. Staff recommends meeting with all owners of assessable properties to inform them of the proposed improvements, the proposed use of special assessments, and to gather their input prior to conducting the Public Hearing and requesting Council authorization to prepare plans and specifications on July 11th.

The City Council is asked to act on the following items related to the proposed project:

1. Accept the preliminary residential special assessment rates proposed herein.

2. Adopt Resolution #17-01-028 accepting this Feasibility Report.

APPENDIX A

Figure 1 – Project Scope
Figure 2 – Typical Section
Project Site Pictures

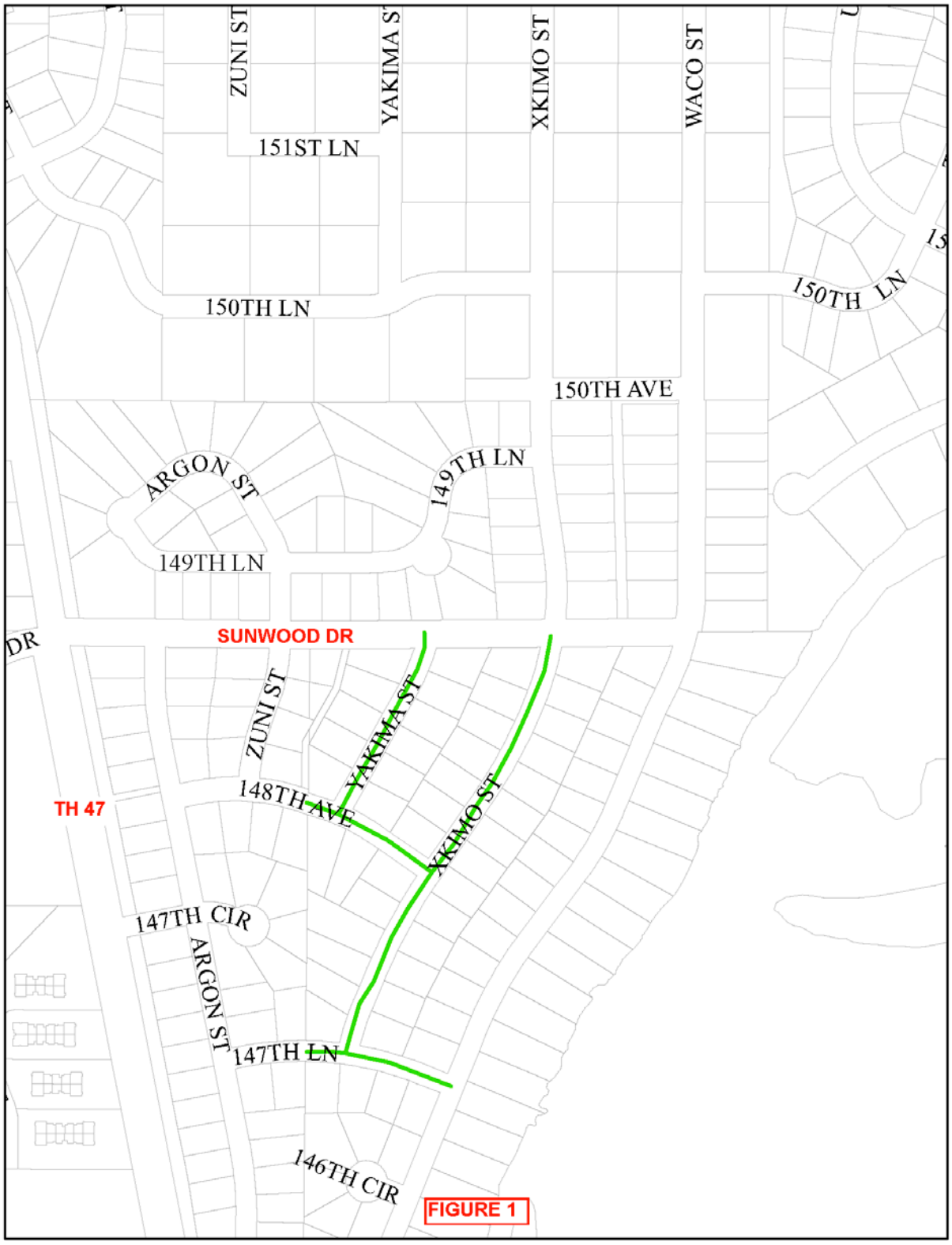


FIGURE 1
PROJECT SCOPE

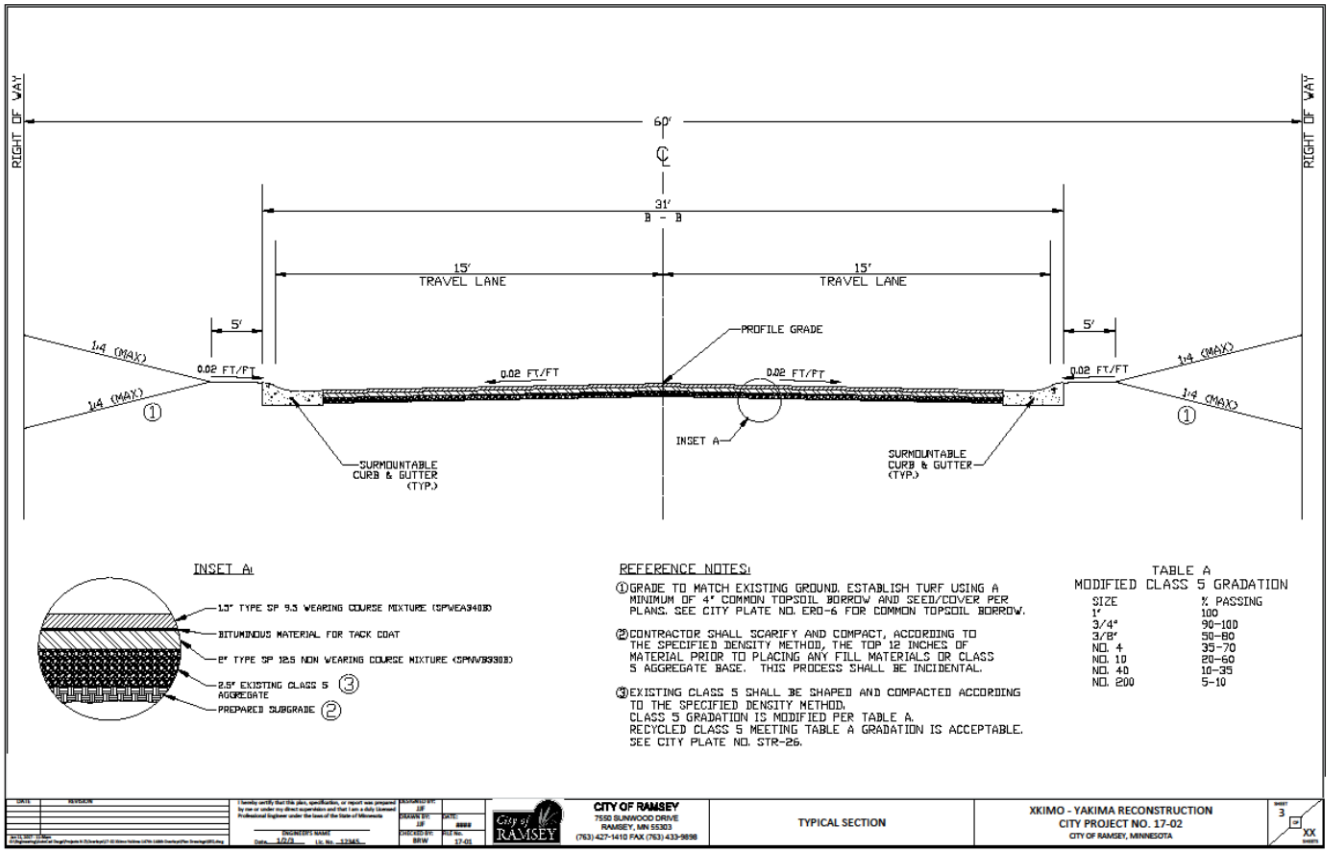


FIGURE 2
TYPICAL SECTION

PROJECT SITE PICTURES

APPENDIX B

Opinion of Probable Costs

17-02 RIVER'S BEND RECONSTRUCTION
ENGINEER'S ESTIMATE
1/11/2017

ITEM NO.	MNDOT NO.	ITEM DESCRIPTION	UNIT	UNIT COST	ESTIMATED QUANTITY	COST EXTENSION
1	2021.501	MOBILIZATION (8% CONSTRUCTION COST)	LS	$ 17,031.52	1	$ 17,000.00
2	2104.501	REMOVE CONCRETE CURB AND GUTTER	LF	$ 14.00	500	$ 7,000.00
3	2104.505	REMOVE CONCRETE VALLEY GUTTER	SY	$ 30.00	65	$ 1,950.00
4	2104.511	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	$ 8.50	100	$ 850.00
5	2104.513	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	$ 5.50	200	$ 1,100.00
6	2112.501	SUBGRADE PREPARATION	RDST	$ 215.00	26	$ 5,590.00
7	2130.501	WATER	MGAL	$ 32.50	50	$ 1,625.00
8	2215.501	BITUMINOUS PAVEMENT RECLAMATION (3.5" DEPTH)	SY	$ 1.50	7929	$ 11,893.50
9	2232.501	MILL BITUMINOUS PAVEMENT (1.5" DEPTH X 2' WIDE)	SY	$ 16.00	45	$ 720.00
10	2331.607	HAUL BIT PAVEMENT RECLAMATION (LV)	CY	$ 10.00	1002	$ 10,020.00
11	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	$ 2.50	555	$ 1,387.50
12	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340B) (1.5")	TON	$ 68.00	785	$ 53,380.00
13	2360.502	TYPE SP 12.5 NON-WEARING COURSE MIXTURE (SPNWB330B) (2.0")	TON	$ 65.00	1047	$ 68,055.00
14	2504.602	ADJUST VALVE BOX	EA	$ 250.00	9	$ 2,250.00
15	2506.522	ADJUST FRAME AND RING CASTING	EA	$ 550.00	13	$ 7,150.00
16	2531.501	CONCRETE CURB & GUTTER DESIGN SURMOUNTABLE	LF	$ 50.00	300	$ 15,000.00
17	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF	$ 50.00	200	$ 10,000.00
18	2531.604	7" CONCRETE VALLEY GUTTER	SY	$ 85.00	65	$ 5,525.00
19	2563.601	TRAFFIC CONTROL	LS	$ 3,000.00	1	$ 3,000.00
20	2573.535	STABILIZED CONSTRUCTION EXIT	LS	$ 3,500.00	1	$ 3,500.00
21	2575.505	SODDING TYPE LAWN	SY	$ 18.00	111	$ 1,998.00
22	2575.525	COMMON TOPSOIL BORROW (LV)	CY	$ 60.00	15	$ 900.00
					TOTAL CONSTRUCTION COST	$ *229,894.00*
					23% INDIRECT COST	$ *52,875.62*
					TOTAL ESTIMATED PROJECT COST	$ ***282,769.62***

APPENDIX C

Preliminary Assessment Map
Preliminary Assessment Roll

PRELIMINARY ASSESSMENT MAP

Preliminary Assessment Roll - IP #17-02						
PID No.	Property Owner	Property Address	City	State	Zip	Assessment
253225120056	RONDO ANGELA M & JERRY D	5195 147TH LN NW	RAMSEY	MN	55303	$1,608.00
253225120057	CICH JONATHAN	5194 147TH LN NW	RAMSEY	MN	55303	$1,608.00
253225120058	CLOBES ADELE	5178 147TH LN NW	RAMSEY	MN	55303	$1,608.00
253225130002	GEORGES ROBERT J & RUTH F	5164 147TH LN NW	RAMSEY	MN	55303	$1,608.00
253225130003	SPOHN PAMELA A	5150 147TH LN NW	RAMSEY	MN	55303	$1,608.00
253225120049	NEWBERGER JAKE	5192 148TH AVE NW	RAMSEY	MN	55303	$1,608.00
253225120050	UPHOFF ROGER	5178 148TH AVE NW	RAMSEY	MN	55303	$1,608.00
253225120007	TAMBA PATRICK	14882 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120008	JANIAK MICHAEL L & TINA M	14866 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120009	HEFFRON GLEN R & PAMELA J	14854 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120010	MORGAN JR JOE	14842 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120011	BUBANY BRETON	14830 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120012	COMSTOCK GREGORY J & LYNN A	14820 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120013	MARSHALL JAMES & AUDREY	14810 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120035	EMERSON EDWARD J & AMY C	14725 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120036	MALEK DAVID J & CINDY L	14737 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120037	MERKL CHRIS S & JESSICA A	14751 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120038	BAUER DANIEL	14765 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120039	BRUNEAU STEPHANIE	14777 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120040	SCHULTE ERICA	14787 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120041	DRAYNA ROBERT	14801 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120042	PAYNE RYAN L	14811 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120043	TOVSEN CAITLIN	14823 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120044	TESSMAN JILEEN	14835 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120045	HENNES RICHARD & JUDITH	14847 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120046	MANCINI FRANK E	14859 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120047	JOHNSON MARK	14871 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120048	HIGH DANIEL	14885 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120051	CLAYTON JEFFREY	14788 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120052	STROUP TIMOTHY D & VICTORIA E	14778 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120053	ROMANCHUK GERALD	14764 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120054	REYNOLDS BRIAN R & SHEILA B	14752 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00
253225120055	DANIELS JULIE A	14740 XKIMO ST NW	RAMSEY	MN	55303	$1,608.00

PID No.	Property Owner	Property Address	City	State	Zip	Assessment
253225120002	ACEVES II WILLIAM & ACEVES CHRISTY	14884 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120003	RUMPCA JAMES L & SUSAN A	14872 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120004	DUNAWAY ANDREW & LAURA M	14860 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120005	FLORES ANTHONY JR	14848 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120006	DESONIA ELIZABETH	14834 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120014	HOFF WENDY	14827 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120015	MILLER CORY	14839 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120016	WINDOM LADELL	14851 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120017	MARDAUS JOHN M & RENEE	14863 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120018	FOWLKES CHERYL	14873 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
253225120019	AUGUSTSON TRUSTEE DEBORAH & AUGUSTSON TRUSTEE TERRANCE	14887 YAKIMA ST NW	RAMSEY	MN	55303	$1,608.00
	TOTAL PROJECT ASSESSMENTS					$70,752.00

PRELIMINARY ASSESSMENT ROLL

APPENDIX D

Pavement Evaluations and Recommendations (WSB & Associates – 11 pages)

701 Xenia Avenue South | Suite 300 | Minneapolis, MN 55416 | (763) 541-4800

December 27, 2016

Mr. Bruce Westby P.E.
City Engineer
7550 Sunwood Drive NW.
Ramsey, MN 55303

Re: Pavement Evaluations and Recommendations for City of Ramsey Improvement Project #17-02
2017 Mill and Overlay Improvements

Observation: On December 20, 2016 WSB & Associates cored the 147th, 148th, Yakima, and Xkimo roadways in the City of Ramsey, MN. The following observations were made during the investigation. The Hot Mix Asphalt (HMA) cores ranged in thickness from 2 inches to 3.25 inches, with the average thickness being 2.4 inches. The base material observed appears to be a mainly sandy select granular material. With the frozen ground, we were only able to chisel to depth of approximately 4 inches with no change in the base material observed. The coring locations can be found in Appendix A of this report. Pictures of each core can be found in Appendix B. Due to the streets being covered by snow it was hard to observe existing crack patterns, but the cores taken appear to be in very good condition for the age of the HMA.

Recommendations: Based on the following information, these streets are true residual streets, constructed in the mid-1980s, and have performed satisfactorily. It would be our recommendation to remove the existing HMA, then re- compact the granular (sand) base and repave with 3 inches of level 3 Super Pave with ½ inch mixture with 3 percent air voids made with a PG -34 binder. An example would be SPWEA330C or A, mix. Using a ½ minus mix with 3 percent air voids design should yield a very tight surface that should greatly diminish the infiltration of water into the HMA surface. Using a PG-34 binder should delay cracking over a PG-28 binder. One last suggestion to think about is possibly priming the granular base with a penetrating emulsion prime (PEP) to protect the bottoms of the HMA from damage from water coming thru the base materials.

Please let me know if you have any other questions of comments regarding this report.

Sincerely,

WSB & Associates, Inc.

Thomas J. Wood
Project Manager

Appendix A

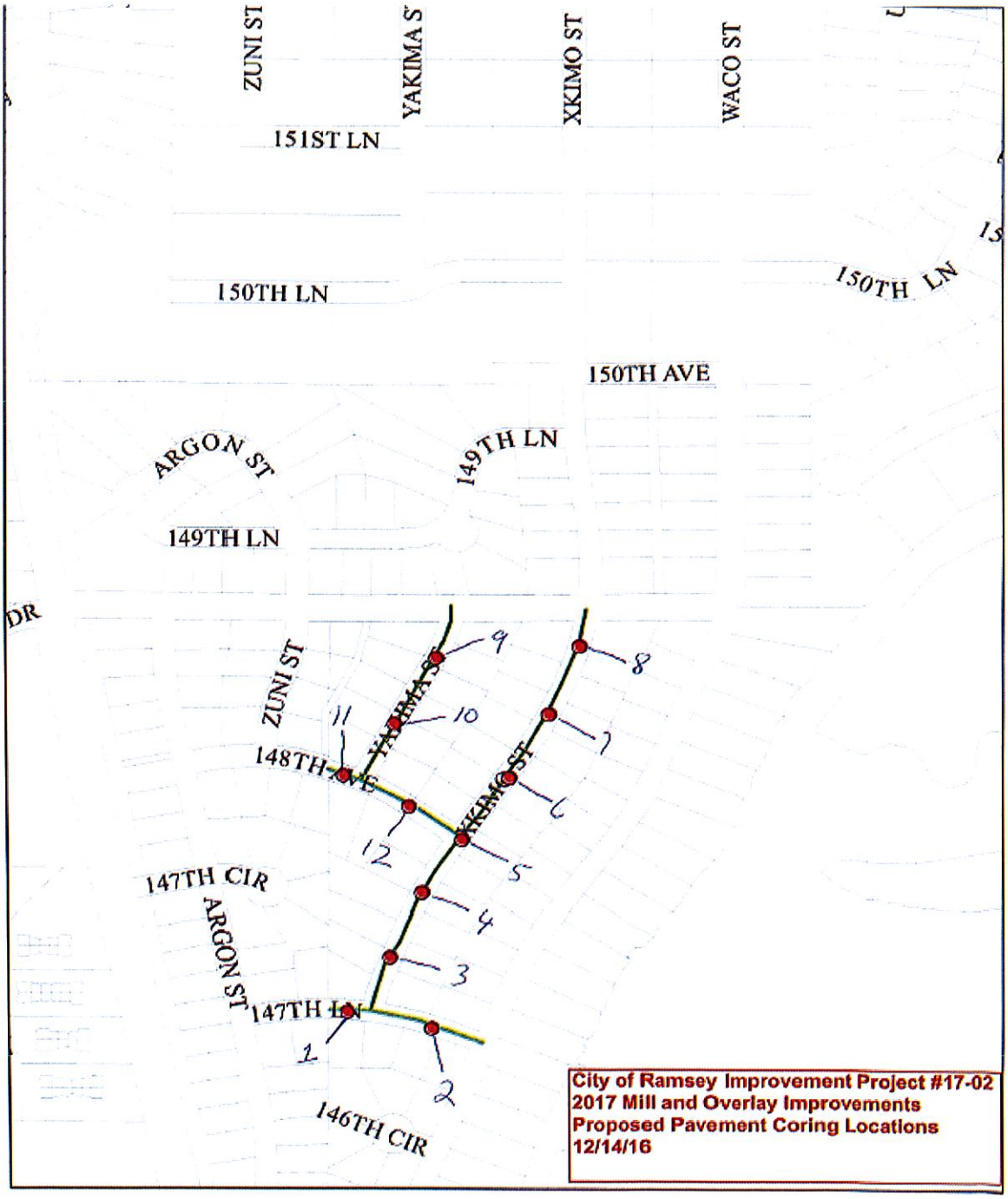
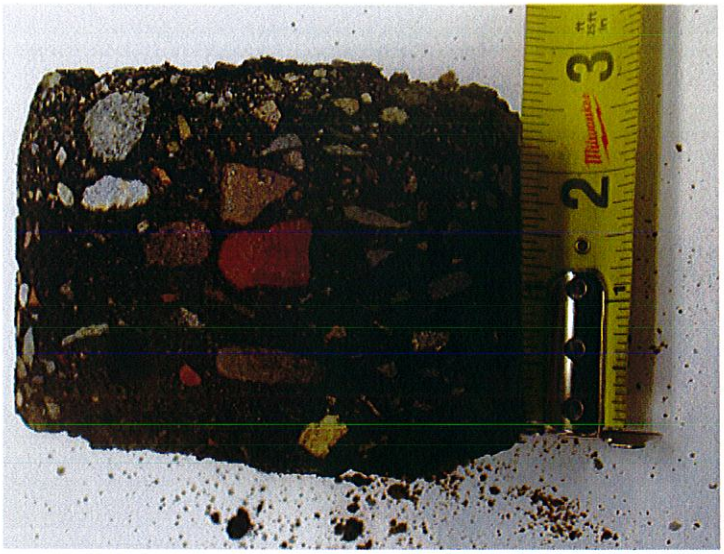


Figure 1: Coring Locations

Appendix B

Core 1



Core 2

Core 3

Core 4

Core 5

Core 6

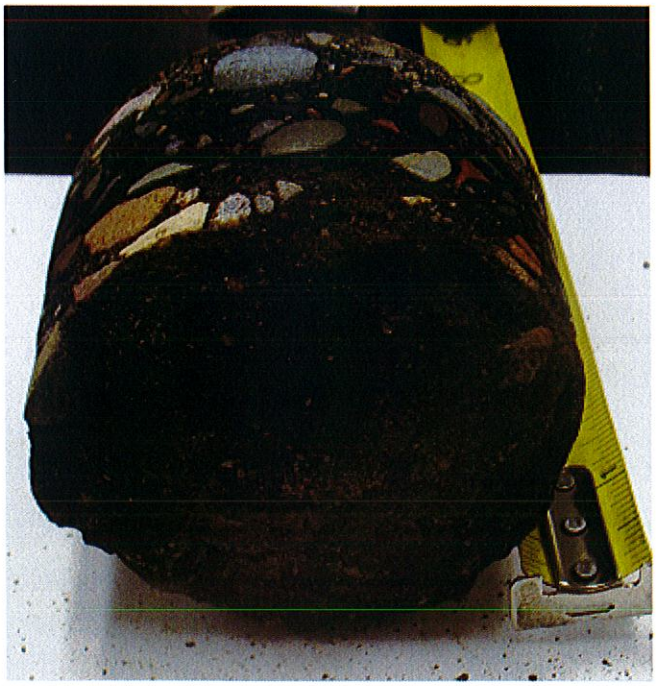
Core 7

Core 8

Core 9

Core 10

Core 11



Core 12