Council Action Recommendation

Meeting Date:
March 6, 2023 – City Council

Subject:
City Project CP No. 5959 – 2023 Street and Utility Improvement Project No. 2
Stanton Avenue Reconstruction Improvement Project

Recommendation:

- Accept the Preliminary Engineering Feasibility Report for PI No. 5959
- Set the Preliminary Improvement Project Hearing date for **April 17, 2023**

Background/Key Points:
The Preliminary Engineering Feasibility Report is complete for the above referenced project. In general from an engineering standpoint, this project is feasible, cost effective, and necessary. Please refer to the attached report for detailed information.

A portion of this public improvement project is proposed to be special assessed per City Policy following MN Statue Chapter 429 requirements. The proposed amount funded by special assessments consists of a portion of the street that abuts the benefitting property. Because of this, property appraisals were completed to assist this Council and staff with the decision-making process by determining special benefit reasonableness of the proposed assessments to the individual benefitting properties.

Based on the appraisal report prepared by Patchin Messner Valuation Counselors from Burnsville, MN, they have determined the special benefit from this improvement to all subject properties within the proposed project's limits is reasonable in comparison to the City's preliminary assessment roles.

If acceptable, the next step is to schedule the **Preliminary Improvement Project Hearing for April 17, 2023 at 5:30 P.M. in these Council Chambers.** A legal publication along with individual notices will be sent to all subject properties.

Budgetary Impact:
The preliminary estimated construction cost is $2,020,000. Tentatively the funding sources are as:

- PIR Bonds (Street Special Assessment - Active)
- PIR Bonds (Street City Share – Municipal State Aid)
- City Sanitary Sewer Fund
- City Water Fund
- City Storm Sewer Fund

Originating Department:
Engineering Department

Respectfully Submitted:
Brian Yavarow - City Engineer

Attachments:
Preliminary Engineering Feasibility Report for PI No. 5959

City of Fergus Falls, Minnesota

Stanton Ave Reconstruction

Preliminary Engineering Report

moore engineering, inc.

February 2023
Moore Project No. 22557

1808 East Fir Avenue
Fergus Falls, MN 56537
P: 218.998.4041
F: 218.998.4042

moore engineering, inc.

February 2, 2023

City of Fergus Falls
Brian Yavarow
112 West Washington Ave
Fergus Falls, MN 56537-2568

RE: Fergus Falls, Minnesota
Preliminary Engineering Report
Moore Project No. 22557

Dear Mr. Yavarow,

Enclosed is a Preliminary Engineering Report for the reconstruction of Stanton Avenue, which includes the necessary street & utility improvements to Stanton Avenue (Broadway Street – Union Ave), South Oak Street (Lincoln Ave – Stanton Ave), & proposed multi-use path in Fergus Falls, Minnesota.

This report presents a proposed layout of necessary utilities, roadways, & multi-use path improvements, & preliminary cost estimates, alternatives, & project recommendations.

Please contact me if you have any questions or comments at 218.998.4041.

Respectfully Submitted,

Josiah Rostad

Josiah C. Rostad, PE
Project Engineer

City of Fergus Falls, Minnesota

Stanton Avenue Reconstruction

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

Josiah Rostad

Josiah C. Rostad, PE

Date: 02/20/2023 Reg. No.: 60526

moore engineering, inc.

February 2023
Moore Project No. 22557

Stanton Avenue Reconstruction
Preliminary Engineering Report
Fergus Falls, Minnesota

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1.0 Background

The City of Fergus Falls has requested the investigation of the improvements needed on the following streets: Stanton Avenue (South Broadway – South Union Avenue) & South Oak Street (Stanton Avenue – West Lincoln Avenue) as well as the analysis of a proposed 10-foot multi-use path alignment. The project will be referred to as Project #22557 – Stanton Avenue Reconstruction & the project area can be found in the appendix under Exhibit 1.

Stanton Avenue is located one block Southwest of historic downtown Fergus falls. The project area is divided into commercial development East of South Oak Street & residential development on the West side. This area is the perfect location for commercial improvements with quick access to downtown & a scenic view of the Ottertail River. With future businesses looking at this area for development & the need for updated utilities to both commercial & residential owners, the existing infrastructure needs improvement.

This report investigates the needs for replacement of existing sanitary sewer, water main, & storm sewer utilities; & rehabilitation of deteriorated streets along with the installation of a new 10-foot multi-use path throughout the project area. The estimated costs & proposed assessments are presented to assist the City & affected property owners in determining the feasibility of the project.

2.0 Existing Conditions

Stanton Avenue was reconstructed in the early 1980's. This project included improvements to the city's central sanitary sewer interceptor line, storm sewer, & roadway. The interceptor line runs parallel with Stanton Ave (on the South side of the road) & turns South on Broadway. Portions of this line were constructed on wood pilings for adequate support as the underlying soil were not suitable for proper support. The interceptor line ranges in size from 27 inch (near Union Avenue) to 36 inch (near Broadway) & is composed of reinforced concrete pipe (RCP).

The existing watermain is located on the North side of the street & is 6 inches in diameter. The material is not recorded in existing record drawings, but due to the approximate time of construction & material shown in adjacent streets, is most likely ductile-iron pipe (DIP).

The existing sanitary sewer main (aside from the central interceptor as previously discussed) is in the approximate center of street at roughly 8-feet deep. These pipes range in size from 10 – 12 inches & are primarily composed of vitrified clay pipe (VCP).

The existing storm sewer within Stanton Avenue (except the intersection of Stanton & Vine) is primarily 12 inches in diameter & is composed of RCP. In 2003, South Vine Street was reconstructed, and a major portion of the project included storm sewer updates. In the intersection, there is an existing 66" & 78" RCP storm pipe that runs parallel with Vine.

The existing roadway asphalt ranges in width between 33-46.5 feet. That is measured from lip to lip of the existing curb & gutter. Based upon geotechnical report & borings, the material within the street ranges from silty sand to clay. Four of the six borings, terminated at <6.5 feet due to unknown material (Auger refusal on cobbles/boulders according to the report). This unknown material may cause difficulty for utility installation. Additionally, the report explains areas where fill had previously been placed ranging in depths of 4.5-11 feet in depth and ground water was encountered at approximately 11 feet. The existing roadway section is as follows:

Material:	Depth	Units
Asphalt	4.5-8.5	Inches
Aggregate	0-24	Inches

The existing sidewalk & curb is generally in good condition. There are multiple areas however that hold water, have broken/cracked sections, & are not in compliance with ADA standards.

Oak Street (from Stanton Avenue to Lincoln Street) is approximately 21 feet wide (lip to lip). The existing asphalt shows signs of wear & tear including longitudinal & transverse cracking & overall deterioration. The existing curb & gutter is in good condition aside from some minor cracking. The existing sidewalk has been reconstructed along the West side of the roadway but not on the East side. Sidewalk on the East side has cracked & broken panels throughout the full length. As for utilities, there is storm sewer in the intersections for drainage, but no water or sanitary sewer mains within the street.

In 2003 street & utility improvements were completed on South Vine Street. The street ranges in width from 41 – 41.5 feet (lip to lip). The improvements included the installation of 8" PVC water & sanitary sewer mains, service replacement to the right-of-way, & storm sewer, drainage & roadway improvements.

In 2022 North Union Ave was reconstructed from Stanton Avenue to West Lincoln Avenue. Improvements included the installation of PVC water & sanitary sewer, storm sewer, & roadway replacement. Additional parking was provided along the roadway with bike lanes & increased pedestrian access routes to Spies Park.

An existing conditions map can be found in the appendix under Exhibit 2.

3.0 Proposed Improvements & Alternatives

The following improvements are based on the existing conditions described in the previous section & additional improvements requested by the city. These improvements are needed to ensure efficient & safe distribution & collection of clean water, storm sewer, & sanitary sewer, ADA compliance & future expansion of commercial & residential development.

Multiple alternatives for improvement have been reviewed & deemed infeasible for one or more of the following reasons: cost effectiveness, usability, reliability, & constructability. Although some may present cheaper upfront costs, the service life is far less.

3.1. Utilities:

Aside from the utilities previously replaced along Stanton Avenue; water, sanitary, & storm sewer in the intersection of Broadway, South Vine, & North Union, the utilities within Stanton are deteriorating & need replacement.

The existing watermain will be replaced with 6 & 8-inch PVC C900. Approximately 1,031-feet of 6-inch & 365-feet of 8-inch watermain will be replaced along the North side of Stanton. This will tie into all 6 & 8-inch PVC C900 watermain stubs previously installed at Broadway, South Vine, & North Union. Along with the watermain replacement, new valves & hydrants will be installed for adequate isolation & fire coverage. Services within the project limits will be replaced with 1" copper service line from the main to the right-of-way, with new curb stops placed at the right-of-way. Additionally, there is 1-2" service line & 1-6" service line that will be replaced.

The sanitary sewer main draining from West to East along Stanton will be replaced with 8-inch PVC SDR 35 from Broadway to South Oak Street. From South Oak to Vine Street, a 12-inch PVC SDR 35 pipe will be installed to tie into the 12-inch PVC stub located approximately 60-feet West of the intersection of Vine & Stanton. Based upon the area served, 8-inch pipe is adequate to serve the existing drainage area. The services will be connected by PVC wyes at

the main & extended to the right-of-way. Proposed services will be installed as 6-inch PVC SDR26.

It is important to note that after review of the Geotechnical Report (located in Appendix A), excavation may be more difficult than normal due to the unknown material found in the borings.

The proposed utilities can be found in the appendix under Exhibit 3.

3.2. Utility Alternatives:

The alternative to replacing the existing water & sanitary sewer, is to leave them in place. Based on the age & material, this is not a reliable option with the additional improvements being performed on the street. With existing PVC extensions from the previous projects, it is best to replace the old pipe to reduce infiltration, leaks, & potential breaks.

Another option for the sanitary sewer is to reline the existing line. This option is only feasible if the existing lines are in decent condition with minor cracking, sagging, & minor pipe deformation. If the pipe is deformed, broken, or offset, relining is not an option. Based upon the televising, the existing line is not in adequate condition for relining.

3.3. Roadway:

Stanton Avenue improvements will include sidewalk & curb replacement for ADA compliance throughout the entire length of roadway & full width pavement & base replacement. The geotechnical report explains subgrade issues and recommendations for construction. Based on the 4-foot sub cut recommended by the geotechnical engineer, the existing pavement & curb & gutter will need to be replaced along the entire corridor. This will reduce the chances of uneven settlement that could cause potential roadway failure. The sidewalk will be brought up to ADA standards by means of removal & replacement in areas that are not in compliance on the North side of the roadway and will vary on the south side depending upon the multi-use path alignment selection. Stanton Avenue will be replaced with a 10-ton road section per the geotechnical engineer's recommendations.

Oak Street improvements will include pavement rehabilitation. The most economical method is to mill & overlay the existing street. This method repairs the surface defects without disturbing the subsurface material. Based on the existing conditions of the roadway, this method of rehab is sufficient.

The proposed roadway improvements can be found in the appendix under Exhibit 4.

3.4. Roadway Alternatives:

Instead of full width reconstruction of Stanton Avenue, the curb & gutter located on the North side of the roadway between Vine Street & Broadway could be left in place. Potential issues are unexpected differential settlement between the roadway & existing curb which lead to early pavement failure & drainage issues. The roadway has subgrade issues that need to be addressed to ensure the final product will last. This option is less expensive than the proposed improvement but has additional risk associated that can cause early failure and further issues down the road.

South Oak Street could utilize a full depth reconstruction. This would include removing pavement & sub-cutting approximately 12" of material. Upon completion of excavation, this void would be back filled with aggregate material & paved. Based on the condition of the street, this option is not necessary.

3.5. Multi-Use Path:

The proposed multi-use path will consist of a 10-foot concrete sidewalk located on the south side of Stanton Ave. This path will provide safe and convenient travel for pedestrians & cyclists by keeping them off the street and away from vehicular traffic.

The placement of this path requires that snow either be stored on-street or hauled off site. If snow storage is a requirement in this area, a minimum 10-foot buffer is required between the roadway and edge of the path. Additionally, a minimum 5-foot buffer is required in areas where signage is to be placed. This includes a minimum 2-foot offset from edge of pavement & 2-foot buffer from edge of path.

The multi-use path will run parallel and directly adjacent to the curb & gutter. It will be designed & constructed to meet all current ADA & MNDOT Facility Design Guide standards. By placing the path in this location, disturbance of the boulevard is minimized & offset from existing homes is maximized. The installation of this path will require the removal of most trees along the roadway. Tree removal is unavoidable due to the limited space within the right-of-way. The proposed layout can be in the appendix under Exhibit 4.

3.6. Mulit-Use Path Alternatives:

Three alternatives have also been investigated for the proposed location of the multi-use path. Alternative No. 1 includes a 10-foot concrete path that runs parallel along the West side of Vine Street heading South and proceeding West along the river until it reaches Broadway. Alternative No. 2 utilizes the street along Stanton Avenue while maintaining parking on both sides of the street. Alternative No. 3 is like No. 2 but eliminates parking on the South side of Stanton. Alternative 2 & 3 are 10-foot asphalt paths.

Alternative No. 1 would provide the most scenic view as pedestrians would be traveling along the river side and away from the street. This alternative has a few red flags in terms of constructability and land acquisitions. Along this alignment there are many trees & railroad R/W. These factors will lead to expensive construction costs and safety concerns being near the train tracks. The city would need to acquire property (either through permanent easement, land acquisition, or other) for the placement of this path. This requires additional cost and aesthetic design to ensure homeowners are comfortable with the path being placed in their back yards. These factors make this option difficult to construct and more expensive. See “Exhibit 6.”

Alternative No. 2 resembles the layout of Cascade Street from East Vernon Avenue to West Junius Avenue. The biggest difference is that this path would be for both pedestrians & cyclists, it would be 10 feet wide, & the parking lane would be on the inside (closer to the driving lane) than the multi-use path. This option (like the proposed option) will require the removal of most trees within the boulevard. There are also two concerns with the usability of this option. The first concern is the overall safety of pedestrians on the path as they would be walking on street. Unlike a concrete walk that is separated by curb & gutter, this option provides no separation between vehicles and pedestrians. This issue of separation is why the parking lane would be placed in between the path & roadway. This leads to the second concern regarding snow removal & parking in the winter. Snow removal technically wouldn’t be an issue because the plows will still clear to the curb & gutter, but with vehicles parked in the correct spot, this will cause an issue for snowplows to remove snow from the path. Most likely what would happen during the winter months is that vehicles would be parked in the multi-use path, causing safety concerns for pedestrians. See “Exhibit 7.”

Alternative No. 3 includes an on street multi-use path without a parking lane on the South side. This option offers the ability to save most trees within the boulevard but sacrifices the on-street parking for residents. Like alternative 2, there is a major safety concern as pedestrians would be walking near the traffic lane. Additionally, while saving the trees in the boulevard is a positive thing, the loss of the parking, in an already crowded area, may raise concern for residents. See "Exhibit 8."

NOTE: Alternative No. 2 & 3 should be avoided if possible. As mentioned in each alternate, these options present major safety concerns for pedestrians. According to MNDOT's "Facility Design Guide" this is a last resort option when all off-street options have been deemed infeasible. If either of these options is considered for construction, additional design & cost will need to be considered to provide safe travel for pedestrians. This could include delineators, additional stripping, a buffer barrier, and/or additional signage. From an engineering standpoint, these options are not recommended for selection.

4.0 Project Recommendation

It is in my opinion as an engineer that the following recommendation be considered for project #22557 Stanton Avenue Reconstruction:

4.1. Utility Improvement:

The watermain along Stanton Avenue should be replaced. This would include 6-inch PVC watermain from Broadway to Vine, 8-inch PVC Watermain from Vine to Union, hydrants, gate valves, & services from the main to the right-of-way. All previous projects (Broadway, Vine, & Union) stubbed out 6 & 8-inch PVC C900 for connection points, thus completing the replacement of the old watermain in this area.

The sanitary sewer (gravity main from Broadway to South Vine) should be replaced with 8 inch & 12 Inch PVC. Additionally, all services should be replaced from the main to the right-of-way with 6-inch PVC.

The storm sewer will require miscellaneous replacement for ADA improvements, multi-use path & the installation of the watermain & sanitary sewer.

Additionally, it is recommended to remove & replace material utilized for backfilling proposed piping due to the unknown (assumed to be rock) material found during the borings. Based upon the subcut proposed in the following section, this will include approximately 1,400 CY of Rock Excavation.

4.2. Roadway Improvement:

Stanton Avenue improvement recommendation is to replace the full width of the roadway to reestablish the crown, increase drainage, & repair subgrade failure. The roadway will be replaced with a 10-ton road section per the geotechnical engineer's report. This is the most feasible & cost-effective option.

Along with roadway replacement, it is recommended that all sidewalks within the right-of-way should be analyzed & reconstructed to meet ADA standards. This includes the reconstruction of all intersections & miscellaneous panels along the entire length of roadway.

The curb & gutter improvement recommendation is to completely reconstruct the whole corridor. This will reduce the chances of differential settlement cause by the existing subgrade

material. Additionally, from Union to South Vine additional parking and future commercial expansion improvements will be included.

South Oak Street improvement recommendation is to mill & overlay the existing street. Based on the existing condition of the street showing no signs of subgrade failure & maintained crown, this will be a sufficient method of construction for long term usability and cost effectiveness.

4.3. Multi-Use Path:

The recommendation for the construction of the multi-use path is to construct a 10' concrete sidewalk located on the south side of Stanton Ave adjacent to the curb & gutter (with a minimum 2' buffer). This path will provide safe and convenient travel for pedestrians & cyclists by keeping them off the street and away from vehicular traffic.

5.0 Cost Summary

5.1. Proposed Improvements:

The proposed improvement cost summary can be found in the Appendix under "Proposed Improvements." This estimate includes total cost of construction, contingencies, engineering/soft costs, and project total. The proposed improvements include all recommendations as stated in "Project Recommendation" section above.

The following is a breakdown of the engineer's opinion of probable cost:

Table 1
Opinion of Probable Cost
Total Project Cost

	Total Project	City Cost	Assessable Cost (Residential)	Assessable Cost (Commercial)
Construction	$2,076,000	$1,818,800	$97,600	$159,600
Misc. Costs*	$727,000	$639,900	$34,200	$55,900
Grand Total	$2,803,000	$2,455,700	$131,800	$215,500

**Misc. Costs include legal, fiscal, admin, engineering, contingency and soil borings.*

The City's portion of the assessable costs shown is approximately $45,903.07.

6.0 Assessments

6.1. Proposed Improvements:

The special assessments were calculated in accordance with the City policy for funding reconstruction projects. This area has been split by residential & commercial/industrial. See Exhibit 5 for contributing areas. Stanton Avenue (Broadway – Oak) has a 455 vpd according to MNDOT's Traffic Mapping Application and is considered residential for this project. City policy allows for a residential property to be assessed on a per lineal foot basis for a 24-foot contributing street width on a 5-ton street design with traffic counts less than 2,000 vpd. Residential corner lots and residential lots with multiple frontage are assessed on the short side of the lot regardless if the short side is abutting the improvement. Oak – Union has a 2,550 vpd volume according to MNDOT's Traffic Mapping Application and is considered commercial/industrial. According to City policy, commercial/industrial properties are to be assessed on a per lineal foot basis for a 19-foot contributing street width on a 9-ton street design with traffic counts >2,000 ≤ 5,000 VPD.

The assessable footage was broken down by parcel and denotes the assessable footage for each parcel as derived from the Otter Tail County GIS. Additional footage is also accounted for the City in multiple areas. These areas include instances where the City owns property, at alleys, and the long portion of the corner lots on streets which will receive improvements on both sides. Where corner lots exist, and a portion of the lot is not directly abutting the improvement an equitable adjustment was made to provide for the total potential assessable footage contributing to the project.

The residential front foot assessment rate for streets (residential 5-ton design with a traffic count of less than 2,000 vehicles per day) is determined by dividing the total associated street improvement costs by the total benefitting front footage which is calculated at 1,378 LF. A 5-ton road section (for the purpose of this report) consists of 4-inches of bituminous & 8-inches of class 5 along with geotextile fabric. **Based on this assessment methodology the residential costs per foot yields an estimated $95.60.**

The commercial/industrial front foot assessment rate for streets (9-ton design with a traffic count of more than 2,000 & less than 5,000 vehicles per day) is determined by dividing the total associated street improvement costs by the total benefitting front footage which is calculated at 1,625 LF. A 9-ton road section (for the purpose of this report) consists of 6-inches of bituminous, 10-inches of class 5, 18-inches of select granular, & geotextile fabric. **Based on this assessment methodology the residential costs per foot yields an estimated $132.48.**

Project #: 22557
Date Created: 10/05/2022

Proposed Improvements
Fergus Falls, MN
Stanton Avenue Reconstruction

Engineer's Preliminary Opinion of Cost

	BID ITEM NO.	& DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
Base Bid						
1	2021.501	Mobilization	LS	$145,000.00	1	$145,000.00
2	2101.502	Clearing	EA	$350.00	19	$6,650.00
3	2101.502	Grubbing	EA	$350.00	19	$6,650.00
4	2104.502	Remove Pavement	SY	$2.00	7,150	$14,300.00
5	2104.502	Remove Manhole (Sanitary)	EA	$1,000.00	4	$4,000.00
6	2104.502	Remove Manhole or Catch Basin	EA	$1,000.00	14	$14,000.00
7	2104.502	Remove Hydrant	EA	$750.00	1	$750.00
8	2104.502	Remove Gate Valve	EA	$200.00	4	$800.00
9	2104.502	Remove Sign	EA	$100.00	6	$600.00
10	2104.503	Remove Curb & Gutter	LF	$4.00	2,910	$11,640.00
11	2104.503	Remove Storm Sewer (All Sizes)	LF	$15.00	875	$13,125.00
12	2104.518	Remove Sidewalk	SF	$2.00	10,920	$21,840.00
13	2104.518	Remove Asphalt Driveway Pavement	SF	$2.50	165	$412.50
14	2104.518	Remove Concrete Driveway Pavement	SF	$2.50	1,612	$4,030.00
15	2105.607	Common Excavation	CY	$15.00	10,463	$156,950.78
16	2105.607	Rock Excavation	CY	$25.00	2,381	$59,525.93
17	2105.607	Select Granular Borrow (CV) (Utility)	CY	$30.00	2,381	$71,431.11
18	2105.607	Select Granular Borrow (CV) (Roadway)	CY	$30.00	7,089	$212,678.19
19	2108.504	Geotextile Fabric Type 5	SY	$3.00	7,506	$22,518.87
20	2112.519	Subgrade Preparation	SY	$2.50	7,506	$18,765.72
21	2211.507	Aggregate Base (CV) Class 5	CY	$50.00	1,877	$93,828.61
22	2232.504	Mill Bituminous Surface	SY	$5.00	740	$3,700.00
23	2360.504	Type SP 12.5 Wearing Course Material (3,C) 4" Thick	SY	$25.00	6,126	$153,138.89
24	2360.504	Type SP 12.5 Wearing Course Material (3,C) 2" Thick	SY	$12.50	740	$9,250.00
25	2360.504	Type SP 12.5 Non-Wearing Course Material (3,C) 2" Thick	SY	$12.50	6,126	$76,569.44
26	2503.503	RC Pipe Sewer Design 3006 Class III (ALL SIZES)	LF	$50.00	820	$41,000.00
27	2503.602	Connect to Existing Sanitary Sewer	EA	$750.00	1	$750.00
28	2503.602	Connect to Existing Storm Sewer Manholes	EA	$1,000.00	6	$6,000.00
29	2503.602	Connect to Existing Sanitary Sewer Service	EA	$250.00	26	$6,500.00
30	2503.602	8"X6" PVC Wye	EA	$750.00	22	$16,500.00
31	2503.602	12"X6" PVC Wye	EA	$1,000.00	4	$4,000.00
32	2503.603	6" PVC Sanitary Service Pipe	LF	$60.00	1,055	$63,300.00
33	2503.603	8" PVC Sewer	LF	$75.00	700	$52,500.00
34	2503.603	12" PVC Sewer	LF	$95.00	218	$20,710.00
35	2504.602	Connect to Existing Water Main	EA	$2,000.00	4	$8,000.00
36	2504.602	Connect to Existing Water Service	EA	$400.00	27	$10,800.00
37	2504.602	6" Gate Valve & Box	EA	$2,300.00	5	$11,500.00
38	2504.602	1" Corporation Stop	EA	$400.00	27	$10,800.00
39	2504.602	1" Saddle	EA	$400.00	27	$10,800.00
40	2504.602	2" Corporation Stop	EA	$500.00	1	$500.00
41	2504.602	2" Saddle	EA	$500.00	1	$500.00
42	2504.602	8" Gate Valve & Box	EA	$2,750.00	2	$5,500.00
43	2504.602	1" Curb Stop & Box	EA	$700.00	27	$18,900.00
44	2504.602	2" Curb Stop & Box	EA	$800.00	1	$800.00

moore engineering, inc.

Project #: 22557
Date Created: 10/05/2022

Proposed Improvements
Fergus Falls, MN
Stanton Avenue Reconstruction

Engineer's Preliminary Opinion of Cost

	BID ITEM NO.	& DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
45	2504.602	Hydrant	EA	$5,000.00	1	$5,000.00
46	2504.603	1" Type K Copper Pipe	LF	$60.00	1,015	$60,900.00
47	2504.603	2" Type K Copper Pipe	LF	$70.00	40	$2,800.00
48	2504.603	6" PVC Watermain	LF	$75.00	1,385	$103,875.00
49	2504.603	8" PVC Watermain	LF	$85.00	50	$4,250.00
50	2506.502	Adjust Frame & Ring Casting	EA	$500.00	7	$3,500.00
51	2506.502	Construct Drainage Structure Design 4020 (All Sizes)	EA	$6,000.00	15	$90,000.00
52	2506.502	Construct Drainage Structure Design 4007	EA	$7,500.00	3	$22,500.00
53	2521.518	4" Concrete Walk	SF	$6.50	15,719	$102,173.50
54	2521.518	6" Concrete Walk	SF	$9.00	3,991	$35,919.00
55	2531.503	Concrete Curb & Gutter Design B618	LF	$30.00	2,855	$85,650.00
56	2531.504	6" Concrete Driveway Pavement	SY	$100.00	361	$36,100.00
57	2563.601	Traffic Control	LS	$5,000.00	1	$5,000.00
58	2564.518	Sign Panels Type C	SF	$50.00	11	$562.50
59	2573.501	Storm Drain Inlet Protection	LS	$4,000.00	23	$92,000.00
60	2573.501	Stabilized Construction Exit	LS	$4,000.00	1	$4,000.00
61	2573.502	Sediment Control Log Type Straw	LF	$2.50	250	$625.00
62	2574.504	Common Topsoil Borrow	CY	$50.00	80	$4,000.00
63	2575.501	Turf Establishment	LS	$5,000.00	1	$5,000.00

Construction Total	$2,076,000.00
Contingencies	$208,000.00
Engineering, Legal, & Administration	$519,000.00
TOTAL PROJECT COST	**$2,803,000.00**

moore engineering, inc.

2023 MISC. STREETS - PRELIMINARY
Proposed Project: C.P. No. 5959
STANTON AVENUE: UNION TO BROADWAY
P.I. NOS. 5350, 7215 & 8230

ITEM NO.	ITEM	UNIT	DIRECT COST UNITS	CITY SHARE UNITS	TOTAL UNITS	UNIT COST	Street Assessable COST (Residential)	Street Assessable COST (Commercial)	Street CITY COST	Storm Water System CITY COST	San. Sewer System CITY COST	Water System CITY COST	EXTENDED COST
1	Mobilization	LS	1.00		1.00	$145,000.00	$18,125.00	$18,125.00		$36,250.00	$36,250.00	$36,250.00	$145,000.00
2	Clearing	EA		19.00	19.00	$350.00			$6,650.00				$6,650.00
3	Grubbing	EA		19.00	19.00	$350.00			$6,650.00				$6,650.00
4	Remove Pavement	SY		7,150.00	7,150.00	$2.00			$14,300.00				$14,300.00
5	Remove Manhole (Sanitary)	EA		4.00	4.00	$1,000.00					$4,000.00		$4,000.00
6	Remove Manhole or Catch Basin	EA		14.00	14.00	$1,000.00				$14,000.00			$14,000.00
7	Remove Hydrant	EA		1.00	1.00	$750.00						$750.00	$750.00
8	Remove Gate Valve	EA		4.00	4.00	$200.00						$800.00	$800.00
9	Remove Sign	EA		6.00	6.00	$100.00			$600.00				$600.00
10	Remove Curb & Gutter	LF		2,910.00	2,910.00	$4.00			$11,640.00				$11,640.00
11	Remove Storm Sewer (All Sizes)	LF		875.00	875.00	$15.00				$13,125.00			$13,125.00
12	Remove Sidewalk	SF		10,920.00	10,920.00	$2.00			$21,840.00				$21,840.00
13	Remove Asphalt Driveway Pavement	SF		165.00	165.00	$2.50			$412.50				$412.50
14	Remove Concrete Driveway Pavement	SF		1,612.00	1,612.00	$2.50			$4,030.00				$4,030.00
15	Common Excavation	CY	2,341.11	8,122.27	10,463.39	$15.00	$7,883.33	$27,233.33	$121,834.11				$156,950.78
16	Rock Excavation	CY		2,381.04	2,381.04	$25.00					$29,762.96	$29,762.96	$59,525.93
17	Select Granular Borrow (CV) (Utility)	CY		2,381.04	2,381.04	$30.00					$35,715.56	$35,715.56	$71,431.11
18	Select Granular Borrow (CV) (Roadway)	CY	1,286.02	5,803.25	7,089.27	$30.00		$38,580.56	$174,097.63				$212,678.19
19	Geotextile Fabric Type 5	SY	3,081.67	4,424.62	7,506.29	$3.00	$5,160.00	$4,085.00	$13,273.87				$22,518.87
20	Subgrade Preparation	SY	3,081.67	4,424.62	7,506.29	$2.50	$4,300.00	$3,404.17	$11,061.56				$18,765.72
21	Aggregate Base (CV) Class 5	CY	722.64	1,153.93	1,876.57	$50.00	$19,111.11	$17,020.83	$57,696.67				$93,828.61
22	Mill Bituminous Surface	SY	0.00	740.00	740.00	$5.00	$0.00	$0.00	$3,700.00				$3,700.00
23	Type SP 12.5 Wearing Course Material (3,C) 4" Thick	SY	2,221.67	3,903.89	6,125.56	$25.00	$21,500.00	$34,041.67	$97,597.22				$153,138.89
24	Type SP 12.5 Wearing Course Material (3,C) 2" Thick	SY	0.00	740.00	740.00	$12.50	$0.00	$0.00	$9,250.00				$9,250.00
25	Type SP 12.5 Non-Wearing Course Material (3,C) 2" Thick	SY	3,081.67	3,043.89	6,125.56	$12.50	$21,500.00	$17,020.83	$38,048.61				$76,569.44
26	RC Pipe Sewer Design 3006 Class III (ALL SIZES)	LF		820.00	820.00	$50.00				$41,000.00			$41,000.00
27	Connect to Existing Sanitary Sewer	EA		1.00	1.00	$750.00					$750.00		$750.00
28	Connect to Existing Storm Sewer Manholes	EA		6.00	6.00	$1,000.00				$6,000.00			$6,000.00
29	Connect to Existing Sanitary Sewer Service	EA		26.00	26.00	$250.00					$6,500.00		$6,500.00
30	8"X6" PVC Wye	EA		22.00	22.00	$750.00					$16,500.00		$16,500.00
31	12"X6" PVC Wye	EA		4.00	4.00	$1,000.00					$4,000.00		$4,000.00
32	6" PVC Sanitary Service Pipe	LF		1,055.00	1,055.00	$60.00					$63,300.00		$63,300.00
33	8" PVC Sewer	LF		700.00	700.00	$75.00					$52,500.00		$52,500.00
34	12" PVC Sewer	LF		218.00	218.00	$95.00					$20,710.00		$20,710.00
35	Connect to Existing Water Main	EA		4.00	4.00	$2,000.00						$8,000.00	$8,000.00
36	Connect to Existing Water Service	EA		27.00	27.00	$400.00						$10,800.00	$10,800.00
37	6" Gate Valve & Box	EA		5.00	5.00	$2,300.00						$11,500.00	$11,500.00
38	1" Corporation Stop	EA		27.00	27.00	$400.00						$10,800.00	$10,800.00
39	1" Saddle	EA		27.00	27.00	$400.00						$10,800.00	$10,800.00
40	2" Corporation Stop	EA		1.00	1.00	$500.00						$500.00	$500.00
41	2" Saddle	EA		1.00	1.00	$500.00						$500.00	$500.00
42	8" Gate Valve & Box	EA		2.00	2.00	$2,750.00						$5,500.00	$5,500.00

2023 MISC. STREETS - PRELIMINARY
Proposed Project: C.P. No. 5959
STANTON AVENUE: UNION TO BROADWAY
P.I. NOS. 5350, 7215 & 8230

ITEM NO.	ITEM	UNIT	DIRECT COST UNITS	CITY SHARE UNITS	TOTAL UNITS	UNIT COST	Street Assessable COST (Residential)	Street Assessable COST (Commercial)	Street CITY COST	Storm Water System CITY COST	San. Sewer System CITY COST	Water System CITY COST	EXTENDED COST
43	1" Curb Stop & Box	EA		27.00	27.00	$700.00						$18,900.00	$18,900.00
44	2" Curb Stop & Box	EA		1.00	1.00	$800.00						$800.00	$800.00
45	Hydrant	EA		1.00	1.00	$5,000.00						$5,000.00	$5,000.00
46	1" Type K Copper Pipe	LF		1,015.00	1,015.00	$60.00						$60,900.00	$60,900.00
47	2" Type K Copper Pipe	LF		40.00	40.00	$70.00						$2,800.00	$2,800.00
48	6" PVC Watermain	LF		1,385.00	1,385.00	$75.00						$103,875.00	$103,875.00
49	8" PVC Watermain	LF		50.00	50.00	$85.00						$4,250.00	$4,250.00
50	Adjust Frame & Ring Casting	EA		7.00	7.00	$500.00			$3,500.00				$3,500.00
51	Construct Drainage Structure Design 4020 (All Sizes)	EA		15.00	15.00	$6,000.00				$90,000.00			$90,000.00
52	Construct Drainage Structure Design 4007	EA		3.00	3.00	$7,500.00					$22,500.00		$22,500.00
53	4" Concrete Walk	SF		15,719.00	15,719.00	$6.50			$102,173.50				$102,173.50
54	6" Concrete Walk	SF		3,991.00	3,991.00	$9.00			$35,919.00				$35,919.00
55	Concrete Curb & Gutter Design B618	LF		2,855.00	2,855.00	$30.00			$85,650.00				$85,650.00
56	6" Concrete Driveway Pavement	SY		361.00	361.00	$100.00			$36,100.00				$36,100.00
57	Traffic Control	LS		1.00	1.00	$5,000.00			$5,000.00	$0.00	$0.00	$0.00	$5,000.00
58	Sign Panels Type C	SF		11.25	11.25	$50.00			$562.50				$562.50
59	Storm Drain Inlet Protection	LS		23.00	23.00	$4,000.00				$92,000.00			$92,000.00
60	Stabilized Construction Exit	LS		1.00	1.00	$4,000.00				$4,000.00			$4,000.00
61	Sediment Control Log Type Straw	LF		250.00	250.00	$2.50				$625.00			$625.00
62	Common Topsoil Borrow	CY		80.00	80.00	$50.00			$4,000.00				$4,000.00
63	Turf Establishment	LS		1.00	1.00	$5,000.00			$5,000.00				$5,000.00
	Total Cost of Bid Items						$97,579.44	$159,511.39	$870,587.16	$297,000.00	$292,488.52	$358,203.52	$2,075,370.03
	Project Development Costs						$34,152.81	$55,828.99	$304,705.51	$103,950.00	$102,370.98	$125,371.23	$726,379.51
	TOTAL COSTS for C.P. # 5959						**$131,732.25**	**$215,340.38**	**$1,175,292.67**	**$400,950.00**	**$394,859.50**	**$483,574.75**	**$2,801,749.55**

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WEST LINCOLN AVE
SOUTH BROADWAY
SOUTH OAK ST
SOUTH VINE ST
NORTH UNION AVE
STANTON AVENUE
SOUTH UNION AVE
MOLANE'S ADDITION
ORIGINAL TOWNSITE
HILL & TODS ADDITION
BLOCK 1
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 9
BLOCK 10
BLOCK 22
BLOCK 23
BLOCK 24
LOT 5
VACATED ALLEY
VACATED R/W
R/W
RES. 70
RES. 71
RES. 72
RES. 73
PROPOSED PROJECT AREA

N
W
E
S

0 125
Scale in Feet

EXHIBIT 1
PROJECT LOCATION
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	JRP

moore engineering, inc.

FILE LOCATION: R:\Projects\22000\22500\22557\CIVIL\PRESENTATION\22557_PERExhibits.dwg


WEST LINCOLN AVE
STANTON AVENUE
SOUTH BROADWAY
SOUTH OAK ST
SOUTH VINE ST
NORTH UNION AVE
SOUTH UNION AVE
MCLANE'S ADDITION
ORIGINAL TOWNSITE
HILL & TODS ADDITION
BLOCK 4
BLOCK 9
BLOCK 10
BLOCK 6
BLOCK 5
BLOCK 23
BLOCK 22
BLOCK 7
BLOCK 8
BLOCK 24
BLOCK 1
VACATED ALLEY
EX. 36" PVC
EX. 78" RCP
EX. 8" PVC
EX. 12" VCP
EX. 6" PVC C900
EX. 6" WATER
EX. 30" RCP
EX. 12" RCP
EX. 27" RCP
EX. 24" RCP
EX. 12" PVC
EX. 8" PVC C900
EX. 36" RCP
EX. 66" RCP
N
S
E
W
0
125
Scale in Feet

EXHIBIT 2
EXISTING CONDITIONS
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	JRP

moore engineering, inc.

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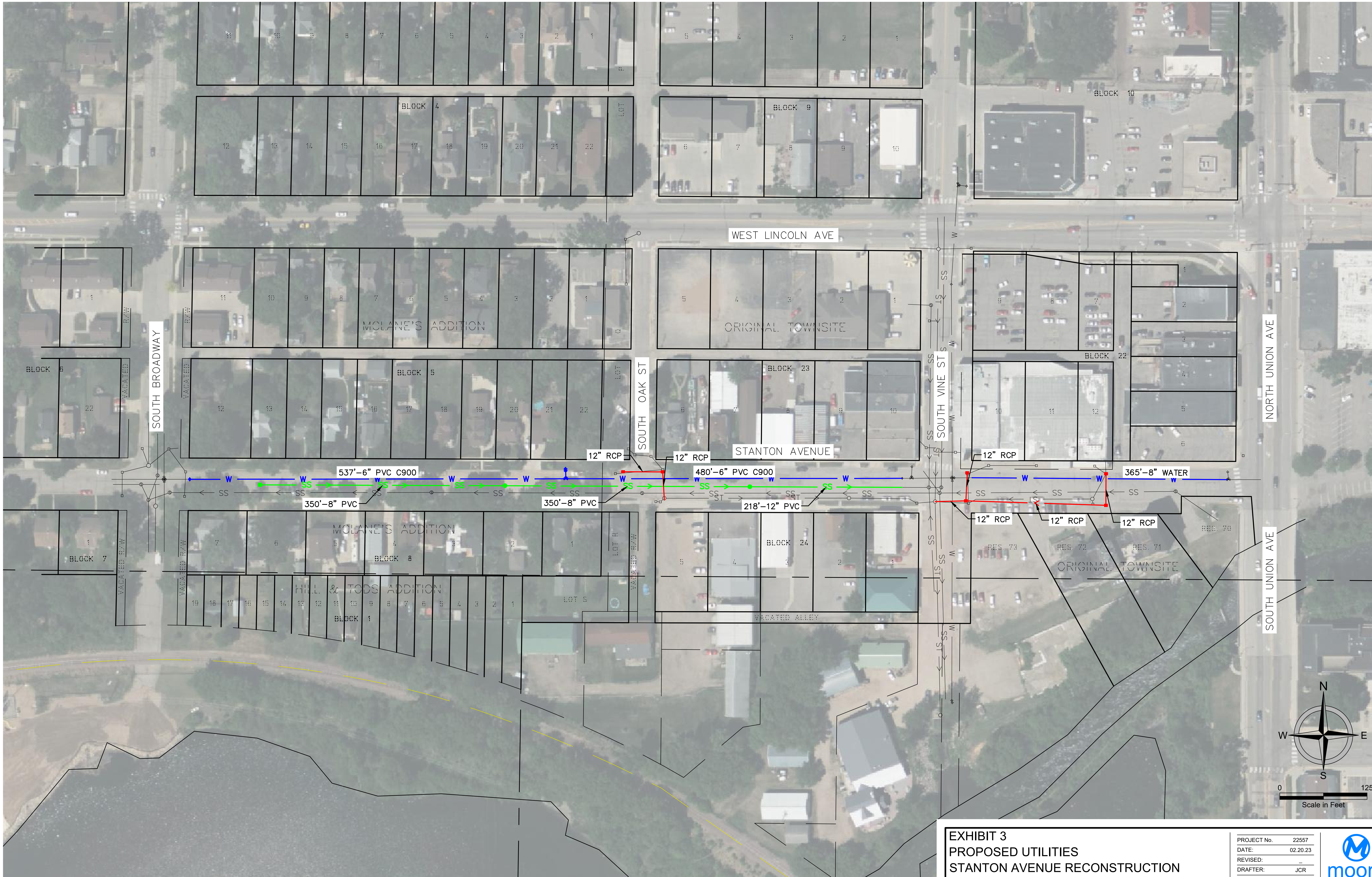

EXHIBIT 3
PROPOSED UTILITIES
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	JRP

moore engineering, inc.

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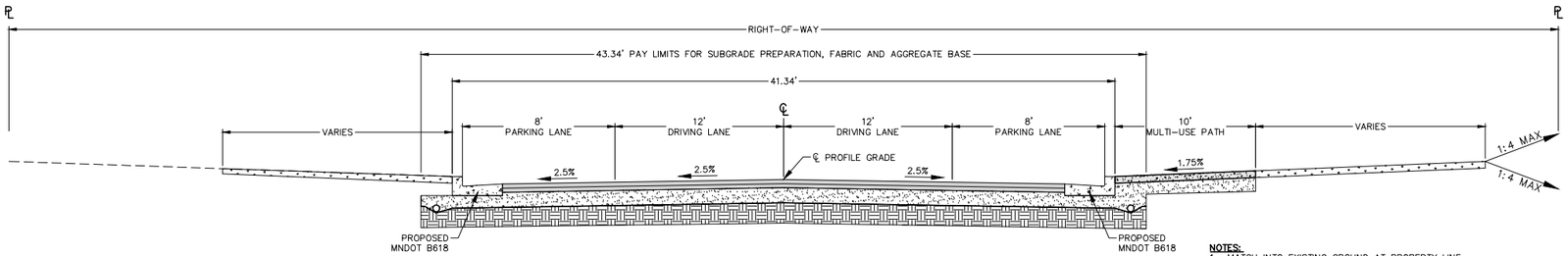


TYPICAL 40' URBAN STREET SECTION

NO SCALE

NOTES:
1. MATCH INTO EXISTING GROUND AT PROPERTY LINE.

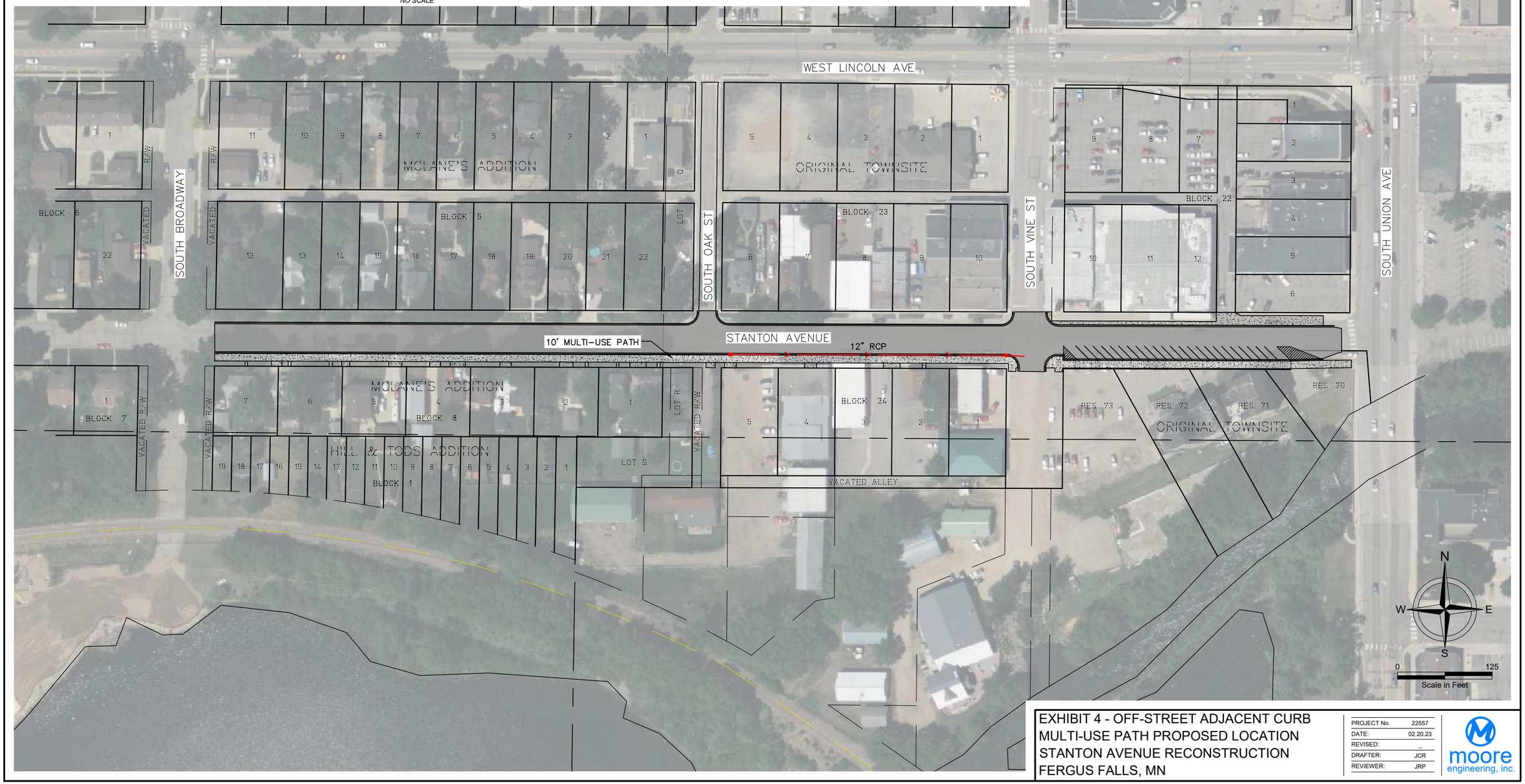


EXHIBIT 4 - OFF-STREET ADJACENT CURB
MULTI-USE PATH PROPOSED LOCATION
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	JRP

moore engineering, inc.

FILE LOCATION: R:\Projects\22000\22500\22557\CIVIL\PRESENTATION\22557_PERExhibits.dwg

LEGEND:

- COMMERCIAL ASSESSMENT
- RESIDENTIAL ASSESSMENT
- CITY ASSESSMENT

WEST LINCOLN AVE

STANTON AVENUE

SOUTH BROADWAY

SOUTH OAK ST

SOUTH VINE ST

NORTH UNION AVE

SOUTH UNION AVE

MOLANE'S ADDITION

ORIGINAL TOWNSITE

HILL & TODS ADDITION

VACATED ALLEY

N

W E

S

0 125

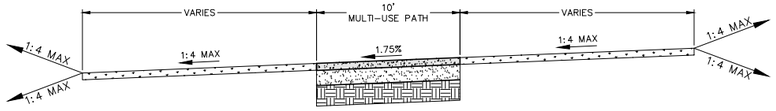
Scale in Feet

EXHIBIT 5
SPECIAL ASSESSMENT BREAKDOWN
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	–
DRAFTER:	JCR
REVIEWER:	JRP

moore engineering, inc.

FILE LOCATION: R:\Projects\22000\22500\22557\Civil\PRESENTATION\22557_PERExhibits.dwg



TYPICAL 10' CONCRETE MULTI-USE PATH

NO SCALE

WEST LINCOLN AVE
NORTH UNION AVE
SOUTH UNION AVE
SOUTH BROADWAY
SOUTH OAK ST
SOUTH VINE ST
STANTON AVENUE
MOLANE'S ADDITION
ORIGINAL TOWNSITE
HILL & TODS ADDITION
BLOCK 1
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 9
BLOCK 10
BLOCK 22
BLOCK 23
BLOCK 24
LOT 5
VACATED ALLEY
VACATED R/W
R/W
RES. 70
RES. 71
RES. 72
RES. 73
12" RCP
10' MULTI-USE PATH

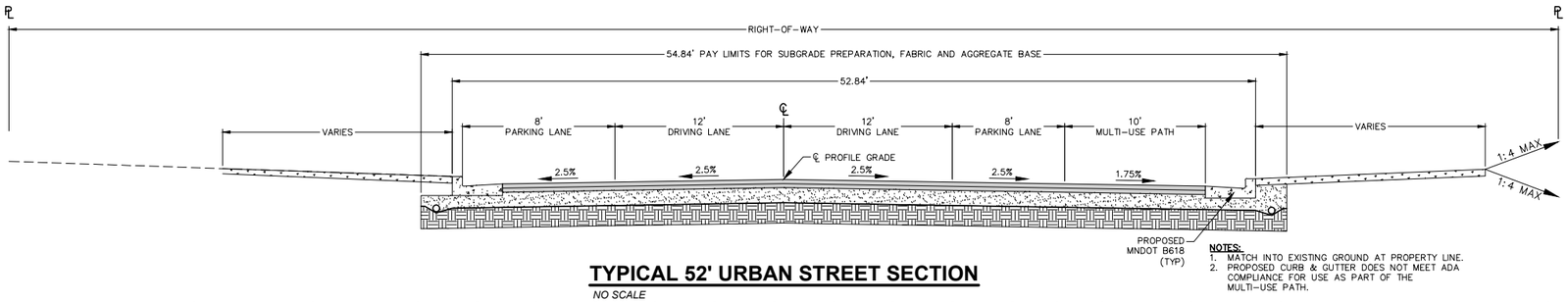
N
W
E
S

0 125
Scale in Feet

EXHIBIT 6 - OFF-STREET ALTERNATE
MULTI-USE PATH ALTERNATIVE NO. 1
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	TJH

moore engineering, inc.



TYPICAL 52' URBAN STREET SECTION

NO SCALE

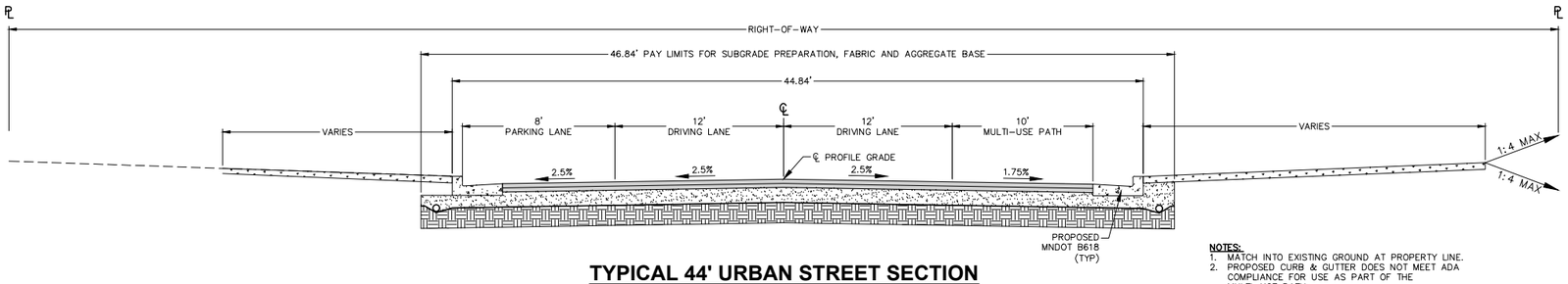
NOTES:
1. MATCH INTO EXISTING GROUND AT PROPERTY LINE.
2. PROPOSED CURB & GUTTER DOES NOT MEET ADA COMPLIANCE FOR USE AS PART OF THE MULTI-USE PATH.

EXHIBIT 7 - ON-STREET WITH PARKING
MULTI-USE PATH ALTERNATIVE NO. 2
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	TJH

moore engineering, inc.

FILE LOCATION: R:\Projects\22000\22500\22557\Civil\PRESENTATION\22557_PERExhibits.dwg



TYPICAL 44' URBAN STREET SECTION

NO SCALE

NOTES:
1. MATCH INTO EXISTING GROUND AT PROPERTY LINE.
2. PROPOSED CURB & GUTTER DOES NOT MEET ADA COMPLIANCE FOR USE AS PART OF THE MULTI-USE PATH.

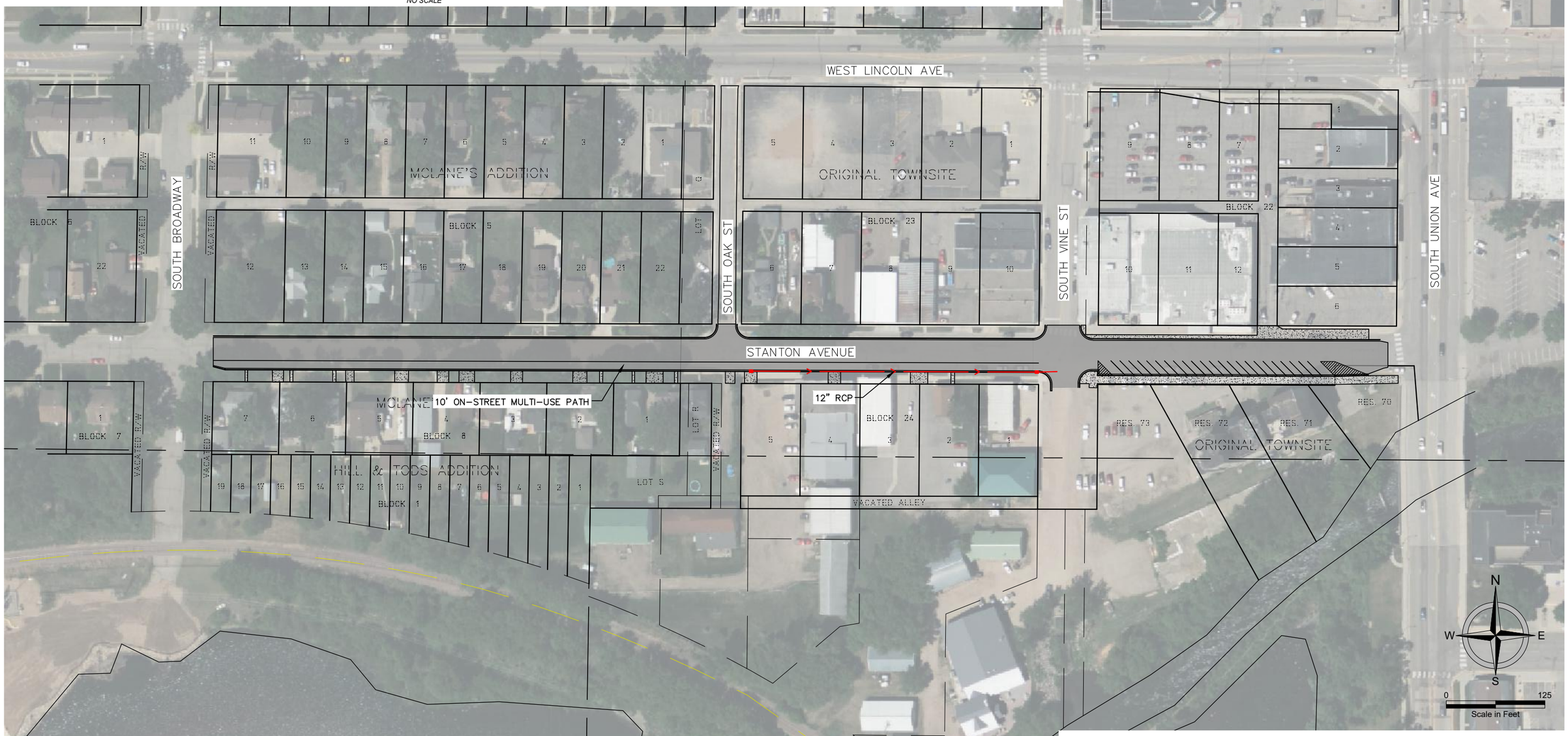


EXHIBIT 8 - ON-STREET (NO SOUTH PARKING)
MULTI-USE PATH ALTERNATIVE NO. 3
STANTON AVENUE RECONSTRUCTION
FERGUS FALLS, MN

PROJECT No.	22557
DATE:	02.20.23
REVISED:	_
DRAFTER:	JCR
REVIEWER:	TJH

moore engineering, inc.