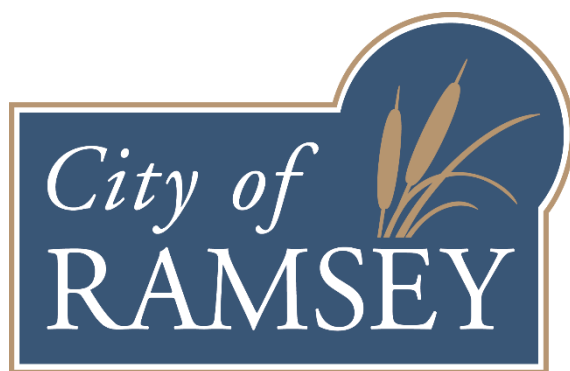


# FEASIBILITY REPORT

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## WOOD POND HILLS & CHESTNUT RIDGE STREET RECONSTRUCTIONS

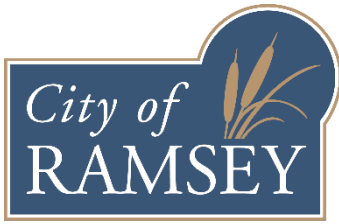
**CITY IMPROVEMENT PROJECT NO. 19-03**



**October 18, 2018**

**Prepared By:**

**City of Ramsey  
Engineering Department  
7550 Sunwood Drive NW  
Ramsey, MN 55303  
763-433-9839  
763-433-9848 (Fax)**



October 18, 2018

Honorable Mayor and City Council  
City of Ramsey  
7550 Sunwood Drive NW  
Ramsey, MN 55303

Re: Feasibility Report - City of Ramsey Improvement Project #19-03  
Wood Pond Hills & Chestnut Ridge Street Reconstructions

Dear Mayor and City Council Members:

Transmitted herewith is a Feasibility Report for the proposed Wood Pond Hills & Chestnut Ridge Street Reconstructions project including; 146<sup>th</sup> Avenue from Nowthen Boulevard to Junkite Street, Helium Street from Sunwood Drive to 146<sup>th</sup> Avenue, and Krypton Street from Sunwood Drive to its termini cul-de-sac. The report 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](mailto:bwestby@cityoframsey.com) with any questions.

Sincerely,

**City of Ramsey**

Bruce Westby, PE  
City Engineer

Enclosure

C: Kurt Ulrich, City Administrator  
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: October 18, 2018

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: October 18, 2018

License No. 21112

**TITLE SHEET  
LETTER OF TRANSMITTAL  
CERTIFICATION SHEET  
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## 1. EXECUTIVE SUMMARY

City Improvement Project No. 19-03 proposes to reconstruct streets within the Wood Pond Hills and Chestnut Ridge neighborhoods including 146<sup>th</sup> Avenue, Helium Street, and Krypton Street. The streets total approximately 3,310 linear feet (0.63 miles) in length. A map showing the location and scope of the proposed improvements is included as *Figure 1* in *Appendix A*.

The streets were constructed between 1992 and 1994 with bituminous pavement, surmountable concrete curb and gutter, and concrete storm sewer. The streets were constructed to a width of 30-feet from face-of-curb to face-of-curb, and are centered within a 60-foot wide right-of-way.

The existing bituminous pavement section ranges from 1.6 to 5.0 inches thick, with a median thickness of 2.5-inches. This was determined from Ground Penetrating Radar (GPR) analysis performed by Braun Intertec in 2017, as well as from field observations and record plan documents. Copies of Braun Intertec's GPR results are attached in *Appendix C*. The pavement section was built on generally poorly graded sand with silt subgrade material generally considered usable for pavement support with proper conditioning.

City staff evaluates and rates the condition of pavement sections on all City streets on an annual basis using the Pavement Surface Evaluation and Rating (PASER) system. In the summer of 2018, the pavement sections of the above referenced street segments were rated with a PASER rating of 2, with the exception of the south half of Krypton Street receiving a rating of 4. Ratings of 4 and below indicate these streets require complete reconstruction. City Staff patch the streets at least once per year, particularly before winter so the streets can be plowed without further damaging the pavement in the process. Pictures of the streets 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 the Full Depth Reclamation (FDR) process. This process would involve reclaiming the entire existing bituminous pavement section, along with the existing aggregate base. This reclaim material would then be spread over the reshaped and compacted subgrade between the curb and gutter, then the top 3 ½ - inches of reclaim material would be removed and hauled off site, after which 3 ½ -inches of new bituminous pavement would be installed over the remaining compacted reclaim material. This would result in a 7-ton pavement design, which is standard for residential streets.

Existing sanitary sewer and watermain infrastructure are in good condition. The existing storm sewer system is also in good condition with only minor work being proposed.

The engineer's opinion of probable costs for completing the proposed improvements outlined in this report is \$372,236.52. Estimated costs include 5-percent contingency costs plus 23-percent indirect costs for administrative, engineering, finance and legal costs. A summary of the engineer's opinion of probably costs is included in *Appendix B*.

A total of 59 assessable parcels have been identified. Staff recommends applying 25-percent of the eligible project costs equally across the 59 assessable properties using the "per lot" assessment

method. Eligible project costs include everything except subgrade correction costs. This results in a proposed preliminary assessment rate of \$1,303.70 per assessable parcel.

Staff recommends ordering a special benefit consultation report for this project to verify the proposed assessment amount will not exceed the benefit to the properties. If the report concludes the benefit to the properties is less than the proposed preliminary assessment rate, Staff will then propose to lower the assessment rate accordingly during the Assessment Hearing, which is scheduled for October 8, 2019. If the report verifies the assessment rate as proposed is justified, Staff will propose to adopt the final assessment roll using the rate as preliminarily proposed.

Ten (10) soil borings were completed by Northern Technologies (NTI) to assist with the preparation of this report. Pavement design recommendations were offered by NTI, and Staff considered and incorporated NTI's recommendations to varying degrees while preparing this report. Ground Penetrating Radar (GPR) was conducted on street segments within the project. The GPR identifies existing bituminous pavement and aggregate base thicknesses, and is used to help Staff determine the appropriate treatment. Copies of Braun Intertec's GPR results and NTI's Geotechnical Exploration Report are attached in *Appendix C*.

This improvement project, which is listed in the City's current 10-year Capital Improvement Plan, is proposed to be funded using a combination of special assessments to benefiting properties, street reconstruction bond proceeds, and storm sewer funds.

Staff has not yet discussed the proposed improvements with local property owners. However, Staff has scheduled a neighborhood information meeting for November 7, 2018 for the purpose of explaining the proposed improvements and assessments in more detail, and to gather public input on the project, including any information which should be explored in more detail during development of plans and specifications. Staff will incorporate comments and present this information to Council during the Public Hearing on November 13, 2018.

This project would best be constructed as a stand-alone project and is necessary, feasible, and cost-effective from an engineering standpoint, and can be constructed as proposed herein.

## **2. INTRODUCTION**

### **2.1 Authorization**

The preparation of this report was authorized by the Ramsey City Council on August 28, 2018. This project has been designated as City Improvement Project No. 19-03.

### **2.2 Program Overview**

In support of the City's long-term Street Maintenance Program, the existing bituminous pavement section will be reconstructed. Damaged concrete curb and gutter will be replaced and minor storm sewer repairs will be made. 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 Surface Evaluation and 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 reconstruction.

In the summer of 2018, City Staff evaluated and rated the condition of the pavement along the Wood Pond Hills and Chestnut Ridge street segments. A PASER rating of 2 was assigned to 146<sup>th</sup> Avenue, Helium Street, and the northern half of Krypton Street. A PASER rating of 4 was assigned to the southern half of Krypton Street, including its termini cul-de-sac.

### **2.3 Scope**

City of Ramsey Improvement project 19-03 proposes to reconstruct the existing bituminous pavement, to remove and replace damaged concrete curb and gutter sections, and to complete other appurtenant work on three street segments within the Wood Pond Hills and Chestnut Ridge residential neighborhood including; 146<sup>th</sup> Avenue between Nowthen Boulevard and Junkite Street, Helium Street between Sunwood Drive and 146<sup>th</sup> Avenue, and Krypton Street from Sunwood Drive to its termini cul-de-sc. These street segments total approximately 3,310 lineal feet (0.63 miles) in length.

The existing bituminous pavement is proposed to be reconstructed using the Full Depth Reclamation (FDR) process. This involves reclaiming the bituminous pavement section between the existing concrete curb and gutter sections, along with the existing aggregate base, then hauling and disposing of any excess reclaim material off site, spreading and compacting the remaining reclaim material on top of the reshaped and compacted subgrade, then placing 3 ½ -inches of new

bituminous pavement on top of the compacted reclaim material. The resulting pavement design would meet current City design standards for residential pavement sections.

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, Soil, and Traffic Conditions

The streets proposed to be improved were constructed between 1992 and 1994 with approximately 2.5-inches of bituminous pavement, 4-inches of aggregate base, and surmountable concrete curb and gutter. The streets were all constructed to a width of 30-feet from face-of-curb to face-of-curb, and are all centered within a 60-foot wide right-of-way.

Pavement maintenance treatments applied to the street segments included crack seal and seal coat improvements in 1998 and 2005. Spot patching has been performed on an as-needed basis, and has been a yearly treatment recently. In 2018, Staff assigned a PASER rating of 2 on all the street segments with the exception of the southern half of Krypton Street, which received a rating of 4.

In September of 2018, City Staff recorded a traffic volume of 551 average annual daily traffic (AADT) on 146<sup>th</sup> Avenue west of Nowthen Boulevard, 284 AADT on 146<sup>th</sup> Avenue east of Junkite Street, 129 AADT on Helium Street south of Sunwood Drive, and 205 AADT on Krypton Street south of Sunwood Drive. The existing speed limit is 30 mph for these street segments.

Northern Technologies, LLC (NTI) was employed to complete a Geotechnical Exploration and Engineering Review for this project, which included ten (10) soil borings spaced evenly along 146<sup>th</sup> Avenue, Helium Street, and Krypton Street. The locations of the borings are shown in the Soil Boring Location Map in the Appendix of NTI's report, attached in *Appendix C*.

The soil borings provide information on existing bituminous pavement and aggregate base course thicknesses, subgrade soil conditions, existing ground water elevations, and potential issues, which may be encountered during construction. All borings terminated at a nominal depth of 10 feet below the existing ground surface. There was groundwater observed in 1 of 10 borings at an elevation of approximately 854.50, 7 feet below existing ground. Based on the work proposed and the lack of groundwater at a depth of 10 feet below the existing ground surface on 9 of 10 borings, groundwater is not anticipated to be encountered during work completed with this proposed projects.

The soil borings generally indicate the existing bituminous pavement thickness ranges between 4 to 5 inches, and aggregate base thickness is 6 inches. The subgrade generally consists of poorly graded sand with silt. This poorly graded sand with silt layer was found below the existing aggregate base and generally extends to the bottom of the borings (10 feet).

Braun Intertec was employed to complete a ground penetrating radar (GPR) analysis for the project area, which included driving the GPR equipped vehicle throughout all street segments within the project area. A summary table and charts of the GPR Analysis are attached in *Appendix C*. The GPR data determined a median bituminous pavement thickness of 2.5-inches, and a median aggregate base thickness of 4.1-inches. The median street pavement and base section thickness was 6.5-inches, with a minimum section of 3.6-inches located on Helium Street, 403 feet south of Sunwood Drive. GPR data was unable to be obtained for 146<sup>th</sup> Avenue.

## **3.2 Watermain**

Watermain was installed under all street segments in Wood Pond Hills and Chestnut Ridge. 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 a separate contract before work commences on this project. Leak detection testing is estimated to cost \$1,000.

## **3.3 Sanitary Sewer**

Sanitary sewer was installed under each of the street segments in Wood Pond Hills and Chestnut Ridge. 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 a separate contract before work commences on this project. Sewer televising for this project is estimated to cost \$4,500.

## **3.4 Storm Sewer / Drainage**

Storm sewer was installed under all street segments in Wood Pond Hills and Chestnut Ridge. Staff believes the existing storm sewer is in good condition, and that no repairs will be required prior to reconstructing the pavement. There are no plans to modify the storm sewer due to no increase in impervious area with this project. If plans and specifications are ordered for the proposed improvements, Staff proposes to hire a firm to televise the storm 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 added to this project. Storm sewer televising for this project is estimated to cost \$1,000.

## **3.5 Streets**

### ***3.5.1 Existing Typical Sections***

The pavement width of 146<sup>th</sup> Avenue, Helium Street, and Krypton Street is 30-feet from face-of-curb to face-of-curb. The cul-de-sac on Krypton Street is 90-feet in diameter. The streets are generally centered within a 60-foot wide City-owned right-of-way, with a 120-foot wide right-of-way around the cul-de-sac on Krypton Street.

### ***3.5.2 Maintenance History***

146<sup>th</sup> Avenue was originally constructed in 1992 and 1993, Helium Street was originally constructed in 1992, and Krypton Street was originally constructed in 1992 and 1994. All street segments received crack seal and seal coat improvements in 1998 and 2005.

### **3.6 Land Use**

Properties in the Wood Pond Hills and Chestnut Ridge neighborhoods are zoned single family residential.

## **4. PROPOSED IMPROVEMENTS**

### **4.1 Street and Stormwater Improvements**

The street segments within the Wood Pond Hills and Chestnut Ridge neighborhood proposed to be reconstructed include 146<sup>th</sup> Avenue between Nowthen Boulevard and Junkite Street, Helium Street between Sunwood Drive and 146<sup>th</sup> Avenue, and Krypton Street from Sunwood Drive to its southern termini cul-de-sac.

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

#### ***4.1.1 Street Improvements***

The streets in Wood Pond Hills and Chestnut Ridge 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 reconstruction 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 ½ -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 26-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 same time the rest of the existing curb and gutter is replaced, which may be 30 or more years in the future.

#### ***4.1.2 Storm Sewer Improvements***

The existing storm sewer is in good condition and is not proposed to be improved. The only proposed storm sewer improvements include resetting catch basin castings and grouting the catch basins. 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***

Northern Technologies LLC (NTI) completed a Geotechnical Exploration and Engineering Review including ten (10) soil borings, generally evenly spaced along 146<sup>th</sup> Avenue, Helium Street, and Krypton Street. The locations of the borings are shown in the Boring

Location Map in the Appendix of NTI's report, attached in *Appendix C*. NTI recommends stripping of the existing pavement and aggregate base course immediately prior to subgrade preparation and base aggregate installation to minimize weather induced instability of the silty subgrade soils which will be moisture-sensitive. Prior to installing the aggregate base, the existing subgrade should be scarified and re-compacted to a depth of at least 12 inches. A proof roll test should then be performed to determine soft or unstable subgrade areas. If rutting or localized unstable subgrade areas are observed, those areas should be sub cut, moisture-conditioned, and re-compacted or removed to a stable depth. Assuming AADT volumes of 600, and an estimated R-value of 30, NTI recommends a pavement section of 4 to 6 inches of aggregate base class 5 or class 6, and 4-inches of bituminous pavement. City Staff is in close agreement and proposes completing a full-depth reclamation of the existing pavement by placing 4-inches of aggregate base class 5 or reclaim material, and 3.5-inches of new bituminous pavement. 1 of 10 soil borings indicated a layer of clayey sand below the aggregate base, City Staff will be particularly observant of this area during the reclamation and proof rolling process, as it may require additional subgrade corrections.

The proposed improvements should have a service life of approximately 60-years, assuming maintenance such as overlays, crack sealing and seal coating is routinely performed.

#### ***4.1.4 Other Considerations***

##### *Driveways:*

Existing driveway aprons may need to be reconstructed to varying degrees. The limits of construction will vary with each driveway apron based on the elevation of the street abutting the driveway and 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 will be obtained from private property owners where work is required outside City right-of-ways and easements.

##### *Irrigation Systems:*

Developed properties along the project corridor may have private irrigation systems. Staff will notify property owners of pending construction as far in advance as practical to allow them time to move their irrigation systems out of harm's way before work begins.

##### *Parking Restrictions:*

Parking is currently provided along both sides of the streets and is not currently restricted except for overnight parking per City code. During this project, parking will be restricted during allowable working hours.

##### *Pavement Corings:*

Existing pavement thicknesses have been found to be inconsistent throughout the City. It is now standard practice to have City Staff on-site during pavement installation to insure the proper quantities are being placed. As further conformation, Staff is proposing to collect

GPR data or to have pavement corings taken at the conclusion of all reconstruction projects. This is already a requirement on all State Aid projects, and will leave more data on the pavement section for future street maintenance projects.

#### **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 Method**

The existing bituminous pavement section will be reconstructed using the FDR process 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 as street reconstruction projects are exempt.

#### **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 required right of entries on a case by case basis.

## 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 2019 construction costs for the proposed improvements with 5-percent contingency costs, plus 23-percent indirect costs for administrative, engineering, financing and legal costs.

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

NTI prepared the Geotechnical Exploration and Engineering Review, included in *Appendix C*, at a cost of \$3,950.00.

### 5.2 Funding

#### 5.2.1 Assessments

A portion of the project costs is proposed to be recovered through special assessments levied against the 59 identified benefiting properties; 14 along 146<sup>th</sup> Avenue, 19 along Helium Street, and 26 along Krypton Street. Assessments are proposed to be collected for eligible improvements benefiting residential properties with direct access to the improved segments of Wood Pond Hills and Chestnut Ridge as described below. A preliminary assessment summary is included below in *Table 1*.

#### Residential Assessments:

Special assessments are proposed to be levied against residential properties having direct access to improved streets. To be consistent with previous applications of the Special Assessments Policy, each residential property is proposed to be assessed using the "per lot" method.

Each residential property is preliminarily proposed to be assessed at the rate of \$1,303.70 per lot. Since State Statute and the City Charter do not allow for assessments to exceed the benefit to the property, Staff requests Council authorization to order a benefit appraisal consultation for this project in accordance with the City's Special Assessment Policy.

The Preliminary Assessment Map and Roll are included in *Appendix B*.

**TABLE 1**  
**Proposed Preliminary Assessments – 146<sup>th</sup> Avenue, Helium Street, and Krypton Street**

<b>STREET SEGMENT</b>	<b>ASSESSMENT PER LOT</b>	<b>No. OF LOTS</b>	<b>TOTAL ASSESSMENTS</b>
146 <sup>th</sup> Avenue	\$1,303.70	14	\$18,251.80
Helium Street	\$1,303.70	19	\$24,770.30
Krypton Street	\$1,303.70	26	\$33,896.20
<b>TOTAL PROJECT ASSESSMENTS</b>			<b>\$76,918.30</b>

**5.2.2 City Contribution**

The City contribution to the project would include all funding in excess of the amount collected through special assessments to benefiting properties. 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.

*Table 2* illustrates the proposed project funding based on the design proposed within this report. This funding program assumes construction will occur in 2019.

**TABLE 2**  
**Proposed Project Funding**

	<b>ASSESSMENTS</b>	<b>CITY FUNDS</b>	<b>TOTAL</b>
<b>Surface</b>	\$ 75,673.40	\$ 291,590.84	\$ 367,264.24
<b>Storm Sewer</b>	\$ 1,244.90	\$ 3,727.38	\$ 4,972.28
<b>TOTAL</b>	\$ 76,918.30	\$ 295,318.22	\$ 372,236.52

<b>Total Project Cost</b>		<b>\$ 372,236.52</b>
Less Special Assessments	-	\$ 76,918.30
<b>Subtotal</b>	<b>=</b>	<b>\$ 295,318.22</b>
Less City Bonding Funds	-	\$ 291,590.84
<b>Subtotal</b>	<b>=</b>	<b>\$ 3,727.38</b>
Less Stormwater Utility Funds	-	\$ 3,727.38
<b>TOTAL Remaining Cost</b>	<b>=</b>	<b>\$ 0</b>

**6. PROJECT SCHEDULE**

The proposed project schedule is as follows:

Council Orders Feasibility Report .....	August 28, 2018
Council Accepts Feasibility Report / Orders Public Hearing .....	October 23, 2018
Staff Conducts Neighborhood Information Meeting .....	November 7, 2018
Staff Publishes Notices of Public Hearing .....	October 26, November 2, 2018
Council Conducts Public Hearing / Authorizes Plans and Specifications .....	November 13, 2018
Staff Conducts Private Utility Coordination Meeting .....	December, 2018
Council Approves Plans and Specifications / Authorizes Ad for Bids.....	January 22, 2019
Staff Receives Bids .....	February 20, 2019
Council Awards Contract.....	February 26, 2019
Contractor Begins Construction.....	May, 2019
Contractor Completes Construction.....	August 16, 2019
Council Orders Assessment Hearing .....	September 10, 2019
Council Conducts Assessment Hearing .....	October 8, 2019

## 7. CONCLUSIONS AND RECOMMENDATIONS

City of Ramsey Improvement Project No. 19-03 proposes to reconstruct the existing bituminous pavement, remove and replace damaged concrete curb and gutter, and complete miscellaneous appurtenant work on the following street segments within the Wood Pond Hills and Chestnut Ridge residential subdivisions:

1. 146<sup>th</sup> Avenue (approx. 1160 linear feet) – Nowthen Boulevard to Junkite Street.
2. Helium Street (approx. 855 linear feet) – Sunwood Drive to 146<sup>th</sup> Avenue.
3. Krypton Street (approx. 1300 linear feet) – Sunwood Drive to south cul-de-sac.

It is the recommendation of City Staff that City Project No. 19-03 is feasible, necessary, and cost-effective from an engineering standpoint, and this project would best be constructed as a stand-alone project as proposed herein.

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

1. Reconstruct the existing bituminous pavement using full-depth reclamation process, meeting the City's standard residential pavement section of 4-inches aggregate base class 5 (or reclaim), 2-inches new bituminous base course, and 1 ½- inches new bituminous wear course.
2. Staff recommends excluding private irrigation system work from this project. Instead, Staff will notify property owners of pending construction as far in advance as possible, and instruct them to relocate their irrigation system(s) away from the construction area during construction, then allow replacement in or near the original location after construction is complete.
3. Staff recommends holding a neighborhood information meeting on November 7, 2018 to inform property owners of the proposed improvements and to gather their input prior to competing plans and specifications and requesting Council approval to advertise for bids as outlined in the project schedule.
4. Order an assessment appraisal consultation to ensure special assessments do not exceed the benefit received as a result of the improvements.

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

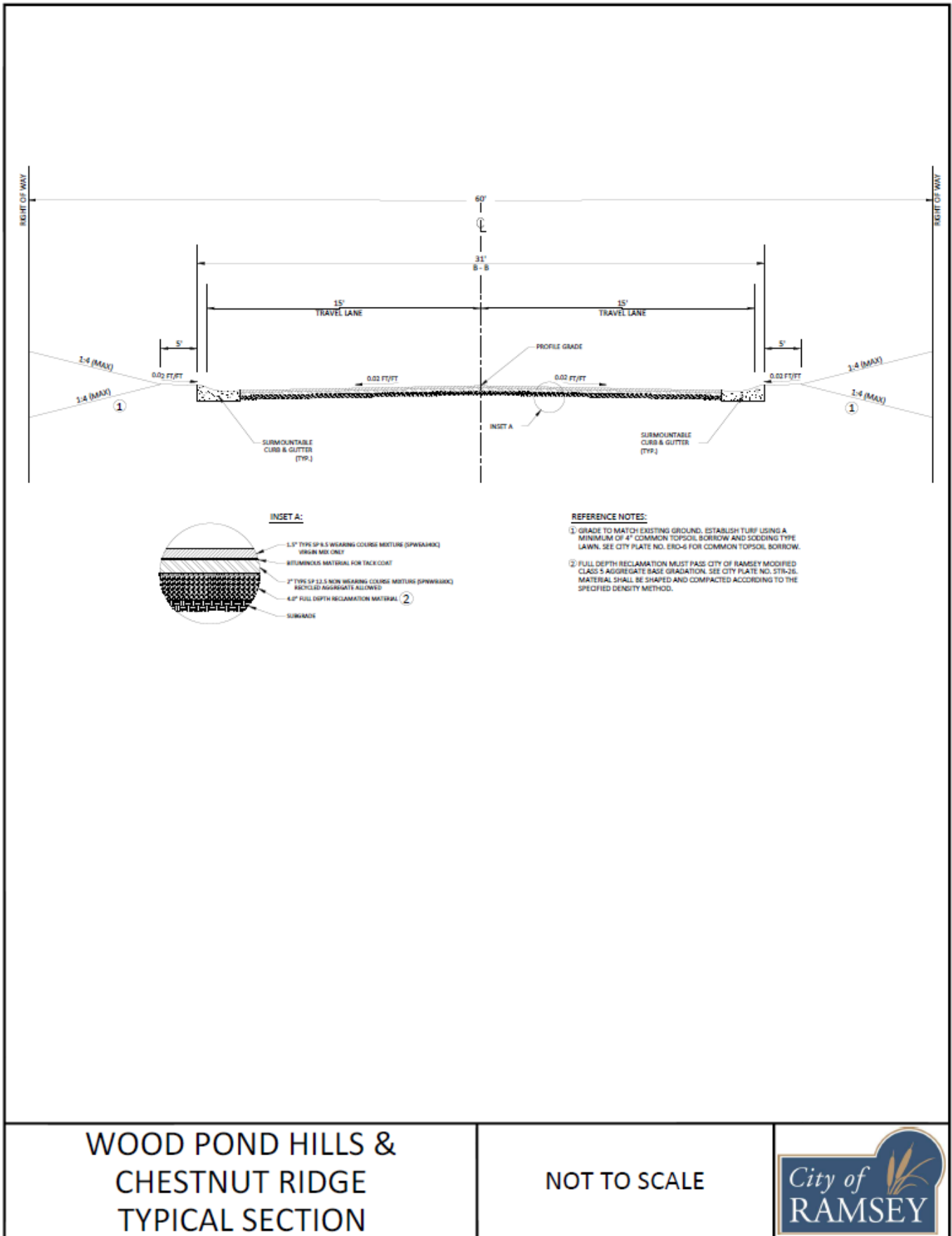
1. Accept the preliminary residential special assessment rate of \$1,303.70 per lot.
2. Authorize an assessment appraisal consultation to ensure all special assessments are commensurate with benefit received from the proposed improvements.
3. Adopt Resolution #18-221 accepting this Feasibility Report and ordering the Public Hearing for November 13, 2018.

## APPENDIX A

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



FIGURE 1



**FIGURE 2**

## **PROJECT SITE PICTURES**



**Picture 1: Krypton Street from Sunwood Drive**



**Picture 2: Krypton Street mid-block facing south**



**Picture 3: Helium Street from Sunwood Drive**



**Picture 4: Helium Street from 146<sup>th</sup> Avenue**



**Picture 5: 146<sup>th</sup> Avenue from Helium Street, facing west**



**Picture 5: 146<sup>th</sup> Avenue valley gutter at Helium Court**

## **APPENDIX B**

### **Opinion of Probable Costs (Preliminary Engineer's Estimate) Preliminary Assessment Map Preliminary Assessment Roll**

## 19-03 WOOD POND HILLS & CHESTNUT RIDGE STREET RECONSTRUCTIONS

### Preliminary Engineer's Estimate

#### *Street Construction*

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$ 9,000.00	\$ 9,000.00
2	Remove Concrete Curb and Gutter	LF	750	\$ 6.00	\$ 4,500.00
3	Remove Concrete Pavement – Driveways	SF	80	\$ 3.50	\$ 280.00
4	Remove Bituminous Pavement – Driveways	SY	45	\$ 8.00	\$ 360.00
5	Remove Bituminous Pavement	SY	25	\$ 8.00	\$ 200.00
6	Remove Concrete Valley Gutter	SY	18	\$ 20.00	\$ 360.00
7	Sawing Concrete Pavement – Full Depth	LF	200	\$ 4.00	\$ 800.00
8	Sawing Bituminous Pavement – Full Depth	LF	300	\$ 2.50	\$ 750.00
9	Common Excavation (EV)	CY	20	\$ 32.00	\$ 640.00
10	Subgrade Preparation	RDST	33	\$ 200.00	\$ 6,600.00
11	Subgrade Corrections	LS	1	\$ 50,000.00	\$ 50,000.00
12	Water	MGAL	50	\$ 35.00	\$ 1,750.00
13	Bituminous Pavement Reclamation (Full Depth)	SY	10,286	\$ 1.50	\$ 15,429.00
14	Mill Bituminous Pavement (2' width x 1.5" depth)	SY	60	\$ 15.00	\$ 900.00
15	Curing Compound for Existing Concrete Curb and Gutter	LF	5,782	\$ 1.15	\$ 6,649.30
16	Haul and Dispose Bit Pavement Reclamation (LV)	CY	1,200	\$ 10.00	\$ 12,000.00
17	Bituminous Material for Tack Coat	GAL	720	\$ 2.50	\$ 1,800.00
18	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (1.5")	TON	849	\$ 68.00	\$ 57,732.00
19	Type SP 12.5 Non-Wearing Course Mixture (SPNWB330C) (2.0")	TON	1,132	\$ 60.00	\$ 67,920.00
20	Type SP 9.5 Wearing Course Mixture (SPWEA340C) Driveways (2.0")	TON	5	\$ 68.00	\$ 340.00
21	Adjust Valve Box	EA	10	\$ 250.00	\$ 2,500.00
22	Replace Broken Valve Box	EA	5	\$ 250.00	\$ 1,250.00
23	Adjust Frame and Ring Casting	EA	15	\$ 550.00	\$ 8,250.00
24	Concrete Curb & Gutter Design Surmountable	LF	650	\$ 25.00	\$ 16,250.00
25	Concrete Curb & Gutter Design B618	LF	100	\$ 25.00	\$ 2,500.00
26	6" Concrete Driveway Pavement	SY	9	\$ 55.00	\$ 495.00
27	7" Concrete Valley Gutter	SY	33	\$ 85.00	\$ 2,805.00
28	Landscape Restoration	LS	1	\$ 1,500.00	\$ 1,500.00
29	Traffic Control	LS	1	\$ 2,000.00	\$ 2,000.00
30	Storm Drain Inlet Protection	EA	13	\$ 200.00	\$ 2,600.00
31	Common Topsoil Borrow (LV)	CY	23	\$ 50.00	\$ 1,150.00
32	Sodding Type Lawn	SY	170	\$ 18.00	\$ 3,060.00
<i>Total Street Construction Cost</i>					\$ 284,370.30
<i>5% Contingency Cost</i>					\$ 14,218.52
<i>23% Indirect Cost</i>					\$ 68,675.43
<i>Total Street Project Cost</i>					\$ 367,264.24

<i>Storm Sewer Construction</i>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Unit Cost</b>	<b>Cost Extension</b>
1	Grout Catch Basin	EA	11	\$ 350.00	\$ 3,850.00
<i>Total Storm Sewer Construction Cost</i>					\$ 3,850.00
<i>5% Contingency Cost</i>					\$ 192.50
<i>23% Indirect Cost</i>					\$ 929.78
<i>Total Storm Sewer Project Cost</i>					\$ 4,972.28
<b>Total Estimated Project Cost</b>					<b>\$ 372,236.52</b>



**PRELIMINARY ASSESSMENT ROLL – 19-03 WOOD POND HILLS & CHESTNUT RIDGE STREET RECONSTRUCTIONS**

<b>PID</b>	<b>NAME / OWNER</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>	<b>ASSESSABLE UNITS</b>	<b>PROPOSED ASSESSMENT</b>
253225220005	PRASKE TERESA	14729 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225220006	CASEY CHRISTINE	14715 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225220007	AUSPOS MICHAEL	14701 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225220008	DZANIC NURIJA	14685 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230008	AKENSON ANGELA	14671 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230009	SOLEM JAY	14657 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230010	POPEJOY JEREMY	14643 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230011	WILEY STEVEN	14629 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230012	KYLAS LLC	14615 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230013	2015-3 IH2 BORROWER LP	14601 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230014	MASSA STEVEN	14670 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230015	LUSSIER ANGELA	14656 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230016	SOLTIS JAY & KONOP KAREN	14642 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230017	HUNTER DAVID S & ALENA M	14628 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230018	COOLEY STEVEN A	14614 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230019	DINWIDDIE JONATHAN	14600 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230030	JOHNSON CARTER	5581 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230031	CAPPS RONNEY L & CAROLANN	5571 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
253225230054	BAKKEN GRANT	5560 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225110019	HUSPEK JASON	14714 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225110020	ABUMAYALEH YOUSEF	14700 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130021	LI HUI SHEN & YING	14602 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130022	HOVAN JOHN J & LINDA F TRUSTEE	14588 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130023	RE0046814 PAUL	14574 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130024	MOBERG JULIE	14560 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130025	SWINNEY ADAM	14546 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130026	THOMAS SCOTT G & LISA M	14532 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130027	RINGOLD JAMES B & JEAN K	14531 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130028	REINERT MICHAEL	14545 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130029	ALTRINGER BARBARA	14559 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130030	JANISCH TODD	14573 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225130031	ROBINSON HOLLIE	14587 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140002	HAWKINS JOHN	14684 HELIUM ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140003	CANTU RAUL & CAROL J	14671 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140004	HOLST CRISTON K & ANN C	14685 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70

PID	NAME / OWNER	ADDRESS	CITY	STATE	ZIP	ASSESSABLE UNITS	PROPOSED ASSESSMENT
263225140005	COUILLARD BRADLEY	14701 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140006	MOLER RICHARD P & CAROL J	14715 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140007	KOSMECKI DAVID	14729 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140008	FREDRICK DAVID J & MICHELLE L	14615 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140009	ONEILL BRETT J & PATRICIA K	14629 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140010	LABONNE JOSEPH T & ANNETTE	14643 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140011	STONE GREGORY A & TINA H	14642 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140012	FRIESE KELLI	14670 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140013	ROBERTS EARL F & MOLLY H	14684 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140014	PRZYBILLA THOMAS U	14700 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140015	SEELEY ANGELA	14714 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140016	RAMSEY CITY OF		RAMSEY	MN	55303	1	\$ 1,303.70
263225140048	LANTIS LANE	5681 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140049	GULINO EMILY	5671 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140050	OSTENSO KENNETH J & MICHELLE	5651 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140051	MANSAVAGE ERIN	5641 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140052	WHITSTONE CHRISTOPHER	5631 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140053	JACHYMOWSKI BRIAN	5621 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140054	REEDER CHRISTINA	5601 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140066	WERDER JONATHAN	14601 KRYPTON ST NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140080	HUTH JEFFREY	5680 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140081	SCHROECK TRUSTEE JASON & SCHROECK TRUSTEE SARA	5670 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140082	WOLFF DAVID	5650 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
263225140086	ERLANDSON MANDY C & BRIAN	5640 146 <sup>TH</sup> AVE NW	RAMSEY	MN	55303	1	\$ 1,303.70
<b>TOTALS</b>						<b>59</b>	<b>\$ 76,918.30</b>

## **APPENDIX C**

### **Street Segment Summary Ground Penetrating Radar (GPR) Results Geotechnical Exploration and Engineering Review**

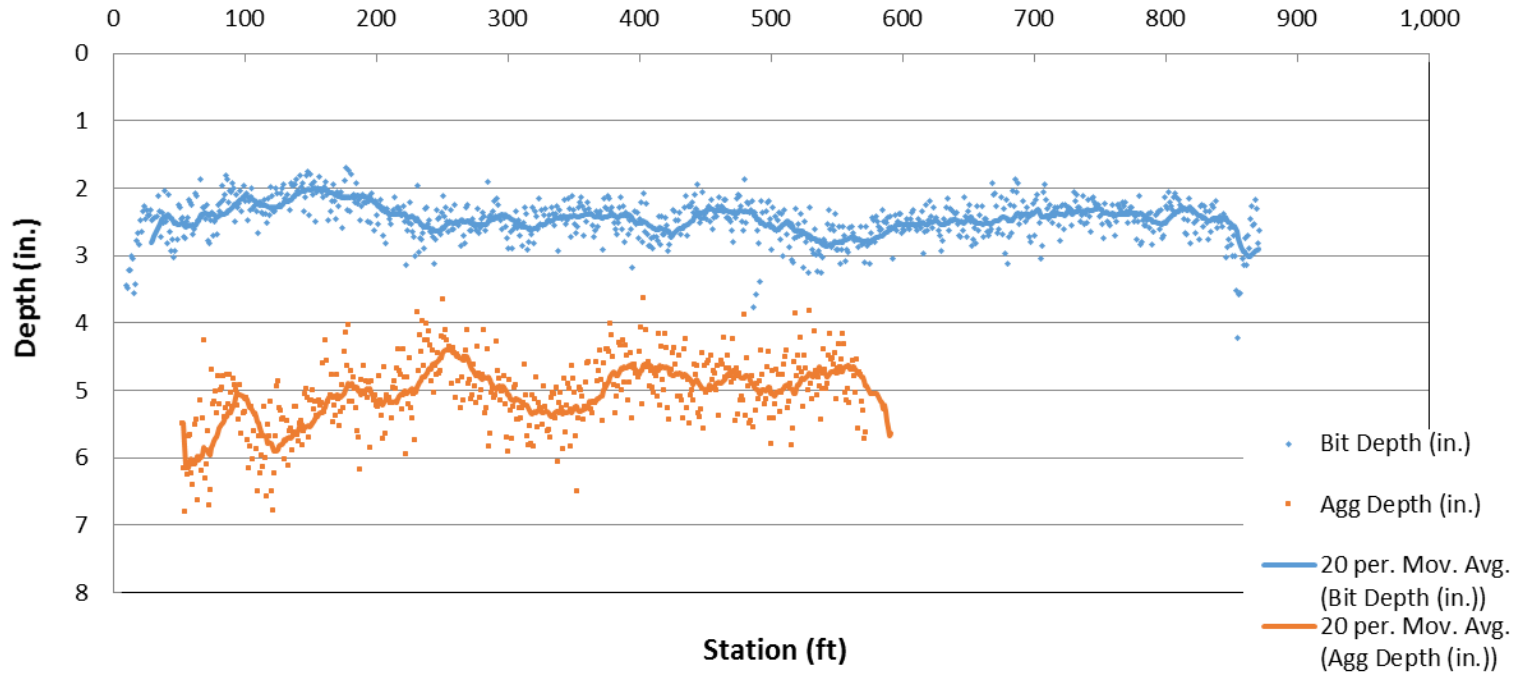
### STREET SEGMENT SUMMARY

Street	Segment Description	Length	Width	Curb	2018 Rating	Year Built	Maint. 1	Maint. 2
146 <sup>th</sup> Avenue	Nowthen Boulevard / Junkite Street	1,158	31	Concrete	4	1992 / 1993	SC 1 1998	SC 2 2005
Helium Street	Sunwood Drive / 146 <sup>th</sup> Avenue	855	31	Concrete	4	1992	SC 1 1998	SC 2 2005
Krypton Street	Sunwood Drive / CDS	1,297	31	Concrete	3 / 5	1992 / 1994	SC 1 1998	SC 2 2005

### Wood Pond Hills & Chestnut Ridge Estates GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Med	Min	Max	Med	Med	Min	Location
146th Avenue	CSAH 5 / Junkite Street	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	* GPR Data was not able to be obtained for 146th Ave.
Helium Street	Sunwood Drive / 146th Avenue	1.7	4.2	2.4	1.3	4.4	2.6	5.0	3.6	403 feet south of Sunwood Drive
Krypton Street	Sunwood Drive / CDS	1.6	5.0	2.5	3.8	8.4	5.6	7.8	6.0	1,100 feet south of Sunwood Drive
<i>Project Summary</i>		<i>1.6</i>	<i>5.0</i>	<i>2.5</i>	<i>1.3</i>	<i>8.4</i>	<i>4.1</i>	<i>6.5</i>	<i>3.6</i>	<i>Helium Street; 403 feet south of Sunwood Drive.</i>

# GPR Data (Helium Street: Sunwood Drive to 146th Avenue)



# GPR Data (Helium Street: Sunwood Drive to 146th Avenue)

