

CYPRESS DRIVE AND DOUGLAS FIR DRIVE IMPROVEMENTS

MUNICIPAL PROJECT NO. 4087

FEASIBILITY REPORT

Council Approval Date: April 19, 2022

Prepared for
City of Baxter

WSN No. 2021-12141

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I hereby certify that this 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.



Aric Welch
Professional Engineer

41983
License Number

April 19, 2022
Date

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STATEMENT OF PURPOSE

The Project Area is located in the Baxter Industrial Park along Cypress Drive and Douglas Fir Drive. The roadway segments involved with this project, along with a brief description of the proposed improvements are as follows:

- Cypress Drive (Hinckley Road to 350' south of College Road): full depth reclamation, curb and gutter replacement, new trail construction, and existing parking lot modifications.
- Cypress Drive (Highland Scenic Road to Hinckley Road): roadway, trail, storm sewer, sanitary sewer, and water distribution system construction.
- Douglas Fir Drive (340' south of Hinckley Road to Hinckley Road): roadway, trail, storm sewer water distribution system construction.
- Existing 4-Plex Apartment Units Sanitary Sewer Extension: sanitary sewer construction.
- Berrywood Drive Trail Extension (Cypress Drive and Hinckley Road Intersection to Berrywood Park): trail construction.
- CSAH 48 / Cypress Drive Intersection (620' west of Cypress Drive to 430' east of Cypress Drive): roadway, roundabout intersection, storm sewer and trail construction.

The proposed roadway improvements are an integral part of Baxter's long-range transportation plan of providing a north-south local route from CSAH 49 on the north to CSAH 48 on the south, that can be used as an alternate route to T.H. 371. The planned route extends through the Baxter Industrial Park, providing additional accesses for the industrial and commercial vehicles servicing the area.

The project was last studied in 2019. The report titled "Cypress Drive Extension, Municipal Project No. 4087" was completed by Widseth Smith Nolting and approved by the Council on July 2, 2019. In 2021, the City was approached by a developer looking to construct five 50-unit apartment buildings along the south side of Hinckley Road between Cypress Drive and south along the future extension of Cypress Drive to Highland Scenic Road (CSAH 48). This prompted the City to review the necessary improvements and revise the report completed in 2019.

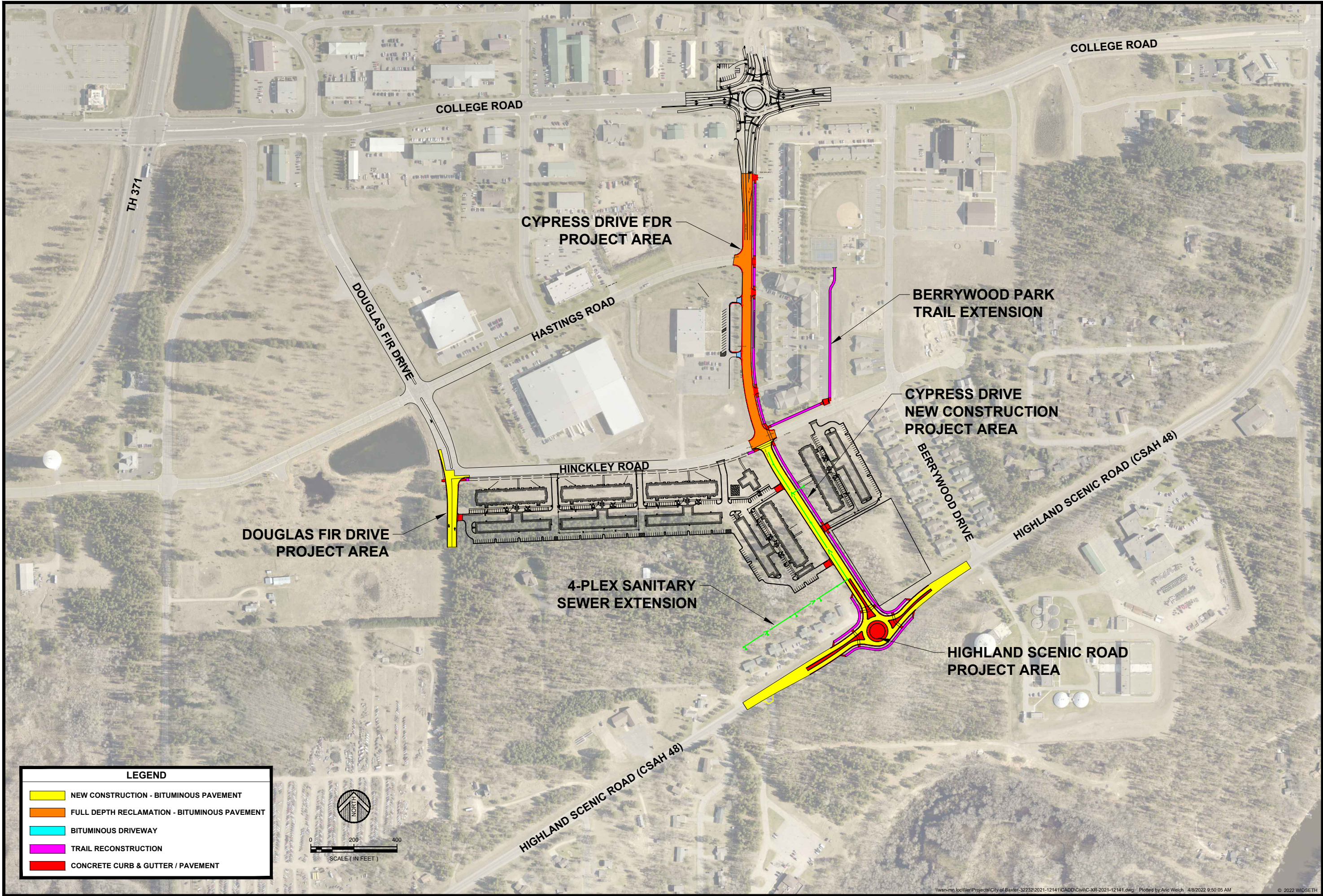
SEH completed a Traffic Impact Study for the proposed Campbell Subdivision consisting of five 50-unit apartment buildings. The Study was presented in a Technical Memorandum dated December 13, 2021. A copy of the Memorandum is included in Appendix D. The Study focused

on the traffic impact of the proposed Subdivision on Cypress Drive, CSAH 48, and Hinckley Road. Traffic operations analyses were completed for existing conditions and future build out. Recommendations in the Study are summarized as follows:

- If the Campbell Subdivision is constructed, Cypress Drive should be extended to CSAH 48.
- Cypress Drive extension to CSAH 48 should be constructed as a 3-lane roadway with continuous two-way left turn lane and 10' multi-use trail on the east side of the road.
- Cypress Drive between Hinckley Road and College Road should be striped as a 3-lane road with continuous left turn lane.
- A single lane roundabout at the intersection of CSAH 48 and Cypress Drive is expected to operate acceptably.
- The three access points proposed with the Campbell Subdivision on Cypress Drive are acceptable.
- The two access points proposed with the Campbell Subdivision on Douglas Fir should be consolidated into one access.

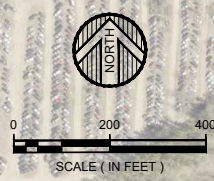
The purpose of this Report is to review the feasibility of completing the improvements described above. The Report was completed by WIDSETH with the assistance of SEH. This Report will review existing conditions, propose feasible improvements, estimate project costs, discuss project implementation, and present conclusions and recommendations for the Project Area.

The Project Area is shown in Figure 1 on page 3.



LEGEND

- NEW CONSTRUCTION - BITUMINOUS PAVEMENT
- FULL DEPTH RECLAMATION - BITUMINOUS PAVEMENT
- BITUMINOUS DRIVEWAY
- TRAIL RECONSTRUCTION
- CONCRETE CURB & GUTTER / PAVEMENT



WIDSETH
ARCHITECTS • ENGINEERS • SCIENTISTS • SURVEYORS

DATE: APRIL 2022	SCALE: AS SHOWN	DRAWN BY: ADB	CHECKED BY: ALW	JOB NUMBER: 2021-12141	PROJECT AREA
REVISIONS:	DESCRIPTION:	DATE:	REV:	BY:	
<small>THIS REPORT AND THE DATA HEREON ARE THE PROPERTY OF WIDSETH ARCHITECTS, ENGINEERS, SCIENTISTS & SURVEYORS. NO PART OF THIS REPORT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF WIDSETH ARCHITECTS, ENGINEERS, SCIENTISTS & SURVEYORS. THIS REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</small>					
					<small>DATE: --- LIC. NO. 41883 ARIC L. WELCH</small>

FIG 1

SHEET NO. 1 OF ###

\\wan-mn-l0c\file\Projects\City of Baxter\32232\2021-12141\CADD\Civil\XR-2021-12141.dwg Plotted by Aric Welch 4/8/2022 9:50:05 AM © 2022 WIDSETH

EXISTING CONDITIONS

Zoning and Land Use:

Between College Road and Hinckley Road the zoning west of Cypress Drive is Industrial Office (I) and the zoning east of Cypress Drive is High Density Residential (R-3). All property south of Hinckley Road is zoned R-3, with one tier of Medium Density Residential (R-2) along the north side of Highland Scenic Road (CSAH 48). South of CSAH 48 the property is zoned Public Benefit to accommodate the wastewater treatment facility.

Zoning along the proposed Douglas Fir Drive southerly extension is Industrial Office to the west and R-3 High Density Residential to the east.

Development along Cypress Drive consists of several multi-family apartment buildings on the east side of Cypress and industrial (The Tee Hive) on the west side. Duplex residential parcels (Highland Scenic Apartments) are located on the south end of the Project Area, north of CSAH 48. Remaining properties along the Project Area are currently undeveloped.

The property adjacent to the proposed Douglas Fir Drive extension is currently undeveloped. The City is currently reviewing plans for five 50-unit apartment buildings to be located along the south side of Hinckley Road from Douglas Fir Drive to Cypress Drive and along both sides of Cypress Drive from Hinckley Road to CSAH 48.

Right-of-Way Corridors:

The Cypress Drive right-of-way corridor, from College Road to the north is 120' in width. The corridor south of College Road tapers from 120' wide to 100' wide and continues at 100' wide to the Hinckley Road intersection. The original 80' wide right-of-way corridor was expanded to the west with the acquisition of 20' of additional property.

The Douglas Fir Drive right-of-way corridor, north of Hinckley Road, is 100' wide.

No right-of-way corridor currently exists on Cypress Drive from Hinckley Road south to CSAH 48, or on Douglas Fir Drive south of Hinckley Road.

CSAH 48 located on the south end of the Project Area is within a 120' wide right-of-way

corridor. The City purchased the property for the roundabout on the south side of CSAH 48 from Brainerd Public Utilities (BPU) in 2020.

Roadways and Pedestrian Routes

Cypress Drive, between College Road and Hinckley Road, is currently a 44' wide face-to-face, bituminous-surfaced, undivided urban roadway with curb / gutter and storm sewer. The roadway was originally constructed in 2001 as part of the "Industrial Park Improvements – Phase 3" Project. The roadway is constructed with 5" of Class 5 aggregate base and 3.5" of bituminous. This roadway section does not meet the current City standard for a 10-ton roadway. In 2019, the roadway was given a PASER Rating of 6, meaning that the roadway was in fair condition with some lateral and transverse cracking of the bituminous. As roadways reach the 20-year mark, the roadway condition and PASER rating drops off sharply. It is likely the current PASER rating is a 4 or 5. Cypress Drive pavement condition is scheduled to be reviewed for the pavement management plan update in the spring of 2022.

Cypress Drive, north of the Project Area, was restructured and widened in 2019. The roadway was reconstructed to a 75' wide, face-to-face, 4-lane urban roadway with curb / gutter and storm sewer. Improvements included the construction of a roundabout at the College Road intersection. The south leg of the new roundabout tapers from the full 75' width to match the existing 44' wide roadway.

Douglas Fir Drive north of Hinckley Road is currently a 76' wide face-to-face, bituminous surfaced, divided urban roadway with curb / gutter and storm sewer. The roadway was originally constructed in 2001 as part of the "Industrial Park Improvements – Phase 3" project. The roadway is constructed with 5" of Class 5 aggregate base and 3.5" of bituminous. The roadway section does not meet the current City standard for a 10-ton roadway. In 2019, the roadway was given a PASER Rating of 6, meaning the roadway was in fair condition with some lateral and transverse cracking of the bituminous. Similar to Cypress Drive, Douglas Fir Drive is now 21 years old and is estimated to have a PASER rater of 4 or 5.

Highland Scenic Road (CSAH 48) on the south end of the project is approximately 40' in width with a 12' bituminous-surfaced travel lanes and 8' bituminous-surfaced shoulders. The road is under the jurisdiction of Crow Wing County. The roadway was overlaid by the County in 2017 and no problems with the existing roadway are known.

In 2019 a 10' bituminous-surfaced, multi-use trail was constructed along the east side of Cypress Drive from the roundabout to 350' south. To accommodate connection to the Paul Bunyan Trail located along College Road, all quadrants of the new roundabout have bituminous-surfaced trails. There are no designated pedestrian routes south of this termination point on Cypress Drive.

Municipal Drainage and Storm Sewer

Roadway drainage in the Project Area is handled by two storm sewer networks. Storm water north of Hastings Road is collected in drainage basins and conveyed northerly through a storm sewer network below the east curb line of the roadway to College Road where it is conveyed westerly to a regional pond. Municipal storm water south of Hastings Road is collected in drainage basins and conveyed southerly through 18-inch and 21-inch RC pipes below the west curb line of the roadway to Hinckley Road, where it is conveyed westerly to a regional pond. These storm sewer networks were installed with the original project in 2001. Two small private drainage areas from the Cypress Drive Apartments accesses also channel storm water into this network with connections at a drainage basin on the east side of the roadway and on the north side of Hinckley Road. No problems with the existing storm drainage system in the Project Area are known.

The Berrywood Drive Stormwater Management Plan was updated recently to reflect current conditions, impervious surface coverage and updated 100-year rainfall based on NOAA Atlas 14 Point Precipitation Frequency Estimates. The analysis indicated the existing basin located east of future Cypress Drive corridor and north of CSAH 48 has capacity only for the existing development in the Project Area, and the drainage from the proposed Cypress Drive extension and CSAH 48 roundabout. Any additional contributions will require expansion of the basin. The basin is proposed to be expanded towards Cypress Drive to accommodate the additional flows from the Campbell Subdivision.

Municipal Sanitary Sewer Collection System

Municipal sanitary sewer collection piping is currently located in the Cypress Drive corridor from College Road to Hinckley Road and was installed with the original construction in 2001. Eight-inch (8") PVC piping currently conveys sewage via gravity in a southerly direction to the Hinckley Road intersection. Eight-inch (8") PVC piping also conveys sewer by gravity in an

easterly direction from Douglas Fir Drive to Hinckley Road. It is then conveyed by gravity in an easterly direction to Berrywood Drive through a ten-inch (10") pipe. A ten-inch (10") PVC stub extends south at Douglas Fir Drive and an eight-inch (8") stub extends south from Hinckley Road at Cypress Drive to accommodate future extensions. Manholes and service connections are currently in place. No problems or needs associated with the existing sanitary sewer collection system are known in the Project Area. No sanitary sewer collection piping currently exists along the Cypress Drive or Douglas Fir Drive corridor, south of Hinckley Road.

Municipal Water Distribution System

Municipal water distribution piping is currently located along the developed portions of Cypress Drive, Douglas Fir Drive and Hinckley Road and was installed with the original construction in 2001. Twelve-inch (12") C-900 piping is currently installed along Cypress Drive and Douglas Fir Drive. Ten-inch (10") C-900 piping is currently installed along Hinckley Road. Twelve-inch (12") C-900 watermain is stubbed south of Hinckley Road at Cypress Drive and Douglas Fir Drive for future extension. Hydrants are appropriately spaced throughout the Project Area and service connections are currently in place. No problems or needs associated with the existing municipal water distribution system are known in the Project Area. No municipal water distribution piping currently exists along the Cypress Drive or Douglas Fir Drive corridor, south of Hinckley Road.

Water service was provided along the north side of CSAH 48 as part of the North Forestview Project. Twelve-inch (12") watermain was extended through the Project Area and service was provided to the 4-plexes located just west of the proposed Cypress Drive extension.

The existing conditions in the Project Area are shown in Figures 2, 3 and 4 in the Appendix A.

PROPOSED IMPROVEMENTS

Roadways and Pedestrian Routes

Originally, Cypress Drive was planned to be a 4-lane urban roadway with a continuous two-way left turn lane to match was constructed on Cypress Drive north of College Road in 2019. With the proposed Campbell Subdivision consisting of five 50-unit apartment building (250 total apartment units), the City engaged SEH to complete a Traffic Impact Study for the development. The Study focused on the traffic impact of the proposed subdivision on Cypress Drive, CSAH 48, and Hinckley Road. Traffic operation analyses were completed for existing conditions and future build out. Recommendations in the Study are summarized as follows:

- If the Campbell Subdivision is construction, Cypress Drive should be extended to CSAH 48.
- Cypress Drive extension to CSAH 48 should be constructed as a 3-lane roadway with continuous two-way left turn lane and 10' multi-use trail on the east side of the road.
- Cypress Drive between Hinckley Road and College Road should be striped as a 3-lane road with continuous left turn lane.
- A single lane roundabout at the intersection of CSAH 48 and Cypress Drive is expected to operate acceptably.
- The three access points proposed with the Campbell Subdivision on Cypress Drive are acceptable.
- The two access points proposed with the Campbell Subdivision on Douglas Fir should consolidated into one access.

A copy of the Traffic Impact Study is included in the Appendix D.

Based upon the Traffic Impact Study, Cypress Drive between Hinckley Road and College Road is proposed to remain a 44' wide roadway. Since no roadway widening is planned, reconstruction is proposed using full depth reclamation. The benefits of the FDR process include the reduction of reflective cracking, longer pavement life (typically 20 years with proper maintenance), improved ride, reduced maintenance costs, and a 10-ton design strength roadway, meeting City requirements. FDR uses a self-propelled pulverizing machine to grind the entire pavement section and a portion of the underlying gravel base material in place. This process destroys all existing pavement cracks and homogenizes the material into a useable aggregate base platform onto which to pave a new bituminous surface.

FDR of the top 12" of the pavement and base section will be completed in two passes. After FDR is complete, 6" of material will be removed leaving a 6" reclaimed base. The reclaimed base will be compacted and 6" of bituminous will be constructed in three (3) separate lifts. This structural section will match pavement sections that have been constructed on previous FDR projects.

One hundred percent (100%) curb and gutter and concrete pavement/valley gutter replacement is proposed. Analysis indicates that when more than 50% of the curb and gutter requires replacement, it is more economical to remove and replace all curb and gutter versus selective removal and replacement. A review of the existing curb and gutter indicates approximately 70% of the existing curb and gutter is in need of replacement.

Lane configurations will be modified, and the roadway will be marked for two through lanes with a continuous two-way left turn lane.

A new 44' wide urban roadway section is proposed along Cypress Drive south of Hinckley Road to CSAH 48. The roadway will be marked for two through lanes with a continuous two-way left turn lane. Driveways will be coordinated with adjacent development and will be constructed to the right-of-way. This section of Cypress Drive will be located in a 120' wide right-of-way corridor being dedicated to the City as part of the subdivision plat for the adjacent apartment building complex. The roadway will be offset to the east in the right-of-way corridor to allow expansion of the roadway to the west to accommodate a five-lane roadway if warranted in the future.

A 44' wide urban roadway is also proposed along the southerly extension of Douglas Fir Drive. The roadway will be tapered from the existing 76' wide section to the new 44' wide section through the intersection. This will require reconstruction of approximately 150' of existing curb and gutter along the west side of the roadway north of Hinckley Road. Pavement markings will also need to be modified in the south bound direction between Hastings Road and Hinckley Road to taper from the existing two lanes to one prior to the Hinckley Road intersection. Driveways will be coordinated with adjacent development and will be constructed to the right-of-way.

The proposed section of the new roadway will be 10-ton design strength, consisting of 6" of bituminous surfacing over 6" of aggregate base.

A roundabout is proposed at the intersection of CSAH 48 and Cypress Drive. The roundabout and approaches will have one lane. The approach lanes will have a minimum width of 18' from face of curb to face of curb as required by Crow Wing County for maintenance purposes. The roundabout will require purchase of additional property in the northwest corner of the intersection. Estimated costs for the appraisal and property purchase have been included in the cost estimate. Pedestrian crossings are provided at each leg of the roundabout. The pedestrian crossings tie the intersection into the trail located along the east side of Cypress Drive. Bicycle pull-offs are also located on each leg of the intersection that tie into the trail system.

With construction of a roundabout at the CSAH 48 intersection, it is proposed to remove the easterly access to the 4-plexes located along CSAH 48. Access to the two properties containing the 4-plexes will be limited to the existing westerly access on CSAH 48. The original study completed in 2018 showed an access in the northeast corner of the parcel located along Cypress Drive. This access was reviewed but was not recommended for the following reasons:

- The access would need to be limited to a right-in / right-out which does not provide much benefit for the property
- Construction of a right-in / right-out access would require the extension of the median north along Cypress Drive which would interfere with the turn lane into the large apartment building complex proposed along the west side of Cypress Drive.

The City purchased property from the west side of Cypress Drive between Hinckley Road and Hastings Road to accommodate the future 5-lane roadway section. As part of this purchase, the City agreed to reconfigure the parking area located along the east side of The Tee Hive to meet setbacks from the proposed right-of-way. The existing parking lot east of The Tee Hive is proposed to be reconfigured to provide one row of parking along the building with a 16' one-way drive isle. This reconfiguration puts the relocated parking lot light bases 5' behind the current right-of-way which will require a variance. This work is being completed in accordance with the right-of-way purchase and land swap agreement. Completion of the relocation work at this time is proposed for the following reasons:

- The work can be completed and financed with the project.

- The City will control the timing of the improvements and will not be forced to complete the work by the property owner.
- Relocating the parking lot allows room for private utilities to relocate. The City is installing a trail along the east side of the roadway, which will take up most of the boulevard area. Relocating the parking lot will provide room for utility relocations on the west side of the roadway.
- The City is aware of Crow Wing Power's plan for the installation of a new underground line on the west side of the roadway starting at CSAH 48. Relocating the parking lot will allow Crow Wing Power to place the line in a location where it will not be disturbed if the City widens the roadway in the future.

A 10' wide, bituminous-surfaced, multi-use trail is proposed along the east side of Cypress Drive from the current termination just south of the College Road roundabout to the proposed roundabout at CSAH 48. A 10' wide, bituminous surfaced, multi-use trail is also proposed to be extended east along the north side of Hinckley Road and then north along the east side of the Cypress Drive apartment complexes connecting to the Berrywood Park complex. Easements for this trail have already been secured by the City.

Stormwater Improvements

Storm sewer improvements include reconstruction of the drainage structures on Cypress Drive north of Hinckley Road. This work includes removal of the casting and concrete rings to the top of the concrete structure. The structure will be reconstructed with new concrete rings and a casting designed to help prevent the migration of sediment material from the roadway bed into the drainage structure.

Reconfiguration of two private storm lines (Cypress Drive Apartments and The Tee Hive) will be required to accommodate the parking lot reconfiguration and construction of the bituminous trail.

New storm sewer piping and structures are proposed on Cypress Drive south of Hinckley Road. Storm sewer piping will convey runoff to the stormwater pond located east of Cypress Drive and north of CSAH 48. This system will include a connection to the storm sewer system for the apartment building complex located on the west side of Cypress Drive and provide the necessary connection to the stormwater basin. The stormwater basin will be expanded to provide the treatment volume required for the apartment building development. The current

basin is only adequate to accommodate drainage from existing developments and roadways along with runoff from the proposed extension of Cypress Drive and the roundabout on CSAH 48. A copy of the updated Stormwater Management Plan for this area are included in the Appendix E.

Storm sewer will be extended south on Douglas Fir Drive to convey stormwater runoff north to Hinckley Road where it will tie into the existing system that drains west into the existing stormwater basin.

New storm sewer piping and structures are proposed to collect runoff from the curbed areas of the roundabout. Stormwater will be conveyed easterly along CSAH 48 and then north into the expanded stormwater basin. Stormwater from the un-curbed portions of CSAH 48 will flow into the adjacent ditches.

Municipal Sanitary Sewer Collection System

The existing sanitary sewer collection piping on Cypress Drive north of Hinckley Road will remain in place with only casting adjustments needed to accommodate the new grades. Cleanouts to private services may also need to be adjusted as part of the roadway, trail, and parking lot construction.

Sanitary sewer piping is proposed along Cypress Drive south of Hinckley Road. The existing stub is to be removed and new 8" gravity piping extended southerly to service properties along the corridor. Sanitary sewer is then proposed to be extended westerly through a 30' easement to service the existing 4-plexes located along CSAH 48. The approximate depth of the end of this extension will be 7.5' and the line will likely not be extended any farther west in the future. Gravity flow would be in an easterly and northerly direction. Eight-inch service lines are proposed to be extended to the right-of-way line to provide service to the proposed apartment complexes and to service the 4-plexes.

Sanitary sewer is not proposed to be extended south on Douglas Fir Drive. The property to the south of this area is better served by extending gravity service from Lift Station 18. Gravity service from this Lift Station would provide an additional 7.5' of depth at the south end of the proposed Douglas Fir Drive roadway extension.

Municipal Water Distribution System

The existing main line water distribution piping north of Hinckley Road will remain in place. Some curb boxes will likely need to be extended and reconfigured to accommodate the proposed work. Existing valve boxes will need to be adjusted to match the revised roadway grade.

New 12" watermain will be extended down Cypress Drive to the north side of the CSAH 48 where it will connect with the 12" watermain installed with the "North Forestview" project south of Hinckley Road. Valves and hydrants will be located along the route to provide for system maintenance and fire protection. Six-inch (6") watermains are proposed to be extended to the right-of-way to provide water service and fire protection for the proposed apartment buildings.

New 12" watermain will be extended to the south on Douglas Fir Drive to the end of the proposed roadway extension. A hydrant will be placed at the end of the line for flushing purposes.

Other / Miscellaneous Improvements

Other improvements to Cypress Drive north of Hinckley Road include:

- Adjust existing grades to minimize surface water ponding.
- Replace and adjust the upper sections of water valve boxes (City staff should clean valve boxes prior to the start of the project).
- Replace existing driveways to the right-of-way (ROW) line.
- Replace all signage.
- Replace light poles and install LED luminaires to match previous Cypress Drive project to the north.

Other improvements to Cypress Drive and Douglas Fir Drive south of Hinckley Road and CSAH 48 roundabout include:

- New signage
- New LED street lighting system matching previously completed Cypress Drive project to the north.

Right of Way and Property Acquisition

No additional right-of-way is proposed along Cypress Drive from Hinckley Road to College Road

at this time. One Hundred Twenty Feet (120') of right-of-way will be dedicated on the plat for the proposed apartment complex project on Cypress Drive between Hinckley Road and CSAH 48. Fifty feet (50') of right-of-way will be dedicated to the City on the west end of the plat for Douglas Fir Drive. The west side of Douglas Fir Drive is owned by the City and 50' of right-of-way will be dedicated when the parcel is subdivided or developed.

Property acquisition is required in the northwest corner of the roundabout. A triangular piece of property about 800 SF will be required in this area. Estimated costs for an appraisal and purchase of the property are included in the Cost Estimate in the Appendix B.

Construction of the sanitary sewer along the north side of the 4-plexes on CSAH will require a 30' utility easement. It was assumed the property owner would provide the easement for the sanitary sewer line as it benefits only their properties.

VariANCES

The following potential variances were noted and need to be considered during the property acquisition process, so existing conforming uses do not become non-conforming uses due to property acquisition:

The Tee Hive: 10' parking lot / drive aisle and light base setback

Highland Scenic Apartments: 35' structure setback
10' parking lot / drive aisle setback

Please note, the above determinations were based on publicly available mapping and approximate corridor locations. Detailed surveying must be completed to evaluate actual property, structure, and corridor locations.

Do Nothing Option

The Do-Nothing Option was considered as an option to all proposed improvements. Doing nothing does not facilitate the long-range transportation plan being considered by the City of Baxter and does not accommodate the needs of the developer to construct the proposed apartments along Cypress Drive extension south of Hinckley Road.

The proposed improvements in the Project Area are shown in Figures 5, 6 and 7 in the Appendix A.

ESTIMATED PROJECT COSTS

Estimated project costs for the proposed improvements are summarized below:

Cypress Drive – FDR (Hinckley Road to College Road)

Roadway:	\$540,380
Trail:	\$146,170
The Tee Hive Parking Lot Modifications (50%):	<u>\$44,490</u>
Subtotal:	\$731,040

Cypress Drive and Douglas Fir Drive – New Construction

Roadway:	\$619,705
The Tee Hive Parking Lot Modifications (50%):	\$44,490
Trail:	\$79,805
Storm Sewer:	\$571,300
Sanitary Sewer:	\$125,560
Water:	<u>\$214,155</u>
Subtotal:	\$1,655,015

4-Plex Sanitary Sewer

Sanitary Sewer:	\$104,685
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Berrywood Park Trail Extension

Trail:	\$89,310
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CSAH 48 / Cypress Drive Roundabout

Roadway:	\$1,221,885 *
Trail:	\$128,010
Storm Sewer:	<u>\$282,345</u>
Subtotal:	\$1,632,240

ESTIMATED TOTAL PROJECT COST: \$4,212,290

* Includes City costs to finance and hold the County's portion of the project costs until 2026.

The costs estimated herein are intended to convey a general and approximate picture of the costs that would presumably be incurred today in carrying out the proposed work. Costs can vary widely depending upon many factors such as weather, economic conditions, size of project, and the workload of available contractors. Actual costs can only be determined by bidding the project. Detailed breakdowns of the estimates are provided in Appendix B. Costs estimated above include estimated construction costs, 15% contingencies, costs incurred to date and estimated soft costs including engineering, administration, financing, and legal fees.

The costs are calculated in 2022 dollars and need to be updated in the future based on the current economic conditions at the time the project is being considered.

The Engineer's Estimate is located in Appendix B.

PROJECT IMPLEMENTATION

Funding for improvements is proposed to be obtained from assessments to the benefitted property owners and contributions from Crow Wing County and the City of Baxter. The estimated assessments included in this Report were calculated in accordance with City policy utilizing one of the following three methods: (1) Front Footage Assessment Method, (2) Unit Assessment Method, and (3) Area Assessment Method. A detailed description of the assessment methods utilized by the City of Baxter can be found in the most recent version of the “City of Baxter – Assessment Policy for Public Initiated Improvements”.

Based on the improvement type and adjacent zoning, project costs have been split into various project areas for the purposes of assessment and city cost calculation. Utilizing the previously mentioned methodology, the following project allocations were determined:

Cypress Drive – FDR (Hinckley Road to College Road)

This Project Area includes I and R3 zoning, which are considered “Commercial” Districts for assessment purposes. In “Commercial” Districts, 100% of the full depth reclamation improvement costs, up to 44’ in width, are assessed to the adjacent benefitting properties. Assessable project costs are calculated by subtracting City costs from the total project cost. In this Project Area, City costs include excess roadway width and bituminous trial.

Costs for The Tee Hive parking lot modifications were assumed to benefit the entire Cypress Drive corridor between CSAH 48 and College Road. Therefore, costs were split 50/50 between these areas and included in the assessable portion of the roadway.

In accordance with past practice, the Front Footage Assessment method was selected. Assessments are calculated by dividing the total assessable project cost by the total assessable frontage. The assessable frontage is based on the length as calculated at the building set back line which is 35’ in commercial zoning districts.

Based on the above methodology and assumptions, the following was determined:

Roadway Project Cost:	\$540,380
City Roadway Cost for Excess Width:	<u>\$23,120</u>
Subtotal	\$517,260
Assessable Tee Hive Parking Modifications (50%):	<u>\$44,490</u>
Total Assessable Costs:	\$561,750
Total Estimated Frontage:	2,249
Estimated Cost per Foot:	\$249.78

Cypress Drive and Douglas Fir Drive – New Construction

These two Project Areas are located next to the proposed subdivision with five 50-unit apartment buildings and the projects are considered developer-driven and there is no City contribution for roadway, storm sewer, sanitary sewer, or water and 100% of these costs are assessed to the adjacent benefitting properties. The City was assumed to pay for 100% of the bituminous trail costs.

In accordance with past practice, the Front Footage Assessment method was selected. Assessments are calculated by dividing the total assessable project cost by the total assessable frontage. The assessable frontage is based on the length as calculated at the building set back line which is 35' in commercial zoning districts.

The assessments for Outlot A of the Campbell Subdivision were split 50/50 between Lot 1, Block 2 and Lot 4, Block 1. The assessable frontage for the 4-plex located in the northwest corner of the Cypress Drive and CSAH 48 intersection was split between the two parcels on which the 4-plexes are located. The parcel with one 4-plex unit received an assessment for $\frac{1}{4}$ of the assessable frontage and the parcel with three 4-plex units received an assessment for $\frac{3}{4}$ of the assessable frontage.

Based on the above methodology and assumptions, the following was determined:

Roadway Improvements:

Total Estimated Project Costs:	\$619,705
Assessable Tee Hive Parking Modifications (50%):	<u>\$44,490</u>

Total Assessable Costs:	\$664,195
Total Estimated Frontage:	2,451
Estimated Cost per Foot:	\$270.99

Storm Sewer Improvements:

Total Estimated Project Costs:	\$571,300
Total Estimated Frontage:	2,451
Estimated Cost per Foot:	\$233.09

Sanitary Sewer Improvements:

Total Estimated Project Costs:	\$125,560
Total Estimated Frontage:	1,802
Estimated Cost per Foot:	\$69.68

Water Improvements:

Total Estimated Project Costs:	\$214,155
Total Estimated Frontage:	2,451
Estimated Cost per Foot:	\$87.37

4-Plex Sanitary Sewer

Costs for the sanitary sewer project located north of the 4-plex units on CSAH 48 were assumed to benefit the two affected properties. The sanitary sewer line cannot be extended further and provides no benefit beyond the two properties. In accordance with the City assessment policy, the City was assumed to contribute 15% of the project cost because service is being provided to a developed area in conjunction with new utility and street project. The remaining project costs were assumed to be assessed on a unit assessment basis with each 4-plex unit receiving one unit assessment.

Based on the above methodology and assumptions, the following was determined:

Sanitary Sewer Improvements:

Total Estimated Assessable Project Costs:	\$95,085
City Costs (15%):	<u>\$14,265</u>
Remaining Assessable Project Costs:	\$80,820

Assessable Units:	4
Estimated Cost per 4-Plex Unit:	\$20,205
Sewer Availability Charges (SAC):	\$9,600

See Appendix C for SAC Calculations.

Berrywood Park Trail Extension

The Berrywood Park Trail Extension improvements are a city-wide benefit. For this reason, the costs are not assessed and are paid by the City, similar to regional trail networks on other projects within the City.

Based on the above methodology and assumptions, the following was determined:

Estimated Project Cost:	\$89,310
-------------------------	----------

Roundabout – Storm Sewer System and Roadway Improvements

Improvements to the new Cypress Drive / CSAH 48 intersection were assumed to be paid via assessments to the benefitted property owners and contributions from Crow Wing County and the City of Baxter.

Crow Wing County has reviewed the project costs and agreed to enter into a lump sum agreement with the City based on the following:

- County will pay 50% of the roadway and storm sewer construction costs.
- County will pay for engineering in the amount of 18% of the roadway and storm sewer costs.
- County will pay 50% of the right-of-way acquisition cost from the City of Brainerd (BPU property).
- County will not participate in the acquisition costs/damages for the property in the northwest corner of the roundabout as this relates specifically to Cypress Drive.

Assessable project costs include roadway and storm sewer. Trail costs were assumed to be a 100% City cost. In accordance with past practices, the Area Assessment Method was selected. Properties proposed to be assessed include existing parcels zoned Medium Density Residential, High Density Residential, Office Service, Public Benefit and Neighborhood

Commercial lying easterly of the approximate midpoint between the future extension of Douglas Fir Drive and Cypress Drive, and not previously assessed for roundabout improvements at Cypress Drive and College Road (Industrial Office zoned properties along Cypress Drive). Parcels proposed to be assessed also include the properties located along the south side of Hinckley Road between Douglas Fir Drive and Cypress Drive as they will receive an immediate benefit from the intersection improvements. This assessment boundary was based on the assumption that properties lying west of this line would be assessed for future intersection control improvements at Douglas Fir Drive and CSAH 48. This split results in two parcels being partially assessed with this project.

Medium Density Residential properties located along Berrywood Drive are included in the intersection control assessment area. These properties are assessed based on actual lot area plus their portion of the association or common area. The association or common area allocated to each lot is based on the total common area divided by the number of lots in the association.

Parcels located south of CSAH 48 including City of Brainerd property zoned Public Benefit and property owned by Intermedia Outdoor, Inc. zoned Office Service are included in the intersection control assessment area. Because these properties are located in the shoreland overlay district and the increased setbacks and buffers required next to a residential neighborhood, these properties are assessed for 50% of the total lot area to mitigate for the undevelopable property associated with these restrictions.

Based on past practice, 25% of the roundabout cost for roadway and storm sewer is assessed to the benefitting properties with the remaining 75% of these costs picked up by the City. 100% of the trail costs were also assumed be paid by the City. Assessments are calculated by dividing the total assessable project cost by the total assessable square footage. The square footage area is based on the existing parcel size or parcel size as proposed to be modified with this project.

The County is programming this project for their 2026 budget. The City will be responsible for holding the County's project costs until they are reimbursed in 2026. Costs to finance and hold the County's portion of the project costs until 2026 have been added to the City's costs for assessment calculation.

Based on the above methodology and assumptions, the following was determined:

Intersection Control Improvements:

Estimated Construction Cost (Roadway and Storm Sewer):	\$1,103,100
County Costs Based on Agreement	
Construction (50%):	\$551,550
Engineering (18%):	\$99,280
Property/Right-of-Way Acquisition (BPU property) (50%):	<u>\$3,325</u>
Total County Costs:	\$654,155
Total County Cost Rounded to nearest \$5,000:	\$655,000
Remaining City Project Cost (Roadway and Storm Sewer):	\$750,980
City Finance Cost for County's Share (3 years at 5%):	<u>\$98,250</u>
Total City Cost (Roadway and Storm Sewer):	\$849,230
Assessable Project Cost (25%):	\$212,310
Estimated Assessable Area (sf):	4,073,227
Estimated Assessable Cost per Square Foot:	\$0.0521
Remaining City Roadway and Storm Sewer Costs:	\$636,920

In accordance with City policy, assessments for full depth reclamation projects combined with utility and street projects are collected over a 12-year term. Assessments for developer requested projects (petitioned public projects) are collected for a period of up to 5 years. The interest rate would be set at 1.5% above the True Interest Cost rate on the bond issue for non-developer requested projects and 2.0% above the True Interest Cost rate on the bond issue for developer requested projects. Interest would also be added based on the number of days between when the assessment is adopted by the Council and the end of the calendar year in which the assessment is certified.

Other Property Owner Costs

Property owners with existing structures/buildings must be made aware of other costs that will be incurred as a result of the project. One of the largest additional costs is the connection of sanitary sewer and water service lines on private property. Estimates for connection of these service lines should be obtained from locally licensed plumbing contractors.

Property owners are also required to pay certain charges and fees associated with connection to municipal services. These fees include a Sewer Availability Charge (SAC). Per City ordinance, these fees are to be collected when sanitary sewer services are made available to the property. The reduced sewer availability charge (SAC) for existing residential properties is \$600 per unit. The property owner can elect to have the SAC charge included with the special assessments for the improvements or pay the current rate at the time of connection. Property owners have until December 31st of the 5th year following completion of the project to connect to City services.

Other non-assessable City fees:

- | | |
|---------------------------|--|
| ✓ City Inspection Fee: | \$45 |
| ✓ City Excavation Permit: | \$50 |
| ✓ Water Meter: | \$437 (for 1" meter, price varies for larger meters) |

Detailed assessment rate calculations, benefitted area drawings, and estimated individual assessments are included in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS

Cypress Drive (Hinckley Road to College Road)

This Project Area includes Cypress Drive from Hinckley Road to 350' south of College Road. In accordance with the Pavement Management Plan, full depth reclamation (FDR) is the recommended reconstruction technique. Other improvements include replacement of the concrete curb and gutter, driveway improvements, new trail construction and parking lot modifications.

The estimated assessment rate for this project is \$249.78 per foot.

The cost summary for this project area is as follows:

Total Project Cost:	\$731,040
----------------------------	------------------

Assessed Project Costs

Benefiting Property Assessments:	\$514,045
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City Property Assessment:	\$47,705
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City Cost Summary

Roadway:	\$23,120
----------	----------

Trail:	\$146,170
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City Property Assessments:	<u>\$47,705</u>
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City Costs:	\$216,995
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Cypress Drive (CSAH 48 to Hinckley Road)

This Project Area includes Cypress Drive from CSAH 48 to Hinckley Road. The project includes the roadway, trail, storm sewer, sanitary sewer, and water distribution system construction.

The estimated assessment rates per assessable foot for this project are as follows:

Roadway:	\$270.99
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Storm Sewer:	\$233.09
--------------	----------

Sanitary Sewer:	\$69.68
-----------------	---------

Water:	\$87.37
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The cost summary for this project area is as follows:

Total Project Cost: **\$1,655,015**

Assessed Project Costs

Benefiting Property Assessments: **\$1,372,345**

City Property Assessment: \$202,865

City Cost Summary

Trail: \$79,805

City Property Assessments: \$202,865

City Costs: **\$282,670**

4-Plex Sanitary Sewer

This Project Area includes the two parcels on the north side of CSAH 48 with four existing 4-plex units. The project includes the extension of sanitary sewer and services to the Project Area.

The estimated assessment rate for this project is \$20,205 plus \$2,400 SAC (4 ERU's at \$600 per eru) per 4-plex unit.

The cost summary for this project area is as follows:

Total Project Cost: **\$104,685**

Assessed Project Costs

Benefiting Property Assessments: **\$90,420**

City Costs: **\$14,265**

Assessments to these properties include front-footage assessments for roadway, storm sewer, sanitary sewer, and water along Cypress Drive and an area assessment for the roundabout.

The total of these assessments is \$143,385. The sanitary sewer extension project is presented as an option for the property owner to consider with an estimated assessment of \$90,420. If completed with the roadway project, the City will contribute 15% of the project cost (estimated at \$14,265). **If the property owner elects to complete the sanitary sewer project at a later**

date, the City will not participate in the project and 100% of the project costs must be paid by the property owner.

Berrywood Park Trail Extension

This project includes the construction of new 10' wide bituminous trail from the intersection of Cypress Drive and Hinckley Road to Berrywood Park through existing easements. The project is considered a City wide benefit and costs are not assessed and paid by the City

The cost summary for this project area is as follows:

Total Project Cost:	\$89,310
City Costs:	\$89,310

CSAH 48 / Cypress Drive Roundabout

This project includes the construction of a roundabout at the CSAH 48 and Cypress Drive intersection. The project includes the roadway and storm sewer construction.

The estimated assessment rate for this project is \$0.0431 assessable square foot.

The cost summary for this project area is as follows:

Total Project Cost:	\$1,632,240
Assessed Project Costs	
Benefiting Property Assessments:	\$209,925
Tax Forfeited Property Assessments:	\$2,385
City Cost Summary	
Roadway:	\$524,700
Trail:	\$128,010
Storm Sewer:	\$112,220
Tax Forfeited Property Assessments:	<u>\$2,385</u>
City Costs:	\$767,315
County Costs:	\$655,000

Total Project Area Cost Summary

Estimated Total Project Cost: \$4,212,290

Estimated Assessable Project Costs

Benefitting Property Assessments: \$2,186,735 51.9%

City of Baxter Property Assessments: \$250,570

Tax Forfeited Property Assessments: \$2,385

City Cost Summary

Roadway: \$547,820

Property Assessments: \$250,570

Tax Forfeited Property Assessments: \$2,385

Trail: \$443,295

Storm Sewer: \$112,220

Sanitary Sewer: \$14,265

Total Estimated City Cost: \$1,370,555 32.5%

Crow Wing County Roundabout Cost: \$655,000 15.6%

We recommend the City review the assessment methodologies utilized in this Report to ensure they are in accordance with the City's assessment policy and costs are fairly allocated to the benefitted properties.

In conclusion, we believe the proposed improvements are feasible and do not foresee any major problems other than normal inconveniences associated with construction such as noise, dust, detours, and traffic disturbance. These situations would be temporary in nature, and we anticipate the construction would last approximately 6 months depending on the contractor, weather, and other factors.

We recommend the City proceed as follow:

1. City staff review and comment on the Report and assessment methodologies.
2. Review the Report with the Utilities Commission.
3. Update the Report based on staff and Utilities Commission comments as necessary.

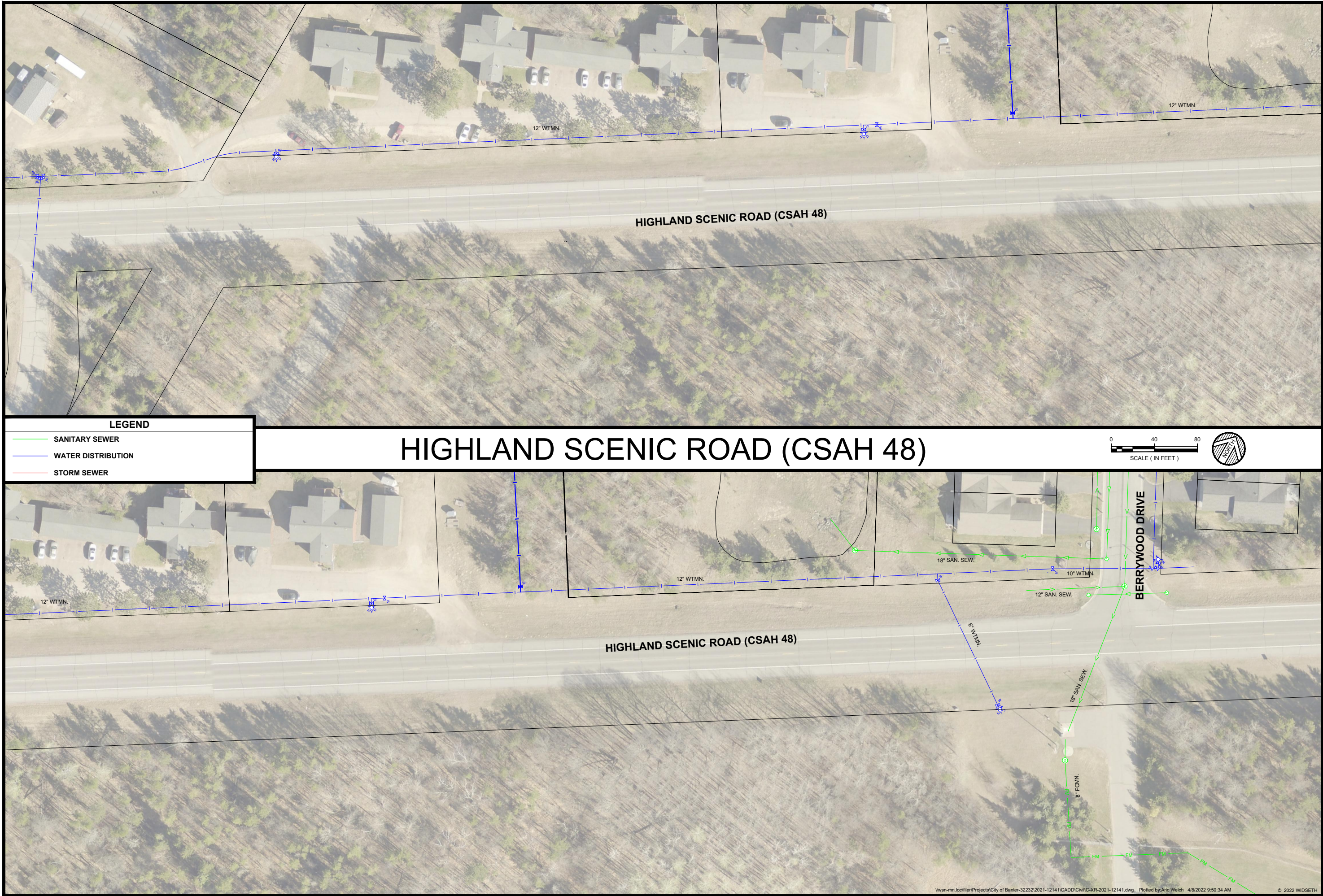
4. Approve the Report and schedule the Improvement Hearing.
5. Coordinate design with the Campbell Development and prepare Roundabout Justification Report, Plans and Specifications.
6. Review final Plans with the Utilities Commission.
7. Review and approve the Plans and Specifications and authorize Advertisement for Bids.
8. Review bids and update project costs and assessments.
9. If costs are favorable, award the construction contract and begin construction.
10. Prepare final costs and assessments and schedule the Assessment Hearing.
11. Conduct Assessment Hearing and adopt assessment rolls.
12. Construction of the project.

See Appendix F for additional project schedule information. It is recommended to hold the Improvement Hearing at the end of May 2022 and begin design in June 2022. Design and agency review (County and MnDOT State-Aid) is anticipated to take approximately four months. The project is proposed to be bid in November 2022 with the Assessment Hearing in December 2022. Adoption of the assessment rolls would be in January 2023 and award of the construction contract in February 2023. This will allow the contractor time to procure the necessary construction materials for the project. Current lead times on some construction and materials and supplies can be upwards of six to eight months

APPENDICES

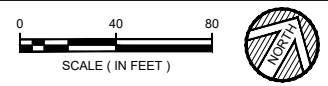
Project Figures	Appendix A
Cost Estimates, Assessment Calculations and Assessment Exhibits	Appendix B
SAC Calculations	Appendix C
SEH Technical Memorandum / Traffic Impact Study	Appendix D
Berrywood Drive Stormwater Management Plan	Appendix E
Project Schedule	Appendix F

APPENDIX A
PROJECT FIGURES



LEGEND	
—	SANITARY SEWER
—	WATER DISTRIBUTION
—	STORM SEWER

HIGHLAND SCENIC ROAD (CSAH 48)



BY: ARIC WELCH
DATE: ---
LIC. NO. 4183

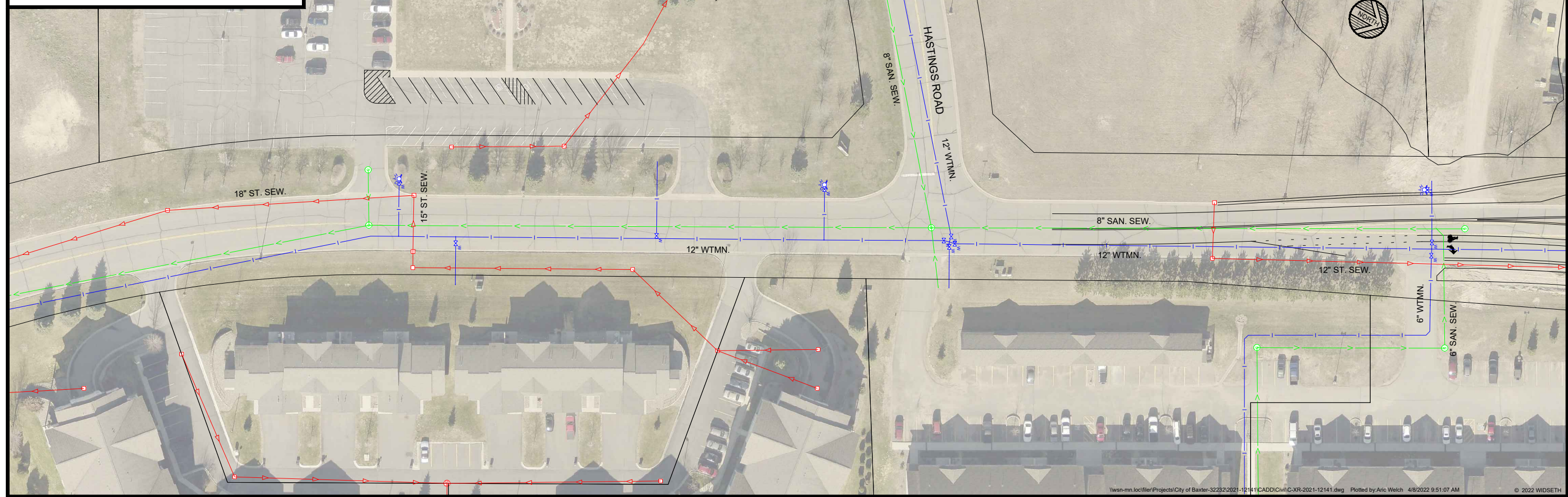
REVISIONS DESCRIPTION	DATE	BY

DATE: APRIL 2022	SCALE: AS SHOWN
DRAWN BY: ADB	CHECKED BY: ALW
JOB NUMBER: 2021-12141	

DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
CITY OF BAXTER
BAXTER, MINNESOTA
EXISTING CONDITIONS - CSAH 48

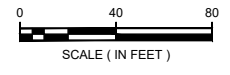


CYPRESS DRIVE



LEGEND

- SANITARY SEWER
- WATER DISTRIBUTION
- STORM SEWER



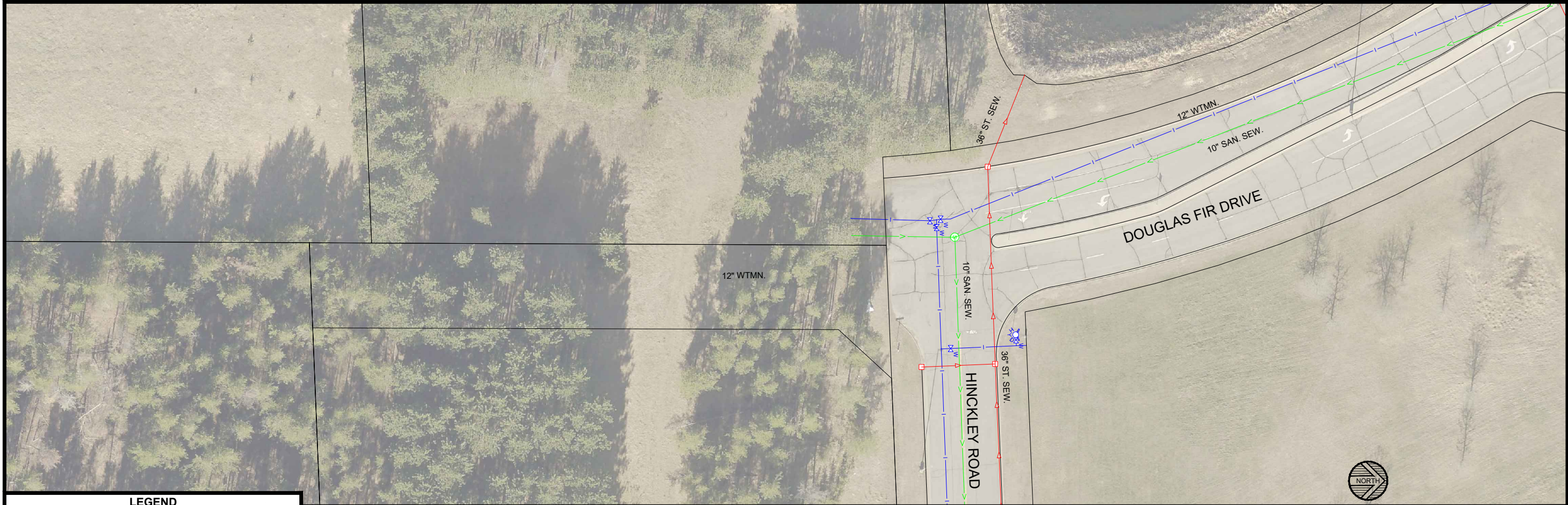
BY: IAN GENTY, P.E. THIS SAN. SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
ARIC L. WELCH L.C. NO. 4183 DATE: ---

REVISIONS DESCRIPTION	DATE	REV

DATE: APRIL 2022	SCALE: AS SHOWN
DRAWN BY: ADB	CHECKED BY: ALW
JOB NUMBER: 2021-12141	

DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
CITY OF BAXTER
BAXTER, MINNESOTA
EXISTING CONDITIONS - CYPRESS DRIVE

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LEGEND	
—	SANITARY SEWER
—	WATER DISTRIBUTION
—	STORM SEWER

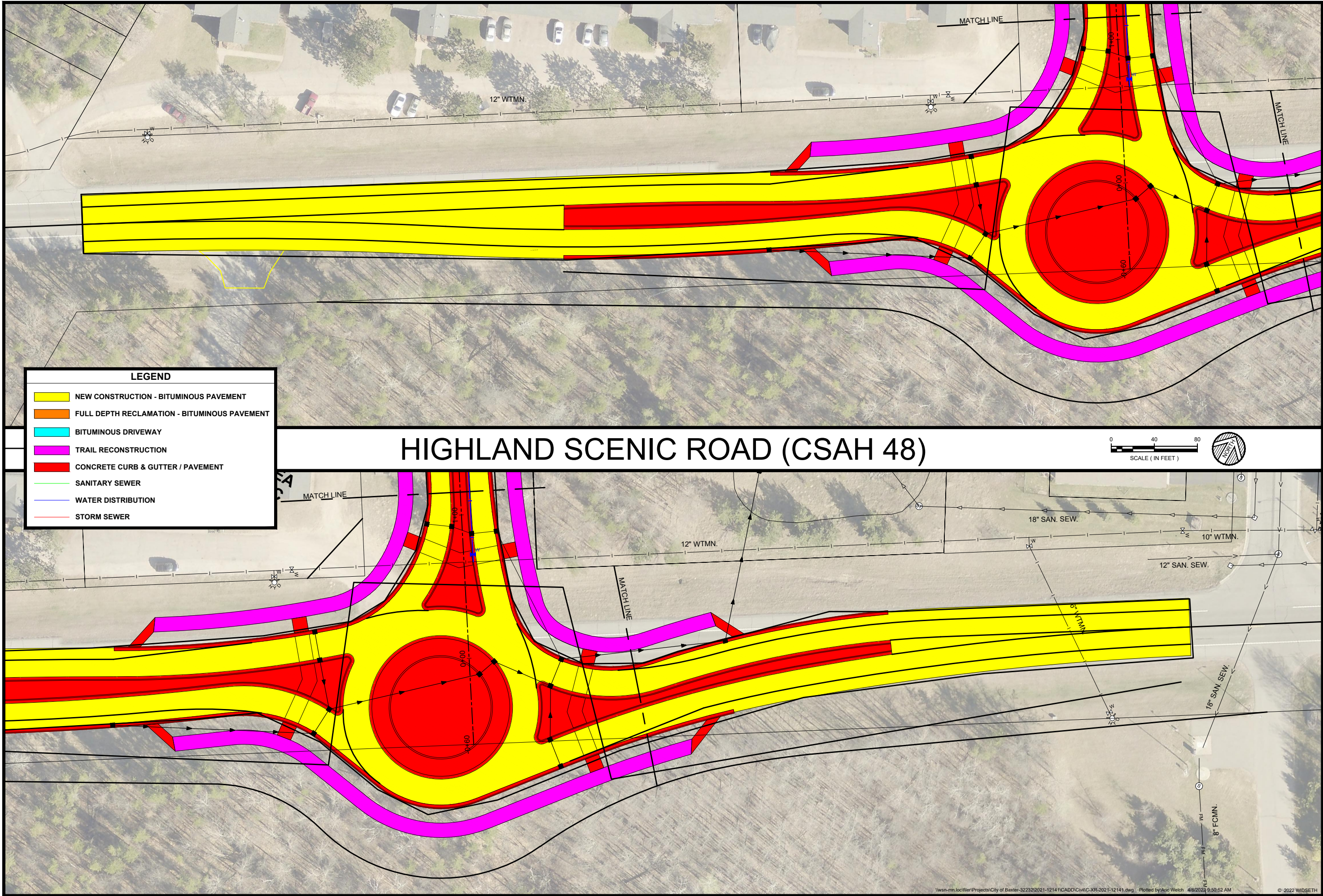
DOUGLAS FIR DRIVE

BY: ARIC L. WELCH
 I HEREBY CERTIFY THAT THIS SAN. 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.
 ARIC L. WELCH DATE: --- LIC. NO. 41883

REVISION DESCRIPTION	DATE	REV#

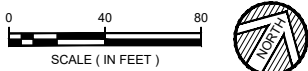
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SCALE:	AS SHOWN
DRAWN BY:	ADB
CHECKED BY:	ALW
JOB NUMBER:	2021-12141

DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
 CITY OF BAXTER
 BAXTER, MINNESOTA
 EXISTING CONDITIONS - DOUGLAS FIR DRIVE



LEGEND	
	NEW CONSTRUCTION - BITUMINOUS PAVEMENT
	FULL DEPTH RECLAMATION - BITUMINOUS PAVEMENT
	BITUMINOUS DRIVEWAY
	TRAIL RECONSTRUCTION
	CONCRETE CURB & GUTTER / PAVEMENT
	SANITARY SEWER
	WATER DISTRIBUTION
	STORM SEWER

HIGHLAND SCENIC ROAD (CSAH 48)



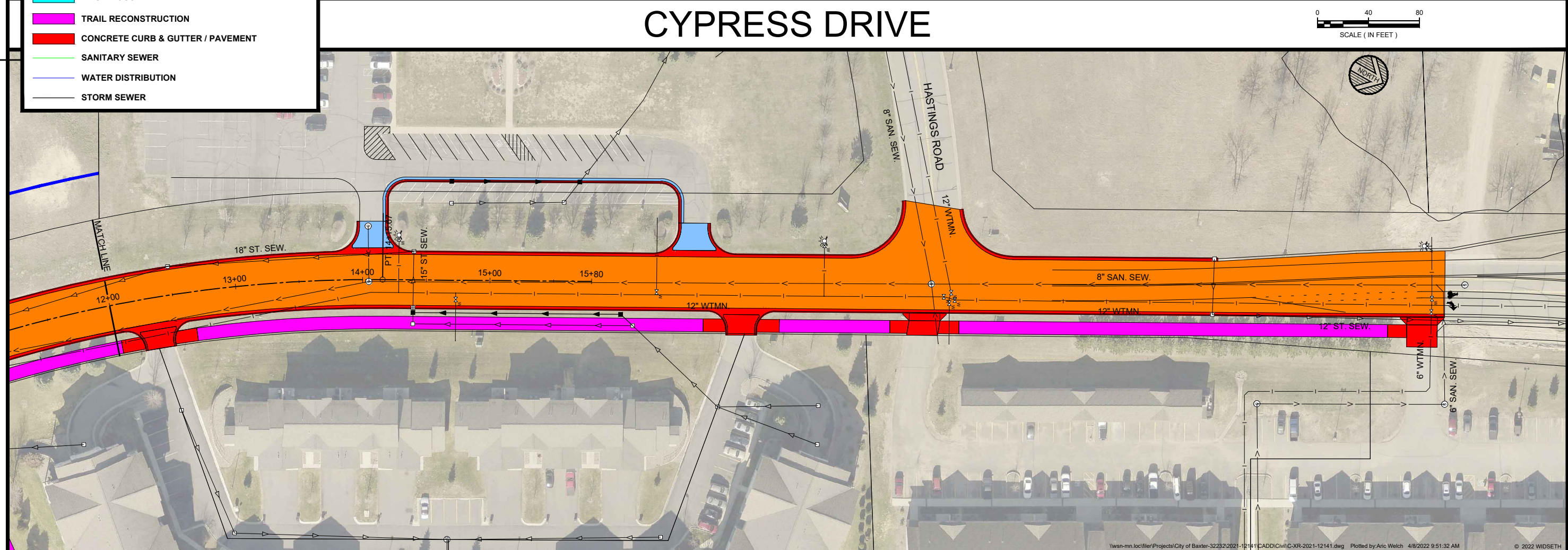
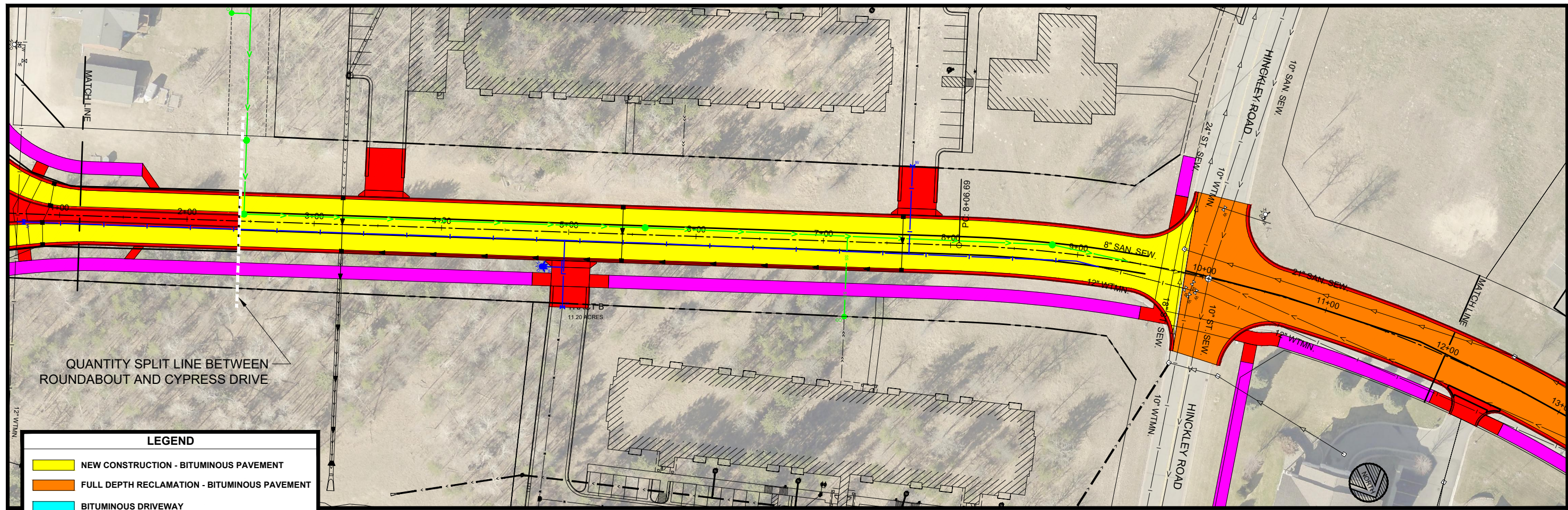
BY	ARIC L WELCH	DATE	---
REVISIONS DESCRIPTION		DATE	REV
DATE	APRIL 2022	SCALE	AS SHOWN
DRAWN BY	ADB	CHECKED BY	ALW
JOB NUMBER	2021-12141		

DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
CITY OF BAXTER
BAXTER, MINNESOTA

PROPOSED IMPROVEMENTS - CSAH 48

SHEET NO. **FIG 5**

SHEET 5 OF 5



QUANTITY SPLIT LINE BETWEEN
ROUNDAABOUT AND CYPRESS DRIVE

LEGEND	
	NEW CONSTRUCTION - BITUMINOUS PAVEMENT
	FULL DEPTH RECLAMATION - BITUMINOUS PAVEMENT
	BITUMINOUS DRIVEWAY
	TRAIL RECONSTRUCTION
	CONCRETE CURB & GUTTER / PAVEMENT
	SANITARY SEWER
	WATER DISTRIBUTION
	STORM SEWER

CYPRESS DRIVE

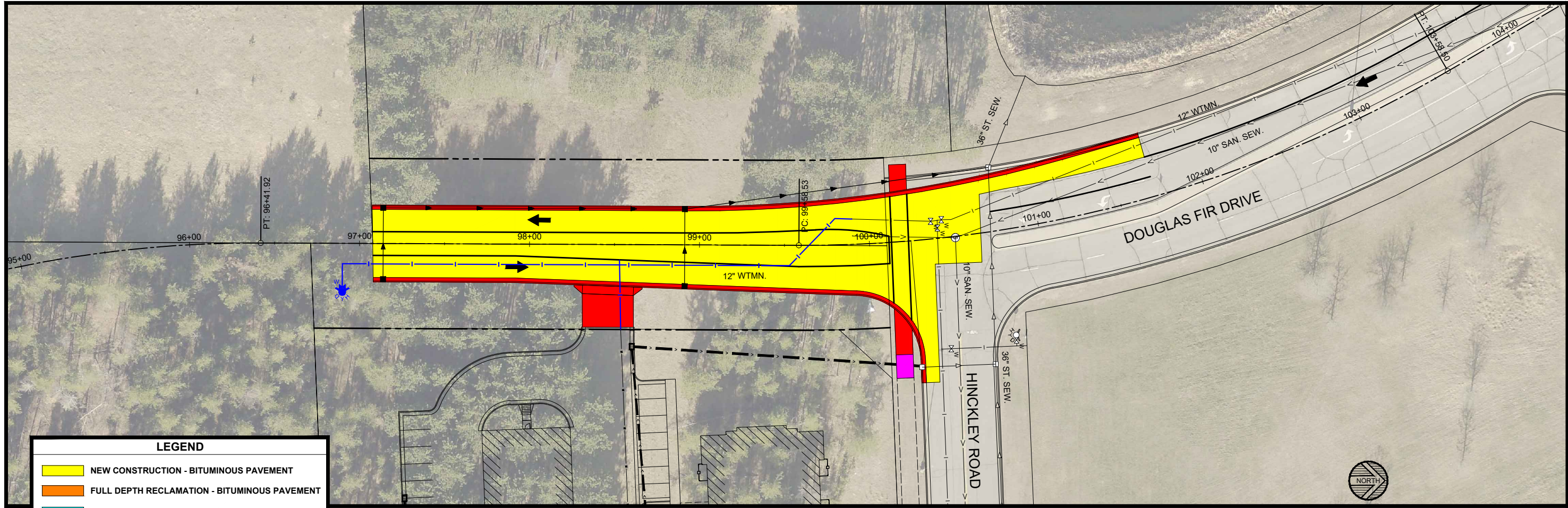
BY: ARIC L. WELCH
DATE: ---
LIC. NO. 4183

REVISION DESCRIPTION	DATE	REV

DATE: APRIL 2022
SCALE: AS SHOWN
DRAWN BY: ADB
CHECKED BY: ALW
JOB NUMBER: 2021-12141

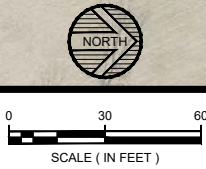
DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
CITY OF BAXTER
BAXTER, MINNESOTA
PROPOSED IMPROVEMENTS - CYPRESS DRIVE

\\srs-mn.lcc.com\Projects\City of Baxter-3223\2021-12141\CADD\Civil\C-R-2021-12141.dwg Plotted by Aric Welch 4/8/2022 9:51:32 AM © 2022 WIDSETH



LEGEND	
	NEW CONSTRUCTION - BITUMINOUS PAVEMENT
	FULL DEPTH RECLAMATION - BITUMINOUS PAVEMENT
	BITUMINOUS DRIVEWAY
	TRAIL RECONSTRUCTION
	CONCRETE CURB & GUTTER / PAVEMENT
	SANITARY SEWER
	WATER DISTRIBUTION
	STORM SEWER

DOUGLAS FIR DRIVE



BY: ARIC L. WELCH, LIC. NO. 41883
 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.
 DATE: ---

REVISION DESCRIPTION	DATE	REVISED BY

DATE: APRIL 2022	AS SHOWN
DRAWN BY: ADB	CHECKED BY: ALW
JOB NUMBER: 2021-12141	

DOUGLAS FIR & CYPRESS DRIVE IMPROVEMENTS STUDY
 CITY OF BAXTER
 BAXTER, MINNESOTA
 PROPOSED IMPROVEMENTS - DOUGLAS FIR DRIVE

APPENDIX B

**COST ESTIMATES, ASSESSMENT CALCULATIONS AND
ASSESSMENT EXHIBITS**

INDIVIDUAL ASSESSMENT CALCULATIONS
CYPRESS DRIVE AND DOUGLAS FIR DRIVE IMPROVEMENTS
MUNICIPAL PROJECT NO. 4087
BAXTER, MN

ESTIMATED INTEREST RATE: 5.00%
 ASSESSMENTS ADOPTED (ESTIMATED): 1/3/23
 END OF YEAR: 12/31/23
 ESTIMATED DAYS BEFORE END OF YEAR (SEE NOTE 1): 362
 FIRST YEAR OF ASSESSMENT: 2024

ASSESSMENT RATES
 CYPRESS DRIVE - FDR \$249.78
 NEW ROADWAY
 ROADWAY \$270.99
 STORM SEWER \$233.09
 SANITARY SEWER \$69.68
 WATER \$87.37
 4-PLEX SANITARY SEWER \$20,205.23
 SAC: \$600.00
 ROUNDABOUT \$0.0521

PROPERTY MAP ID	R.E. CODE	PROPERTY ADDRESS / DESCRIPTION	OWNER	NEW ROADWAY					4-PLEX SANITARY SEWER	SAC	ROUNDABOUT	ASSESSMENT TERM	ASSESSMENT	2023 INTEREST (SEE NOTE 1)	2023 INITIAL CERTIFIED AMOUNT	COMMENTS
				CYPRESS DRIVE	ROADWAY	STORM SEWER	SANITARY SEWER	WATER	SANITARY SEWER		ROADWAY					
CYPRESS DRIVE																
1	40080912		FOUND PROPERTIES LLC	342							12	\$85,424.03	\$4,236.10	\$89,660.13		
2	40080907		CLOUGH PROPERTIES LLC	601							12	\$150,116.50	\$7,444.13	\$157,560.64		
3	40080908		CITY OF BAXTER	191							12	\$47,707.57	\$2,365.77	\$50,073.35		
4	40080584	13060 CYPRESS DR	CYPRESS COURT PARTNERS LLC	176							12	\$43,960.91	\$2,179.98	\$46,140.89		
5	40080586	13056 CYPRESS DR	CYPRESS COURT PARTNERS LLC	435							12	\$108,653.38	\$5,388.02	\$114,041.39		
6	40080585	13150 CYPRESS DR	CYPRESS COURT PARTNERS LLC	109							12	\$27,225.79	\$1,350.10	\$28,575.89		
7	40080575		CYPRESS BERRYWOOD, LLC	395							12	\$98,662.26	\$4,892.57	\$103,554.83		
8		LOT 4, BLOCK 1	CAMPBELL DEVELOPMENT LLC		959	959	959	959		251557.5	5	\$647,137.74	\$32,090.94	\$679,228.68	INCLUDES PRO RATA FRONTAGE AND AREA FROM OUTLOT A	
9		LOT 1, BLOCK 2	CAMPBELL DEVELOPMENT LLC		643	643	643	643		213352.5	5	\$436,228.58	\$21,632.16	\$457,860.74	INCLUDES PRO RATA FRONTAGE AND AREA FROM OUTLOT A	
10	40170508	7858 HIGHLAND SCENIC RD	MINNEAPOLIS AREA INVESTMENTS, LLC		50	50	50	50	1	4	39246	\$57,707.45	\$2,861.66	\$60,569.11	3/4 OF CYPRESS DRIVE FRONTAGE (200' X 0.25 = 50)	
DOUGLAS FIR																
11		LOT 1, BLOCK 1	CAMPBELL DEVELOPMENT LLC		306	306		306			5	\$188,607.93	\$9,352.89	\$197,960.81		
12	40170585		CITY OF BAXTER		343	343		343			12	\$202,868.49	\$10,060.05	\$212,928.55		
HINCKLEY ROAD																
13		LOT 2, BLOCK 1	CAMPBELL DEVELOPMENT LLC							133371	5	\$6,951.66	\$344.73	\$7,296.38		
14		LOT 3, BLOCK 1	CAMPBELL DEVELOPMENT LLC							135877	5	\$7,082.28	\$351.20	\$7,433.48		
HIGHLAND SCENIC ROAD																
15	40170598		MINNEAPOLIS AREA INVESTMENTS, LLC		150	150	150	150	3	12	134836	\$174,013.55	\$8,629.17	\$182,642.72	3/4 OF CYPRESS DRIVE FRONTAGE (200' X 0.75 = 150)	
16	40170590	7802 HIGHLAND SCENIC RD	MARSHALL, JOSEPH RAYMOND							225261	12	\$11,741.21	\$582.24	\$12,323.45		
17	40170589	7800 HIGHLAND SCENIC RD	TOENYAN, KEVIN J & LORI L							183529	12	\$9,566.03	\$474.37	\$10,040.40		
18	40170588	7784 HIGHLAND SCENIC RD	LEASE, SUSAN M							49592	12	\$2,584.87	\$128.18	\$2,713.05		
19	40170587	7756 HIGHLAND SCENIC RD	POINTWAY CHURCH							103225	12	\$5,380.37	\$266.81	\$5,647.17		
20	40080712		CITY OF BRAINERD							77890	12	\$4,059.84	\$201.32	\$4,261.16		
21	40170601	7933 HIGHLAND SCENIC RD	CITY OF BRAINERD							1119901	12	\$58,372.26	\$2,894.62	\$61,266.89	ASSESSED FOR 50% OF PARCEL AREA	
22	40170596	7819 HIGHLAND SCENIC RD	INTERMEDIA OUTDOOR INC							440289	12	\$22,949.05	\$1,138.02	\$24,087.07	ASSESSED FOR 50% OF PARCEL AREA	
23	40170595	7819 HIGHLAND SCENIC RD	INTERMEDIA OUTDOOR INC							39408	12	\$2,054.05	\$101.86	\$2,155.91	ASSESSED FOR 50% OF PARCEL AREA	
BERRYWOOD DRIVE																
24	40080535	8185 HINCKLEY CT	FLANSBURG, KATHRYN M							10821	12	\$564.02	\$27.97	\$591.99		
25	40080536	8191 HINCKLEY CT	CONNER, JOYCE M REVOCABLE TRUST							10821	12	\$564.02	\$27.97	\$591.99		
26	40080537	8198 HINCKLEY CT	MARTIN, SUZANNE M &							11404	12	\$594.41	\$29.48	\$623.88		
27	40080538	8194 HINCKLEY CT	WIPPLER, JEANETTE B							11851	12	\$617.71	\$30.63	\$648.34		
28	40080539	8190 HINCKLEY CT	DAVIDSON, DANIEL SCOTT & WENDY BETH							12060	12	\$628.60	\$31.17	\$659.77		
29	40080540	8184 HINCKLEY CT	JUNKER, KATHLEEN &							10951	12	\$570.80	\$28.31	\$599.10		
30	40080541		BRADFORD, ROBERT D & ADELINE							10964	12	\$571.47	\$28.34	\$599.81		
31	40080542		MILLER, DIANE E							10964	12	\$571.47	\$28.34	\$599.81		
32	40080543	13029 BERRYWOOD DR	BRISSON, SUSAN M							10964	12	\$571.47	\$28.34	\$599.81		
33	40080544	13023 BERRYWOOD DR	HELLEKSON, MELANIE A							10964	12	\$571.47	\$28.34	\$599.81		
34	40080545	13013 BERRYWOOD DR	ATKINS, SHARON L							10964	12	\$571.47	\$28.34	\$599.81		
35	40170510	13007 BERRYWOOD DR	DUMKE, WILLIAM D & SANDRA M FAM TRS							10964	12	\$571.47	\$28.34	\$599.81		
36	40170511	12997 BERRYWOOD DR	PARRISH, MARK & PAULA							10964	12	\$571.47	\$28.34	\$599.81		
37	40170512	12989 BERRYWOOD DR	FINNEGAN, JESSICA V & KEVIN C							10964	12	\$571.47	\$28.34	\$599.81		
38	40170513	12981 BERRYWOOD DR	RUZICH, FRANK & JACQUELYN JOHNSON							10964	12	\$571.47	\$28.34	\$599.81		
39	40170514	12973 BERRYWOOD DR	ANDERSON, CYNTHIA L							10964	12	\$571.47	\$28.34	\$599.81		
40	40170515	12963 BERRYWOOD DR	LIEMANDT, THOMAS E & MARIA A							10964	12	\$571.47	\$28.34	\$599.81		
41	40170516	12957 BERRYWOOD DR	KNUDSEN, NORINE M REV TRUST							10964	12	\$571.47	\$28.34	\$599.81		
42	40170517	12947 BERRYWOOD DR	FISCHER, JODY & DAVID							10964	12	\$571.47	\$28.34	\$599.81		
43	40170518	12941 BERRYWOOD DR	KALINOSKI, MARY M							10964	12	\$571.47	\$28.34	\$599.81		
44	40170519	12931 BERRYWOOD DR	ACKER, PATRICIA A							10964	12	\$571.47	\$28.34	\$599.81		
45	40170520	12925 BERRYWOOD DR	LANGER, MICHAEL A & PEGGY							10964	12	\$571.47	\$28.34	\$599.81		
46	40080548	13052 BERRYWOOD DR	SMITH, LEWIS L							9495	12	\$494.91	\$24.54	\$519.45		
47	40080549	13044 BERRYWOOD DR	CARLSON FAMILY JOINT REV TRUST AGR							9495	12	\$494.91	\$24.54	\$519.45		
48	40080550	13030 BERRYWOOD DR	BEST, ROGER & MARY JO TRUST AGRMNT							9495	12	\$494.91	\$24.54	\$519.45		
49	40080551	13024 BERRYWOOD DR	CALHOUN, TODD B TRUST							9495	12	\$494.91	\$24.54	\$519.45		
50	40080552	13012 BERRYWOOD DR	ZASKE, DENNIS M & ANITA M							9495	12	\$494.91	\$24.54	\$519.45		
51	40080553	13006 BERRYWOOD DR	CLARK, CHARLES & BARBARA							9495	12	\$494.91	\$24.54	\$519.45		
52	40080554	12996 BERRYWOOD DR	SCHUSTER, ROSEMARY S REV TRUST AGR							9495	12	\$494.91	\$24.54	\$519.45		
53	40080555	12990 BERRYWOOD DR	KRETSCH, JOSEPH R & ELLEN C							9495	12	\$494.91	\$24.54	\$519.45		
54	40170522	12978 BERRYWOOD DR	KING, JERRY L & MARILYN J							9495	12	\$494.91	\$24.54	\$519.45		
55	40170523	12972 BERRYWOOD DR	TERRIO, RANDY & KATHY BJRKE TERRIO							9495	12	\$494.91	\$24.54	\$519.45		
56	40170524	12960 BERRYWOOD DR	BECK, SUSAN M							9495	12	\$494.91	\$24.54	\$519.45		
57	40170525	12954 BERRYWOOD DR	WITTER, DEANNA L							9495	12	\$494.91	\$24.54	\$519.45		
58	40170526	12944 BERRYWOOD DR	TRZPUC, GAYLE P & DEAN P							9495	12	\$494.91	\$24.54	\$519.45		
59	40170527	12938 BERRYWOOD DR	JOHNSTON, RAYMOND & LAVERNA							8545	12	\$445.39	\$22.09	\$467.47		
60	40170528	12930 BERRYWOOD DR	NAILLON, ANDREA MARIE &							9495	12	\$494.91	\$24.54	\$519.45		

PHASE 2 ASPEN RIDGE TOWNHOMES
 COMMON LOT AREA DIVIDED EVENLY AMONG ALL 22 LOTS
 (141,929 SF / 22 LOTS = 6,451 SF PER LOT)
 TOTAL ASSESSABLE AREA = LOT AREA + 6,451 SF

ASPEN RIDGE TOWNHOMES
 COMMON LOT AREA DIVIDED EVENLY AMONG ALL 15 LOTS
 (76,873 SF / 15 LOTS = 5,125 SF PER LOT)
 TOTAL ASSESSABLE AREA = LOT AREA + 5,125 SF

INDIVIDUAL ASSESSMENT CALCULATIONS
CYPRESS DRIVE AND DOUGLAS FIR DRIVE IMPROVEMENTS
MUNICIPAL PROJECT NO. 4087
BAXTER, MN

ESTIMATED INTEREST RATE: 5.00%
 ASSESSMENTS ADOPTED (ESTIMATED): 1/3/23
 END OF YEAR: 12/31/23
 ESTIMATED DAYS BEFORE END OF YEAR (SEE NOTE 1): 362
 FIRST YEAR OF ASSESSMENT: 2024

ASSESSMENT RATES
 CYPRESS DRIVE - FDR \$249.78
 NEW ROADWAY
 ROADWAY \$270.99
 STORM SEWER \$233.09
 SANITARY SEWER \$69.68
 WATER \$87.37
 4-PLEX SANITARY SEWER \$20,205.23
 SAC: \$600.00
 ROUNDABOUT \$0.0521

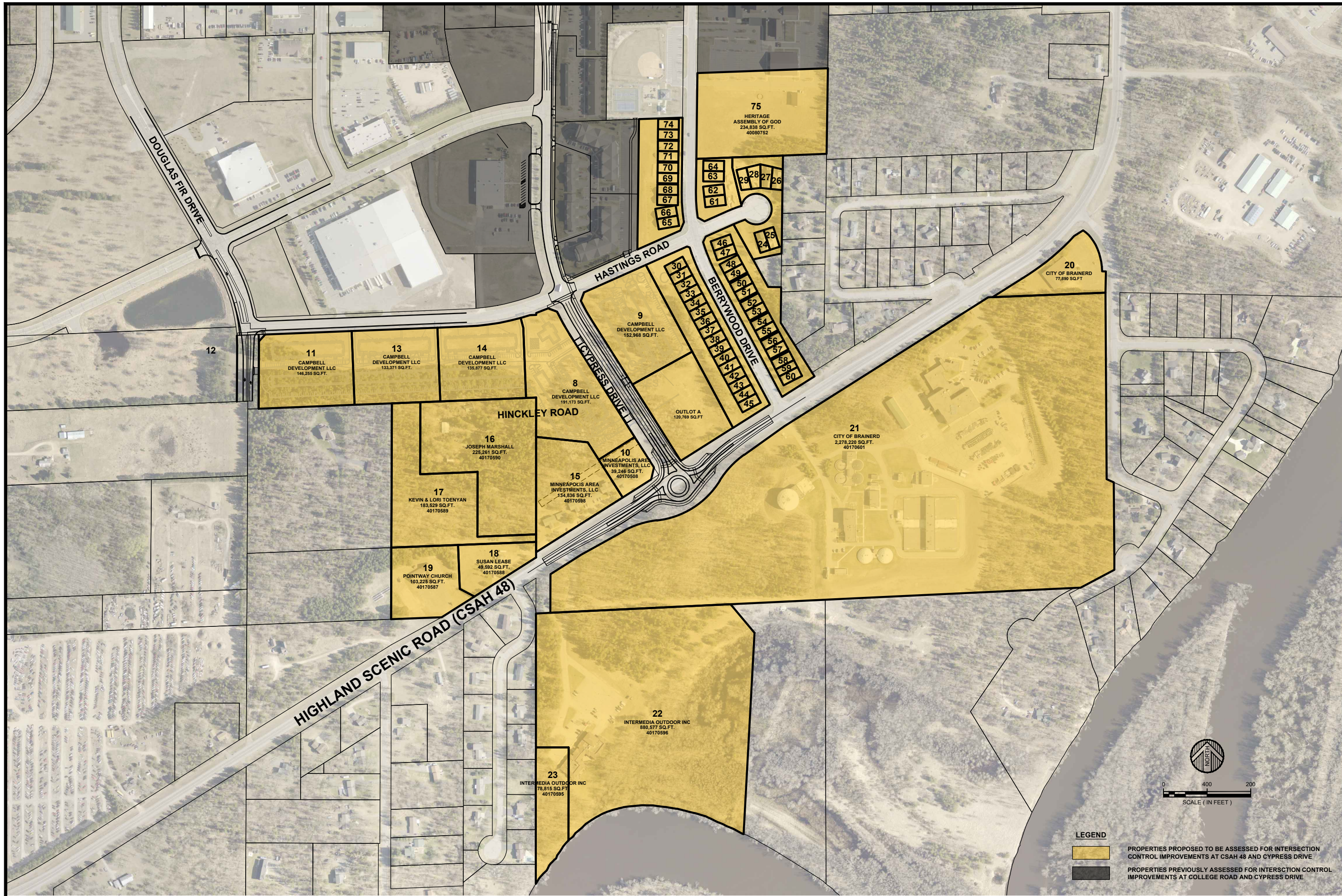
PROPERTY MAP ID	R.E. CODE	PROPERTY ADDRESS / DESCRIPTION	OWNER	CYPRESS DRIVE	NEW ROADWAY				4-PLEX SANITARY SEWER	SAC	ROUNDABOUT	ASSESSMENT TERM	ASSESSMENT	2023 INTEREST (SEE NOTE 1)	2023 INITIAL CERTIFIED AMOUNT	COMMENTS
				FDR	ROADWAY	STORM SEWER	SANITARY SEWER	WATER	SANITARY SEWER		ROADWAY					
61	40080520		TAX FORFEITED								11428	12	\$595.66	\$29.54	\$625.20	NAVILLUS LAND COMPANY COMMON LOT AREA DIVIDED EVENLY AMONG ALL 14 LOTS (96,813 SF / 14 LOTS = 6,915 SF PER LOT) TOTAL ASSESSABLE AREA = LOT AREA + 6,915 SF
62	40080521		TAX FORFEITED								11428	12	\$595.66	\$29.54	\$625.20	
63	40080522		TAX FORFEITED								11428	12	\$595.66	\$29.54	\$625.20	
64	40080523		TAX FORFEITED								11428	12	\$595.66	\$29.54	\$625.20	
65	40080525	13083 BERRYWOOD DR	LEBLANC, GAIL								11428	12	\$595.66	\$29.54	\$625.20	
66	40080526	13089 BERRYWOOD DR	LEAF, LAUREN ELIZABETH								11428	12	\$595.66	\$29.54	\$625.20	
67	40080527	13101 BERRYWOOD DR	SCHROEDER, LORAN								11428	12	\$595.66	\$29.54	\$625.20	
68	40080528	13109 BERRYWOOD DR	O'BOYLE, DENNIS & MARY								11428	12	\$595.66	\$29.54	\$625.20	
69	40080529	13117 BERRYWOOD DR	TRIDEN, LEEANN								11428	12	\$595.66	\$29.54	\$625.20	
70	40080530	13125 BERRYWOOD DR	DUNN, DEBBIE & JOAN C HECKER								11428	12	\$595.66	\$29.54	\$625.20	
71	40080531		NAVILLUS LAND COMPANY								11428	12	\$595.66	\$29.54	\$625.20	
72	40080532		NAVILLUS LAND COMPANY								11428	12	\$595.66	\$29.54	\$625.20	
73	40080533		NAVILLUS LAND COMPANY								11428	12	\$595.66	\$29.54	\$625.20	
74	40080534		NAVILLUS LAND COMPANY								11428	12	\$595.66	\$29.54	\$625.20	
75	40080752	13198 BERRYWOOD DR	HERITAGE ASSEMBLY OF GOD								234838	12	\$12,240.39	\$606.99	\$12,847.38	
				2249	2451	2451	1802	2451	4	16	4073227		\$2,439,692.58	\$120,982.02	\$2,560,674.59	

ASSESSMENT SUMMARY

CYPRESS DRIVE - FDR																\$467.47
BENEFITING PROPERTY ASSESSMENTS:	\$514,042.87															\$659.77
CITY PROPERTY ASSESSMENTS:	\$47,707.57															
NEW ROADWAY																
BENEFITING PROPERTY ASSESSMENTS																
ROADWAY:	\$571,246.48															
STORM SEWER:	\$491,351.93															
SANITARY SEWER:	\$125,561.51															
WATER:	\$184,185.22															
SUBTOTAL:	\$1,372,345.14															
CITY PROPERTY ASSESSMENTS:		\$1,575,213.63														
ROADWAY:	\$92,949.50															
STORM SEWER:	\$79,949.58															
WATER:	\$29,969.42															
SUBTOTAL:	\$202,868.49															
4-PLEX SANITARY SEWER																
SANITARY SEWER:	\$80,820.92															
SAC:	\$9,600.00															
ROUNDABOUT																
BENEFITING PROPERTY ASSESSMENTS:	\$209,924.95															
TAX FOREITED PROPERTY ASSESSMENTS:	\$2,382.63															
TOTAL ASSESSED COSTS:	\$2,439,692.58															
BENEFITING PROPERTY ASSESSMENTS:	\$2,186,733.88															
CITY OF BAXTER ASSESSMENTS:	\$250,576.07															
TAX FOREITED PROPERTY ASSESSMENTS:	\$2,382.63															

NOTES

1. THE INTEREST RATE IS ESTIMATED AND WILL NOT BE KNOWN UNTIL AFTER THE BONDS FOR THE PROJECT.
2. THE 2023 INTEREST AMOUNT IS CALCULATED BASED ON ESTIMATED INTEREST RATE OF 4.5% AND 362 DAYS BETWEEN WHEN THE ASSESSMENT ROLL IS ADOPTED (JANUARY 3, 2023) BY THE COUNCIL AND END OF THE YEAR. THIS AMOUNT WILL VARY DEPENDING ON ACTUAL INTEREST DATE AND ASSESSMENT HEARING DATE.
3. PROPERTY OWNERS CAN ELECT TO HAVE SEWER AVAILABILITY CHARGES (SAC) INCLUDED WITH THE SPECIAL ASSESSMENTS FOR THE IMPROVEMENTS OR PAY THE CURRENT RATE AT THE TIME OF CONNECTION.



LEGEND

- PROPERTIES PROPOSED TO BE ASSESSED FOR INTERSECTION CONTROL IMPROVEMENTS AT CSAH 48 AND CYPRESS DRIVE
- PROPERTIES PREVIOUSLY ASSESSED FOR INTERSECTION CONTROL IMPROVEMENTS AT COLLEGE ROAD AND CYPRESS DRIVE



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

REVISIONS DESCRIPTION	DATE	REVISION

DATE: APRIL 2022
SCALE: AS SHOWN
DRAWN BY: ADB
CHECKED BY: ALW
JOB NUMBER: 2021-12141



DOUGLAS FIR DR & CYPRESS DR IMPROVEMENTS
CITY OF BAXTER
BAXTER, MINNESOTA
ASSESSMENT EXHIBIT - CSAH 48 ROUNDABOUT

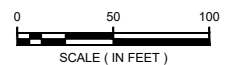


ASSESSMENT TOTALS

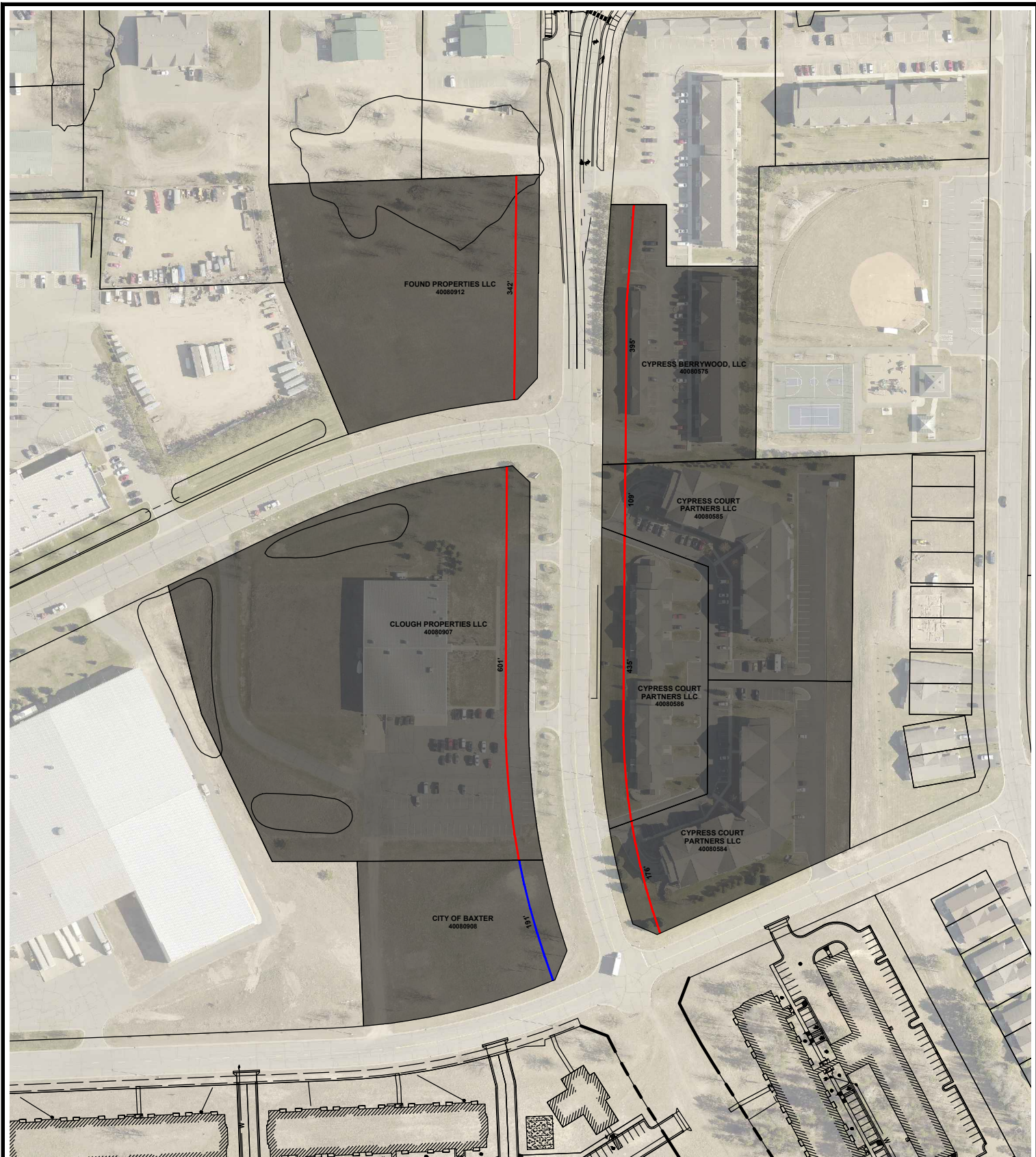
ASSESSMENT TYPE	TOTAL NUMBER
ROADWAY FRONTAGE	1802'

LEGEND

	ASSESSABLE FRONTAGE
	ASSESSABLE PROPERTIES



DATE	REV#	REVISIONS DESCRIPTION	BY



ASSESSMENT TOTALS	
ASSESSMENT TYPE	TOTAL NUMBER
ROADWAY FRONTAGE	2058'
ROADWAY FRONTAGE - CITY	191'




LEGEND

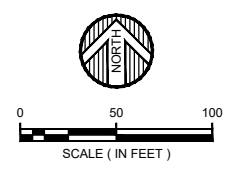
- ASSESSABLE FRONTAGE
- ASSESSABLE FRONTAGE - CITY
- ASSESSABLE PROPERTIES

SCALE (IN FEET)



ASSESSMENT TOTALS	
ASSESSMENT TYPE	TOTAL NUMBER
ROADWAY FRONTAGE	306'
ROADWAY FRONTAGE - CITY	343'

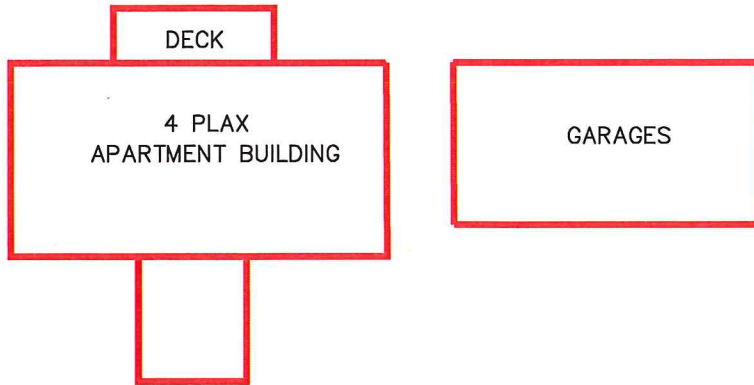
LEGEND	
	ASSESSABLE FRONTAGE
	ASSESSABLE FRONTAGE - CITY
	ASSESSABLE PROPERTIES



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.		DATE	REV#	REVISIONS DESCRIPTION	BY
DATE:	LIC. NO.:				

APPENDIX C
SAC CALCULATIONS

7816 HIGHLAND SCENIC ROAD



Apartment = 4 Apartment units

Sewer Availability Charges are figured as follows:

1 SAC per 1 Apartment Unit

Sewer and Water Availability Calculations:

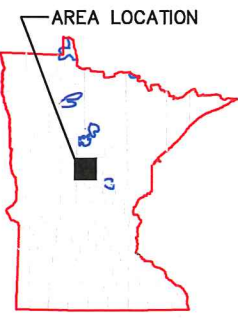
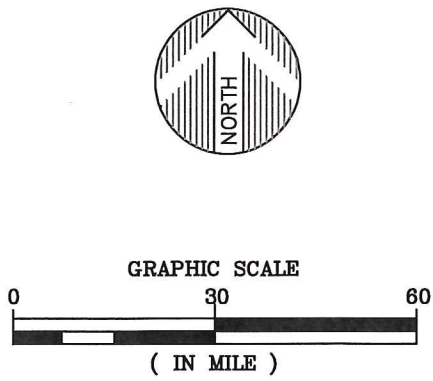

Apartment	= 4	/ 1	= 4.00
		Total	= 4.00

Round to the nearest 1/4 of the number
 Total SAC and WAC = 4.00

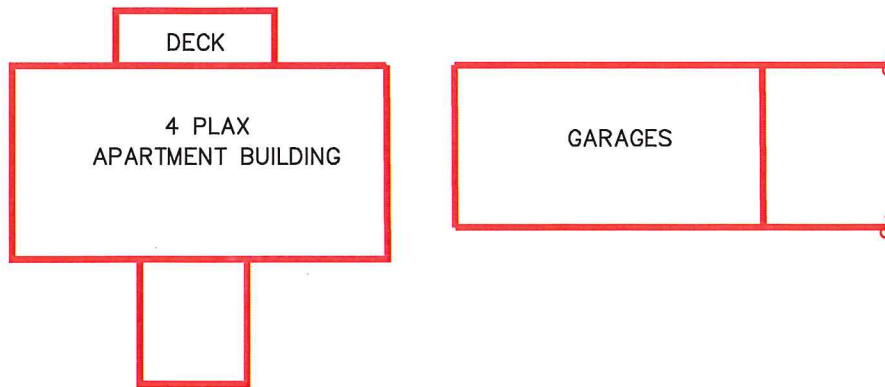
The following are the sewer availability charges that will be due on Highland scenic Apartments – 7816 Highland Scenic Road – Baxter, MN:

Sewer Availability Charge = 4.00 * \$600.00 = \$2,400.00

Total Due = \$2,400.00

 <p>STATE OF MINNESOTA</p>	 <p>GRAPHIC SCALE (IN MILE)</p>	7816 HIGHLAND SCENIC ROAD	
		SEWER AVAILABILITY CHARGE	
		2023 DOUGLAS FUR DR. & CYPREES DR. BAXTER, MINNESOTA	
			MARCH 2022
		 <p>BAXTER "A Growing Community"</p>	<p>CITY OF BAXTER P. O. BOX 2626 13190 MEMORYWOOD DRIVE BAXTER, MN 56425 (218)454-5100 WWW.CL.BAXTER.MN.US</p>

7830 HIGHLAND SCENIC ROAD



Apartment = 4 Apartment units

Sewer Availability Charges are figured as follows:

1 SAC per 1 Apartment Unit

Sewer and Water Availability Calculations:

Apartment	= 4	/ 1	= 4.00
		Total	= 4.00

Round to the nearest 1/4 of the number
Total SAC and WAC = 4.00

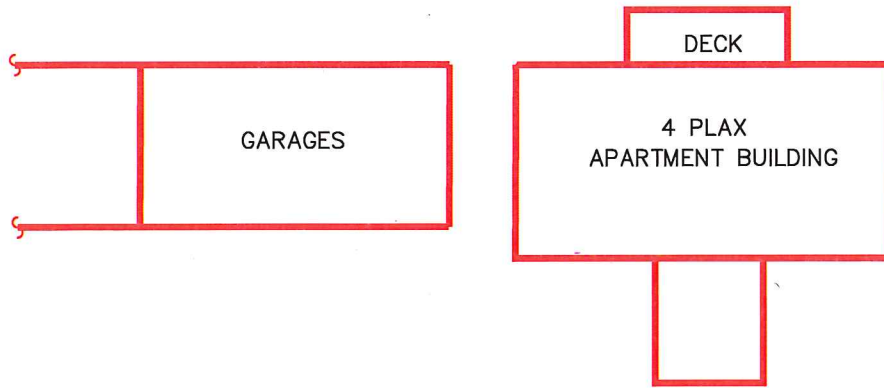
The following are the sewer availability charges that will be due on Highland scenic Apartments – 7830 Highland Scenic Road – Baxter, MN:

Sewer Availability Charge = 4.00 * \$600.00 = \$2,400.00

Total Due = \$2,400.00

<p>AREA LOCATION</p> <p>STATE OF MINNESOTA</p>	<p>GRAPHIC SCALE</p> <p>(IN MILE)</p>	7816 HIGHLAND SCENIC ROAD	
		SEWER AVAILABILITY CHARGE	
		2023 DOUGLAS FUR DR. & CYPREES DR. BAXTER, MINNESOTA	
			MARCH 2022
		<p>BAXTER</p> <p>"A Growing Community"</p>	<p>CITY OF BAXTER P. O. BOX 2626 13190 MEMORYWOOD DRIVE BAXTER, MN 56425 (218)454-5100 WWW.CI.BAXTER.MN.US</p>

7846 HIGHLAND SCENIC ROAD



Apartment = 4 Apartment units

Sewer Availability Charges are figured as follows:

1 SAC per 1 Apartment Unit

Sewer and Water Availability Calculations:

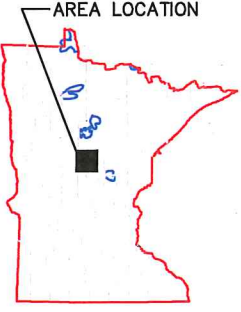
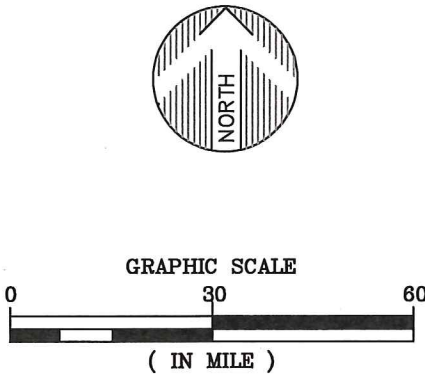

Apartment	= 4	/ 1	= 4.00
		Total	= 4.00

Round to the nearest 1/4 of the number
Total SAC and WAC = 4.00

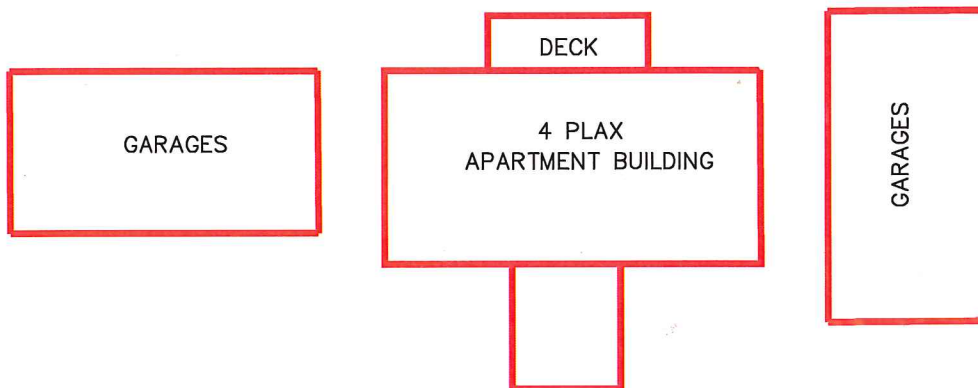
The following are the sewer availability charges that will be due on Highland scenic Apartments – 7846 Highland Scenic Road – Baxter, MN:

Sewer Availability Charge = 4.00 * \$600.00 = \$2,400.00

Total Due = \$2,400.00

 <p>AREA LOCATION</p> <p>STATE OF MINNESOTA</p>	 <p>NORTH</p> <p>GRAPHIC SCALE</p> <p>0 30 60</p> <p>(IN MILE)</p>	7816 HIGHLAND SCENIC ROAD	
		SEWER AVAILABILITY CHARGE	
		2023 DOUGLAS FUR DR. & CYPREES DR. BAXTER, MINNESOTA	
			MARCH 2022
		 <p>BAXTER</p> <p>"A Growing Community"</p>	<p>CITY OF BAXTER P. O. BOX 2626 13190 MEMORYWOOD DRIVE BAXTER, MN 56425 (218)454-5100 WWW.CI.BAXTER.MN.US</p>

7858 HIGHLAND SCENIC ROAD



Apartment = 4 Apartment units

Sewer Availability Charges are figured as follows:

1 SAC per 1 Apartment Unit

Sewer and Water Availability Calculations:

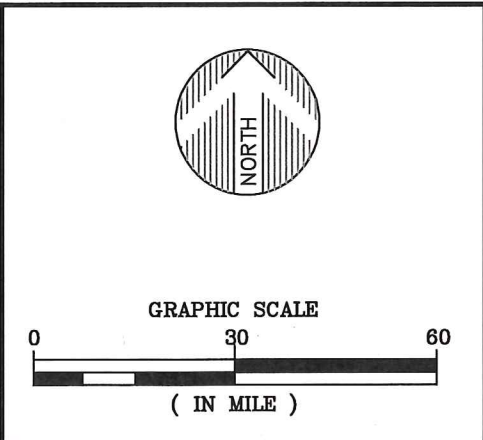
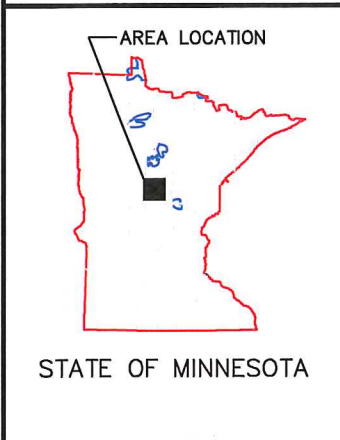
Apartment	= 4	/ 1	= 4.00
		Total	= 4.00

Round to the nearest 1/4 of the number
 Total SAC and WAC = 4.00

The following are the sewer availability charges that will be due on Highland scenic Apartments – 7858 Highland Scenic Road – Baxter, MN:

Sewer Availability Charge = 4.00 * \$600.00 = \$2,400.00

Total Due = \$2,400.00



7816 HIGHLAND SCENIC ROAD	
SEWER AVAILABILITY CHARGE	
2023 DOUGLAS FUR DR. & CYPREES DR. BAXTER, MINNESOTA	
	MARCH 2022
	CITY OF BAXTER P. O. BOX 2828 13190 MEMORYWOOD DRIVE BAXTER, MN 56425 (218)454-5100 WWW.CI.BAXTER.MN.US

APPENDIX D

SEH TECHNICAL MEMORANDUM / TRAFFIC IMPACT STUDY



Building a Better World
for All of Us®

MEMORANDUM

TO: Trevor Walter, PE – Public Works Director/City Engineer
City of Baxter

FROM: Justin Anibas, PE (MN)
Graham Johnson, PE (MN), PTOE

DATE: December 21, 2021

RE: Campbell Subdivision Traffic Impact Study
SEH No. BAXTE 164181

This technical memorandum provides the findings related to a traffic impact study for the proposed Campbell Subdivision, which is located between Hinckley Road and Highland Scenic Road (County Road 48) along the planned Cypress Drive extension in Baxter, Minnesota.

The primary focus of the traffic impact study for the Campbell Subdivision will be to determine the impact of the proposed 250 apartment units on the planned Cypress Drive extension and its intersections with County Road 48 and Hinckley Road. This project will also examine the proposed accesses for the Campbell Subdivision on Cypress Drive, Douglas Fir Drive, and Hinckley Road to ensure adequate access spacing. The proposed Campbell Subdivision is anticipated to begin construction in 2022 and be completed in 2026 with one 50-unit apartment building being constructed each year.

Traffic operations analyses were completed for the existing 2021 conditions as well as future 2028 No Build and Build conditions to represent 5 years after the proposed development's first building is completed to understand the impact of the proposed development on the intersections below. **Figure 1** shows the project area, including the location of the proposed development and the study intersections.

- Cypress Drive at Hinckley Road.
- Cypress Drive at County Road 48 (Highland Scenic Road) – Planned intersection after the Cypress Drive extension is complete.
- County Road 48 (Highland Scenic Road) at Berrywood Drive.

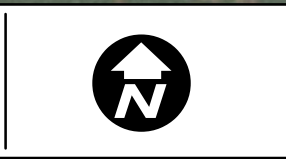
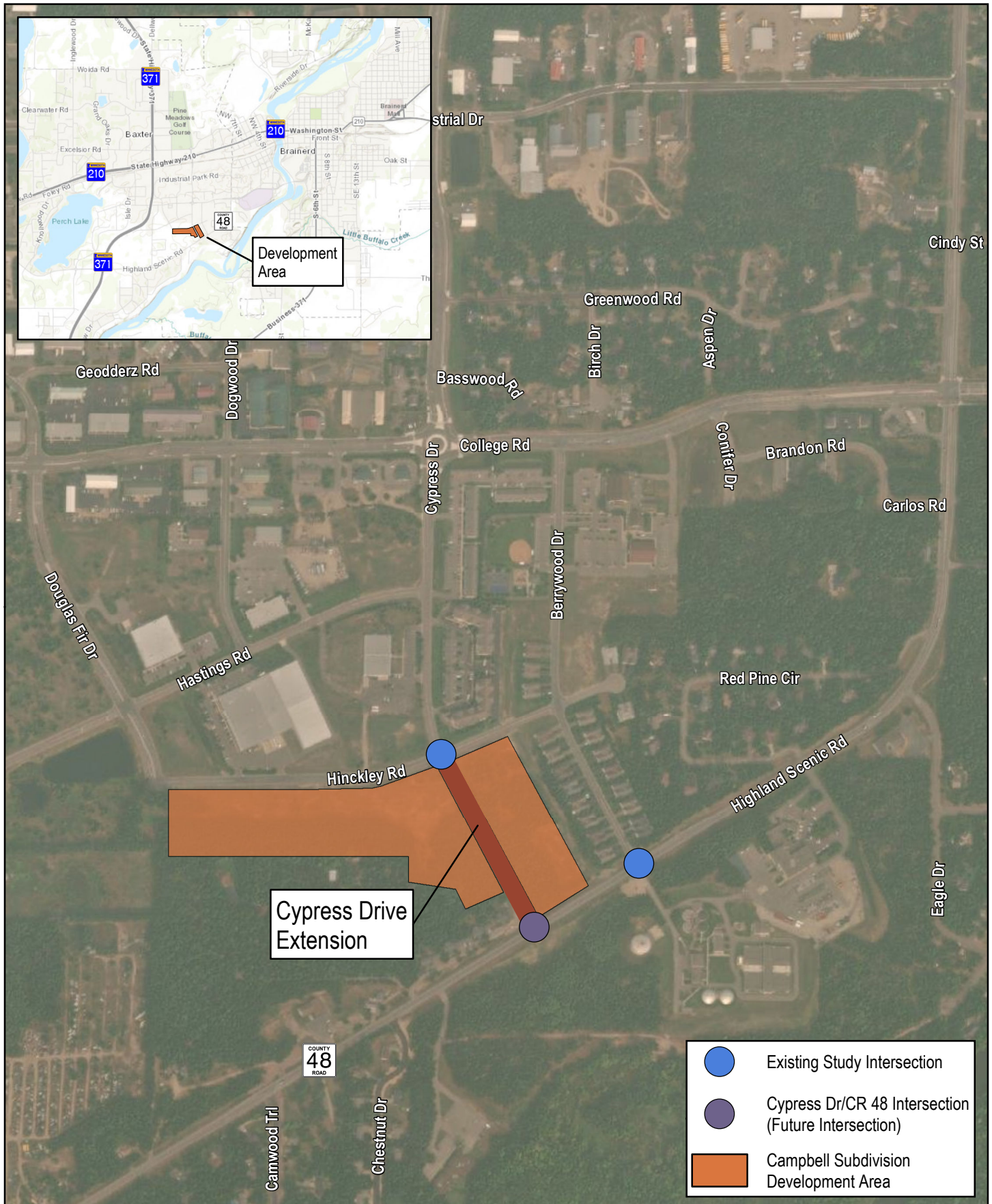
Engineers | Architects | Planners | Scientists

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Project: BAXTE 164181
 Print Date: 12/2/2021
 Map by: jdanibas
 Projection: Crow Wing Co. Coords.
 Source: ESRI

PROJECT LOCATION

Campbell Subdivision Traffic Impact Study
 Baxter, MN

Figure
 1

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EXISTING CONDITIONS

Cypress Drive is currently a north-south major collector that extends between Hinckley Road on the south and across Trunk Highway (TH) 210 to Clearwater Road on the north. Cypress Drive is a 2-lane roadway south of the College Road roundabout constructed in 2019; north of College Road, Cypress Drive is a 5-lane roadway with a continuous center two-way left turn lane (TWLTL) or a 4-lane divided roadway with turn lanes. South of College Road, Cypress Drive serves approximately 1,000 vehicles per day (vpd) just south of College Road and approximately 200 vpd just north of Hinckley Road, based on 2021 traffic counts obtained as part of this study. Cypress Drive in the study area provides access to residential land uses on the east side and commercial/industrial land uses on the west side. The posted speed limit on Cypress Drive through the project area is 30 mph.

County Road 48 (Highland Scenic Road) is an east-west major collector that connects Trunk Highway 210 on west with SW 4th Street in the City of Brainerd on the east. Through the project area, County Road 48 is 2-lane roadway with an Annual Average Daily Traffic (AADT) of 4,150. At Berrywood Drive, County Road 48 has a dedicated westbound right turn lane. The posted speed limit on County Road 48 is 45 mph.

Hinckley Road is a local 2-lane roadway that provides access to both residential and commercial/industrial land uses between Douglas Fir Drive and Berrywood Drive. The presumed speed limit on Hinckley Road is 30 mph.

Berrywood Drive is a local 2-lane roadway provides access to residential land uses, a park, and a church between College Road and County Road 48. The posted speed limit on Berrywood Drive is 30 mph.

24-hour traffic turning movement counts were collected at the intersections of Cypress Drive at Hinckley Road and County Road 48 at Berrywood Drive in November of 2021. In addition to the traffic turning movement counts, a roadway volume count was conducted along Cypress Drive just south of the College Road roundabout. Based on the existing traffic counts, the AM peak hour is 7:15 to 8:15 AM and the PM peak hour is 4:15 to 5:15 PM. **Figure 2** shows the 2021 existing traffic volumes as well as the existing roadway geometry and intersection control. More detailed traffic count information is in **Appendix A**.

It should be noted that County Road 48 has a significant amount of school related traffic due to the Middle and High Schools east and west of the project area. As a result, there is more traffic on County Road 48 during the School Dismissal peak hour (2:30-3:30 PM) than during the PM peak hour. However, the AM peak hour and school arrival peak hours overlap, resulting in the highest traffic volumes along County Road 48 occurring during the AM peak hour. The school dismissal peak hour was not analyzed as part of this traffic impact study as the number of trips generated by the proposed residential development is expected to be low during the school dismissal period.

BACKGROUND TRAFFIC GROWTH

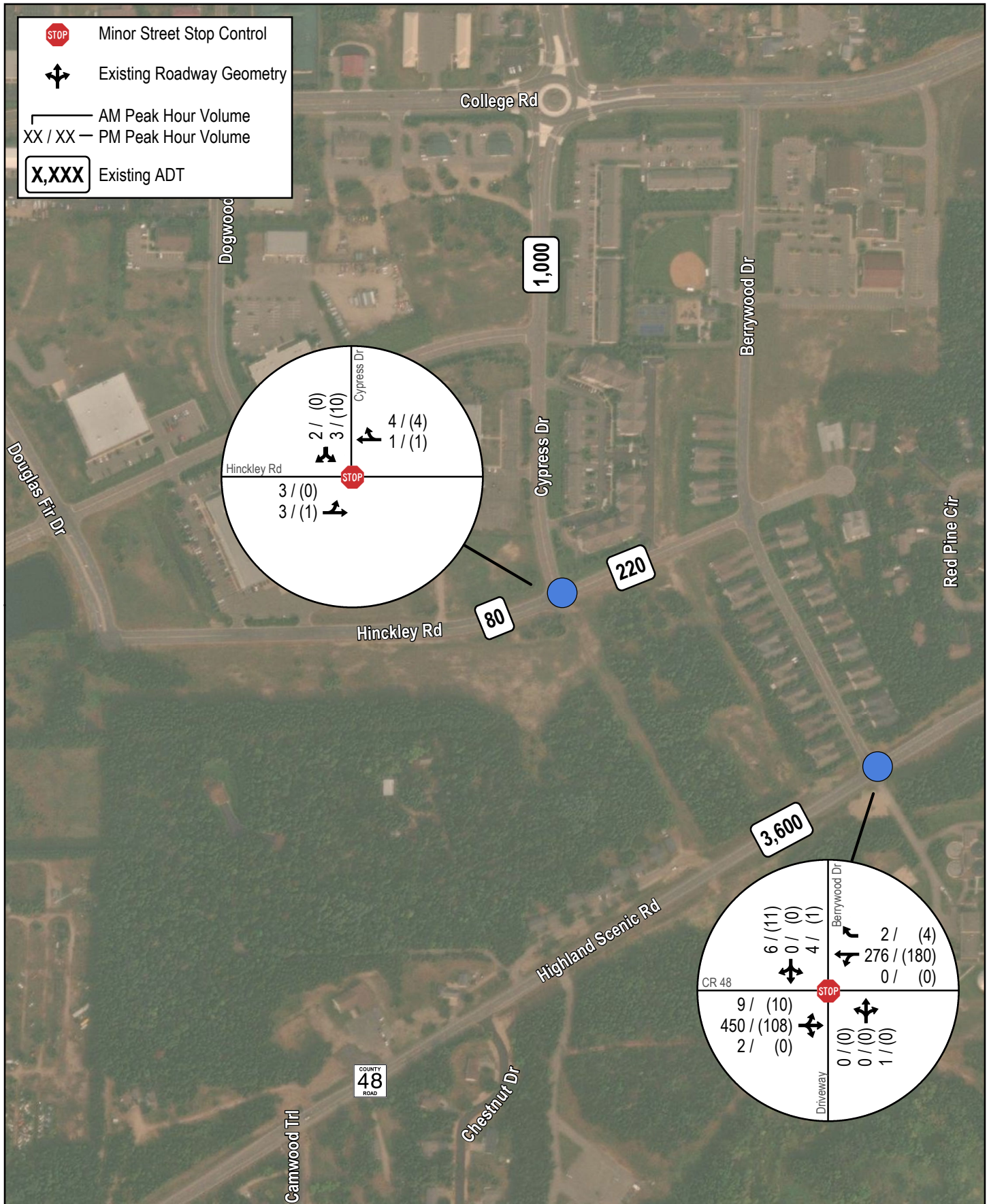
To forecast background traffic growth along the project roadways, traffic forecasts from the 2018 Cypress Drive Improvements Project were used. This project concluded that County Road 48 would have a background growth rate of approximately 3.5% per year. To be conservative, traffic volumes along County Road 48, Cypress Drive, Hinckley Road, and Berrywood Drive were all increased at 3.5% per year through the 2028 analysis year.

Minor Street Stop Control

Existing Roadway Geometry

— AM Peak Hour Volume
XX / XX — PM Peak Hour Volume

X,XXX Existing ADT



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Project: BAXTE 164181
Print Date: 11/29/2021

Map by: jdanibas
Projection: Crow Wing Co. Coords.
Source: ESRI

2021 EXISTING TRAFFIC VOLUMES
Campbell Subdivision Traffic Impact Study
Baxter, MN

Figure 2

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CYPRESS DRIVE EXTENSION

The City of Baxter's 2015 Comprehensive Plan calls for the extension of Cypress Drive to the north and south to eventually connect County Road 48 (Highland Scenic Road) to County Road 49 (Wise Road). The expanded Cypress Drive will serve as a parallel reliever route to Trunk Highway 371, with the purpose of increasing traffic efficiency in Baxter by offering a route that would be preferred by local traffic over Trunk Highway 371.

It is recommended that the extension of Cypress Drive between Hinckley Road and County Road 48 occur concurrently with the proposed Campbell Subdivision Project. If Cypress Drive is not extended to access County Road 48 directly, over 400 vehicles per day from the proposed development would likely use Berrywood Drive to access County Road 48. This would more than double the existing daily traffic on Berrywood Drive, where the City has previously received several complaints about traffic volumes and speed. By extending Cypress Drive to connect to County Road 48, none of the proposed development trips would be expected to use Berrywood Drive.

Based on the existing traffic counts, approximately 160 vehicles currently use a combination of Cypress Drive, Hinckley Road, and Berrywood Drive to travel between College Road and County Road 48. These vehicles are expected to use the Cypress Drive extension once it is constructed and were rerouted in both the No Build and Build traffic conditions.

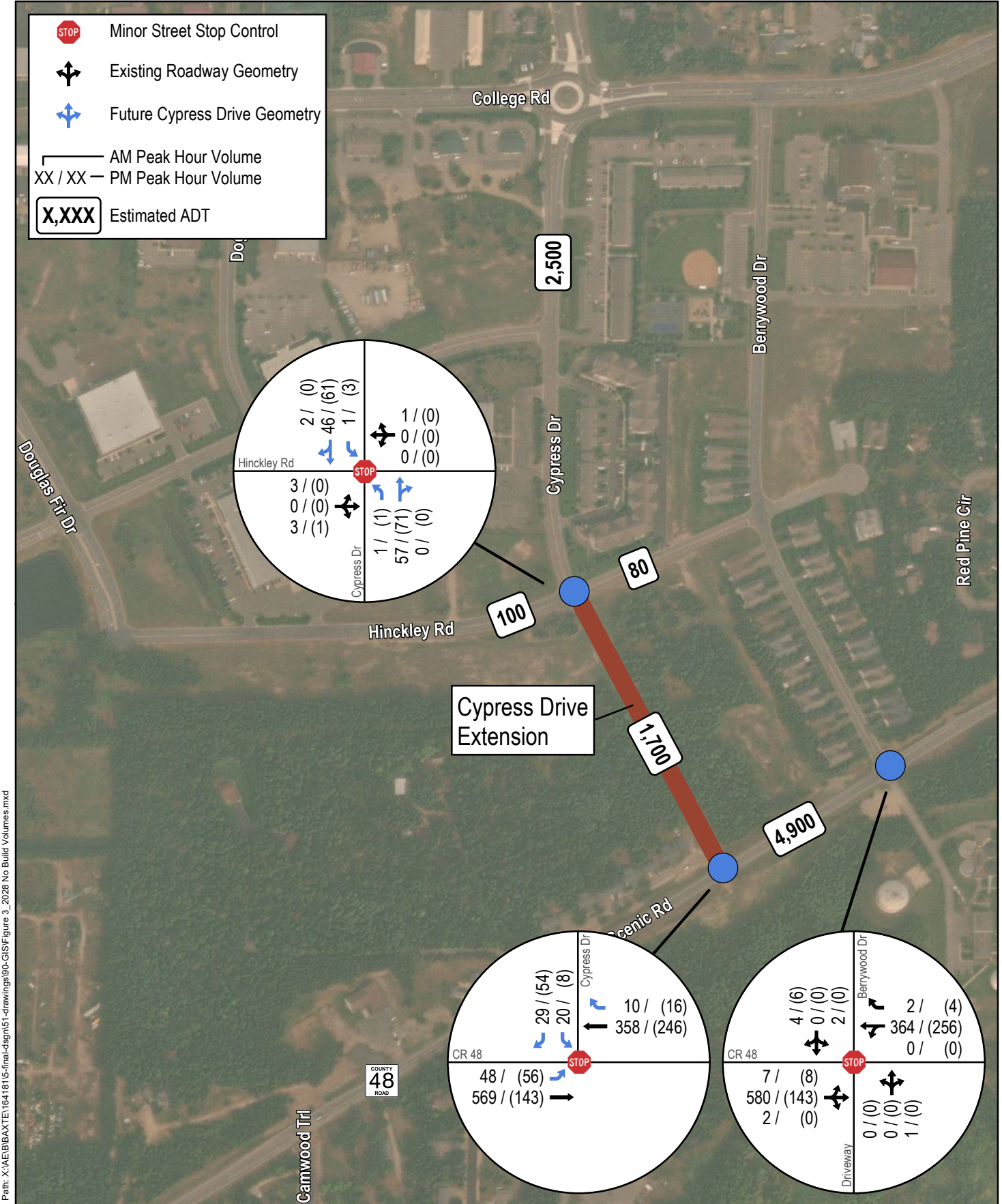
When Cypress Drive is extended, there is expected to be an increase in through trips along Cypress Drive between College Road and County Road 48. To estimate the additional through traffic on Cypress Drive, forecasts from the 2018 Cypress Drive Improvements Project were used. That project estimated that Cypress Drive will have an AADT of approximately 10,000 vehicles in 20 years, which is a 9,000 vpd increase over the existing AADT of 1,000. Using linear growth between 1,000 and 10,000, the Cypress Drive AADT is expected to increase by approximately 450 vpd per year. The forecasted growth on Cypress Drive included development along the roadway and surrounding open land area, therefore, the proposed Campbell Subdivision is not expected to change the forecast of 10,000 vpd for Cypress Drive.

Using linear growth, the AADT in 2028 on Cypress Drive is expected to be 3,700 vpd. The Campbell Subdivision is expected to increase the AADT on Cypress Drive by approximately 1,220 vpd just north of Hinckley Road. Therefore, an additional 1,480 daily through vehicles on Cypress Drive were added to the 2028 No Build and Build volumes to reach the 3,700 vpd AADT.

When Cypress Drive is extended between Hinckley Road and County Road 48, the current plan is to construct Cypress Drive as a 3-lane roadway with a continuous two-way left turn lane (TWLTL), including a 10' wide multi-use trail on the east side of the roadway. Cypress Drive will also be restriped as a 3-lane roadway with a continuous TWLTL between College Road and Hinckley Road. Based on the City's long range traffic forecasts for Cypress Drive, the City of Baxter plans to maintain 120 feet of right-of-way along Cypress Drive in the event Cypress Drive needs to be expanded to a 4-lane divided roadway in the future while maintaining the planned 10' multi-use trail on the east side of the roadway.

When Cypress Drive is extended to County Road 48, a new intersection will be created along County Road 48 approximately 625 feet west of the existing intersection at Berrywood Drive. The traffic control at the new Cypress Drive/County Road 48 intersection has not yet been determined. However, the intersection should have separate left and right turn lanes on County Road 48 and Cypress Drive if the intersection is constructed as a minor street stop-controlled intersection.

Figure 3 shows the 2028 No Build traffic volumes as well as the proposed intersection geometrics with the Cypress Drive extension constructed as a 3-lane roadway.



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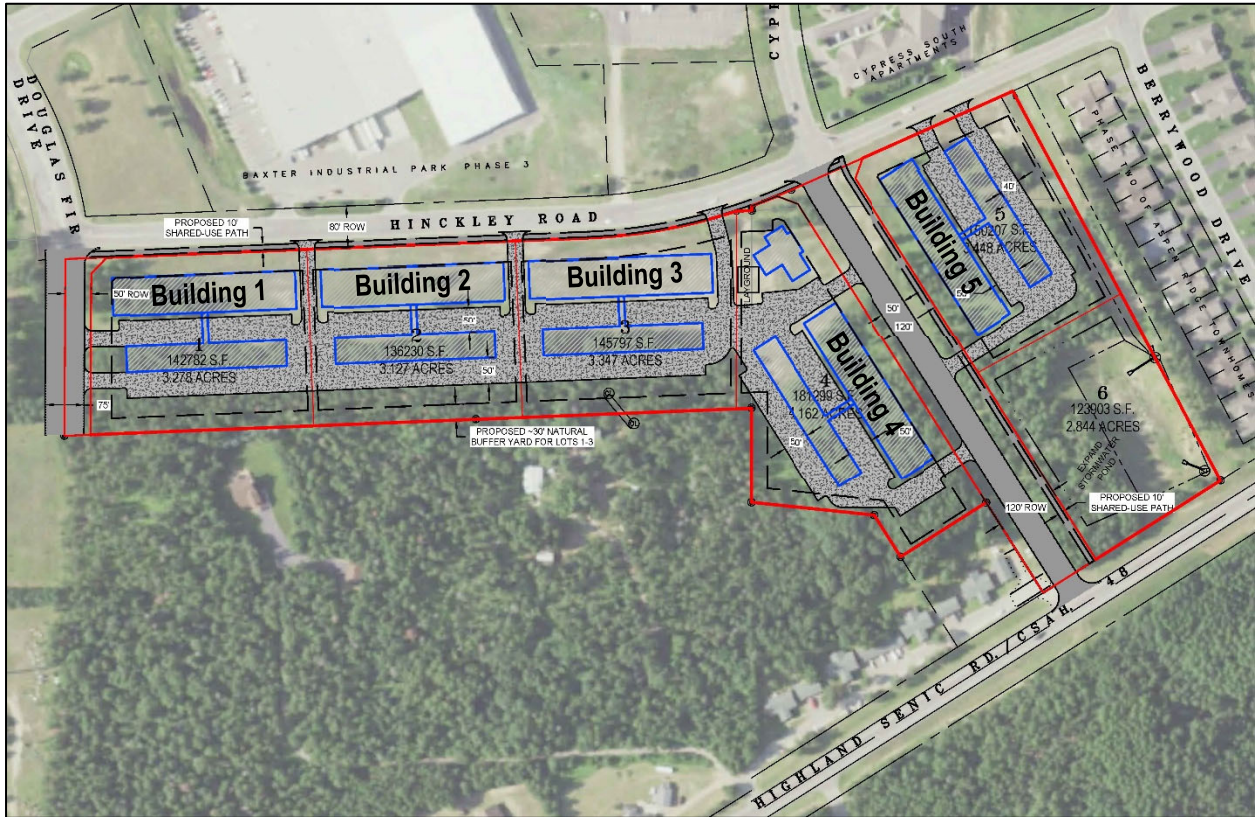
		Project: BAXTE 164181 Print Date: 12/2/2021	2028 NO BUILD TRAFFIC VOLUMES Campbell Subdivision Traffic Impact Study Baxter, MN	Figure 3
		Map by: jdanibas Projection: Crow Wing Co. Coords. Source: ESRI		

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TRIP GENERATION AND DISTRIBUTION

The proposed Campbell Subdivision includes five separate apartment buildings, each with 50 units for a total of 250 apartments. **Figure 4** shows the most recent proposed site plan for the Campbell Subdivision and its accesses onto Cypress Drive, Douglas Fir Drive, and Hinckley Road. The site plan proposes extending Douglas Fir Drive to the south boundary of the proposed Campbell Subdivision. The City plans to extend Douglas Fir Drive to County Road 48 in the future but there is no planned timeframe.

Figure 4 – Campbell Subdivision Site Plan



The Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition was used to estimate the number of trips generated by the proposed Campbell Subdivision during the AM peak hour and PM peak hour as well as daily trips. ITE land use code 220 – multi-family housing (low rise) was used to estimate the trips generated by the proposed Campbell Subdivision. **Table 1** summarizes the trip generation estimates for each building in the Campbell Subdivision as well as the total for all 5 buildings.

Table 1 – Site Trip Generation

Scenario	Number of Apartments	Daily Trips	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
1 Building	50	338	6	18	24	18	11	29
All 5 Buildings	250	1,690	30	90	120	90	55	145

The existing AADT's on the adjacent major external routes of Cypress Drive, College Road, and County Road 48 were used to estimate the trip distribution for the Campbell Subdivision trips. It is estimated that 60% of trips will come from/go to College Road, 15% will come from/go to Cypress Drive north of the College Drive, and the remaining 25% will come from/go to County Road 48. Trips coming from/going to County Road 48 were split between the east and west throughout different times of the day based on the 2021 traffic count at the intersection of County Road 48 at Berrywood Drive. For buildings 1, 2 and 3 (western 3 buildings) within the Campbell Subdivision, it was assumed that 50% of the vehicles coming from/going to College Road would use Douglas Fir Drive. No trips from buildings 4 or 5 (eastern 2 buildings) were routed to Douglas Fir Drive.

Table 2 shows the trip distribution for each group of buildings. **Figure 5** shows the AM and PM peak hour volumes generated by the proposed Campbell Subdivision at each study intersection. **Figure 6** shows the 2028 build traffic volumes at each study intersection.

Table 2 – Site Trip Distribution

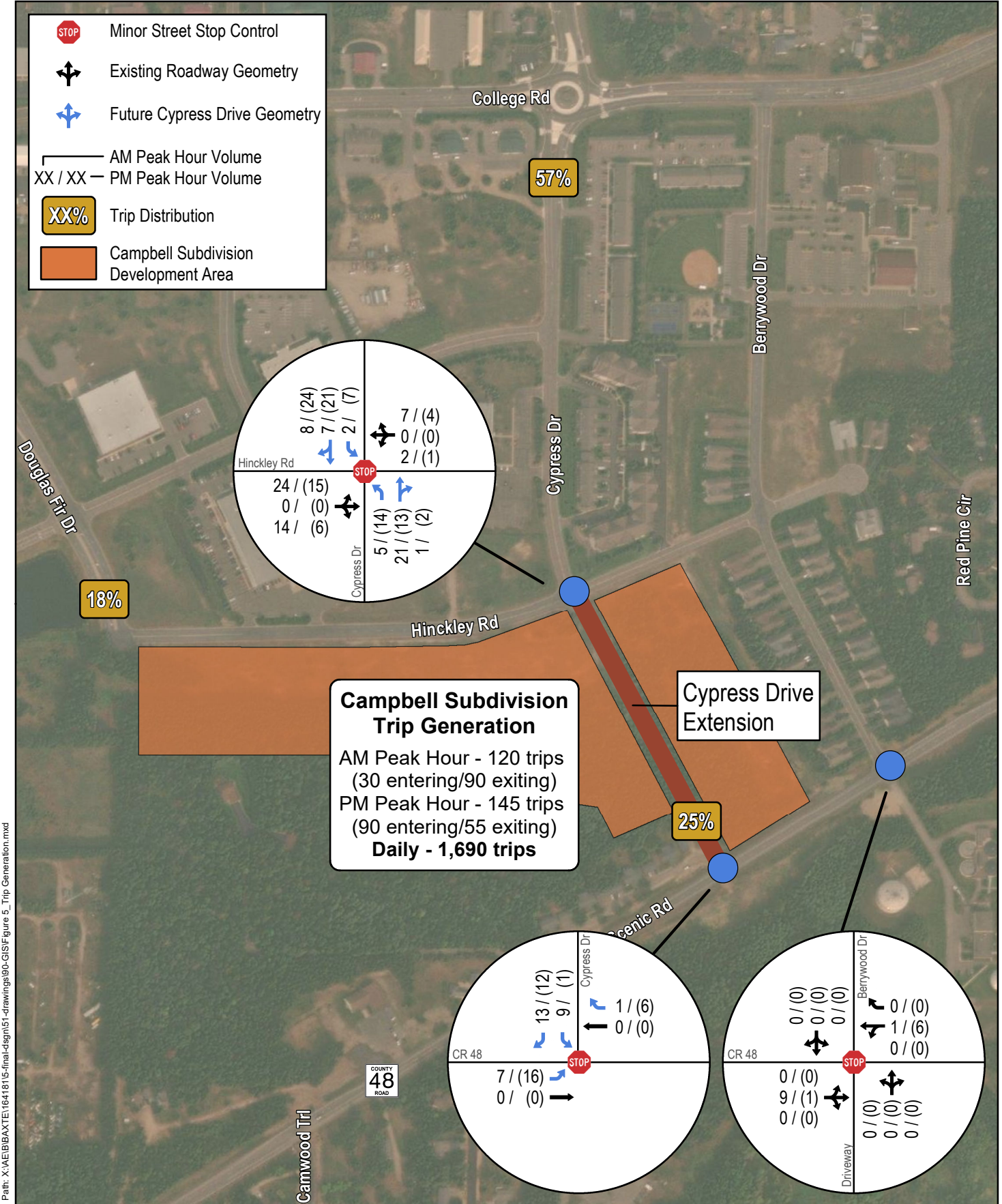
Area	To/From North		To/From South
	Cypress Drive	Douglas Fir Drive	Cypress Drive
Buildings 1, 2 and 3	45%	30%	25%
Buildings 4 and 5	75%	0%	25%
Total	57%	18%	25%
Daily Trips	964	304	422

COLLEGE ROAD INTERSECTION OPERATIONS

The intersections of College Road at Cypress Drive and College Road at Douglas Fir Drive were not included in the traffic operations analysis for this study. However, both intersections are expected to operate acceptably with the additional development trips.

The roundabout at the intersection of College Road at Cypress Drive, constructed in 2019, was designed to accommodate the future AADT of 10,000 on Cypress Drive. The proposed Campbell Subdivision does not change the 10,000 forecast AADT as the previous forecasts assumed the land area would be developed. Therefore, the roundabout at this intersection will be able to accommodate the traffic growth on Cypress Drive caused by the Campbell Subdivision.

The south leg of the minor street stop control at the intersection of College Road and Douglas Fir Drive is expected to see an increase of approximately 150 approaching trips per day, with less than 20 added approach trips during either peak hour, which will have little impact on traffic operations at the intersection. It should be noted that in the City of Baxter's 2015 Comprehensive Plan, the long-term plan has been to construct a traffic signal at the intersection of College Road and Douglas Fir Drive.



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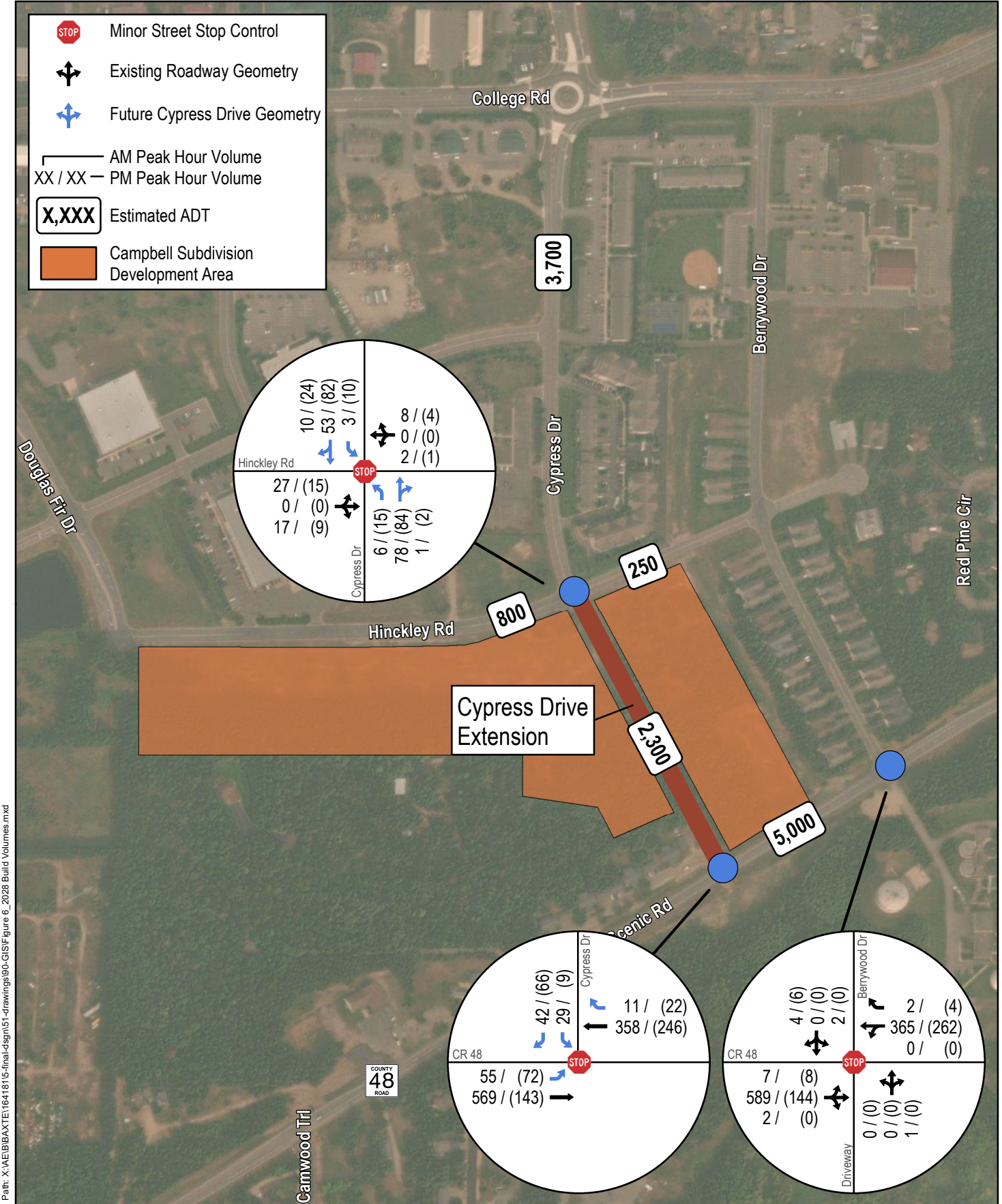


Project: BAXTE 164181
 Print Date: 12/2/2021
 Map by: jdanibas
 Projection: Crow Wing Co. Coords.
 Source: ESRI

TRIP GENERATION
 Campbell Subdivision Traffic Impact Study
 Baxter, MN

Figure 5

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		Project: BAXTE 164181 Print Date: 12/2/2021	2028 BUILD TRAFFIC VOLUMES Campbell Subdivision Traffic Impact Study Baxter, MN	Figure 6
		Map by: jdanibas Projection: Crow Wing Co. Coords. Source: ESRI		

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OPERATIONAL ANALYSIS

Traffic operations analyses were conducted to determine the level of service (LOS) and delay information for the AM and PM peak hours at each study intersection. LOS is a qualitative rating system used to describe the efficiency of traffic operations at an intersection and is based on the average control delay in seconds per vehicle. Six LOS are defined, designated by LOS A through F. LOS A represents free flow conditions and LOS F represents the most congested conditions. For this project, LOS D or better represents acceptable traffic operations for all movements, approaches, and intersections. **Table 3** shows the LOS threshold for unsignalized intersections (stop signs or roundabouts).

Table 3 – Level of Service Thresholds

Level of Service (LOS)	Unsignalized Intersection Average Control Delay (sec/veh)
A	0 to 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Traffic operations analyses were performed using Synchro/SimTraffic (version 11) with an average of 10 simulation runs for the below scenarios. All relevant traffic operations results tables can be found in **Appendix B**.

- 2021 Existing Conditions
 - Existing traffic volumes, intersection geometry, and traffic control
- 2028 No Build Conditions
 - Cypress Drive extended to County Road 48
 - Cypress Drive as a 3-lane roadway between College Road and County Road 48
 - Cypress Drive at Hinckley Road maintains existing minor street stop control (Hinckley Road stopping)
 - New Cypress Drive at County Road 48 intersection as a minor street stop-controlled intersection (Cypress Drive stopping)
 - Eastbound left turn lane and westbound right turn lane added on County Road 48 at Cypress Drive
 - No development trips
- 2028 Build Conditions
 - 2028 No Build conditions with proposed Campbell Subdivision trips added

2021 Existing Conditions

Under 2021 existing conditions, the two existing intersections operate acceptably with all approaches operating at LOS A during both the AM and PM peak hours. **Table 4** shows a summary of the 2021 existing operations at the study intersections during the AM and PM peak hour.

Table 4 – 2021 Existing Traffic Operations (SimTraffic)

Peak Hour	Intersection	Approach Delay (sec/veh / LOS)				Intersection Delay (sec/veh / LOS)
		Eastbound	Westbound	Northbound	Southbound	
AM	Cypress Drive at Hinckley Road	5.2 / A	3.0 / A		0.1 / A	2.9 / A
	County Road 48 at Berrywood Drive	0.6 / A	0.4 / A	3.9 / A	5.2 / A	0.6 / A
PM	Cypress Drive at Hinckley Road	4.0 / A	3.0 / A		0.0 / A	1.2 / A
	County Road 48 at Berrywood Drive	0.4 / A	0.3 / A	0.0 / A	2.7 / A	0.4 / A

2028 No Build Conditions

Under 2028 No Build conditions, Cypress Drive is extended to County Road 48 and an intersection is added. Cypress Drive is expected to be constructed/restriped as a 3-lane roadway with a continuous TWLTL between College Road and County Road 48. For the purposes of this study, the new intersection of Cypress Drive at County Road 48 was analyzed as a minor street stop-controlled intersection with Cypress Drive traffic being required to stop. It is recommended that an eastbound left turn lane and a westbound right turn lane be constructed on County Road 48 at the Cypress Drive intersection to separate the slower turning traffic and improve safety. The intersection of Cypress Drive a Hinckley Road is expected to maintain its existing minor street stop control with Hinckley Road traffic being required to stop.

Under 2028 No Build conditions, with increased through traffic on Cypress Drive due to the connection to County Road 48, all three study intersections are expected to operate acceptably with all approaches operating at LOS B or better during both the AM and PM peak hours.

Table 5 shows a summary of the 2028 No Build operations at the study intersections during the AM and PM peak hours.

Table 5 – 2028 No Build Traffic Operations (SimTraffic)

Peak Hour	Intersection	Approach Delay (sec/veh / LOS)				Intersection Delay (sec/veh / LOS)
		Eastbound	Westbound	Northbound	Southbound	
AM	Cypress Drive at Hinckley Road	5.6 / A	2.0 / A	1 / A	0.1 / A	0.8 / A
	Cypress Drive at County Road 48	1.2 / A	0.5 / A		10.0 / B	1.4 / A
	County Road 48 at Berrywood Drive	0.9 / A	0.5 / A	5.9 / A	5.8 / A	0.8 / A
PM	Cypress Drive at Hinckley Road	3.6 / A	0.0 / A	0.3 / A	0.2 / A	0.3 / A
	Cypress Drive at County Road 48	0.8 / A	0.5 / A		3.5 / A	1.0 / A
	County Road 48 at Berrywood Drive	0.4 / A	0.3 / A	0.0 / A	2.5 / A	0.4 / A

2028 Build Conditions

Under 2028 Build conditions, the trips generated by the proposed Campbell Subdivision were added to the 2028 No Build volumes, while maintaining the same intersection control and geometry. With a 3-lane roadway section along Cypress Drive, northbound or southbound left turn lanes would be present at each Cypress Drive access to the Campbell Subdivision via the TWLTL. Each Hinckley Road and Douglas Fir Drive access would not be expected to have any left or right turn lanes as they are both currently local, low-volume roadways.

Under 2028 Build conditions, with increased traffic due to the proposed development, all three study intersections are expected to operate acceptably with all approaches operating at LOS B or better during both the AM and PM peak hours.

Table 6 shows a summary of the 2028 Build operations at the study intersections during the AM and PM peak hours.

Table 6 – 2028 Build Traffic Operations (SimTraffic)

Peak Hour	Intersection	Approach Delay (sec/veh / LOS)				Intersection Delay (sec/veh / LOS)
		Eastbound	Westbound	Northbound	Southbound	
AM	Cypress Drive at Hinckley Road	6.8 / A	4.7 / A	0.8 / A	0.3 / A	2.1 / A
	Cypress Drive at County Road 48	1.5 / A	0.5 / A		9.6 / A	1.7 / A
	County Road 48 at Berrywood Drive	0.9 / A	0.5 / A	3.8 / A	3.7 / A	0.8 / A
PM	Cypress Drive at Hinckley Road	4.5 / A	3.4 / A	0.5 / A	0.5 / A	1.0 / A
	Cypress Drive at County Road 48	1.0 / A	0.6 / A		3.4 / A	1.1 / A
	County Road 48 at Berrywood Drive	0.3 / A	0.3 / A	0.0 / A	2.5 / A	0.3 / A

ROUNDBABOUT ANALYSIS

The City of Baxter and Crow Wing County are considering constructing a roundabout at the new Cypress Drive and County Road 48 intersection when Cypress Drive is extended based upon previous traffic forecasts and studies completed in the area. Therefore, a roundabout was analyzed at this intersection under 2028 Build traffic conditions to ensure that a single lane roundabout would provide acceptable traffic operations. Roundabout traffic operations were completed using HCS 7 software. HCS is a faithful implementation of the equations in the 2010 Highway Capacity Manual. Because HCS 7 is calculation based, it often provides more conservative operations results than Synchro/SimTraffic. All relevant HCS 7 reports can be found in **Appendix B**.

Neither the AM or PM peak hour traffic volumes are expected to meet the Minnesota Manual of Uniform Traffic Control Devices (MnMUTCD) thresholds to warrant an all-way stop, roundabout, or traffic signal at the intersection of Cypress Drive at County Road 48 under the 2028 Build volume scenario. However, the intersection would operate acceptably under roundabout control with each approach operating at LOS A during both the AM and PM peak hours under 2028 Build conditions.

Table 7 shows a summary of the single lane roundabout operations at the intersection of Cypress Drive at County Road 48 during the AM and PM peak hours under the 2028 Build volume scenario.

Table 7 – 2028 Build Roundabout Operations (HCS 7)

Peak Hour	Intersection	Approach Delay (sec/veh / LOS)				Intersection Delay (sec/veh / LOS)
		Eastbound	Westbound	Northbound	Southbound	
AM	Cypress Drive at County Road 48	11.6 / B	7.4 / A		5.7 / A	9.7 / A
PM	Cypress Drive at County Road 48	4.4 / A	5.4 / A		4.6 / A	4.9 / A

ACCESS REVIEW

The City of Baxter’s 2015 Comprehensive Plan provides access management guidelines for providing adequate access while maintaining traffic flow and safety along roadways. The access spacing guidelines depend on the type of roadway and type of access as well as other factors such as roadway speed, traffic volume, sight distance, etc.

Cypress Drive is classified as a major collector roadway in the City’s Comprehensive Plan, which means that residential driveway spacing guidelines suggest accesses every 1/8 mile. This would only allow the Campbell Subdivision to have a single access point along Cypress Drive between Hinckley Road and County Road 48, which is difficult due to the currently proposed site layout. While the proposed three access locations on Cypress Drive do not meet the City’s access spacing guidelines, the three access points are expected to operate acceptably if Cypress Drive is constructed as a 3-lane roadway. The continuous TWLTL would provide left turn lanes on Cypress Drive for each access point and allow for vehicles turning left off Cypress Drive to separate out of the through lane. In addition, each access point to the Campbell Subdivision is expected to serve less than 100 trips in and out of the development each day with less than 15 during any given hour.

Douglas Fir Drive and Hinckley Road are classified as local roadways in the City’s Comprehensive Plan, which means that residential driveway spacing guidelines suggest accesses be spaced a minimum of 30 feet. Each proposed access to the Campbell Subdivision along Douglas Fir Drive and Hinckley Road is spaced at least 50 feet from the nearest access point. While the proposed access locations meet City guidelines, it is recommended that the two closely spaced access driveways on Douglas Fir Drive and on Hinckley Road east of Cypress Drive be consolidated to a single access at each location to improve safety along the roadway and avoid right of way confusion between the two closely spaced accesses.

CONCLUSION

The proposed Campbell Subdivision includes five separate apartment buildings, each with 50 units for a total of 250 apartments. The proposed development is estimated to generate 1,690 trips per day, split between eight access locations along Cypress Drive, Hinckley Road, and Douglas Fir Drive.

When the Campbell Subdivision is constructed, it is recommended that Cypress Drive be extended between Hinckley Road and County Road 48 to avoid adding more traffic to Berrywood Drive and other local roadways in this area. The extension of Cypress Drive to County Road 48 has been a part of the City of Baxter's Long Range Transportation plan and is part of the plan for using Cypress Drive as a reliever route to Trunk Highway 371 between County Road 48 and County Road 49.

When Cypress Drive is extended, there is expected to be an increase in through trips along Cypress Drive between College Road and County Road 48. In 2028, the additional through trips on Cypress Drive were estimated to be approximately 1,480 per day, which were included in both the No Build and Build traffic operations analysis scenarios.

When Cypress Drive is extended between Hinckley Road and County Road 48, the current plan is to construct Cypress Drive as a 3-lane roadway with a continuous two-way left turn lane (TWLTL) with a 10' multi-use trail on the east side of the roadway. Cypress Drive will also be restriped as a 3-lane roadway with a continuous TWLTL between College Road and Hinckley Road. Based on the City's long range traffic forecasts for Cypress Drive, the City of Baxter plans to maintain 120 feet of right-of-way along Cypress Drive in the event Cypress Drive needs to be expanded to a 4-lane divided roadway in the future while maintaining the planned 10' multi-use trail on the east side of the roadway.

When Cypress Drive is extended to County Road 48, a new intersection will be created along County Road 48 approximately 625 feet west of Berrywood Drive. The traffic control at the new Cypress Drive/County Road 48 intersection has not yet been determined. However, the intersection should have separate left and right turn lanes on County Road 48 and Cypress Drive if the intersection is constructed as a minor street stop-controlled intersection.

With the additional through trips on Cypress Drive after extension to County Road 48 and the trips generated by the proposed Campbell Subdivision, the intersection of Cypress Drive at County Road 48 is expected to operate acceptably as a minor street stop-controlled intersection. The City of Baxter and Crow Wing County are considering constructing a roundabout at the new Cypress Drive and County Road 48 intersection when Cypress Drive is extended based upon previous traffic forecasts and studies completed in the area. A single lane roundabout was analyzed under 2028 Build conditions, and it is expected to operate acceptably.

All other existing intersections are expected to operate acceptably with their existing roadway geometry and traffic control.

An access review of the proposed Campbell Subdivision was completed as part of this study. While the proposed three access locations on Cypress Drive do not meet the City's access spacing guidelines, the three access points are expected to operate acceptably if Cypress Drive is constructed as a 3-lane roadway because of the left turn lanes provided on the mainline and the low volumes at each access point (less than 100 trips per day). While the proposed access locations on Hinckley Road and Douglas Fir Drive meet City guidelines, it is recommended that the two closely spaced access driveways on Douglas Fir Drive and on Hinckley Road east of Cypress Drive be consolidated to a single access at each location to improve safety along the roadway and avoid right of way confusion between the two closely spaced accesses.

Appendix A

2021 Traffic Counts

Location: Cypress Drive at Hinckley Road
 Count Date: 11/10/2021
 Counted By: CountCloud



TURNING MOVEMENT COUNT DATA

All Vehicles

Start Time	Cypress Drive				Hinckley Road				N/A				Hinckley Road				Int. Total
	Southbound				Westbound				Northbound				Eastbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
0:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1:45	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
3:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
5:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6:00	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
6:15	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
6:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
6:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
7:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3
7:45	2	0	1	0	0	0	2	0	0	0	0	0	2	1	0	0	8
8:00	1	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0	4
8:15	2	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	5
8:30	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4
8:45	1	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	5
9:00	0	0	0	0	0	2	4	0	0	0	0	0	0	1	0	0	7
9:15	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
9:30	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3
9:45	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
10:00	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4
10:15	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
10:30	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	4
10:45	3	0	1	0	0	0	5	1	0	0	0	0	0	0	0	0	9
11:00	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
11:15	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
11:30	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
11:45	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
12:00	3	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	5
12:15	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	8
12:30	0	0	1	0	0	2	3	0	0	0	0	0	0	0	0	0	6
12:45	1	0	0	2	0	0	5	1	0	0	0	0	0	0	0	0	6
13:00	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
13:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13:30	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
13:45	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	3
14:00	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4
14:15	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	6
14:30	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4
14:45	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3
15:00	0	0	1	0	0	1	4	0	0	0	0	0	1	0	0	0	7
15:15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
15:30	5	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	8
15:45	4	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	7

Location: Cypress Drive at Hinckley Road
 Count Date: 11/10/2021
 Counted By: CountCloud



TURNING MOVEMENT COUNT DATA

All Vehicles

Start Time	Cypress Drive				Hinckley Road				N/A				Hinckley Road				Int. Total
	Southbound				Westbound				Northbound				Eastbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
16:00	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4
16:15	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	4
16:30	4	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	5
16:45	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4
17:00	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3
17:15	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7
17:30	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5
17:45	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4
18:00	3	0	0	0	0	1	2	0	0	0	0	0	1	1	0	1	8
18:15	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	4
18:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
18:45	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
19:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19:15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
20:30	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
21:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
21:15	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	3
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	90	0	16	10	0	25	83	3	0	0	0	0	19	18	0	6	213
Cars+	86	0	13	10	0	25	79	3	0	0	0	0	15	18	0	6	236
Trucks	4	0	3	0	0	0	4	0	0	0	0	0	4	0	0	0	15
% Trucks	4.4	0.0	18.8	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	7.0
	6.6				3.7				0.0				10.8				

Location: County Road 48 at Berrywood Drive
 Count Date: 11/10/2021
 Counted By: CountCloud



TURNING MOVEMENT COUNT DATA

All Vehicles

Start Time	Berrywood Drive				County Road 48				Driveway				County Road 48				Int. Total
	Southbound				Westbound				Northbound				Eastbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
0:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0:30	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
1:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
2:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	4
3:30	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
5:15	0	0	0	1	0	1	0	0	0	0	0	0	1	3	0	0	5
5:30	0	0	0	0	0	4	0	0	0	0	0	0	0	9	0	0	13
5:45	0	0	0	0	1	6	0	0	0	0	0	0	0	6	0	0	13
6:00	0	0	2	0	0	10	0	0	0	0	0	0	1	10	0	0	23
6:15	2	1	2	0	0	6	1	0	0	0	0	0	1	15	2	0	30
6:30	0	0	1	0	1	11	0	1	0	0	1	0	0	20	0	0	34
6:45	0	0	0	0	1	5	0	0	0	0	0	0	1	37	1	0	45
7:00	0	0	1	0	0	19	2	0	0	0	0	0	0	36	0	0	58
7:15	0	0	2	0	0	48	1	0	0	0	0	0	1	81	0	0	133
7:30	2	0	1	0	0	90	0	0	0	0	0	0	3	128	2	0	226
7:45	0	0	3	0	0	105	0	0	0	0	1	0	4	142	0	0	255
8:00	2	0	0	0	0	33	1	0	0	0	0	0	1	99	0	0	136
8:15	2	0	1	0	1	12	0	0	0	1	1	0	2	35	0	0	55
8:30	4	0	2	0	0	15	1	0	0	0	0	0	4	47	0	0	73
8:45	0	0	1	0	0	7	3	0	0	0	0	0	2	28	0	0	41
9:00	2	0	0	0	0	11	1	0	0	0	2	0	2	18	0	0	36
9:15	0	0	0	0	0	9	2	0	0	0	0	0	1	13	0	0	25
9:30	0	0	1	0	0	13	0	0	0	0	0	0	0	24	0	0	38
9:45	0	0	1	0	0	14	1	0	0	0	0	0	1	20	0	0	37
10:00	1	0	2	0	0	14	1	0	0	0	0	1	0	9	0	0	27
10:15	1	0	0	1	1	18	1	1	0	0	0	0	1	13	0	0	35
10:30	1	0	2	0	0	14	2	0	0	1	0	0	0	14	0	0	34
10:45	1	0	1	0	0	17	2	0	0	0	0	0	3	20	0	0	44
11:00	3	0	1	0	0	22	0	0	0	0	0	0	1	24	0	0	51
11:15	0	0	1	0	0	20	3	0	0	0	1	0	2	16	1	0	44
11:30	0	0	0	0	0	12	1	0	0	0	0	0	0	14	0	0	27
11:45	0	0	3	0	0	30	0	0	0	0	0	0	0	24	0	0	57
12:00	0	0	2	0	0	22	0	0	0	0	0	0	3	14	0	0	41
12:15	0	0	3	0	0	17	2	0	0	0	0	0	1	25	0	0	48
12:30	1	0	1	0	0	22	5	0	0	0	0	0	1	30	0	0	60
12:45	1	0	1	0	0	26	1	0	0	1	0	0	3	25	0	0	58
13:00	2	0	2	0	0	22	2	0	0	0	0	0	0	14	0	0	42
13:15	0	0	1	0	1	14	0	0	0	0	1	0	0	13	0	0	30
13:30	2	0	2	0	1	19	0	0	0	0	0	0	0	22	0	0	46
13:45	2	0	0	0	0	30	0	0	0	0	0	0	1	19	0	0	52
14:00	0	0	1	0	0	28	1	0	0	0	0	0	0	22	0	0	52
14:15	0	0	2	0	0	20	1	0	0	0	0	0	3	18	0	0	44
14:30	2	0	4	0	0	57	0	0	0	0	0	0	3	28	0	0	94
14:45	1	0	3	0	0	54	2	0	0	0	0	0	0	29	0	0	89
15:00	3	0	0	0	0	43	2	0	0	1	0	0	2	119	0	0	170
15:15	0	0	1	0	0	87	2	0	0	1	0	1	2	62	0	0	156
15:30	0	0	1	0	0	34	2	0	0	2	0	0	1	35	0	0	75
15:45	3	0	2	0	0	34	1	0	0	0	0	0	1	33	0	0	74

Location: County Road 48 at Berrywood Drive
 Count Date: 11/10/2021
 Counted By: CountCloud



TURNING MOVEMENT COUNT DATA

All Vehicles

Start Time	Berrywood Drive				County Road 48				Driveway				County Road 48				Int. Total
	Southbound				Westbound				Northbound				Eastbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
16:00	1	0	0	0	0	37	1	0	0	0	0	0	0	27	0	0	66
16:15	0	0	3	0	0	50	1	0	0	0	0	0	3	22	0	0	79
16:30	0	0	3	0	0	47	1	0	0	0	0	0	3	23	0	0	77
16:45	1	0	1	0	0	34	0	0	0	0	0	0	1	24	0	0	61
17:00	0	0	4	0	0	49	2	0	0	0	0	0	3	39	0	0	97
17:15	0	0	2	0	0	46	1	0	0	0	0	0	2	12	0	0	63
17:30	1	0	3	0	0	27	3	0	0	0	0	0	2	22	0	0	58
17:45	0	0	5	0	0	26	1	0	0	0	0	0	1	18	0	0	51
18:00	1	0	6	0	0	22	3	0	0	0	0	0	5	14	0	0	51
18:15	2	0	3	0	0	15	1	0	0	0	0	0	5	14	0	0	40
18:30	0	0	2	0	0	8	0	0	0	0	0	0	0	13	0	0	23
18:45	0	0	3	0	0	14	0	0	0	0	0	0	0	14	0	0	31
19:00	0	0	2	0	0	15	0	0	0	0	0	0	1	8	0	0	26
19:15	0	0	3	0	0	12	0	0	0	0	0	0	0	10	0	0	25
19:30	0	0	2	0	0	6	0	0	0	0	0	0	1	7	0	0	16
19:45	0	0	8	0	0	8	0	0	0	0	0	0	4	3	0	0	23
20:00	1	0	3	0	0	5	0	0	0	0	0	0	0	5	0	0	14
20:15	0	0	2	0	0	14	0	0	0	0	0	0	1	6	0	0	23
20:30	0	0	2	0	0	21	1	0	0	0	0	0	0	4	0	0	28
20:45	0	0	1	0	0	7	0	0	0	0	0	0	0	6	0	0	14
21:00	0	0	2	0	0	7	0	0	0	0	0	0	0	4	0	0	13
21:15	0	0	0	0	0	6	0	0	0	0	0	0	0	2	0	0	8
21:30	0	0	0	0	0	4	1	0	0	0	0	0	0	2	0	0	7
21:45	0	0	4	0	0	1	0	0	0	0	0	0	0	2	0	0	7
22:00	1	0	1	0	0	2	0	0	0	0	0	0	0	5	0	0	9
22:15	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8
22:30	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
23:00	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	5
23:15	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
23:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:45	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Total	48	2	121	2	7	1606	60	2	6	5	5	1	87	1736	6	0	3392
Cars+	46	1	120	2	7	1535	58	2	5	4	5	1	85	1653	6	0	3525
Trucks	2	1	1	0	0	71	2	0	1	1	0	0	2	83	0	0	164
% Trucks	4.2	50.0	0.8	0.0	0.0	4.4	3.3	0.0	16.7	20.0	0.0	0.0	2.3	4.8	0.0	0.0	4.8
	2.3				4.4				12.5				4.6				

Short Elliott Hendrickson, Inc.
 3535 Vadnais Center Drive
 St. Paul, MN 55110
 "Building a Better World for All of Us"

Cypress Drive south of College Road
 Baxter, MN

Site Code:
 Station ID:

Latitude: 0' 0.0000 Undefined

Start Time	11/8/2021		11/9/2021		11/10/2021		11/11/2021		11/12/2021		Weekday Average		11/13/2021		11/14/2021	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	2	1	1	3	*	*	2	2	*	*	*	*
01:00	*	*	*	*	3	2	3	1	*	*	3	2	*	*	*	*
02:00	*	*	*	*	2	0	1	0	*	*	2	0	*	*	*	*
03:00	*	*	*	*	0	2	0	0	*	*	0	1	*	*	*	*
04:00	*	*	*	*	1	2	1	0	*	*	1	1	*	*	*	*
05:00	*	*	*	*	1	9	0	4	*	*	0	6	*	*	*	*
06:00	*	*	*	*	3	24	3	30	*	*	3	27	*	*	*	*
07:00	*	*	*	*	29	16	24	10	*	*	26	13	*	*	*	*
08:00	*	*	*	*	34	26	32	33	*	*	33	30	*	*	*	*
09:00	*	*	*	*	27	33	20	20	*	*	24	26	*	*	*	*
10:00	*	*	*	*	21	23	23	19	*	*	22	21	*	*	*	*
11:00	*	*	*	*	30	21	23	28	*	*	26	24	*	*	*	*
12:00 PM	*	*	31	37	33	35	27	38	*	*	30	37	*	*	*	*
01:00	*	*	41	46	49	50	*	*	*	*	45	48	*	*	*	*
02:00	*	*	26	41	26	42	*	*	*	*	26	42	*	*	*	*
03:00	*	*	55	36	53	32	*	*	*	*	54	34	*	*	*	*
04:00	*	*	36	35	32	36	*	*	*	*	34	36	*	*	*	*
05:00	*	*	61	45	43	42	*	*	*	*	52	44	*	*	*	*
06:00	*	*	33	50	32	37	*	*	*	*	32	44	*	*	*	*
07:00	*	*	18	29	25	24	*	*	*	*	22	26	*	*	*	*
08:00	*	*	6	16	6	17	*	*	*	*	6	16	*	*	*	*
09:00	*	*	7	16	4	18	*	*	*	*	6	17	*	*	*	*
10:00	*	*	6	19	10	17	*	*	*	*	8	18	*	*	*	*
11:00	*	*	15	7	22	6	*	*	*	*	18	6	*	*	*	*
Total Day	0	0	335	377	488	515	158	186	0	0	475	521	0	0	0	0
AM Peak	-	-	-	-	08:00	09:00	08:00	08:00	-	-	08:00	08:00	-	-	-	-
Vol.	-	-	-	-	34	33	32	33	-	-	33	30	-	-	-	-
PM Peak	-	-	17:00	18:00	15:00	13:00	12:00	12:00	-	-	15:00	13:00	-	-	-	-
Vol.	-	-	61	50	53	50	27	38	-	-	54	48	-	-	-	-

Comb. Total	0	712	1003	344	0	996	0	0
ADT	ADT 996	AADT 996						

Appendix B

Traffic Operations Results Tables and Reports

**Table B1
Campbell Subdivision Traffic Impact Study
Existing Conditions (2021)**

AM & PM Peak Hours

Intersection	Approach	Vehicle Queuing Information (feet)																														
		Demand Volumes				Delay (s/veh)						LOS By Approach		LOS By Intersection		Left Turn Lane				Through Lane (s)					Right Turn Lane							
		L	T	R	Total	L	LOS	T	LOS	R	LOS	Delay (S/Veh)	LOS	Delay (S/Veh)	LOS	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Thru ⁽²⁾ <---->	% Block Left ⁽²⁾ <----	Link Length (feet)	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Right ⁽²⁾ <---->	% Block Thru ⁽²⁾ <----	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹				
AM Peak Hour	Cypress Dr at Hinckley Rd	EB	3	3	6	4.9	A	5.3	A			5.2	A	2.9	A						1001	20	55									
		WB	1	4	5			6.2	A	2.2	A	3.0	A									285	20	31								
		NB										0.0	A																			
		SB	3		2	5	0.1	A			0.0	A	0.1			A																
	CR 48 at Berrywood Dr	EB	9	450	2	461	1.5	A	0.6	A	0.5	A	0.6	A	0.6	A						546	20	35								
		WB		276	2	278			0.4	A	0.0	A	0.4	A																		
		NB			1	1					3.9	A	3.9	A									305	20	26							
		SB	4		6	10	7.5	A			2.8	A	5.2	A									832	20	20							
PM Peak Hour	Cypress Dr at Hinckley Rd	EB		1	1			4.0	A			4.0	A	1.2	A						1001	20	20									
		WB		1	4	5			4.8	A	2.6	A	3.0			A							285	20	31							
		NB										0.0	A																			
		SB	10			10	0.0	A					0.0			A																
	CR 48 at Berrywood Dr	EB	10	108		118	1.4	A	0.3	A			0.4	A	0.4	A						546	20	32								
		WB		180	4	184			0.3	A	0.0	A	0.3	A																		
		NB										0.0	A																			
		SB	1		11	12	3.8	A	0.0	A	2.6	A	2.7	A									832	20	41							

- NOTES**
1. If the reported queue is greater than zero (0), but less than 20 ft, a minimum of 20 ft is reported.
 2. Block Percentage is proportion of analysis time (1 hour) the storage lane or through lane is blocked or blocking.
 3. Multiple storage lanes of different length are averaged together to show the "Effective Storage Length" per lane.

**Table B2
Campbell Subdivision Traffic Impact Study
2028 Build Conditions**

AM & PM Peak Hours

Intersection		Approach	Demand Volumes				Delay (s/veh)						LOS By Approach		LOS By Intersection		Vehicle Queuing Information (feet)																	
																	Left Turn Lane			Through Lane (s)						Right Turn Lane								
			L	T	R	Total	L	LOS	T	LOS	R	LOS	Delay (S/Veh)	LOS	Delay (S/Veh)	LOS	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Thru ⁽²⁾ <--->	% Block Left ⁽²⁾ <---	Link Length (feet)	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Right ⁽²⁾ >---	% Block Thru ⁽²⁾ >---	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹					
AM Peak Hour	Cypress Dr at Hinckley Rd	EB	3		3	6	4.9	A			6.0	A	5.6	A	0.8	A						989	20	57										
		WB			1	1					2.0	A	2.0	A										283	20	20								
		NB	1	57		58	2.1	A	1.0	A			1.0	A																				
		SB	1	46	2	49	0.0	A	0.1	A	0.0	A	0.1	A																				
	Cypress Dr at CR 48	EB	48	569		617	6.8	A	0.8	A			1.2	A	1.4	A	260	20	44															
		WB		358	10	368				0.5	A	0.8	A	0.5			A																	
		NB											0.0	A																				
		SB	20		29	49	13.7	B			7.2	A	10.0	B					150	20	46								465	20	36			
	CR 48 at Berrywood Dr	EB	7	580	2	589	2.6	A	0.9	A	0.4	A	0.9	A	0.8	A						561	20	51										
		WB		364	2	366				0.5	A	0.2	A	0.5			A																	
		NB			1	1					5.9	A	5.9	A										304	20	20								
		SB	2		4	6	21.6	C	0.0	A	3.3	A	5.8	A										832	20	21								
PM Peak Hour	Cypress Dr at Hinckley Rd	EB			1	1					3.6	A	3.6	A	0.3	A						989	20	23										
		WB										0.0	A																					
		NB	1	71		72	1.4	A	0.3	A			0.3	A																				
		SB	3	61		64	1.9	A	0.1	A			0.2	A					150		20													
	Cypress Dr at CR 48	EB	56	143		199	2.0	A	0.3	A			0.8	A	1.0	A	260	20	37															
		WB		246	16	262				0.5	A	0.1	A	0.5			A																	
		NB											0.0	A																				
		SB	8		54	62	6.0	A	0.0	A	3.1	A	3.5	A					150	20	30							465	20	50				
	CR 48 at Berrywood Dr	EB	8	143		151	1.6	A	0.3	A			0.4	A	0.4	A						561	20	32										
		WB		256	4	260				0.3	A	0.1	A	0.3			A																	
		NB											0.0	A																				
		SB			6	6					2.5	A	2.5	A										832	20	20								

- NOTES**
1. If the reported queue is greater than zero (0), but less than 20 ft, a minimum of 20 ft is reported.
 2. Block Percentage is proportion of analysis time (1 hour) the storage lane or through lane is blocked or blocking.
 3. Multiple storage lanes of different length are averaged together to show the "Effective Storage Length" per lane.

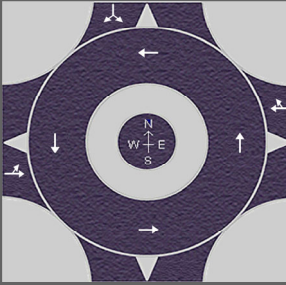
**Table B3
Campbell Subdivision Traffic Impact Study
2028 Build Conditions**

AM & PM Peak Hours

Intersection		Approach	Demand Volumes				Delay (s/veh)						LOS By Approach		LOS By Intersection		Vehicle Queuing Information (feet)																
																	Left Turn Lane			Through Lane (s)					Right Turn Lane								
			L	T	R	Total	L	LOS	T	LOS	R	LOS	Delay (S/Veh)	LOS	Delay (S/Veh)	LOS	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Thru ⁽²⁾ <--->	% Block Left ⁽²⁾ <---	Link Length (feet)	Avg. Queue (feet) ¹	Max Queue (feet) ¹	% Block Right ⁽²⁾ >---	% Block Thru ⁽²⁾ >---	Storage (feet) ³	Avg. Queue (feet) ¹	Max Queue (feet) ¹				
AM Peak Hour	Cypress Dr at Hinckley Rd	EB	27		17	44	6.6	A	0.9	A	7.8	A	6.8	A	2.1	A						454	23	50									
		WB	2		8	10	6.1	A	3.1	A	4.5	A	4.7	A									278	20	30								
		NB	6	78	1	85	3.7	A	0.6	A	0.0	A	0.8	A					150	20	20												
		SB	3	53	10	66	2.6	A	0.2	A	0.1	A	0.3	A					150		20												
	Cypress Dr at CR 48	EB	55	569		624	7.1	A	0.9	A			1.5	A	1.7	A																	
		WB		358	11	369			0.5	A	0.8	A	0.5	A					260	20	44												
		NB											0.0	A																			
		SB	29		42	71	12.5	B			7.8	A	9.6	A					150	20	44								240	20	44		
	CR 48 at Berrywood Dr	EB	7	589	2	598	3.1	A	0.9	A	0.9	A	0.9	A	0.8	A						561	20	61									
		WB		365	2	367			0.5	A	0.0	A	0.5	A																			
		NB			1	1					3.8	A	3.8	A										304	20	20							
		SB	2		4	6	6.6	A	0.0	A	3.2	A	3.7	A										832	20	20							
PM Peak Hour	Cypress Dr at Hinckley Rd	EB	15		9	24	5.2	A			3.1	A	4.5	A	1.0	A						454	20	31									
		WB	1		4	5	5.9	A	0.7	A	3.5	A	3.4	A									278	20	30								
		NB	15	84	2	101	2.2	A	0.2	A	0.1	A	0.5	A					150	20	20												
		SB	10	82	24	116	2.2	A	0.4	A	0.2	A	0.5	A					150	20	24												
	Cypress Dr at CR 48	EB	72	143		215	2.4	A	0.3	A			1.0	A	1.1	A																	
		WB		246	22	268			0.6	A	0.1	A	0.6	A					260	20	48												
		NB											0.0	A																			
		SB	9		66	75	6.4	A	0.1	A	3.1	A	3.4	A					150	20	28							240	20	53			
	CR 48 at Berrywood Dr	EB	8	144		152	1.4	A	0.3	A			0.3	A	0.3	A						561	20	24									
		WB		262	4	266			0.3	A	0.1	A	0.3	A																			
		NB											0.0	A																			
		SB			6	6					2.5	A	2.5	A										832	20	20							

- NOTES**
1. If the reported queue is greater than zero (0), but less than 20 ft, a minimum of 20 ft is reported.
 2. Block Percentage is proportion of analysis time (1 hour) the storage lane or through lane is blocked or blocking.
 3. Multiple storage lanes of different length are averaged together to show the "Effective Storage Length" per lane.

HCS7 Roundabouts Report

General Information				Site Information				
Analyst	JDA				Intersection		CR 48 at Cypress Dr	
Agency or Co.	SEH Inc.				E/W Street Name		County Road 48	
Date Performed	11/23/2021				N/S Street Name		Cypress Dr	
Analysis Year	2028				Analysis Time Period (hrs)		0.25	
Time Analyzed	Build AM Peak Hour				Peak Hour Factor		0.74	
Project Description	Campbell Subdivision TIS				Jurisdiction		Baxter	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LT				TR				LR							
Volume (V), veh/h	0	55	569		0		358	11					0	29		42
Percent Heavy Vehicles, %	0	0	5		0		9	0					0	0		0
Flow Rate (V _{PCE}), pc/h	0	74	807		0		527	15					0	39		57
Right-Turn Bypass	None				None				None							
Conflicting Lanes	1				1				1							
Pedestrians Crossing, p/h	0				0				0							

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763						4.9763	
Follow-Up Headway (s)		2.6087			2.6087						2.6087	


Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		881			542						96	
Entry Volume, veh/h		843			498						96	
Circulating Flow (v _c), pc/h	39			74			920			527		
Exiting Flow (v _{ex}), pc/h	846			584			89			0		
Capacity (C _{PCE}), pc/h		1326			1280						806	
Capacity (c), veh/h		1268			1177						806	
v/c Ratio (x)		0.66			0.42						0.12	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		11.6			7.4						5.7	
Lane LOS		B			A						A	
95% Queue, veh		5.4			2.1						0.4	
Approach Delay, s/veh	11.6			7.4			5.7					
Approach LOS	B			A			A					
Intersection Delay, s/veh LOS	9.7						A					

HCS7 Roundabouts Report

General Information				Site Information				
Analyst	JDA				Intersection		CR 48 at Cypress Dr	
Agency or Co.	SEH Inc.				E/W Street Name		County Road 48	
Date Performed	11/23/2021				N/S Street Name		Cypress Dr	
Analysis Year	2028				Analysis Time Period (hrs)		0.25	
Time Analyzed	Build PM Peak Hour				Peak Hour Factor		0.77	
Project Description	Campbell Subdivision TIS				Jurisdiction		Baxter	

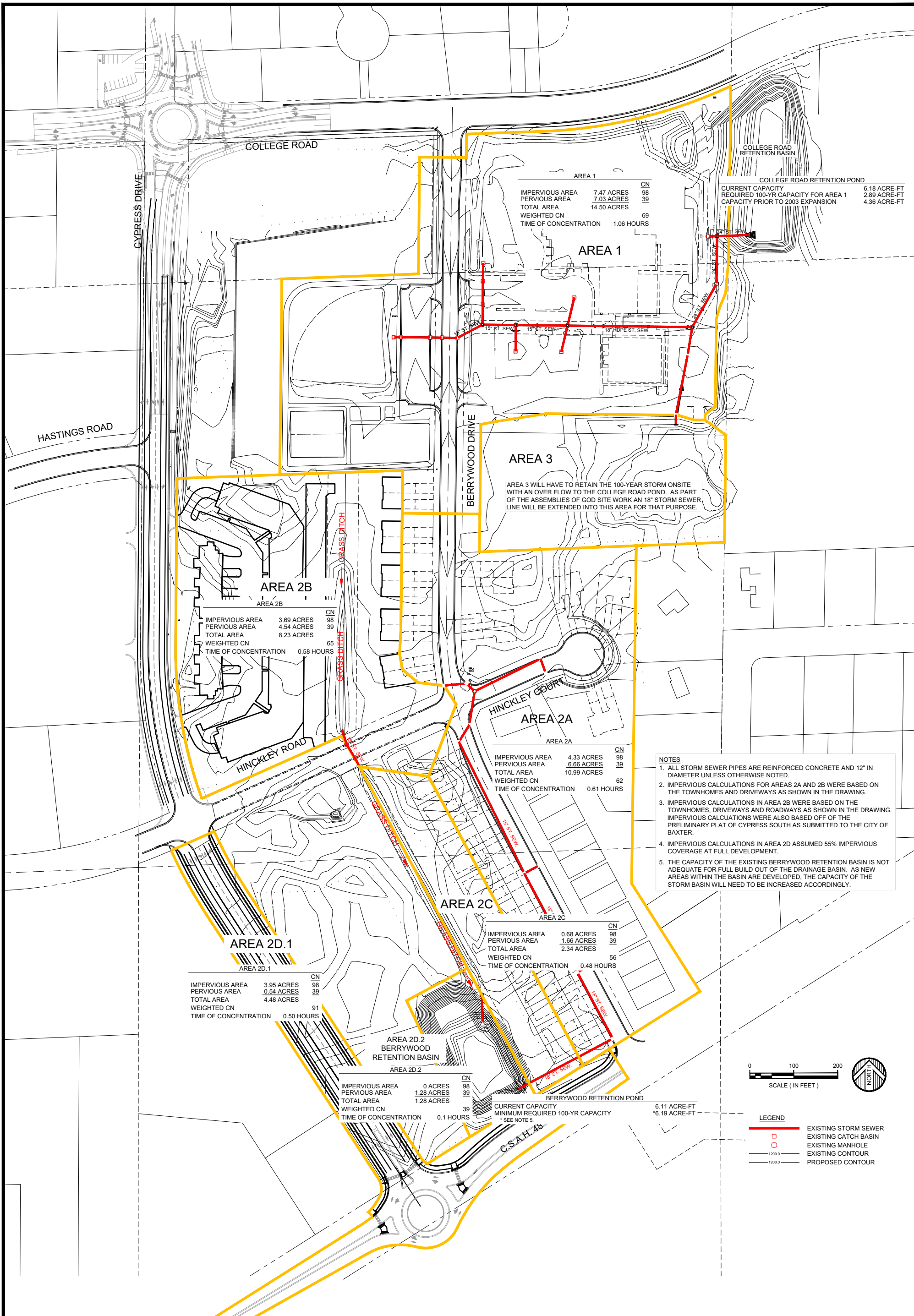
Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LT				TR								LR			
Volume (V), veh/h	0	72	143		0		246	22					0	9		66
Percent Heavy Vehicles, %	0	0	2		0		0	0					0	0		2
Flow Rate (V _{PCE}), pc/h	0	94	189		0		319	29					0	12		87
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)		4.9763			4.9763						4.9763		
Follow-Up Headway (s)		2.6087			2.6087						2.6087		

Flow Computations, Capacity and v/c Ratios													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Entry Flow (v _e), pc/h		283			348						99		
Entry Volume, veh/h		279			348						97		
Circulating Flow (v _c), pc/h	12			94			295			319			
Exiting Flow (v _{ex}), pc/h	201			406			123			0			
Capacity (C _{PCE}), pc/h		1363			1254						997		
Capacity (c), veh/h		1345			1254						980		
v/c Ratio (x)		0.21			0.28						0.10		

Delay and Level of Service													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh		4.4			5.4						4.6		
Lane LOS		A			A						A		
95% Queue, veh		0.8			1.1						0.3		
Approach Delay, s/veh	4.4			5.4						4.6			
Approach LOS	A			A						A			
Intersection Delay, s/veh LOS	4.9						A						

APPENDIX E
BERRYWOOD DRIVE STORMWATER MANAGEMENT PLAN



AREA 1		CN
IMPERVIOUS AREA	7.47 ACRES	98
PERVIOUS AREA	7.03 ACRES	39
TOTAL AREA	14.50 ACRES	
WEIGHTED CN		69
TIME OF CONCENTRATION	1.06 HOURS	

COLLEGE ROAD RETENTION POND	
CURRENT CAPACITY	6.18 ACRE-FT
REQUIRED 100-YR CAPACITY FOR AREA 1	2.89 ACRE-FT
CAPACITY PRIOR TO 2003 EXPANSION	4.36 ACRE-FT

AREA 2B		CN
IMPERVIOUS AREA	3.69 ACRES	98
PERVIOUS AREA	4.54 ACRES	39
TOTAL AREA	8.23 ACRES	
WEIGHTED CN		65
TIME OF CONCENTRATION	0.58 HOURS	

AREA 2A		CN
IMPERVIOUS AREA	4.33 ACRES	98
PERVIOUS AREA	6.66 ACRES	39
TOTAL AREA	10.99 ACRES	
WEIGHTED CN		62
TIME OF CONCENTRATION	0.61 HOURS	

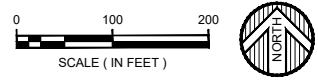
AREA 2D.1		CN
IMPERVIOUS AREA	3.95 ACRES	98
PERVIOUS AREA	0.54 ACRES	39
TOTAL AREA	4.48 ACRES	
WEIGHTED CN		91
TIME OF CONCENTRATION	0.50 HOURS	

AREA 2C		CN
IMPERVIOUS AREA	0.68 ACRES	98
PERVIOUS AREA	1.66 ACRES	39
TOTAL AREA	2.34 ACRES	
WEIGHTED CN		56
TIME OF CONCENTRATION	0.48 HOURS	

AREA 2D.2		CN
IMPERVIOUS AREA	0 ACRES	98
PERVIOUS AREA	1.28 ACRES	39
TOTAL AREA	1.28 ACRES	
WEIGHTED CN		39
TIME OF CONCENTRATION	0.1 HOURS	

BERRYWOOD RETENTION POND	
CURRENT CAPACITY	6.11 ACRE-FT
MINIMUM REQUIRED 100-YR CAPACITY	*6.19 ACRE-FT
*SEE NOTE 5.	

- NOTES**
1. ALL STORM SEWER PIPES ARE REINFORCED CONCRETE AND 12" IN DIAMETER UNLESS OTHERWISE NOTED.
 2. IMPERVIOUS CALCULATIONS FOR AREAS 2A AND 2B WERE BASED ON THE TOWNHOMES AND DRIVEWAYS AS SHOWN IN THE DRAWING.
 3. IMPERVIOUS CALCULATIONS IN AREA 2B WERE BASED ON THE TOWNHOMES, DRIVEWAYS AND ROADWAYS AS SHOWN IN THE DRAWING. IMPERVIOUS CALCULATIONS WERE ALSO BASED OFF OF THE PRELIMINARY PLAT OF CYPRESS SOUTH AS SUBMITTED TO THE CITY OF BAXTER.
 4. IMPERVIOUS CALCULATIONS IN AREA 2D ASSUMED 55% IMPERVIOUS COVERAGE AT FULL DEVELOPMENT.
 5. THE CAPACITY OF THE EXISTING BERRYWOOD RETENTION BASIN IS NOT ADEQUATE FOR FULL BUILD OUT OF THE DRAINAGE BASIN. AS NEW AREAS WITHIN THE BASIN ARE DEVELOPED, THE CAPACITY OF THE STORM BASIN WILL NEED TO BE INCREASED ACCORDINGLY.



- LEGEND**
- EXISTING STORM SEWER
 - EXISTING CATCH BASIN
 - EXISTING MANHOLE
 - 1250.0 EXISTING CONTOUR
 - 1200.0 PROPOSED CONTOUR

UPDATED 03-08-2022

\\win-mn.lco\file\Projects\City of Baxter-32232\2021-12141\CADD\Civil\Berrywood-Drive-Storm-Water-Management-Plan-Update.dwg Plotted by Alex Bitter 3/9/2022 10:18:53 AM © 2022 WIDSETH SMITH NOLTING & ASSOCIATES, INC.

SHEET NO. BERRYWOOD DRIVE STORM WATER MANAGEMENT PLAN CITY OF BAXTER BAXTER, MINNESOTA	DATE: MARCH 2022	DATE: REV#	REVISIONS DESCRIPTION	BY	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.
	SCALE: AS SHOWN				
	DRAWN BY: ADB				
	CHECKED BY: ALW				
JOB NUMBER: 2021-12141				ARC WELCH	DATE: LIC. NO. 41983



APPENDIX F
PROJECT SCHEDULE

**PROPOSED PROJECT SCHEDULE
CYPRESS DRIVE AND DOUGLAS FIR DRIVE IMPROVEMENTS
MUNICIPAL PROJECT NO. 4087
BAXTER, MN
Wednesday, April 6, 2022**

MAJOR TASKS AND MILESTONES	DATES	REMARKS	NOTES
Engineering Agreement for Feasibility Report Preparation	Tuesday, January 18, 2022	City Council Meeting	
Resolution Ordering Preparation of Feasibility Report	Tuesday, April 5, 2022	City Council Meeting	
Recommendation to Approve Feasibility Report	Wednesday, April 6, 2022	Utilities Commission Meeting	
Review Feasibility Study at Council Workshop	Tuesday, April 19, 2022	City Council Meeting	
Resolution Receiving Feasibility Report and Calling Improvement Hearing			
Mailed Notice for Improvement Hearing	Thursday, May 12, 2022	One notice at least 10 days prior to hearing	
First Published Notice for Improvement Hearing	Sunday, May 15, 2022	Twice in local newspaper, one week apart, last notice must be at least three days prior to hearing.	3
Second Published Notice for Improvement Hearing	Sunday, May 22, 2022		
Improvement Hearing	Thursday, May 26, 2022	6:00 p.m. at Baxter City Hall	
Resolution Ordering Improvement	Tuesday, June 7, 2022	City Council Meeting	
Engineering Agreement for Design and Construction			
Design		3 Months	
County and MnDOT State Aid Review		1 Month	
Review Plans and Specifications	Tuesday, October 4, 2022	Utilities Commission Meeting	
Review Plans and Specifications at Council Workshop	Tuesday, October 18, 2022	City Council Meeting	
Resolution Approving Plans and Specifications and Ordering Advertisement for Bids			
Bidding Publication	Sunday, October 23, 2022	Publication must be made at least three weeks before last day to submit bids, at least once in official newspaper and once in trade paper or First Class city newspaper.	3
Bid Opening	Tuesday, November 15, 2022	By default bid remains subject to acceptance for 60 days after the Bid opening.	
Resolution Ordering Assessment Hearing	Tuesday, December 6, 2022	City Council Meeting	
Bid review with Utilities Commission	Wednesday, December 7, 2022	Utilities Commission Meeting	
Published Notice for Assessment Hearing	Wednesday, December 7, 2022	Once in local newspaper at least two weeks prior to hearing.	
Mailed Notice for Assessment Hearing	Thursday, December 8, 2022	One notice at least two weeks prior to hearing	
Assessment Hearing	Thursday, December 22, 2022	6:00 p.m. at Baxter City Hall	
Resolution Adopting Assessment Rolls	Tuesday, January 3, 2023	City Council Meeting	
End of Assessment Appeal Period	Thursday, February 2, 2023	Appeals to district court must be made within 30 days after adoption of the assessment roll.	
Notice of Award	Tuesday, February 7, 2023	City Council Meeting. Contractor has 15 days to deliver signed agreement, bonds, and insurance certificates.	
Pre-Construction Meeting	May, 2023		
Public Information Meeting - Construction	May, 2023	6:00 p.m. at Baxter City Hall	
Begin Construction	June, 2023		
Construction Complete	September 2023		

NOTES

1. City Council Meetings held on 1st and 3rd Tuesdays @ 7:00 p.m.
2. Utilities Commission Meetings held on 1st Wednesday following the 1st Council Meeting @ 5:30 p.m.
3. Brainerd Dispatch is currently only running legal notices on Wednesdays and Sundays. Deadline for Wednesday publication is noon on Monday and deadline for Sunday publication is noon on Thursday.
4. The project schedule assumes all Council actions are taken at a regular scheduled meetings. The schedule could be accelerated with special meetings.
5. **All dates are subject to change, this is a living document. Dates may change based on coordination with other 2022 projects.**