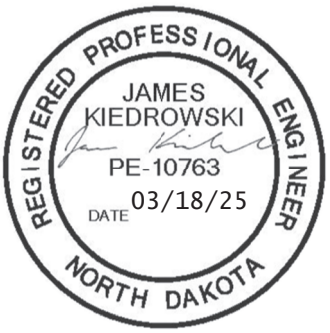
PROJECT MANUAL
For

202501: 2025 ROAD MAINTENANCE
SID No. 202501-1 & 202501-2

CITY OF DICKINSON, NORTH DAKOTA



THE ABOVE HEREBY CERTIFY THAT THIS PROJECT MANUAL
WAS PREPARED BY THEM OR UNDER THEIR DIRECT
SUPERVISION, AND THAT THEY ARE DULY
REGISTERED PROFESSIONAL ENGINEER(S) IN THE
STATE OF NORTH DAKOTA

March 2025

KLJ Project No. 2504-00273
City Project No. 202501

ENGINEERING, REIMAGINED

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Plans and Specifications for

202501: 2025 ROAD MAINTENANCE

SID No. 202501-1 & 202501-2

CITY OF DICKINSON, NORTH DAKOTA

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The specifications for this project are comprised of sections and divisions from the City of Dickinson Standard Specifications [DIX-SS] adopted in December 2017 and Additional Project sections and divisions provided within the documents. The City of Dickinson sections and divisions are made part of this project manual by reference. The Table of Contents identifies the location of each section and division. The City of Dickinson Standard Specifications can be downloaded on the City of Dickinson Website at www.dickinsongov.com. From the homepage open Government, then Development Services, then Engineering, and click the Standards Specifications and Detail Drawings link.

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SECTION 00100
ADVERTISEMENT FOR BIDS

202501: 2025 ROAD MAINTENANCE
CITY OF DICKINSON, NORTH DAKOTA

Sealed bids will be received by the City of Dickinson, Attn: Rita Binstock, at the office of City Hall, 38 1st Street West, Dickinson, ND 58601, until **2:00 PM MST, April 10, 2024** at which time they will be publicly opened and read aloud for the furnishing of materials, labor, equipment and skill required for the construction of **Storm Sewer, Concrete Improvements, ADA Ramps, Milling, HMA Overlay,** and incidental items in and for said City of Dickinson, as is more fully described and set forth in the plans and specifications therefore, which are now on file in the office of City Hall.

Bids shall be upon cash payment on the following estimated quantities and types of work:
1 LS MOBILIZATION & CONTRACT BOND; 16,202 LF REMOVAL OF CURB & GUTTER; 4,184 SY REMOVAL OF CONCRETE; 8,922 SY REMOVAL OF BITUMINOUS SURFACING; 1,000 SY REMOVAL OF BITUMINOUS SURFACING - CITY PATCH; 9 EA REMOVE MANHOLE; 7 EA REMOVE INLET; 1,573 LF REMOVAL OF PIPE - ALL SIZES; 32 LF REMOVE FENCE; 9 EA CONNECT EX STORM SEWER PIPES TO NEW MANHOLE; 1 EA CAP EXISTING PIPE; 4 EA 96" STORM SEWER MANHOLE; 6 EA 120" STORM SEWER MANHOLE; 4 EA STORM SEWER INLET TYPE 2 SINGLE; 2 EA STORM SEWER INLET TYPE 2 DOUBLE; 1 EA STORM SEWER INLET TYPE 2 TRIPLE; 39 LF 12" STORM SEWER PIPE; 29 LF 15" STORM SEWER PIPE; 247 LF 24" STORM SEWER PIPE; 85 LF 30" STORM SEWER PIPE; 1,216 LF 54" STORM SEWER PIPE; 367 LF 65"x40" ARCH STORM SEWER PIPE; 960 SF 4" INSULATION BOARD; 650 CY GENERAL FILL - TYPE 1; 1,876 SY SUBGRADE PREPARATION; 11,437 SY GEOSYNTHETIC MATERIAL TYPE R1; 1,133 SY GEOSYNTHETIC MATERIAL TYPE R1 - CITY PATCH; 10,490 SY GEOSYNTHETIC MATERIAL TYPE G; 3 SY GEOSYNTHETIC MATERIAL TYPE G - CITY PATCH; 1,750 CY AGGREGATE BASE COURSE - CL 5; 167 CY AGGREGATE BASE COURSE - CL 5 - CITY PATCH; 16,589 LF CURB & GUTTER; 4,643 SY CONCRETE SIDEWALK; 888 SY CONCRETE DRIVEWAY 6IN; 684 SY CONCRETE VALLEY GUTTER; 730 SF DETECTABLE WARNING PANEL; 1 EA SIDEWALK - TRENCH DRAIN; 43,386 SY MILLING PAVEMENT SURFACE; 20 EA ADJUST INLET; 60 EA ADJUST MANHOLE; 53 EA ADJUST GATE VALVE BOX; 12 SF MANHOLE I&I BARRIER; 6,353 TON ASPHALT PAVEMENT; 1,909 TON ASPHALT REPAIR; 220 TON ASPHALT REPAIR - CITY PATCH; 271 CY AGGREGATE BASE COURSE - CL 13; 4,312 LF RANDOM PCC CRACK ROUTE & SEAL; 100 SF SPALL REPAIR - 1/2" MAX DEPTH; 860 MH FLAGGING; 1 LS TRAFFIC CONTROL

The contract documents are on file and may be examined at the following:

City of Dickinson, 38 1St Street West, Dickinson, North Dakota
KLJ, 677 27th Avenue East, Dickinson, North Dakota

Complete digital project bidding documents are available at www.kljeng.com "Projects for Bid" or www.questcdn.com. You may download the digital plan documents for $25.00 by inputting Quest project #9594932 on the website's Project Search page. Please contact QuestCDN at (952) 233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. Please contact us at (701) 483-1284 if you have any questions.

A pre-Bid conference at 1**:00 PM MST on March 26, 2025,** at Dickinson City Hall. Interested bidders are encouraged to attend and participate in the conference. A Microsoft Teams virtual option will be available for interested bidders who are unable to attend in person. Please notify Sylvia Miller at Sylvia.Miller@dickinsongov.com no later than 5:00 PM MST on March 25, 2025, if you would like to attend virtually.

All bids are to be submitted on the basis of cash payment for the work and materials, and each bid shall be accompanied by a separate envelope containing the contractor's license and bid security. The bid security must be in a sum equal to five per cent (5%) of the full amount of the bid and must be in the form of a bidder's bond. A bidder's bond must be executed by the bidder as principal and by a surety company authorized to do business in this state, conditioned that if the principal's bid be accepted and the contract awarded to the principal, the principal, within ten (10) days after notice of award, will execute and effect a contract in accordance with the terms of his bid and the bid bond as required by the laws of the State of North Dakota and the regulations and determinations of the governing body. If a successful bidder does not execute a contract within ten (10) days allowed, the bidder's bond must be forfeited to the governing

body and the project awarded to the next lowest responsible bidder.

All bidders must be licensed for the full amount of the bid as required by Section 43-07-05 and 43-07-12 of the North Dakota Century Code.

The successful Bidder will be required to furnish Contract Performance and Payment Bonds in the full amount of the contract.

Contracts shall be awarded on the basis of the low bid submitted by a responsible and responsive bidder for the aggregate sum of all bid items. A single contract will be awarded for the work.

All bids will be contained in a sealed envelope, as above provided; plainly marked showing that such envelope contains a bid for the above project. In addition, the bidder shall place upon the exterior of such envelope the following information:

1. The work covered by the bidder
2. The name of the bidder
3. Separate envelope containing bid bond and a copy of North Dakota Contractor's License or certificate of renewal.
4. Acknowledgement of any Addenda.

No Bid will be read or considered which does not fully comply with the above provisions as to Bond and licenses and any deficient Bid submitted will be resealed and returned to the Bidder immediately.

All remaining work will be substantially completed by **October 10, 2025** and completed and ready for final payment by **October 31, 2025**.

The Owner reserves the right to reject any and all bids, to waive any informality in any bid, to hold all bids for a period not to exceed 30 days from the date of opening bids, and to accept the bid deemed most favorable to the interest of the Owner.

Should the contractor fail to complete the work within the time required herein or within such extra time as may have been granted by formal extensions of time approved by the Owner, there will be deducted from any amount due the Contractor the sum of **$5,000.00** per day and every day that the completion of the work is delayed. The Contractor and his surety will be liable for any excess. Such payment will be as and for liquidated damages.

Dated this 19th day of March 2025

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

s/ Dustin Dassinger
CITY ADMINISTRATOR

Published: March 19th, 26th, & April 2nd, 2025

SECTION 00200
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Bidder*—One who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder.

B. *Engineer*—Shall mean KLJ, Dickinson, North Dakota.

C. *Issuing Office*—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

D. *Owner*—Shall mean City of Dickinson.

E. *Successful Bidder*—The lowest responsible Bidder submitting a responsive Bid to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

F. Other terms used in the bidding documents and not defined elsewhere have the following meanings, which are applicable to both singular and plural thereof:

1. Base Bid: Is the sum stated in the Bid for which the Bidder offers to perform work described in the Bidding Documents as Base, to which work may be added or from which work may be deleted for sums stated in alternate Bids.

2. Alternate Bid: (Or alternate) is amount stated in Bid to be added or deducted from amount of Base Bid if corresponding change in work, as described in Bidding Documents, is accepted.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Engineer.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. Each Bid must contain evidence of Bidder's authority to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

B. Each Bid shall contain a copy of the North Dakota Contractor's license or certificate of renewal thereof issued by the Secretary of state enclosed in the require Bid Bond envelope. No contract shall be awarded to any Contractor unless they are the holder of a license at least ten days prior to the date set for receiving Bids to be a qualified Bidder. A Bid submitted without this information properly enclosed in the Bid Bond envelope shall not be read or considered and shall be returned to the Bidder.

3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions*

A. The Supplementary Conditions identify:

1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.06 A. Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

B. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";

E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof

by Engineer and acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

A pre-Bid conference will be held at 1:00 PM local time on March 26, 2025 at Dickinson City Hall (38 1st Street W Dickinson ND, 58601). Representatives of Owners and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of records such Addenda as Engineer considers necessary in repose to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto require for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Works are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of Bidder's maximum Bid price and in the form of a Bid Bond issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions. The Bid Bond must be included with the Bid in a separate envelope attached to the outside of the envelope containing the Bid.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or the stated holding period has expired, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The times [by which Milestones are to be achieved and] for Substantial Completion and readiness for final payment are to be set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.1 Provisions for liquidated damage, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Engineer.

13.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein. In the case of optional alternatives the words "No Bid," "No Change," or "Not Applicable" may be entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.08 All names and titles shall be typed or clearly printed in ink below the signatures**.**

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form. Bids in which all issued Addenda are not acknowledged will be considered incomplete and will not be read.

13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

13.12 The Bidder may substitute a computer printed spreadsheet bid schedule for the Bid Schedule found in the Bid Form (Section 00300). The substitute schedule shall be attached to the last page of the supplied Bid form (Section 00300).

A. The following information shall appear on top of each page of the computer printed bid schedule:

1. Project Name
2. Date of Bid Opening
3. Location (as defined in Advertisement for Bids)
4. Description of Work (from Advertisement for Bids)
5. Page Number
6. Bidder's Name and Address
7. Acknowledgement of Addenda

B. The substitute bid schedule shall be printed on sheets of approximately the same size as the bid schedule in the Bid Form, and the words and numerals shall be clear and legible. Each page shall be arranged, numbered, and contain the same bid items as the corresponding bid schedule in the Bid Form. Column headings shall be the same as those in the standard Bid Schedule furnished with the specifications.

C. Each bid item shall be separated from the bid items above and below it by one or more blank spaces. Solid lines for separating columns and items are not required, but dashed lines may be placed either vertically or horizontally.

D. The total sum(s) of the bid shall be entered at the same relative location as on the standard Bid Schedule.

E. The Bidder, or authorized representative, shall sign the substitute bid schedule in ink on the last page of the computer printout. The signer's name and title shall be printed below or beside the signature. The person signing the schedule shall sign and complete the Affidavit in the Bidders Proposal, as normally required.

F. In case of discrepancies between item descriptions or quantities in the Bid Schedule on the Bid Form (Section 00300) and those on the computer printed bid schedule, the Bid Schedule on the Bid Form (Section 00300) will govern. Any omitted items or missed items will be considered as "zero", and no payment will be considered for that item.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 *Allowances*

A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.

ARTICLE 15 - SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security other required documents.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope, plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation **"BID ENCLOSED."** A mailed Bid shall be addressed to the address shown on the Advertisement or Invitation to Bid.

15.03 Attached to the outside of the opaque sealed Bid envelope shall be a separate sealed envelope identifying the name of the Bidder and containing the following:

A. Copy of current Contractor's License or renewal certificate

B. Bid Security as defined in Article 8 herein

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder. Owner reserves the right to reject the Bid of any Bidder if Owner believes it would not be in the best interest of the Project to make award to that Bidder whether because Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the Owner.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 10 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. After Owner's attorney has reviewed and approved the submitted documents, Owner shall deliver one fully signed counterpart to Successful Bidder.

ARTICLE 22 - STATE LAWS AND REGULATIONS

22.01 All applicable laws, ordinances and the rules and regulations of authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

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SECTION 00300
BID FORM

PROJECT IDENTIFICATION

202501: 2025 Road Maintenance

ARTICLE 1 - BID RECIPIENT

1.01 This Bid is submitted to:
City of Dickinson
Rita Binstock
38 1st Street W, Dickinson, ND

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and

SECTION 00300
BID FORM

PROJECT IDENTIFICATION

202501: 2025 Road Maintenance

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City of Dickinson
Rita Binstock
38 1st Street W, Dickinson, ND

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E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and

performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

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4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

Article 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BASE BID

Item No.	Description	Unit	Estimated Quantity	Bid Unit Cost	Bid Price
1.	MOBILIZATION & CONTRACT BOND	LS	1		
2.	REMOVAL OF CURB & GUTTER	LF	16,166		
3.	REMOVAL OF CONCRETE	SY	4,167		
4.	REMOVAL OF BITUMINOUS SURFACING	SY	8,826		
5.	REMOVAL OF BITUMINOUS SURFACING – CITY PATCH	SY	370		
6.	REMOVE MANHOLE	EA	9		
7.	REMOVE INLET	EA	6		
8.	REMOVAL OF ALL PIPE – ALL SIZES	LF	1,588		
9.	REMOVE FENCE	LF	32		
10.	IMPORT TOPSOIL	CY	55		
11.	CONNECT EX STORM SEWER PIPES TO NEW MANHOLE	EA	10		
12.	CAP EXISTING PIPE	EA	1		
13.	96” STORM SEWER MANHOLE	EA	4		
14.	120” STORM SEWER MANHOLE	EA	6		
15.	STORM SEWER INLET TYPE 2 SINGLE	EA	3		
16.	STORM SEWER INLET TYPE 2 DOUBLE	EA	2		
17.	STORM SEWER INLET TYPE 2 TRIPLE	EA	1		
18.	24” STORM SEWER RCP	LF	189		
19.	54” STORM SEWER RCP	LF	1,216		
20.	65”x45” ARCH STORM SEWER RCP	EA	366		
21.	4” INSULATION BOARD	SF	1,280		
22.	GENERAL FILL – TYPE 1	CY	650		
23.	SUBGRADE PREPARATION	SY	1,876		
24.	GEOSYNTHETIC MATERIAL TYPE R1	SY	11,115		
25.	GEOSYNTHETIC MATERIAL TYPE R1 – CITY PATCH	SY	400		
26.	GEOSYNTHETIC MATERIAL TYPE G	SY	10,345		
27.	GEOSYNTHETIC MATERIAL TYPE G – CITY PATCH	SY	370		

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19.	54” STORM SEWER RCP	LF	1,216		
20.	65”x45” ARCH STORM SEWER RCP	EA	366		
21.	4” INSULATION BOARD	SF	1,024		
22.	GENERAL FILL – TYPE 1	CY	650		
23.	SUBGRADE PREPARATION	SY	1,876		
24.	GEOSYNTHETIC MATERIAL TYPE R1	SY	11,115		
25.	GEOSYNTHETIC MATERIAL TYPE R1 – CITY PATCH	SY	400		
26.	GEOSYNTHETIC MATERIAL TYPE G	SY	10,345		
27.	GEOSYNTHETIC MATERIAL TYPE G – CITY PATCH	SY	370		

Item No.	Description	Unit	Estimated Quantity	Bid Unit Cost	Bid Price
28.	AGGREGATE BASE COURSE – CL 5	CY	1,799		
29.	AGGREGATE BASE COURSE – CL 5 – CITY PATCH	CY	60		
30.	CURB & GUTTER	LF	16,834		
31.	CONCRETE SIDEWALK	SY	4,614		
32.	CONCRETE DRIVEWAY 6IN	SY	887		
33.	CONCRETE VALLEY GUTTER	SY	684		
34.	DETECTABLE WARNING PANEL	SF	730		
35.	SIDEWALK - TRENCH DRAIN	EA	1		
36.	MILLING PAVEMENT SURFACE	SY	43,531		
37.	ADJUST INLET	EA	22		
38.	ADJUST MANHOLE	EA	62		
39.	ADJUST GATE VALVE BOX	EA	55		
40.	MANHOLE I&I BARRIER	EA	12		
41.	ASPHALT PAVEMENT	TON	6,353		
42.	ASPHALT REPAIR	TON	1,877		
43.	ASPHALT REPAIR – CITY PATCH	TON	80		
44.	AGGREGATE SURFACE COURSE – CL 13	CY	75		
45.	RANDOM PCC CRACK ROUTE & SEAL	LF	4,260		
46.	SPALL REPAIR – 1/2” MAX DEPTH	SF	100		
47.	FLAGGING	MH	800		
48.	TRAFFIC CONTROL	LS	1		
49.	WATER SERVICE CROSSING	EA	3		
50.	SANITARY SEWER SERVICE CROSSING	EA	3		
51.	REGRADE SEWER SERVICE	LF	90		
52.	6” PVC C-900 DR-18 WATERMAIN	LF	48		
TOTAL OF ALL BID PRICES – BASE BID					

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Item No.	Description	Unit	Estimated Quantity	Bid Unit Cost	Bid Price
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41.	ASPHALT PAVEMENT	TON	6,353		
42.	ASPHALT REPAIR	TON	1,877		
43.	ASPHALT REPAIR – CITY PATCH	TON	80		
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47.	FLAGGING	MH	800		
48.	TRAFFIC CONTROL	LS	1		
TOTAL OF ALL BID PRICES – BASE BID					

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ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially completed by October 10, 2025 and completed and ready for final payment by October 31, 2025.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of 5% Bid Bond (in separate envelope);

B. Copy of contractor's license or certificate of renewal (in separate envelope);

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

Bidder's Business Address

_____ Phone No. _____

_____ Fax No. _____

_____ Email _____

SUBMITTED ON _____, 20_____.

State Contractor License No. _____.

If the Bidder is:

An Individual

Name (Typed or Printed): _____

By: _____
(Individual's Signature)

Doing Business as: _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially completed by October 10, 2025 and completed and ready for final payment by October 31, 2025.

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9.01 This Bid is submitted by:

Bidder's Business Address

_____ Phone No. _____

_____ Fax No. _____

_____ Email _____

SUBMITTED ON _____, 20_____.

State Contractor License No. _____.

If the Bidder is:

An Individual

Name (Typed or Printed): _____

By: _____
(Individual's Signature)

Doing Business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____(SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in *[State where Project is located]* is_____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____(SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.

A Partnership

Partnership Name: _____

By:_____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name:_____(SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability):_____

By:_____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title:_____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in *[State where Project is located]* is_____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name:_____(SEAL)

By:_____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name:_____(SEAL)

By:_____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:
Description *(Project Name and Include Location)*:

BOND

Bond Number:
Date *(Not later than Bid due date)*:
Penal sum _____ $ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Notice of Award

DATE: _____

Project: 202401: 2025 Road Maintenance	
Owner: City of Dickinson	Owner's Contract No.: 202501
Contract: 202501: 2025 Road Maintenance	Engineer's Project No.: 2404-00273
Bidder:	
Bidder's Address:	

You are notified that your Bid dated April 10, 2025 for the above Contract has been considered. You are the successful bidder and are awarded a Contract for the 2025 Road Maintenance.

The Contract Price of your Contract is _____ Dollars ($_____).

3 copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

1 set of Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [10] days of the date you receive this Notice of Award.

1. Deliver to the Owner [3] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC 5.01).
3. Other conditions precedent:
   Liability Insurance Certificate naming both the Owner and KLJ Engineering, LLC., as additionally insured, ND State Tax Clearance Statement, and a copy of the Workman's Compensation and Liability Insurance Certificate.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

City of Dickinson
Owner

By: _____
Authorized Signature

_____
Title

Copy to Engineer

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SECTION 00520

STANDARD AGREEMENT BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is by and between City of Dickinson ("Owner") and

("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 - WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

202501: 2025 Road Maintenance

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

202501: 2025 Road Maintenance

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by KLJ Engineering, LLC., which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Dates for Substantial Completion and Final Payment*

A. The work will be substantially completed by October 10, 2025 and completed and ready for final payment by October 31, 2025.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expenses, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner $5,000 for each day that expires after the time specified in paragraph 4.02 above for the Chip Seal Work and for Substantial Completion until the remaining Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner $500 for each day that expires after the time specified in paragraph 4.02 above for completion and readiness for final payment until all remaining work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:

A. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item. Unit prices are those listed in the Unit Price Schedule of the Bid Form attached as Exhibit A to the agreement.

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about once each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

a. Ninety (90) percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

b. Ninety (90) percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to (97.5) percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the Project.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."

E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 6, inclusive).
2. Performance bond (pages 1 to __, inclusive).
3. Payment bond (pages 1 to __, inclusive).
4. General Conditions (pages 1 to 62, inclusive).
5. Supplementary Conditions (pages 1 to 9 inclusive).

6. Specifications as listed in the table of contents of the Project Manual.

7. Drawings consisting of ___ sheets with each sheet bearing the following general title:
   202501: 2025 Road Maintenance

8. Addenda (numbers_____ to _____, inclusive).

9. Exhibits to this Agreement (enumerated as follows):

   a. Contractor's Bid (pages 1 to __, inclusive)

   b. Documentation submitted by Contractor prior to Notice of Award:

      1. Evidence of Authority to Sign (pages 1 to __, inclusive).

      2. State of North Dakota Contractor's License (pages 1 to __, inclusive).

      3. Bid Bond (pages 1 to __, inclusive).

   c. Other conditions precedent: Contractor's Project Schedules, as stated in the General Conditions Article 2 - 2.05; Liability Insurance Certificate naming both the Owner and KLJ Engineering, LLC., as additionally insured; North Dakota State Tax Clearance Statement; and a copy of the Workman's Compensation and Liability Insurance Certificate.

10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

   a. Notice to Proceed (pages 1 to 1, inclusive).

   b. Work Change Directives.

   c. Change Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.
This Agreement will be effective on ____ (which is the Effective Date of the Agreement).

OWNER: City of Dickinson

_____
Signature

By: _____

Title: _____

Attest: _____
Signature

By: _____

Title: _____

Address for giving notices:

City of Dickinson
38 1st Street W
Dickinson, ND 58601

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CONTRACTOR:

_____
Signature

By: _____

Title: _____
(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
Signature

By: _____

Title: _____

Address for giving notices:

License No.: _____
(Where applicable)

Agent for service of process:

_____

Notice to Proceed

DATE: _____

Project: 202501: 2025 Road Maintenance	
Owner: City of Dickinson	Owner's Contract No.: 202501
Contract: 202501: 2025 Road Maintenance	Engineer's Project No.: 2404-00273
Contractor:	
Contractor's Address:	

You are notified that the Contract Times under the above Contract will commence to run on _____.On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date for substantial completion is October 10, 2025 and the date for readiness for final payment by October 31, 2025.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insured and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

- Provide a project schedule.
- Submit and receive approval on a traffic control plan.
- Attend the preconstruction conference.

City of Dickinson
Owner

Given By:
Authorized Signature

Title

Date

Copy to Engineer

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PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:
Amount:
Description (*Name and Location*):

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ (Seal)	_____ (Seal)
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.

2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:

2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and

2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and

2.3 Owner has agreed to pay the Balance of the Contract Price to:

1. Surety in accordance with the terms of the Contract; or
2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.

3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:

3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or

3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
2. Deny liability in whole or in part and notify Owner citing reasons therefor.

4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;

5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and

5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.

11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ON Y - (*Name, Address and Telephone*)
Surety Agency or Broker:
Owner's Representative (*Engineer or other party*):

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*): SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:
Amount:
Description *(Name and Location)*:

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
(Seal)	(Seal)
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By:	By:
Signature	Signature (Attach Power of Attorney)
Print Name	Print Name
Title	Title
Attest:	Attest:
Signature	Signature
Title	Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to Owner, this obligation shall be null and void if Contractor:

Promptly makes payment, directly or indirectly, for all sums due Claimants, and

Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

Claimants who do not have a direct contract with Contractor:

1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. Reserved.

7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY - (*Name, Address, and Telephone*)
Surety Agency or Broker:
Owner's Representative (*Engineer or other*):

Certificate of Substantial Completion

DATE: _____

Project: 202401: 2025 Road Maintenance	
Owner: City of Dickinson	Owner's Contract No.: 202501
Contract: 202501: 2025 Road Maintenance	Engineer's Project No.: 2404-00273

This Certificate of Substantial Completion Applies to:

☐ All Work under the Contract Documents: ☐ The following specified portions of the Work:

_____

_____

_____

_____

_____
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities: ☐ Not Amended

Owner's Amended Responsibilities:

_____

_____

_____

Contractor's Amended Responsibilities:

_____

_____

_____

_____

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer	Date
Accepted by Contractor	Date
Accepted by Owner	Date

FINAL REVIEW AND ACCEPTANCE

CONTRACTOR: _____

CONTRACTOR ADDRESS: _____

PROJECT NAME: 202501: 2025 Road Maintenance

OWNER: City of Dickinson

OWNER ADDRESS: 38 1st Street W, Dickinson, ND 58601

On this Date, _____, a final review of the project as constructed was made.

The Contractor hereby certifies that the construction is completed in accordance with the plans and specifications, approved Change Orders, and terms of the contract. The Contractor further certifies that there are no unpaid bills or labor disputes in connection with this contract and that the amount of $_____ shown on the final estimate is the total amount due for all work completed for the project.

The making and acceptance of final payment will constitute a waiver of all Claims by Owner against Contractor, except Claims arising from defective Work appearing after final inspection, from failure to comply with the Contract Documents or the terms of any special guarantees or warranties specified therein, or from Contractor's continuing obligations under the Contract Documents. The making and acceptance of final payment will constitute a waiver of all future Claims by Contractor against Owner other than those previously made and expressly acknowledged by Owner in writing as still unsettled.

The undersigned Owner does hereby agree that all construction and engineering work on the project is complete and does satisfy all terms of appropriate construction or engineering agreements.

Owner and Contractor do hereby acknowledge that the one year warranty period will begin on _____.

_____	_____
(Owner Signature)	(Contractor Signature)
By: _____	By: _____
(Typed or Printed Name)	(Typed or Printed Name)
Date: _____	Date: _____

Witnessed By: KLJ Engineering, LLC.

_____

(Engineer Signature)

By: _____

(Typed or Printed Name)

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This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Projectand the controlling Laws and Regulations.

SECTION 00700
STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

ACEC
American Council of Engineering Companies

ASCE American Society of Civil Engineers

The Associated General Contractors of America — Skill Responsibility Integrity

National Society of Professional Engineers
Professional Engineers in Private Practice

AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

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A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by

CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

   b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

   c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other

professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data;

b. locating all Underground Facilities shown or indicated in the Contract Documents;

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract

Price or Contract Times, Owner or Contractor may make a Claim therefore as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by

Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefore as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverage so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverage and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

    a. Such insurance shall remain in effect for two years after final payment.

    b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property

insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall, in writing, advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery

against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

   a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

   b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

   c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

   d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

      1) shall certify that the proposed substitute item will:

         a) perform adequately the functions and achieve the results called for by the general design,

         b) be similar in substance to that specified, and

         c) be suited to the same use as that specified;

      2) will state:

         a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

         b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

         c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

      3) will identify:

         a) all variations of the proposed substitute item from that specified, and

         b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or

other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

   1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

   2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all

court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

    a. Submit number of copies specified in the General Requirements.

    b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

    a. Submit number of Samples specified in the Specifications.

    b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

    a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

    b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

    c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

    d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop

Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor,

Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefore, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of

any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefore as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the

case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B.

Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers'

compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's

entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefore as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the

parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the

defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefore as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude

Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefore as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

   a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

   b. the Contract Price has been reduced by Change Orders;

   c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

   d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

   a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

   c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefore.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefore. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities

pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefore. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

   d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefore as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00800

SUPPLEMENTARY CONDITIONS TO
STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition). All provisions which are not so amended or supplemented remain in full force and effect. The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-2.02 Copies of Documents

Delete Paragraph 2.02.A in its entirety and insert the following in its place:

A. Owner shall furnish to Contractor up to 3 printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction.

SC-2.07 Initial Acceptance of Schedules

Add the following language to Paragraph 2.07.A:

Said conference, if deemed necessary by the Engineer, will be held at the place and on the date and time established by the Engineer.

SC-3.03 Reporting and Resolving Discrepancies

Add the following new paragraph immediately after Paragraph 3.03.B.1:

2. In the case of discrepancy between different provisions of the Contract Documents the following hierarchy shall be observed:

   a. Change Orders

   b. Addenda

   c. Special Provisions

   d. Project Drawings

   e. Specifications listed in the Project Manual

   f. North Dakota Department of Transportation (NDDOT) Standard and Supplement Specifications for Road and Bridge Construction, latest edition.

SC-4.05 Reference Points

Add the following to Paragraph 4.05.A:

Contractor shall be responsible for all costs in reestablishing any reference point lost or damaged. All such costs shall be paid within 30 calendar days of being presented a billing invoice. Any amount not paid shall be withheld from the Contractor's next partial payment and all subsequent payments, including the final payment, unless proof of payment is received by Owner.

SC-4.06 Hazardous Environmental Conditions

Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Not Used.

SC-5.02 Licensed Sureties and Insurers

Add Paragraph 5.02.B and 5.02.C:

B. Without limiting any of the other obligations or liabilities of the Contractor, Contractor shall secure and maintain appropriate insurance that will protect the Contractor, the vicarious acts of subcontractors, the Owner and the Engineer and their agents and employees from claims for bodily injury, or property damage which may arise from operations under this Agreement. Insurance shall be purchased for an insurance company (or companies) authorized to write insurance in the project jurisdiction, with minimum "A.M. Best Rating" of A-, VI. Contractor shall not commence work under this Agreement until such insurance has been obtained and certificates of insurance, with binders, or certified copies of the insurance policy shall have been filed with the Owner and the Engineer.

C. All insurance coverage shall remain in effect throughout the life of the Agreement, except that the Contractor shall maintain the Commercial General Liability Policy including product and completed operations coverage for a period of at least one year following the substantial completion date to cover any property damage resulting from the occurrences during the agreement period or which may occur or become visible/know within the one-year warranty period.

SC-5.04 Contractor's Insurance

Delete Paragraph 5.04.B.3:

Add the following new paragraph 5.04.C immediately after Paragraph 5.04.B:

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and 5.04.A.2 of the General Conditions:

a. State: Statutory

b. Applicable Federal (e.g., Longshoreman's): Statutory

c. Employer's Liability: The policy shall include a "stop-gap" Employers Liability endorsement to cover the employer's liability for injury to employees which fall outside the Statutory Worker's Compensation Law.

2. Contractor's Commercial General and Commercial Automobile Liability under Paragraphs 5.04.A.3 through 5.04.A.6 of the General Conditions which shall include completed operations and product liability coverages:

a. Commercial General Liability

1) General Aggregate: $2,000,000
2) Each Occurrence (Bodily Injury and Property Damage) $1,000,000

b. Products and Completed Operations Aggregate: $2,000,000

c. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.

d. Excess or Umbrella Liability

1) General Aggregate: $1,000,000
2) Each Occurrence: $1,000,000

g. Commercial Automobile Liability

1) Combined Single Limit (Bodily Injury and Property Damage): $1,000,000 each accident

3. The Commercial General Liability and Commercial Automobile policies shall provide an additional insured endorsement in favor of the following parties:

    a. KLJ Engineering, LLC., and its Consultants

    b. City of Dickinson

4. The Commercial General Liability and Automobile policies shall contain a "Waiver of Subrogation" to waive any right of recovery that the Insurance Company may have against KLJ Engineering, LLC. and the Owner.

SC-6.17 Shop Drawings and Samples

Add the following new paragraphs immediately after Paragraph 6.17.E:

F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.

G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

SC-6.19 Contractor's General Warranty and Guarantee

Add the following new paragraph immediately after Paragraph 6.19.C:

D. The CONTRACTOR shall guarantee all work and materials and guarantee the performance of the finished project free from material defect or failure for a period of one (1) year from the date of Substantial Completion, and the performance and shall remain in full force and effect for the period. The CONTRACTOR shall provide this warranty regardless of whether the cause of the failure is known or attributable to the CONTRACTOR except for damage caused by a third party by no fault of the CONTRACTOR.

SC-7.02 Coordination

Delete Paragraph 7.02.A in its entirety and replace with the following:

A. If the Owner awards multiple prime contracts (General, Mechanical, Electrical) construction work on the Project at the Site.

    1. The General Contractor shall have full authority and responsibility for coordination of the various contractors at the Site;

2. The following specific matters are to be covered by such authority and responsibility:

    a. Scheduling, submittals and overseeing work of subcontractors

    b. Coordinate space requirements for subcontractors

    c. Verify utility requirements for subcontractors

    d. Protect completed work of all parties

    e. Coordinate completion, start-up and cleanup

    f. Follow-up with Owner on correcting defective work

SC-7.04 Claims Between Contractors

Add the following new paragraph immediately after paragraph GC 7.03:

SC 7.04 Claims between Contractors

A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the construction coordinator, then Contractor (without involving Owner, Engineer, or construction coordinator) shall either (1) remedy the damage, (2) agree to compensate the other contractor for remedy of the damage, or (3) remedy the damage and attempt to settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law.

B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the construction coordinator and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, consultants, or the construction coordinator to the extent said claim is based on or arises out of Contractor's performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the construction coordinator on account of any such damage or Claim.

C. If Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, and construction coordinator for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or construction coordinator for activities that are their respective responsibilities.

SC-9.03 Project Representative

Add the following new paragraphs immediately after Paragraph 9.03. A:

B. Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. *Liaison*:

   a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.

   b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

   c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

4. *Interpretation of Contract Documents*: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

5. Shop Drawings and Samples:

   a. Record date of receipt of Samples and approve Shop Drawings.

b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

6. *Modifications*: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

7. *Review of Work and Rejection of Defective Work*:

   a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

   b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

8. *Inspections, Tests, and System Startups*:

   a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

   b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records*:

   a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

   b. Maintain records for use in preparing Project documentation.

10. *Reports*:

    a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests*: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals*: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion*:

    a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.

    b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.

    c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).

2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.

5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

8. Authorize Owner to occupy the Project in whole or in part

SC-11.03 Unit Price Work

Delete Paragraph 11.03.D in its entirety and insert the following in its place:

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 20 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and

3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-16.01 Methods and Procedures

Delete Paragraph 16.01 in its entirety and insert the following in its place:

SC-16.01 Methods and Procedures

A. In the event of default or breach of any term of this Agreement, the non-breaching party shall be entitled to pursue any available remedies under North Dakota law. It is expressly understood that the parties are not subjecting themselves to mediation or arbitration.

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DISCLAIMER:

Differences may exist between the downloaded electronic files and the original documents sealed and stored at KLJ. Users are advised that plans may not print to scale unless print settings and page sizes are correct. Users are responsible for setting the print options correctly and verifying that the scale is correct. Suggested preparation prior to printing plans is to set the Page Scaling Option in the print window to “None.”

In the event of a conflict between KLJ’s original documents and downloaded electronic files, the original documents shall govern.

KLJ Project No. 2404-00273
City Project No. 202501

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PROJECT NO.	SECTION NO.	SHEET NO.
202501	1	1

CITY OF DICKINSON

STARK COUNTY, NORTH DAKOTA

VICINITY MAP

NOT TO SCALE

CITY OF Dickinson North Dakota

MARCH 2025

DRAWINGS FOR:

2025 ROAD MAINTENANCE

PROJECT NUMBER 202501

CITY COMMISSIONERS

SCOTT DECKER, MAYOR
ROBERT BAER, VP
JASON FRIDRICH
JOE RIDL
JOHN ODERMANN

CITY ADMINISTRATOR

DUSTIN DASSINGER

CITY ENGINEER

JOSHUA SKLUZACEK

DATE: 3/18/25

PUBLIC WORKS DIRECTOR

AARON PRAUS

DATE: 3/18/25

CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA.

DATE:

GOVERNING SPECIFICATIONS

STANDARD TECHNICAL SPECIFICATIONS AND STANDARD DETAIL DRAWINGS FOR MUNICIPAL PUBLIC WORKS IMPROVEMENTS ADOPTED BY THE CITY OF DICKINSON IN DECEMBER 2017.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

COVER SHEET

KLJ

TABLE OF CONTENTS

SECTION NO.	SHEET NO.	DESCRIPTION
1	1	COVER SHEET
2	1	TABLE OF CONTENTS, BASIS, LOCAL CONTACTS AND ABBREVIATIONS
4	1-3	SCOPE OF WORK
6	1-4	PLAN NOTES
8	1	SUMMARY OF QUANTITIES
20	1-13	DETAILS
30	1-2	TYPICAL SECTIONS
50	1-6	STORM SEWER PLAN & PROFILE
60	1-20	PAVING LAYOUTS
190	1	HAUL ROAD

BASIS OF PLAN QUANTITIES

ASPHALT PAVEMENT = 2.0 TON/CY
- -SUPERPAVE FAA 43
- -ASHALT CEMENT PG 58S-34 (INCIDENTAL TO ASPHALT PAVEMENT)
- -CERTIFIED SCALE TICKET PER LOAD DELIVERED TO PROJECT

ASPHALT REPAIR = 2.0 TON/CY
- -SUPERPAVE FAA 43
- -ASHALT CEMENT PG 58S-34 OR 58S-28 (INCIDENTAL TO ASPHALT REPAIR)
- -CERTIFIED SCALE TICKET PER LOAD DELIVERED TO PROJECT

AGGREGATE BASE COURSE - CL5
- -MEASURED COMPACTED IN PLACE BY CY

INCIDENTAL TO OTHER ITEMS OF GENERAL CONSTRUCTION:
- WATER
- EROSION CONTROL
- SEEDING
- TACK COAT
- PIPE BEDDING
- SAW-CUTTING

ABBREVIATIONS

BOUNDARIES/MATERIALS

BLK = BLOCK
SUB = SUBDIVISION
AM = AMENDED
COS = CERTIFICATE OF SURVEY
R/W = RIGHT OF WAY
SEC = SECTION
NO. = NUMBER
GR = GRAVEL
P.C.C. = PORTLAND CEMENT CONCRETE
CONC = CONCRETE
ASP = ASPHALT
AC PVMT = ASPHALT CONCRETE PAVEMENT
AC = ASPHALT CEMENT
PVMT = PAVEMENT
RCP = REINFORCED CONCRETE PIPE
PVC = POLY-VINYL CHLORIDE PIPE
LED = LIGHT EMITTING DIODE
CBC = CRUSHED BASE COURSE
CMP = CORRUGATED METAL PIPE

MISCELLANEOUS

APPROX = APPROXIMATE
LOC = LOCATION
EX = EXISTING
MAX = MAXIMUM
MIN = MINIMUM
OC = ON CENTER
PPSD = PROPOSED
TYP = TYPICAL
STA = STATION
DBL = DOUBLE
TEMP = TEMPORARY
CONST = CONSTRUCTION
RECON = RECONSTRUCTION
LMT = LIMIT
BEG = BEGIN
RET = RETAINING
TRANS = TRANSITION
OFF = OFFSET
REHAB = REHABILITATION
SRVC = SERVICE
ESMT = EASEMENT

STREETS

AVE = AVENUE
BLVD = BOULEVARD
CIR = CIRCLE
LN = LANE
PL = PLACE
RD = ROAD
ST = STREET
TRL = TRAIL
DR = DRIVE

DIRECTION

N = NORTH
S = SOUTH
E = EAST
W = WEST
NE = NORTH EAST
NW = NORTH WEST
SE = SOUTH EAST
SW = SOUTH WEST
LT = LEFT
RT = RIGHT

MEASUREMENT

SF = SQUARE FEET
SY = SQUARE YARDS
CF = CUBIC FEET
CY = CUBIC YARD
GAL = GALLON (U.S.)
DIA = DIAMETER
IN = INCH
FT = FOOT
LF = LINEAR FEET
PSF = POUNDS PER SQUARE FOOT
R = RADIUS
EA = EACH
VF = VERTICAL FEET
LS = LUMP SUM

CURVE NOTES

PC = POINT OF CURVATURE
PI = POINT OF INTERSECTION
PT = POINT OF TANGENCY
PVI = POINT OF VERTICAL INTERSECTION
VPC = VERTICAL POINT OF CURVATURE
VPI = VERTICAL POINT OF INTERSECTION
VPT = VERTICAL POINT OF TANGENCY
L = LENGTH OF VERTICAL CURVE
K = AASHTO K-VALUE
RP = RADIUS POINT

FEATURES

TBC = TOP BACK OF CURB
LIP = LIP OF CURB
EW = EDGE OF SIDEWALK
EC = EDGE OF CONCRETE
FL = FLOW LINE
EL = ELEVATION
INV = INVERT ELEVATION
SW = SIDEWALK
GV = GATE VALVE
FH = FIRE HYDRANT
MH = MANHOLE
SAN = SANITARY
SSMH = SANITARY SEWER MANHOLE
SD = STORM DRAIN
STMH = STORM DRAIN MANHOLE
CR = CURB RAMP
WM = WATER MAIN
STD = STANDARD
MT = MAST
HT = HEIGHT
TWLTL = TWO WAY LEFT TURN LANE
N GAS = NATURAL GAS
CB = CATCH BASIN

SURVEY

BM = BENCH MARK
CP = CONTROL POINT
BOP= BEGINNING OF PROJECT
EOP= ENDING OF PROJECT

LOCAL UTILITY AND EMERGENCY CONTACTS

GAS
MR. JEFF JIRGES
MONTANA DAKOTA UTILITIES
1133 WEST BROADWAY
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7107

ELECTRIC
MR. JACOB ZETTEL
MONTANA DAKOTA UTILITIES
1133 WEST BROADWAY
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7110

ELECTRIC
MR. JOE HEBERTSON
ROUGHRIDER ELECTRIC COOPERATIVE
P.O. BOX 1038
DICKINSON, N.D. 58602-1038
TELE. NO. 701.483.5111

WATER & SEWER UTILITIES
CITY OF DICKINSON
PUBLIC WORKS DIRECTOR
AARON PRAUS
3411 PUBLIC WORKS BLVD
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7979

ENGINEERING DEPARTMENT
CITY OF DICKINSON
ENGINEERING AND COMMUNITY
DEVELOPMENT DIRECTOR
JOSHUA SKLUZACEK
38 1ST STREET WEST
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7715

NORTH DAKOTA DEPT. OF TRANS.
1700 3RD AVENUE WEST
DICKINSON, N.D. 58601
TELEPHONE: 701.227.6500

TELEPHONE:
MR. ROSS KUNTZ
CONSOLIDATED COMMUNICATIONS
COOPERATIVE
BOX 1408
DICKINSON, N.D. 58601
TELEPHONE: 701.483.7444

TELEPHONE:
CENTURYLINK LUMEN
TELEPHONE: 1-800-526-3557

TELEPHONE
MR. JIMMY SMITH
MIDCONTINENT COMMUNICATIONS
1260 B WEST VILLARD SUITE 3
DICKINSON, N.D. 58601
TELEPHONE: 701.290.8584

CABLE T.V.
MR. TONY PRAUS
CONSOLIDATED CABLE VISION
BOX 1408
DICKINSON, N.D. 58601
TELEPHONE: 701.483.7454

STARK COUNTY
MR. TODD MILLER
STARK COUNTY
P.O. BOX 130
DICKINSON, N.D. 58601
TELEPHONE: 701.290-2353

DICKINSON POLICE DEPT.
2475 STATE AVE NORTH
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7759

DICKINSON FIRE DEPT.
2475 STATE AVE NORTH
DICKINSON, N.D. 58601
TELEPHONE: 701.456.7625

DICKINSON AMBULANCE SERVICE
42 B AVENUE EAST
DICKINSON, N.D. 58601
TELEPHONE: 701.225.1500

SWWPL
MR. ANDY ERICKSON
SOUTHWEST WATER AUTHORITY
4665 2ND ST. S.W.
DICKINSON, N.D. 58601
TELEPHONE: 701.225.0241

ONE CALL
BEFORE DIGGING
1-800-795-0555

NOTE: THERE MAY BE MORE UTILITY AND EMERGENCY CONTACTS THAN WHAT IS LISTED.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

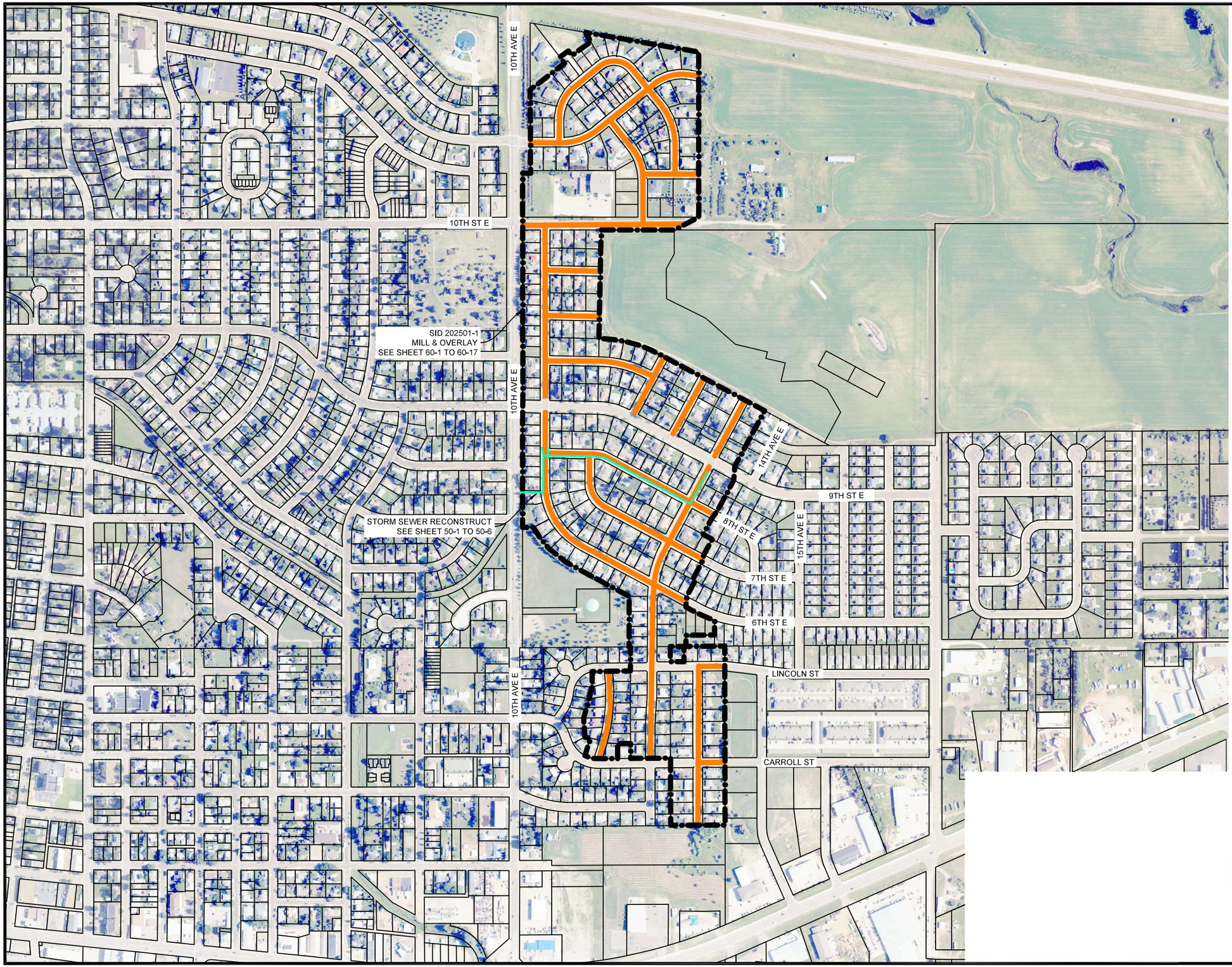
NO.	DATE	REVISION

DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

TABLE OF CONTENTS, BASIS, LOCAL CONTACTS, AND ABBREVIATIONS

SHEET 2-1



LEGEND

- PROPOSED MILL & OVERLAY
- STORM SEWER
- SID BOUNDARY

N

300 0 300 600
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

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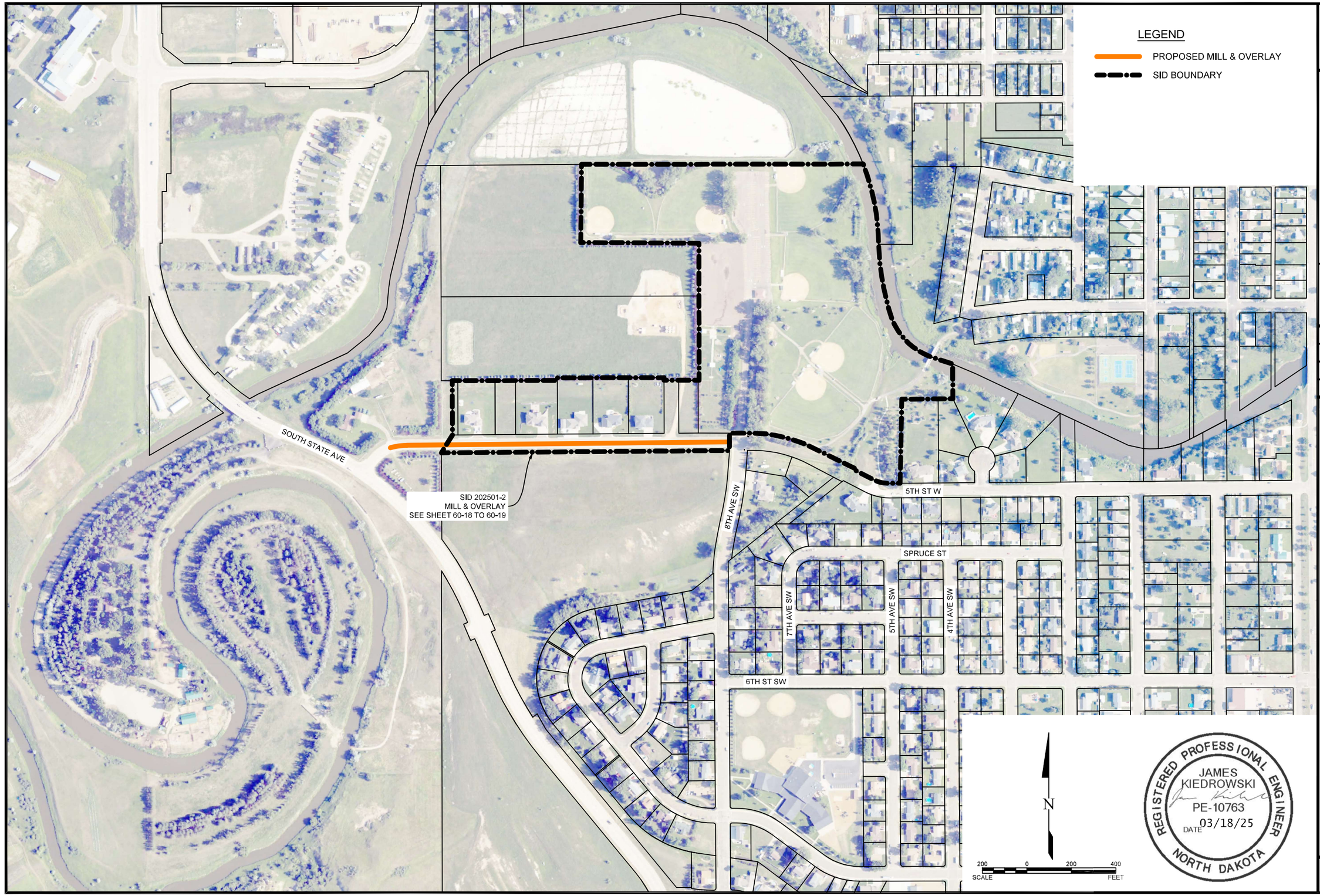
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SCOPE OF WORK

SHEET 4-1

Mar 18, 2025 - 9:07am - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_4_SOW.dwg (4-1)



KLJ

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NO. DATE

DRAFTED
MJS

REVIEWED
JSK

PROJECT NUMBER
2404-00273

ISSUE DATE
3/18/2025

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SCOPE OF WORK

SHEET
4-2

Mar 18, 2025 - 9:08am - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_4_SOW.dwg (4-2)

LEGEND

ROADWAY RECONSTRUCT

21ST ST W

2ND AVE W

22ND ST E

3RD AVE E

4TH AVE E

5TH AVE E

21ST ST E

3RD AVE W

FRONTAGE ROAD RECONSTRUCT
SEE SHEET 60-20

20TH ST E

20TH ST W

1ST AVE E

2ND AVE E

3RD AVE E

4TH AVE E

N

200 0 200 400
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION

NO. DATE

DRAFTED MJS

REVIEWED JSK

PROJECT NUMBER 2404-00273

ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SCOPE OF WORK

SHEET 4-3

Mar 18, 2025 - 9:08am - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_4_SOW.dwg (4-3)

DIVISION 01 - GENERAL REQUIREMENTS

Construction Limitations: The Contractor shall perform work only between the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, and 8:00 a.m. to 8:00 p.m. on the weekend. No work will be allowed on Sundays or Holidays unless authorized by the Owner and/or Engineer. The Contractor shall work only in the dedicated easements and/or right-of-way.

Existing Signs: The City will remove and reset any permanent signs that will be impacted during construction. Provide the City a two-week notice prior to needing the signs moved. The contact for the City is the Public Works Director at (701) 456-7979. The Contractor shall provide temporary STOP signs as needed.

Existing Sprinkler Systems: Lawn sprinkler systems are located along the project. Prior to beginning work, the Contractor shall inspect and locate all sprinklers within the work area. If construction will impact the sprinklers, the Contractor shall remove and reset or replace them with a similar type. If any work required to adjust the sprinklers will happen outside the existing right of way, the Contractor shall obtain written permission from the landowner prior to working outside of the right of way. Coordinate with the property owner to verify working condition prior to and after adjustments. All costs connected with this work shall be included in the price bid of other items.

Existing Mailboxes: If mailboxes are impacted, the Contractor shall provide temporary mailboxes and/or remove and reset the existing mailboxes as needed. Coordinate the proposed mailbox locations with the residents and the Postal Service. All costs connected with this work shall be included in the price bid of other items.

Mobilization: Includes moving all equipment, materials, and personnel to and from project. Also includes all contract bonding involved in the project.

Payment will be made in accordance with the percentage of work completed on date of partial payment estimate. Payment will not be made until 10% of the construction has been completed. The final 10% of the amount for mobilization will be withheld until final payment.

Water: If the Contractor uses City supplied water; the City of Dickinson will provide a hydrant connection within the project limits. The City will install a meter to measure the gallons used. A cost of $19.00 for every thousand gallons used shall be paid directly to the City.

Haul Road Restrictions: At the preconstruction conference, it will be determined if the City requires the Contractor to do an inspection of the designated haul road before any work is to begin and before final acceptance of the Project. The City and Engineer representative will be present during both inspections. Should any damage be done to haul road during construction the cost of the repairs will be at the Contractor's expense. All cost for labor and equipment to be included in the cost of other items.

COOPERATION BETWEEN CONTRACTORS:

The Owner reserves the right to Contract for and perform other or additional work on or near the work covered by this Contract.

When separate Contracts are let within or adjacent to the limits of any one Project, the Contractor shall carry out work under this Contract in a way that will minimize interference and delays for all parties involved.

Each Contractor involved shall accept all liability, financial or otherwise, in connection with the Contract and save the Owner harmless from damages or claims resulting from inconvenience, delay, or loss experienced because of the presence and operations of other Contractors working within or adjacent to the limits of the same Project.

The Contractor shall arrange the work and place and dispose of materials being used without interfering with the operations of other Contractors. The work shall be coordinated with the work and sequence of other Contractors.

COORDINATION WITH UTILITIES:

Numerous existing utilities are located within and adjacent to the Project. Approximate locations of existing manholes, valves, hydrants, and inlets are shown on the plans. This is for informational purposes and not to be taken to be all inclusive nor may represent actual conditions. No direct payment for work associated with locating existing utilities will be made nor will Contract Times be adjusted for such work.

It is the Contractor's sole responsibility to field verify location and depth and to identify all existing utilities, public or privately owned, which may conflict with the work, and/or those which may require temporary or permanent relocation. The Contractor shall coordinate with all utilities to have all necessary adjustments or relocation within or adjacent to the limits of construction made as soon as practicable. Within two weeks of Notice to Proceed, the Contractor will schedule a meeting with all affected utility companies or owners to discuss any relocations temporary or permanent, any other conflicts, and means of accommodating, such including schedules. If adjustments or relocation of the existing utility is required, the utility company will take care of it at their own expense. Any and all costs associated with coordination with utilities shall be incidental to the prices bid for other items. The City will provide Contractor with a copy of any franchise agreement upon request. The City is otherwise not responsible for coordinating efforts between the private utilities and the Contractor.

To minimize interference with traffic operations, a detailed schedule shall be agreed upon between the Engineer, utility companies, and the Contractor prior to beginning work.

At points where the Contractor's operations are adjacent to properties of companies including, but not limited to telecommunications, electric, water, sewer and petroleum products, the railroad, or are adjacent to other property, damage to which might result in considerable expense, loss or inconvenience, work shall not commence until the Contractor has made the arrangements necessary to protect these properties. All costs associated with such protections shall be incidental to the prices bid for other items.

Utilities shown on the plans, if any, are for reference purposes only and may not constitute an exhaustive representation of all utilities within the Project limits. The Contractor shall notify the North Dakota One Call System (1.800.795.0555) prior to the beginning and during Project construction.

The Contractor shall cooperate with utility owners in removing and rearranging underground or overhead utility lines or facilities to minimize interruption to service and duplication of work by utility owners.

In the event utility services are interrupted because of accidental breakage, the Contractor shall promptly notify the proper authority and cooperate with them until service has been restored.

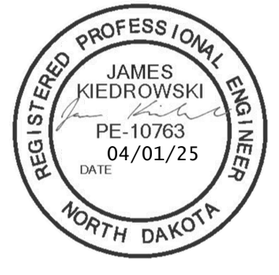
Work undertaken around fire hydrants shall not commence until provisions for continued service have been made and the Contractor has coordinated with the City's Utilities Manager (701) 456-7979.

Damage to utilities caused by the Contractor's operations shall be corrected at the Contractor's expense. Additional compensation or adjustments to Contract Times will not be allowed for delays associated with such corrective work.

Damaged facilities shall be restored to a condition similar or equal to that existing before the damage took place. If the Engineer determines that adjustment or relocation of underground facilities is necessary to accommodate construction, necessary arrangements will be made with the owner if such work is not otherwise provided for in the Contract.

COORDINATION OF DELIVERY SERVICES:

It is the responsibility of the Contractor to execute the Project in such a way that delivery services to adjacent properties, such as Postal, UPS and FedEx delivery, and sanitation services (701.456.7979) are not interrupted. The Contractor is to contact the Dickinson Postmaster (701.225.6702) to coordinate and develop a plan to address uninterrupted mail delivery. If mailboxes are impacted, the Contractor shall provide temporary mailboxes and/or remove and reset the existing mailboxes as needed. Coordinate the proposed mailbox locations with the residents and the Postal Service. Mailboxes shall be placed behind the sidewalk, outside of the path of travel for pedestrians. All costs connected with this work shall be included in the price bid of other items. There may be other regular delivery services for which similar coordination will be required. A written copy of the above plans will be submitted to the Engineer and Owner prior to beginning work which may disrupt such deliveries.



KLJ

NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 – ADD BID ITEMS FOR UTILITY SERVICES

DRAFTED: JSK
REVIEWED: AK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
PLAN NOTES

SHEET 6-1

ADDENDUM #1

DIVISION 01 - GENERAL REQUIREMENTS

Construction Limitations: The Contractor shall perform work only between the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, and 8:00 a.m. to 8:00 p.m. on the weekend. No work will be allowed on Sundays or Holidays unless authorized by the Owner and/or Engineer. The Contractor shall work only in the dedicated easements and/or right-of-way.

Existing Signs: The City will remove and reset any permanent signs that will be impacted during construction. Provide the City a two-week notice prior to needing the signs moved. The contact for the City is the Public Works Director at (701) 456-7979. The Contractor shall provide temporary STOP signs as needed.

Existing Sprinkler Systems: Lawn sprinkler systems are located along the project. Prior to beginning work, the Contractor shall inspect and locate all sprinklers within the work area. If construction will impact the sprinklers, the Contractor shall remove and reset or replace them with a similar type. If any work required to adjust the sprinklers will happen outside the existing right of way, the Contractor shall obtain written permission from the landowner prior to working outside of the right of way. Coordinate with the property owner to verify working condition prior to and after adjustments. All costs connected with this work shall be included in the price bid of other items.

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Water: If the Contractor uses City supplied water; the City of Dickinson will provide a hydrant connection within the project limits. The City will install a meter to measure the gallons used. A cost of $19.00 for every thousand gallons used shall be paid directly to the City.

Haul Road Restrictions: At the preconstruction conference, it will be determined if the City requires the Contractor to do an inspection of the designated haul road before any work is to begin and before final acceptance of the Project. The City and Engineer representative will be present during both inspections. Should any damage be done to haul road during construction the cost of the repairs will be at the Contractor's expense. All cost for labor and equipment to be included in the cost of other items.

COOPERATION BETWEEN CONTRACTORS:

The Owner reserves the right to Contract for and perform other or additional work on or near the work covered by this Contract.

When separate Contracts are let within or adjacent to the limits of any one Project, the Contractor shall carry out work under this Contract in a way that will minimize interference and delays for all parties involved.

Each Contractor involved shall accept all liability, financial or otherwise, in connection with the Contract and save the Owner harmless from damages or claims resulting from inconvenience, delay, or loss experienced because of the presence and operations of other Contractors working within or adjacent to the limits of the same Project.

The Contractor shall arrange the work and place and dispose of materials being used without interfering with the operations of other Contractors. The work shall be coordinated with the work and sequence of other Contractors.

COORDINATION WITH UTILITIES:

Numerous existing utilities are located within and adjacent to the Project. Approximate locations of existing manholes, valves, hydrants, and inlets are shown on the plans. This is for informational purposes and not to be taken to be all inclusive nor may represent actual conditions. No direct payment for work associated with locating existing utilities will be made nor will Contract Times be adjusted for such work.

It is the Contractor's sole responsibility to field verify location and depth and to identify all existing utilities, public or privately owned, which may conflict with the work, and/or those which may require temporary or permanent relocation. The Contractor shall coordinate with all utilities to have all necessary adjustments or relocation within or adjacent to the limits of construction made as soon as practicable. Within two weeks of Notice to Proceed, the Contractor will schedule a meeting with all affected utility companies or owners to discuss any relocations temporary or permanent, any other conflicts, and means of accommodating, such including schedules. If adjustments or relocation of the existing utility is required, the utility company will take care of it at their own expense. Any and all costs associated with coordination with utilities shall be incidental to the prices bid for other items. The City will provide Contractor with a copy of any franchise agreement upon request. The City is otherwise not responsible for coordinating efforts between the private utilities and the Contractor.

To minimize interference with traffic operations, a detailed schedule shall be agreed upon between the Engineer, utility companies, and the Contractor prior to beginning work.

At points where the Contractor's operations are adjacent to properties of companies including, but not limited to telecommunications, electric, water, sewer and petroleum products, the railroad, or are adjacent to other property, damage to which might result in considerable expense, loss or inconvenience, work shall not commence until the Contractor has made the arrangements necessary to protect these properties. All costs associated with such protections shall be incidental to the prices bid for other items.

Utilities shown on the plans, if any, are for reference purposes only and may not constitute an exhaustive representation of all utilities within the Project limits. The Contractor shall notify the North Dakota One Call System (1.800.795.0555) prior to the beginning and during Project construction.

The Contractor shall cooperate with utility owners in removing and rearranging underground or overhead utility lines or facilities to minimize interruption to service and duplication of work by utility owners.

In the event utility services are interrupted because of accidental breakage, the Contractor shall promptly notify the proper authority and cooperate with them until service has been restored.

Work undertaken around fire hydrants shall not commence until provisions for continued service have been made and the Contractor has coordinated with the City's Utilities Manager (701) 456-7979.

Damage to utilities caused by the Contractor's operations shall be corrected at the Contractor's expense. Additional compensation or adjustments to Contract Times will not be allowed for delays associated with such corrective work.

Damaged facilities shall be restored to a condition similar or equal to that existing before the damage took place. If the Engineer determines that adjustment or relocation of underground facilities is necessary to accommodate construction, necessary arrangements will be made with the owner if such work is not otherwise provided for in the Contract.

COORDINATION OF DELIVERY SERVICES:

It is the responsibility of the Contractor to execute the Project in such a way that delivery services to adjacent properties, such as Postal, UPS and FedEx delivery, and sanitation services (701.456.7979) are not interrupted. The Contractor is to contact the Dickinson Postmaster (701.225.6702) to coordinate and develop a plan to address uninterrupted mail delivery. If mailboxes are impacted, the Contractor shall provide temporary mailboxes and/or remove and reset the existing mailboxes as needed. Coordinate the proposed mailbox locations with the residents and the Postal Service. Mailboxes shall be placed behind the sidewalk, outside of the path of travel for pedestrians. All costs connected with this work shall be included in the price bid of other items. There may be other regular delivery services for which similar coordination will be required. A written copy of the above plans will be submitted to the Engineer and Owner prior to beginning work which may disrupt such deliveries.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

NO.	DATE	REVISION

DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/11/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
PLAN NOTES

SHEET 6-1

COORDINATION WITH ADJACENT PROPERTY OWNERS:

It is the Contractor's responsibility to notify the property owners or tenants of approaching work 48 hours prior to start of Work affecting such. At the end of each day full access to all driveways will be restored to the satisfaction of the Engineer. During concrete replacements allow street parking during non-working hours.

It is the Contractor's responsibility to coordinate with businesses affected by the work, including the accommodation of scheduled and unscheduled shipping and deliveries. The Contractor will provide the Engineer with a written copy of how such will be accomplished.

Coordination with Emergency Services and the City: Prior to interrupting traffic flow or access, including street closures, it is the Contractor's responsibility to complete the City's *Street Closure for Construction Application* form found on City website https://dickinsongov.com, in compliance with the required lead time prior to taking such action.

It is the responsibility of the Contractor to coordinate with the City or property owners regarding staging areas, including those required for storage of materials and equipment. The Contractor shall obtain written permission for use of staging areas from owners of such areas. Copies shall be given to the Owner and Engineer.

Provide notifications of no parking in the construction area to residents and businesses 48 hours in advance for any closures, access restrictions and/or utility shutoff/disconnects. The notifications shall list the dates and reason for the closures and/or restrictions. Provide a copy of all notifications to the Engineer, If the Contractor neglects to provide adequate notifications, the Engineer may apply a contract price reduction of $5,000 per day and suspend all work until deficiencies have been corrected. Furnish, install, and maintain temporary "No Parking" signs as needed.

01 4001 – Quality Control: The following are supplementary requirements to this Project's Contract Documents:

Field sampling and testing must be performed in the presence of the Engineer, unless otherwise approved by the Engineer.

01 5700 – Traffic Regulation for Municipal Construction: The following are supplementary requirements to this Project's Contract Documents:

The Contractor is responsible for traffic control on this project. The Contractor's construction operation shall dictate the need for traffic control devices.

A minimum of seven days prior to beginning work, the Contractor will submit a traffic control plan to the Engineer reflecting site specific operations, means, methods and schedule of work. The Engineer will review the plan and coordinate with the City of Dickinson's Engineering Department. The plan will also include traffic control required for the adjustment of gate valves or manholes, street repair, or other operations which interfere with traffic flow. Approval of the plan does not imply the City or Engineer is taking responsibility for the Contractor's traffic control plan. The Contractor must fill out the City of Dickinson's *Street Closure for Construction Application* form at least seven days prior to interfering with traffic flow on any street for construction.

The traffic control devices shall be furnished and installed according to the *Manual on Uniform Traffic Control Devices* (MUTCD) standards to warn of construction activity.

Construction of Storm Sewer will require road closures during installation. Contractor shall notify all property owners and/or residents adjacent to the construction site a minimum of two working days in advance for any closures and/or access restrictions. Contractor shall be responsible for coordinating with owners of parked vehicles, and/or towing (incidental). Contractor to coordinate access with all residences within the work area. Storm Sewer trench shall be back filled to match existing roadway grade. All cost to place, remove additional material and to prepare the disturbed trench areas for paving operations shall be included in the price bid for Storm Sewer Pipe.

Valley gutters at opposite ends of a single block shall not be constructed at the same time to allow access for adjacent landowners.

Complete all curb and gutter, inlet, and valley gutter work prior to milling.

Use flagging and signing to direct traffic through the project for milling and paving operations.

Traffic control using tubular markers, vertical panels, and delineator drums shall be provided to allow two-way traffic unless the Engineer approves the use of flaggers.

At all times open roadways within the project area will be kept free from debris which may be hazardous to the travelling public. Dust must be controlled to the satisfaction of the Engineer. All costs connected with this work shall be included in the price bid of other items.

Pavement Sweeping: The Contractor shall sweep milled pavement prior to paving and pavements before opening to traffic and for final acceptance. For this sweeping, the Contractor shall furnish and utilize a vacuum type sweeper to control the dust. All costs connected with this work shall be included in the price bid of other items.

DIVISION 02 – EXISTING CONDITIONS

02 3010 – Sub-Surface Conditions:

Contractor shall review and follow all requirements of the Geotechnical Evaluation Report dated November 19, 2024 prepared by Braun Intertec, unless clarified and approved in writing with Braun Intertec and Engineer.

02 4205 – Demolition: The following are supplementary requirements to this Project's Contract Documents:

The Contractor shall make themselves aware of existing conditions on the project. Any existing fence, driveway aggregate, and landscaping impacted by the improvements shall be salvaged and reinstalled or replaced with materials of similar nature, unless indicated otherwise in the Plans. Topsoil shall be restored. All costs connected with this work shall be included in the price bid of other items.

Removal of Concrete, Removal of Curb & Gutter: Concrete and curb & gutter designated for removal may vary in thickness and shall be saw cut full depth of the existing concrete. There will be no additional compensation for removal of extra thickness. Concrete removal items will include all concrete, aggregate, earth, and debris removed from the designated excavated area. All costs associated with removal of these items including sawing joints, loading, hauling, and proper disposal are included in the price bid for REMOVAL OF CONCRETE or REMOVAL OF CURB & GUTTER. The concrete removed from the project shall be hauled by the Contractor and weighed at the City of Dickinson Baler Building (3389 Energy Drive), then hauled and stockpiled by the Contractor to the City of Dickinson Landfill (3880 Lehigh Road).

DIVISION 31 - EARTHWORK

31 1211 – Site Clearing: The following are supplementary requirements to this Project's Contract Documents:

Existing Topsoil within Mill & Overlay Areas: The Contractor shall strip off the existing topsoil as needed and stockpile it to be replaced once the construction is completed. The Contractor will then relay and landscape back to original grade as much as possible and prepare topsoil for seeding. Dispose of all excess topsoil that is not needed. All costs connected with this work shall be included in the price bid of the other items.

Existing Trees: The Contractor shall remove/trim and dispose of all trees, roots, and stumps required to place the new concrete and asphalt. Seal all trimmed branches to the satisfaction of the landowner. Coordinate this work with the City Forester. All costs connected with this work shall be included in the price bid of other items. The City is available to trim larger tree branches as needed to maneuver construction equipment. Provide the City a three-week notice to complete the trimming prior to starting work. The contact for the City is the Forester at (701) 456-7979.

31 2316 – Excavation: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 31 2316 4.1 A and insert the following:
Payment for all labor and equipment required to excavate, remove and dispose of all material required for aggregate placement shall be included in the bid price for AGGREGATE BASE COURSE - CL 5.

31 2200 – Grading: The following are supplementary requirements to this Project's Contract Documents:

All costs for importing/installing topsoil, seeding and establishing grass in and around the 21st Street E Frontage Road shall be included in the bid price for IMPORT TOPSOIL.

31 3280 – Geotextile Fabrics: The following are supplementary requirements to this Project's Contract Documents:

GEOSYNTHETIC MATERIAL – TYPE G shall be Tensar H-Series HX5.5 geogrid or approved equal.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/07/25
DATE
NORTH DAKOTA

KLJ

NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 – ADD BID ITEMS FOR UTILITY SERVICES
2	4/7/2025	ADDENDUM #2 – CHANGE GEOSYNTHETIC MATERIAL TYPE G

DRAFTED: JSK
REVIEWED: AK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
PLAN NOTES

SHEET 6-2

ADDENDUM #2

COORDINATION WITH ADJACENT PROPERTY OWNERS:

It is the Contractor's responsibility to notify the property owners or tenants of approaching work 48 hours prior to start of Work affecting such. At the end of each day full access to all driveways will be restored to the satisfaction of the Engineer. During concrete replacements allow street parking during non-working hours.

It is the Contractor's responsibility to coordinate with businesses affected by the work, including the accommodation of scheduled and unscheduled shipping and deliveries. The Contractor will provide the Engineer with a written copy of how such will be accomplished.

Coordination with Emergency Services and the City: Prior to interrupting traffic flow or access, including street closures, it is the Contractor's responsibility to complete the City's *Street Closure for Construction Application* form found on City website https://dickinsongov.com, in compliance with the required lead time prior to taking such action.

It is the responsibility of the Contractor to coordinate with the City or property owners regarding staging areas, including those required for storage of materials and equipment. The Contractor shall obtain written permission for use of staging areas from owners of such areas. Copies shall be given to the Owner and Engineer.

Provide notifications of no parking in the construction area to residents and businesses 48 hours in advance for any closures, access restrictions and/or utility shutoff/disconnects. The notifications shall list the dates and reason for the closures and/or restrictions. Provide a copy of all notifications to the Engineer, If the Contractor neglects to provide adequate notifications, the Engineer may apply a contract price reduction of $5,000 per day and suspend all work until deficiencies have been corrected. Furnish, install, and maintain temporary "No Parking" signs as needed.

01 4001 – Quality Control: The following are supplementary requirements to this Project's Contract Documents:

Field sampling and testing must be performed in the presence of the Engineer, unless otherwise approved by the Engineer.

01 5700 – Traffic Regulation for Municipal Construction: The following are supplementary requirements to this Project's Contract Documents:

The Contractor is responsible for traffic control on this project. The Contractor's construction operation shall dictate the need for traffic control devices.

A minimum of seven days prior to beginning work, the Contractor will submit a traffic control plan to the Engineer reflecting site specific operations, means, methods and schedule of work. The Engineer will review the plan and coordinate with the City of Dickinson's Engineering Department. The plan will also include traffic control required for the adjustment of gate valves or manholes, street repair, or other operations which interfere with traffic flow. Approval of the plan does not imply the City or Engineer is taking responsibility for the Contractor's traffic control plan. The Contractor must fill out the City of Dickinson's *Street Closure for Construction Application* form at least seven days prior to interfering with traffic flow on any street for construction.

The traffic control devices shall be furnished and installed according to the *Manual on Uniform Traffic Control Devices* (MUTCD) standards to warn of construction activity.

Construction of Storm Sewer will require road closures during installation. Contractor shall notify all property owners and/or residents adjacent to the construction site a minimum of two working days in advance for any closures and/or access restrictions. Contractor shall be responsible for coordinating with owners of parked vehicles, and/or towing (incidental). Contractor to coordinate access with all residences within the work area. Storm Sewer trench shall be back filled to match existing roadway grade. All cost to place, remove additional material and to prepare the disturbed trench areas for paving operations shall be included in the price bid for Storm Sewer Pipe.

Valley gutters at opposite ends of a single block shall not be constructed at the same time to allow access for adjacent landowners.

Complete all curb and gutter, inlet, and valley gutter work prior to milling.

Use flagging and signing to direct traffic through the project for milling and paving operations.

Traffic control using tubular markers, vertical panels, and delineator drums shall be provided to allow two-way traffic unless the Engineer approves the use of flaggers.

At all times open roadways within the project area will be kept free from debris which may be hazardous to the travelling public. Dust must be controlled to the satisfaction of the Engineer. All costs connected with this work shall be included in the price bid of other items.

Pavement Sweeping: The Contractor shall sweep milled pavement prior to paving and pavements before opening to traffic and for final acceptance. For this sweeping, the Contractor shall furnish and utilize a vacuum type sweeper to control the dust. All costs connected with this work shall be included in the price bid of other items.

DIVISION 02 – EXISTING CONDITIONS

02 3010 – Sub-Surface Conditions:

Contractor shall review and follow all requirements of the Geotechnical Evaluation Report dated November 19, 2024 prepared by Braun Intertec, unless clarified and approved in writing with Braun Intertec and Engineer.

02 4205 – Demolition: The following are supplementary requirements to this Project's Contract Documents:

The Contractor shall make themselves aware of existing conditions on the project. Any existing fence, driveway aggregate, and landscaping impacted by the improvements shall be salvaged and reinstalled or replaced with materials of similar nature, unless indicated otherwise in the Plans. Topsoil shall be restored. All costs connected with this work shall be included in the price bid of other items.

Removal of Concrete, Removal of Curb & Gutter: Concrete and curb & gutter designated for removal may vary in thickness and shall be saw cut full depth of the existing concrete. There will be no additional compensation for removal of extra thickness. Concrete removal items will include all concrete, aggregate, earth, and debris removed from the designated excavated area. All costs associated with removal of these items including sawing joints, loading, hauling, and proper disposal are included in the price bid for REMOVAL OF CONCRETE or REMOVAL OF CURB & GUTTER. The concrete removed from the project shall be hauled by the Contractor and weighed at the City of Dickinson Baler Building (3389 Energy Drive), then hauled and stockpiled by the Contractor to the City of Dickinson Landfill (3880 Lehigh Road).

DIVISION 31 - EARTHWORK

31 1211 – Site Clearing: The following are supplementary requirements to this Project's Contract Documents:

Existing Topsoil within Mill & Overlay Areas: The Contractor shall strip off the existing topsoil as needed and stockpile it to be replaced once the construction is completed. The Contractor will then relay and landscape back to original grade as much as possible and prepare topsoil for seeding. Dispose of all excess topsoil that is not needed. All costs connected with this work shall be included in the price bid of the other items.

Existing Trees: The Contractor shall remove/trim and dispose of all trees, roots, and stumps required to place the new concrete and asphalt. Seal all trimmed branches to the satisfaction of the landowner. Coordinate this work with the City Forester. All costs connected with this work shall be included in the price bid of other items. The City is available to trim larger tree branches as needed to maneuver construction equipment. Provide the City a three-week notice to complete the trimming prior to starting work. The contact for the City is the Forester at (701) 456-7979.

31 2316 – Excavation: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 31 2316 4.1 A and insert the following:
Payment for all labor and equipment required to excavate, remove and dispose of all material required for aggregate placement shall be included in the bid price for AGGREGATE BASE COURSE - CL 5.

31 2200 – Grading: The following are supplementary requirements to this Project's Contract Documents:

All costs for importing/installing topsoil, seeding and establishing grass in and around the 21st Street E Frontage Road shall be included in the bid price for IMPORT TOPSOIL.

31 3280 – Geotextile Fabrics: The following are supplementary requirements to this Project's Contract Documents:

GEOSYNTHETIC MATERIAL – TYPE G shall be Tensar TriAx TX5 geogrid or approved equal.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/01/25
DATE
NORTH DAKOTA

KLJ

NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 – ADD BID ITEMS FOR UTILITY SERVICES

DRAFTED: JSK
REVIEWED: AK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
PLAN NOTES

SHEET 6-2

ADDENDUM #1

COORDINATION WITH ADJACENT PROPERTY OWNERS:

It is the Contractor's responsibility to notify the property owners or tenants of approaching work 48 hours prior to start of Work affecting such. At the end of each day full access to all driveways will be restored to the satisfaction of the Engineer. During concrete replacements allow street parking during non-working hours.

It is the Contractor's responsibility to coordinate with businesses affected by the work, including the accommodation of scheduled and unscheduled shipping and deliveries. The Contractor will provide the Engineer with a written copy of how such will be accomplished.

Coordination with Emergency Services and the City: Prior to interrupting traffic flow or access, including street closures, it is the Contractor's responsibility to complete the City's *Street Closure for Construction Application* form found on City website https://dickinsongov.com, in compliance with the required lead time prior to taking such action.

It is the responsibility of the Contractor to coordinate with the City or property owners regarding staging areas, including those required for storage of materials and equipment. The Contractor shall obtain written permission for use of staging areas from owners of such areas. Copies shall be given to the Owner and Engineer.

Provide notifications of no parking in the construction area to residents and businesses 48 hours in advance for any closures and/or access restrictions. The notifications shall list the dates and reason for the closures and/or restrictions. Provide a copy of all notifications to the Engineer, If the Contractor neglects to provide adequate notifications, the Engineer may apply a contract price reduction of $5,000 per day and suspend all work until deficiencies have been corrected. Furnish, install, and maintain temporary "No Parking" signs as needed.

01 4001 – Quality Control: The following are supplementary requirements to this Project's Contract Documents:

Field sampling and testing must be performed in the presence of the Engineer, unless otherwise approved by the Engineer.

01 5700 – Traffic Regulation for Municipal Construction: The following are supplementary requirements to this Project's Contract Documents:

The Contractor is responsible for traffic control on this project. The Contractor's construction operation shall dictate the need for traffic control devices.

A minimum of seven days prior to beginning work, the Contractor will submit a traffic control plan to the Engineer reflecting site specific operations, means, methods and schedule of work. The Engineer will review the plan and coordinate with the City of Dickinson's Engineering Department. The plan will also include traffic control required for the adjustment of gate valves or manholes, street repair, or other operations which interfere with traffic flow. Approval of the plan does not imply the City or Engineer is taking responsibility for the Contractor's traffic control plan. The Contractor must fill out the City of Dickinson's *Street Closure for Construction Application* form at least seven days prior to interfering with traffic flow on any street for construction.

The traffic control devices shall be furnished and installed according to the *Manual on Uniform Traffic Control Devices* (MUTCD) standards to warn of construction activity.

Construction of Storm Sewer will require road closures during installation. Contractor shall notify all property owners and/or residents adjacent to the construction site a minimum of two working days in advance for any closures and/or access restrictions. Contractor shall be responsible for coordinating with owners of parked vehicles, and/or towing (incidental). Contractor to coordinate access with all residences within the work area. Storm Sewer trench shall be back filled to match existing roadway grade. All cost to place, remove additional material and to prepare the disturbed trench areas for paving operations shall be included in the price bid for Storm Sewer Pipe.

Valley gutters at opposite ends of a single block shall not be constructed at the same time to allow access for adjacent landowners.

Complete all curb and gutter, inlet, and valley gutter work prior to milling.

Use flagging and signing to direct traffic through the project for milling and paving operations.

Traffic control using tubular markers, vertical panels, and delineator drums shall be provided to allow two-way traffic unless the Engineer approves the use of flaggers.

At all times open roadways within the project area will be kept free from debris which may be hazardous to the travelling public. Dust must be controlled to the satisfaction of the Engineer. All costs connected with this work shall be included in the price bid of other items.

Pavement Sweeping: The Contractor shall sweep milled pavement prior to paving and pavements before opening to traffic and for final acceptance. For this sweeping, the Contractor shall furnish and utilize a vacuum type sweeper to control the dust. All costs connected with this work shall be included in the price bid of other items.

DIVISION 02 – EXISTING CONDITIONS

02 3010 – Sub-Surface Conditions:

Contractor shall review and follow all requirements of the Geotechnical Evaluation Report dated November 19, 2024 prepared by Braun Intertec, unless clarified and approved in writing with Braun Intertec and Engineer.

02 4205 – Demolition: The following are supplementary requirements to this Project's Contract Documents:

The Contractor shall make themselves aware of existing conditions on the project. Any existing fence, driveway aggregate, and landscaping impacted by the improvements shall be salvaged and reinstalled or replaced with materials of similar nature, unless indicated otherwise in the Plans. Topsoil shall be restored. All costs connected with this work shall be included in the price bid of other items.

Removal of Concrete, Removal of Curb & Gutter: Concrete and curb & gutter designated for removal may vary in thickness and shall be saw cut full depth of the existing concrete. There will be no additional compensation for removal of extra thickness. Concrete removal items will include all concrete, aggregate, earth, and debris removed from the designated excavated area. All costs associated with removal of these items including sawing joints, loading, hauling, and proper disposal are included in the price bid for REMOVAL OF CONCRETE or REMOVAL OF CURB & GUTTER. The concrete removed from the project shall be hauled by the Contractor and weighed at the City of Dickinson Baler Building (3389 Energy Drive), then hauled and stockpiled by the Contractor to the City of Dickinson Landfill (3880 Lehigh Road).

DIVISION 31 - EARTHWORK

31 1211 – Site Clearing: The following are supplementary requirements to this Project's Contract Documents:

Existing Topsoil within Mill & Overlay Areas: The Contractor shall strip off the existing topsoil as needed and stockpile it to be replaced once the construction is completed. The Contractor will then relay and landscape back to original grade as much as possible and prepare topsoil for seeding. Dispose of all excess topsoil that is not needed. All costs connected with this work shall be included in the price bid of the other items.

Existing Trees: The Contractor shall remove/trim and dispose of all trees, roots, and stumps required to place the new concrete and asphalt. Seal all trimmed branches to the satisfaction of the landowner. Coordinate this work with the City Forester. All costs connected with this work shall be included in the price bid of other items. The City is available to trim larger tree branches as needed to maneuver construction equipment. Provide the City a three-week notice to complete the trimming prior to starting work. The contact for the City is the Forester at (701) 456-7979.

31 2316 – Excavation: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 31 2316 4.1 A and insert the following:
Payment for all labor and equipment required to excavate, remove and dispose of all material required for aggregate placement shall be included in the bid price for AGGREGATE BASE COURSE - CL 5.

31 2200 – Grading: The following are supplementary requirements to this Project's Contract Documents:

All costs for importing/installing topsoil, seeding and establishing grass in and around the 21st Street E Frontage Road shall be included in the bid price for IMPORT TOPSOIL.

31 3280 – Geotextile Fabrics: The following are supplementary requirements to this Project's Contract Documents:

GEOSYNTHETIC MATERIAL – TYPE G shall be Tensar TriAx TX5 geogrid or approved equal.

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

NO.	DATE	REVISION

DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/11/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
PLAN NOTES

SHEET 6-2

DIVISION 32 – Exterior Improvements

Additional Quantities: The following additional quantities are included in the Summary of Quantities for use as determined by the Engineer within the project limits as shown in the Scope of Work sheets 4-1 to 4-3. An increase or decrease from plan quantity will not be accepted as a reason to negotiate any pay adjustment under these bid items. The additional quantities may be eliminated at the discretion of the Engineer.

- REMOVAL OF CURB & GUTTER (150 LF)
- REMOVAL OF CONCRETE (250 SY)
- REMOVAL OF BITUMINOUS SURFACING (740 SY)
- GEOSYNTHETIC MATERIAL TYPE R1 (800 SY)
- GEOSYNTHETIC MATERIAL TYPE G (740 SY)
- AGGREGATE BASE COURSE – CL 5 (123 CY)
- CURB & GUTTER (150 LF)
- CONCRETE SIDEWALK (200 SY)
- CONCRETE DRIVEWAY 6IN (50 SY)
- CONCRETE VALLEY GUTTER (40 SY)
- MANHOLE I&I BARRIER (12 EA)
- ASPHALT REPAIR (160 TON)
- RANDOM PCC CRACK ROUTE & SEAL (4,260 LF)
- SPALL REPAIR - 1/2" MAX DEPTH (100 SF)
- WATER SERVICE CROSSING (3 EA)
- SANITARY SEWER SERVICE CROSSING (3 EA)
- REGRADE SEWER SERVICE (90 LF)
- 6” PVC C-900 DR-18 WATERMAIN (48 LF)

Additional Patching Quantities: The following additional quantities are included in the Summary of Quantities for use as determined by the Engineer outside the project limits but within the City Limits of Dickinson. Mobilization in and out of these areas will be included in the bid items below. An increase or decrease from plan quantity will not be accepted as a reason to negotiate any pay adjustment under these bid items. The additional quantities may be eliminated at the discretion of the Engineer.

- REMOVAL OF BITUMINOUS SURFACING – CITY PATCH (370 SY)
- GEOSYNTHETIC MATERIAL TYPE R1 – CITY PATCH (400 SY)
- GEOSYNTHETIC MATERIAL TYPE G – CITY PATCH (370 SY)
- AGGREGATE BASE COURSE – CL 5 – CITY PATCH (60 CY)
- ASPHALT REPAIR – CITY PATCH (80 TON)

32 1207 – Aggregate Materials:

Delete Section 3.2.A.1 and insert the following:

In areas where the full width of the roadway is being removed or reconstructed, the subgrade shall be compacted by approved compaction equipment. Approved compaction equipment shall include sheepsfoot rollers, pneumatic packers, mechanical packers, mechanical rammers, vibratory equipment, trucks, tractors, scrapers, motor graders, and all other types of equipment used in excavating, transporting, and placing the subgrade. Scarify and recompact a minimum of 12 inches of the subgrade soil as indicated in Section C of the Geotechnical Evaluation Report. Compact finished subgrade and aggregate base as specified in the Geotechnical Evaluation Report.

Delete Section 3.5.E.1 and insert the following:

Compaction control tests shall follow specifications as per Table 5 of the Report of Geotechnical Exploration and Review.

Add the following to the end of Section 4.1:

E. Include the removal of existing aggregate base and/or subgrade material and excavation required to accommodate the new proposed aggregate base in the price bid for AGGREGATE BASE COURSE – CL 5.

32 1210 – Concrete Paving: The following are supplementary requirements to this Project’s Contract Documents:

Include the removal of existing aggregate base and/or subgrade materials and grading required to accommodate the new proposed aggregate base/bedding/controlled density fill beneath the proposed concrete items in the price bid for the corresponding concrete bid items.

Location and Quantity of Concrete Items: Location and extent of proposed replacement of curb and gutter, sidewalk, driveways, and valley gutters shown on the plans is approximate. Locations and quantities shown may be eliminated, expanded or relocated within this area at the Owner and Engineer's direction as noted or shown on the plans or proposal.

After the new curb and gutter or valley gutter has been installed and the forms have been removed, the Contractor shall fill the remaining void between the new curb & gutter or valley gutter and existing asphalt pavement with a Controlled Density Fill (CDF) containing a minimum of 100 pounds cement and 500 pounds fly ash with a minimum 28-day compressive strength of 500 psi. The CDF is a mixture of sand, cement, water and fly ash.

The CDF patch shall be protected until capable of supporting traffic. The CDF patch will then be milled to the depth specified or shown on the plans.

The Contractor shall provide a CDF mix design to the Engineer for review prior to use on the project.

Curb and Gutter: The contractor shall match the existing curb type unless otherwise directed by the Engineer. Install a 3/4“ lip, per the driveway details, in mountable curb locations where the entire length of curb and adjacent driveway concrete is being replaced. Cost for matching existing curb is incidental.

Existing inlet castings within the proposed curb ramp replacements may need to be removed and reset with the new curb & gutter. All costs connected with this work shall be included in the price bid of ADJUST INLET. Any of these inlets that are cracked will need to be replaced. Contact the Public Works Director at (701) 456-7979 to obtain new inlet covers if needed.

Existing Curb Stops and Gate Valve Boxes located within the proposed concrete improvements are to be protected during removals, brought to finished grade, and adjusted flush to the proposed concrete. Include all costs for this in the unit price bid for the corresponding concrete bid items.

Where utility boxes are located within the proposed sidewalk, reinforce the surrounding concrete with #4 bars as directed by the Engineer. Include all costs for this in the unit price bid for the corresponding concrete bid items.

The joint between the curb and sidewalk on all drop curbs (driveways and handicap ramps) shall be sealed from high curb through the drop curb and back up to the high curb. The Contractor shall also seal all joints of concrete valley gutters. This cost shall be included in the price bid for other items of work.

32 1300 – Concrete Repair: The following are supplementary requirements to this Project’s Contract Documents:

Sidewalk and Curb & Gutter replacement areas are shown on Section 60 sheets. Engineer to designate certain instances of cracks and spalling within these areas as a Concrete Repair rather than replacement. Engineer will distinctly field mark all such instances as spall repair, crack sealing or replacement, prior to construction. An estimated reduction in concrete replacement quantities from what is depicted in Section 60 is summarized in a table in the Summary of Quantities sheet.

Crack Sealing shall be applied to sidewalk panels with not more than two single, uncontrolled, cracks that have horizontal separation less than 0.5 inches. Crack Sealing shall likewise be applied to curb and gutter panels with not more than four single, uncontrolled cracks of similar separation. A bi-furcating crack will count as two cracks.

- Route cracks using mechanical, power-driven routing equipment capable of cutting a reservoir to a depth of 3/4 to 7/8 inches and a width of 1/2 inch.
- Clean the reservoir using an air compressor conforming to NDDOT Section 156.01, “Air Compressor” to thoroughly clean dust, dirt and loose materials so the reservoir is clean and dry at the time sealant is

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PE-10763
DATE 04/01/25
NORTH DAKOTA

KLJ

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DRAFTED JSK
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ADDENDUM #1

DIVISION 32 – Exterior Improvements

Additional Quantities: The following additional quantities are included in the Summary of Quantities for use as determined by the Engineer within the project limits as shown in the Scope of Work sheets 4-1 to 4-3. An increase or decrease from plan quantity will not be accepted as a reason to negotiate any pay adjustment under these bid items. The additional quantities may be eliminated at the discretion of the Engineer.

- REMOVAL OF CURB & GUTTER (150 LF)
- REMOVAL OF CONCRETE (250 SY)
- REMOVAL OF BITUMINOUS SURFACING (740 SY)
- GEOSYNTHETIC MATERIAL TYPE R1 (800 SY)
- GEOSYNTHETIC MATERIAL TYPE G (740 SY)
- AGGREGATE BASE COURSE – CL 5 (123 CY)
- CURB & GUTTER (150 LF)
- CONCRETE SIDEWALK (200 SY)
- CONCRETE DRIVEWAY 6IN (50 SY)
- CONCRETE VALLEY GUTTER (40 SY)
- MANHOLE I&I BARRIER (12 EA)
- ASPHALT REPAIR (160 TON)
- RANDOM PCC CRACK ROUTE & SEAL (4,260 LF)
- SPALL REPAIR - 1/2" MAX DEPTH (100 SF)

Additional Patching Quantities: The following additional quantities are included in the Summary of Quantities for use as determined by the Engineer outside the project limits but within the City Limits of Dickinson. Mobilization in and out of these areas will be included in the bid items below. An increase or decrease from plan quantity will not be accepted as a reason to negotiate any pay adjustment under these bid items. The additional quantities may be eliminated at the discretion of the Engineer.

- REMOVAL OF BITUMINOUS SURFACING – CITY PATCH (370 SY)
- GEOSYNTHETIC MATERIAL TYPE R1 – CITY PATCH (400 SY)
- GEOSYNTHETIC MATERIAL TYPE G – CITY PATCH (370 SY)
- AGGREGATE BASE COURSE – CL 5 – CITY PATCH (60 CY)
- ASPHALT REPAIR – CITY PATCH (80 TON)

32 1207 – Aggregate Materials:

Delete Section 3.2.A.1 and insert the following:

In areas where the full width of the roadway is being removed or reconstructed, the subgrade shall be compacted by approved compaction equipment. Approved compaction equipment shall include sheepsfoot rollers, pneumatic packers, mechanical packers, mechanical rammers, vibratory equipment, trucks, tractors, scrapers, motor graders, and all other types of equipment used in excavating, transporting, and placing the subgrade. Scarify and recompact a minimum of 12 inches of the subgrade soil as indicated in Section C of the Geotechnical Evaluation Report. Compact finished subgrade and aggregate base as specified in the Geotechnical Evaluation Report.

Delete Section 3.5.E.1 and insert the following:

Compaction control tests shall follow specifications as per Table 5 of the Report of Geotechnical Exploration and Review.

Add the following to the end of Section 4.1:

E. Include the removal of existing aggregate base and/or subgrade material and excavation required to accommodate the new proposed aggregate base in the price bid for AGGREGATE BASE COURSE – CL 5.

32 1210 – Concrete Paving: The following are supplementary requirements to this Project's Contract Documents:

Include the removal of existing aggregate base and/or subgrade materials and grading required to accommodate the new proposed aggregate base/bedding/controlled density fill beneath the proposed concrete items in the price bid for the corresponding concrete bid items.

Location and Quantity of Concrete Items: Location and extent of proposed replacement of curb and gutter, sidewalk, driveways, and valley gutters shown on the plans is approximate. Locations and quantities shown may be eliminated, expanded or relocated within this area at the Owner and Engineer's direction as noted or shown on the plans or proposal.

After the new curb and gutter or valley gutter has been installed and the forms have been removed, the Contractor shall fill the remaining void between the new curb & gutter or valley gutter and existing asphalt pavement with a Controlled Density Fill (CDF) containing a minimum of 100 pounds cement and 500 pounds fly ash with a minimum 28-day compressive strength of 500 psi. The CDF is a mixture of sand, cement, water and fly ash.

The CDF patch shall be protected until capable of supporting traffic. The CDF patch will then be milled to the depth specified or shown on the plans.

The Contractor shall provide a CDF mix design to the Engineer for review prior to use on the project.

Curb and Gutter: The contractor shall match the existing curb type unless otherwise directed by the Engineer. Install a 3/4" lip, per the driveway details, in mountable curb locations where the entire length of curb and adjacent driveway concrete is being replaced. Cost for matching existing curb is incidental.

Existing inlet castings within the proposed curb ramp replacements may need to be removed and reset with the new curb & gutter. All costs connected with this work shall be included in the price bid of ADJUST INLET. Any of these inlets that are cracked will need to be replaced. Contact the Public Works Director at (701) 456-7979 to obtain new inlet covers if needed.

Existing Curb Stops and Gate Valve Boxes located within the proposed concrete improvements are to be protected during removals, brought to finished grade, and adjusted flush to the proposed concrete. Include all costs for this in the unit price bid for the corresponding concrete bid items.

Where utility boxes are located within the proposed sidewalk, reinforce the surrounding concrete with #4 bars as directed by the Engineer. Include all costs for this in the unit price bid for the corresponding concrete bid items.

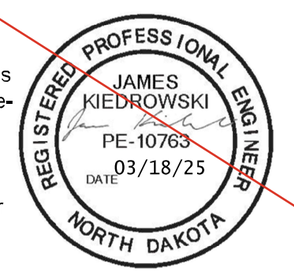
The joint between the curb and sidewalk on all drop curbs (driveways and handicap ramps) shall be sealed from high curb through the drop curb and back up to the high curb. The Contractor shall also seal all joints of concrete valley gutters. This cost shall be included in the price bid for other items of work.

32 1300 – Concrete Repair: The following are supplementary requirements to this Project's Contract Documents:

Sidewalk and Curb & Gutter replacement areas are shown on Section 60 sheets. Engineer to designate certain instances of cracks and spalling within these areas as a Concrete Repair rather than replacement. Engineer will distinctly field mark all such instances as spall repair, crack sealing or replacement, prior to construction. An estimated reduction in concrete replacement quantities from what is depicted in Section 60 is summarized in a table in the Summary of Quantities sheet.

Crack Sealing shall be applied to sidewalk panels with not more than two single, uncontrolled, cracks that have horizontal separation less than 0.5 inches. Crack Sealing shall likewise be applied to curb and gutter panels with not more than four single, uncontrolled cracks of similar separation. A bi-furcating crack will count as two cracks.

- Route cracks using mechanical, power-driven routing equipment capable of cutting a reservoir to a depth of 3/4 to 7/8 inches and a width of 1/2 inch.
- Clean the reservoir using an air compressor conforming to NDDOT Section 156.01, "Air Compressor" to thoroughly clean dust, dirt and loose materials so the reservoir is clean and dry at the time sealant is applied. If reservoir or crack is left overnight, the reservoir shall be re-cleaned immediately before sealant is applied.
- Fill the reservoir with hot applied joint sealant in conformance with ASTM D5078. Sealant shall be placed within 72 hours of routing. There shall be no signs of moisture on the surface or in the reservoir at the time of placement. Sealant handling, mixing, and application



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applied. If reservoir or crack is left overnight, the reservoir shall be re-cleaned immediately before sealant is applied.

- Fill the reservoir with hot applied joint sealant in conformance with ASTM D5078. Sealant shall be placed within 72 hours of routing. There shall be no signs of moisture on the surface or in the reservoir at the time of placement. Sealant handling, mixing, and application temperature restrictions shall conform to the manufacturer's recommendations. Use a pressure type applicator.

Spall Repair shall be applied to concrete panels experiencing spalling/scaling/popouts on panels without cracks. Panels with spalling or popouts greater than 0.25 inches in depth will be replaced. No vertical face spall repair is allowed. Use polymer modified, cementitious, freeze/thaw resistant, trowel-grade mortar with corrosion inhibitor admixture (minimum 5000 psi compressive strength). Perform patching when ambient air temperatures are greater than 45°F.

- Clean the spall area. Dampen the spall surface and mix the mortar as recommended by the manufacturer.
- Insert spacer material in the joint that will not bond to the mortar to form the faces of the spall patch, if needed. Blend dry concrete sand into the mixture to give repair mortar of trowelable consistency.
- Place and finish the mortar in the spall area. After the repair mortar has cured, remove the inserts. Ensure proper repair mortar curing per manufacturer's installation instructions.

32 1508 – Milling Pavement Surface: The following are supplementary requirements to this Project's Contract Documents:

ADJUST MANHOLE and ADJUST GATE VALVE BOX includes the removal and disposal of concrete collar (if exists), and construction of the new concrete collar according to the plans and specifications.

Coordinate milling and paving operations so that no section of milled roadway has public or construction traffic operating on it for more than 7 days. If public or construction traffic operates on the milled surface for more than 7 days, repair the roadway as directed by the Engineer at no additional cost to the City.

The millings obtained from the project shall be hauled by the Contractor and weighed at the Baler Building (3389 Energy Drive), then hauled by the Contractor to the City of Dickinson Landfill (3880 Lehigh Road). Prior to hauling, Contractor to coordinate location with the City. The contact for the City is the Public Works Director at (701) 456-7979.

32 1509 – Asphaltic Pavement Repair: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 32 1509 4.1 A and insert the following:
REMOVAL OF BITUMINOUS SURFACING will be measured by the square yard (SY) and will include all asphalt, aggregate, earth, and debris removed from the designated excavated area to the depth of the top of the proposed aggregate base. Does not include concrete removal.

Delete Section 32 1509 4.1 B and insert the following:
Aggregate for subgrade repair will be measured by the cubic yard (CY) in place and will include all costs to remove all existing aggregate, earth, and debris required for placement.

Delete Section 32 1509 4.1 D and insert the following:
Payment for Asphalt Cement shall be included in the bid price for ASPHALT REPAIR.

32 1513 – Hot Asphaltic Concrete Paving: The following are supplementary requirements to this Project's Contract Documents:

If the Contractor has a source of recycled asphalt material, they have the option to utilize it in Recycled Asphalt Pavement (RAP) for the project in accordance with the State of North Dakota Department of Transportation (NDDOT) Standard and Supplemental Specifications for Road and Bridge Construction, latest edition. The millings obtained from the project are to remain City of Dickinson's property. The following list summarizes requirements pertinent to using RAP-mixed pavement:

- Hot Asphaltic Concrete Paving must meet requirements of NDDOT Standard Specifications Section 430.03 for RAP - Superpave FAA 43.
- A consistent RAP source must be free of rubber, chips, large chunks, clay/dirt, etc.
- RAP source is to be inspected and approved by the Engineer prior to use.
- The Contractor will supply an asphalt pavement mix that is uniform and homogenous. The Engineer will inspect loads and can reject loads of mix or sections of pavement containing uncoated batches of aggregate or segregated materials per City of Dickinson Standard Specifications 01 4001 3.9 and 32 1513 3.3. If problems with the mix are observed in the field, the Contractor will cease paving operations until corrective actions are taken.
- If the above conditions cannot be met at any point throughout the duration of the Project, the Contractor will cease paving operations until corrective actions are taken. If the Contractor fails to take corrective actions to the reasonable satisfaction of the City, the City retains the right to reject the use of RAP moving forward and the Contactor would need to provide a virgin mix at the original contract price.

Delete Section 32 1513 2.2 A and insert the following:
Mix Design: Conform to NDDOT Standard Specifications, Section 430.03 C. Mix design shall be Superpave FAA 43.

Add the following to the end of Section 32 1513 3.4 B:
Ordinary compaction, as specified in Section 430.04 I.3 of the North Dakota Department of Transportation (NDDOT) Standard and Supplemental Specifications for Road and Bridge Construction, latest edition, will be utilized for the Project.

Delete Section 32 1513 4.2 A.3 and insert the following:
Payment for Asphalt Cement shall be included in the price bid of ASPHALT PAVEMENT.

32 9360 – Seeding: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 32 9360 4.2 A-D and insert the following:
Payment for seeding disturbed areas (with exception to the areas in and around the 21st Street E Frontage Road) will be incidental to other concrete items. Payment for seeding disturbed areas in and around the 21st Street E Frontage Road shall be included in the bid price for IMPORT TOPSOIL.

DIVISION 33 – UTILITIES

33 0601 – Manholes, Cleanouts and Covers: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 33 0601 2.1 E and insert the following:
Strike Products – Manole I&I Barrier

Delete Section 33 0601 2.2 D and insert the following:
Manole I&I Barrier: Equal to product manufactured by Strick Products.

Delete Section 33 0601 3.2 G and insert the following:
Install Manhole I&I Barrier as recommended by manufacturer. Install barriers on all existing sanitary or storm manholes that have signs of inflow or infiltration around casting, lid or adjustment rings, as directed by engineer.

Delete Section 33 0601 4.2 a and insert the following:
Payment for each unit shall include excavating, backfilling, grading, subgrade stabilization, manhole section, influent and effluent openings, cast-in-place inverts, two adjusting rings, frame, lid and/or cover and all related accessories. All costs for furnishing and installing an I&I barrier and where necessary shall be included within the unit price bid for MANHOLE I&I BARRIER.

All costs to connect existing storm sewer pipe to a doghouse type manhole shall be paid for per each existing pipe connecting to the proposed manhole. The base for such proposed structures will be separate from the barrel section and will be installed underneath the existing pipe(s). The barrel section will be placed over top of the existing pipe(s). The penetrations in the base shall be fully grouted in order to achieve a watertight connection. All labor, equipment, and material associated with furnishing and installing doghouse type manholes and facilitating connections to existing pipes will be included in the bid price for CONNECT TO EX. STORM PIPES TO NEW MANHOLE.

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DRAFTED: JSK
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PROJECT NUMBER: 2404-00273
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temperature restrictions shall conform to the manufacturer's recommendations. Use a pressure type applicator.

Spall Repair shall be applied to concrete panels experiencing spalling/scaling/popouts on panels without cracks. Panels with spalling or popouts greater than 0.25 inches in depth will be replaced. No vertical face spall repair is allowed. Use polymer modified, cementitious, freeze/thaw resistant, trowel-grade mortar with corrosion inhibitor admixture (minimum 5000 psi compressive strength). Perform patching when ambient air temperatures are greater than 45°F.

- Clean the spall area. Dampen the spall surface and mix the mortar as recommended by the manufacturer.
- Insert spacer material in the joint that will not bond to the mortar to form the faces of the spall patch, if needed. Blend dry concrete sand into the mixture to give repair mortar of trowelable consistency.
- Place and finish the mortar in the spall area. After the repair mortar has cured, remove the inserts. Ensure proper repair mortar curing per manufacturer's installation instructions.

32 1508 – Milling Pavement Surface: The following are supplementary requirements to this Project's Contract Documents:

ADJUST MANHOLE and ADJUST GATE VALVE BOX includes the removal and disposal of concrete collar (if exists), and construction of the new concrete collar according to the plans and specifications.

Coordinate milling and paving operations so that no section of milled roadway has public or construction traffic operating on it for more than 7 days. If public or construction traffic operates on the milled surface for more than 7 days, repair the roadway as directed by the Engineer at no additional cost to the City.

The millings obtained from the project shall be hauled by the Contractor and weighed at the Baler Building (3389 Energy Drive), then hauled by the Contractor to the City of Dickinson Landfill (3880 Lehigh Road). Prior to hauling, Contractor to coordinate location with the City. The contact for the City is the Public Works Director at (701) 456-7979.

32 1509 – Asphaltic Pavement Repair: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 32 1509 4.1 A and insert the following:
REMOVAL OF BITUMINOUS SURFACING will be measured by the square yard (SY) and will include all asphalt, aggregate, earth, and debris removed from the designated excavated area to the depth of the top of the proposed aggregate base. Does not include concrete removal.

Delete Section 32 1509 4.1 B and insert the following:
Aggregate for subgrade repair will be measured by the cubic yard (CY) in place and will include all costs to remove all existing aggregate, earth, and debris required for placement.

Delete Section 32 1509 4.1 D and insert the following:
Payment for Asphalt Cement shall be included in the bid price for ASPHALT REPAIR.

32 1513 – Hot Asphaltic Concrete Paving: The following are supplementary requirements to this Project's Contract Documents:

If the Contractor has a source of recycled asphalt material, they have the option to utilize it in Recycled Asphalt Pavement (RAP) for the project in accordance with the State of North Dakota Department of Transportation (NDDOT) Standard and Supplemental Specifications for Road and Bridge Construction, latest edition. The millings obtained from the project are to remain City of Dickinson's property. The following list summarizes requirements pertinent to using RAP-mixed pavement:

- Hot Asphaltic Concrete Paving must meet requirements of NDDOT Standard Specifications Section 430.03 for RAP - Superpave FAA 43.
- A consistent RAP source must be free of rubber, chips, large chunks, clay/dirt, etc.
- RAP source is to be inspected and approved by the Engineer prior to use.
- The Contractor will supply an asphalt pavement mix that is uniform and homogenous. The Engineer will inspect loads and can reject loads of mix or sections of pavement containing uncoated batches of aggregate or segregated materials per City of Dickinson Standard Specifications 01 4001 3.9 and 32 1513 3.3. If problems with the mix are observed in the field, the Contractor will cease paving operations until corrective actions are taken.
- If the above conditions cannot be met at any point throughout the duration of the Project, the Contractor will cease paving operations until corrective actions are taken. If the Contractor fails to take corrective actions to the reasonable satisfaction of the City, the City retains the right to reject the use of RAP moving forward and the Contactor would need to provide a virgin mix at the original contract price.

Delete Section 32 1513 2.2 A and insert the following:
Mix Design: Conform to NDDOT Standard Specifications, Section 430.03 C. Mix design shall be Superpave FAA 43.

Add the following to the end of Section 32 1513 3.4 B:
Ordinary compaction, as specified in Section 430.04 I.3 of the North Dakota Department of Transportation (NDDOT) Standard and Supplemental Specifications for Road and Bridge Construction, latest edition, will be utilized for the Project.

Delete Section 32 1513 4.2 A.3 and insert the following:
Payment for Asphalt Cement shall be included in the price bid of ASPHALT PAVEMENT.

32 9360 – Seeding: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 32 9360 4.2 A-D and insert the following:
Payment for seeding disturbed areas (with exception to the areas in and around the 21st Street E Frontage Road) will be incidental to other concrete items. Payment for seeding disturbed areas in and around the 21st Street E Frontage Road shall be included in the bid price for IMPORT TOPSOIL.

DIVISION 32 – Exterior Improvements

33 0601 – Manholes, Cleanouts and Covers: The following are supplementary requirements to this Project's Contract Documents:

Delete Section 33 0601 2.1 E and insert the following:
Strike Products – Manole I&I Barrier

Delete Section 33 0601 2.2 D and insert the following:
Manole I&I Barrier: Equal to product manufactured by Strick Products.

Delete Section 33 0601 3.2 G and insert the following:
Install Manhole I&I Barrier as recommended by manufacturer. Install barriers on all existing sanitary or storm manholes that have signs of inflow or infiltration around casting, lid or adjustment rings, as directed by engineer.

Delete Section 33 0601 4.2 a and insert the following:
Payment for each unit shall include excavating, backfilling, grading, subgrade stabilization, manhole section, influent and effluent openings, cast-in-place inverts, two adjusting rings, frame, lid and/or cover and all related accessories. All costs for furnishing and installing an I&I barrier and where necessary shall be included within the unit price bid for MANHOLE I&I BARRIER.

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33 1116 – Water Utility System: The following are supplementary requirements to this Project's Contract Documents:

WATER SERVICE CROSSING: The repair of water service lines interfering with the proposed storm sewer trench shall be paid for per each and shall include all trenching, backfilling, pipe bedding, dewatering, removal and disposal of existing service line, cutting and connecting to existing pipes, furnishing and installing existing pipe to match existing size and material in accordance with City of Dickinson Standard Specifications 33 1116 2.3, furnishing and installing of adaptors for connections to existing pipe, and any other equipment, labor, and/or materials necessary to replace water service lines through the width of the storm sewer trench.

33 3722 – Sanitary Sewage System: The following are supplementary requirements to this Project's Contract Documents:

SANITARY SEWER SERVICE CROSSING: The repair of sanitary sewer service lines interfering with the proposed storm sewer trench shall be paid for per each and shall include all trenching, backfilling, pipe bedding, dewatering, removal and disposal of existing service line, cutting and connecting to existing pipes, furnishing and installing PVC SDR 35 pipe matching existing pipe size, furnishing and installing of adaptors for connections to existing pipe with concrete blocks, and any other equipment, labor, and/or materials necessary to replace sanitary service lines through the width of the storm sewer trench. See detail C3.08.

REGRADE SEWER SERVICE includes all cost for furnishing and installing each regraded sanitary sewer service crossings outside of the SANITARY SEWER SERVICE CROSSING trench width. This item shall be paid for a per linear foot basis and shall include all trenching, backfilling, pipe bedding, dewatering, removal and disposal of existing service line, cutting and connecting to existing pipes, furnishing and installing PVC SDR 35 pipe matching existing pipe size, furnishing and installing of adaptors for connections to existing pipe with concrete blocks, and any other equipment, labor, and/or materials necessary to regrade sanitary services interfering with the proposed storm sewer trench.

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ADDENDUM #1

SUMMARY OF QUANTITIES TABLE

Item No.	Description	Unit	Quantity
1	MOBILIZATION & CONTRACT BOND	LS	1
2	REMOVAL OF CURB & GUTTER	LF	16,166
3	REMOVAL OF CONCRETE	SY	4,167
4	REMOVAL OF BITUMINOUS SURFACING	SY	8,826
5	REMOVAL OF BITUMINOUS SURFACING - CITY PATCH	SY	370
6	REMOVE MANHOLE	EA	9
7	REMOVE INLET	EA	6
8	REMOVAL OF PIPE - ALL SIZES	LF	1,588
9	REMOVE FENCE	LF	32
10	IMPORT TOPSOIL	CY	55
11	CONNECT EX STORM SEWER PIPES TO NEW MANHOLE	EA	10
12	PLUG EXISTING PIPE	EA	1
13	96" STORM SEWER MANHOLE	EA	4
14	120" STORM SEWER MANHOLE	EA	6
15	STORM SEWER INLET TYPE 2 SINGLE	EA	3
16	STORM SEWER INLET TYPE 2 DOUBLE	EA	2
17	STORM SEWER INLET TYPE 2 TRIPLE	EA	1
18	24" STORM SEWER RCP	LF	189
19	54" STORM SEWER RCP	LF	1,216
20	65"x40" ARCH STORM SEWER RCP	LF	366
21	4" INSULATION BOARD	SF	1,280
22	GENERAL FILL - TYPE 1	CY	650
23	SUBGRADE PREPARATION	SY	1,876
24	GEOSYNTHETIC MATERIAL TYPE R1	SY	11,115
25	GEOSYNTHETIC MATERIAL TYPE R1 - CITY PATCH	SY	400
26	GEOSYNTHETIC MATERIAL TYPE G	SY	10,345
27	GEOSYNTHETIC MATERIAL TYPE G - CITY PATCH	SY	370
28	AGGREGATE BASE COURSE - CL 5	CY	1,799
29	AGGREGATE BASE COURSE - CL 5 - CITY PATCH	CY	60
30	CURB & GUTTER	LF	16,834
31	CONCRETE SIDEWALK	SY	4,614
32	CONCRETE DRIVEWAY 6IN	SY	887
33	CONCRETE VALLEY GUTTER	SY	684
34	DETECTABLE WARNING PANEL	SF	730
35	SIDEWALK - TRENCH DRAIN	EA	1
36	MILLING PAVEMENT SURFACE	SY	43,531
37	ADJUST INLET	EA	22
38	ADJUST MANHOLE	EA	62
39	ADJUST GATE VALVE BOX	EA	55
40	MANHOLE I&I BARRIER	SF	12
41	ASPHALT PAVEMENT	TON	6,353
42	ASPHALT REPAIR	TON	1,877
43	ASPHALT REPAIR - CITY PATCH	TON	80
44	AGGREGATE SURFACE COURSE - CL 13	CY	75
45	RANDOM PCC CRACK ROUTE & SEAL	LF	4,260
46	SPALL REPAIR - 1/2" MAX DEPTH	SF	100
47	FLAGGING	MH	800
48	TRAFFIC CONTROL	LS	1
49	WATER SERVICE CROSSING	EA	3
50	SANITARY SEWER SERVICE CROSSING	EA	3
51	REGRADE SEWER SERVICE	LF	90
52	6" PVC C-900 DR-18 WATERMAIN	LF	48

SUMMARY OF CONCRETE REPAIR QUANTITY REDUCTION

		TOTAL
REMOVAL OF CURB & GUTTER (LF)	Quantity shown on sheets	17,935
	Reduced Quantity	**16,166**
REMOVAL OF CONCRETE (SY)	Quantity shown on sheets	5,350
	Reduced Quantity	**4,167**
CURB & GUTTER (LF)	Quantity shown on sheets	18,603
	Reduced Quantity	**16,834**
CONCRETE SIDEWALK (SY)	Quantity shown on sheets	5,476
	Reduced Quantity	**4,614**
CONCRETE DRIVEWAY 6" (SY)	Quantity shown on sheets	1,154
	Reduced Quantity	**887**

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 04/01/25
NORTH DAKOTA

ADDENDUM #1

KLJ

NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 - ADDED BID ITEMS FOR UTILITY SERVICES

DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
SUMMARY OF QUANTITIES

SHEET 8-1

SUMMARY OF QUANTITIES TABLE

Item No.	Description	Unit	Quantity
1	MOBILIZATION & CONTRACT BOND	LS	1
2	REMOVAL OF CURB & GUTTER	LF	16,166
3	REMOVAL OF CONCRETE	SY	4,167
4	REMOVAL OF BITUMINOUS SURFACING	SY	8,826
5	REMOVAL OF BITUMINOUS SURFACING - CITY PATCH	SY	370
6	REMOVE MANHOLE	EA	9
7	REMOVE INLET	EA	6
8	REMOVAL OF PIPE - ALL SIZES	LF	1,588
9	REMOVE FENCE	LF	32
10	IMPORT TOPSOIL	CY	55
11	CONNECT EX STORM SEWER PIPES TO NEW MANHOLE	EA	10
12	CAP EXISTING PIPE	EA	1
13	96" STORM SEWER MANHOLE	EA	4
14	120" STORM SEWER MANHOLE	EA	7
15	STORM SEWER INLET TYPE 2 SINGLE	EA	3
16	STORM SEWER INLET TYPE 2 DOUBLE	EA	2
17	STORM SEWER INLET TYPE 2 TRIPLE	EA	1
18	24" STORM SEWER RCP	LF	189
19	54" STORM SEWER RCP	LF	1,216
20	65"x40" ARCH STORM SEWER RCP	LF	366
21	4" INSULATION BOARD	SF	1,024
22	GENERAL FILL - TYPE 1	CY	650
23	SUBGRADE PREPARATION	SY	1,876
24	GEOSYNTHETIC MATERIAL TYPE R1	SY	11,115
25	GEOSYNTHETIC MATERIAL TYPE R1 - CITY PATCH	SY	400
26	GEOSYNTHETIC MATERIAL TYPE G	SY	10,345
27	GEOSYNTHETIC MATERIAL TYPE G - CITY PATCH	SY	370
28	AGGREGATE BASE COURSE - CL 5	CY	1,799
29	AGGREGATE BASE COURSE - CL 5 - CITY PATCH	CY	60
30	CURB & GUTTER	LF	16,834
31	CONCRETE SIDEWALK	SY	4,614
32	CONCRETE DRIVEWAY 6IN	SY	887
33	CONCRETE VALLEY GUTTER	SY	684
34	DETECTABLE WARNING PANEL	SF	730
35	SIDEWALK - TRENCH DRAIN	EA	1
36	MILLING PAVEMENT SURFACE	SY	43,531
37	ADJUST INLET	EA	22
38	ADJUST MANHOLE	EA	62
39	ADJUST GATE VALVE BOX	EA	55
40	MANHOLE I&I BARRIER	SF	12
41	ASPHALT PAVEMENT	TON	6,353
42	ASPHALT REPAIR	TON	1,877
43	ASPHALT REPAIR - CITY PATCH	TON	80
44	AGGREGATE SURFACE COURSE - CL 13	CY	75
45	RANDOM PCC CRACK ROUTE & SEAL	LF	4,260
46	SPALL REPAIR - 1/2" MAX DEPTH	SF	100
47	FLAGGING	MH	800
48	TRAFFIC CONTROL	LS	1

SUMMARY OF CONCRETE REPAIR QUANTITY REDUCTION

		TOTAL
REMOVAL OF CURB & GUTTER (LF)	Quantity shown on sheets	17,935
	Reduced Quantity	**16,166**
REMOVAL OF CONCRETE (SY)	Quantity shown on sheets	5,350
	Reduced Quantity	**4,167**
CURB & GUTTER (LF)	Quantity shown on sheets	18,603
	Reduced Quantity	**16,834**
CONCRETE SIDEWALK (SY)	Quantity shown on sheets	5,476
	Reduced Quantity	**4,614**
CONCRETE DRIVEWAY 6" (SY)	Quantity shown on sheets	1,154
	Reduced Quantity	**887**

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION
NO. DATE

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REVIEWED JSK
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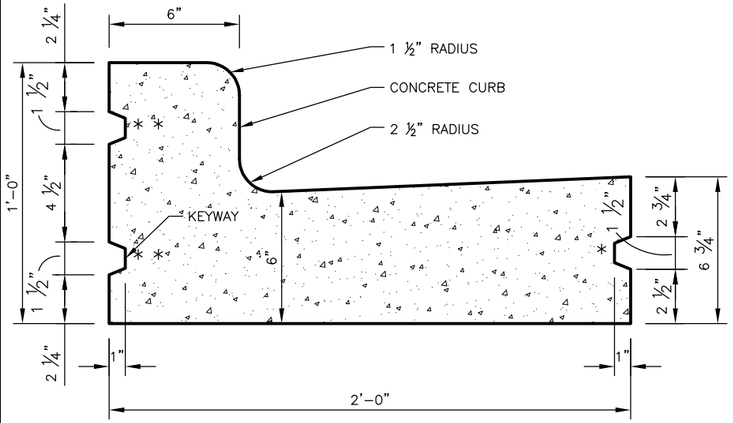
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
SUMMARY OF QUANTITIES

SHEET 8-1

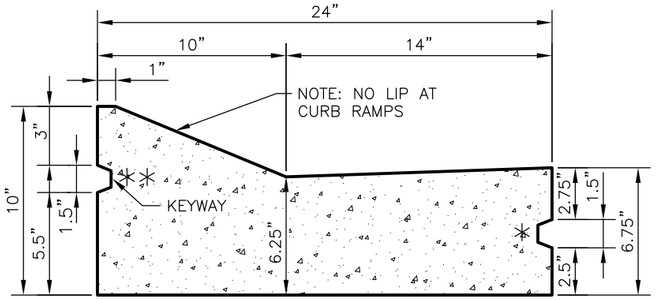


* KEYWAY USED FOR CONCRETE PAVEMENT ONLY
** KEYWAY USED WHEN SIDEWALK IS ADJACENT TO CURB

NOTES:
1. ALL LABOR AND MATERIAL COSTS FOR PLACING 4" OF AGGREGATE BASE MATERIAL UNDER THE CURB & GUTTER SHALL BE INCLUDED IN THE PRICE BID FOR "CURB & GUTTER".
2. SUBGRADE COMPACTION AND GRAVEL BASE SHALL EXTEND ONE FOOT BEYOND BACK OF CURB.

CURB & GUTTER - STANDARD

C2.06 – NO SCALE

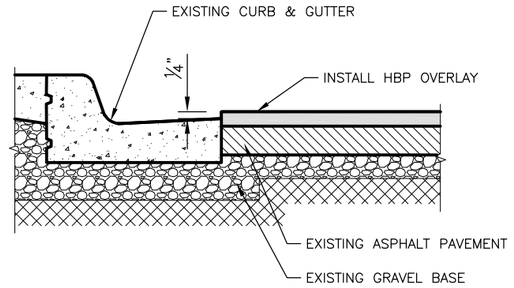


* KEYWAY USED FOR CONCRETE PAVEMENT ONLY
** KEYWAY USED WHEN SIDEWALK IS ADJACENT TO CURB

NOTES:
1. THE CITY OF DICKINSON DOES NOT ALLOW THIS TYPE OF CURB WITHIN PUBLIC RIGHT–OF–WAY AREAS. IF INSTALLATION IS NECESSARY, MOUNTABLE CURB SHALL BE APPROVED BY THE CITY ENGINEER.
2. SUBGRADE COMPACTION AND GRAVEL BASE SHALL EXTEND ONE FOOT BEYOND BACK OF CURB.

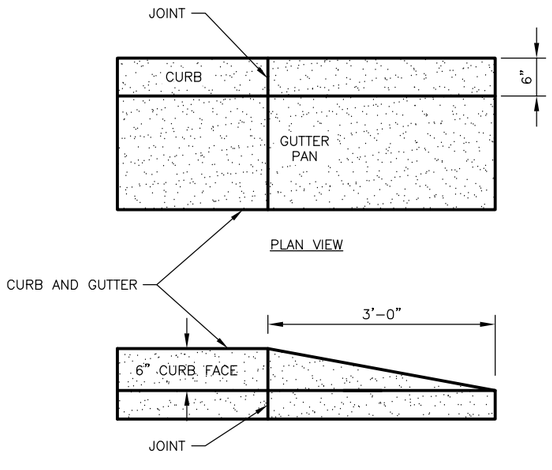
CURB & GUTTER - MOUNTABLE

C2.07 – NO SCALE



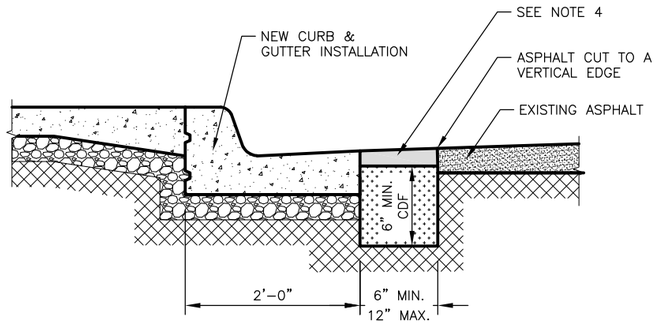
CURB & GUTTER - MILL & OVERLAY ALONG CURB & GUTTER

C2.10 – NO SCALE



CURB & GUTTER - BULLNOSE CURB

C2.08 – NO SCALE



NOTES:
1. EXISTING PAVEMENT TO BE CUT TO A NEAT VERTICAL EDGE WITH COSTS INCIDENTAL TO THE REMOVAL OF CURB AND GUTTER.
2. THE REMOVAL OF THE EXISTING ASPHALT SHALL BE INCIDENTAL TO THE REMOVAL OF CURB AND GUTTER.
3. THE CDF PATCH SHALL BE CAST IN–PLACE TO A DEPTH OF 1 3/4" BELOW THE TOP OF THE EXISTING ASPHALT AND THE NEW CURB AND GUTTER WITH COSTS INCIDENTAL TO THE INSTALLATION OF THE NEW CURB AND GUTTER.
4. WHERE ADJACENT OVERLAY IS PROPOSED, UTILIZE EITHER 2" ASPHALT PAVEMENT, CDF OR MILLINGS. WHERE ADJACENT OVERLAY IS NOT PROPOSED ONLY 2" OF ASPHALT PAVEMENT WILL BE ACCEPTED.

CDF PATCH ALONG CURB & GUTTER

K2.31 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

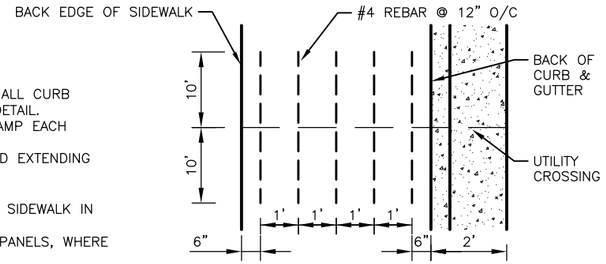
REVISION
NO. DATE

DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

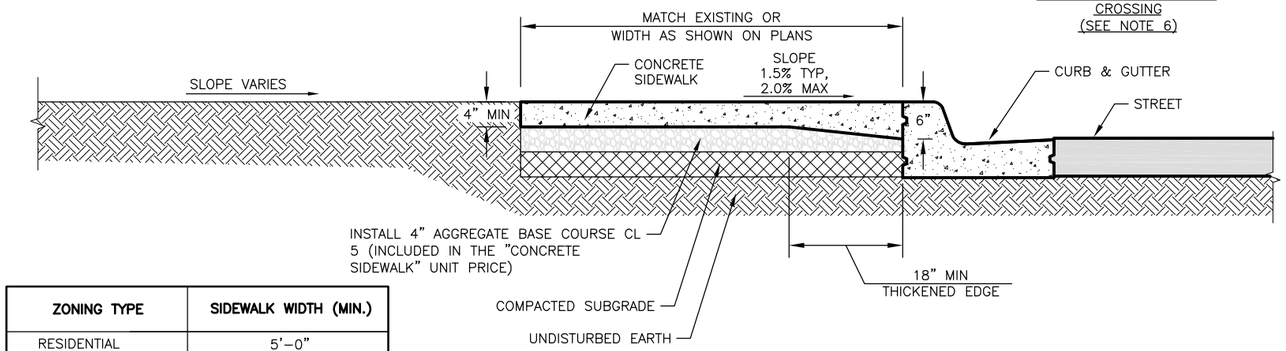
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-1

NOTES:
1. CONSTRUCTION JOINTS SPACED 5' MINIMUM AND 8' MAXIMUM.
2. SIDEWALK WIDTH 5' OR LESS – JOINT SPACING 5'
   SIDEWALK WIDTH MORE THAN 5' – JOINT SPACING 6'–8'.
3. CONTROL JOINTS SHALL BE SAWED OR TOOLED TO ¼ CONCRETE DEPTH (MINIMUM).
4. EXPANSION JOINTS EVERY 60 LF (MAXIMUM), EXPANSION JOINTS AT EVERY PROPERTY LINE, AT DRIVEWAYS, AT ALL CURB RETURNS ON RADII AND SEALED WITH BACKER ROD AND SEALANT AS SHOWN IN THE EXPANSION JOINT SEAL DETAIL.
5. CONTRACTOR'S STAMP: CONTRACTOR SHALL STAMP THE SIDEWALK EVERY 100 LF FOR CONTINUOUS POURS, STAMP EACH SIDEWALK PATCH AND STAMP AT EACH PROPERTY LINE PER LOT.
6. WHERE UNDERGROUND UTILITIES CROSS, A MINIMUM OF (4) #4 BARS SHALL BE PLACED PERPENDICULARLY AND EXTENDING 10.0' IN EACH DIRECTION TO FORM THE TRENCH WIDTH AT 12" ON CENTER, PLACED AT MID–DEPTH.
7. DOWEL SHALL BE INSTALLED INTO CURB & GUTTER @ 24" ON CENTER IF KEYWAY IS NOT USED.
8. INCLUDE ALL LABOR AND MATERIALS NECESSARY TO PLACE THE 4" OF AGGREGATE BASE MATERIAL UNDER THE SIDEWALK IN THE UNIT PRICE BID FOR "CONCRETE SIDEWALK".
9. MEASUREMENT FOR CONCRETE SIDEWALK SHALL EXTEND THROUGH TRENCH DRAINS AND DETECTABLE WARNING PANELS, WHERE APPLICABLE.

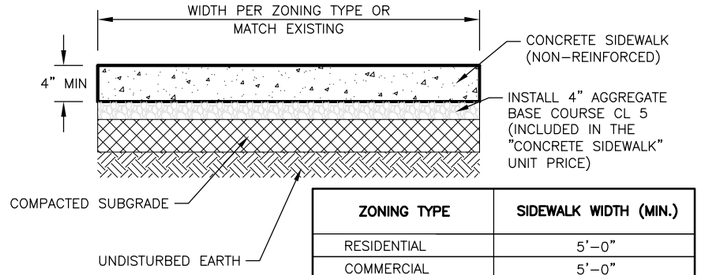


REBAR LAYOUT AT UTILITY CROSSING (SEE NOTE 6)



ZONING TYPE	SIDEWALK WIDTH (MIN.)
RESIDENTIAL	5'–0"
COMMERCIAL	5'–0"
INDUSTRIAL	5'–0"
DOWNTOWN	10'–0"

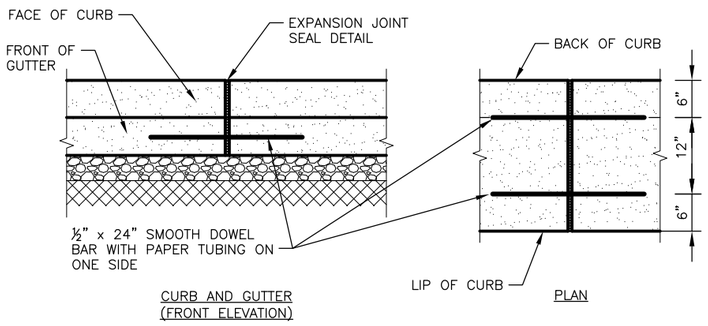
CURB SIDE SIDEWALK
C2.11 – NO SCALE

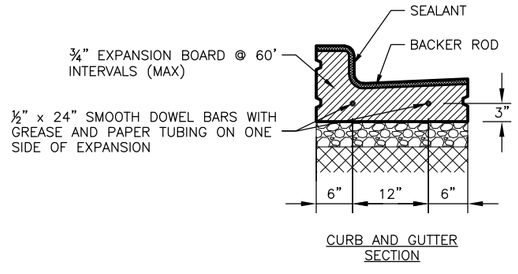


ZONING TYPE	SIDEWALK WIDTH (MIN.)
RESIDENTIAL	5'–0"
COMMERCIAL	5'–0"
INDUSTRIAL	5'–0"
DOWNTOWN	10'–0"

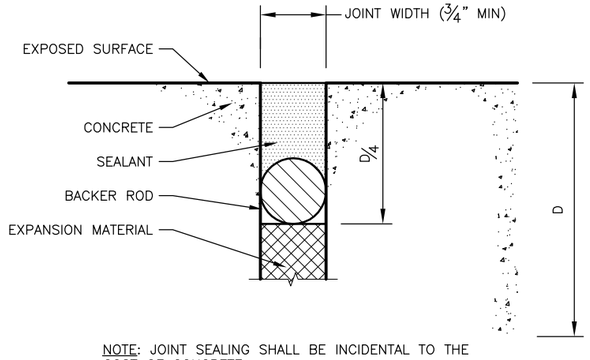
NOTES:
1. CONSTRUCTION JOINTS SPACED 5' MINIMUM AND 8' MAXIMUM.
2. SIDEWALK WIDTH 5' OR LESS – JOINT SPACING 5'
   SIDEWALK WIDTH MORE THAN 5' – JOINT SPACING 6'–8'.
3. CONTROL JOINTS SHALL BE SAWED OR TOOLED TO ¼ CONCRETE DEPTH (MINIMUM).
4. EXPANSION JOINTS SHALL BE INSTALLED AT 60' INTERVALS (MAXIMUM) AND AT PROPERTY LINES, DRIVEWAYS, AND CURB RETURNS ON RADII. EXPANSION JOINTS SHALL BE SEALED WITH BACKER ROD AND SEALANT AS SHOWN IN THE EXPANSION JOINT SEAL DETAIL.
5. CONTRACTOR'S STAMP: CONTRACTOR SHALL STAMP THE SIDEWALK EVERY 100' FOR CONTINUOUS POURS, STAMP EACH SIDEWALK PATCH AND STAMP AT EACH PROPERTY LINE PER LOT.
6. WHERE UNDERGROUND UTILITIES CROSS PERPENDICULAR TO THE SIDEWALK, A MINIMUM OF (4) #4 BARS AT 12" O.C. SHALL BE PLACED PERPENDICULARLY TO THE UTILITY CROSSING AND SHALL EXTEND 10' IN EACH DIRECTION FROM THE UTILITY CENTERLINE.
7. INCLUDE ALL LABOR AND MATERIALS NECESSARY TO PLACE THE 4" OF AGGREGATE BASE MATERIAL UNDER THE SIDEWALK IN THE UNIT PRICE BID FOR "CONCRETE SIDEWALK".

SIDEWALK - NON-REINFORCED
C2.13 – NO SCALE





EXPANSION JOINT - CURB & GUTTER SEALING
C2.26 – NO SCALE



NOTE: JOINT SEALING SHALL BE INCIDENTAL TO THE COST OF CONCRETE.

EXPANSION JOINT SEAL
C2.28 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

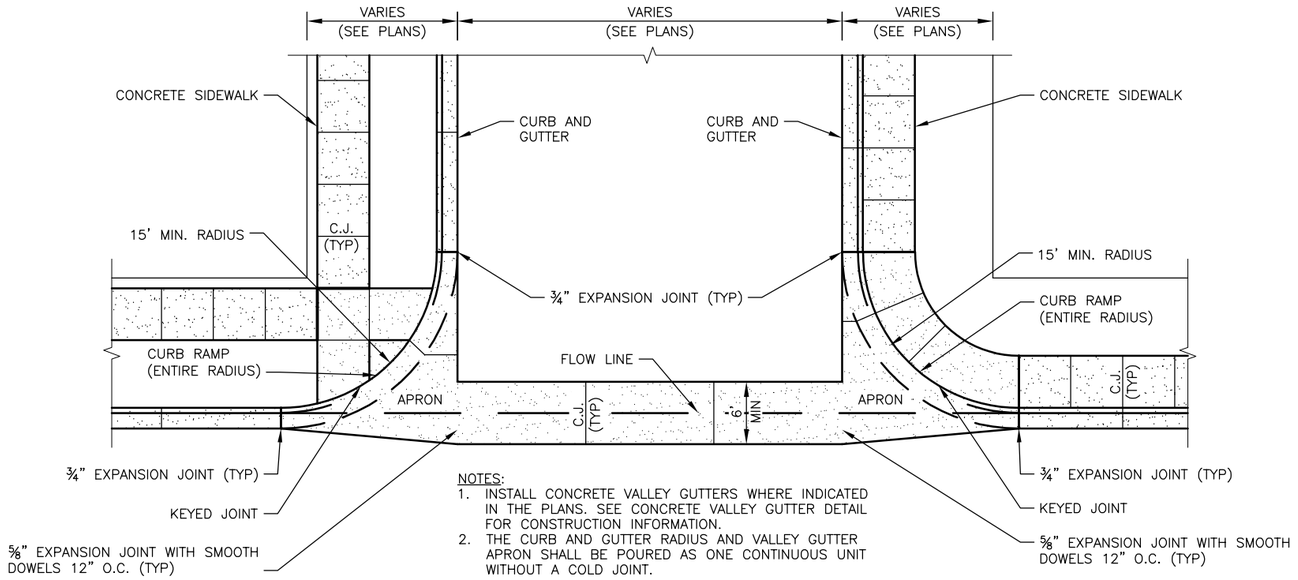
KLJ

REVISION
NO. DATE

DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

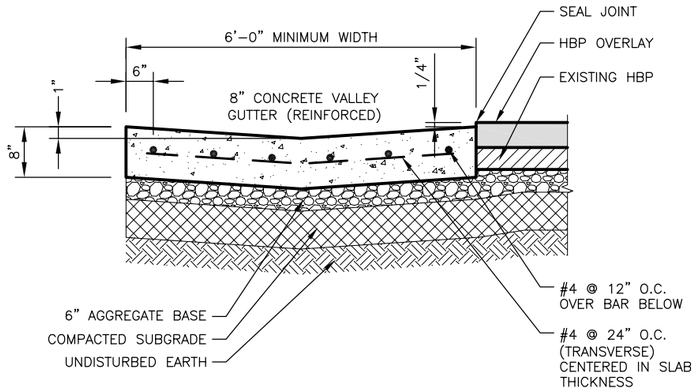
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-2



NOTES:
1. INSTALL CONCRETE VALLEY GUTTERS WHERE INDICATED IN THE PLANS. SEE CONCRETE VALLEY GUTTER DETAIL FOR CONSTRUCTION INFORMATION.
2. THE CURB AND GUTTER RADIUS AND VALLEY GUTTER APRON SHALL BE POURED AS ONE CONTINUOUS UNIT WITHOUT A COLD JOINT.

TYPICAL INTERSECTION
K2.34 – NO SCALE

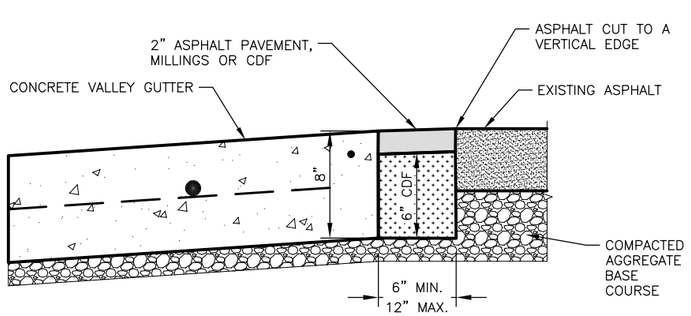


VALLEY GUTTER JOINTING

STREET WIDTH	PAVEMENT WIDTH	JOINT SPACING
37'	34'	8.5'
40'	37'	9.25'
44'	41'	8.2'
48'	45'	9.0'
52'	49'	9.8'

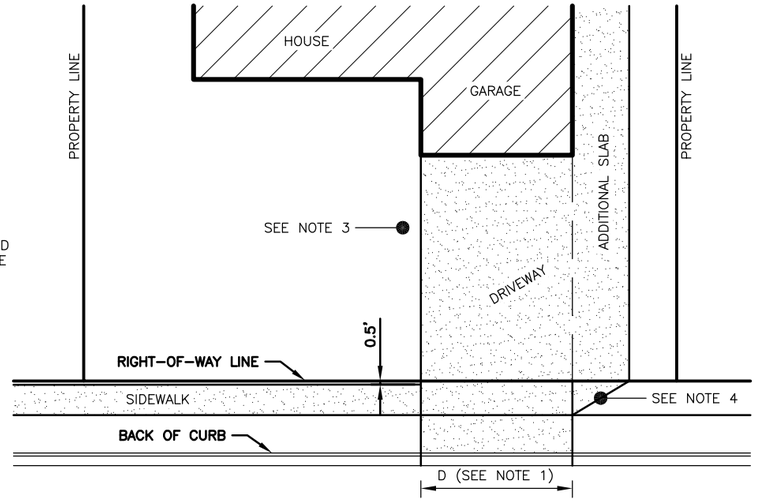
NOTES:
1. CHAIRS TO BE PLASTIC OR CONCRETE TO HOLD STEEL MAT IN PLACE FOR PROPER DEPTH WITHIN THE VALLEY GUTTER. NO WOOD STAKES ARE ALLOWED.
2. FOR VALLEY GUTTER ADJACENT TO CONCRETE PAVEMENT, MATCH VALLEY GUTTER AND PAVEMENT JOINTS.
3. INCLUDE ALL LABOR AND MATERIALS NECESSARY TO PLACE 6" OF AGGREGATE BASE MATERIAL UNDER THE VALLEY GUTTER IN THE UNIT PRICE BID FOR "CONCRETE VALLEY GUTTER".
4. SEE DETAIL K2.33 FOR CDF PATCHES ALONG VALLEY GUTTERS

CONCRETE VALLEY GUTTER
C2.03 – NO SCALE



NOTES:
1. EXISTING PAVEMENT TO BE CUT TO A NEAT VERTICAL EDGE WITH COSTS INCIDENTAL TO THE REMOVAL OF BITUMINOUS SURFACING OR REMOVAL OF CONCRETE.
2. THE REMOVAL OF THE EXISTING ASPHALT SHALL BE INCIDENTAL TO THE REMOVAL OF CONCRETE.
3. THE CDF PATCH SHALL BE CAST IN–PLACE TO A DEPTH 2" BELOW THE TOP OF THE EXISTING ASPHALT AND THE NEW VALLEY GUTTER WITH COSTS INCIDENTAL TO THE INSTALLATION OF THE NEW VALLEY GUTTER.

CDF PATCH ALONG VALLEY GUTTER - OVERLAY
K2.33 – NO SCALE



NOTES:
1. THE MAXIMUM FLAT–BOTTOM WIDTH OF THE DRIVEWAY, D, SHALL BE 40 FEET OR THE WIDTH OF THE GARAGE, WHICHEVER IS LESS. THE MINIMUM WIDTH, D, SHALL BE 22 FEET.
2. PRE–EXISTING, UNDERSIZED DRIVEWAYS SHALL BE RECONSTRUCTED TO MATCH EXISTING DRIVEWAY WIDTH, BUT MAY ALTERNATIVELY BE WIDENED UPON REQUEST TO 22 FEET, OR WIDTH OF DRIVEWAY, WHICHEVER IS GREATER.
3. NO ADDITIONAL SLAB ALLOWED ON THE HOUSE–SIDE OF THE GARAGE.
4. IN CURB–ADJACENT SIDEWALK INSTANCES THE TRANSITION LENGTH ON THE CURB MAY BE EXTENDED FROM THE EDGE OF DRIVEWAY TO THE EDGE OF ADDITIONAL SLAB WITHIN THE RIGHT OF WAY.
5. ONLY (1) DRIVEWAY SHALL BE APPROVED PER RESIDENTIAL PROPERTY WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY ENGINEER.

RESIDENTIAL DRIVEWAY AND SIDE SLAB
C2.22 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/01/25
DATE
NORTH DAKOTA

ADDENDUM #1

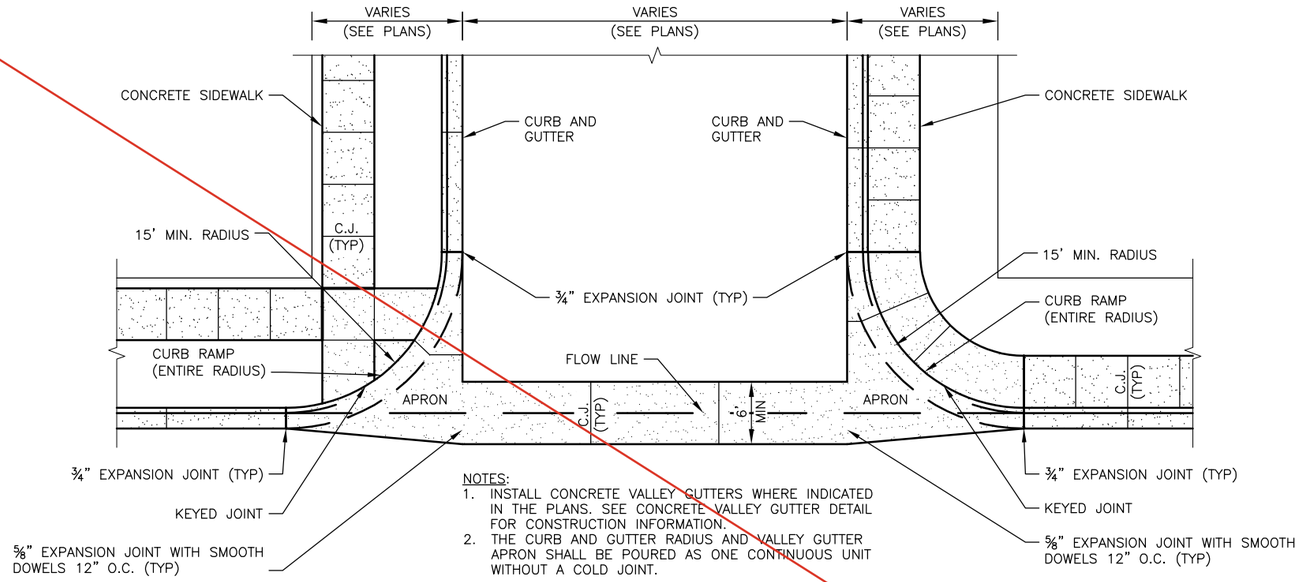
KLJ

NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 - FIXED NOTE NUMBERING ON C2.22

DRAFTED: MJS
REVIEWED: JSK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

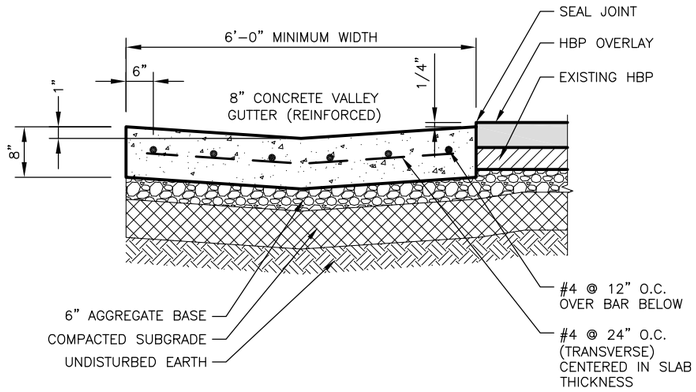
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-3



NOTES:
1. INSTALL CONCRETE VALLEY GUTTERS WHERE INDICATED IN THE PLANS. SEE CONCRETE VALLEY GUTTER DETAIL FOR CONSTRUCTION INFORMATION.
2. THE CURB AND GUTTER RADIUS AND VALLEY GUTTER APRON SHALL BE POURED AS ONE CONTINUOUS UNIT WITHOUT A COLD JOINT.

TYPICAL INTERSECTION
K2.34 – NO SCALE

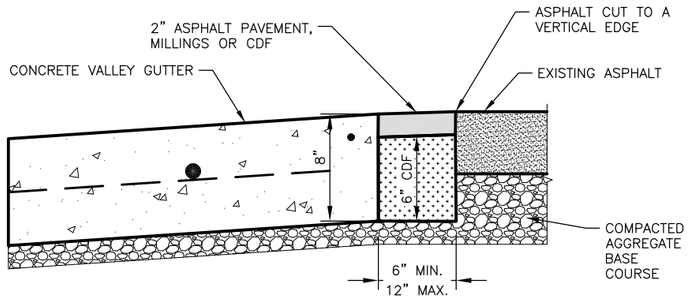


VALLEY GUTTER JOINTING

STREET WIDTH	PAVEMENT WIDTH	JOINT SPACING
37'	34'	8.5'
40'	37'	9.25'
44'	41'	8.2'
48'	45'	9.0'
52'	49'	9.8'

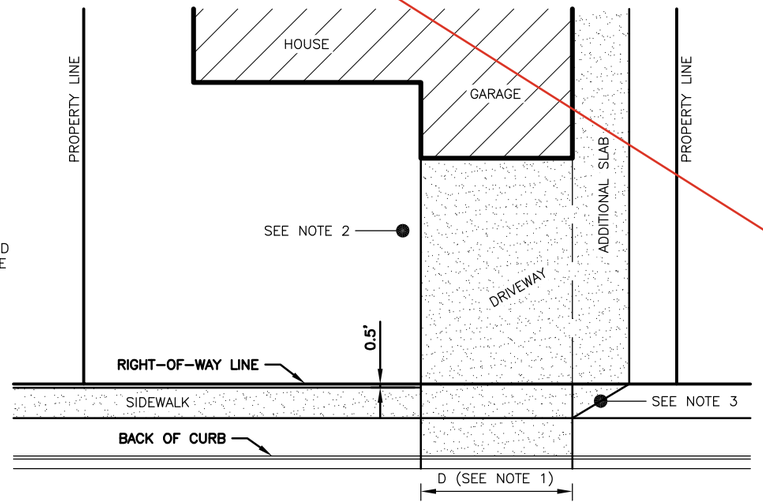
NOTES:
1. CHAIRS TO BE PLASTIC OR CONCRETE TO HOLD STEEL MAT IN PLACE FOR PROPER DEPTH WITHIN THE VALLEY GUTTER. NO WOOD STAKES ARE ALLOWED.
2. FOR VALLEY GUTTER ADJACENT TO CONCRETE PAVEMENT, MATCH VALLEY GUTTER AND PAVEMENT JOINTS.
3. INCLUDE ALL LABOR AND MATERIALS NECESSARY TO PLACE 6" OF AGGREGATE BASE MATERIAL UNDER THE VALLEY GUTTER IN THE UNIT PRICE BID FOR "CONCRETE VALLEY GUTTER".
4. SEE DETAIL K2.33 FOR CDF PATCHES ALONG VALLEY GUTTERS

CONCRETE VALLEY GUTTER
C2.03 – NO SCALE



NOTES:
1. EXISTING PAVEMENT TO BE CUT TO A NEAT VERTICAL EDGE WITH COSTS INCIDENTAL TO THE REMOVAL OF BITUMINOUS SURFACING OR REMOVAL OF CONCRETE.
2. THE REMOVAL OF THE EXISTING ASPHALT SHALL BE INCIDENTAL TO THE REMOVAL OF CONCRETE.
3. THE CDF PATCH SHALL BE CAST IN–PLACE TO A DEPTH 2" BELOW THE TOP OF THE EXISTING ASPHALT AND THE NEW VALLEY GUTTER WITH COSTS INCIDENTAL TO THE INSTALLATION OF THE NEW VALLEY GUTTER.

CDF PATCH ALONG VALLEY GUTTER - OVERLAY
K2.33 – NO SCALE



NOTES:
1. THE MAXIMUM FLAT–BOTTOM WIDTH OF THE DRIVEWAY, D, SHALL BE 40 FEET OR THE WIDTH OF THE GARAGE, WHICHEVER IS LESS. THE MINIMUM WIDTH, D, SHALL BE 22 FEET.
2. PRE–EXISTING, UNDERSIZED DRIVEWAYS SHALL BE RECONSTRUCTED TO MATCH EXISTING DRIVEWAY WIDTH, BUT MAY ALTERNATIVELY BE WIDENED UPON REQUEST TO 22 FEET, OR WIDTH OF DRIVEWAY, WHICHEVER IS GREATER.
3. NO ADDITIONAL SLAB ALLOWED ON THE HOUSE–SIDE OF THE GARAGE.
4. IN CURB–ADJACENT SIDEWALK INSTANCES THE TRANSITION LENGTH ON THE CURB MAY BE EXTENDED FROM THE EDGE OF DRIVEWAY TO THE EDGE OF ADDITIONAL SLAB WITHIN THE RIGHT OF WAY.
5. ONLY (1) DRIVEWAY SHALL BE APPROVED PER RESIDENTIAL PROPERTY WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY ENGINEER.

RESIDENTIAL DRIVEWAY AND SIDE SLAB
C2.22 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

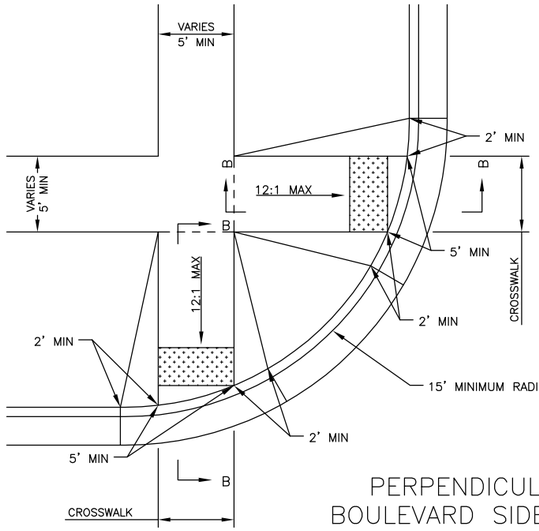
REVISION
NO. DATE

DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

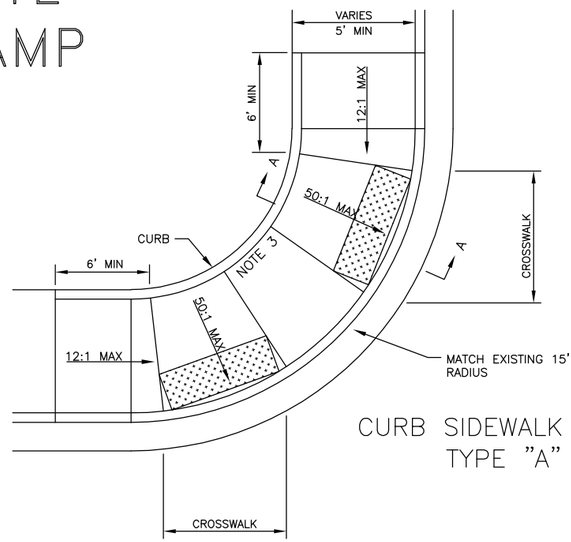
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-3

CONCRETE CURB RAMP

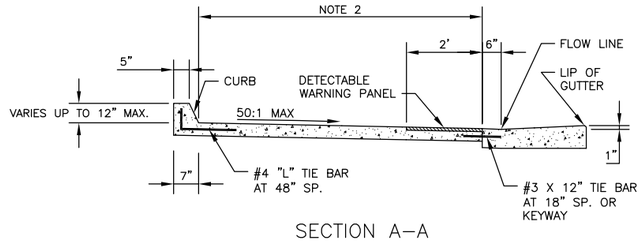


PERPENDICULAR RAMP
BOULEVARD SIDEWALK RAMP
TYPE "B"

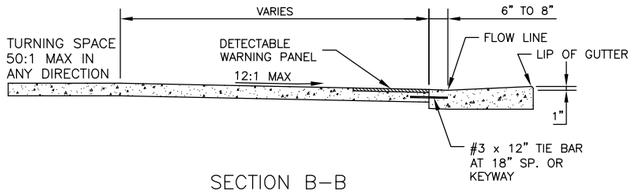


CURB SIDEWALK RAMP
TYPE "A"

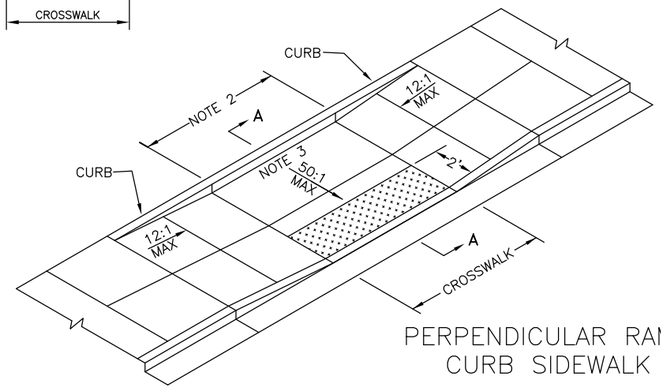
NOTES:
1. WHERE RAMPS ARE INSTALLED FOR SHARED–USE PATHS, THE RAMP WIDTH AND DETECTABLE WARNING PANEL WIDTH SHALL BE EQUAL TO THE WIDTH OF THE SHARED–USE PATH.
2. WIDTH PER ZONING TYPE: 5' MINIMUM FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL.
3. CURB HEIGHT WILL VARY FROM 6 INCHES HIGH MIN. TO 12 INCHES HIGH MAX. TO MATCH EXISTING PROPERTY GRADE. INCLUDE COST TO INSTALL CURB IN THE COST OF CONCRETE SIDEWALK.



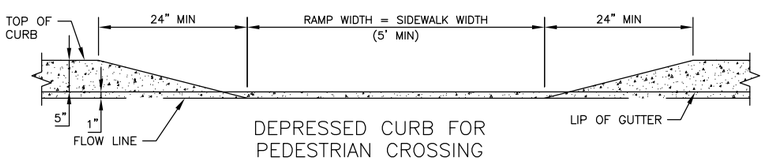
SECTION A–A



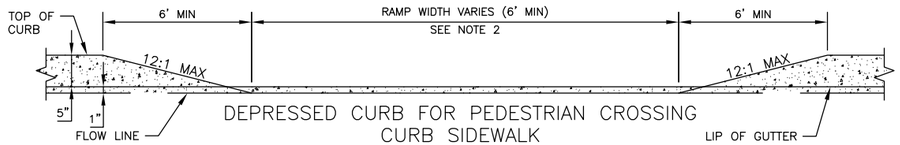
SECTION B–B



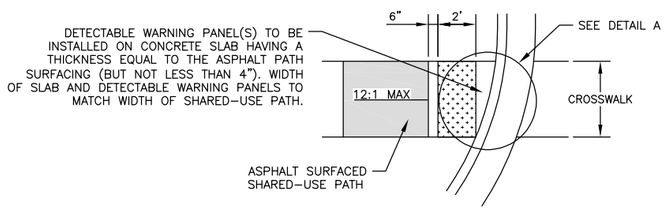
PERPENDICULAR RAMP
CURB SIDEWALK



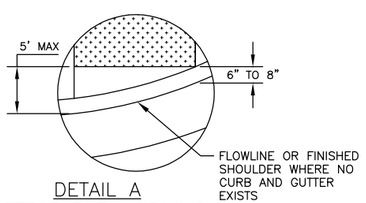
DEPRESSED CURB FOR
PEDESTRIAN CROSSING
BOULEVARD SIDEWALK



DEPRESSED CURB FOR PEDESTRIAN CROSSING
CURB SIDEWALK



CONCRETE PAD DETAIL FOR ASPHALT
SURFACED SHARED–USE PATH



DETAIL A
DETECTABLE WARNING
PANEL LOCATION

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

C2.18

KLJ

NO.	DATE	REVISION

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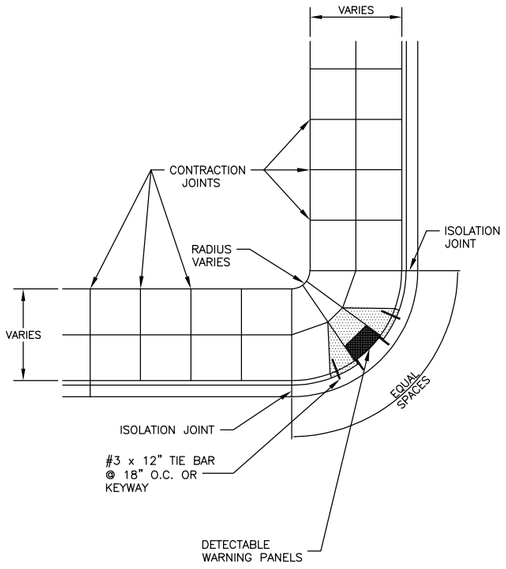
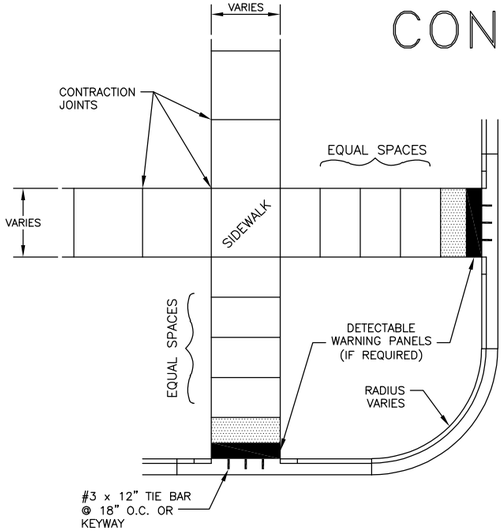
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

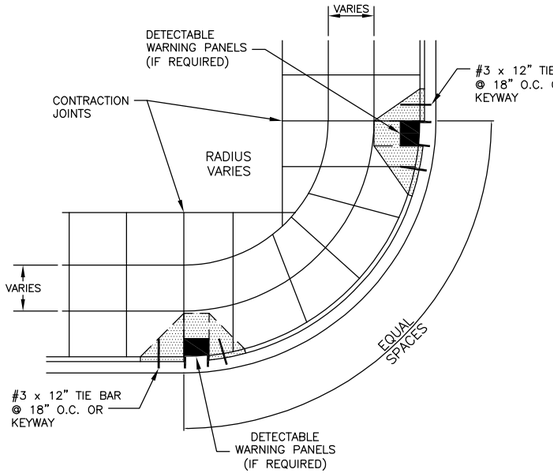
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-4

CONCRETE SIDEWALK



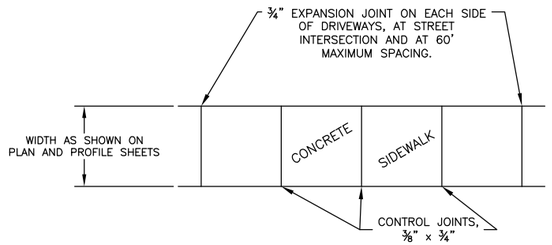




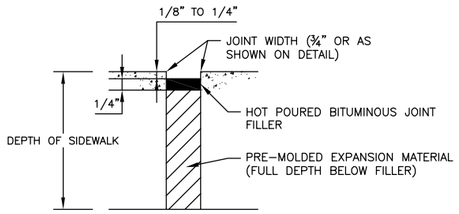
TYPICAL JOINT LAYOUTS

NOTES:

1. DETAILS SHOWING CURB RAMPS AND DETECTABLE WARNING PANELS ON THIS DRAWING ARE FOR JOINT AND REINFORCING LAYOUT PURPOSES ONLY.
2. AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER, A CURB SHALL BE CONSTRUCTED WHERE THE EXISTING SIDEWALK IS TO BE LOWERED, OR ABUTS A BUILDING OR ADJACENT PROPERTY. INCLUDE COST TO INSTALL CURB IN COST OF CONCRETE SIDEWALK.
3. TRANSVERSE SIDEWALK JOINT SPACING SHALL VARY FROM 4'–6' TO CREATE APPROXIMATE SQUARE PANELS. WHEN THE SIDEWALK IS ADJACENT TO THE CURB AND GUTTER, THE SIDEWALK JOINT SPACING SHALL BE VARIED SO THAT THE SIDEWALK JOINTS MATCH UP WITH THE CURB AND GUTTER JOINTS.
4. LONGITUDINAL JOINTS SHALL BE USED WHERE THE SIDEWALK WIDTH IS 8' OR GREATER, AND SHALL BE SPACED AT HALF THE SIDEWALK WIDTH.
5. CONTRACTOR'S STAMP: CONTRACTOR SHALL STAMP THE SIDEWALK EVERY 100 LF FOR CONTINUOUS POURS, STAMP EACH SIDEWALK PATCH AND STAMP AT EACH PROPERTY LINE PER LOT.



CONCRETE SIDEWALK DETAILS



TYPICAL EXPANSION JOINT SEAL
(LONGITUDINAL AND TRANSVERSE)

ZONING TYPE	SIDEWALK WIDTH (MIN.)
RESIDENTIAL	5'–0"
COMMERCIAL	5'–0"
INDUSTRIAL	5'–0"
DOWNTOWN	10'–0"

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CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-5

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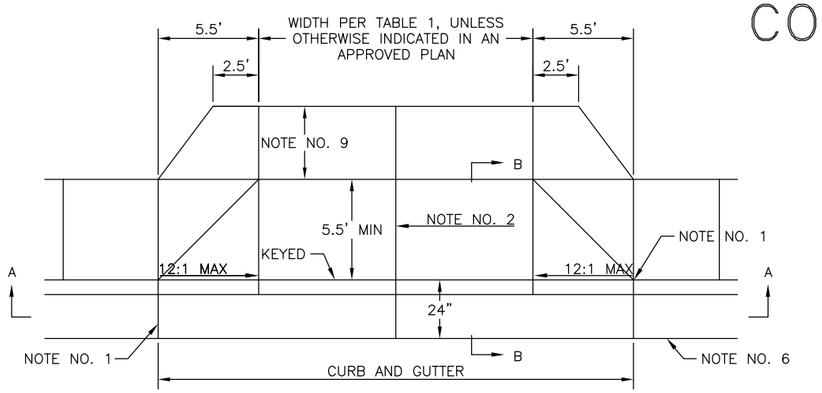
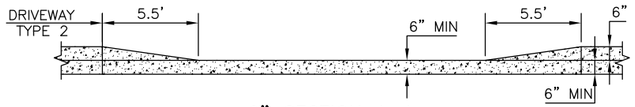
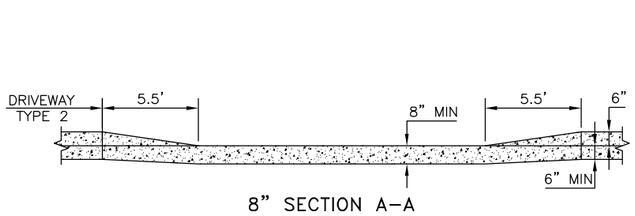
CONCRETE DRIVEWAY
NON–BOULEVARD



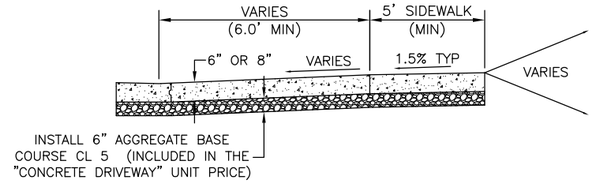
DRIVEWAY TYPE 2



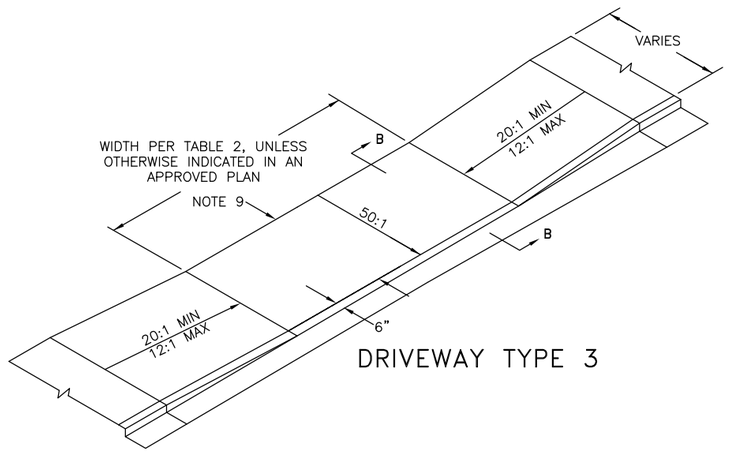
6" SECTION A–A



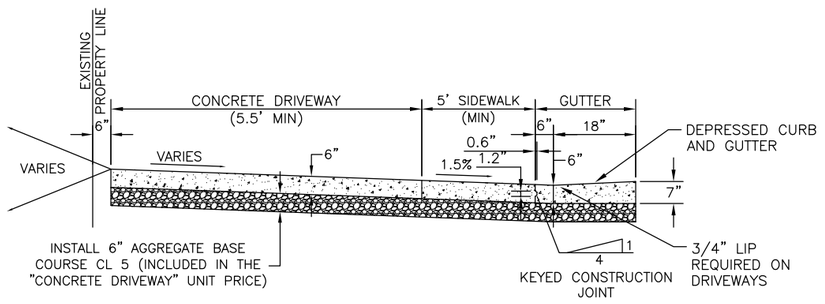
8" SECTION A–A



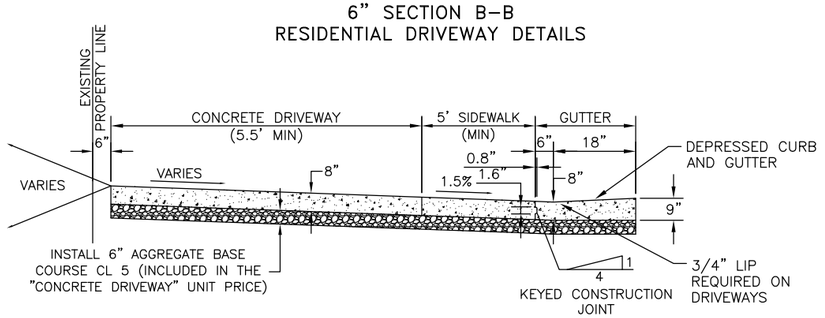
SECTION B–B



DRIVEWAY TYPE 3



6" SECTION B–B
RESIDENTIAL DRIVEWAY DETAILS



8" SECTION B–B
COMMERCIAL DRIVEWAY DETAILS

NOTES:
1. PLACE A ¾" ISOLATION JOINT FULL DEPTH AND THE SAME SHAPE AS THE CURB AND GUTTER.
2. JOINT SPACING: THIS DRIVEWAY JOINT SPACING SHALL MATCH THE CURB AND GUTTER OR P.C.C. PAVEMENT JOINT SPACING. THE JOINT MAY BE KEYED CONSTRUCTION JOINT, A SAWED, OR A GROOVED JOINT. THE JOINT DEPTH SHALL BE A MINIMUM OF 1/3 THE DEPTH OF THE CONCRETE.
3. 6" DRIVEWAY SHALL BE USED ON ALL DRIVEWAYS WITHIN THE PUBLIC RIGHT–OF–WAY.
4. ALL EXPANSION JOINTS SHALL BE SEALED. THE JOINT SEALANT SHALL BE LOW MODULUS SILICONE. THE SEALANT SHALL BE INSTALLED AND TOOLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. EXISTING CURB AND GUTTERS SHALL BE DRILLED AND (2) #4 BARS X 3.0' INSTALLED.
6. 6" BASE MATERIAL SHALL BE PLACED UNDER THE CONCRETE DRIVEWAY TO THE PROPERTY LINE. INCLUDE ALL LABOR AND MATERIALS NECESSARY TO PLACE THE 6" OF GRAVEL BASE MATERIAL UNDER THE CONCRETE DRIVEWAY IN THE UNIT PRICE BID FOR "CONCRETE DRIVEWAY".
7. AT UNDERGROUND UTILITY CROSSINGS, A MINIMUM OF (4) #4 BARS SHALL BE PLACED PERPENDICULAR AND EXTENDING 10 FEET IN EACH DIRECTION FROM THE UTILITY CENTERLINE AT 12" ON CENTER.
8. SIDEWALK THAT FALLS BEHIND A DRIVEWAY SHALL BE CONSTRUCTED TO THE SAME THICKNESS AS THE DRIVEWAY AND SHALL BE PAID FOR AS DRIVEWAY CONCRETE.
9. NEW SIDEWALKS SHALL BE 5' WIDE (MINIMUM) RESIDENTIAL, COMMERCIAL AND INDUSTRIAL ZONES.
10. SIDEWALK MUST COMPLY WITH ALL ADA REQUIREMENTS.
11. DETECTABLE WARNING PANELS AND CURB RAMPS SHALL BE PLACED ADJACENT TO ALL NON–RESIDENTIAL DRIVEWAYS WHERE SIDEWALK IS TO EXIST.
12. DRIVEWAY TYPE SHALL BE CONFIRMED WITH CITY INSPECTOR PRIOR TO INSTALLATION. ANY DRIVEWAY APRON PLACEMENT PRIOR TO CONFIRMATION WITH CITY INSPECTOR SHALL BE REMOVED AND REPLACED WITH CORRECT TYPE AT THE CONTRACTOR'S EXPENSE.
13. TYPE 3 IS PREFERRED, NEED CITY APPROVAL BEFORE TYPE 2 IS ALLOWED.
14. ONLY (1) DRIVEWAY SHALL BE APPROVED PER RESIDENTIAL PROPERTY WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY ENGINEER.

TABLE 1
WIDTHS AT ROW, TYPES 2 & 3

RESIDENTIAL	22' MIN 40' MAX
COMMERCIAL*	34' MIN 48' MAX
INDUSTRIAL*	34' MIN 48' MAX
*REQUIRES SITE PLAN APPROVAL BY CITY ENGINEER	

TABLE 2
WIDTHS AT B/C, TYPE 3

RESIDENTIAL	22' MIN 40' MAX
COMMERCIAL*	34' MIN 48' MAX
INDUSTRIAL*	34' MIN 48' MAX
*REQUIRES SITE PLAN APPROVAL BY CITY ENGINEER	

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
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C2.17

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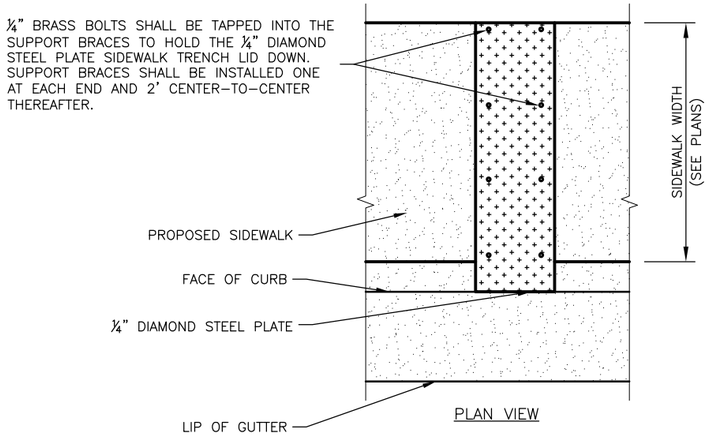
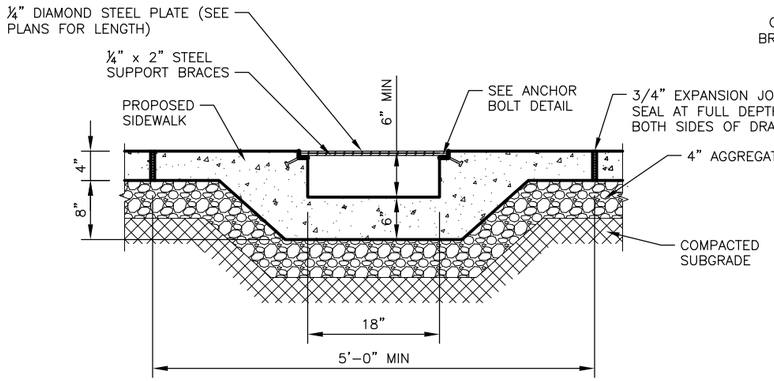
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

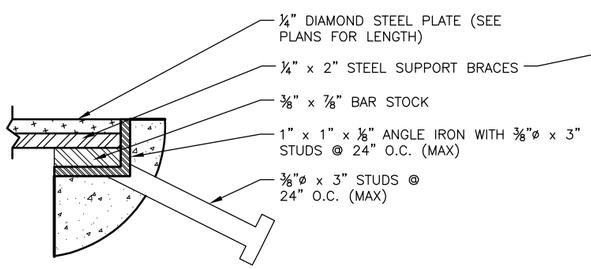
SHEET 20-6



PLAN VIEW

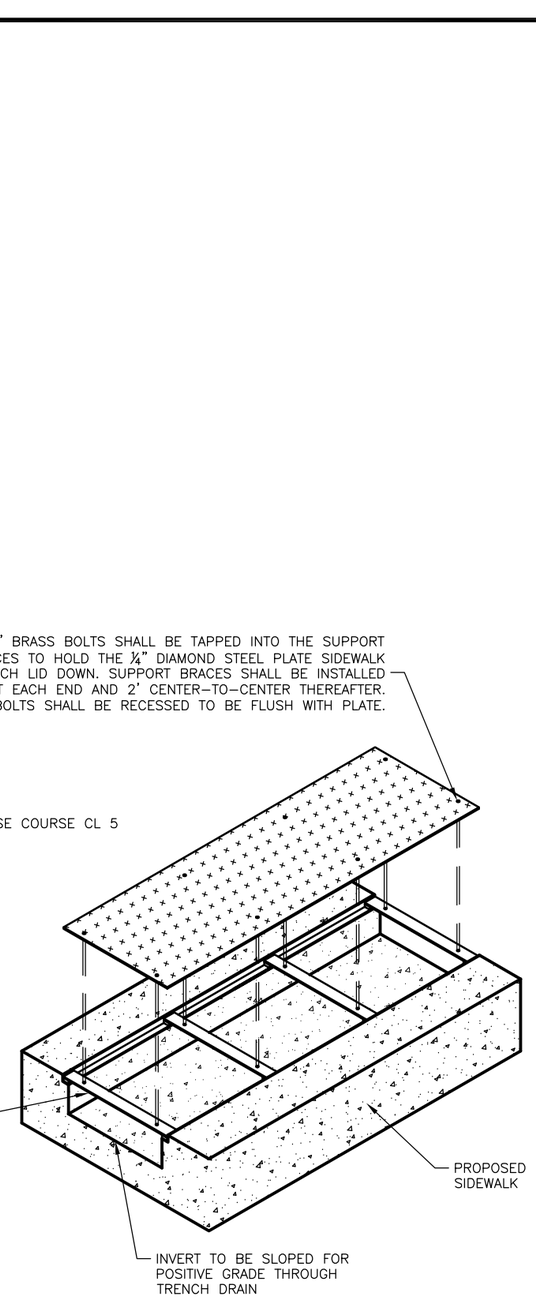


PROFILE VIEW



ANCHOR BOLT DETAIL

¼" BRASS BOLTS SHALL BE TAPPED INTO THE SUPPORT BRACES TO HOLD THE ¼" DIAMOND STEEL PLATE SIDEWALK TRENCH LID DOWN. SUPPORT BRACES SHALL BE INSTALLED ONE AT EACH END AND 2' CENTER–TO–CENTER THEREAFTER. BRASS BOLTS SHALL BE RECESSED TO BE FLUSH WITH PLATE.



SIDEWALK - TRENCH DRAIN

C2.15 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

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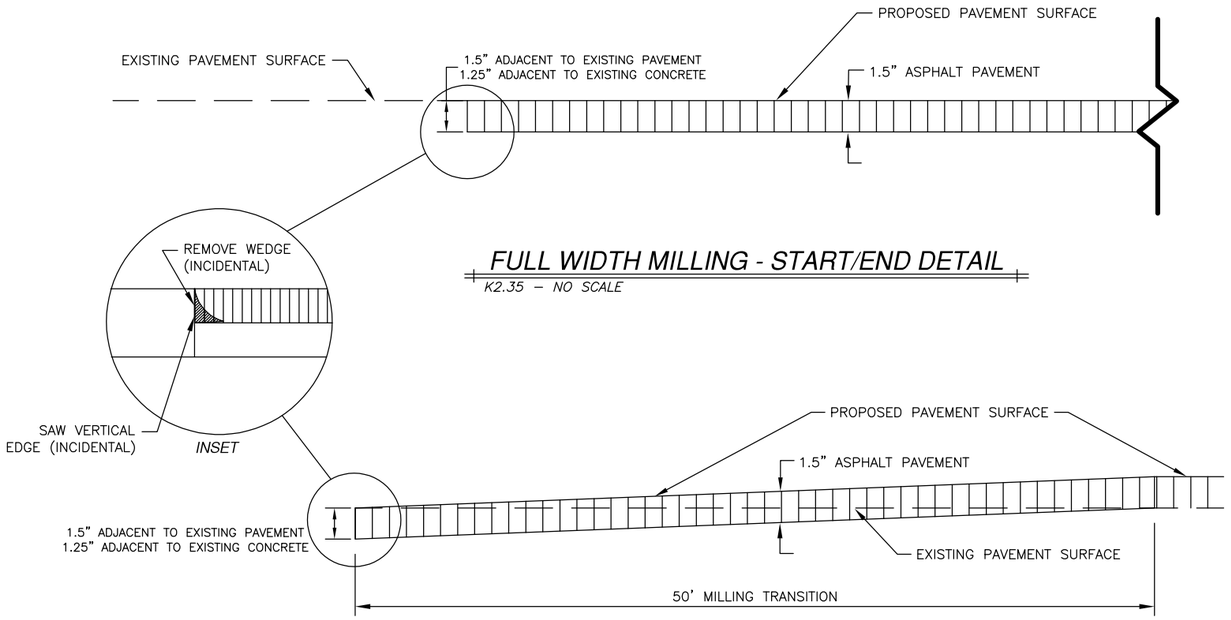
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

DETAILS

SHEET 20-7

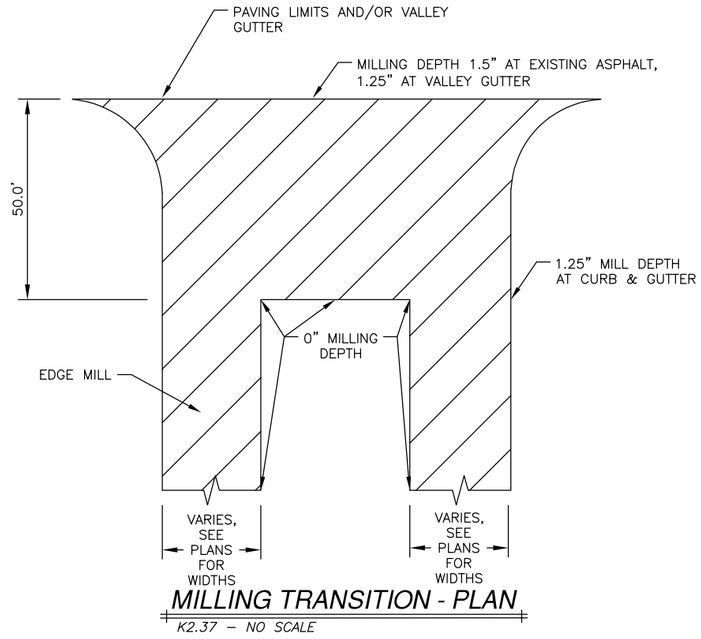


FULL WIDTH MILLING - START/END DETAIL

K2.35 – NO SCALE

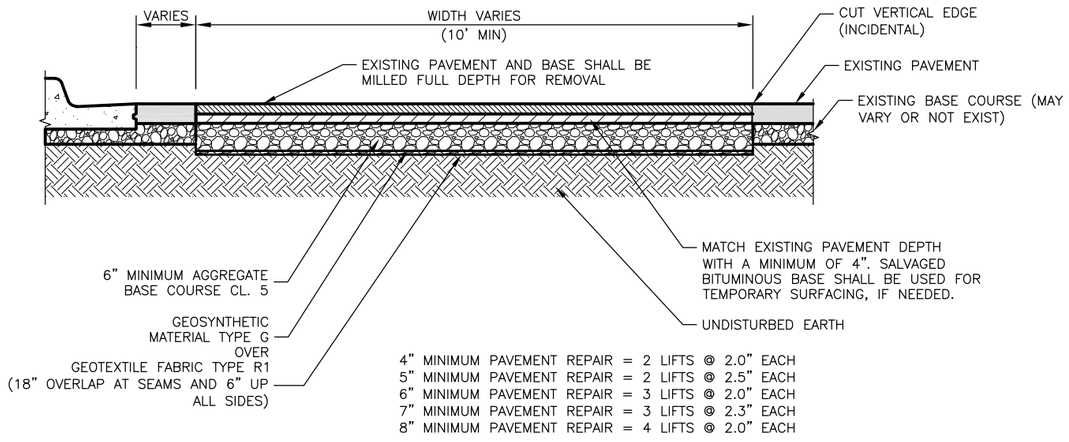
MILLING TRANSITION - PROFILE AT ROAD CL

K2.36 – NO SCALE



MILLING TRANSITION - PLAN

K2.37 – NO SCALE



TYPICAL ASPHALT REPAIR SECTION

C2.20 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

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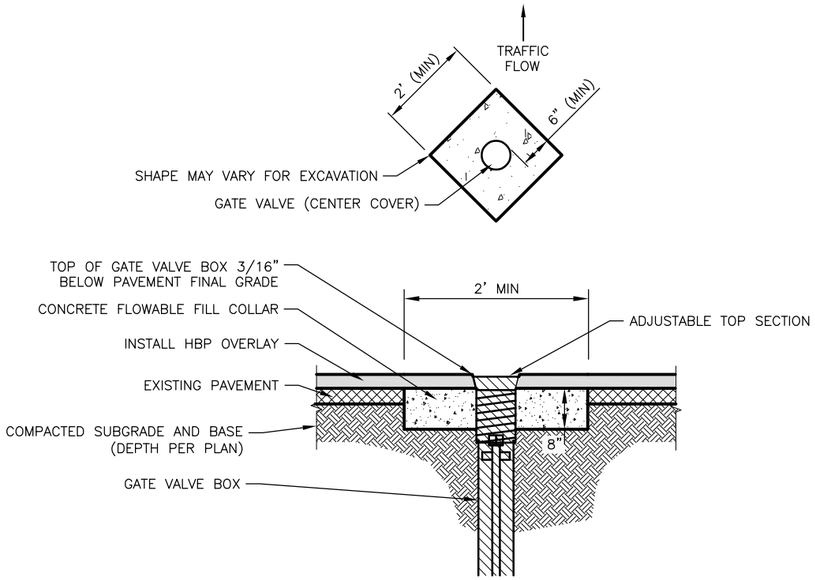
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-8

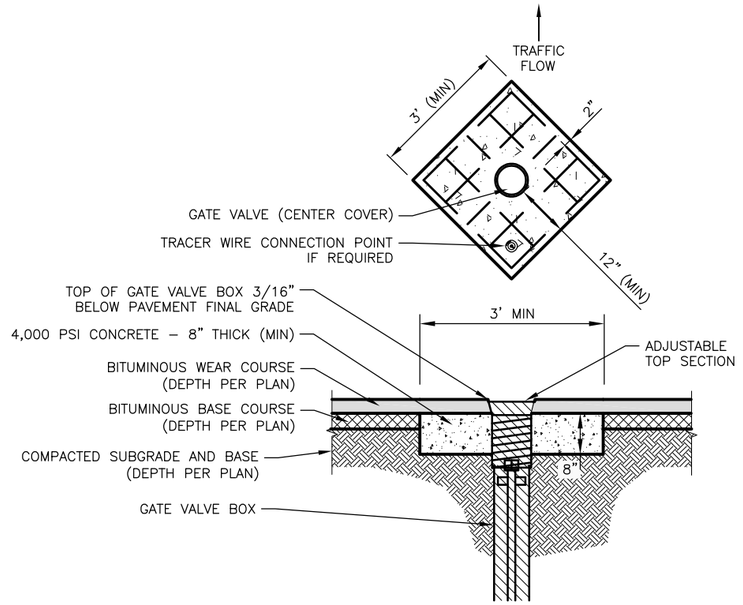


NOTES:

1. THE ADJUSTABLE TOP SECTION ON EXISTING GATE VALVES SHALL BE LOWERED TO ALLOW FOR PAVEMENT MILLING.
2. UPON COMPLETION OF THE MILLING, THE CONTRACTOR SHALL NEAT CUT AND REMOVE EXISTING PAVEMENT AND AGGREGATE MATERIAL AS REQUIRED TO ADJUST EXISTING GATE VALVE BOX.
3. INSTALL THE FLOWABLE FILL LEVEL WITH THE TOP OF MILLING SURFACE.
4. INSTALL GATE VALVE BOX 3/16" LOWER THAN THE PROPOSED HBP COMPACTED WEAR COURSE SURFACE.
5. GATE VALVE BOX RISERS MAY BE USED IF APPROVED BY THE ENGINEER. NO INTERNAL SCREW OR SLIP TYPE BOX EXTENSIONS SHALL BE USED.
6. FLOWABLE FILL SHALL BE USED FOR THE GATE VALVE BOX COLLAR (MINIMUM 7 DAYS CURE TIME). IF SCHEDULE DOES NOT ALLOW, HIGH EARLY CONCRETE SHALL BE USED (MINIMUM 3 DAYS CURE TIME).
7. DIMENSIONS ARE A MINIMUM. FILL ENTIRE EXCAVATION WITH CONRETE OR FLOWABLE FILL.
8. IF EXISTING GATE VALVE HAS A TRACER WIRE ACCESS POINT. ADJUSTMENT SHALL BE TREATED AS A NEW CONSTRUCTION.

ADJUST GATE VALVE FOR ASPHALT MILL & OVERLAY (EXISTING GATE VALVE)

K2.24 – NO SCALE



NOTES:

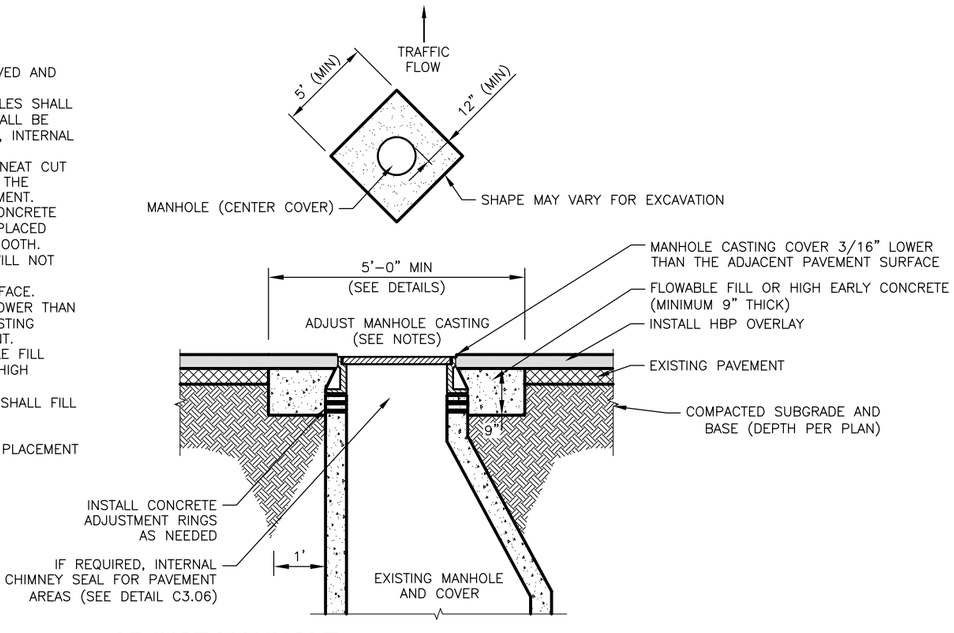
1. THE ADJUSTABLE TOP SECTION ON EXISTING GATE VALVES SHALL BE LOWERED TO ALLOW FOR PAVEMENT MILLING.
2. UPON COMPLETION OF THE MILLING, THE CONTRACTOR SHALL NEAT CUT AND REMOVE EXISTING PAVEMENT AND AGGREGATE MATERIAL AS REQUIRED TO ADJUST EXISTING GATE VALVE BOX.
3. INSTALL THE FLOWABLE FILL LEVEL WITH THE TOP OF MILLING SURFACE.
4. INSTALL GATE VALVE BOX 3/16" LOWER THAN THE PROPOSED HBP COMPACTED WEAR COURSE SURFACE.
5. GATE VALVE BOX RISERS MAY BE USED IF APPROVED BY THE ENGINEER. NO INTERNAL SCREW OR SLIP TYPE BOX EXTENSIONS SHALL BE USED.
6. FLOWABLE FILL SHALL BE USED FOR THE GATE VALVE BOX COLLAR (MINIMUM 7 DAYS CURE TIME). IF SCHEDULE DOES NOT ALLOW, HIGH EARLY CONCRETE SHALL BE USED (MINIMUM 3 DAYS CURE TIME).
7. DIMENSIONS ARE A MINIMUM. FILL ENTIRE EXCAVATION WITH CONCRETE OR FLOWABLE FILL.

ADJUST GATE VALVE FOR NEW CONSTRUCTION IN ASPHALT

K2.26 – NO SCALE

NOTES:

1. THE EXISTING MANHOLE CASTING AND COVER SHALL BE REMOVED AND SALVAGED TO ALLOW FOR PAVEMENT MILLING.
2. IF NOTED IN THE PLANS AND/OR SPECIFICATIONS NEW MANHOLES SHALL HAVE AN APPROPRIATELY SIZED I&I BARRIER. THE BARRIER SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. IF SPECIFIED, INTERNAL CHIMNEY SEAL MAY BE USED AS AN OPTION.
3. UPON COMPLETION OF THE MILLING, THE CONTRACTOR SHALL NEAT CUT AND REMOVE EXISTING PAVEMENT AS REQUIRED TO REINSTALL THE EXISTING MANHOLE CASTING AND COVER FOR PROPER ADJUSTMENT.
4. MANHOLE CASTING SHALL BE ADJUSTED BY USING PRECAST CONCRETE ADJUSTING RINGS (MAXIMUM OF 3 RINGS). GROUT SHALL BE PLACED BETWEEN ALL CONCRETE RINGS. INTERIOR EDGES MUST BE SMOOTH.
5. METAL ADJUSTING RINGS/COLLARS ABOVE MANHOLE CASTING WILL NOT BE ALLOWED.
6. INSTALL FLOWABLE FILL LEVEL WITH THE TOP OF MILLING SURFACE.
7. MANHOLE CASTING WITH COVER SHALL BE INSTALLED 3/16" LOWER THAN THE PROPOSED HBP COMPACTED WEAR COURSE SURFACE. CASTING SHALL BE ADJUSTED TO FOLLOW THE GRADE OF THE PAVEMENT.
8. IF SCHEDULE DOES NOT ALLOW FOR CURING OF THE FLOWABLE FILL (MINIMUM 7 DAYS). CONTRACTOR HAS THE OPTION OF USING HIGH EARLY CONCRETE (MINIMUM 3 DAYS CURE TIME).
9. THE FLOWABLE FILL OR CONCRETE BORDERING THE MANHOLE SHALL FILL THE ENTIRE EXCAVATION.
10. ALL DIMENSIONS ARE A MINIMUM.
11. AT A MINIMUM, EXPOSE TOP 2" OF MANHOLE CONE FOR THE PLACEMENT OF THE CONCRETE OR FLOWABLE FILL COLLAR.



ADJUST MANHOLE FOR ASPHALT MILL & OVERLAY (EXISTING MANHOLE)

K2.25 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
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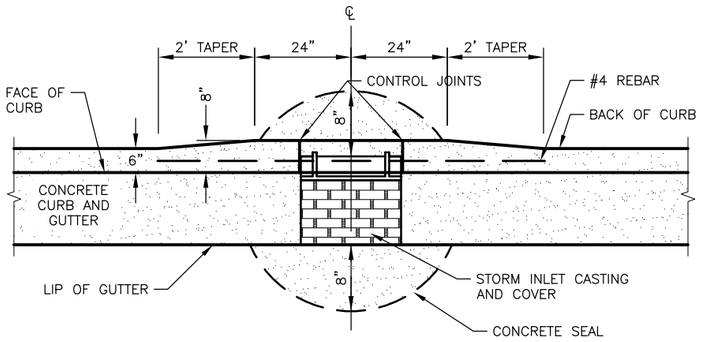
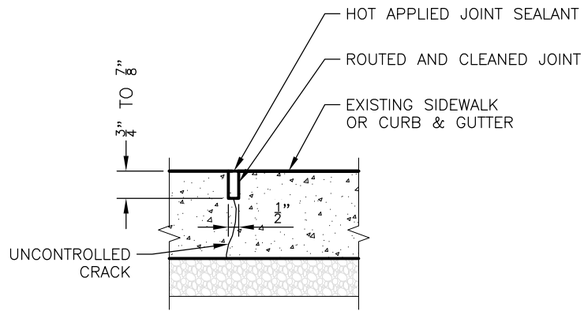
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-9

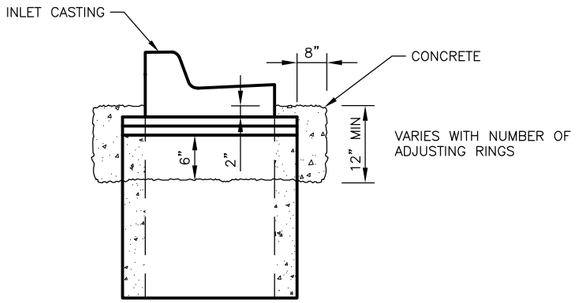




NOTES:
1. ROUTING, CLEANING, AND SEALING OF JOINT IS INCLUDED IN THE LINEAR FOOT (LF) PRICE BID FOR "PCC CRACK ROUTE & SEAL"
2. PAYMENT WILL BE MADE BY THE HORIZONTAL LINEAR FOOT OF THE CRACK.
3. JOINT PERPARATION AND SEALING SHALL BE IN ACCORDANCE TO SPECIFICATION SECTION 32 1210 3.11.

PCC CRACK ROUTE AND SEAL

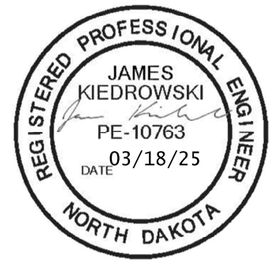
K2.40 – NO SCALE



NOTES:
1. POUR CONCRETE IN FRONT, BACK AND SIDES OF CASTING: 6" BELOW TOP OF INLET BARREL AND 8" AROUND INLET BARREL. SEAL FOR ALL INLET TYPES AND SIZES.
2. GRATE APERTURES SHALL BE ORIENTED IN THE DIRECTION OF PRIMARY INFLOW FOR INLETS IN SAGS.

ADJUST INLET

K2.39 – NO SCALE



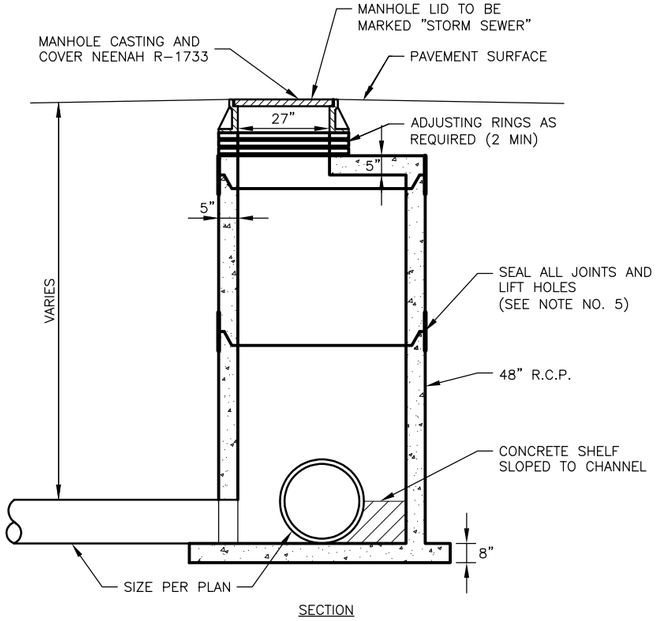
KLJ

NO.	DATE	REVISION

DRAFTED: MJS
REVIEWED: JSK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-10

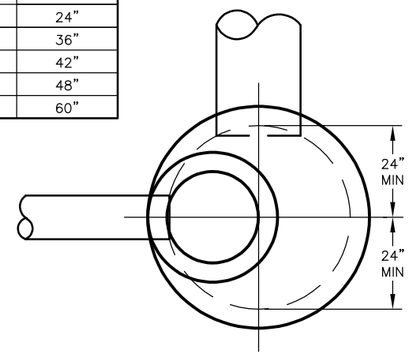


SECTION

NOTES:
1. ALL MANHOLE SECTIONS SHALL HAVE SCREW STYLE LIFT DEVICES.
2. PROVIDE SLOPED FLOOR WITH CAST-IN-PLACE CONCRETE AS PER SPECIFICATIONS.
3. ALL INVERTS SHALL HAVE A SMOOTH FINISH.
4. FOR MANHOLE DIAMETER, SEE TABLE.
5. CRETEX P2 GASKETED JOINT FOR 48" MANHOLES, CRETEX CX-4 JOINT FOR ALL OTHER SIZES OF MANHOLES OR EXTERIOR SEAL BY PRESS-SEAL GASKET CORP. EZ WRAP AND EZ STIK NO. 4 PRIMER, CRETEX SPECIALTY PRODUCTS "MAC WRAP", OR AN APPROVED EQUAL.
6. NO TRACER WIRE REQUIRED ON STORM SEWER UNDER THE STREET.

RECOMMENDED PRECAST SIZE REQUIREMETNS

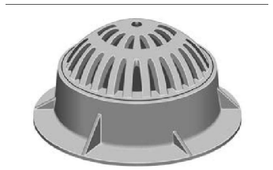
BARREL DIAMETER	MAXIMUM SIZE RCP		
	2 @ 90	2 @ 180	RCP
48"	24"	24"	24"
60"	36"	36"	36"
72"	42"	42"	42"
84"	48"	48"	48"
96"	60"	60"	60"

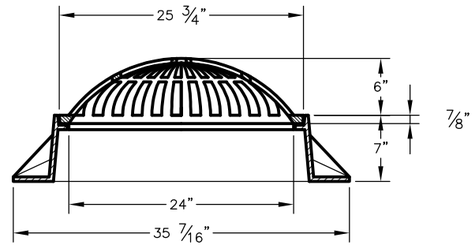


PLAN

STORM SEWER MANHOLE - SHALLOW

C4.02 – NO SCALE

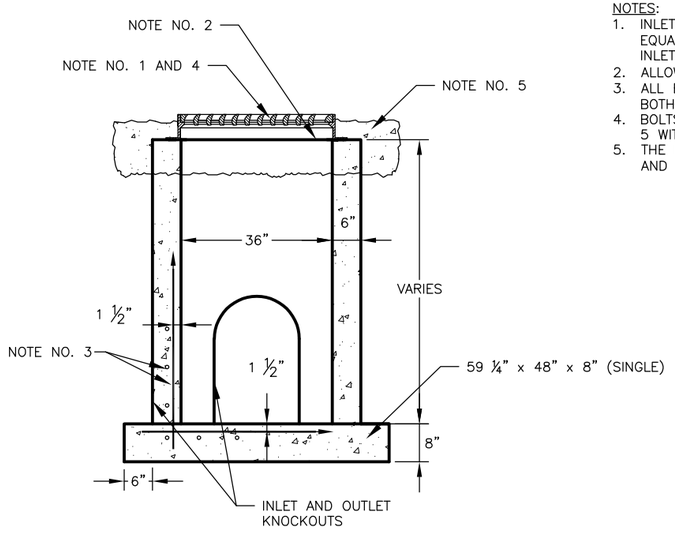




CATALOG NUMBER	GRATE TYPE	SQ. FT. OPENING	WEIR PERIMETER LINEAL FEET
R-2561-A	BEEHIVE	1.2	6.7

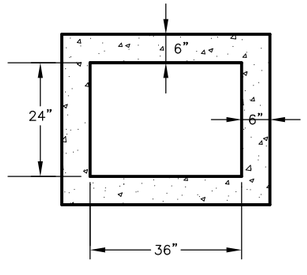
NEENAH R-2561-A (BEEHIVE GRATE)

K4.12 – NO SCALE



PROFILE

NOTES:
1. INLET CASTING SHALL BE NEENAH TYPE R-3295 WITH TYPE "V" GRATE SERIES OR APPROVED EQUAL. GRATE APERTURES SHALL BE ORIENTED IN THE DIRECTION OF PRIMARY INFLOW FOR INLETS IN SAGS.
2. ALLOWANCE FOR ADJUSTMENT SHALL BE 1 ½" MINIMUM TO 3" MAXIMUM.
3. ALL BARS SHALL BE NO. 5 DEFORMED REINFORCING BARS SPACED 6" CENTER-TO-CENTER BOTH WAYS.
4. BOLTS FOR CASTING SHALL BE TEMPERED FINISH, DOUBLE HEAT TREATED 1038 S.A.E. GRADE 5 WITH CAD-DICHROMATE PLATING.
5. THE INLET CASTING SHALL BE SEALED WITH A CONCRETE COLLAR AROUND THE INLET CASTING AND INLET BOX THAT IS A MINIMUM OF 8" WIDE BY 12" DEEP.



PLAN

STORM SEWER INLET - TYPE 2 SINGLE

K4.04 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

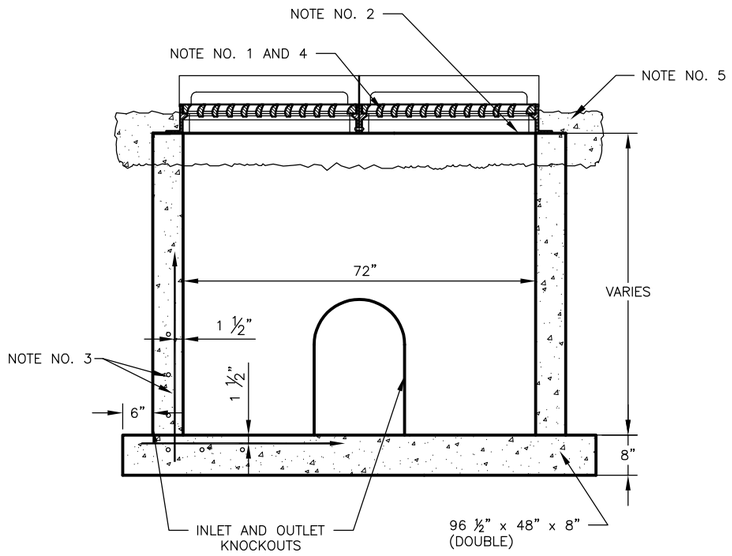
KLJ

REVISION
NO. DATE

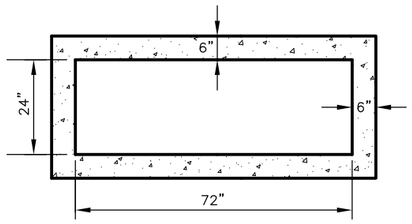
DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-11



PROFILE

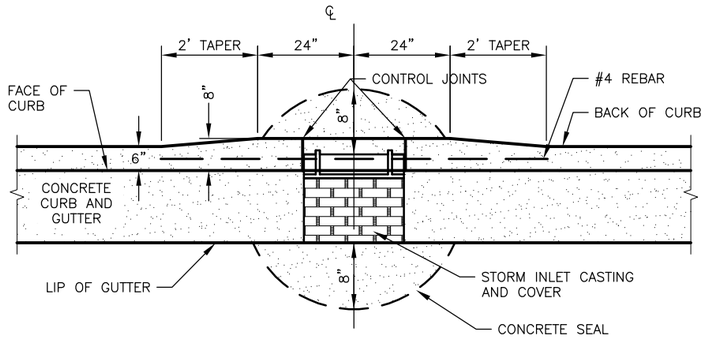


PLAN

NOTES:
1. INLET CASTING SHALL BE NEENAH TYPE R–3295 WITH TYPE "V" GRATE SERIES OR APPROVED EQUAL. GRATE APERTURES SHALL BE ORIENTED IN THE DIRECTION OF PRIMARY INFLOW FOR INLETS IN SAGS.
2. ALLOWANCE FOR ADJUSTMENT SHALL BE 1 ½" MINIMUM TO 3" MAXIMUM.
3. ALL BARS SHALL BE NO. 5 DEFORMED REINFORCING BARS SPACED 6" CENTER–TO–CENTER BOTH WAYS.
4. BOLTS FOR CASTING SHALL BE TEMPERED FINISH, DOUBLE HEAT TREATED 1038 S.A.E. GRADE 5, WITH CAD–DICHROMATE PLATING.
5. THE INLET CASTING SHALL BE SEALED WITH A CONCRETE COLLAR AROUND THE INLET CASTING AND INLET BOX THAT IS A MINIMUM OF 8" WIDE BY 12" DEEP.

STORM SEWER INLET - TYPE 2 DOUBLE

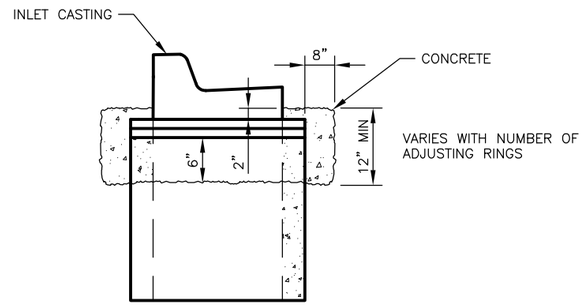
K4.05 – NO SCALE



NOTE: SEAL CASTING AND INLET

STORM SEWER INLET CURB PLAN

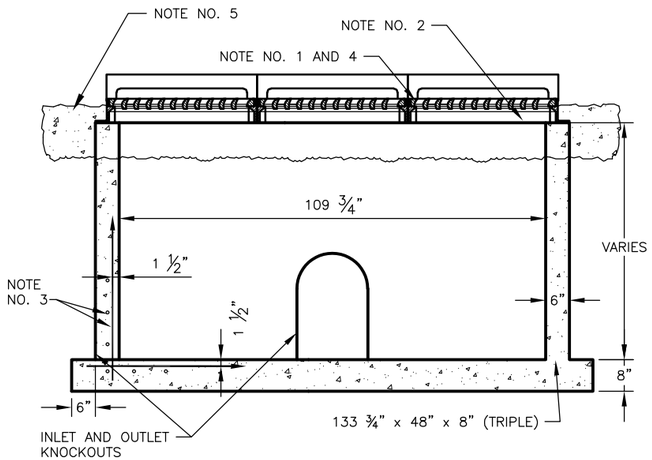
NO SCALE



NOTES:
1. POUR CONCRETE IN FRONT, BACK AND SIDES OF CASTING: 6" BELOW TOP OF INLET BARREL AND 8" AROUND INLET BARREL. SEAL FOR ALL INLET TYPES AND SIZES.
2. GRATE APERTURES SHALL BE ORIENTED IN THE DIRECTION OF PRIMARY INFLOW FOR INLETS IN SAGS.

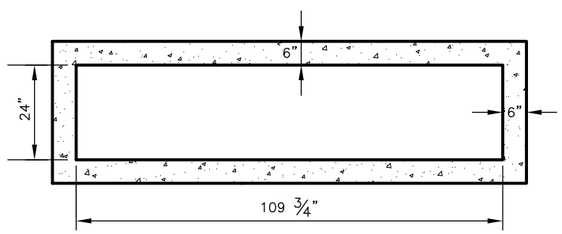
STORM SEWER CASTING & INLET SEAL

K4.08 – NO SCALE



PROFILE

NOTES:
1. INLET CASTING SHALL BE NEENAH TYPE R–3295 WITH TYPE "V" GRATE SERIES OR APPROVED EQUAL. GRATE APERTURES SHALL BE ORIENTED IN THE DIRECTION OF PRIMARY INFLOW FOR INLETS IN SAGS.
2. ALLOWANCE FOR ADJUSTMENT SHALL BE 1 1/2" MINIMUM TO 3" MAXIMUM.
3. ALL BARS SHALL BE NO. 5 DEFORMED REINFORCING BARS SPACED 6" CENTER–TO–CENTER BOTH WAYS.
4. BOLTS FOR CASTING SHALL BE TEMPERED FINISH, DOUBLE HEAT TREATED 1038 S.A.E. GRADE 5 WITH CAD–DICHROMATE PLATING.
5. THE INLET CASTING SHALL BE SEALED WITH A CONCRETE COLLAR AROUND THE INLET CASTING AND INLET BOX THAT IS A MINIMUM OF 8" WIDE BY 12" DEEP.



PLAN

STORM SEWER INLET - TYPE 2 TRIPLE

K4.06 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

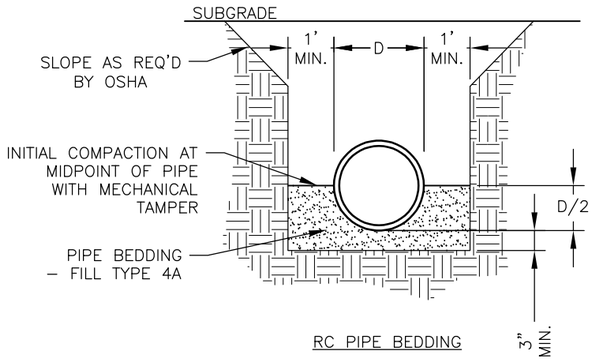
KLJ

NO.	DATE	REVISION

DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-12

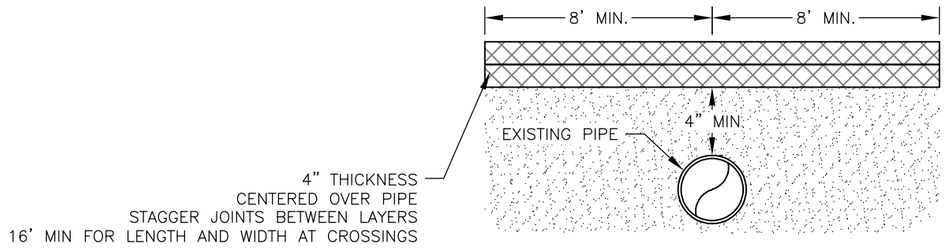


RC PIPE BEDDING

NOTES:
1. ALL LIFTING HOLES TO BE PLUGGED & MORTERED.
2. PIPE BEDDING IS INCIDENTAL TO PRICE OF STORM PIPE.
3. EXCAVATION & EMBANKMENT FOR UTILITY TRENCH IS INCIDENTAL TO THE PRICE OF STORM PIPE.

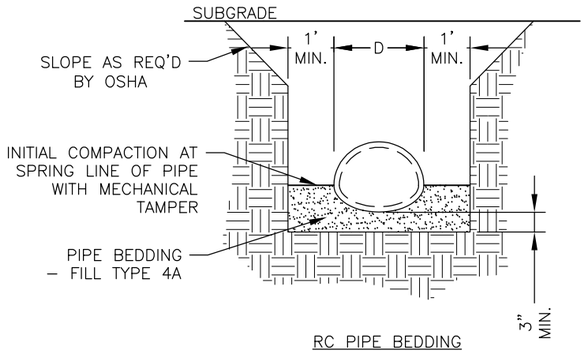
CONCRETE PIPE TRENCH INSTALLATION

K4.13 – NO SCALE



WATERMAIN INSULATION DETAIL

K4.14 – NO SCALE



RC PIPE BEDDING

NOTES:
1. ALL LIFTING HOLES TO BE PLUGGED & MORTERED.
2. PIPE BEDDING IS INCIDENTAL TO PRICE OF STORM PIPE.
3. EXCAVATION & EMBANKMENT FOR UTILITY TRENCH IS INCIDENTAL TO THE PRICE OF STORM PIPE.

CONCRETE ARCH PIPE TRENCH INSTALLATION

K4.15 – NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION

NO.	DATE

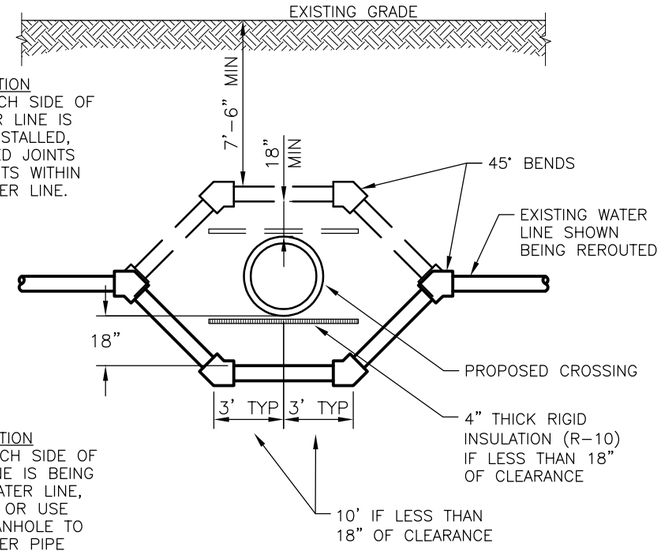
DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

SHEET 20-13

FOR NEW WATER LINE CONSTRUCTION
CENTER WATER PIPE 10 FEET EACH SIDE OF CROSSING. WHEN EXISTING SEWER LINE IS ABOVE THE WATER LINE BEING INSTALLED, INSTALL MECHANICALLY RESTRAINED JOINTS ON THE WATER PIPE AT ALL JOINTS WITHIN 10 FEET EACH SIDE OF THE SEWER LINE.

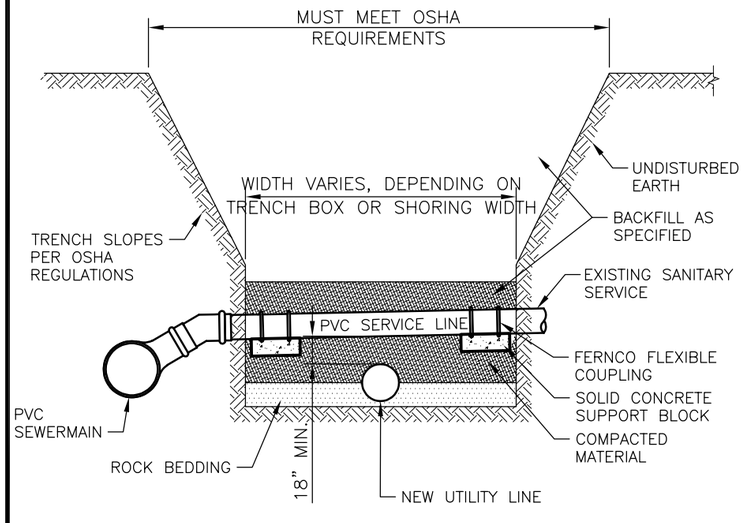
FOR NEW SEWER LINE CONSTRUCTION
CENTER SEWER PIPE 10 FEET EACH SIDE OF CROSSING. WHEN NEW SEWER LINE IS BEING INSTALLED ABOVE AN EXISTING WATER LINE, SLEEVE SDR-35 OR EQUAL PIPE OR USE C-900 OR EQUAL PIPE FROM MANHOLE TO MANHOLE AND RESTRAIN ALL WATER PIPE CONNECTIONS WITHIN 10 FEET EACH SIDE OF SEWER LINE.



WATERMAIN & WATER SERVICE GRADE CHANGE AT CROSSINGS

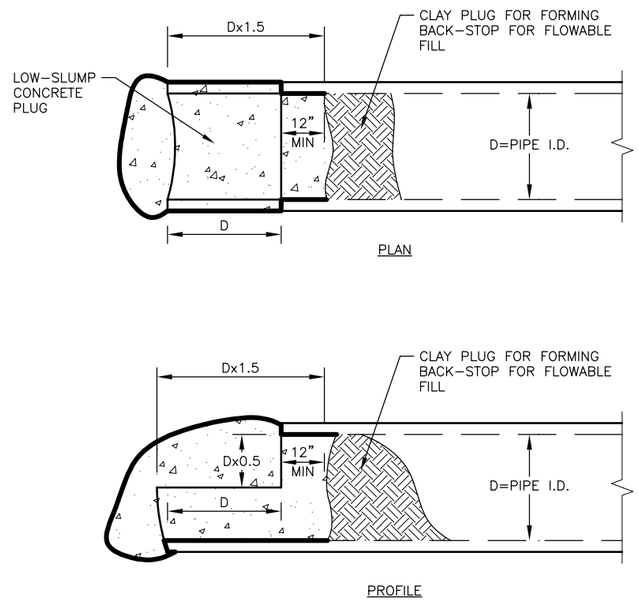
K5.08 – NO SCALE

NOTES:
1. "WATER" INCLUDES WATERMAINS AND SERVICE LATERALS.
2. "SEWER" INCLUDES SANITARY SEWER, STORM SEWER AND RECLAIMED WATERMAINS AND LATERALS.
3. PROVIDE 18 INCHES MINIMUM OF VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES. WHEN SEPARATION CANNOT BE OBTAINED AND IN CASES WHERE WATER LINES MUST BE ROUTED UNDER EXISTING SEWER LINES, LOWER WATER LINE AS SHOWN ON THIS DETAIL.
4. IF WATER LINE IS 18 INCHES OR GREATER ABOVE THE SEWER LINE, NO SPECIAL CONSTRUCTION IS REQUIRED.
5. RESTRAINT JOINTS REQUIRED ON ALL FITTINGS.
6. BOTH WATER LINE AND SEWER LINE SHALL HAVE ONE (1) FULL PIPE LENGTH AT INTERSECTION OF CROSSING.
7. FOR PURPOSES OF SEPARATIONS AND PROTECTION OF THE WATER SUPPLY, A RECLAIMED WATER LINE SHALL BE CONSIDERED A SEWER LINE. NO CONCRETE SHALL BE PLACED ON RECLAIMED WATER PIPE JOINTS.
8. 22.5° BENDS MAY BE USED IN LIEU OF 45° BENDS.
9. PAYMENT FOR GRADE CHANGE CROSSINGS, INCLUDING FITTINGS, WILL BE INCLUDED IN THE BID PRICE FOR PVC WATERMAIN.
10. WHERE 18" CLEARANCE CANNOT BE ACHEIVED, CONTRACTOR TO USE FLOWABLE FILL IN PLACE OF BACKFILL IN ACCORDANCE WITH CITY SPEC 31 2316.13 3.5E. THE PRICE OF THIS WORK SHALL BE INCLUDED WITHIN THE COST OF THE STORM SEWER PIPE ON THE BID FORM.



SANITARY SEWER SERVICE LINE REPAIR

C3.08 – NO SCALE



PLUG EXISTING PIPE

K4.10 – NO SCALE

ADDENDUM #1

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/01/25
DATE
NORTH DAKOTA

KLJ

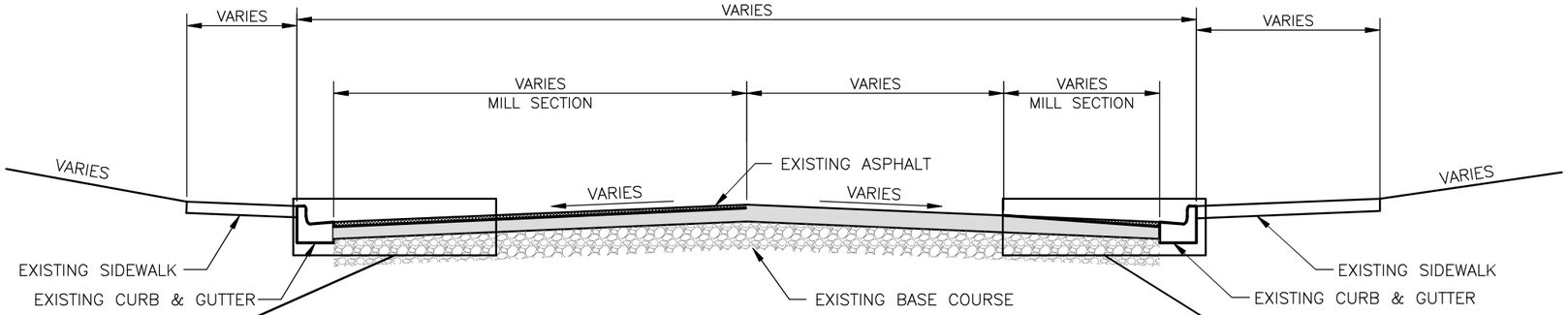
NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 - ADDED DETAILS FOR CROSSINGS AND PLUG

DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
DETAILS

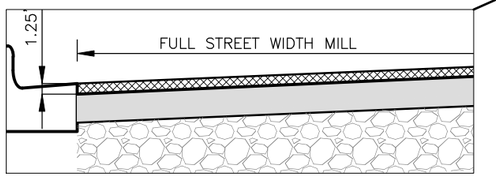
SHEET 20-14

Mar 31, 2025 - 11:17am - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_20_DTLS.dwg (20-14)

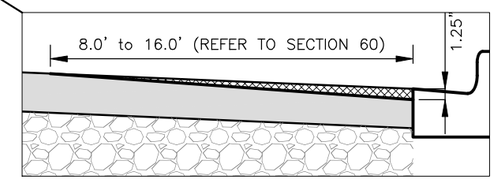


URBAN MILLING TYPICAL SECTION

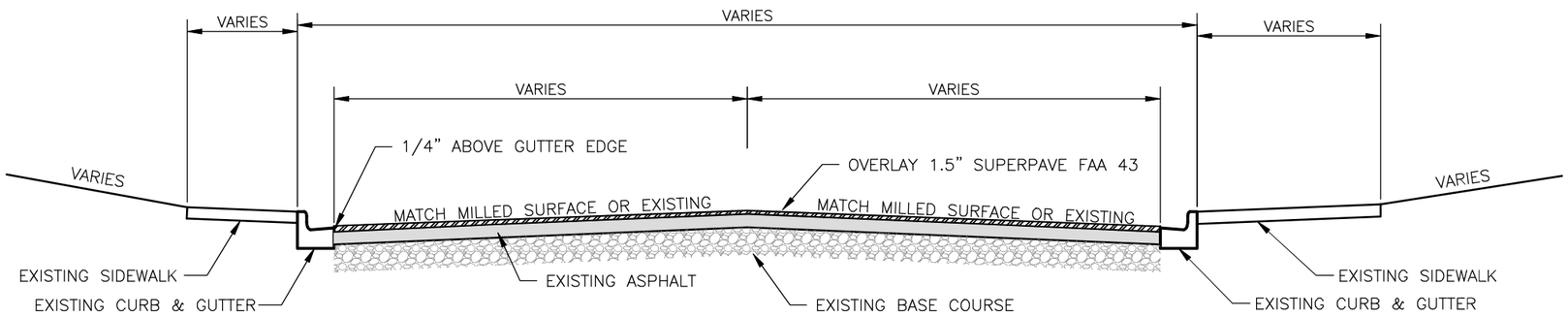
NO SCALE



FULL WIDTH MILL SECTION
(SHOWN FOR HALF OF STREET)



TAPER MILL SECTION
(SHOWN FOR HALF OF STREET)



URBAN PAVING TYPICAL SECTION

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

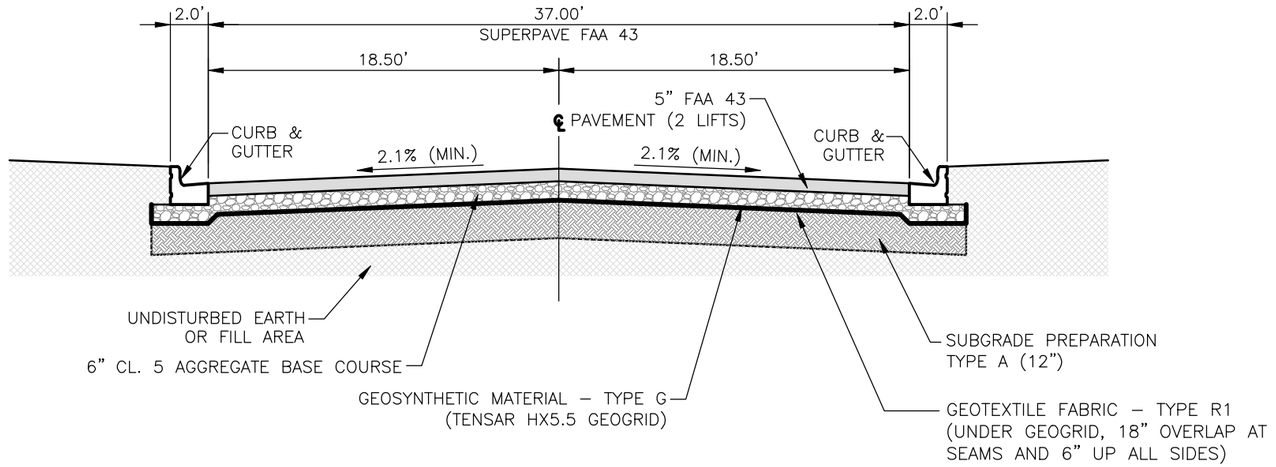
REVISION

NO.	DATE

DRAFTED
MJS
REVIEWED
JSK
PROJECT NUMBER
2404-00273
ISSUE DATE
3/18/2025

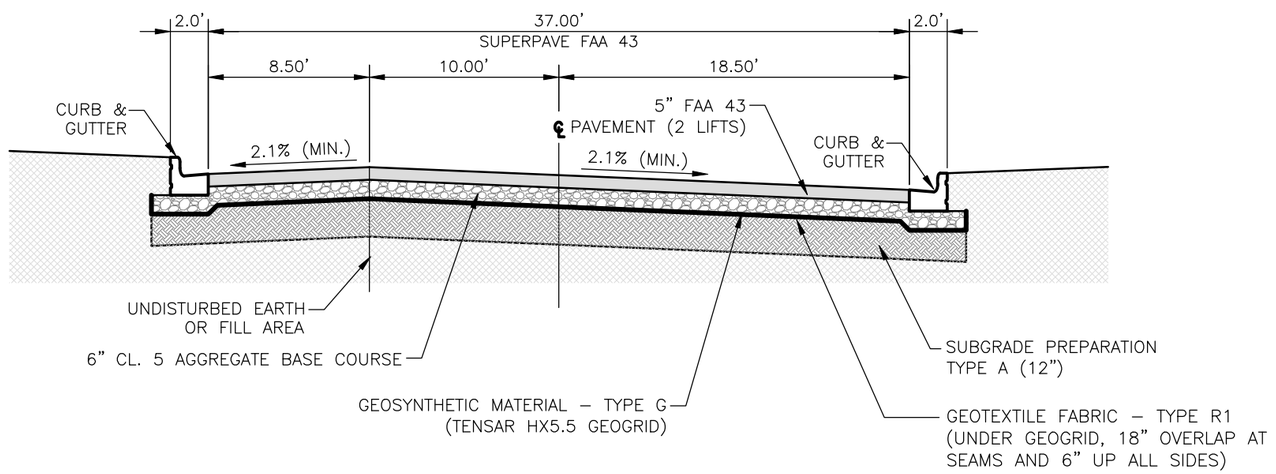
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
TYPICAL SECTIONS

SHEET
30-1



TYPICAL #1 - 21ST STREET EAST FRONTAGE ROAD

NO SCALE
STA 302+59.00 TO STA 303+23.79, TRANSITION TO TYPICAL #2 FROM STA 303+23.79 TO STA 304+29.79, STA 305+52.00 TO STA 306+05.72



TYPICAL #2 - 21ST STREET EAST FRONTAGE ROAD

NO SCALE
STA 304+29.79 TO STA 305+14.14, TRANSITION TO TYPICAL #1 FROM STA 305+14.14 TO STA 305+52.00

ADDENDUM #2

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/07/25
DATE
NORTH DAKOTA

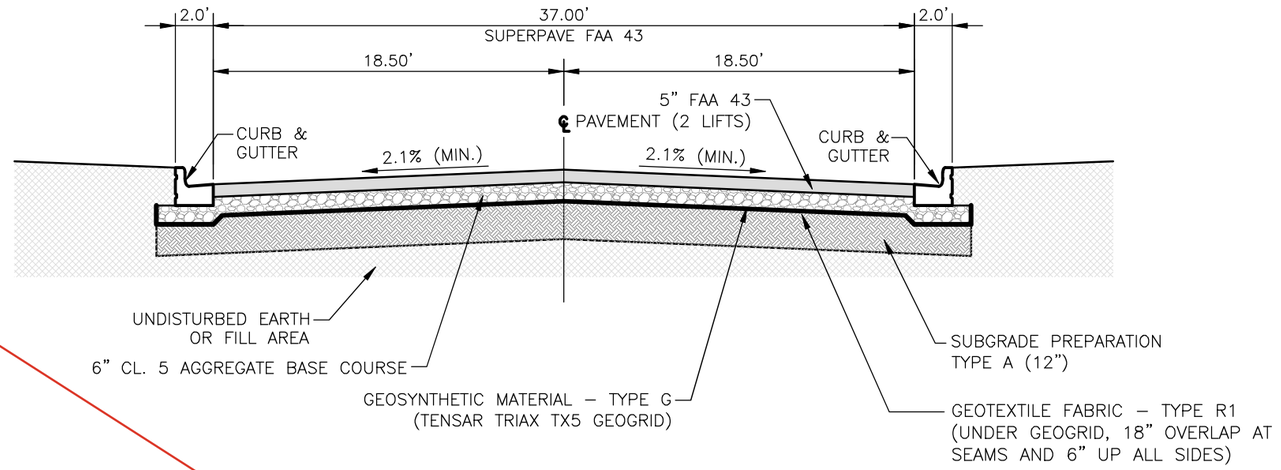
KLJ

NO.	DATE	REVISION
2	4/4/2025	ADDENDUM #2 - CHANGE GEOSYNTHETIC MATERIAL - TYPE G

DRAFTED: MJS
REVIEWED: JSK
PROJECT NUMBER: 2404-00273
ISSUE DATE: 3/18/2025

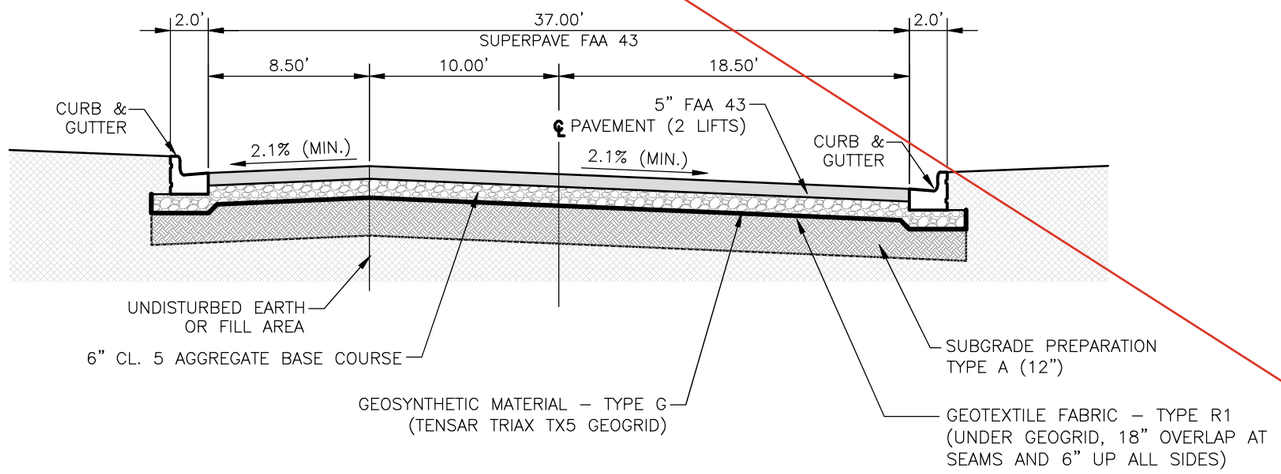
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
TYPICAL SECTIONS

SHEET 30-2



TYPICAL #1 - 21ST STREET EAST FRONTAGE ROAD

NO SCALE
STA 302+59.00 TO STA 303+23.79, TRANSITION TO TYPICAL #2 FROM STA 303+23.79 TO STA 304+29.79, STA 305+52.00 TO STA 306+05.72



TYPICAL #2 - 21ST STREET EAST FRONTAGE ROAD

NO SCALE
STA 304+29.79 TO STA 305+14.14, TRANSITION TO TYPICAL #1 FROM STA 305+14.14 TO STA 305+52.00

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

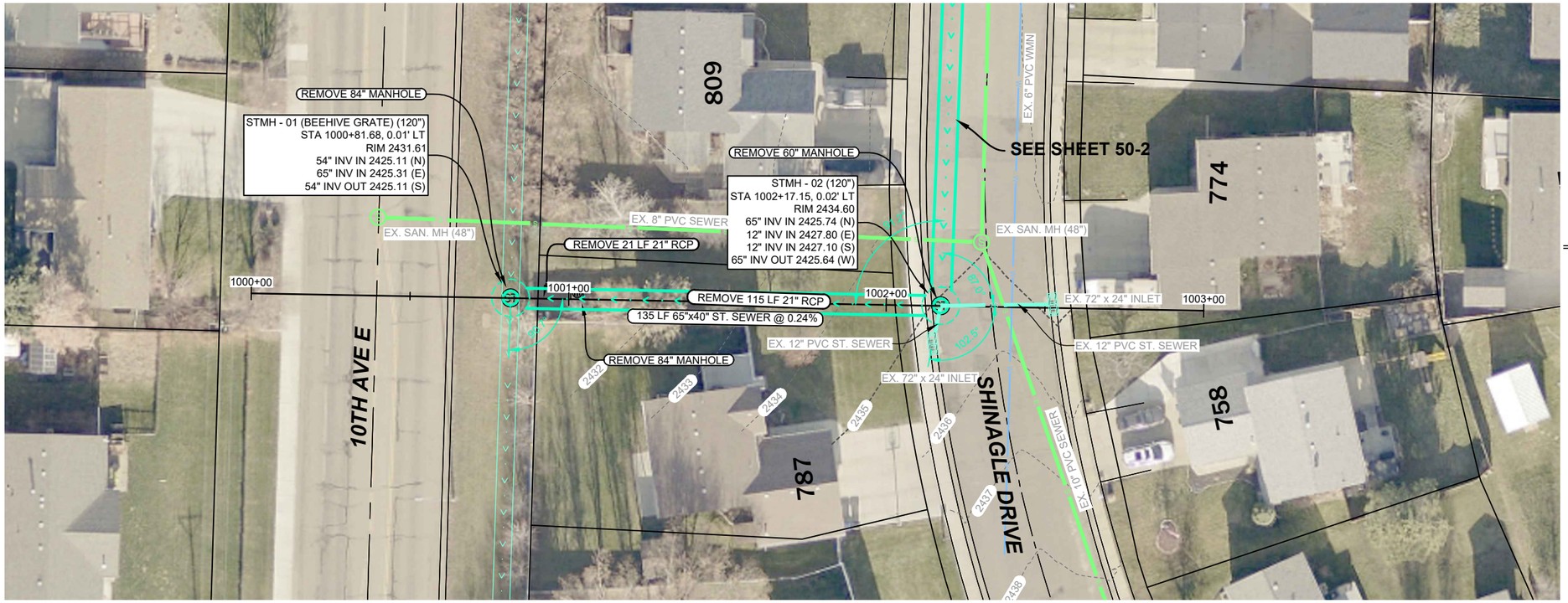
KLJ

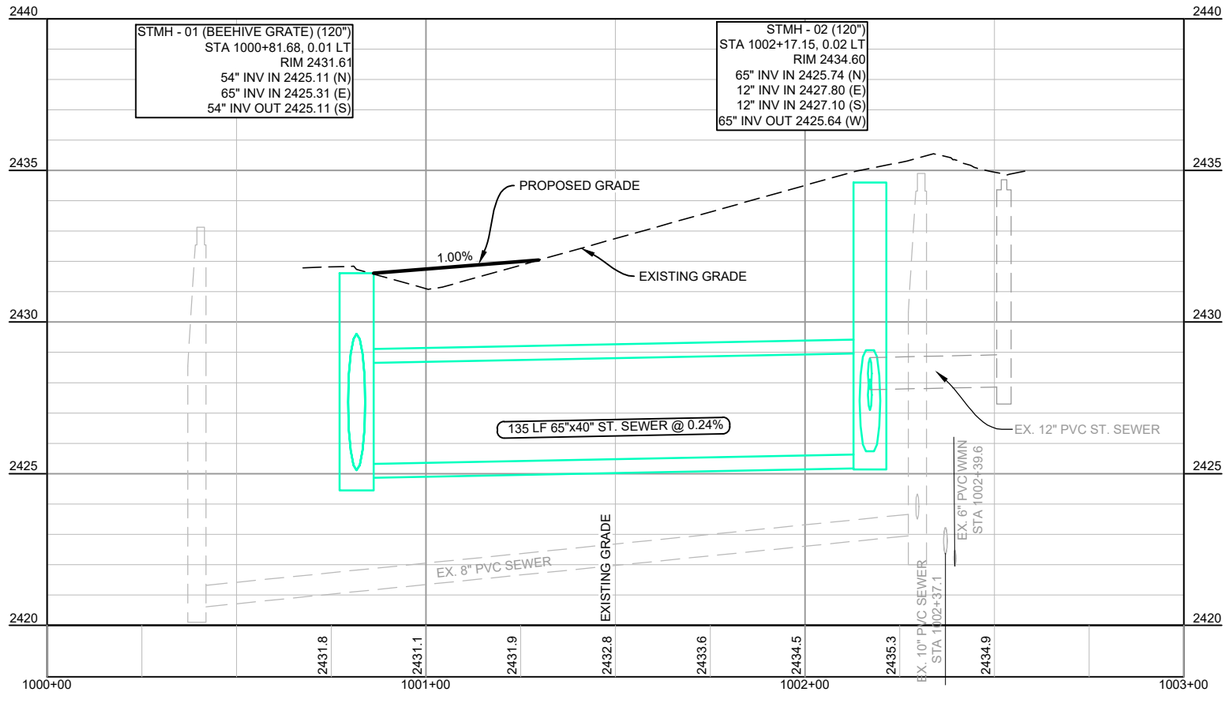
REVISION
NO. DATE

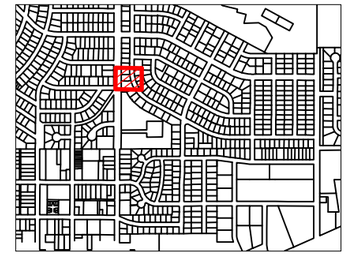
DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
TYPICAL SECTIONS

SHEET 30-2







QUANTITIES THIS SHEET

REMOVE MANHOLE	3	EA
REMOVAL OF PIPES - ALL SIZES	136	LF
120" MANHOLE	2	EA
65"x40" ARCH STORM SEWER PIPE	135	LF
CONNECT EX. STORM PIPES TO NEW MH	4	EA

NOTE(S):

1. WATERMAIN AND SANITARY SEWER PIPE INVERTS ARE APPROXIMATE ONLY; CONTRACTOR TO FIELD VERIFY.
2. MANHOLES WITHOUT ANGLE DIMENSIONS HAVE CONNECTING PIPES AT EITHER 90° OR 180°.

N

SCALE 20 0 20 40 FEET
NAVD 88

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
04/01/25
DATE
NORTH DAKOTA

ADDENDUM #1

KLJ

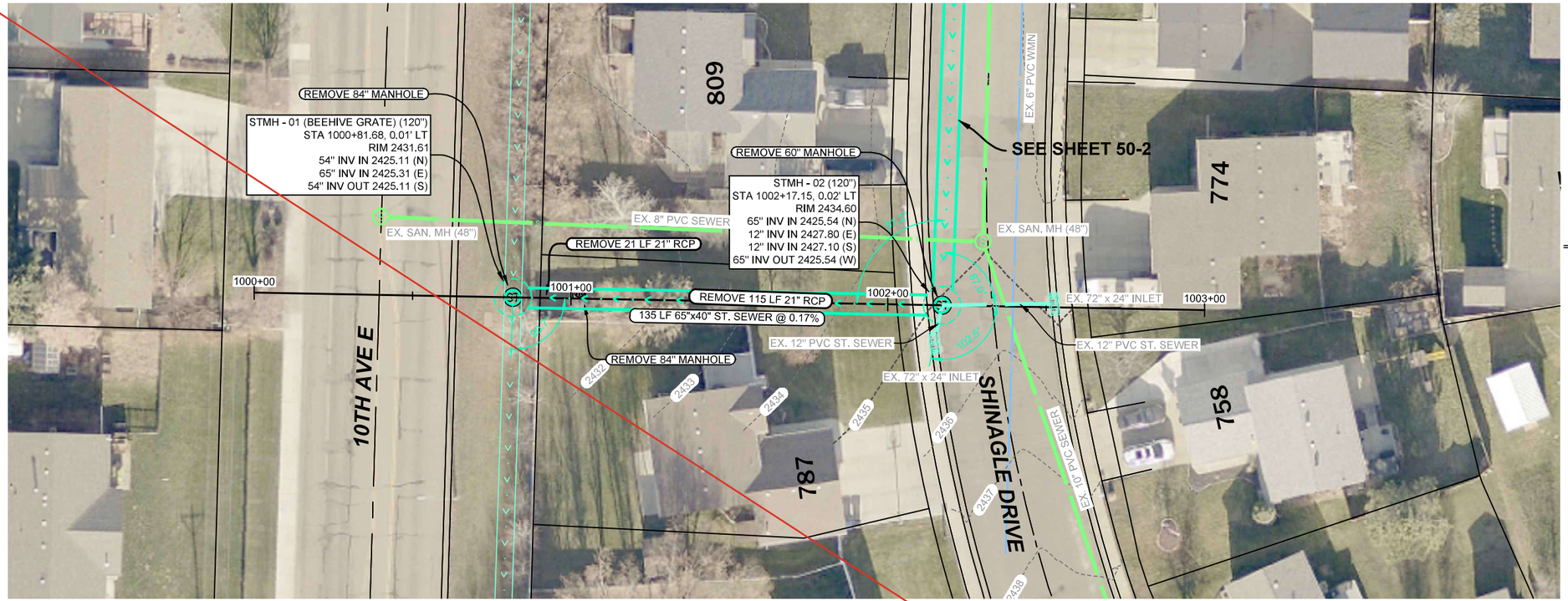
NO.	DATE	REVISION
1	3/31/2025	ADDENDUM #1 - ADJUSTED STORM MAIN GRADE

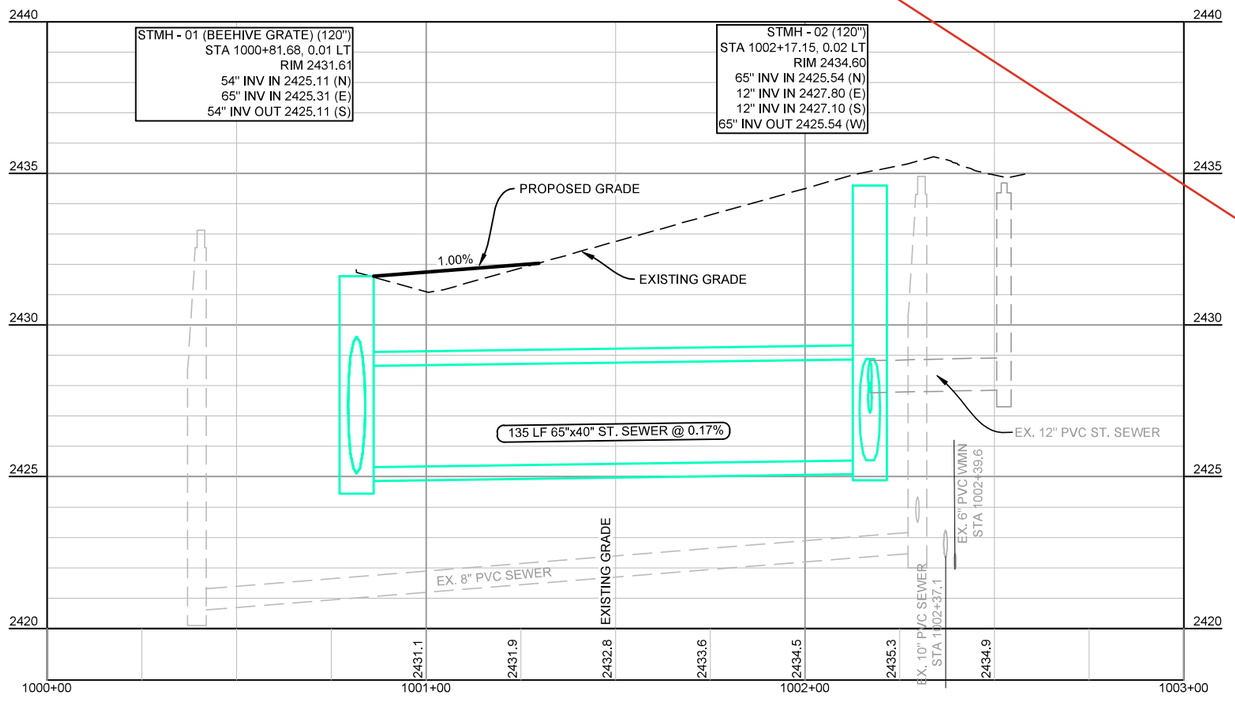
DRAFTED KRK
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

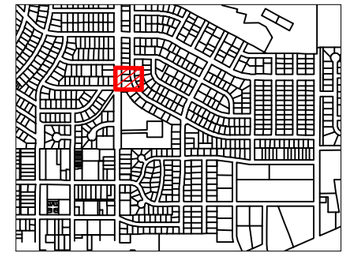
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - DRAINAGE EASEMENT

SHEET 50-1







QUANTITIES THIS SHEET

REMOVE MANHOLE	3	EA
REMOVAL OF PIPES - ALL SIZES	136	LF
120" MANHOLE	2	EA
65"x40" ARCH STORM SEWER PIPE	135	LF
CONNECT EX. STORM PIPES TO NEW MH	4	EA

NOTE(S):

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2. MANHOLES WITHOUT ANGLE DIMENSIONS HAVE CONNECTING PIPES AT EITHER 90° OR 180°.

N

20 0 20 40
SCALE NAVD 88 FEET

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JAMES KIEDROWSKI
PE-10763
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KLJ

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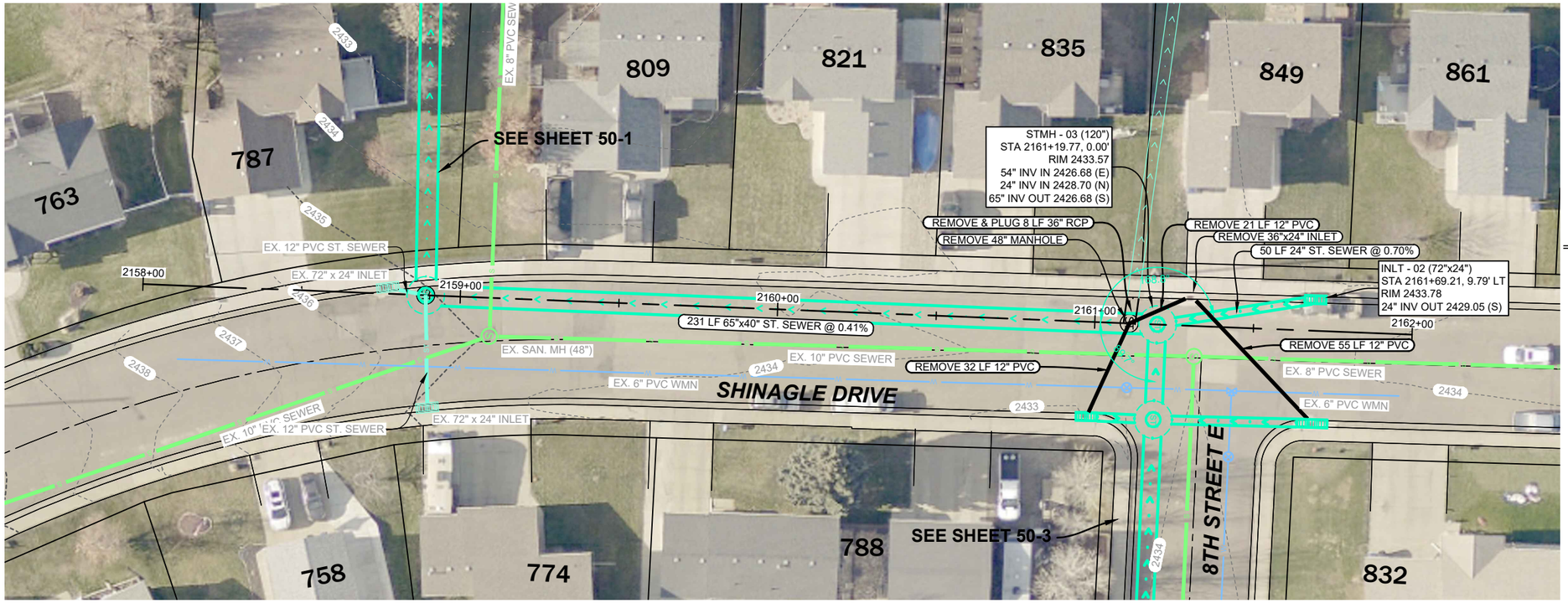
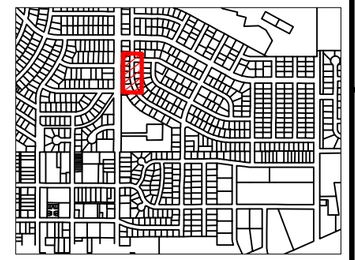
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - DRAINAGE EASEMENT

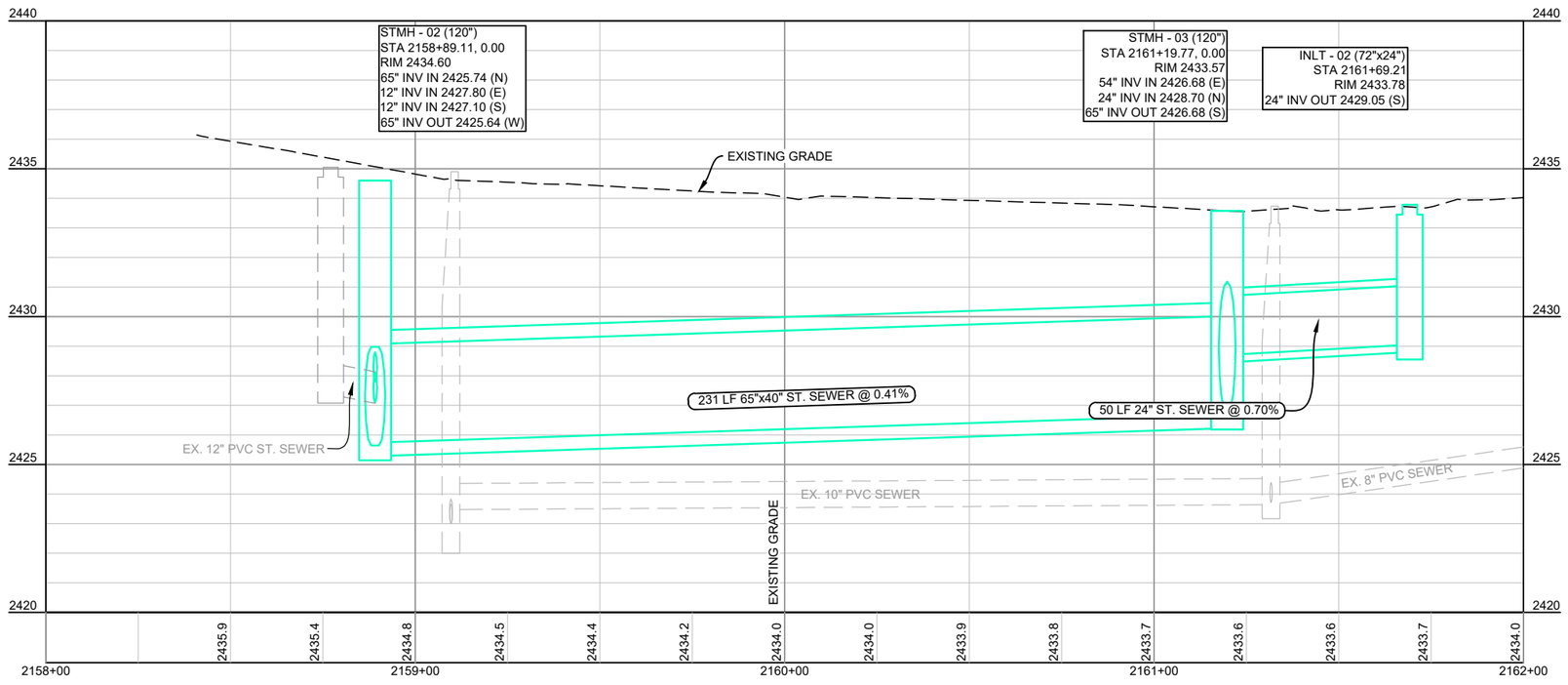
SHEET 50-1





QUANTITIES THIS SHEET

REMOVE MANHOLE	1 EA
REMOVE INLET	1 EA
REMOVAL OF PIPES - ALL SIZES	116 LF
120" MANHOLE	1 EA
72"x24" INLET	1 EA
24" STORM SEWER PIPE	50 LF
65"x40" STORM SEWER PIPE	231 LF
PLUG EXISTING PIPE	1 EA



NOTE(S):

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SCALE 20 0 20 40 NAVD 88 FEET

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REVIEWED JSK
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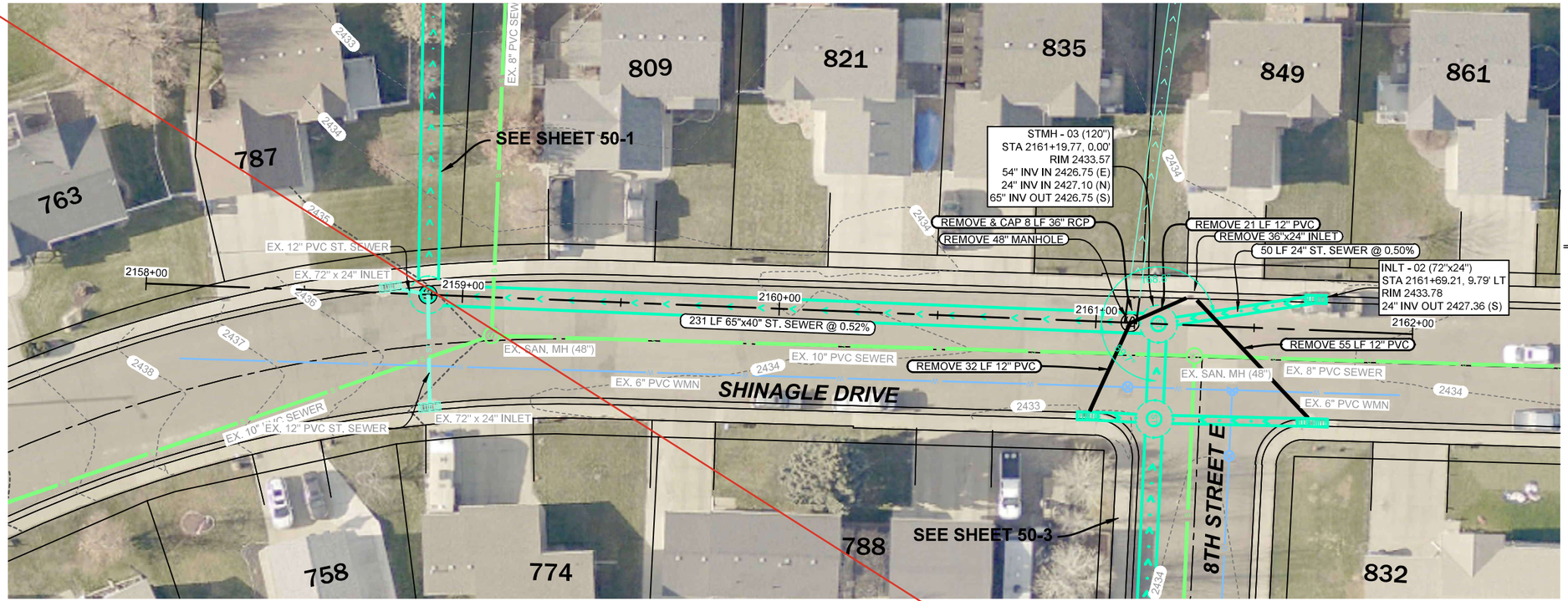
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

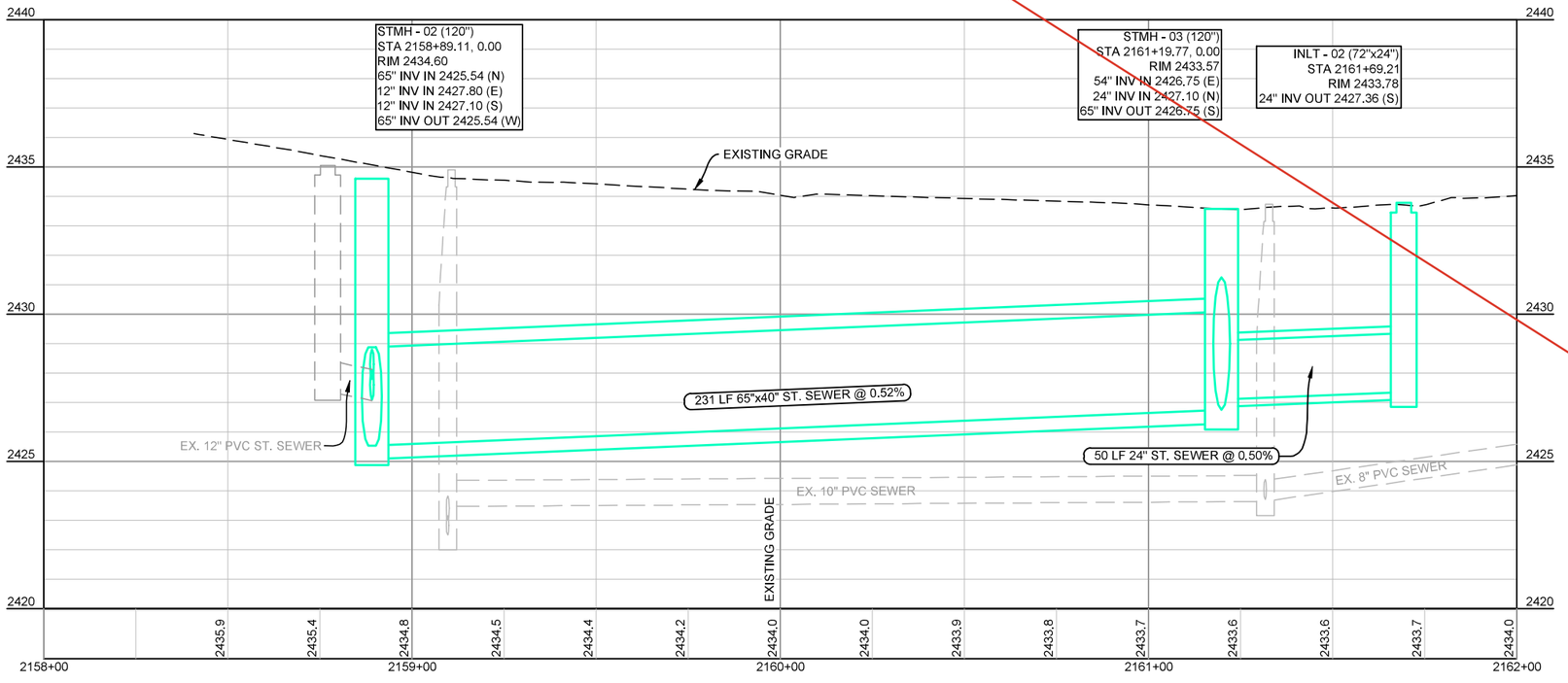
STORM SEWER PLAN & PROFILE - SHINAGLE DRIVE

SHEET 50-2



QUANTITIES THIS SHEET

REMOVE MANHOLE	1 EA
REMOVE INLET	1 EA
REMOVAL OF PIPES - ALL SIZES	116 LF
120" MANHOLE	1 EA
72"x24" INLET	1 EA
24" STORM SEWER PIPE	50 LF
65"x40" STORM SEWER PIPE	231 LF
CAP EXISTING PIPE	1 EA



NOTE(S):

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N

SCALE 20 0 20 40 FEET
NAVD 88

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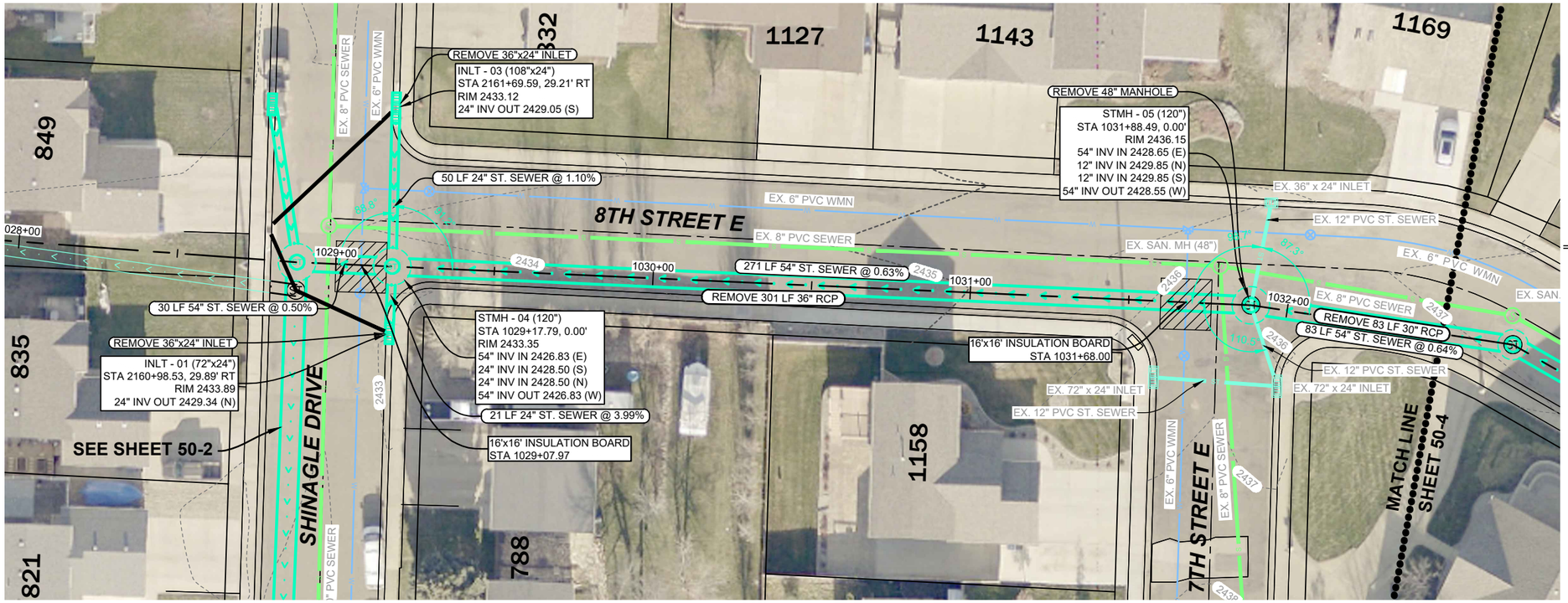
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - SHINAGLE DRIVE

SHEET 50-2

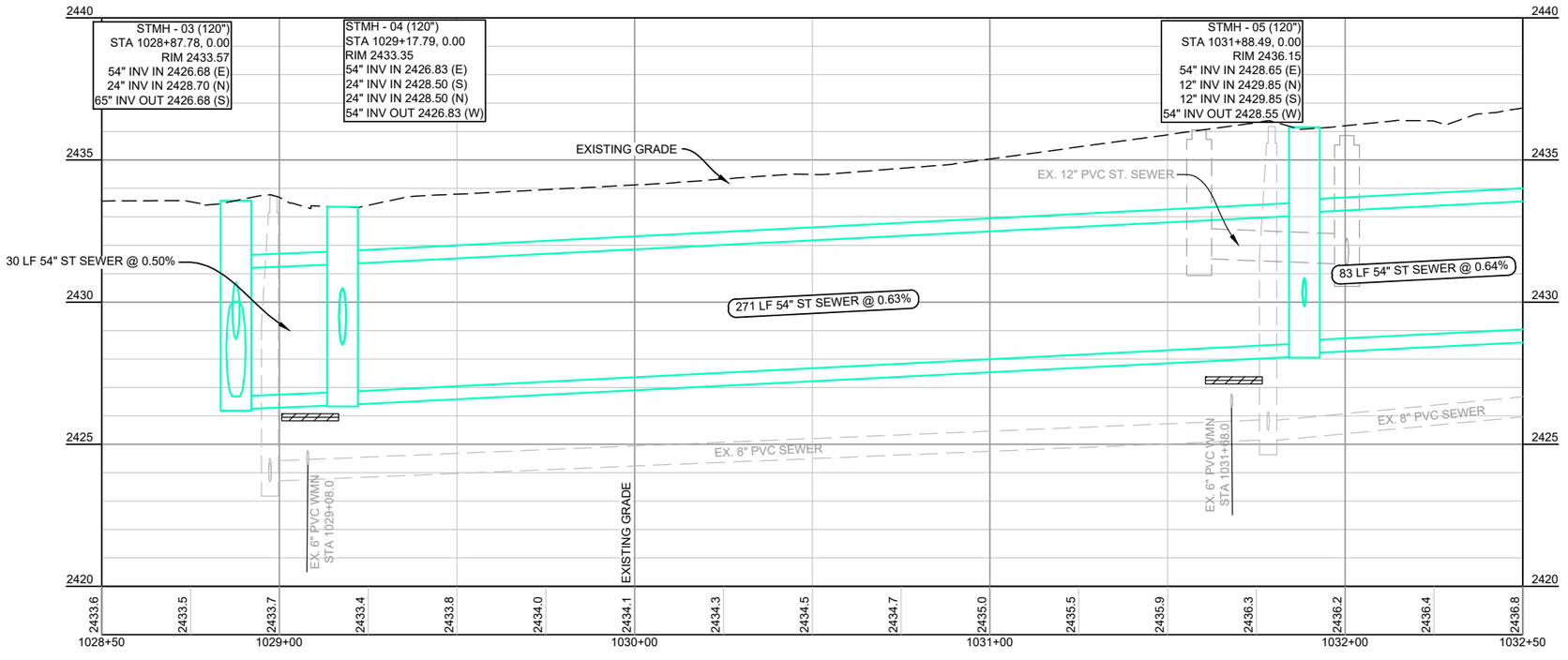


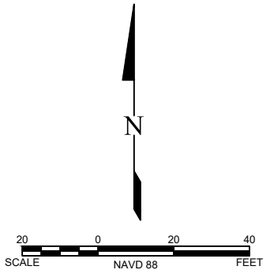
QUANTITIES THIS SHEET

REMOVE MANHOLE	1	EA
REMOVE INLET	2	EA
REMOVAL OF PIPES - ALL SIZES	384	LF
120" MANHOLE	2	EA
72"x24" INLET	1	EA
108"x24" INLET	1	EA
INSULATION BOARD	512	SF
24" STORM SEWER PIPE	71	LF
54" STORM SEWER PIPE	384	LF
CONNECT EX. STORM PIPES TO NEW MH	2	EA

NOTE(S):

1. WATERMAIN AND SANITARY SEWER PIPE INVERTS ARE APPROXIMATE ONLY; CONTRACTOR TO FIELD VERIFY.
2. MANHOLES WITHOUT ANGLE DIMENSIONS HAVE CONNECTING PIPES AT EITHER 90° OR 180°.





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ADDENDUM #1

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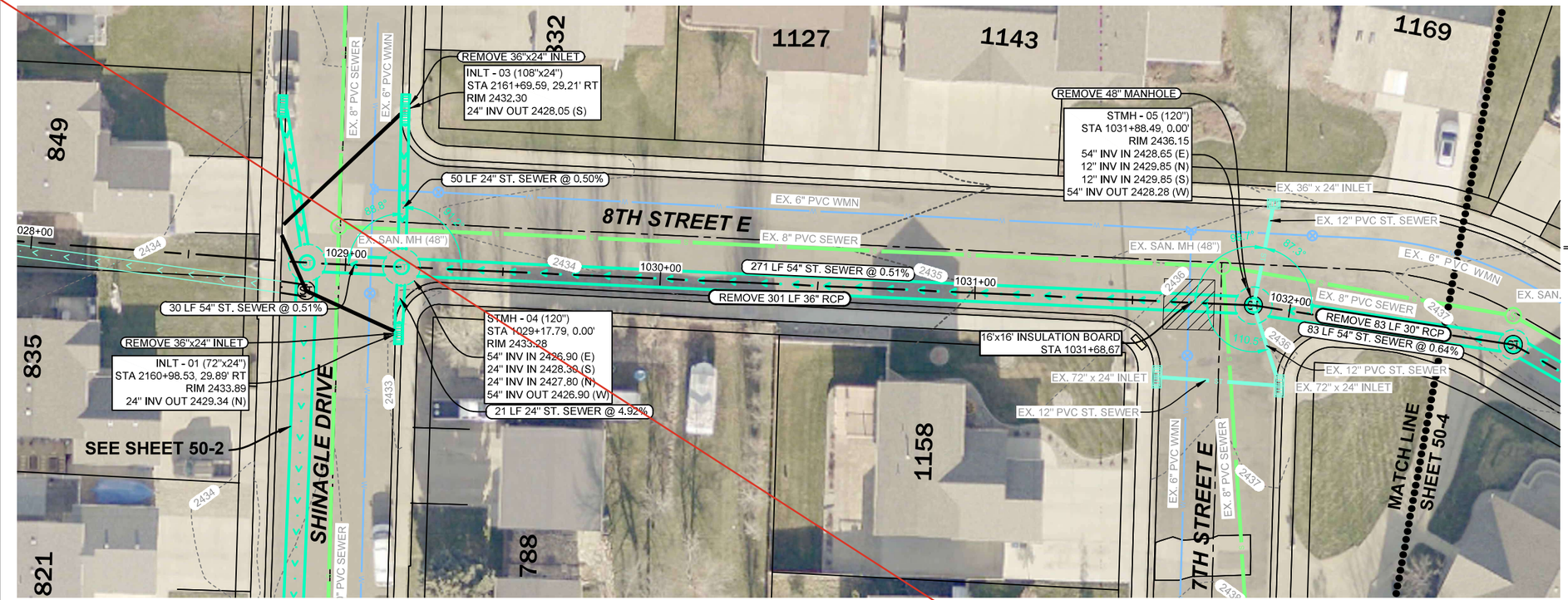
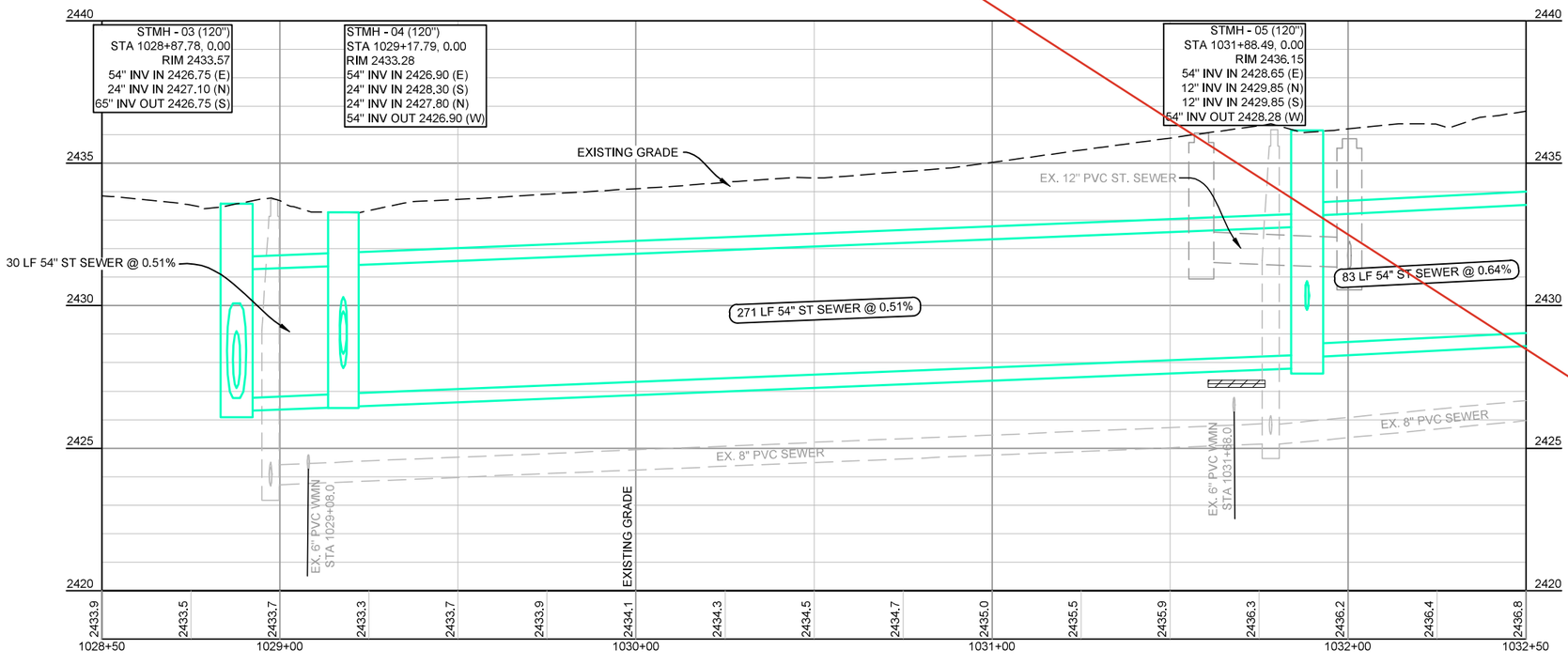
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - 8TH STREET E

SHEET 50-3





QUANTITIES THIS SHEET

REMOVE MANHOLE	1	EA
REMOVE INLET	2	EA
REMOVAL OF PIPES - ALL SIZES	384	LF
120" MANHOLE	2	EA
72"x24" INLET	1	EA
108"x24" INLET	1	EA
INSULATION BOARD	256	SF
24" STORM SEWER PIPE	71	LF
54" STORM SEWER PIPE	384	LF
CONNECT EX. STORM PIPES TO NEW MH	2	EA

NOTE(S):

1. WATERMAIN AND SANITARY SEWER PIPE INVERTS ARE APPROXIMATE ONLY; CONTRACTOR TO FIELD VERIFY.
2. MANHOLES WITHOUT ANGLE DIMENSIONS HAVE CONNECTING PIPES AT EITHER 90° OR 180°.

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SCALE NAVD 88 FEET

PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
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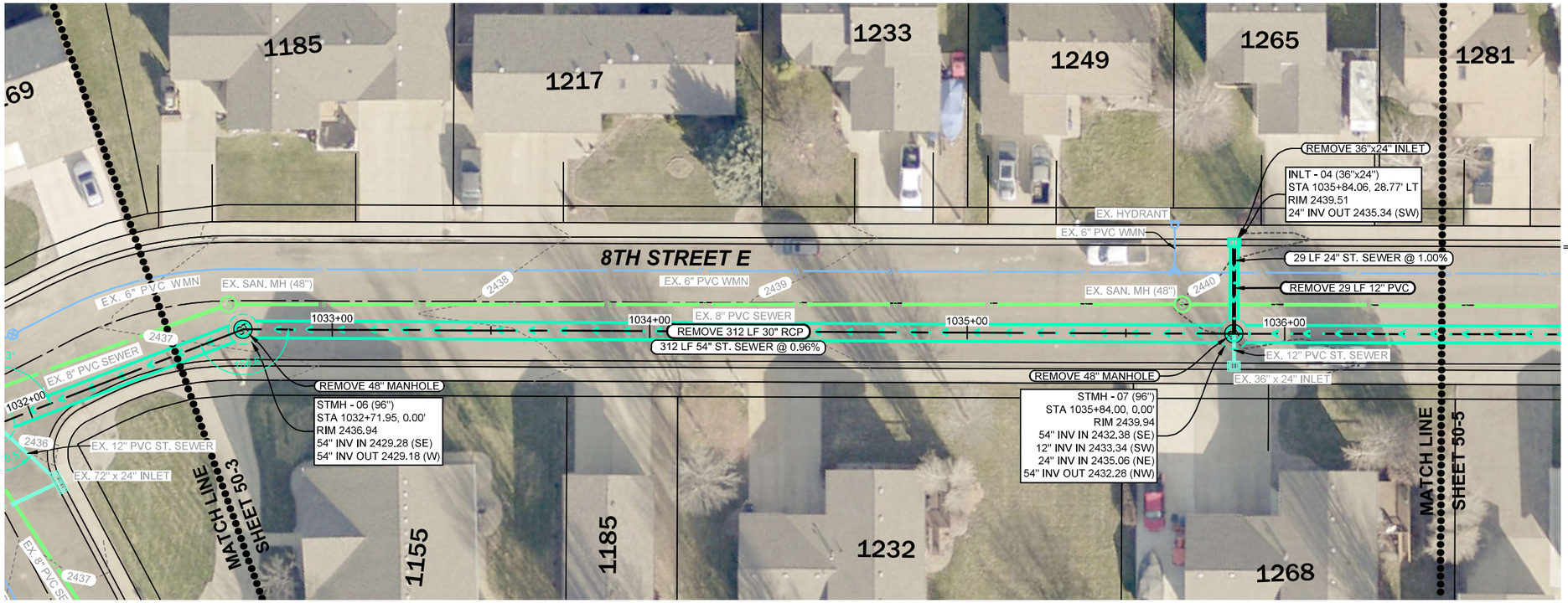
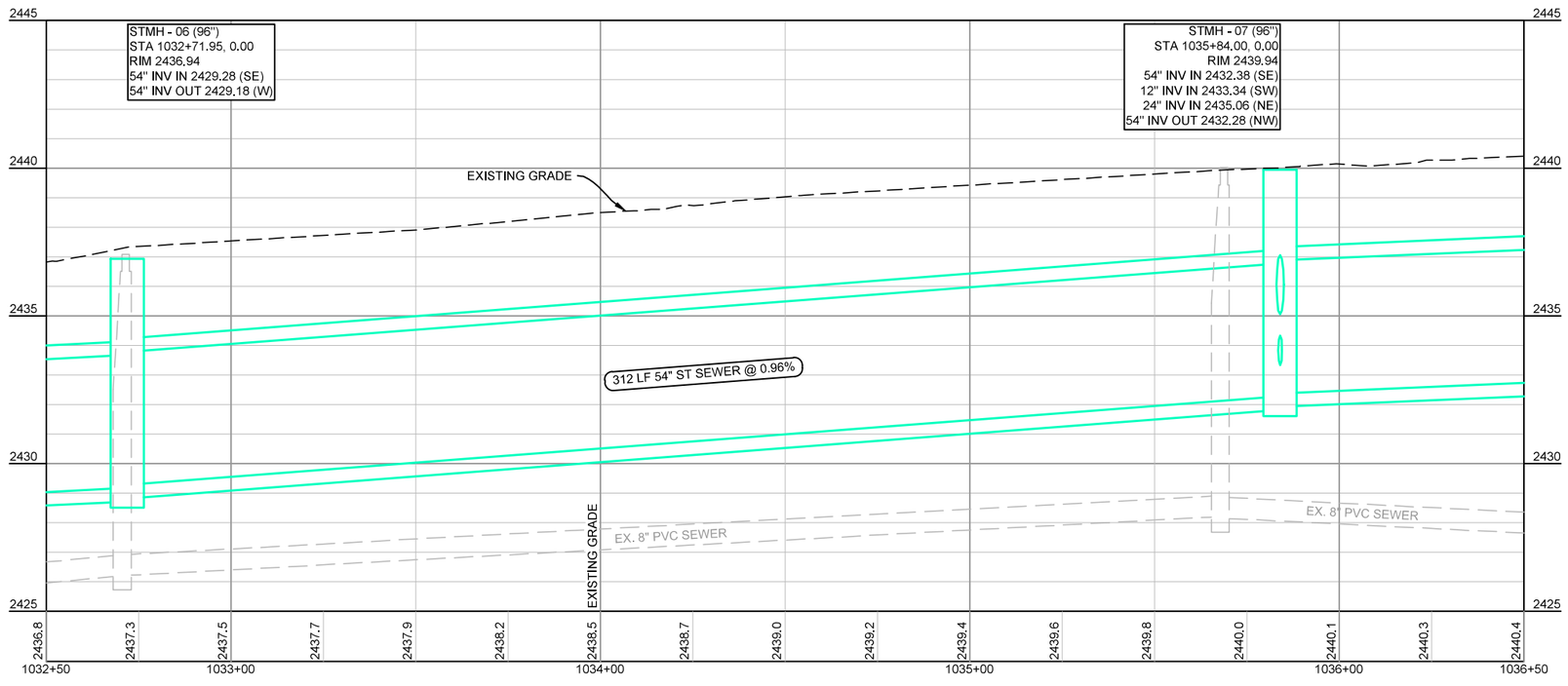
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - 8TH STREET E

SHEET 50-3





QUANTITIES THIS SHEET

REMOVE MANHOLE	2	EA
REMOVE INLET	1	EA
REMOVAL OF PIPES - ALL SIZES	341	LF
96" MANHOLE	2	EA
36"x24" INLET	1	EA
24" STORM SEWER PIPE	29	LF
54" STORM SEWER PIPE	312	LF
CONNECT EX. STORM PIPES TO NEW MH	1	EA

NOTE(S):

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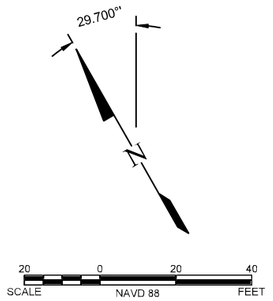

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION

NO. DATE

DRAFTED KRK
REVIEWED JSK
PROJECT NUMBER 2404-00273
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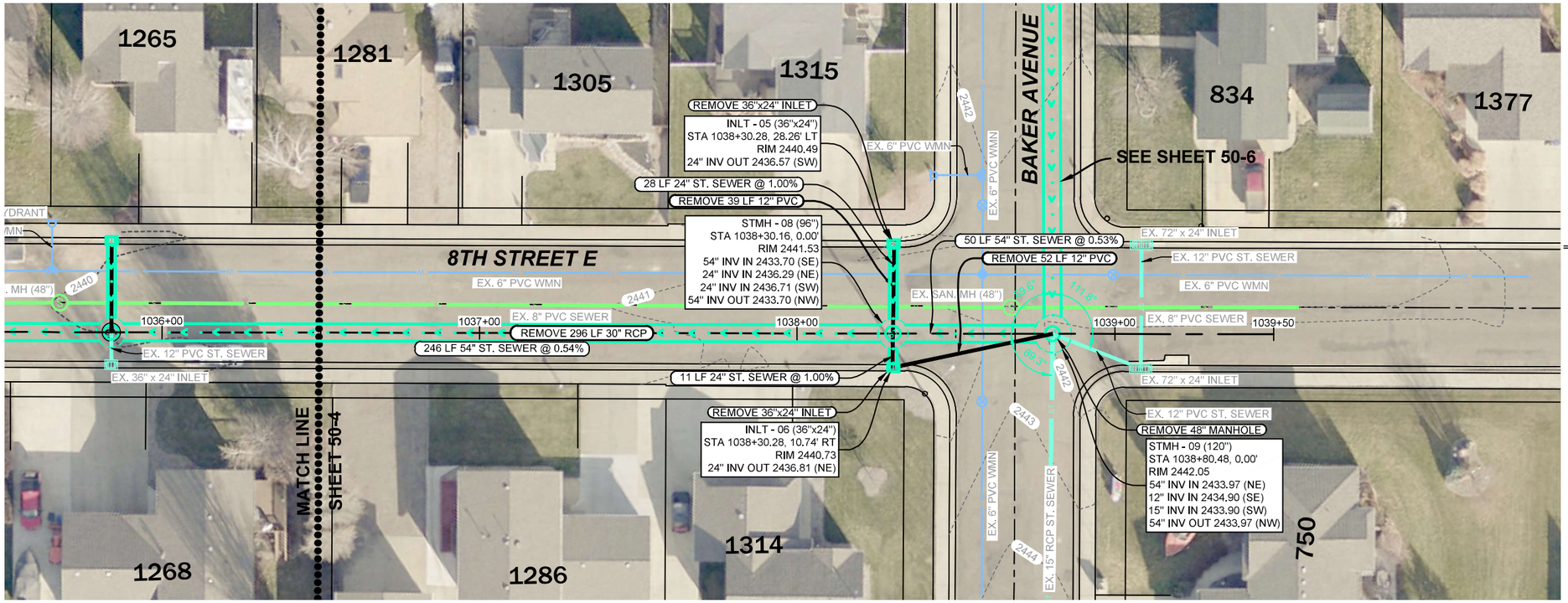
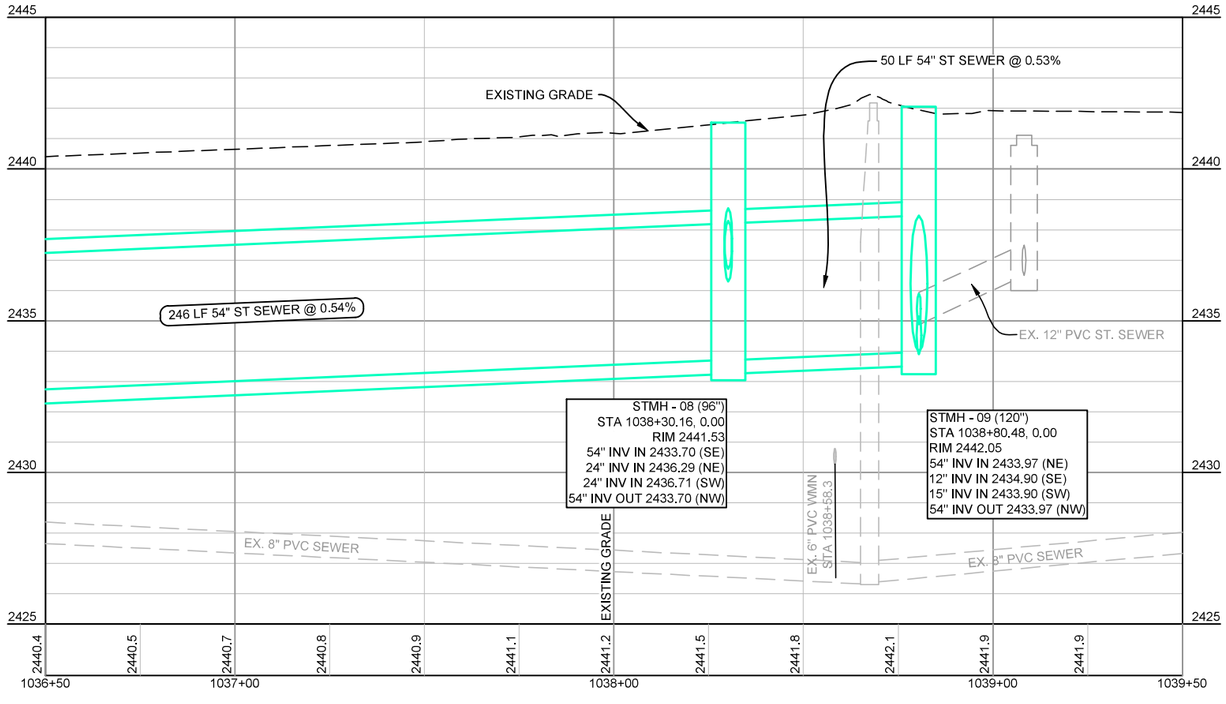
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - 8TH STREET E

SHEET 50-4





QUANTITIES THIS SHEET

REMOVE MANHOLE	1	EA
REMOVE INLET	2	EA
REMOVAL OF PIPES - ALL SIZES	387	LF
96" MANHOLE	1	EA
120" MANHOLE	1	EA
36"x24" INLET	2	EA
24" STORM SEWER PIPE	39	LF
54" STORM SEWER PIPE	296	LF
CONNECT EX. STORM PIPES TO NEW MH	2	EA

NOTE(S):

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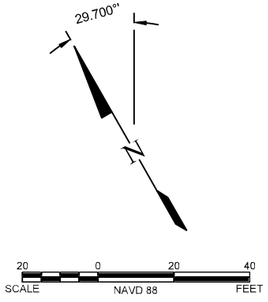

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION

NO. DATE

DRAFTED KRK

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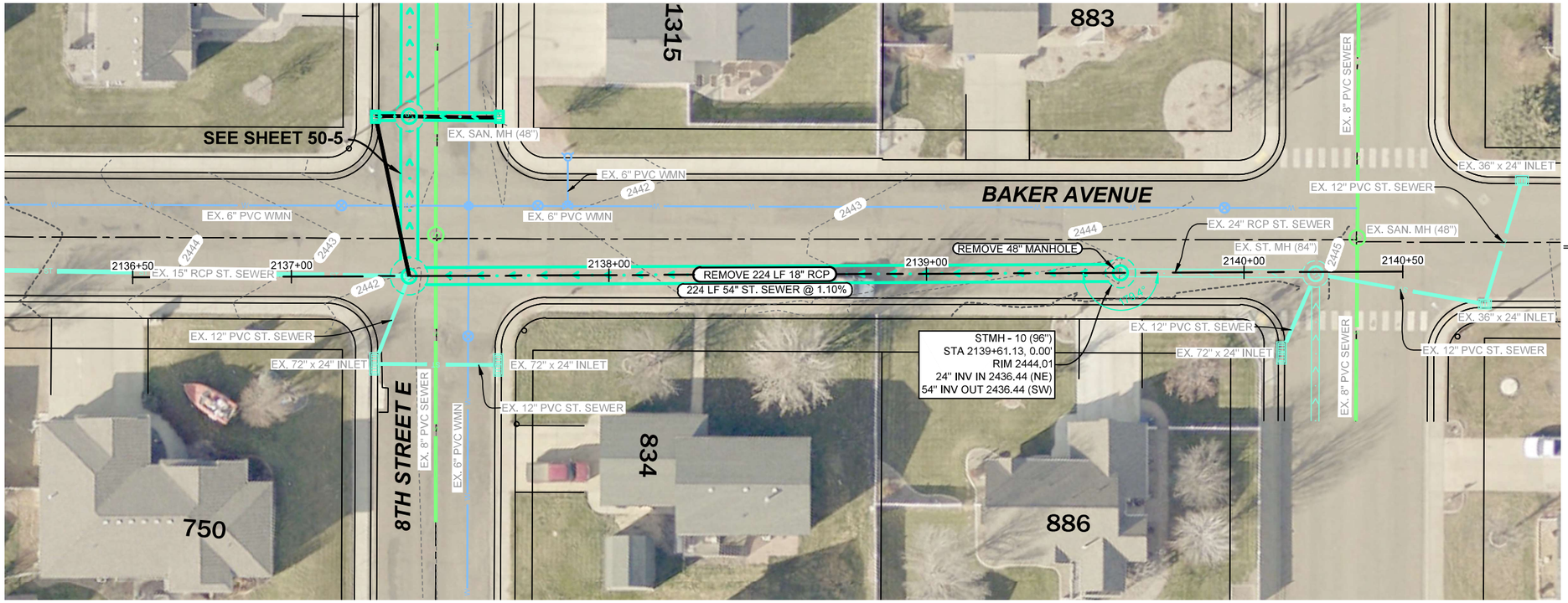
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - 8TH STREET E

SHEET 50-5



QUANTITIES THIS SHEET

REMOVE MANHOLE	1	EA
REMOVAL OF PIPES - ALL SIZES	224	LF
96" MANHOLE	1	EA
54" STORM SEWER PIPE	224	LF
CONNECT EX. STORM PIPES TO NEW MH	1	EA

NOTE(S):

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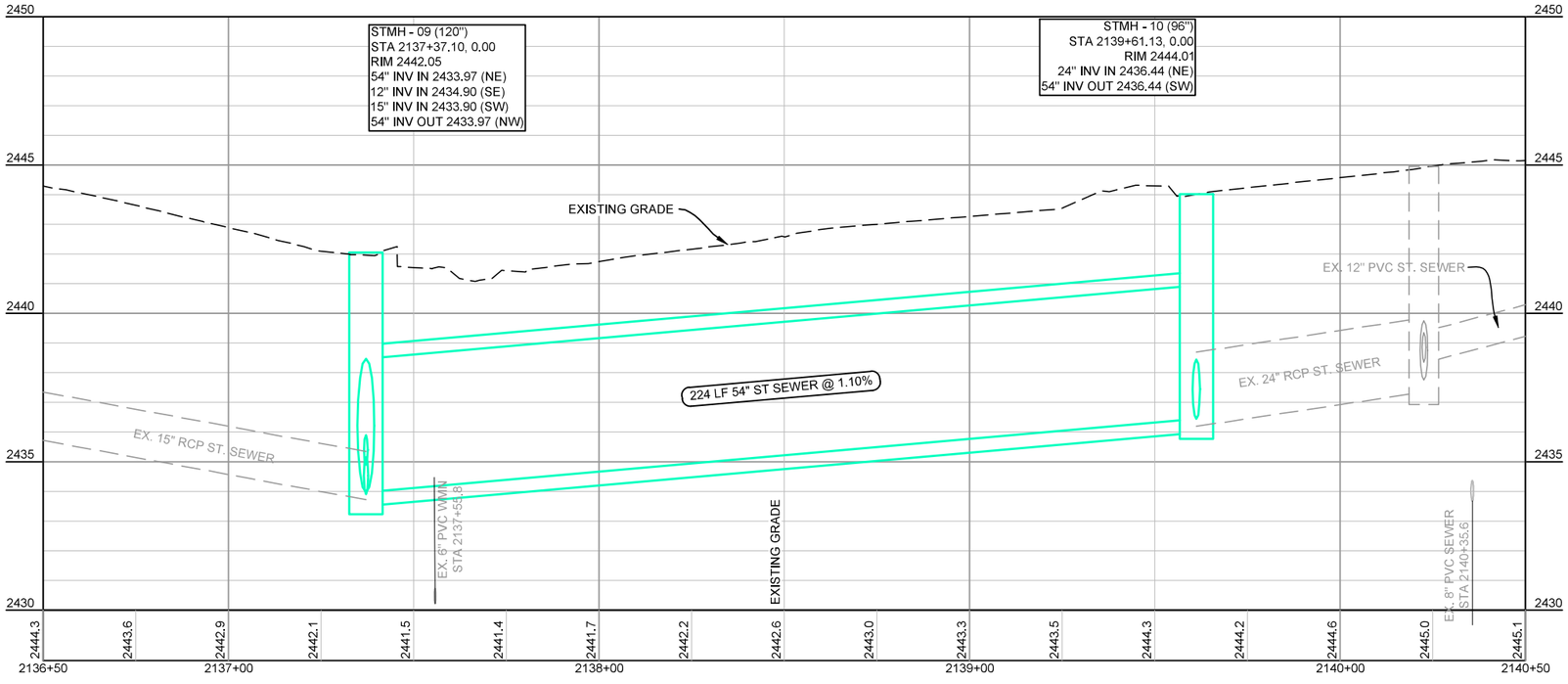

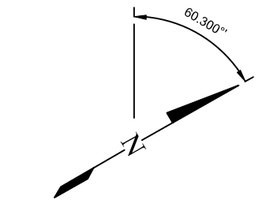

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

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NO. DATE

DRAFTED KRK
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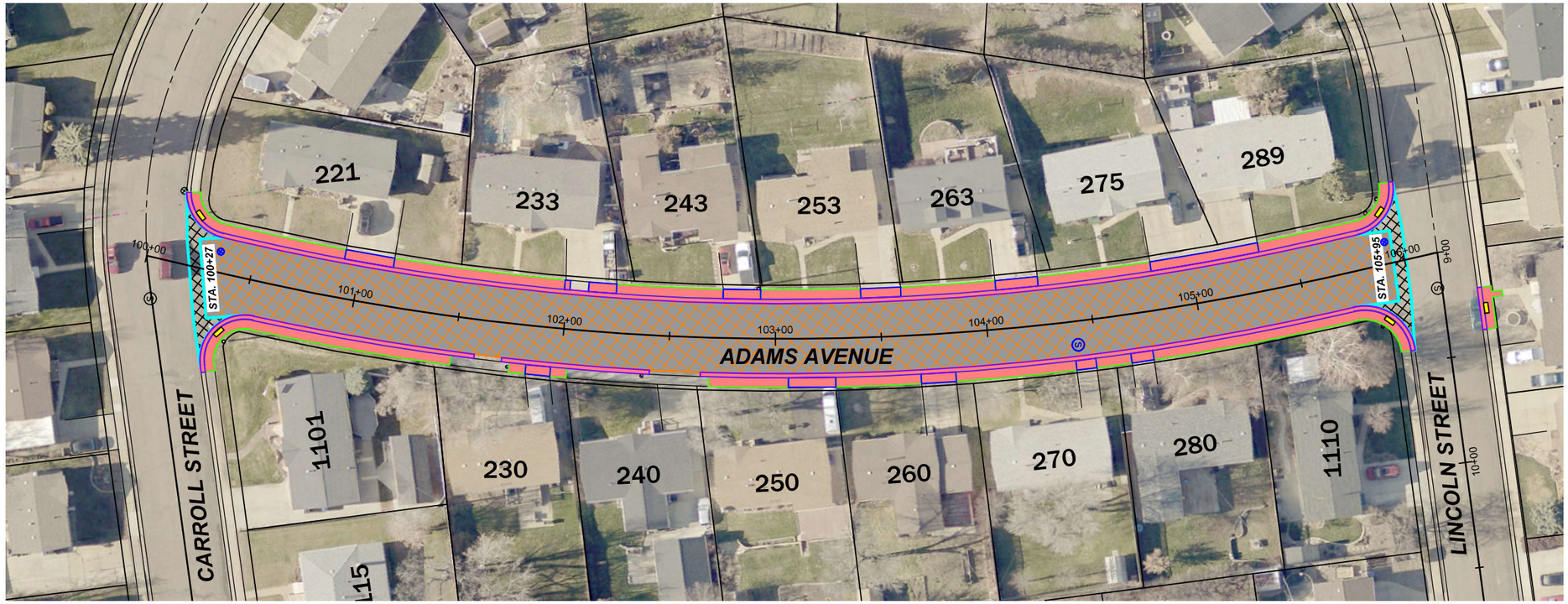
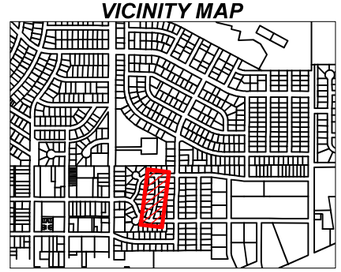
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

STORM SEWER PLAN & PROFILE - BAKER AVENUE

SHEET 50-6



VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	406	SY
REMOVAL OF CURB & GUTTER	1,068	LF
REMOVAL OF BITUMINOUS SURFACING	200	SY
CURB & GUTTER	1,068	LF
CONCRETE SIDEWALK	322	SY
CONCRETE DRIVEWAY 6 IN.	76	SY
CONCRETE VALLEY GUTTER	100	SY
DETECTABLE WARNING PANEL	50	SF
MILLING PAVEMENT SURFACE	2,088	SY
ADJUST MANHOLE	1	EA
ADJUST GATE VALVE BOX	2	EA
ASPHALT PAVEMENT	174	TON

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SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

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DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
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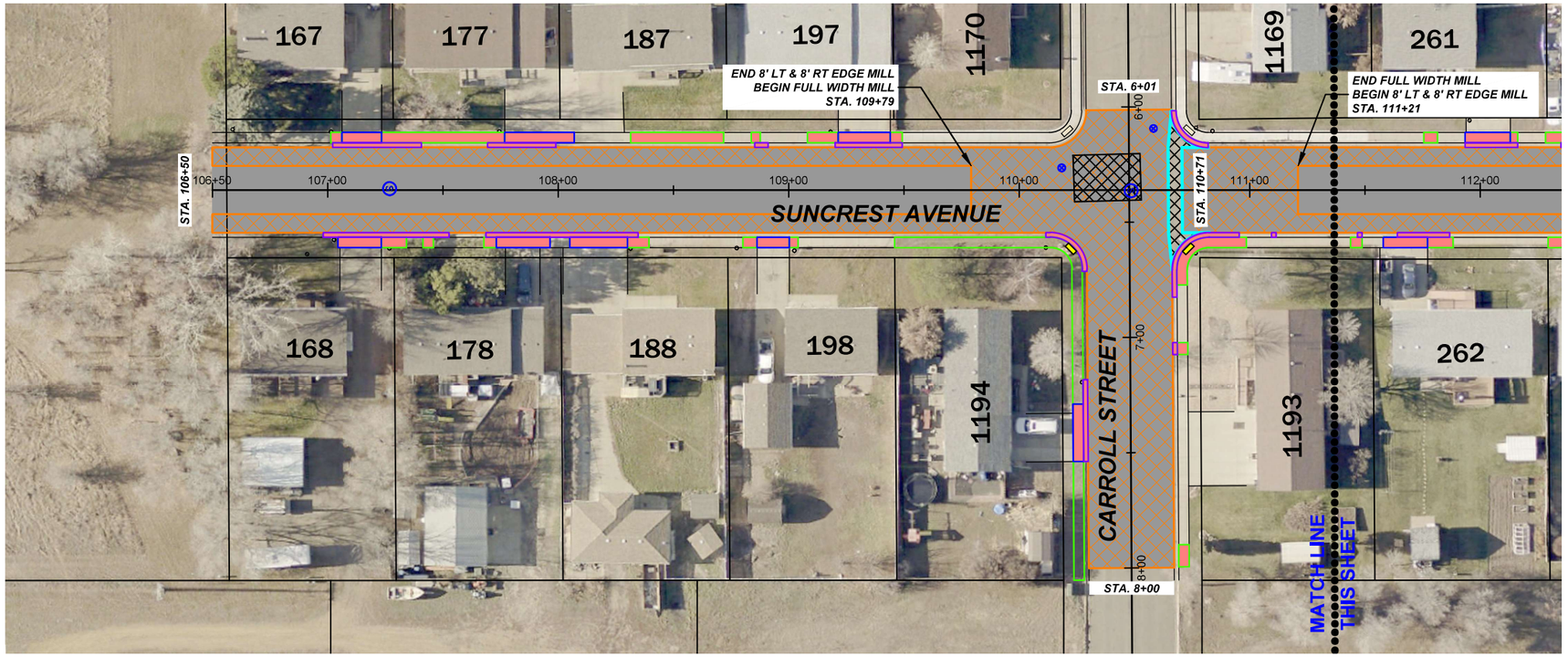
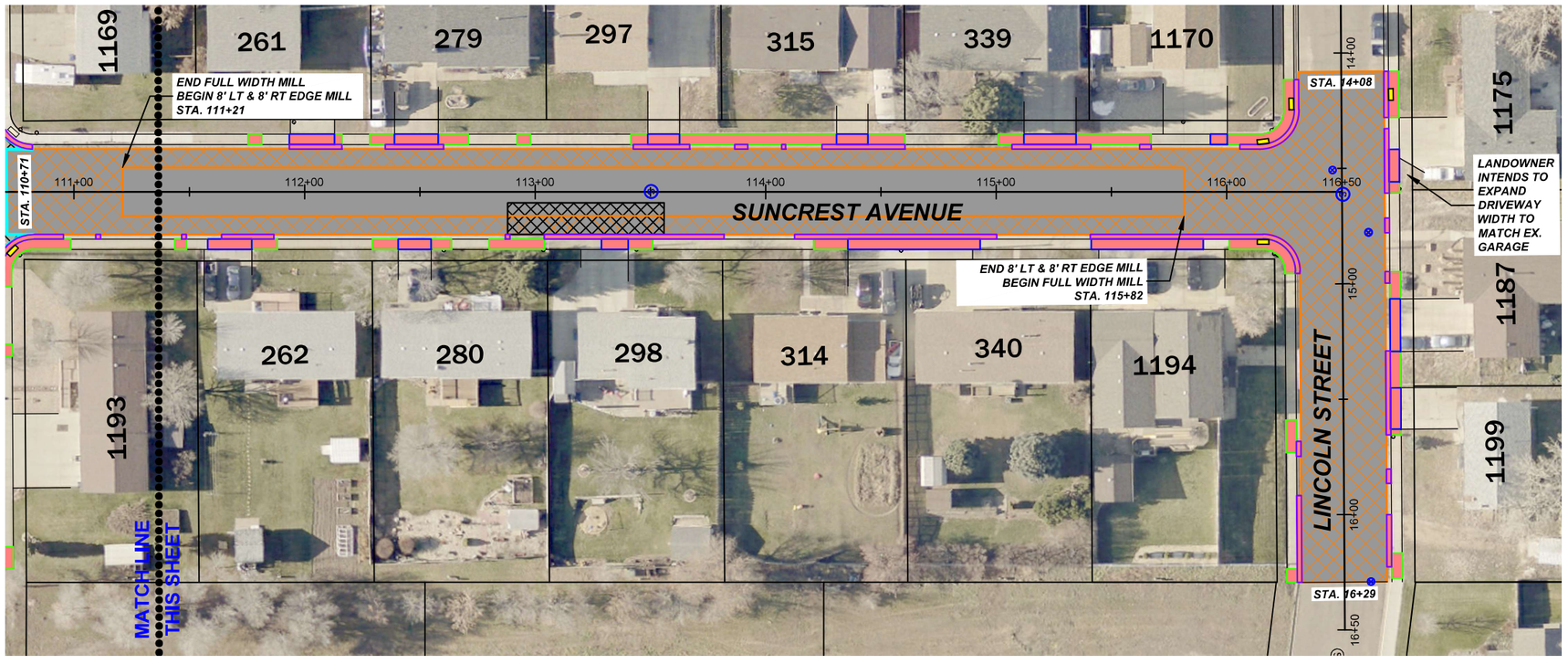
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

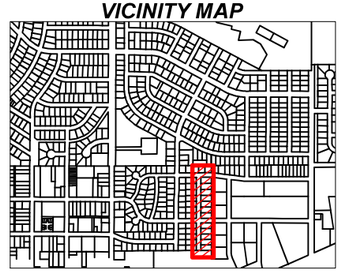
SID NO. 202501-1 - ADAMS AVENUE

SHEET 60-1





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	413	SY
REMOVAL OF CURB & GUTTER	922	LF
REMOVAL OF BITUMINOUS SURFACING	208	SY
GEOSYNTHETIC MATERIAL TYPE R1	183	SY
GEOSYNTHETIC MATERIAL TYPE G	168	SY
AGGREGATE BASE COURSE - CL 5	28	CY
CURB & GUTTER	922	LF
CONCRETE SIDEWALK	337	SY
CONCRETE DRIVEWAY 6 IN.	167	SY
CONCRETE VALLEY GUTTER	40	SY
DETECTABLE WARNING PANEL	60	SF
MILLING PAVEMENT SURFACE	3,764	SY
ADJUST MANHOLE	4	EA
ADJUST GATE VALVE BOX	5	EA
ASPHALT PAVEMENT	467	TON
ASPHALT REPAIR	37	TON

N

30 0 30 60
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
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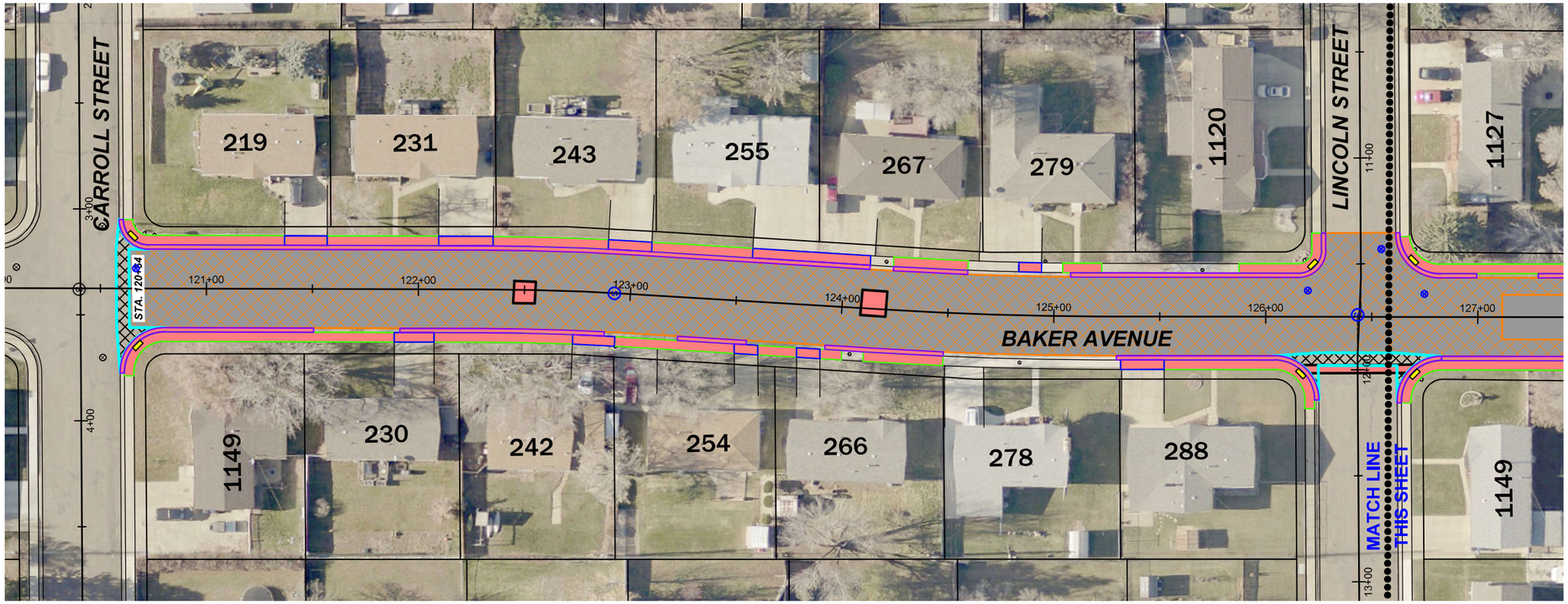
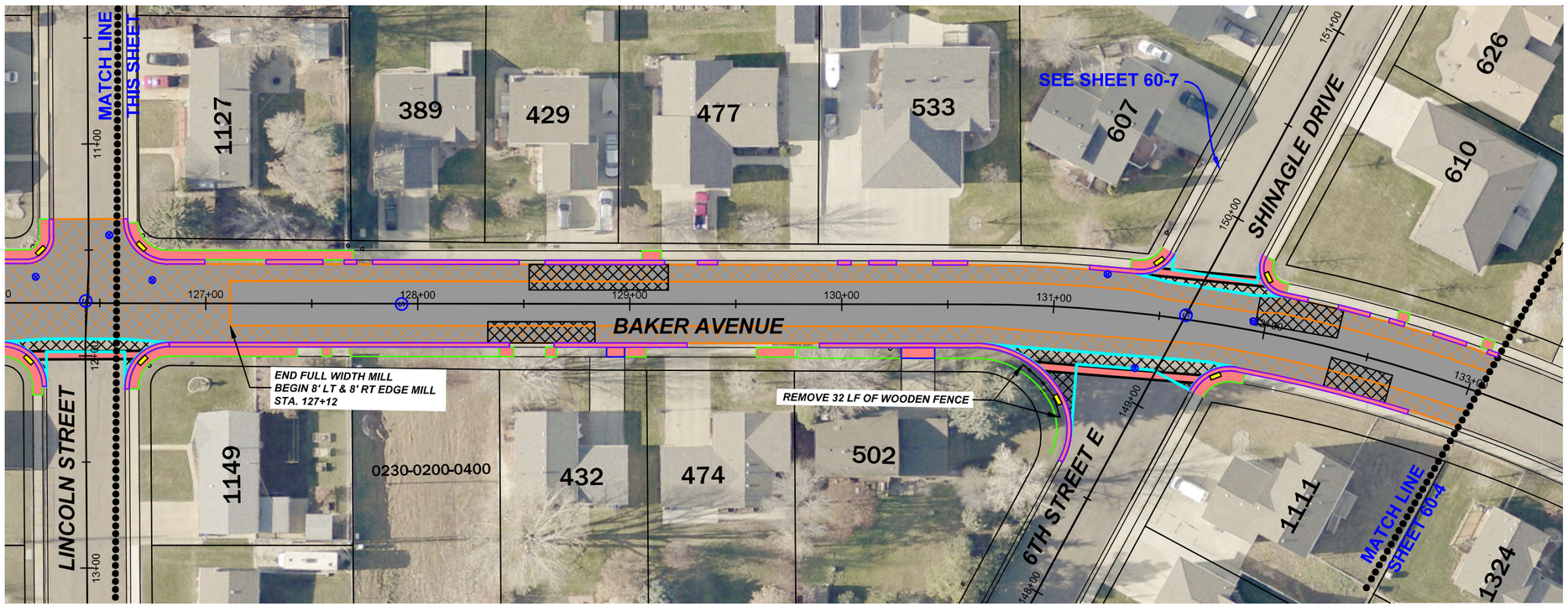
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

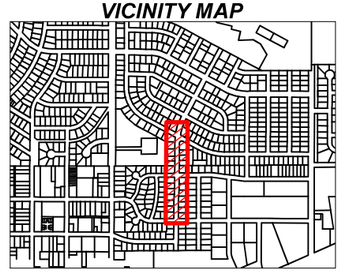
SID NO. 202501-1 - SUNCREST AVENUE

SHEET 60-2





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	593	SY
REMOVAL OF CURB & GUTTER	1,633	LF
REMOVAL OF BITUMINOUS SURFACING	444	SY
REMOVE FENCE	32	LF
GEOSYNTHETIC MATERIAL TYPE R1	305	SY
GEOSYNTHETIC MATERIAL TYPE G	279	SY
AGGREGATE BASE COURSE - CL 5	46	CY
CURB & GUTTER	1,633	LF
CONCRETE SIDEWALK	519	SY
CONCRETE DRIVEWAY 6 IN.	84	SY
CONCRETE VALLEY GUTTER	231	SY
DETECTABLE WARNING PANEL	100	SF
MILLING PAVEMENT SURFACE	3,772	SY
ADJUST MANHOLE	4	EA
ADJUST GATE VALVE BOX	7	EA
ASPHALT PAVEMENT	432	TON
ASPHALT REPAIR	62	TON

N

SCALE 30 0 30 60 FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION
NO. DATE

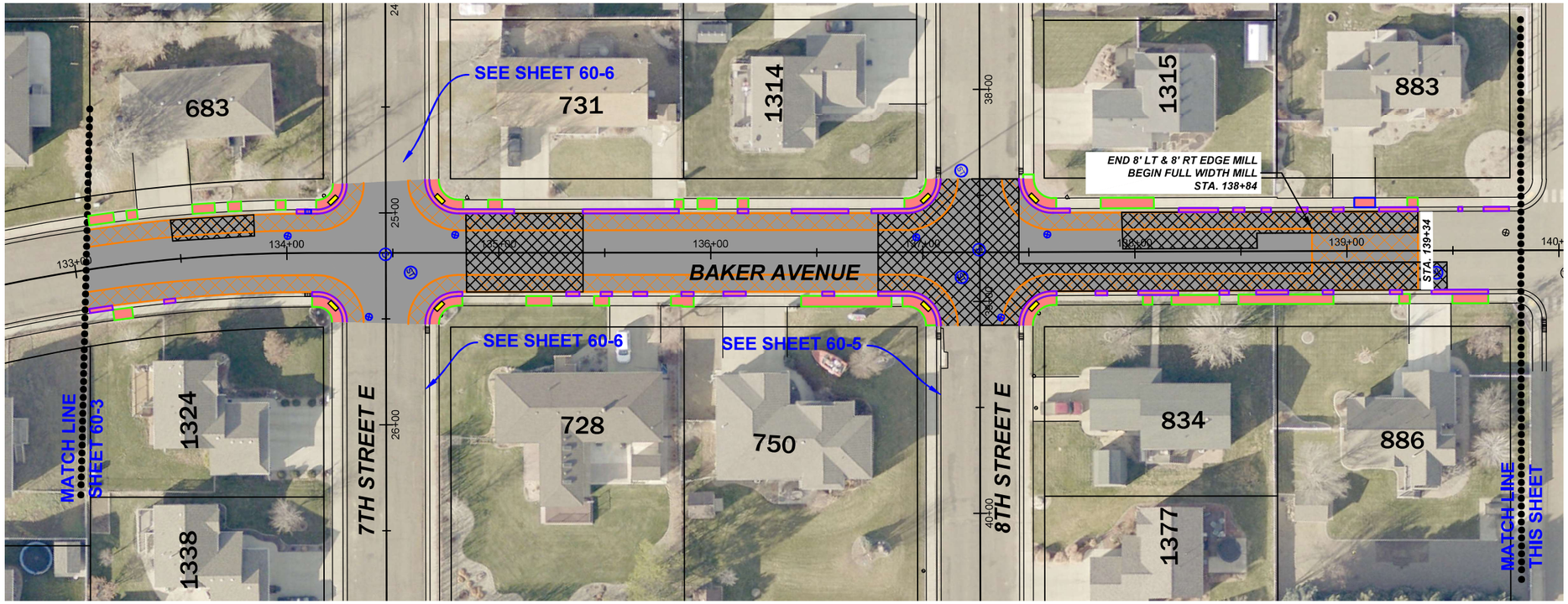
DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

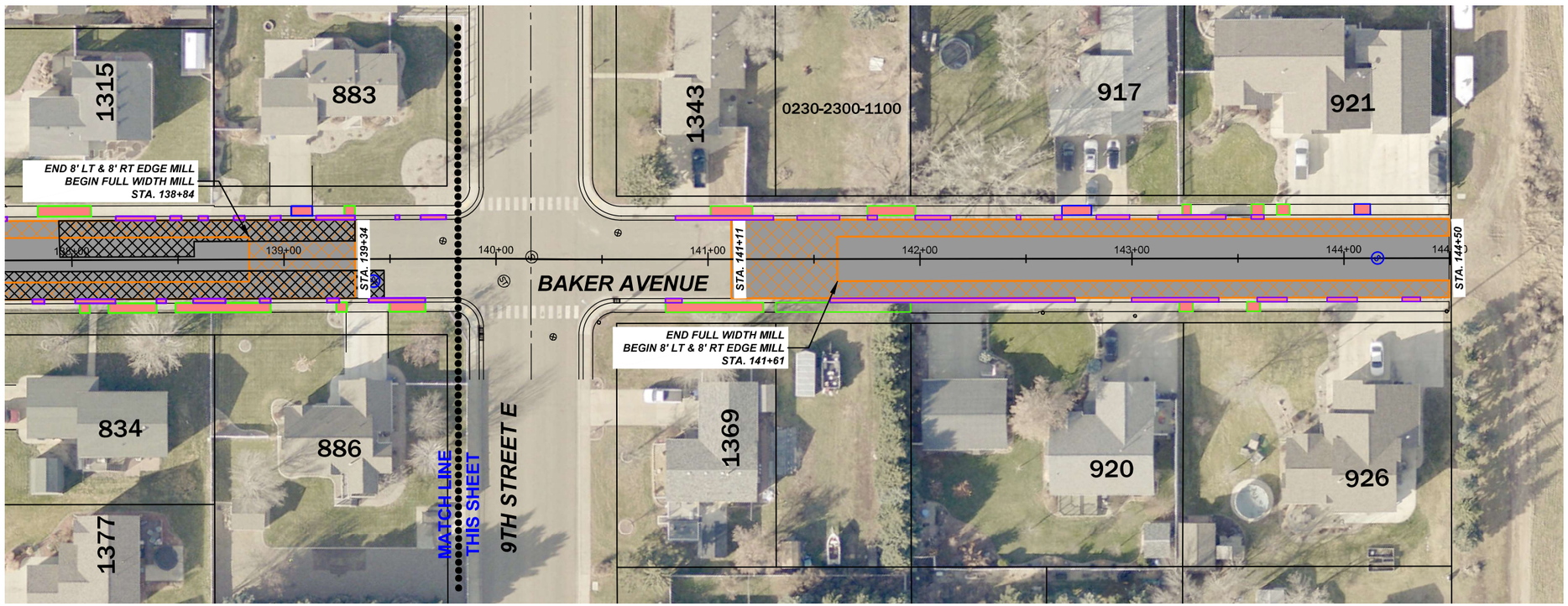
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

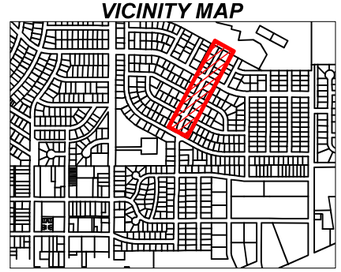
SID NO. 202501-1 - BAKER AVE (1)

SHEET 60-3





VICINITY MAP

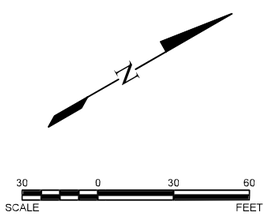


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	229	SY
REMOVAL OF CURB & GUTTER	806	LF
REMOVAL OF BITUMINOUS SURFACING	1,184	SY
GEOSYNTHETIC MATERIAL TYPE R1	1,252	SY
GEOSYNTHETIC MATERIAL TYPE G	1,184	SY
AGGREGATE BASE COURSE - CL 5	197	CY
CURB & GUTTER	806	LF
CONCRETE SIDEWALK	250	SY
CONCRETE DRIVEWAY 6 IN.	11	SY
DETECTABLE WARNING PANEL	80	SF
MILLING PAVEMENT SURFACE	1,928	SY
ADJUST MANHOLE	6	EA
ADJUST GATE VALVE BOX	6	EA
ADJUST INLET	1	EA
ASPHALT PAVEMENT	358	TON
ASPHALT REPAIR	263	TON



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

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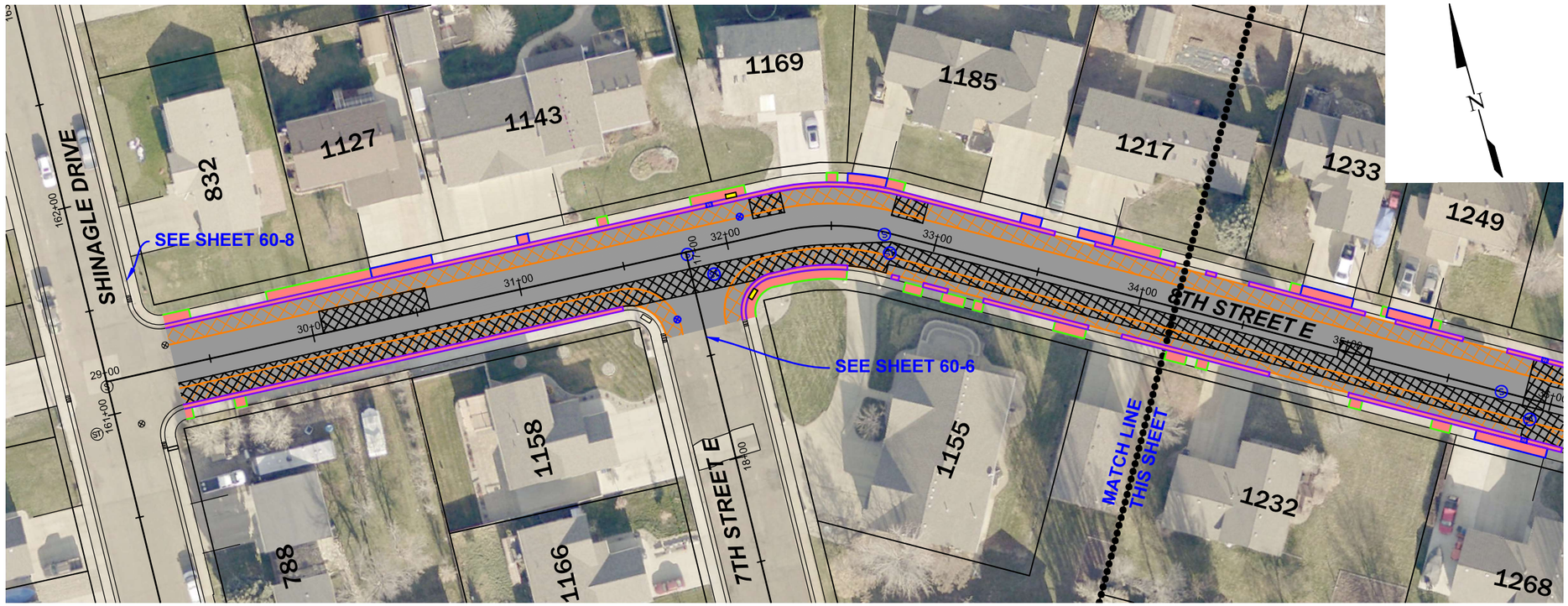
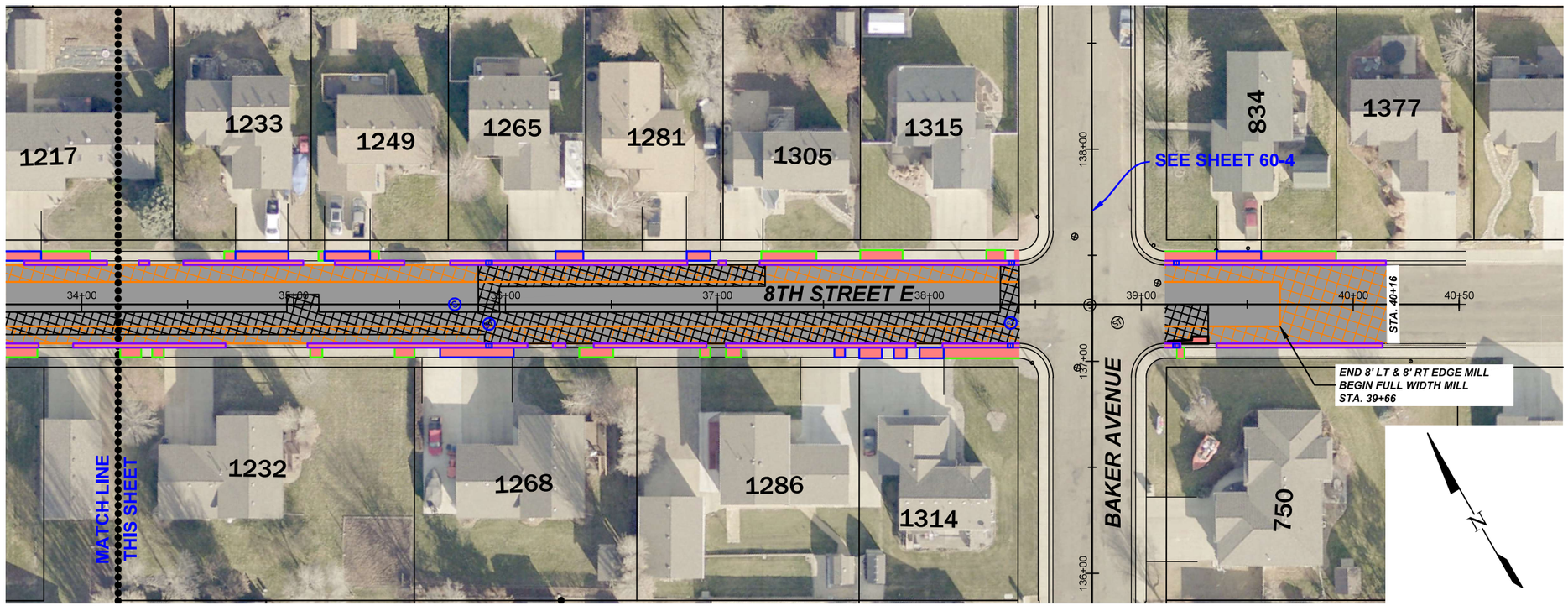
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

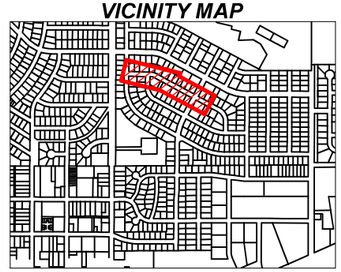
SID NO. 202501-1 - BAKER AVE (2)

SHEET 60-4





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	260	SY
REMOVAL OF CURB & GUTTER	1,524	LF
REMOVAL OF BITUMINOUS PAVEMENT	1,520	SY
GEOSYNTHETIC MATERIAL TYPE R1	1,605	SY
GEOSYNTHETIC MATERIAL TYPE G	1,476	SY
AGGREGATE BASE COURSE - CL 5	246	CY
CURB & GUTTER	1,524	LF
CONCRETE SIDEWALK	170	SY
CONCRETE DRIVEWAY 6 IN.	85	SY
DETECTABLE WARNING PANEL	20	SF
MILLING PAVEMENT SURFACE	1,912	SY
ADJUST MANHOLE	7	EA
ADJUST GATE VALVE BOX	2	EA
ADJUST INLET	5	EA
ASPHALT PAVEMENT	355	TON
ASPHALT REPAIR	328	TON

30 0 30 60
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
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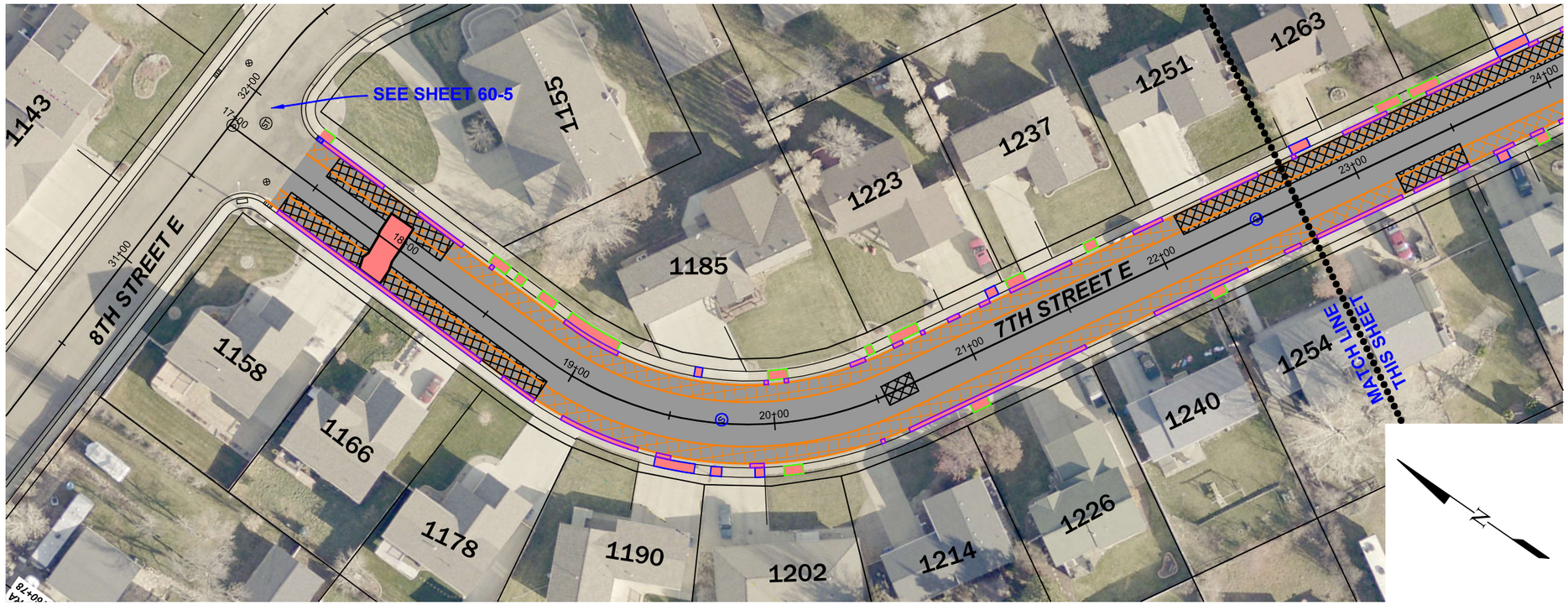
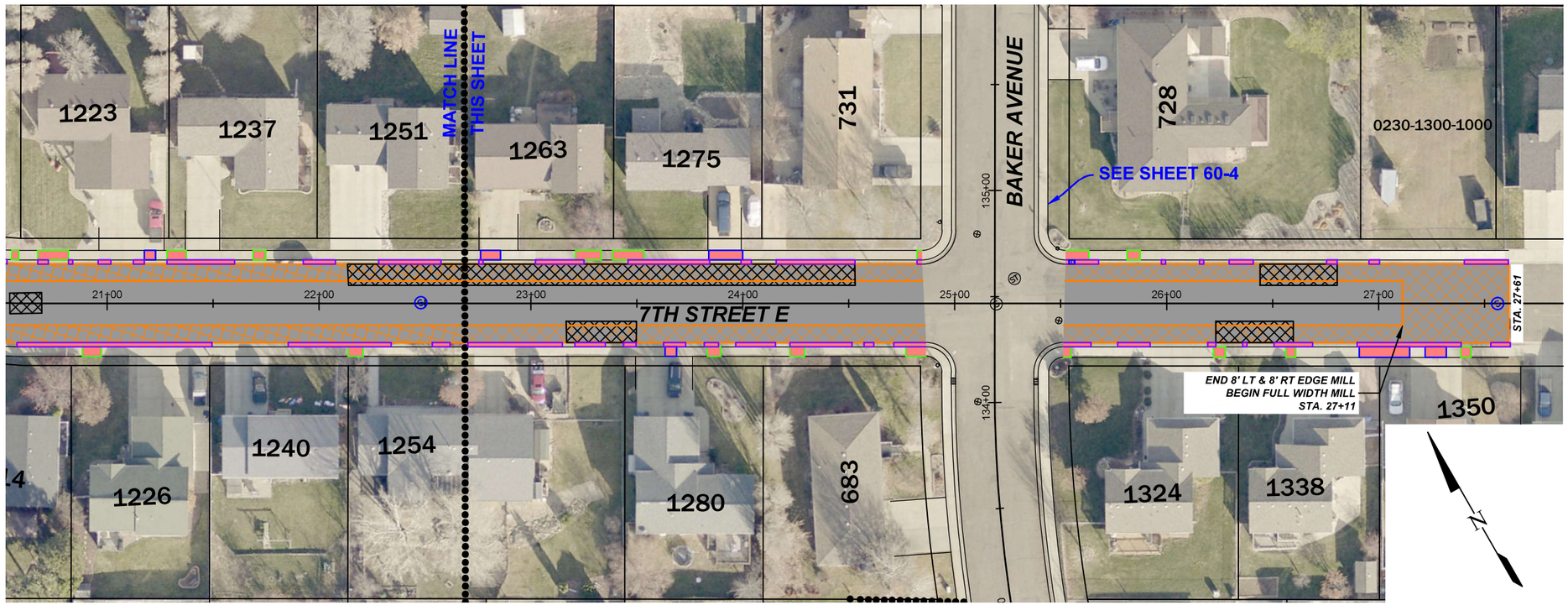
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

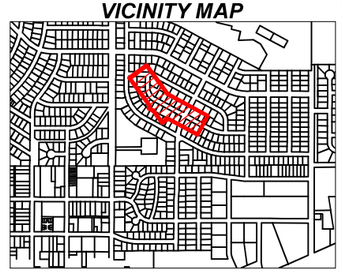
SID NO. 202501-1 - 8TH STREET E

SHEET 60-5





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	154	SY
REMOVAL OF CURB & GUTTER	876	LF
REMOVAL OF BITUMINOUS SURFACING	651	SY
GEOSYNTHETIC MATERIAL TYPE R1	760	SY
GEOSYNTHETIC MATERIAL TYPE G	693	SY
AGGREGATE BASE COURSE - CL 5	116	CY
CURB & GUTTER	876	LF
CONCRETE SIDEWALK	75	SY
CONCRETE DRIVEWAY 6 IN.	37	SY
MILLING PAVEMENT SURFACE	1,805	SY
ADJUST MANHOLE	3	EA
ADJUST INLET	2	EA
ASPHALT PAVEMENT	328	TON
ASPHALT REPAIR	154	TON

30 0 30 60
SCALE FEET

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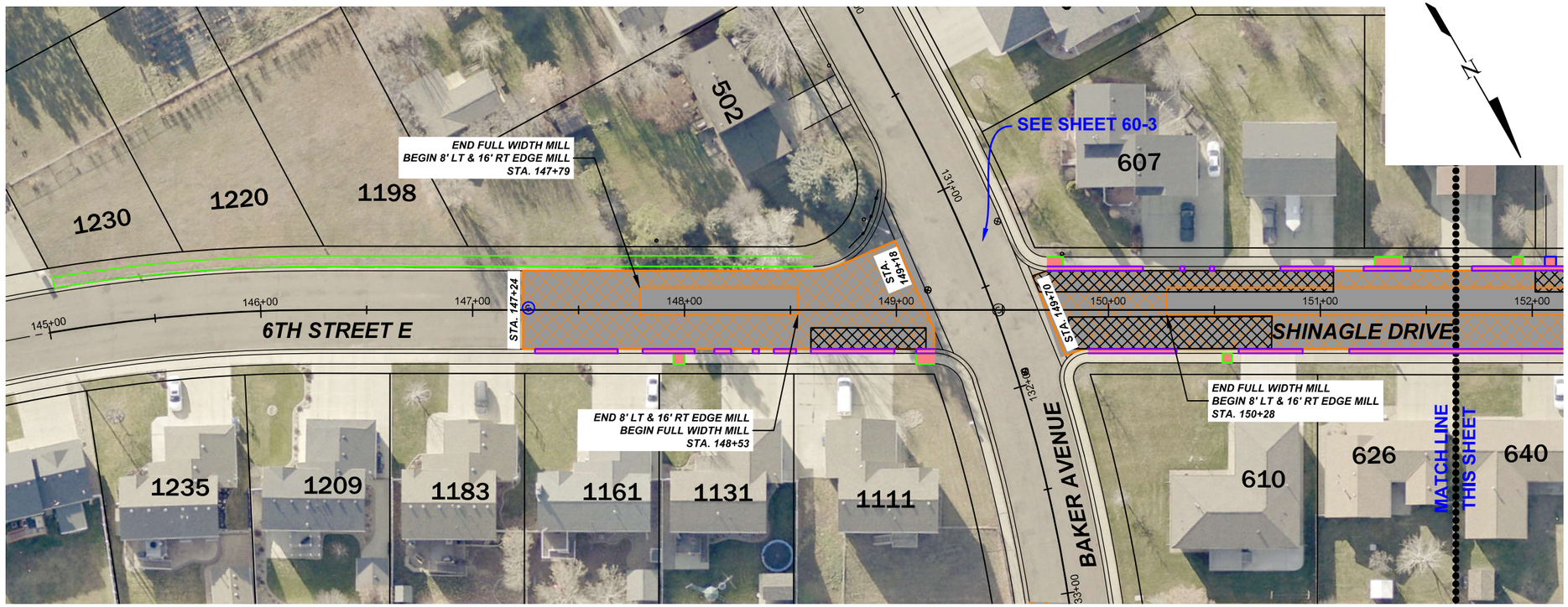
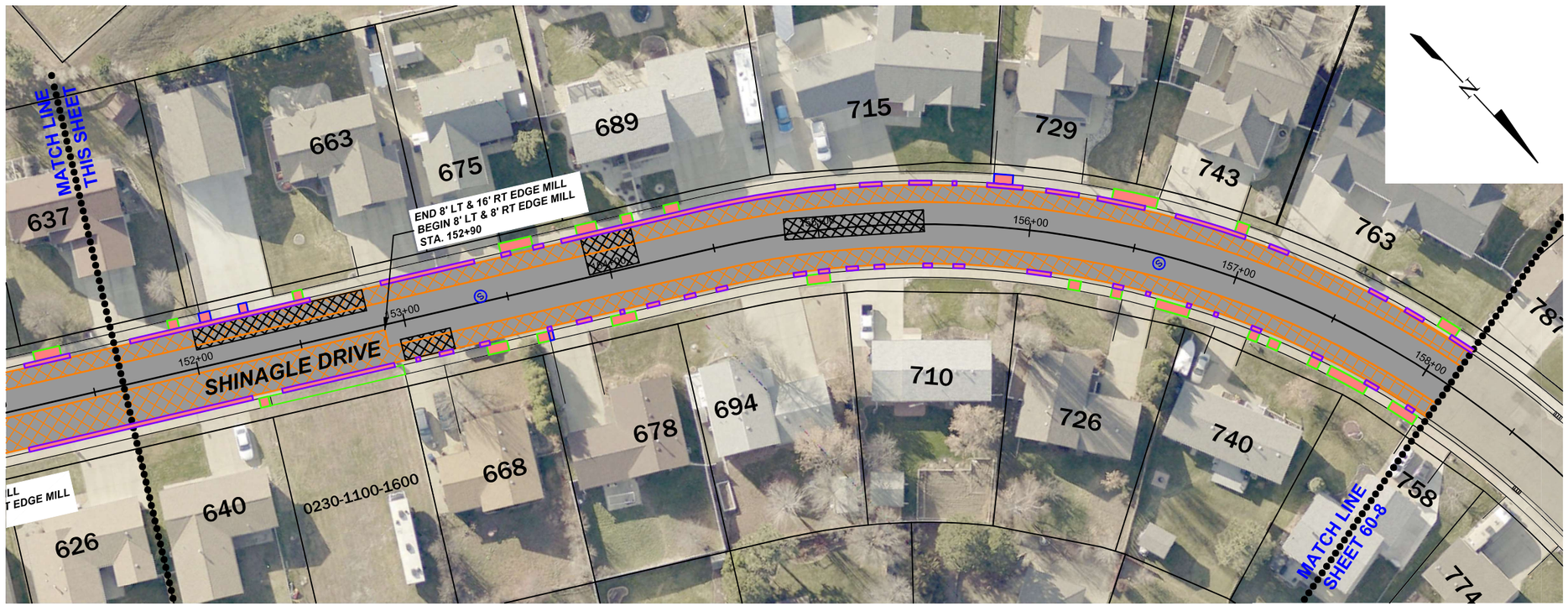
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

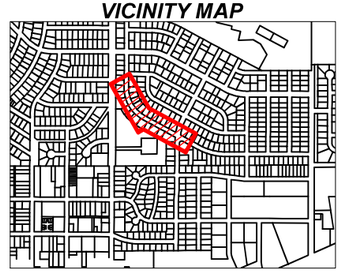
SID NO. 202501-1 - 7TH STREET E

SHEET 60-6





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	93	SY
REMOVAL OF CURB & GUTTER	907	LF
REMOVAL OF BITUMINOUS SURFACING	616	SY
GEOSYNTHETIC MATERIAL TYPE R1	682	SY
GEOSYNTHETIC MATERIAL TYPE G	618	SY
AGGREGATE BASE COURSE - CL 5	103	CY
CURB & GUTTER	907	LF
CONCRETE SIDEWALK	318	SY
CONCRETE DRIVEWAY 6 IN.	7	SY
MILLING PAVEMENT SURFACE	2,565	SY
ADJUST MANHOLE	3	EA
ASPHALT PAVEMENT	358	TON
ASPHALT REPAIR	137	TON

30 0 30 60
SCALE FEET

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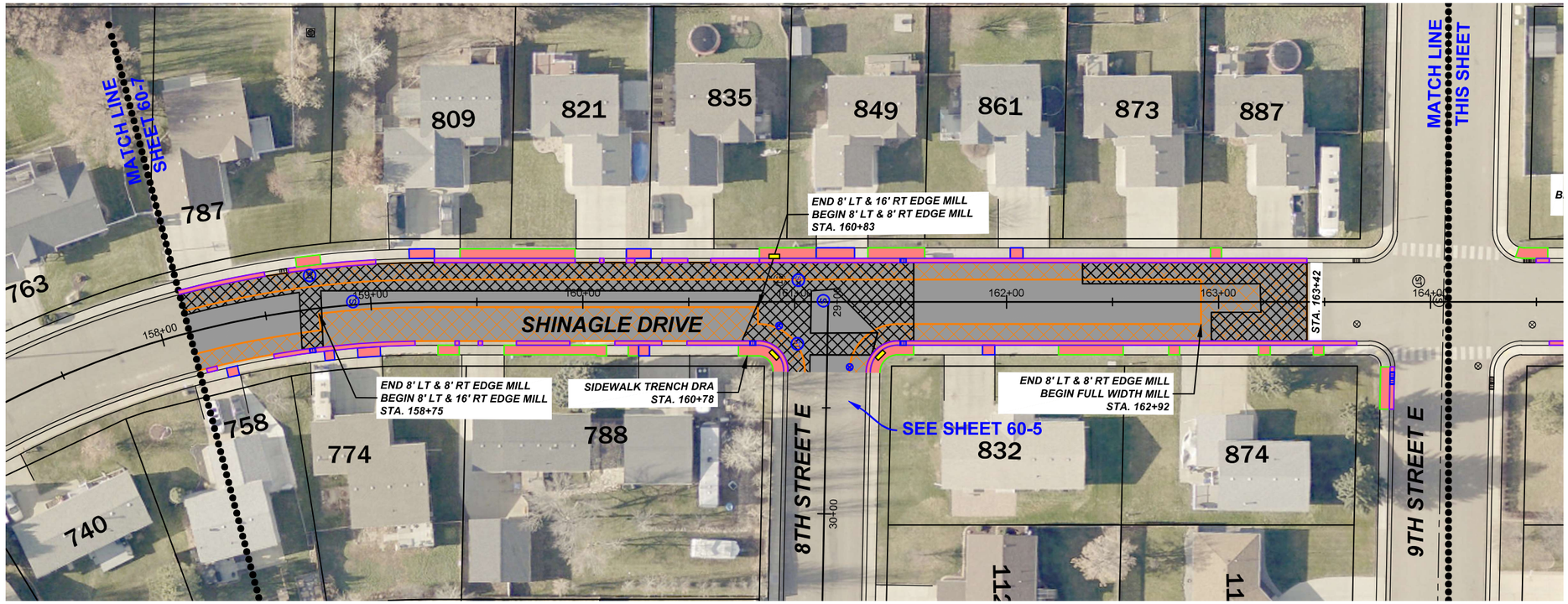
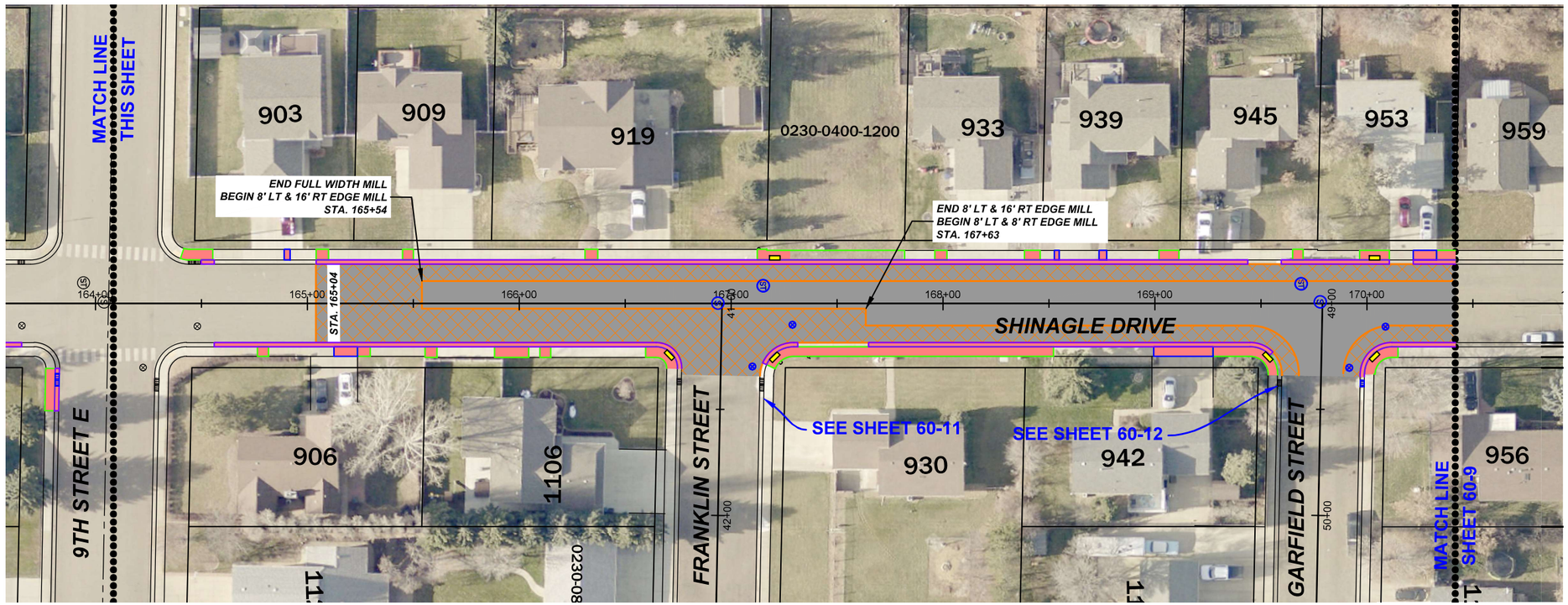
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

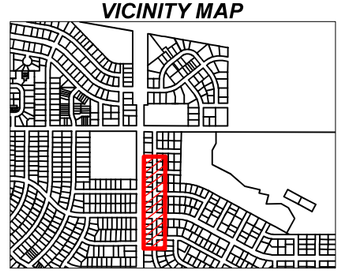
SID NO. 202501-1 - SHINAGLE DRIVE (1)

SHEET 60-7





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	303	SY
REMOVAL OF CURB & GUTTER	1,702	LF
REMOVAL OF BITUMINOUS SURFACING	927	SY
GEOSYNTHETIC MATERIAL TYPE R1	1,021	SY
GEOSYNTHETIC MATERIAL TYPE G	927	SY
AGGREGATE BASE COURSE - CL 5	154	CY
CURB & GUTTER	1,702	LF
CONCRETE SIDEWALK	285	SY
CONCRETE DRIVEWAY 6 IN.	50	SY
DETECTABLE WARNING PANEL	90	SF
SIDEWALK - TRENCH DRAIN	1	EA
MILLING PAVEMENT SURFACE	2,559	SY
ADJUST MANHOLE	9	EA
ADJUST GATE VALVE BOX	6	EA
ADJUST INLET	6	EA
ASPHALT PAVEMENT	383	TON
ASPHALT REPAIR	206	TON

N

30 0 30 60
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

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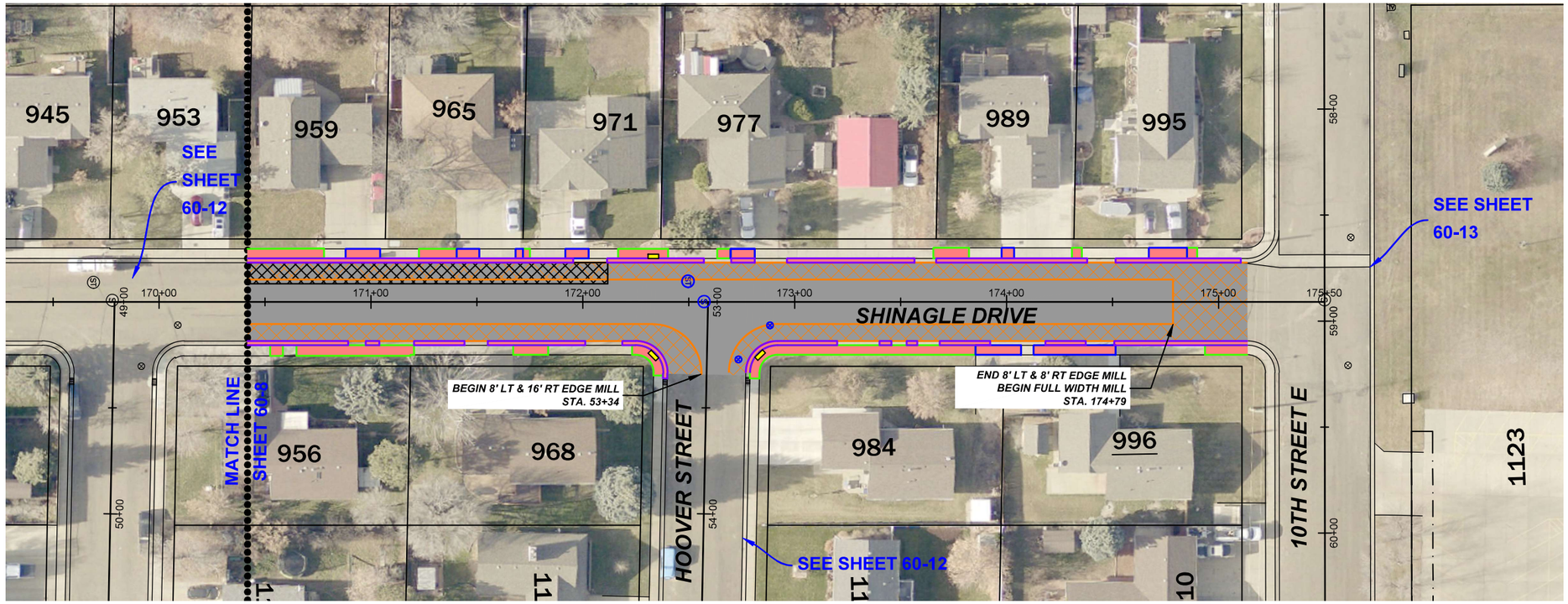
2025 ROAD MAINTENANCE

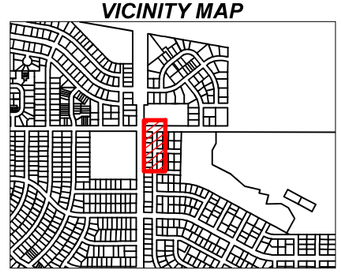
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - SHINAGLE DRIVE (2)

SHEET 60-8



VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	185	SY
REMOVAL OF CURB & GUTTER	650	LF
REMOVAL OF BITUMINOUS SURFACING	189	SY
GEOSYNTHETIC MATERIAL TYPE R1	209	SY
GEOSYNTHETIC MATERIAL TYPE G	189	SY
AGGREGATE BASE COURSE - CL 5	31	CY
CURB & GUTTER	650	LF
CONCRETE SIDEWALK	133	SY
CONCRETE DRIVEWAY 6 IN.	53	SY
DETECTABLE WARNING PANEL	30	SF
MILLING PAVEMENT SURFACE	935	SY
ADJUST MANHOLE	2	EA
ADJUST GATE VALVE BOX	2	EA
ASPHALT PAVEMENT	168	TON
ASPHALT REPAIR	42	TON

N

30 0 30 60
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
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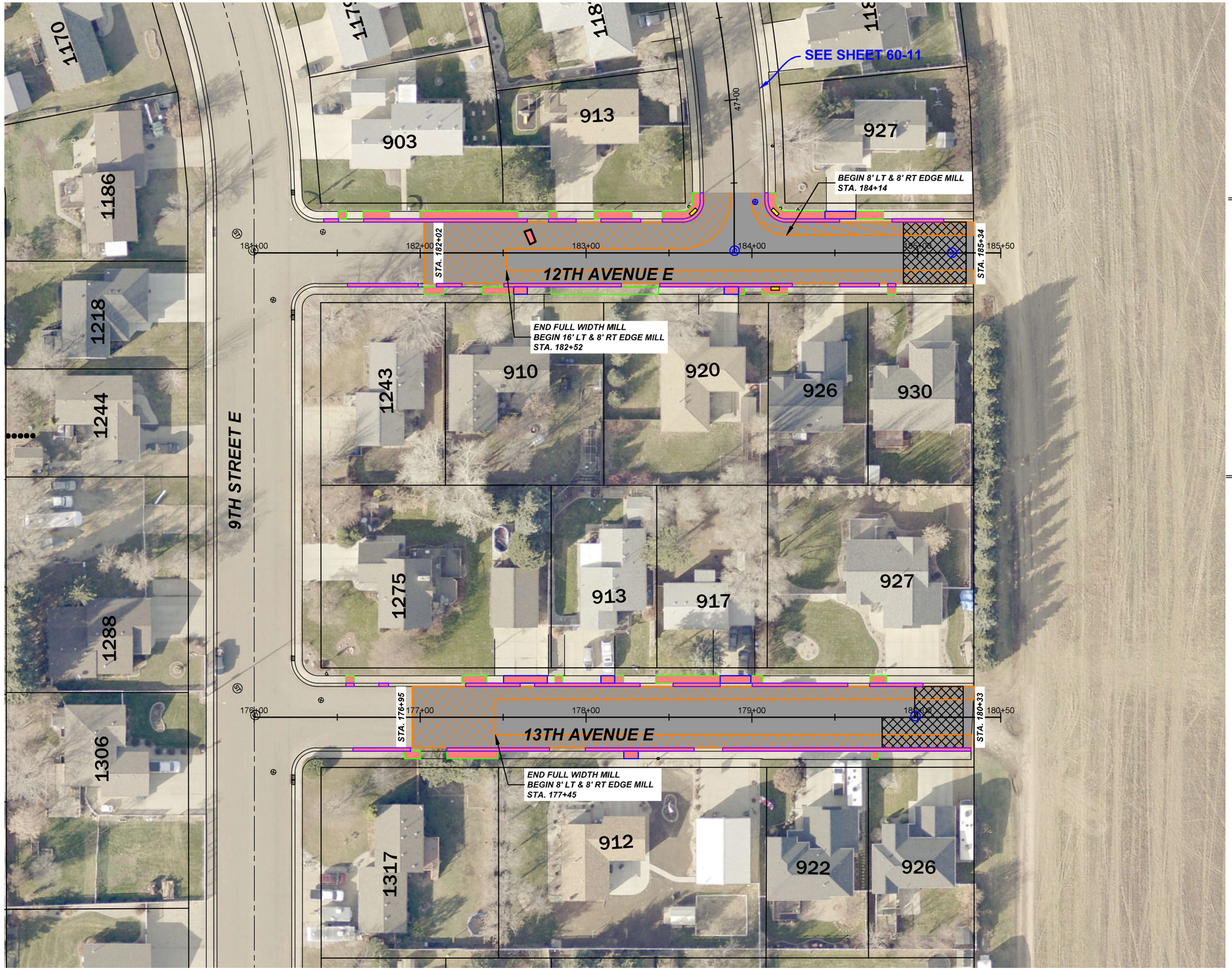
2025 ROAD MAINTENANCE

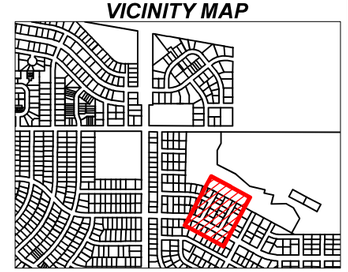
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - SHINAGLE DRIVE (3)

SHEET 60-9



VICINITY MAP

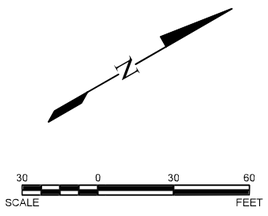


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	179	SY
REMOVAL OF CURB & GUTTER	941	LF
REMOVAL OF BITUMINOUS SURFACING	316	SY
GEOSYNTHETIC MATERIAL TYPE R1	334	SY
GEOSYNTHETIC MATERIAL TYPE G	316	SY
AGGREGATE BASE COURSE - CL 5	53	CY
CURB & GUTTER	941	LF
CONCRETE SIDEWALK	174	SY
CONCRETE DRIVEWAY 6 IN.	34	SY
DETECTABLE WARNING PANEL	30	SF
MILLING PAVEMENT SURFACE	1,551	SY
ADJUST MANHOLE	3	EA
ADJUST GATE VALVE BOX	1	EA
ASPHALT PAVEMENT	236	TON
ASPHALT REPAIR	71	TON



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

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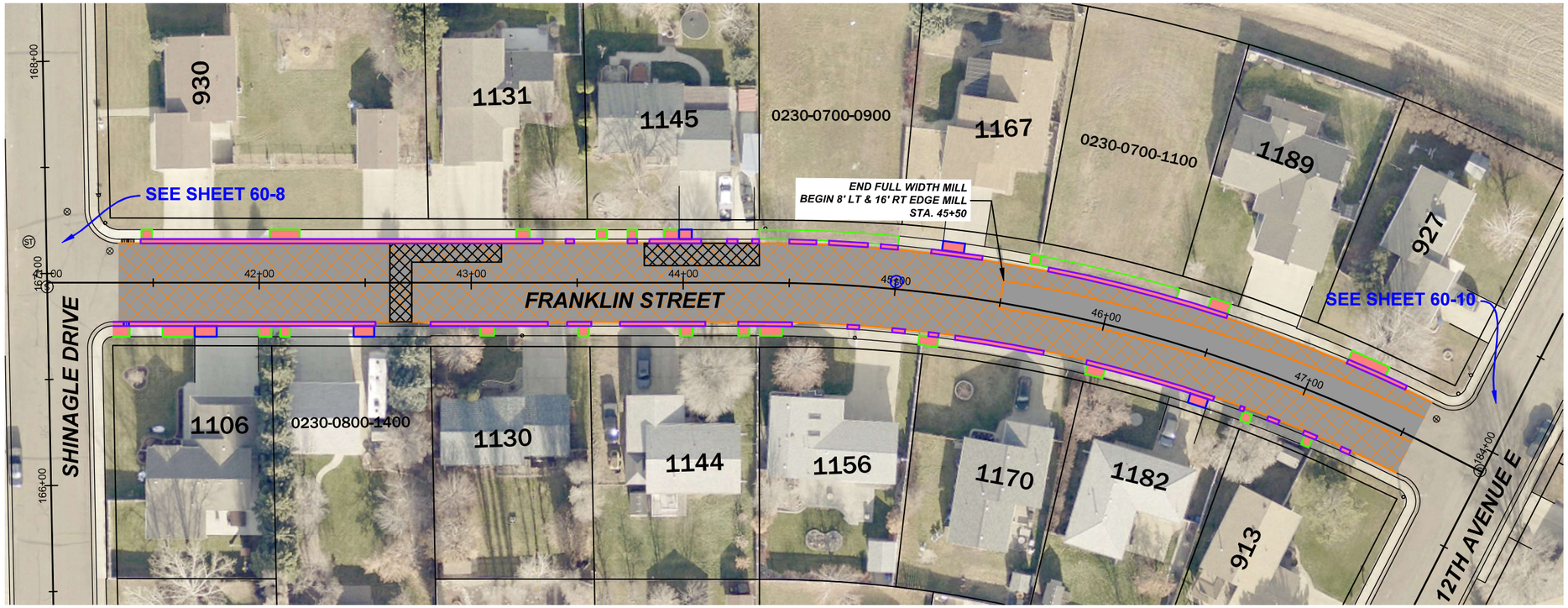
2025 ROAD MAINTENANCE

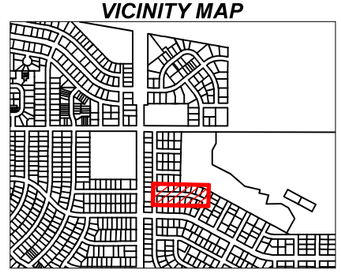
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - 12TH AVENUE E & 13TH AVENUE E

SHEET 60-10



VICINITY MAP

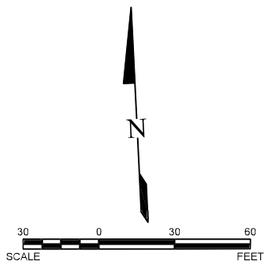


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	77	SY
REMOVAL OF CURB & GUTTER	727	LF
REMOVAL OF BITUMINOUS SURFACING	148	SY
GEOSYNTHETIC MATERIAL TYPE R1	165	SY
GEOSYNTHETIC MATERIAL TYPE G	148	SY
AGGREGATE BASE COURSE - CL 5	25	CY
CURB & GUTTER	727	LF
CONCRETE SIDEWALK	126	SY
CONCRETE DRIVEWAY 6 IN.	17	SY
MILLING PAVEMENT SURFACE	2,258	SY
ADJUST MANHOLE	1	EA
ADJUST INLET	1	EA
ASPHALT PAVEMENT	213	TON
ASPHALT REPAIR	33	TON



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

NO.	DATE	REVISION

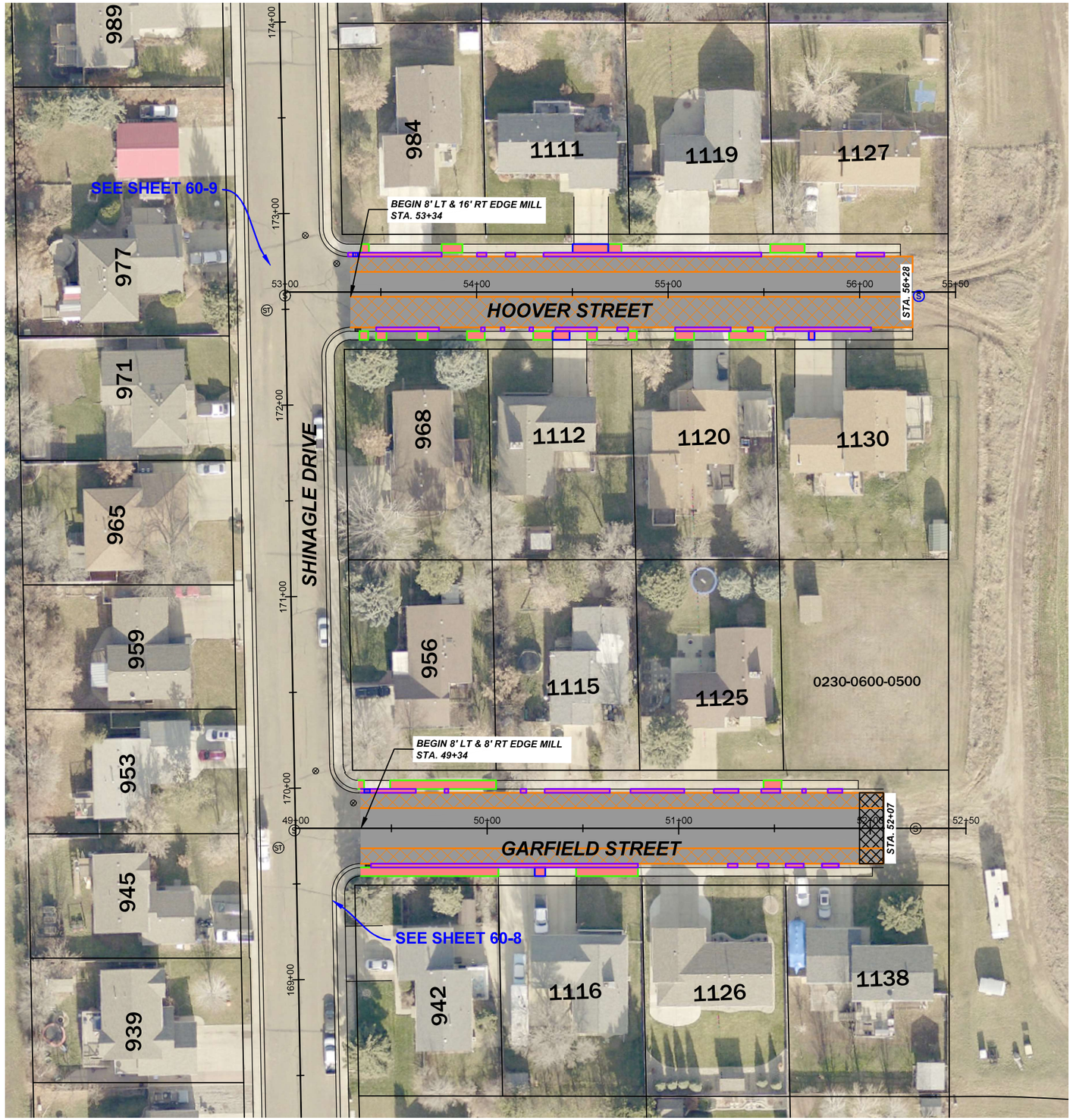
DRAFTED MJS
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE

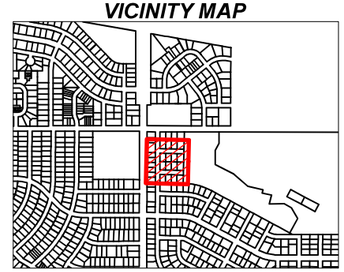
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - FRANKLIN STREET

SHEET 60-11



VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	109	SY
REMOVAL OF CURB & GUTTER	571	LF
REMOVAL OF BITUMINOUS SURFACING	51	SY
GEOSYNTHETIC MATERIAL TYPE R1	57	SY
GEOSYNTHETIC MATERIAL TYPE G	51	SY
AGGREGATE BASE COURSE - CL 5	9	CY
CURB & GUTTER	571	LF
CONCRETE SIDEWALK	100	SY
CONCRETE DRIVEWAY 6 IN.	13	SY
MILLING PAVEMENT SURFACE	1,268	SY
ADJUST MANHOLE	1	EA
ADJUST INLET	1	EA
ASPHALT PAVEMENT	194	TON
ASPHALT REPAIR	11	TON

N

30 0 30 60
SCALE FEET

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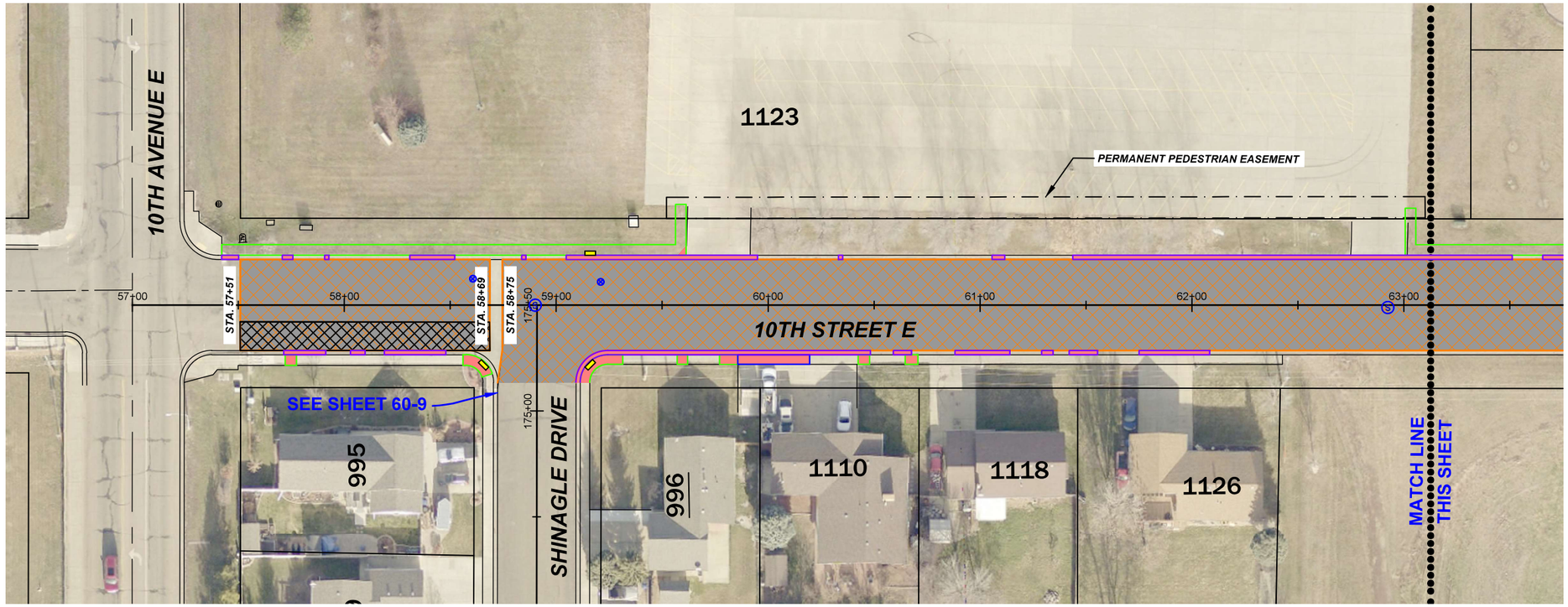
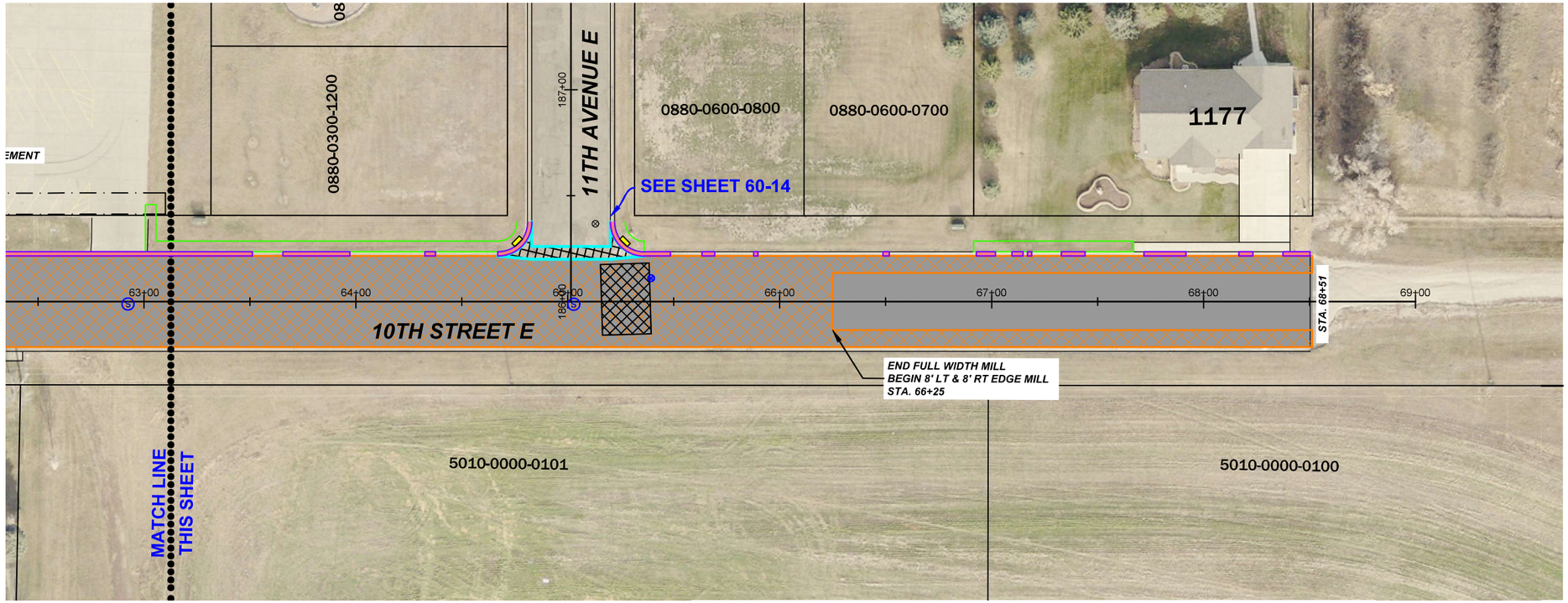
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

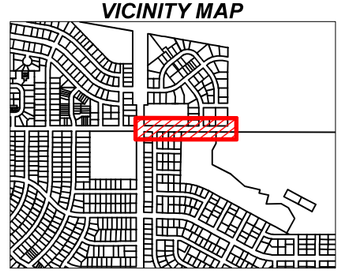
SID NO. 202501-1 - GARFIELD STREET & HOOVER STREET

SHEET 60-12





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	42	SY
REMOVAL OF CURB & GUTTER	725	LF
REMOVAL OF BITUMINOUS SURFACING	301	SY
GEOSYNTHETIC MATERIAL TYPE R1	282	SY
GEOSYNTHETIC MATERIAL TYPE G	262	SY
AGGREGATE BASE COURSE - CL 5	44	CY
CURB & GUTTER	725	LF
CONCRETE SIDEWALK	326	SY
CONCRETE DRIVEWAY 6 IN.	12	SY
CONCRETE VALLEY GUTTER	40	SY
DETECTABLE WARNING PANEL	50	SF
MILLING PAVEMENT SURFACE	4,606	SY
ADJUST MANHOLE	3	EA
ADJUST GATE VALVE BOX	3	EA
ASPHALT PAVEMENT	440	TON
ASPHALT REPAIR	58	TON

N

30 0 30 60
SCALE FEET

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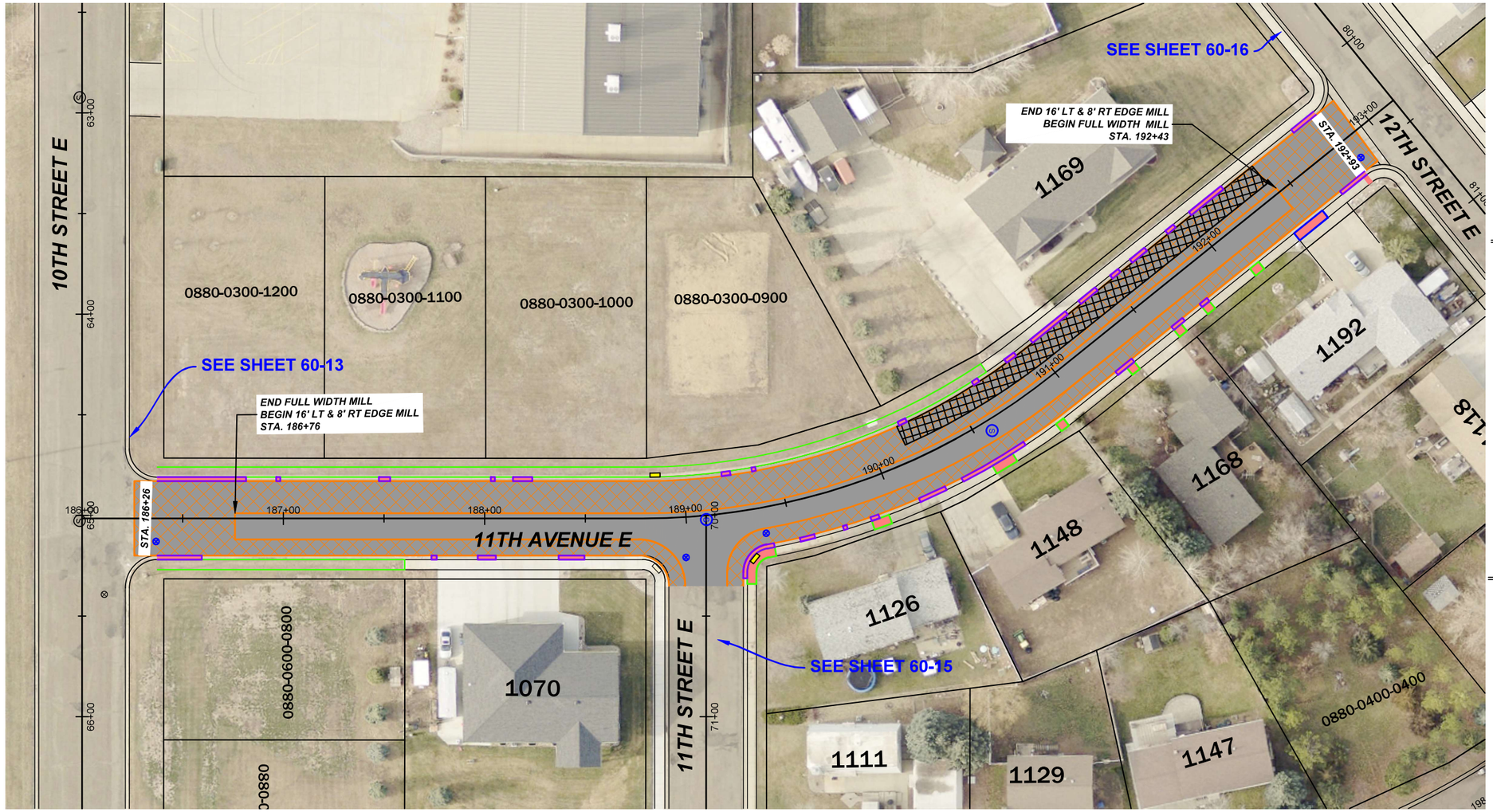
2025 ROAD MAINTENANCE

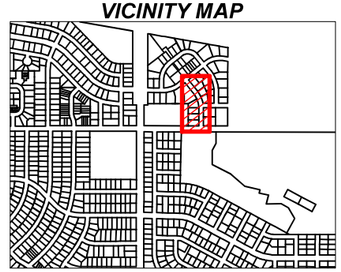
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - 10TH STREET E

SHEET 60-13



VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	34	SY
REMOVAL OF CURB & GUTTER	308	LF
REMOVAL OF BITUMINOUS SURFACING	267	SY
GEOSYNTHETIC MATERIAL TYPE R1	292	SY
GEOSYNTHETIC MATERIAL TYPE G	267	SY
AGGREGATE BASE COURSE - CL 5	44	CY
CURB & GUTTER	308	LF
CONCRETE SIDEWALK	329	SY
CONCRETE DRIVEWAY 6 IN.	6	SY
DETECTABLE WARNING PANEL	20	SF
MILLING PAVEMENT SURFACE	1,912	SY
ADJUST MANHOLE	2	EA
ADJUST GATE VALVE BOX	4	EA
ASPHALT PAVEMENT	234	TON
ASPHALT REPAIR	59	TON

N

30 0 30 60
SCALE FEET

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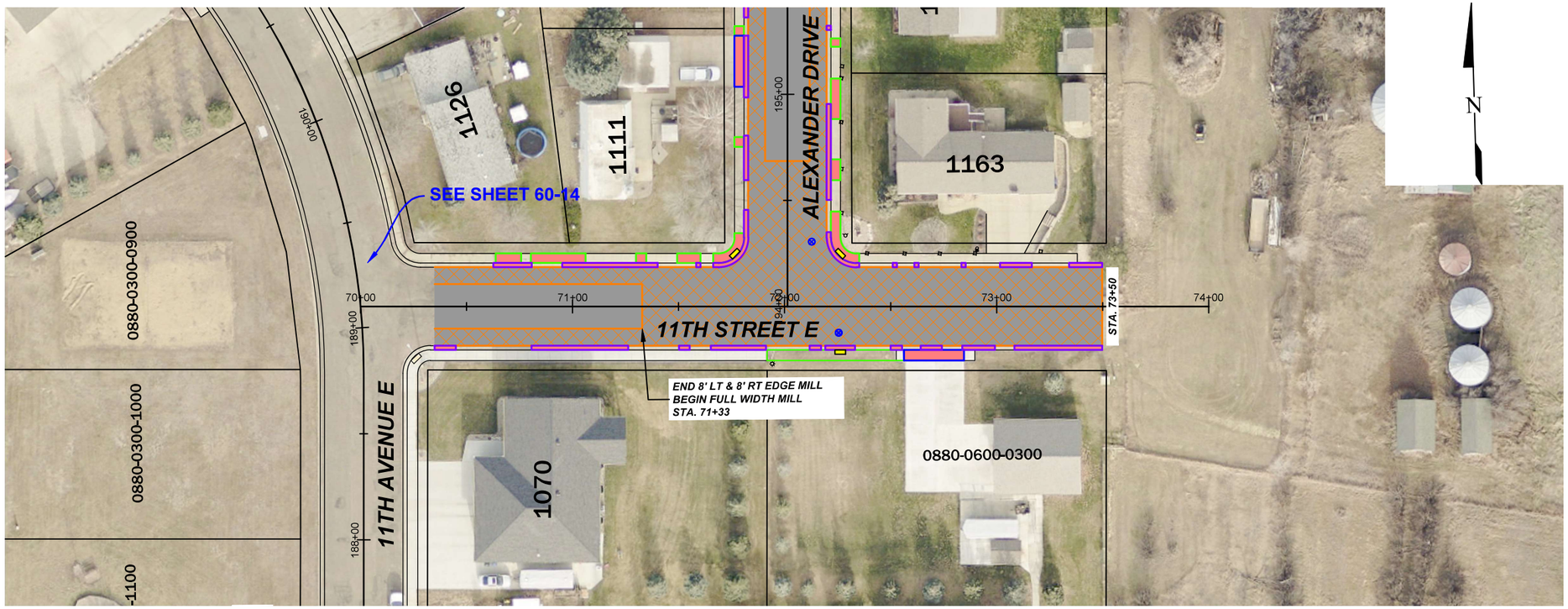
2025 ROAD MAINTENANCE

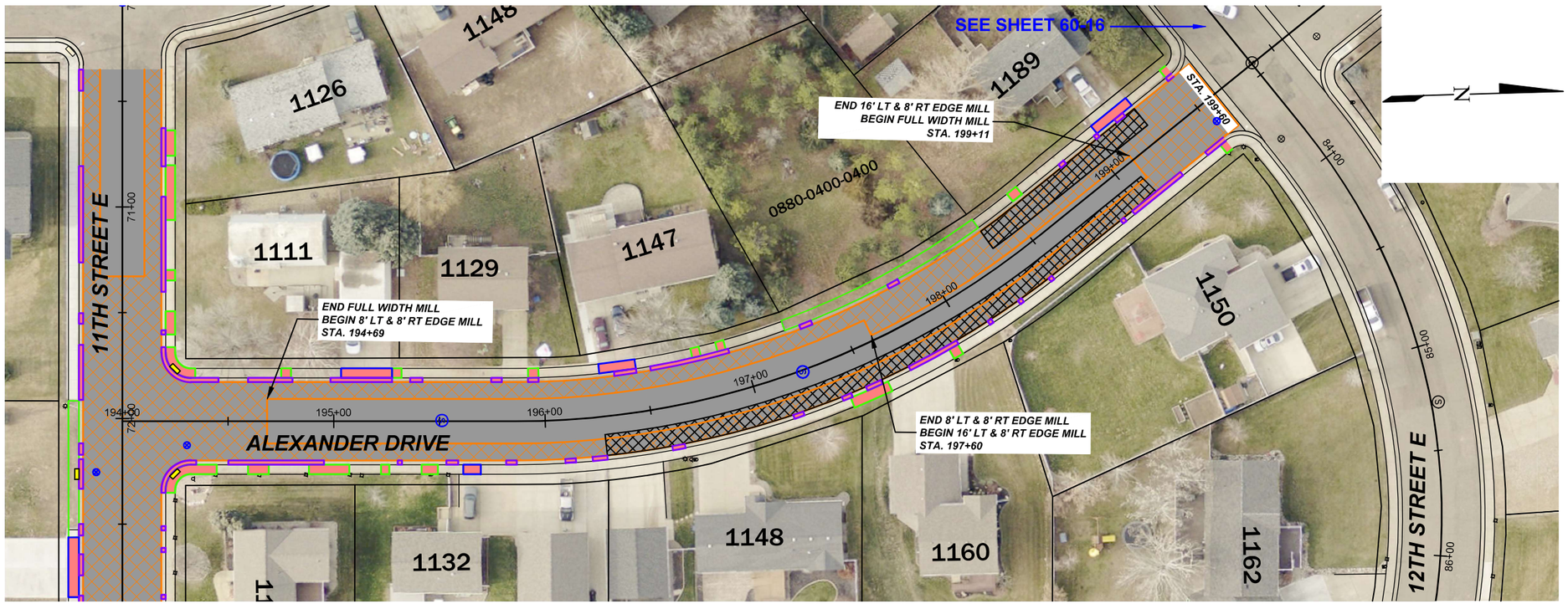
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - 11TH AVENUE E

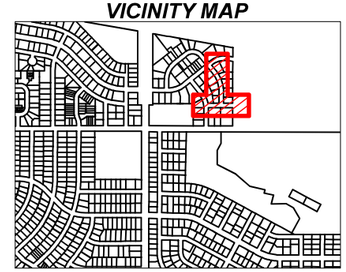
SHEET 60-14

Mar 18, 2025 - 6:59pm - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_60_SID.dwg (11thAveE)





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	112	SY
REMOVAL OF CURB & GUTTER	583	LF
REMOVAL OF BITUMINOUS SURFACING	426	SY
GEOSYNTHETIC MATERIAL TYPE R1	471	SY
GEOSYNTHETIC MATERIAL TYPE G	426	SY
AGGREGATE BASE COURSE - CL 5	71	CY
CURB & GUTTER	583	LF
CONCRETE SIDEWALK	169	SY
CONCRETE DRIVEWAY 6 IN.	36	SY
DETECTABLE WARNING PANEL	30	SF
MILLING PAVEMENT SURFACE	2,402	SY
ADJUST MANHOLE	2	EA
ADJUST GATE VALVE BOX	3	EA
ASPHALT PAVEMENT	294	TON
ASPHALT REPAIR	95	TON

SCALE 30 0 30 60 FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

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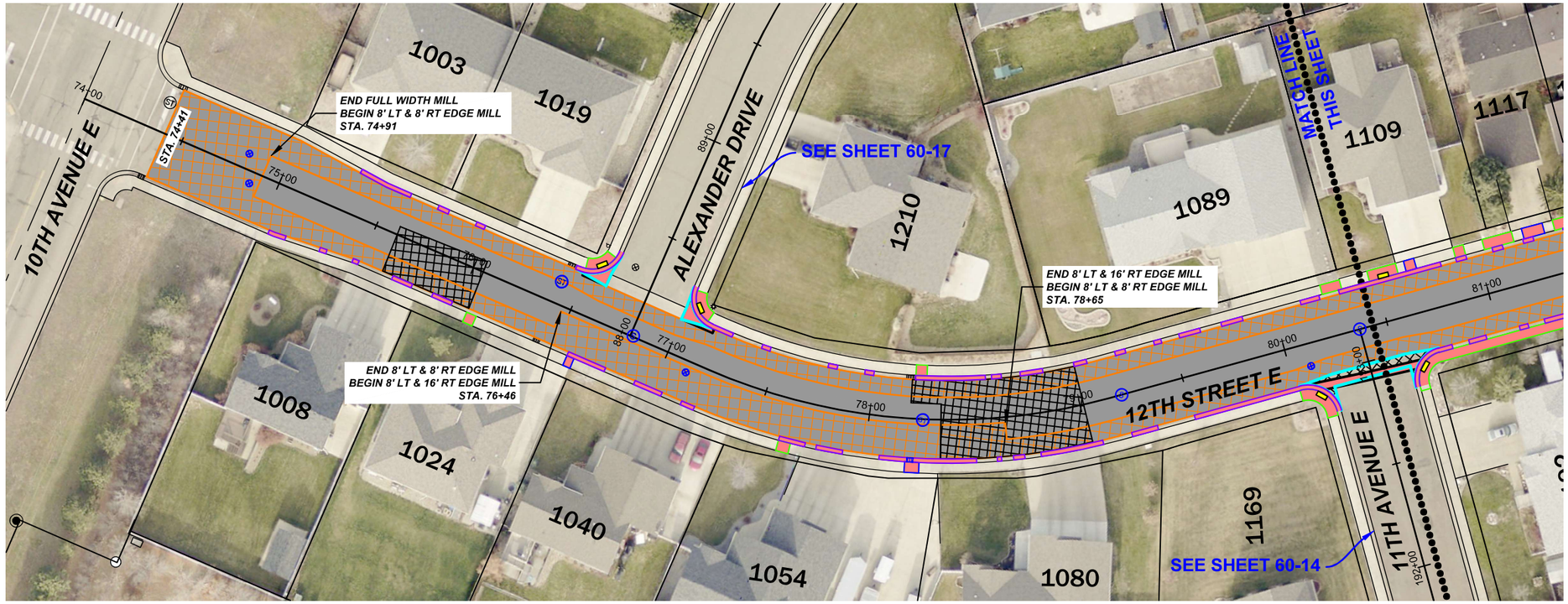
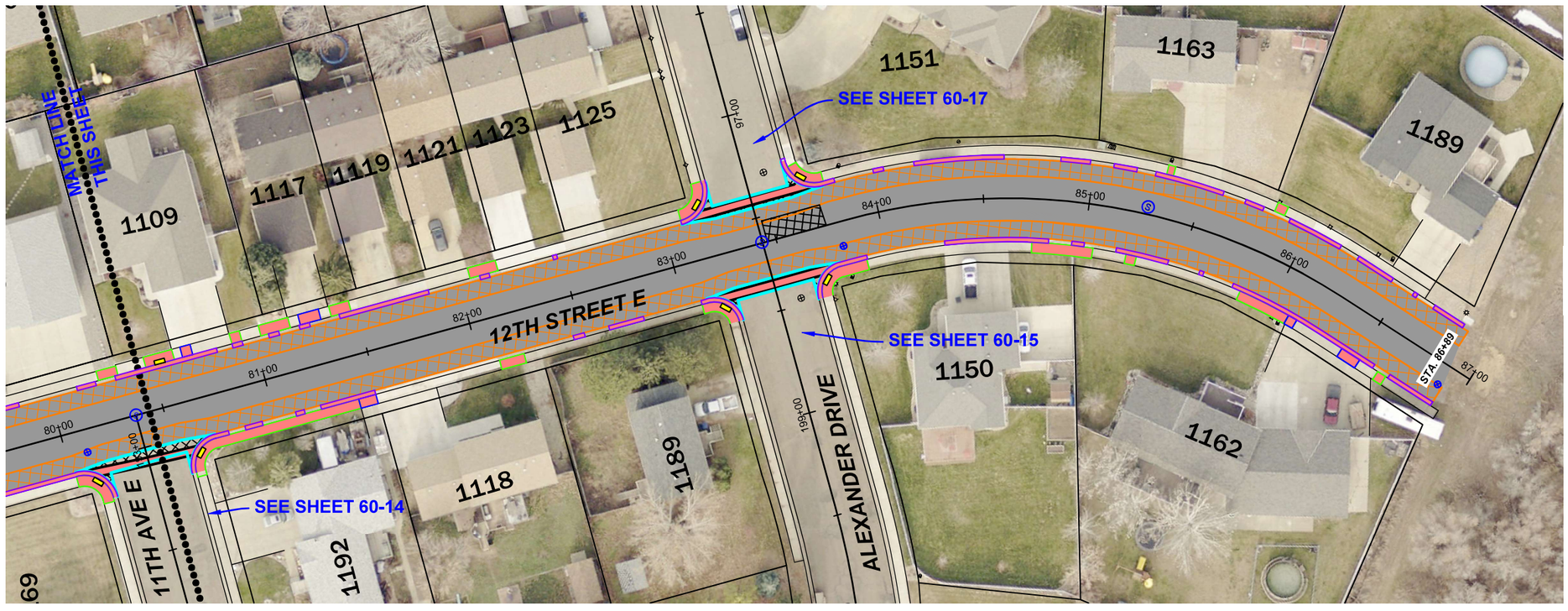
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

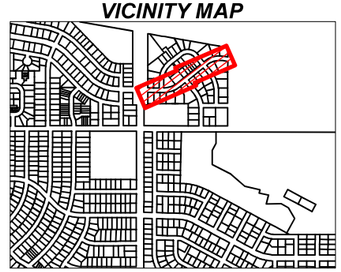
SID NO. 202501-1 - 11TH STREET E & ALEXANDER DRIVE

SHEET 60-15





VICINITY MAP

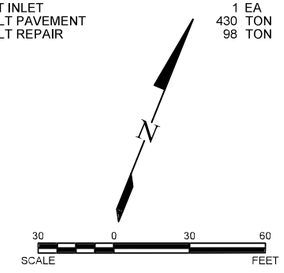


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	273	SY
REMOVAL OF CURB & GUTTER	1,035	LF
REMOVAL OF BITUMINOUS SURFACING	493	SY
GEOSYNTHETIC MATERIAL TYPE R1	466	SY
GEOSYNTHETIC MATERIAL TYPE G	441	SY
AGGREGATE BASE COURSE - CL 5	74	CY
CURB & GUTTER	1,035	LF
CONCRETE SIDEWALK	167	SY
CONCRETE DRIVEWAY 6 IN.	18	SY
CONCRETE VALLYE GUTTER	127	SY
DETECTABLE WARNING PANEL	90	SF
MILLING PAVEMENT SURFACE	2,600	SY
ADJUST MANHOLE	7	EA
ADJUST GATE VALVE BOX	6	EA
ADJUST INLET	1	EA
ASPHALT PAVEMENT	430	TON
ASPHALT REPAIR	98	TON



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

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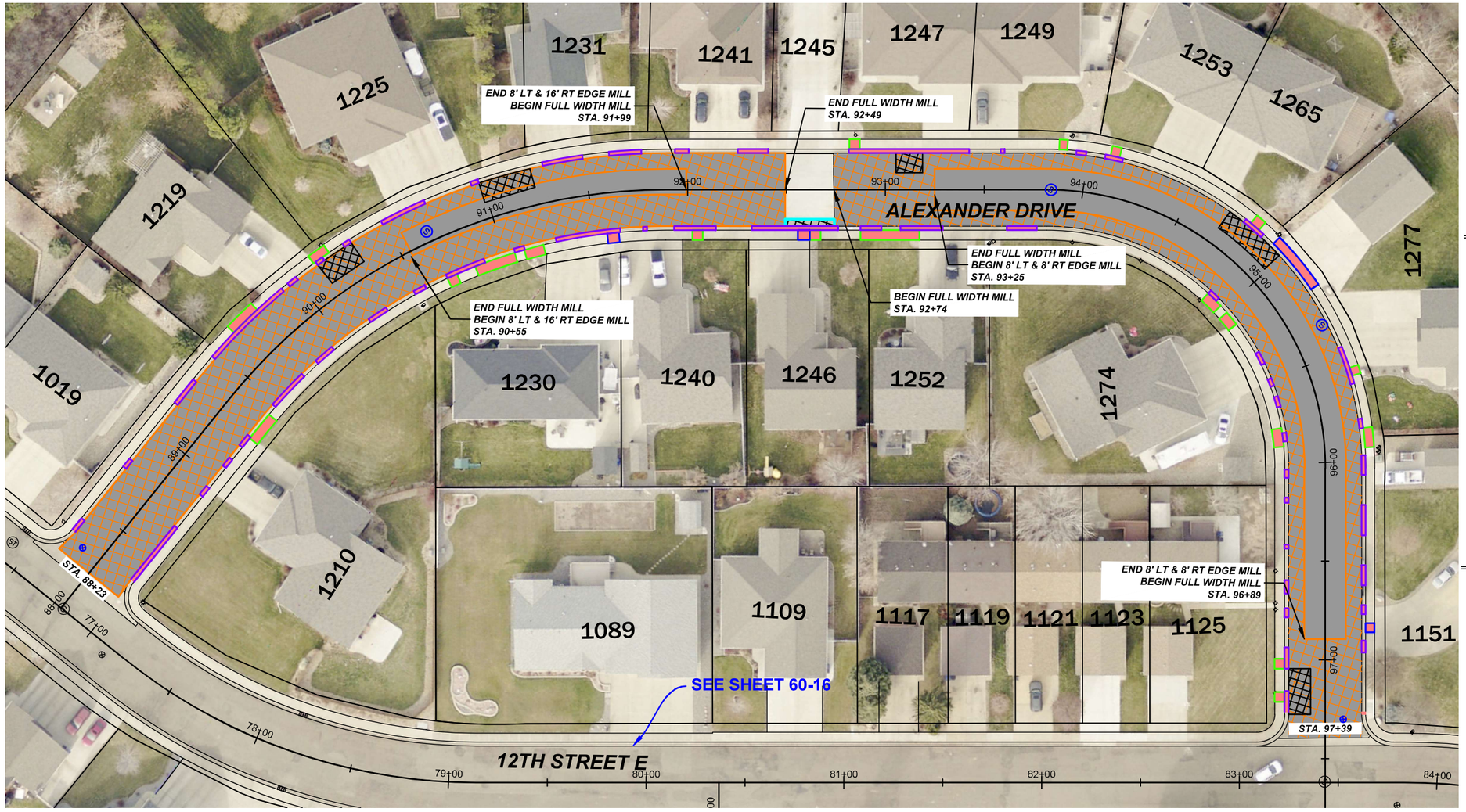
2025 ROAD MAINTENANCE

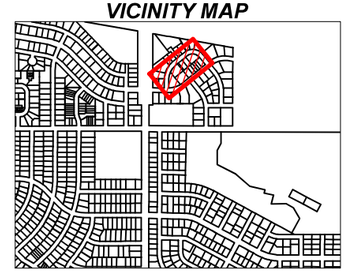
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-1 - 12TH STREET E

SHEET 60-16



VICINITY MAP

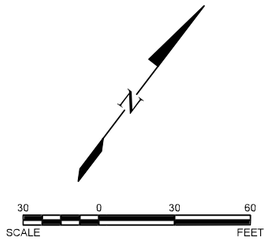


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	88	SY
REMOVAL OF CURB & GUTTER	611	LF
REMOVAL OF BITUMINOUS SURFACING	145	SY
GEOSYNTHETIC MATERIAL TYPE R1	164	SY
GEOSYNTHETIC MATERIAL TYPE G	145	SY
AGGREGATE BASE COURSE - CL 5	24	CY
CURB & GUTTER	611	LF
CONCRETE SIDEWALK	71	SY
CONCRETE DRIVEWAY 6 IN.	17	SY
CONCRETE VALLEY GUTTER	10	SY
MILLING PAVEMENT SURFACE	2,605	SY
ADJUST MANHOLE	3	EA
ADJUST GATE VALVE BOX	2	EA
ASPHALT PAVEMENT	306	TON
ASPHALT REPAIR	32	TON



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
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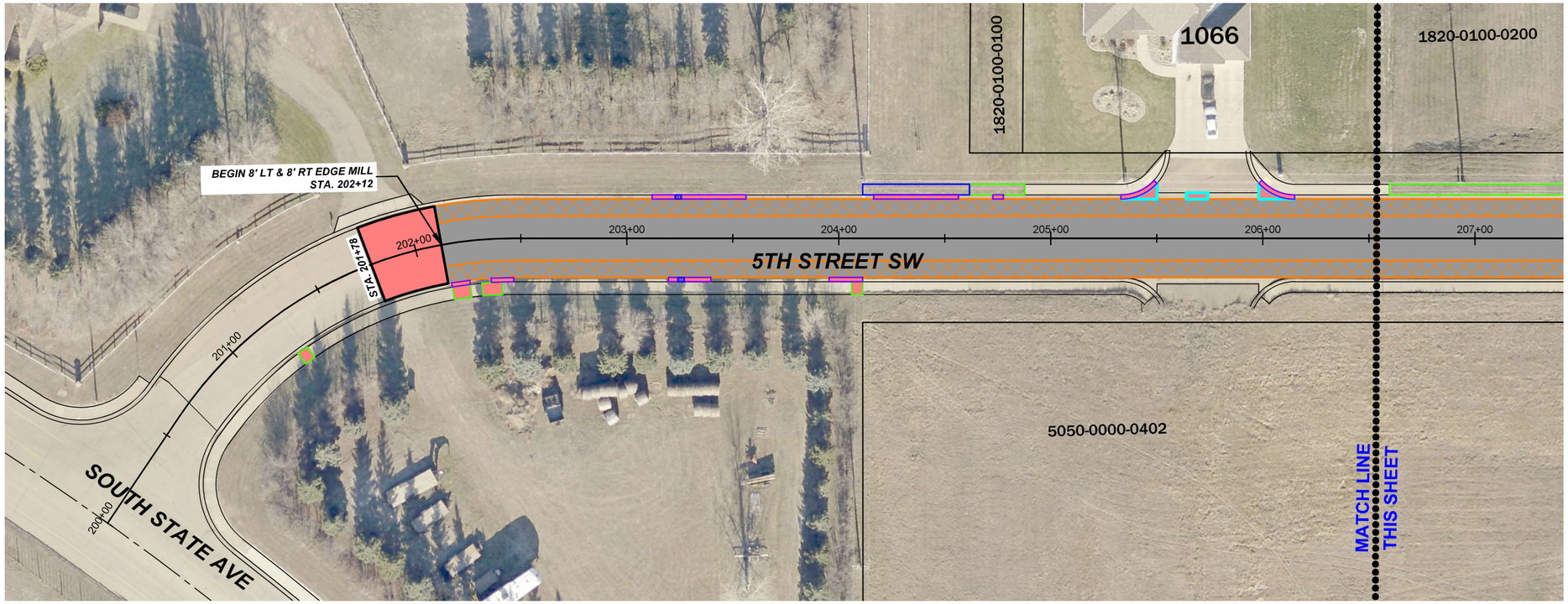
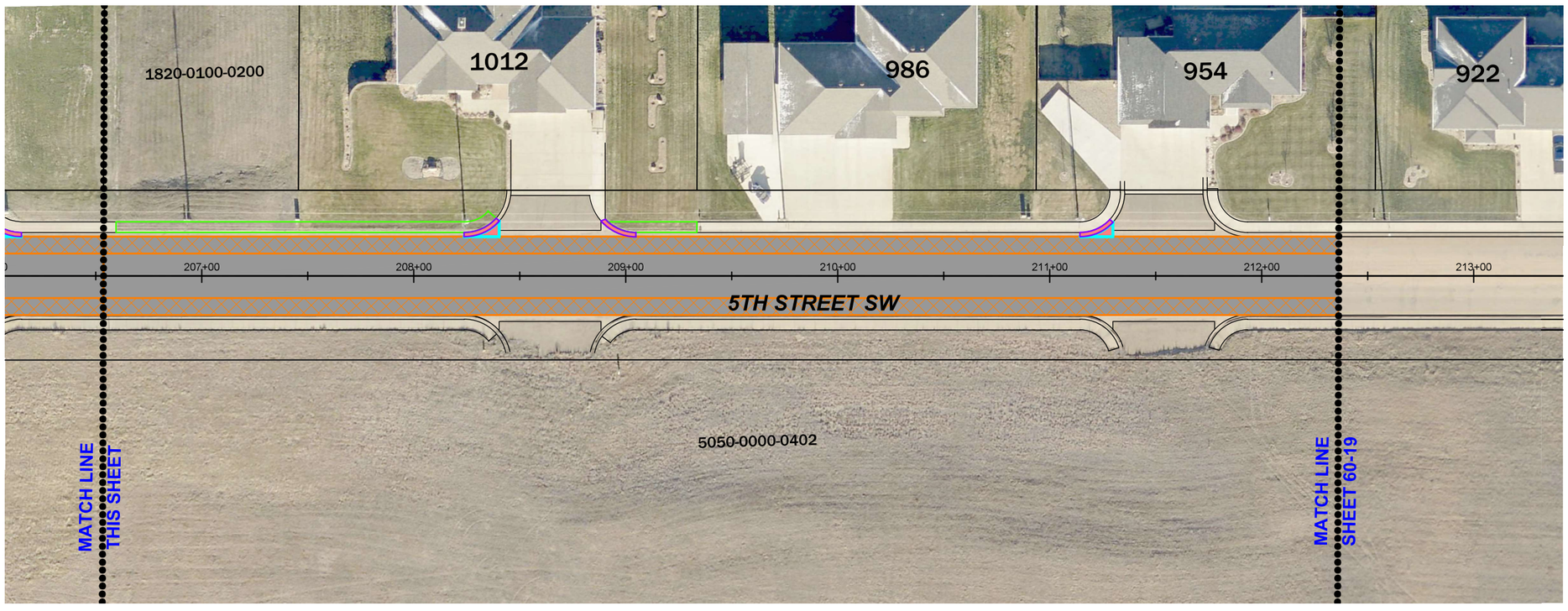
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

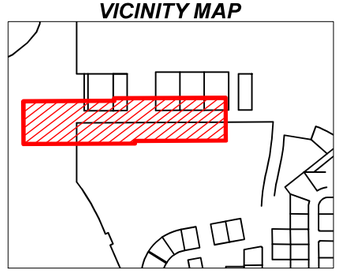
SID NO. 202501-1 - ALEXANDER DRIVE

SHEET 60-17





VICINITY MAP

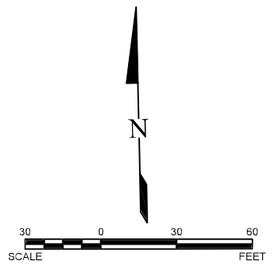


LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	180	SY
REMOVAL OF CURB & GUTTER	210	LF
GEOSYNTHETIC MATERIAL TYPE R1	149	SY
GEOSYNTHETIC MATERIAL TYPE G	141	SY
AGGREGATE BASE COURSE - CL 5	24	CY
CURB & GUTTER	210	LF
CONCRETE SIDEWALK	154	SY
CONCRETE DRIVEWAY 6IN	20	SY
CONCRETE VALLEY GUTTER	20	SY
MILLING PAVEMENT SURFACE	1,821	SY
ADJUST INLET	2	EA
ASPHALT PAVEMENT	363	TON
ASPHALT REPAIR	31	TON



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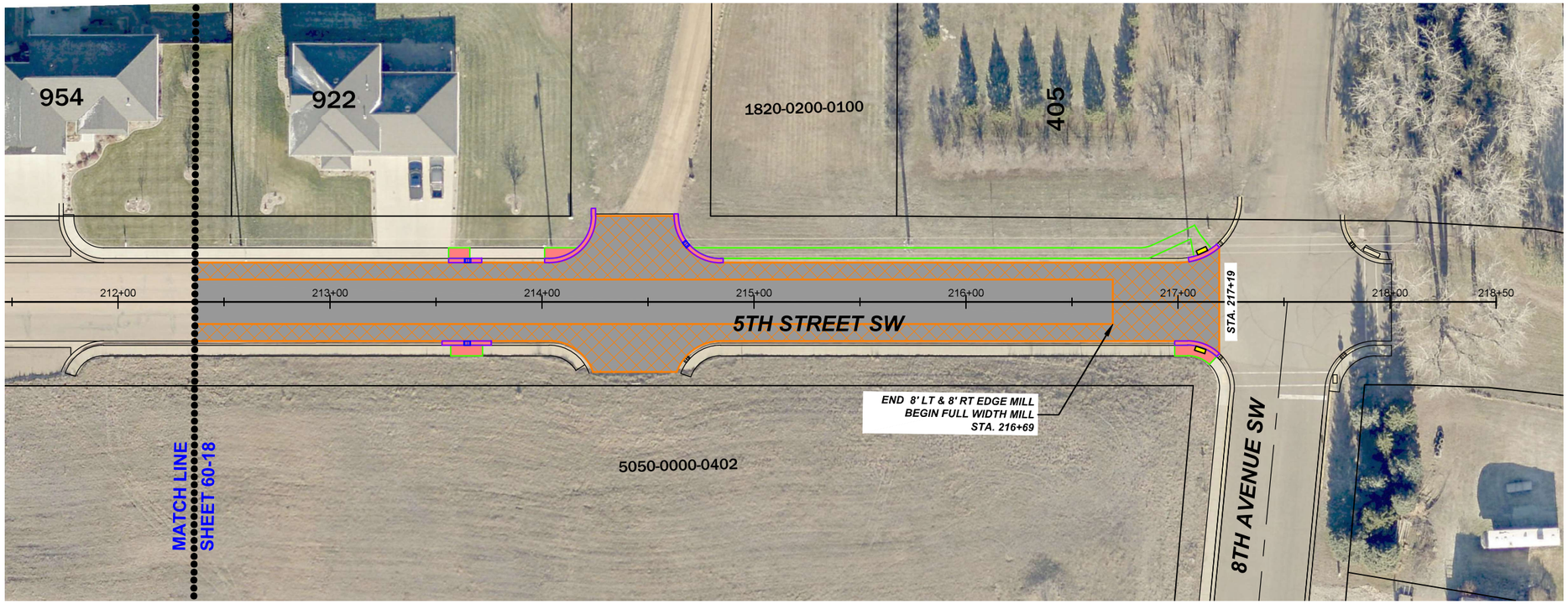
2025 ROAD MAINTENANCE

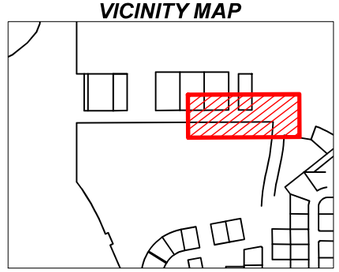
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

SID NO. 202501-2 - 5TH STREET SW (1)

SHEET 60-18



VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- REMOVAL OF BITUMINOUS SURFACING
- MILLING AREA
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- PAVING AREA
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE
- ADJUST INLET

QUANTITIES THIS SHEET

REMOVAL OF CONCRETE	29	SY
REMOVAL OF CURB & GUTTER	135	LF
CURB & GUTTER	135	LF
CONCRETE SIDEWALK	169	SY
MILLING PAVEMENT SURFACE	1,180	SY
DETECTABLE WARNING PANEL	20	SF
ADJUST INLET	3	EA
ASPHALT PAVEMENT	183	TON

N

30 0 30 60
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
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DATE 03/18/25
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NO. DATE

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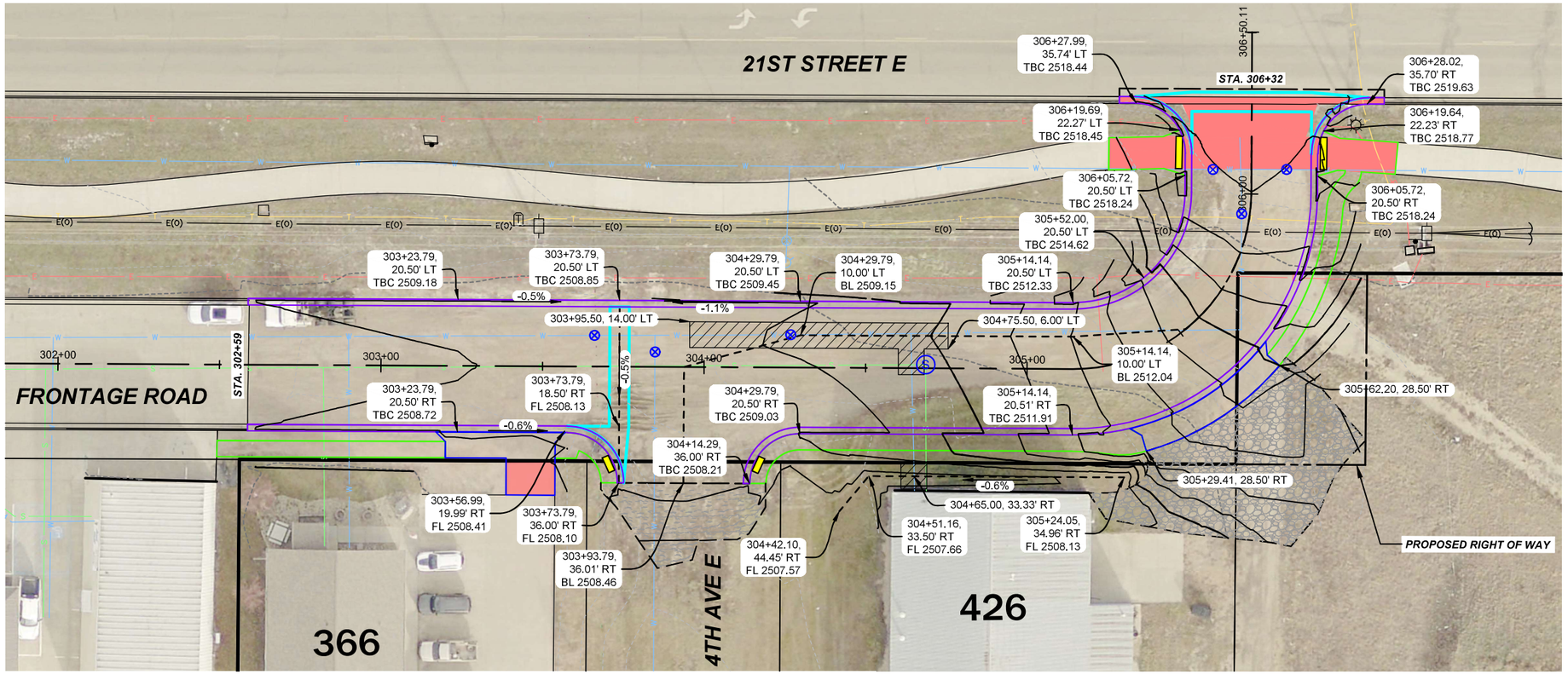
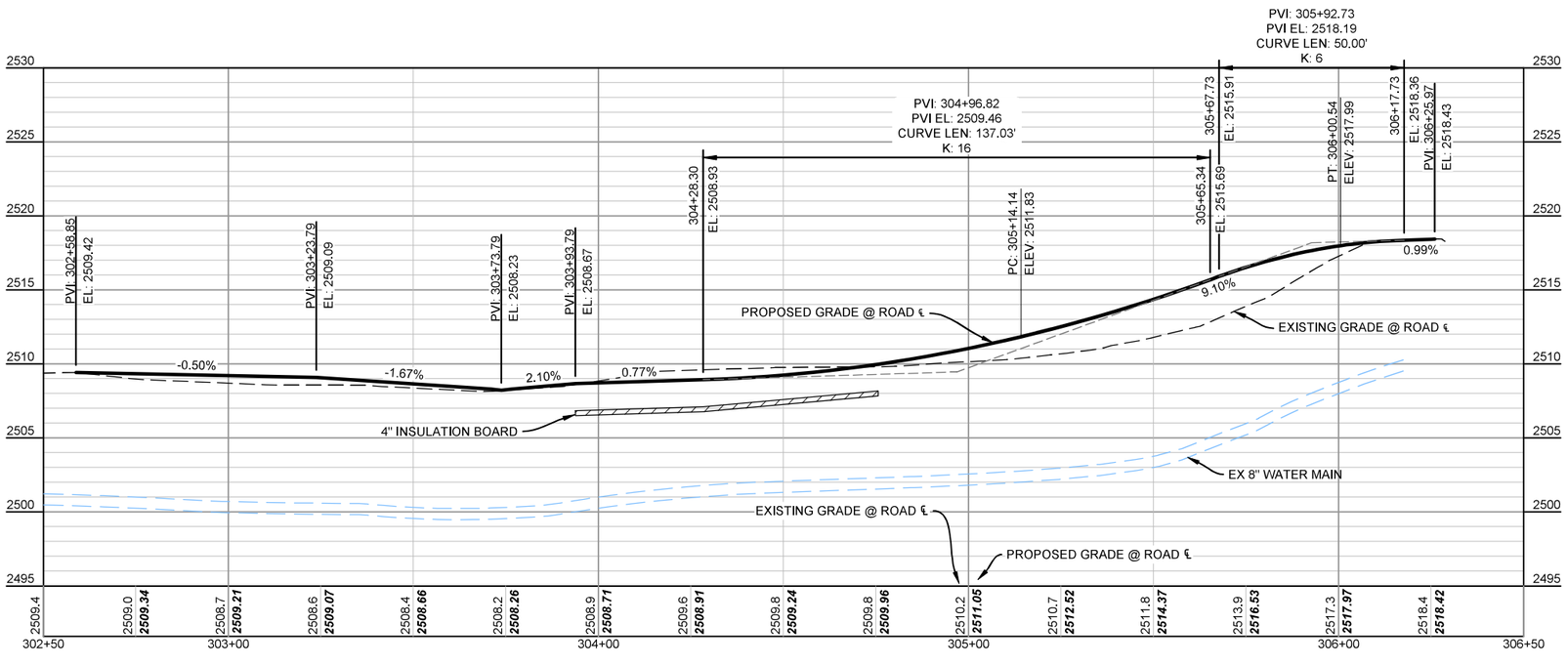
2025 ROAD MAINTENANCE

CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

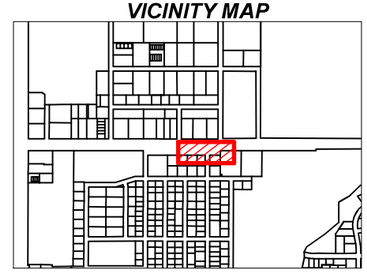
SID NO. 202501-2 - 5TH STREET SW (2)

SHEET 60-19





VICINITY MAP



LEGEND

- REMOVAL OF CONCRETE/ REMOVAL OF CURB & GUTTER
- INSULATION BOARD
- AGGREGATE SURFACE COURSE
- CURB & GUTTER
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- CONCRETE VALLEY GUTTER
- GRADING BREAK LINE
- DETECTABLE WARNING PANEL
- ADJUST GATE VALVE
- ADJUST MANHOLE

QUANTITIES THIS SHEET

REMOVAL OF CURB & GUTTER	82	LF
REMOVAL OF CONCRETE	158	SY
IMPORT TOPSOIL	55	CY
4" INSULATION BOARD	768	SF
GENERAL FILL - TYPE 1	650	CY
SUBGRADE PREPARATION	1,876	SY
GEOSYNTHETIC MATERIAL TYPE R1	1,918	SY
GEOSYNTHETIC MATERIAL TYPE G	1,876	SY
AGGREGATE BASE COURSE - CL 5	387	CY
AGGREGATE SURFACE COURSE - CL 13	75	CY
CURB & GUTTER	750	LF
CONCRETE SIDEWALK	220	SY
CONCRETE DRIVEWAY 6 IN.	94	SY
CONCRETE VALLEY GUTTER	76	SY
DETECTABLE WARNING PANEL	60	SF
ADJUST MANHOLE	1	EA
ADJUST GATE VALVE BOX	6	EA
ASPHALT PAVEMENT	437	TON

N

20 0 20 40
SCALE FEET

REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

REVISION
NO. DATE

DRAFTED MJM
REVIEWED JSK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

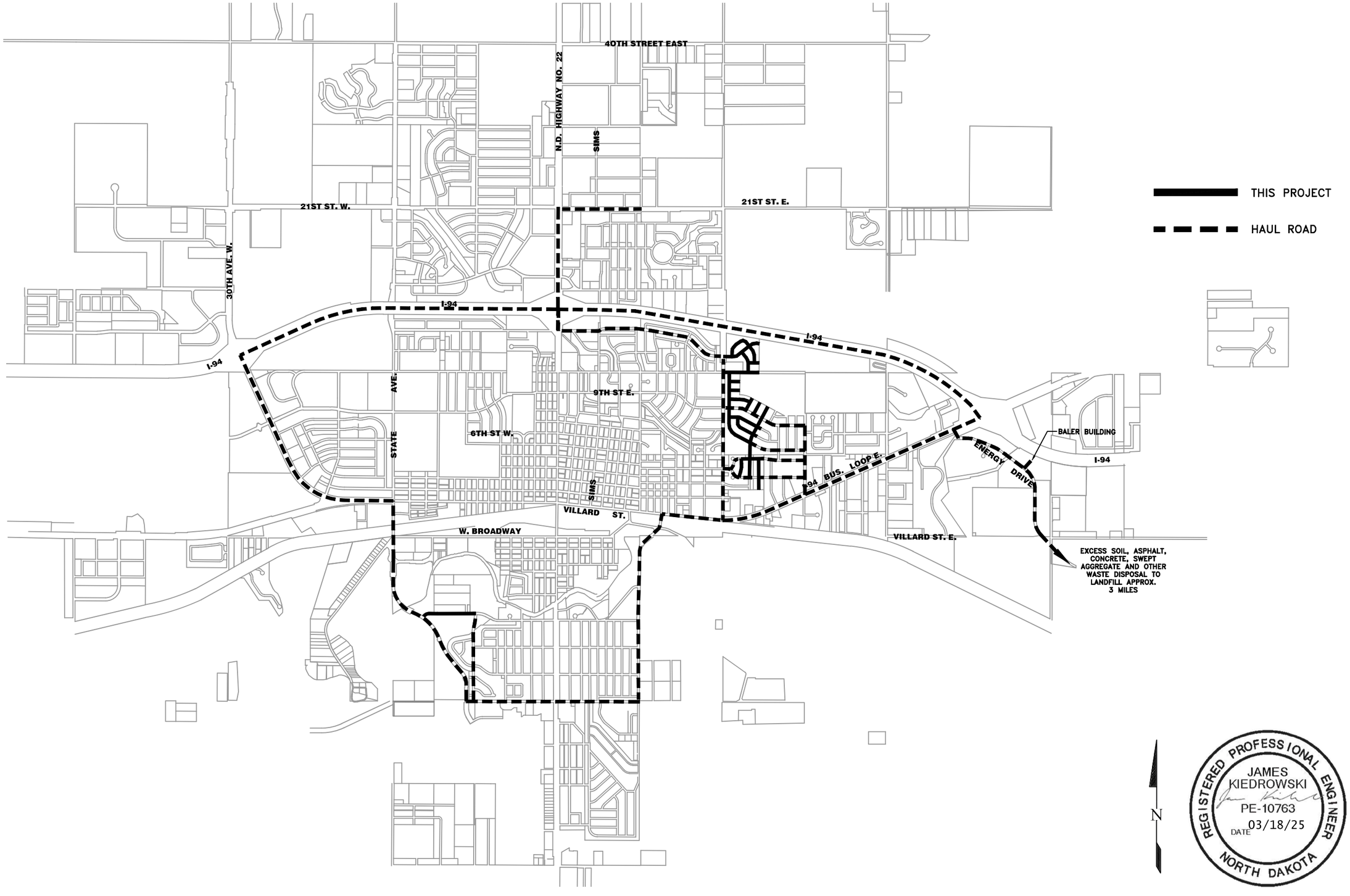
2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA

21ST STREET E FRONTAGE ROAD

SHEET 60-20

DICKINSON, STARK COUNTY, NORTH DAKOTA

HAUL ROAD LOCATIONS



REGISTERED PROFESSIONAL ENGINEER
JAMES KIEDROWSKI
PE-10763
DATE 03/18/25
NORTH DAKOTA

KLJ

NO.	DATE	REVISION

DRAFTED JSK
REVIEWED AK
PROJECT NUMBER 2404-00273
ISSUE DATE 3/18/2025

2025 ROAD MAINTENANCE
CITY OF DICKINSON
DICKINSON, NORTH DAKOTA
HAUL ROAD

SHEET 190-1

Mar 17, 2025 - 7:59am - K:\Projects\City\ND\Dickinson\2404-00273_2025RoadMaintenance\CAD\Design\ConstDwgs\2404-00273_190_HLRD.dwg (HLRD)

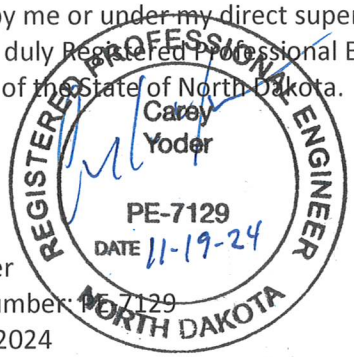
Geotechnical Evaluation Report

2025 Road Maintenance
Various Streets
Dickinson, North Dakota

Prepared for

City of Dickinson

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



Carey C. Yoder
Project Engineer
Registration Number: PE-7129
November 19, 2024

Project B2406649.02

Braun Intertec Corporation

BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
2908 Morrison Avenue, suite 3
Bismarck, ND 58504

Phone: 701.255.7180
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Web: braunintertec.com

November 19, 2024 Project B2406649.02

Sylvia Miller
City of Dickinson
38 1st Street W
Dickinson, North Dakota 58601

Re: Geotechnical Evaluation
2025 Road Maintenance
Various Streets
Dickson, North Dakota

Dear Ms. Miller:

We are pleased to present this Geotechnical Evaluation Report for the 2025 Road Maintenance on various streets in Dickinson, North Dakota. There are three zones that the City of Dickinson identified for this project. Zones 1 and 2 are to be mill and overlay and Zone 3 is to be reconstruction.

Using the laboratory test results from the soil borings, we have estimated the ESALs the pavement section would support after the proposed mill and overlay. We have also provided pavement reconstruction recommendations to compare the level of service to a mill and overlay. We note that the lack of an aggregate base course will result in premature pavement deterioration.

Thank you for making Braun Intertec your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Carey Yoder at 701.425.4409 (cyoder@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION

Carey C. Yoder, PE
Project Engineer

Charles (Wes) Dickhut, MS, PE
Principal Engineer, Technical Leader

Table of Contents

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Description **Page**

A. Introduction

A.1. Project Description

This Geotechnical Evaluation Report addresses the proposed improvements of various roadways in Dickinson, North Dakota. The project is split into 3 zones. In Zones 1 and 2, the proposed improvements include a mill of the existing asphalt surface and overlay with new asphalt. The improvements in Zone 3 include reconstruction of the existing gravel surfaced frontage road.

The figure below shows an illustration of the streets that will be improved.

Figure 1. Project Site Layout

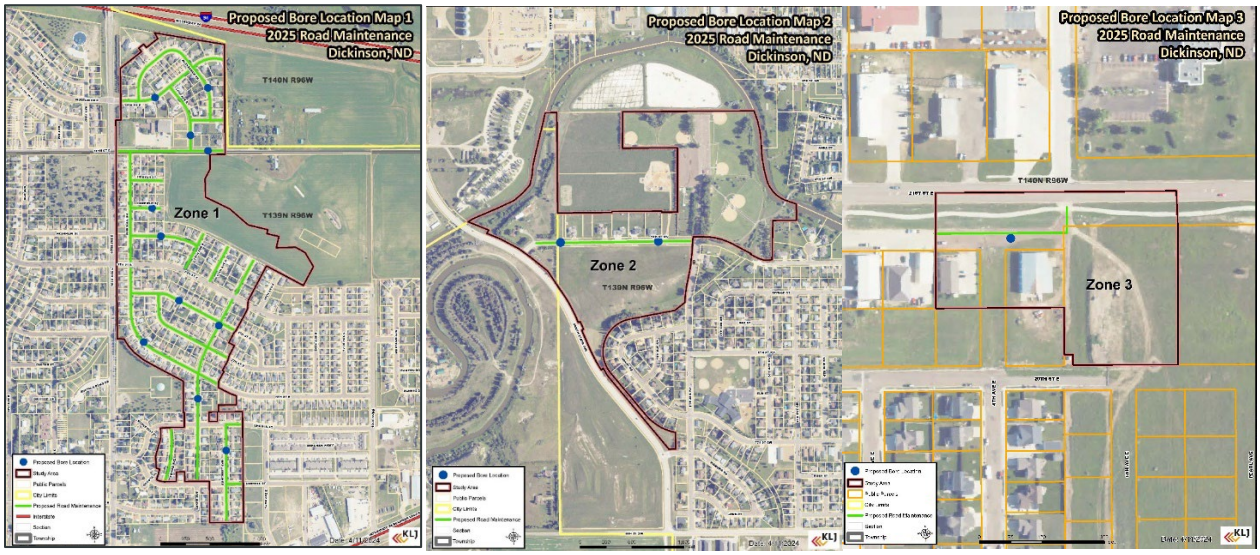


Figure provided by City of Dickinson dated May 16, 2024.

A.2. Site Conditions and History

Currently, the site in zones 1 and 2 are a series of bituminous paved roadways that vary in condition and Zone 3 is a gravel surfaced roadway.

The grades traverse slightly rolling hills that range in elevation from 2435 to 2472 feet in zone 1, and from 2392 to 2410 feet in zone 2. Zone 3 the grades slightly slope upwards from west to east and range from 2509 to 2511 feet.

A.3. Purpose

The purpose of our geotechnical evaluation was to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of the 2025 Road Maintenance along various streets in Dickinson.

A.4. Background Information and Reference Documents

We reviewed the following information:

- Google Earth imagery dated April 28, 2023.
- *Surface geology - Dickinson North quadrangle, North Dakota*; by Murphy, E. C., dated 2005, North Dakota Geological Survey, Map Scale 1:24,000, used to aid in our understanding of the site geology.
- Conversations with Kristopher Keller regarding project scope.
- City of Dickinson RFP dated May 16, 2024.

A.5. Scope of Services

We performed our scope of services for the project in accordance with our Proposal QTB198010 to the City of Dickinson dated June 14, 2024 and authorized on July 16, 2024. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.
- Staking and clearing the exploration location of underground utilities. City of Dickinson selected, and we staked the boring exploration and coring locations. We acquired the surface elevations and locations with GPS technology using the Trimble Catalyst having an accuracy of +/- 1-inch. The Soil Boring Location Sketch included in the Appendix shows the approximate locations of the borings and cores.

- Performing 25 standard penetration test (SPT) borings, denoted as ST-301 to ST-325 to nominal depths of 10 feet below grade across the site.

- Performing 50 cores, denoted as ST-301 to ST-323, C-324 to C-350. A photo log of the cores is attached in the Appendix.

- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.

- Preparing this report containing a boring location sketch, logs of soil borings, a summary of the soils encountered, results of laboratory tests, and recommendations for pavement subgrade preparation and the design of pavements.

Our scope of services did not include environmental services or testing and our geotechnical personnel performing this evaluation are not trained to provide environmental services or testing. We can provide environmental services or testing at your request.

B. Results

B.1. Geologic Overview

According to geologic literature, the surficial geological materials consist of glacial deposits draped over the underlying bedrock. The glacial deposits consisted of sand, fat clay and lean clay. Weathered bedrock typically consists of weakly lithified claystone, sandstone, and siltstone of the Sentinel Butte Formation.

We based the geologic origins used in this report on the soil types, laboratory testing, and available common knowledge of the geological history of the site. Because of the complex depositional history, geologic origins can be difficult to ascertain. We did not perform a detailed investigation of the geologic history for the site.

B.2. Pavement Coring

We performed pavement coring within drive lanes at locations selected by the City of Dickinson. Prior to performing the soil borings, we cored the location, and the cores are numbered as the same as the boring numbers.

The boring and coring location sketch shows the approximate explored locations, and detailed results are provided below in Table 1.

Table 1. Pavement Core Results

Zone 1			Zone 1	
Core	Bituminous Thickness (in)		Core	Bituminous Thickness (in)
ST-301	6 3/4		C-331	5
ST-302	7		C-332	5
ST-303	3		C-333	5 3/4
ST-304	2 1/2		C-334	4
ST-305	5 1/2		C-335	9
ST-306	5 1/2		C-336	3
ST-307	5 1/4		C-337	4 3/4
ST-308	2 1/2		C-338	7
ST-309	4 3/4		C-339	4 1/2
ST-310	3 1/2		C-340	5 1/2
ST-311	8 3/4		C-341	5
ST-312	5 3/4		C-342	5
ST-313	6		C-343	7
ST-314	7 1/2		C-344	3 1/2
ST-315	4		C-345	5 1/2
ST-316	4 1/2		C-346	6
ST-317	3 1/2		C-347	5
ST-318	5*		C-348	5
ST-319	5		Average:	5 1/4
ST-320	5		Zone 2	
C-324	7		Core	Bituminous Thickness (in)
C-325	8		ST-321	7 1/4
C-326	5 1/2		ST-322	6
C-327	4		ST-323	8 1/4
C-328	4 3/4		C-349	7 1/4
C-329	5		C-350	6 1/2
C-330	9		Average:	7

*Photo of core was not obtained.

B.3. Boring Results

We performed 25 borings on the various roadways in all three zones in Dickinson. The soils below the roadway consisted of fill, fat and lean clay, sand, sandstone, siltstone, and claystone to a depth of 11 feet.

Table 2 provides a summary of the soil boring results; in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheets in the Appendix include definitions of abbreviations used in Table 2.

Table 2. Subsurface Profile Summary*

Strata	Soil Type - ASTM Classification	Range of Penetration Resistances	Commentary and Details
Pavement section			▪ Overall thickness ranges from 2 ½ to 9 inches. ▪ Not present in ST-324 and ST-325. ▪ No aggregate base course was encountered in borings or cores between the asphalt and subgrade soil.
Fill	CL	4 BPF	▪ Dark brown in color. ▪ Thickness about 3 ½ feet. ▪ Consisted of lean clay with sand. ▪ Only present in ST-308 to 3 ½ feet.
Glacial deposits	SM, SC, CL, CH	2 to 14 BPF	▪ Not present in all borings. ▪ Predominately lean clay with variable amounts of sand. ▪ Dark brown to brown in color. ▪ Moisture condition generally moist.
Bedrock	Claystone, Sandstone, Siltstone	6 to 34 BPF	▪ Not present in all borings. ▪ Top of bedrock varied from elevation 2405 (ST-322) to 2466 feet (ST-308).

*Abbreviations defined in the attached Descriptive Terminology sheets.

For simplicity in this report, we define existing fill to mean existing, uncontrolled, or undocumented fill.

B.4. Groundwater

We did not observe groundwater while advancing our borings. Therefore, it appears that groundwater is below the depths explored. Project planning should anticipate seasonal and annual fluctuations of groundwater.

B.5. Laboratory Test Results

B.5.a. Moisture Contents

We performed moisture content (MC) tests (per ASTM D2216) on selected samples to aid in our classifications and estimations of the materials' engineering properties. The moisture contents for the soils overall ranged from 3 to 35 percent. The Log of Boring Sheets attached in the Appendix present the results of the moisture content tests in the "MC" column.

B.5.b. Bag Sample Tests

We performed moisture contents, standard Proctor tests (per ASTM D698), Atterberg limits test (per ASTM D4318), and percent passing the #200 sieve (ASTM D1140) on bulk soil samples collected from in the borings at a depth from 1 to 5 feet, to develop pavement recommendations. We performed California Bearing Ratio (CBR) tests (per ASTM D1883) on 5 representative samples. We used remolded samples compacted to 95 percent of the material's standard Proctor maximum dry density at the optimum moisture content to perform the CBR tests. We performed Atterberg limits tests (per ASTM D4318) on selected samples for classification, evaluation of the soil's plasticity, and estimation of engineering parameters. Table 3 summarizes the results, which the Appendix includes.

Table 3. Summary of Bag Sample Test Results

Boring	Soil Type	P200	Maximum Dry Density (pcf)	Optimum Moisture (%)	Liquid Limit (LL)	Plastic Limit (PL)	Plastic Index (PI)	CBR (%) (at 0.1-inch penetration)
ST-301	CL	58	108.0	18.4	29	16	13	3.7
ST-302	SC	36	116.3	12.3	25	13	12	--
ST-303	SC	43	104.3	18.1	51	17	34	--
ST-304	CL	63	109.0	16.7	44	14	30	--
ST-305	CH	68	105.9	17.9	56	16	40	--
ST-306	CL	69	111.1	15.2	38	16	22	--
ST-307	CL	59	109.4	16.9	36	16	20	--
ST-308	CL	81	106.4	17.4	47	16	31	--
ST-309	SC	36	111.3	14.8	30	14	16	--
ST-310	SC	41	114.2	13.9	26	19	7	--
ST-311	SC	42	114.1	15.4	28	18	10	3.1
ST-312	CL	53	109.3	16.2	39	14	25	--
ST-313	CL	58	112.1	13.8	33	13	20	--

Boring	Soil Type	P200	Maximum Dry Density (pcf)	Optimum Moisture (%)	Liquid Limit (LL)	Plastic Limit (PL)	Plastic Index (PI)	CBR (%) (at 0.1-inch penetration)
ST-314	CL	65	109.0	16.7	38	14	24	--
ST-315	CL	54	110.3	15.6	34	17	17	3.2
ST-316	CL	59	108.5	16.2	41	13	28	--
ST-317	CL	87	103.4	18.9	49	15	34	--
ST-318	SC	46	112.9	15.9	31	16	15	4.6
ST-319	SC	32	116.1	12.6	24	15	9	--
ST-320	SC	37	116.0	14.7	29	16	13	3.5
ST-321	CL	67	108.2	15.3	42	15	27	--
ST-322	SM	25	112.4	12.6	Non-Plastic			--
ST-323	CL	56	110.8	14.0	32	13	19	--
ST-324	CH	60	100.8	21.7	51	20	31	1.7
ST-325	CL	54	113.8	14.5	39	15	24	--

C. Recommendations

C.1. Design and Construction Discussion

The roadways that were evaluated are considered a low volume in a residential area. A mill and overlay is planned for the roadways in Zone 1 and Zone 2. Traffic counts or estimated lifetime ESALs were not available for our evaluation. We have also provided a discussion of pavement reconstruction for comparison. We have also provided a discussion of pavement reconstruction for comparison.

In Zone 3, the roadway will be about 400 feet of new pavement and will be a continuation of the existing paved roadway, extending it to the intersection of 4th Avenue E. Traffic counts or estimated lifetime ESALs were not available for our evaluation. For this report we assumed a minimum pavement section of 5 inches of asphalt pavement or 5 inches of concrete over 6 inches of aggregate base.

C.1.a. Mill and Overlay

Based on SPT N-values of 4 to 15 from our borings, we estimated that the subgrade CBR roughly corresponds to between 2 to 3 percent. The subgrade soils primarily consist of sandy lean clay and clayey/silty sands. The moisture contents along the roadway range from 8 percent below to 11 percent above optimum moisture, and the SPT N-values are not representative of soil compacted to at least 95 percent relative compaction. Based on the existing pavement section of 2 1/2 inches to 9 inches and subgrade strength having a CBR value of 2 to 3, we estimated that the pavement life ranges between 250 to 500,000 ESALs. This variability is primarily due to the lack of an aggregate base course and the great variability in bituminous thickness.

Performing a mill and overlay would result in a similar pavement life since the thickness of the asphalt is not increased, and the subgrade would not be improved. Maintenance after the mill and overlay would be required and premature pavement deterioration due to lack of an aggregate base course is expected.

C.1.b. Subgrade Reconstruction

At 7 of the 44 locations we cored the pavement, the asphalt layer was less than 4 inches thick. For residential streets, we have found that 4 inches of asphalt over base course and a well compacted subgrade is adequate. If areas where pavements are less than 4 inches thick were to be reconstructed, a much longer pavement life could be obtained.

Based on the laboratory testing results, the subgrade could be compacted to achieve a CBR of at least 3. The laboratory CBR values are not representative of the subgrade strength if the subgrade is not reconstructed.

Using a typical pavement section of 5 inches of asphalt over 6 inches of aggregate base, the life of the pavement will be able to withstand 90,000 ESALs.

Any areas where the subgrade soil is exposed due to pavement damage or removals will mostly be favorable to scarification, moisture conditioning, and recompaction. Some areas of weak, organic, or unstable soils may be encountered that require additional overexcavation and replacement or stabilization with a reinforcing geogrid. We have provided recommendations in section C.2 for any areas where the pavement subgrade will be reconstructed. We recommend a site visit by our engineer to observe the subgrade for areas that will be reconstructed.

We anticipate that the subgrade will respond favorably to scarification, moisture conditioning, and recompaction. Some areas of week, organic, or unstable soils may be encountered that require additional overexcavation and replacement or stabilization with a reinforcing geogrid.

C.2. Subgrade

C.2.a. Pavement Subgrade Preparation

We recommend the following steps for pavement subgrade preparation for any areas that pavement is removed completely or where the pavement is reconstructed. They do not apply to areas that will only be milled and overlaid.

1. After pavement removal, confirm that organic material is not present in the subgrade; overexcavate if necessary.

2. In areas where soft or weak soils are encountered, subcut the existing roadway to a minimum depth of 2 feet below the pavement section.

3. Have a geotechnical representative observe the excavated subgrade to evaluate if additional subgrade improvements are necessary.

4. Scarify the subgrade to a depth of 12 inches, moisture condition and compact, maintaining a moisture content and relative compaction in accordance with Section C.2.c.

5. Slope subgrade soils to areas of sand or drain tile to allow the removal of accumulating water.

6. Place pavement engineered fill to grade and compact in accordance with Section C.2.c to bottom of pavement and exterior slab section. See Section C.4 for additional considerations related to frost heave.

7. Proofroll the pavement subgrade as described in Section C.2.b.

C.2.b. Pavement Subgrade Proofroll

After preparing the subgrade as described above and prior to the placement of the aggregate base, we recommend proofrolling the subgrade soils with a fully loaded tandem-axle truck. We also recommend having a geotechnical representative observe the proofroll. Areas that fail the proofroll likely indicate soft or weak areas that will require additional soil correction work to support pavements.

The contractor should correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative. Possible options for subgrade correction include moisture conditioning and recompaction, subcutting and replacement with soil or crushed aggregate, chemical stabilization and/or geotextiles. We recommend performing a second proofroll after the aggregate base material is in place, and prior to placing bituminous or concrete pavement.

C.2.c. Engineered Fill Materials and Compaction

Table 4 below contains our recommendations for engineered fill materials.

Table 4. Engineered Fill Materials*

Locations To Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
Pavement subgrade	Subgrade	CL, SC, SP, SM	100% passing 3-inch sieve	< 2% OC
Pavement backfill	Pavement fill	SP, SM, SC, CL	100% passing 3-inch sieve	< 2% OC PI < 15%
Pavement section	Aggregate base course	SP-SM, SP	NDDOT Table 816-01 for Class 5	

* More select soils comprised of coarse sands with < 5% passing #200 sieve may be needed to accommodate work occurring in periods of wet or freezing weather.

We recommend spreading engineered fill in loose lifts of approximately 6 to 8 inches thick. We recommend compacting engineered fill in accordance with the criteria presented below in Table 5. The project documents should specify relative compaction of pavement fill, based on the structure located above the engineered fill, and vertical proximity to that structure.

Table 5. Compaction Recommendations Summary

Reference	Relative Compaction, percent (ASTM D698 – Standard Proctor)	Moisture Content Variance from Optimum, percentage points	
		< 12% Passing #200 Sieve (typically SP, SP-SM)	> 12% Passing #200 Sieve (typically CL, SC, ML, SM)
Pavement subgrade	95	±3	-1 to +3
Aggregate base course	98	±3	NA

The project documents should not allow the contractor to use frozen material as engineered fill or to place engineered fill on frozen material. Frost should not penetrate under foundations during construction.

We recommend performing density tests in engineered fill to evaluate if the contractors are effectively compacting the soil and meeting project requirements.

C.2.d. Materials and Compaction

Where required, we recommend the aggregate base material meet North Dakota Department of Transportation (NDDOT) Specification 816.02 for Class 5 Aggregate Base. This material will need to be imported. We recommend that the aggregate base be compacted as described in Section C.2.c.

C.3. Mill and Overlay

These recommendations are based on milling and overlaying the existing pavement with new asphalt, and assume that there will be no improvement to the existing subgrade. We anticipate that no additional asphalt will be added to the pavement section.

C.3.a. Design CBR value

Based on the Standard Penetration Tests and the materials encountered at the subgrade level, we recommend pavement design based on a CBR value of 2 for the mill and overlay.

C.3.b. Bituminous Design Sections

For the bituminous-surfaced portions of the pavements, we utilized the simplified design chart for generating ESALs with a given pavement section presented in “Figure 3.1. - Design Chart for Flexible Pavements Based on Using Mean Values for Input,” of the AASHTO Guide for Design of Pavement Structures (1993). The parameters used to perform the calculations were calculated as follows:

- Reliability = 85%
- Standard Deviation = 0.45
- Soil Resilient Modulus = 2555 x $CBR^{0.64}$ in psi
- Effective Roadbed Soil Resilient Modulus (M_R) = 4,000 psi; and
- Design Serviceability Loss = 2.2 (Initial Serviceability = 4.2, Terminal Serviceability = 2.0)

We used these parameters to estimate the pavement structural number, with the understanding that there was no visible evidence of an aggregate base course:

- $SN = (D_1 \times a_1) + (D_2 \times a_2 \times m_2)$
- a_1 = Structural Layer Coefficient for Bituminous = 0.40
- D_2 = Aggregate Base Thickness (inches) = 0
- a_2 = Structural Layer Coefficient for Aggregate Base = 0.10; and
- m_2 = Drainage Modifier = 0.9

Based on the given parameters, the current roadway section would be able to support between 250 to 500,000 ESALs. Without knowing the age of the current pavement, we suspect that a mill and overlay will extend the life of the pavement indefinitely if no truck traffic is allowed.

Appropriate mix designs are critical to the performance of flexible pavements. We can provide recommendations for pavement material selection during final pavement design.

C.3.c. Performance and Maintenance

Many conditions affect the overall performance of the exterior pavements. Some of these conditions include the environment, loading conditions and the level of ongoing maintenance. With regard to bituminous pavements in particular, it is common to have thermal cracking develop within the first few years of placement, and continue throughout the life of the pavement. We recommend developing a regular maintenance plan for filling cracks in exterior slabs and pavements to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade.

The on-going performance of bituminous pavements is impacted by conditions under which the pavement is asked to perform in. These conditions include the environmental conditions, the actual use conditions and the level of ongoing maintenance preformed. Because of normal thermo expansion and contraction, it is not unusual to have cracking develop within the first few years of placement and for the cracking to continue throughout the life of the pavement. A regular maintenance plan should be developed for filling cracks to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade. It is also not unusual for the pavement to require a seal coat within the first 5 to 10 years to increase the long-term performance of the bituminous pavement.

C.4. New Pavement

These recommendations are based on a new pavement section with an aggregate base and subgrade improvements.

C.4.a. Design CBR value

We performed laboratory tests on subgrade soils to determine a CBR value for pavement design. Based on our results anticipated at the pavement subgrade elevation, we recommend pavement design assume a CBR value of 1.7. Note the contractor may need to perform limited removal of unsuitable or less suitable soils to achieve this value

C.4.b. Bituminous Design Sections

For the bituminous-surfaced portions of the pavements, we utilized the simplified design chart for generating ESALs with a given pavement section presented in "Figure 3.1. - Design Chart for Flexible Pavements Based on Using Mean Values for Input," of the AASHTO Guide for Design of Pavement Structures (1993). The parameters used to perform the calculations were calculated as follows:

- Reliability = 85%
- Standard Deviation = 0.45
- Soil Resilient Modulus = 2555 x $CBR^{0.64}$ in psi
- Effective Roadbed Soil Resilient Modulus (M_R) = 3,500 psi; and
- Design Serviceability Loss = 2.2 (Initial Serviceability = 4.2, Terminal Serviceability = 2.0)

We used these parameters to estimate the pavement structural number, with the understanding that there was no visible evidence of an aggregate base course:

- $SN = (D_1 \times a_1) + (D_2 \times a_2 \times m_2)$
- a_1 = Structural Layer Coefficient for Bituminous = 0.40
- D_2 = Aggregate Base Thickness (inches) = 6
- a_2 = Structural Layer Coefficient for Aggregate Base = 0.10; and
- m_2 = Drainage Modifier = 0.9

Based on the given parameters, a roadway section of 5 inches of asphalt over 6 inches of aggregate base would be able to support 40,000 ESALs.

A roadway section of 5 inches of concrete over 6 inches of aggregate base would support 120,000 ESALs.

C.4.c. Concrete Pavements

We assumed the concrete pavement sections will have edge support. We recommend placing an aggregate base below the pavement to provide a suitable subgrade for concrete placement, reduce faulting and help dissipate loads. Appropriate mix designs, panel sizing, jointing, doweling and edge reinforcement are critical to performance of rigid pavements. We recommend you contact your civil engineer to determine the final design or consult with us for guidance on these items.

C.4.d. Bituminous Pavement Materials

Appropriate mix designs are critical to the performance of flexible pavements. We can provide recommendations for pavement material selection during final pavement design.

C.4.e. Subgrade Drainage

We recommend installing perforated drainpipes throughout pavement areas at low points, around catch basins, and behind curb in landscaped areas. We also recommend installing drainpipes along pavement and exterior slab edges where exterior grades promote drainage toward those edge areas. The contractor should place drainpipes in small trenches, extended at least 8 inches below the granular subbase layer, or below the aggregate base material where no subbase is present.

C.4.f. Performance and Maintenance

We based the above pavement designs on a 20-year performance life for bituminous and a 30-year life for concrete. This is the amount of time before we anticipate the pavement will require reconstruction. This performance life assumes routine maintenance, such as seal coating and crack sealing. The actual pavement life will vary depending on variations in weather, traffic conditions and maintenance.

Many conditions affect the overall performance of the exterior slabs and pavements. Some of these conditions include the environment, loading conditions and the level of ongoing maintenance. With regard to bituminous pavements in particular, it is common to have thermal cracking develop within the first few years of placement, and continue throughout the life of the pavement. We recommend developing a regular maintenance plan for filling cracks in exterior slabs and pavements to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade.

C.5. Frost

The existing subgrade materials consist of sandy lean clay, clayey sand, and silty sand. These soils are moderately susceptible to frost heave. Frost action will be more severe than typically expected in this area due to the lack of an aggregate base course layer.

C.6. Equipment Support

The recommendations included in the report may not be applicable to equipment used for the construction and maintenance of this project. We recommend evaluating subgrade conditions in areas of shoring, scaffolding, cranes, pumps, lifts, and other construction equipment prior to mobilization to determine if the exposed materials are suitable for equipment support or require some form of subgrade improvement. We also recommend project planning consider the effect that loads applied by such equipment may have on structures they bear on or surcharge – including pavements, buried utilities, below-grade walls, etc. We can assist you in this evaluation.

D. Procedures

D.1. Penetration Test Borings

We drilled the penetration test borings with a truck-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples at 2 1/2- or 5-foot intervals in general accordance to ASTM D1586. The boring logs show the actual sample intervals and corresponding depths. We also collected bulk samples of auger cuttings at selected locations for laboratory testing.

D.2. Manual Exploration

D.2.a. Pavement Coring

We completed the coring with a powered drill machine with a 2-inch core barrel. The cores were removed, labeled, and photographed with the core number. The core samples were delivered to the Bismarck laboratory.

D.3. Exploration Logs

D.3.a. Log of Boring Sheets

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials, and present the results of penetration resistance and other in-situ tests performed. The logs also present the results of laboratory tests performed on penetration test samples, and groundwater measurements. The Appendix also includes a Fence Diagram intended to provide a summarized cross-sectional view of the soil profile across the site.

We inferred strata boundaries from changes in the penetration test samples and the auger cuttings. Because we did not perform continuous sampling, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may occur as gradual rather than abrupt transitions.

D.3.b. Geologic Origins

We assigned geologic origins to the materials shown on the logs and referenced within this report, based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance testing performed for the project, (4) laboratory test results, and (5) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past.

D.4. Material Classification and Testing

D.4.a. Visual and Manual Classification

We visually and manually classified the geologic materials encountered based on ASTM D2488. When we performed laboratory classification tests, we used the results to classify the geologic materials in accordance with ASTM D2487. The Appendix includes a chart explaining the classification system we used.

D.4.b. Laboratory Testing

The exploration logs in the Appendix note most of the results of the laboratory tests performed on geologic material samples. The remaining laboratory test results follow the exploration logs. We performed the tests in general accordance with ASTM procedures.

D.5. Groundwater Measurements

The drillers checked for groundwater while advancing the penetration test borings, and again after auger withdrawal. We then filled the boreholes or allowed them to remain open for an extended period of observation, as noted on the boring logs.

E. Qualifications

E.1. Variations in Subsurface Conditions

E.1.a. Material Strata

We developed our evaluation, analyses, and recommendations from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth. Therefore, we must infer strata boundaries and thicknesses to some extent. Strata boundaries may also be gradual transitions, and project planning should expect the strata to vary in depth, elevation, and thickness, away from the exploration locations. Variations in subsurface conditions present between exploration locations may not be revealed until performing additional exploration work, or starting construction. If future activity for this project reveals any such variations, you should notify us so that we may reevaluate our recommendations. Such variations could increase construction costs, and we recommend including a contingency to accommodate them.

E.1.b. Groundwater Levels

We made groundwater measurements under the conditions reported herein and shown on the exploration logs, and interpreted in the text of this report. Note that the observation periods were relatively short, and project planning can expect groundwater levels to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

E.2. Continuity of Professional Responsibility

E.2.a. Plan Review

We based this report on a limited amount of information, and we made a number of assumptions to help us develop our recommendations. We should be retained to review the geotechnical aspects of the designs and specifications. This review will allow us to evaluate whether we anticipated the design correctly, if any design changes affect the validity of our recommendations, and if the design and specifications correctly interpret and implement our recommendations.

E.2.b. Construction Observations and Testing

We recommend retaining us to perform the required observations and testing during construction as part of the ongoing geotechnical evaluation. This will allow us to correlate the subsurface conditions exposed during construction with those encountered by the borings and provide professional continuity from the design phase to the construction phase. If we do not perform observations and testing during

construction, it becomes the responsibility of others to validate the assumption made during the preparation of this report and to accept the construction-related geotechnical engineer-of-record responsibilities.

E.3. Use of Report

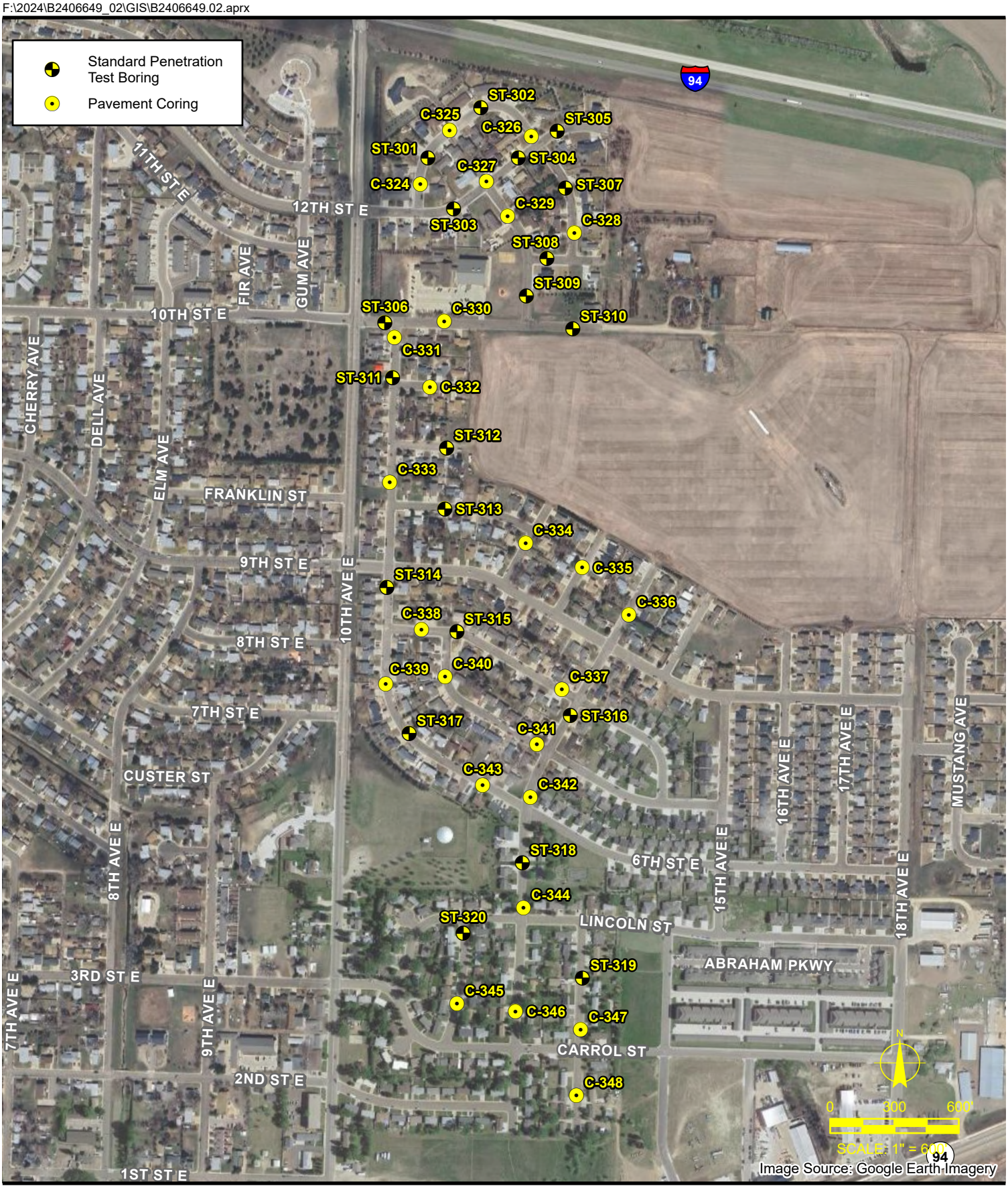
This report is for the exclusive use of the addressed parties. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

E.4. Standard of Care

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Appendix A

F:\2024\B2406649_02\GIS\B2406649.02.aprx



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2908 Morrison Ave. Suite 3
Bismarck, ND 58504
701.204.8875
braunintertec.com

Project No:	B2406649.02
Drawing No:	Boring and Coring Sketch
Drawn By:	ZS
Date Drawn:	9/6/2024
Checked By:	CCY
Last Modified:	9/6/2024

2025 Road Maintenance

Various Roads

Dickinson, North Dakota

Boring and Coring Location Sketch

F:\2024\B2406649_02\GIS\B2406649.02.aprx

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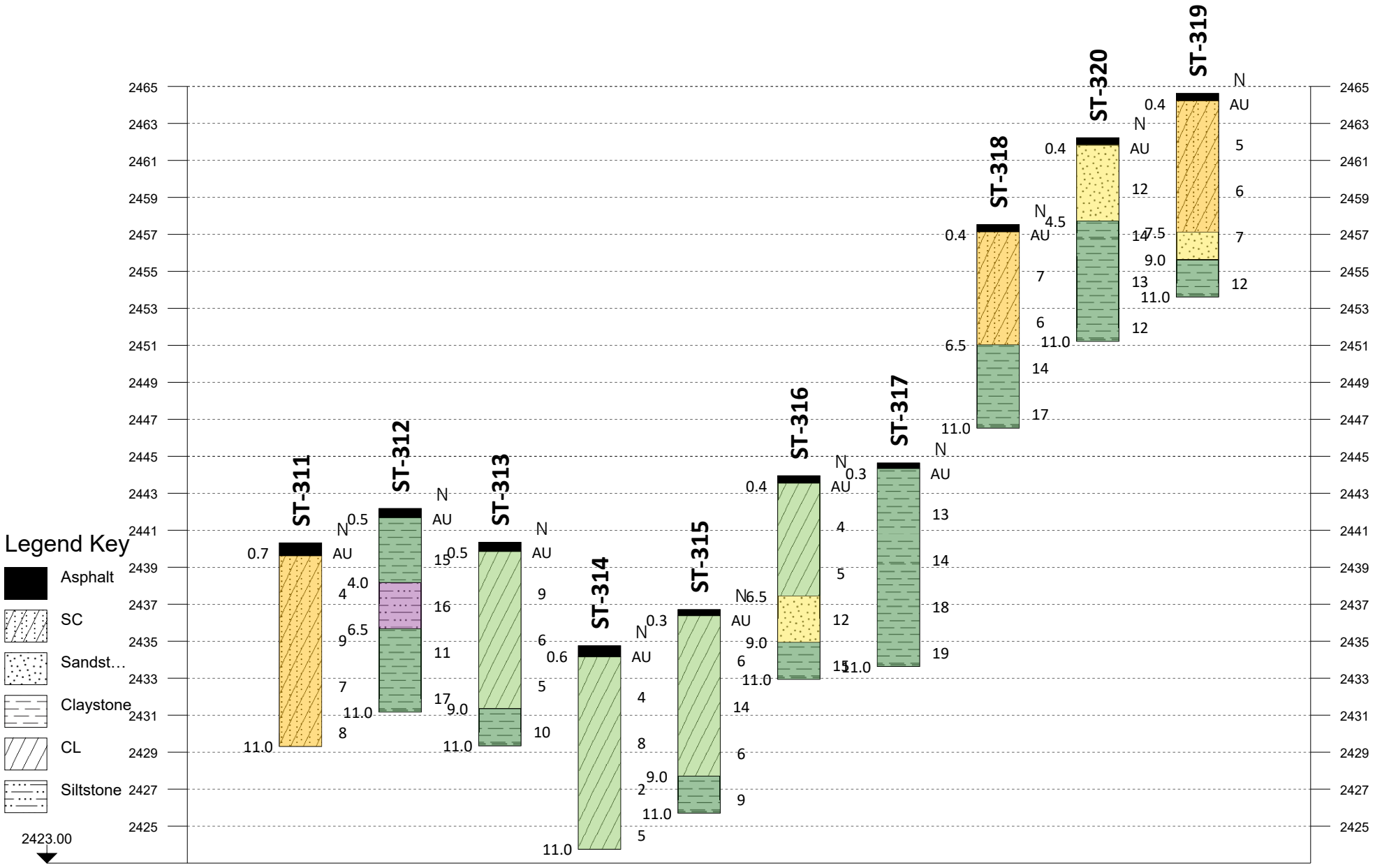
2025 Road Maintenance

Various Roads

Dickinson, North Dakota

Boring and Coring Location Sketch



Zone 1 North
Fence Diagram
Geotechnical Evaluation
2025 Road Maintenance

Dickinson, North Dakota

Project ID: B2406649.02
Vert. Scale: 1"= 8'
Hor. Scale: NTS
Date: 11/19/2024

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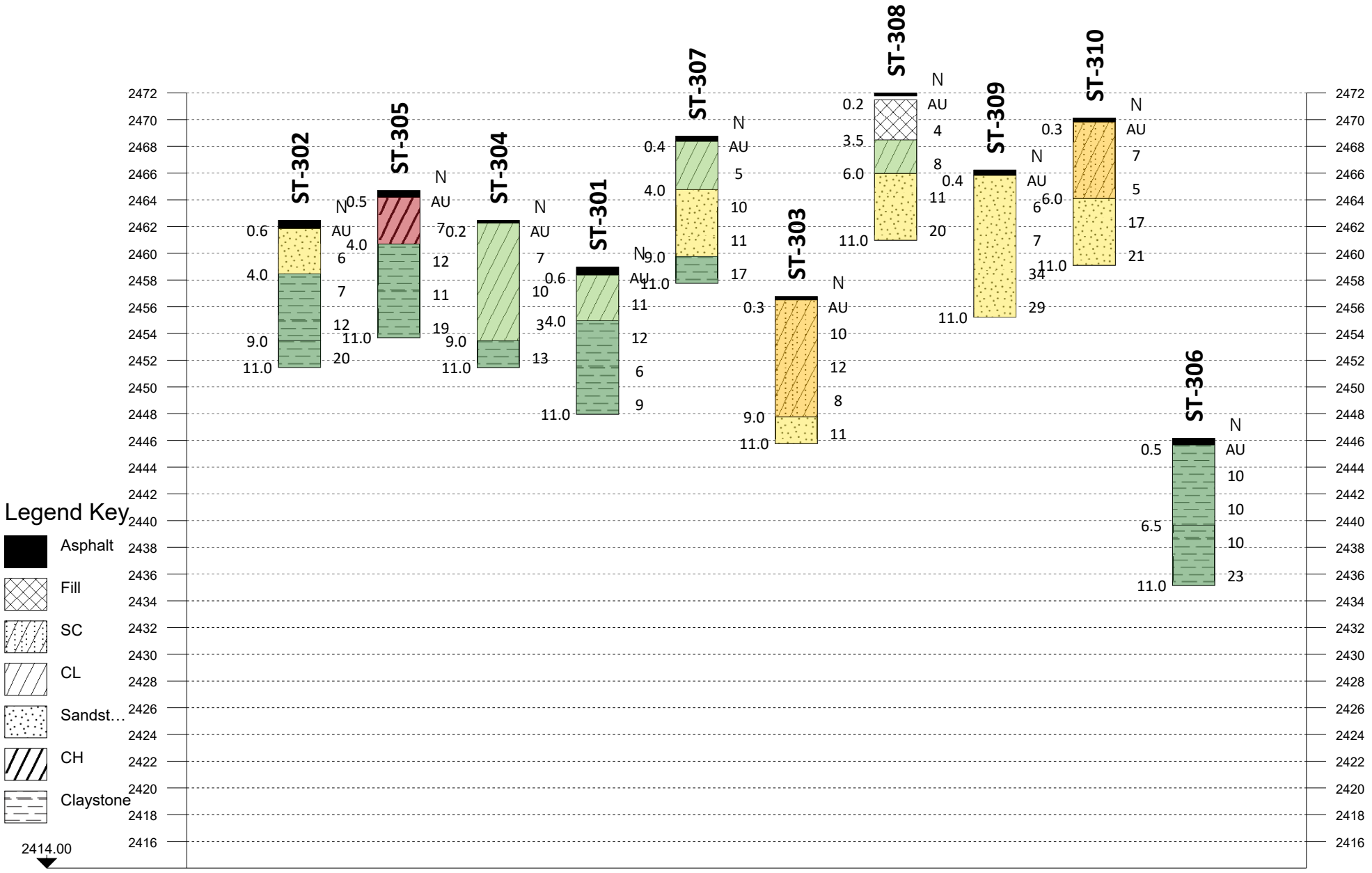

Zone 1 South
Fence Diagram
Geotechnical Evaluation
2025 Road Maintenance

Dickinson, North Dakota

Project ID: B2406649.02
Vert. Scale: 1"= 8'
Hor. Scale: NTS
Date: 11/19/2024

BRAUN INTERTEC
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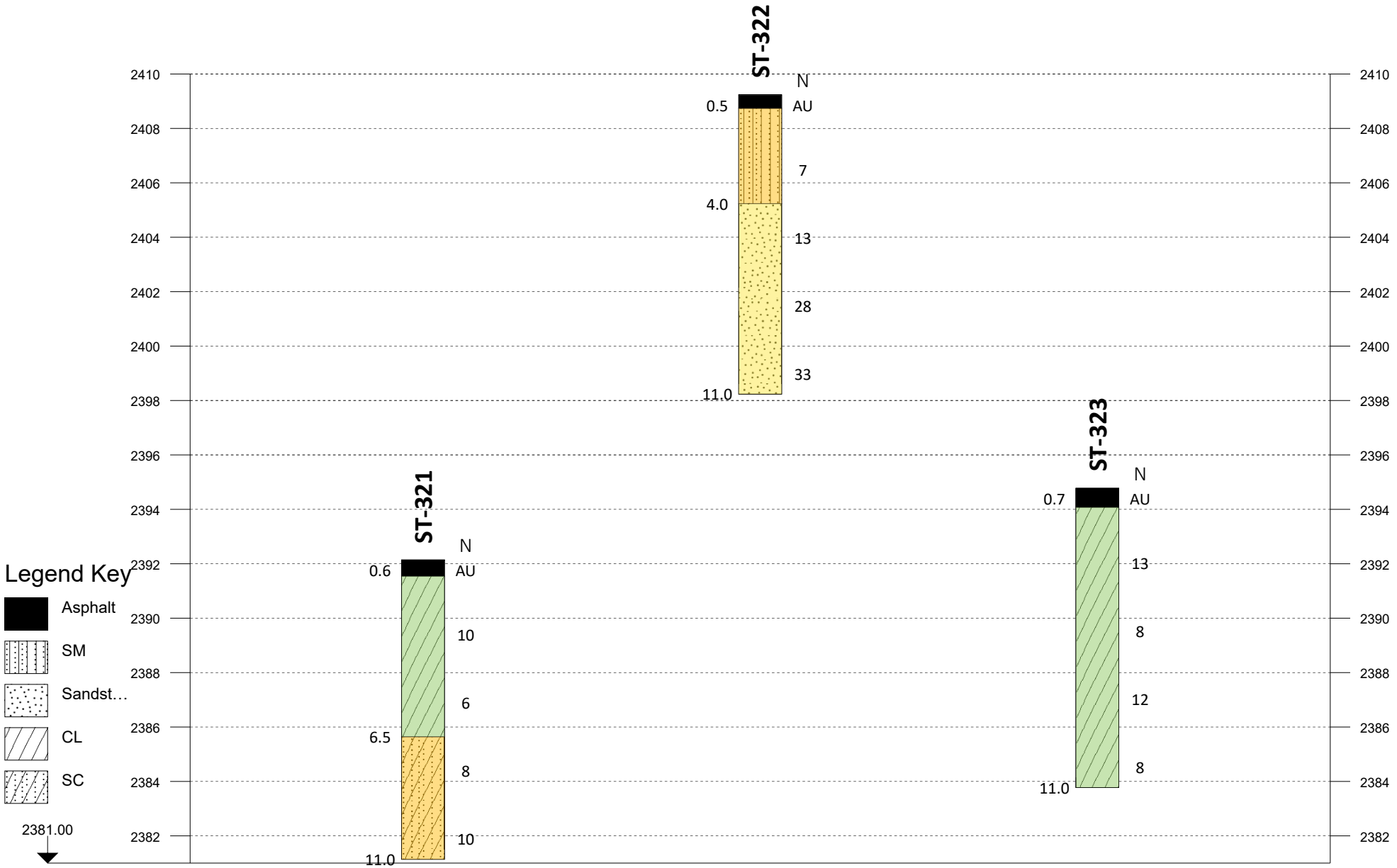

Zone 2

Fence Diagram

Geotechnical Evaluation

2025 Road Maintenance

Dickinson, North Dakota

Project ID: B2406649.02
Vert. Scale: 1"= 5'
Hor. Scale: NTS
Date: 11/19/2024

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Zone 3

Fence Diagram

Geotechnical Evaluation

2025 Road Maintenance

Dickinson, North Dakota

Project ID: B2406649.02
Vert. Scale: 1"= 5'
Hor. Scale: NTS
Date: 11/19/2024

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-301**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.892667 LONGITUDE: -102.767331
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2459.0 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2458.4		BITUMINOUS, 6.75 inches					
0.6		SANDY LEAN CLAY (CL), brown, moist, stiff (GLACIAL TILL)	AU				Bulk sample obtained from 1 to 5 feet
				5-5-6 (11) 4"		20	LL=29, PL=16, PI=13 P200=58% MDD=108.0 pcf OMC=18.4%
2455.0							
4.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown to tan, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		4-5-7 (12) 8"		30	
				2-2-4 (6) 8"		27	
				3-4-5 (9) 18"		28	
2448.0							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-302**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.893330 LONGITUDE: -102.766369
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2462.5 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2461.9		BITUMINOUS, 7 inches					
0.6		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"	AU				Bulk sample obtained from 1 to 5 feet
2458.5				5-3-3 (6) 16"		14	LL=25, PL=13, PI=12 P200=36% MDD=116.3 pcf OMC=12.3%
4.0		SENTINEL BUTTE FORMATION, CLAYSTONE, light brown, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"	5	2-3-4 (7) 14"		29	
2453.5				4-5-7 (12) 12"		28	
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, hand deformed sample classified as "Sandy Lean Clay (CL)"	10	3-9-11 (20) 18"		25	
2451.5							Water not observed while drilling.
11.0		END OF BORING Boring then backfilled with auger cuttings	15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-303**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.892026 LONGITUDE: -102.766821
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2456.8 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2456.5		BITUMINOUS, 3 inches					
0.3		CLAYEY SAND (SC), fine to medium-grained, dark brown, moist, loose to medium dense (GLACIAL OUTWASH)	AU				Bulk sample obtained from 1 to 5 feet
				6-5-5 (10) 3"		24	LL=51, PL=17, PI=34 P200=43% MDD=104.3 pcf OMC=18.1%
			5	5-5-7 (12) 18"		29	
				2-4-4 (8) 8"		20	
2447.8							
9.0		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"	10	4-5-6 (11) 18"		22	
2445.8							
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-304**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.892703 LONGITUDE: -102.765642
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2462.5 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2462.3		BITUMINOUS, 2.5 inches					
0.2		SANDY LEAN CLAY (CL), brown, moist, medium to soft (GLACIAL TILL)	AU				Bulk sample obtained from 1 to 5 feet
				3-3-4 (7) 3"		21	LL=44, PL=14, PI=30 P200=63% MDD=109.0 pcf OMC=16.7%
				3-4-6 (10) 10"		20	
				1-1-2 (3) 8"		27	
2453.5							
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, light brown, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		5-6-7 (13) 18"		30	
2451.5							Water not observed while drilling.
11.0		END OF BORING					
		Boring then backfilled with auger cuttings					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-305**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.893056 LONGITUDE: -102.764933
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2464.7 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2464.2		BITUMINOUS, 5.5 inches					
0.5		SANDY FAT CLAY (CH), dark brown, moist, medium (GLACIAL TILL)		AU			Bulk sample obtained from 1 to 5 feet
				4-3-4 (7) 0"			LL=56, PL=16, PI=40 P200=68% MDD=105.9 pcf OMC=17.9%
2460.7							
4.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		4-6-6 (12) 2"		27	
			5	4-5-6 (11) 12"		30	
			10	6-8-11 (19) 14"		27	
2453.7							
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-306**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.890547 LONGITUDE: -102.768043
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2446.2 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2445.7		BITUMINOUS, 6 inches					
0.5		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, hand deformed sample classified as "Sandy Lean Clay (CL)"	AU				Bulk sample obtained from 1 to 5 feet
				5-4-6 (10) 6"		20	LL=38, PL=16, PI=22 P200=69% MDD=111.1 pcf OMC=15.2%
			5	4-4-6 (10) 14"		22	
2439.7							
6.5		SENTINEL BUTTE FORMATION, CLAYSTONE, gray, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		3-4-6 (10) 12"		28	
			10	5-9-14 (23) 14"		23	
2435.2							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-307**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.892327 LONGITUDE: -102.764749
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2468.8 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2468.4~~		BITUMINOUS, 5.25 inches					
0.4		SANDY LEAN CLAY (CL), brown, moist, medium (GLACIAL TILL)		AU			Bulk sample obtained from 1 to 5 feet
				2-2-3 (5) 0"			LL=36, PL=16, PI=20 P200=59% MDD=109.4 pcf OMC=16.9%
2464.8							
4.0		SENTINEL BUTTE FORMATION, SANDSTONE, brown to gray, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		3-5-5 (10) 10"		12	
				3-4-7 (11) 12"		25	
2459.8							
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, very soft, hand deformed sample classified as "Sandy Lean Clay (CL)"		4-7-10 (17) 14"		24	
2457.8							
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-308**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.891429 LONGITUDE: -102.765053
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2472.0 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2471.8		BITUMINOUS, 2.5 inches					
0.2		FILL: LEAN CLAY with SAND (CL), dark brown, moist		AU			Bulk sample obtained from 1 to 5 feet
				2-2-2 (4) 3"		20	LL=47, PL=16, PI=31 P200=81% MDD=106.4 pcf OMC=17.4%
2468.5							
3.5		SANDY LEAN CLAY (CL), gray, moist, medium (GLACIAL TILL)		3-4-4 (8) 10"		19	
2466.0			5				
6.0		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		3-5-6 (11) 12"		26	
				4-6-14 (20) 10"		13	
2461.0			10				
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-309**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.890939 LONGITUDE: -102.765418
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2466.2 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2465.8~~		BITUMINOUS, 4.75 inches					
0.4		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		AU			Bulk sample obtained from 1 to 5 feet
				5-3-3 (6) 5"		12	LL=30, PL=14, PI=16 P200=36% MDD=111.3 pcf OMC=14.8%
			5	4-4-3 (7) 10"		14	
				9-16-18 (34) 12"		11	
			10	5-12-17 (29) 12"		15	
2455.2							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-310**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.890533 LONGITUDE: -102.764535
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2470.1 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2469.8~~		BITUMINOUS, 3.5 inches					
0.3		CLAYEY SAND (SC), fine-grained, brown, moist, loose (GLACIAL OUTWASH)	AU				Bulk sample obtained from 1 to 5 feet
				4-3-4 (7) 10"		11	LL=26, PL=19, PI=7 P200=39% MDD=114.2 pcf OMC=13.9%
			5	3-2-3 (5) 10"		17	
2464.1							
6.0		SENTINEL BUTTE FORMATION, SANDSTONE, gray, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		7-8-9 (17) 12"		12	
			10	9-10-11 (21) 14"		12	
2459.1							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-311**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.889846 LONGITUDE: -102.767868
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2440.3 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2439.6		BITUMINOUS, 8.75 inches					
0.7		CLAYEY SAND (SC), fine-grained, brown and gray, moist, very loose to loose (GLACIAL OUTWASH)		AU			Bulk sample obtained from 1 to 5 feet
				6-2-2 (4) 1"			LL=28, PL=18, PI=10 P200=42% MDD=114.1 pcf OMC=15.4%
			5	5-3-6 (9) 10"		19	
				2-2-5 (7) 12"		19	
			10	2-3-5 (8) 14"		18	
2429.3							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-312**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.888962 LONGITUDE: -102.766824
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2442.2 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2441.7		BITUMINOUS, 5.75 inches					
0.5		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, hand deformed sample classified as "Sandy Lean Clay (CL)"		AU			Bulk sample obtained from 1 to 5 feet
				7-7-8 (15) 10"		19	LL=39, PL=14, PI=25 P200=53% MDD=109.3 pcf OMC=16.2%
2438.2							
4.0		SENTINEL BUTTE FORMATION, SILTSTONE, tan, moist, decomposed, very soft, sample retrieved as non-cemented "Sandy Silt (ML)"		5-7-9 (16) 12"		23	
2435.7			5				
6.5		SENTINEL BUTTE FORMATION, CLAYSTONE, gray, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		3-4-7 (11) 12"		24	
				5-8-9 (17) 12"		22	
2431.2			10				
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-313**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.888186 LONGITUDE: -102.766825
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2440.3 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2439.8		BITUMINOUS, 6 inches					
0.5		SANDY LEAN CLAY (CL), dark brown, moist, stiff to medium (GLACIAL TILL)	AU	AU			Bulk sample obtained from 1 to 5 feet
				40-5-4 (9) 6"		15	LL=33, PL=13, PI=20 P200=58% MDD=112.1 pcf OMC=13.8%
				3-3-3 (6) 12"		16	
2431.3				2-2-3 (5) 0"			
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown and gray, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"		3-4-6 (10) 10"		30	
2429.3							Water not observed while drilling.
11.0		END OF BORING Boring then backfilled with auger cuttings					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-314**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.887165 LONGITUDE: -102.767863
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2434.8 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2434.2		BITUMINOUS, 7.5 inches					
0.6		SANDY LEAN CLAY (CL), brown, moist, soft to medium (GLACIAL TILL)	AU				Bulk sample obtained from 1 to 5 feet
				2-2-2 (4) 6"		25	LL=38, PL=14, PI=24 P200=65% MDD=109.0 pcf OMC=16.7%
				2-3-5 (8) 6"		25	
				1-1-1 (2) 16"		28	
				1-2-3 (5) 10"		31	
2423.8							Water not observed while drilling.
11.0		END OF BORING Boring then backfilled with auger cuttings					

5
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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-315**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.886620 LONGITUDE: -102.766535
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2436.7 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2436.4~~		BITUMINOUS, 4 inches					
0.3		SANDY LEAN CLAY (CL), dark brown to brown, moist, medium to stiff (GLACIAL TILL)		AU			Bulk sample obtained from 1 to 5 feet
				4-3-3 (6) 10"		24	LL=34, PL=17, PI=17 P200=54% MDD=110.3 pcf OMC=15.6%
			5	4-6-8 (14) 12"		20	
				2-3-3 (6) 10"		28	
2427.7							
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, gray, moist, very soft, hand deformed sample classified as "Fat Clay (CH)"	10	3-4-5 (9) 14"		27	
2425.7							
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-316**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.885589 LONGITUDE: -102.764371
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2443.9 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2443.5~~		BITUMINOUS, 4.5 inches					
0.4		SANDY LEAN CLAY (CL), dark brown to brown, moist, soft to medium (GLACIAL TILL)		AU			Bulk sample obtained from 1 to 5 feet
				4-2-2 (4) 6"		19	LL=41, PL=13, PI=28 P200=59% MDD=108.5 pcf OMC=16.2%
			5	4-2-3 (5) 8"		21	
2437.4							
6.5		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, iron oxide staining, sample retrieved as non-cemented "Clayey Sand (SC)"		2-5-7 (12) 12"		24	
2434.9							
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, gray, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"	10	4-7-8 (15) 18"		33	
2432.9							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-317**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.885304 LONGITUDE: -102.767370
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2444.6 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
~~2444.3~~		BITUMINOUS, 3.5 inches					
0.3		SENTINEL BUTTE FORMATION, CLAYSTONE, brown and gray, moist, decomposed, very soft, hand deformed sample classified as "Lean Clay (CL)"	AU				Bulk sample obtained from 1 to 5 feet
				4-4-9 (13) 14"		16	LL=49, PL=15, PI=34 P200=87% MDD=103.4 pcf OMC=18.9%
			5	5-6-8 (14) 12"		18	
				5-8-10 (18) 12"		21	
			10	5-8-11 (19) 12"		19	
2433.6							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-318**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.883689 LONGITUDE: -102.765188
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2457.5 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2457.1		BITUMINOUS, 5 inches					
0.4		CLAYEY SAND (SC), fine to medium-grained, brown, moist, loose (GLACIAL OUTWASH)	AU				Bulk sample obtained from 1 to 5 feet
				4-3-4 (7) 12"		13	LL=31, PL=16, PI=15 P200=46% MDD=112.9 pcf OMC=15.9%
			5	3-3-3 (6) 14"		7	
2451.0							
6.5		SENTINEL BUTTE FORMATION, CLAYSTONE, gray, moist, decomposed, very soft, iron oxide staining, hand deformed sample classified as "Fat Clay (CH)"		4-6-8 (14) 12"		29	
			10	5-7-10 (17) 12"		32	
2446.5							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-319**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.882239 LONGITUDE: -102.764006
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2464.6 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2464.2		BITUMINOUS, 5 inches					
0.4		CLAYEY SAND (SC), fine to medium-grained, dark brown to brown, moist, loose (GLACIAL OUTWASH)	AU				Bulk sample obtained from 1 to 5 feet
				3-2-3 (5) 10"		11	LL=24, PL=15, PI=9 P200=32% MDD=116.1 pcf OMC=12.6%
			5	4-3-3 (6) 12"		11	
2457.1				4-3-4 (7) 12"		27	
7.5		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"					
2455.6			10	4-4-8 (12) 12"		27	
9.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, hand deformed sample classified as "Fat Clay (CH)"					Water not observed while drilling.
2453.6							
11.0		END OF BORING					
		Boring then backfilled with auger cuttings	15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-320**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.882770 LONGITUDE: -102.766253
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/14/24 END DATE: 08/14/24
SURFACE ELEVATION: 2462.2 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2461.8		BITUMINOUS, 5 inches					
0.4		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"	AU				Bulk sample obtained from 1 to 5 feet
				7-6-6 (12) 12"		10	LL=29, PL=16, PI=13 P200=37% MDD=116.0 pcf OMC=14.7%
2457.7							
4.5		SENTINEL BUTTE FORMATION, CLAYSTONE, gray to brown, moist, decomposed, very soft, with Lignite seams, hand deformed sample classified as "Fat Clay (CH)"		5-6-8 (14) 12"		30	
				5-6-7 (13) 10"		30	
				4-4-8 (12) 10"		27	
2451.2							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-321**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.869273 LONGITUDE: -102.806004
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2392.1 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2391.5		BITUMINOUS, 7.25 inches					
0.6		SANDY LEAN CLAY (CL), brown, moist, stiff to medium (GLACIAL TILL)	AU				Bulk sample obtained from 1 to 5 feet
				7-4-6 (10) 0"			LL=42, PL=15, PI=27 P200=67% MDD=108.2 pcf OMC=15.3%
			5	3-3-3 (6) 14"		20	
2385.6							
6.5		CLAYEY SAND (SC), fine-grained, brown, moist, loose (GLACIAL OUTWASH)		4-3-5 (8) 12"		7	
			10	3-3-7 (10) 16"		3	
2381.1							
11.0		END OF BORING					Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-322**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.869241 LONGITUDE: -102.803576
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2409.2 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2408.7		BITUMINOUS, 6 inches					
0.5		SILTY SAND (SM), fine-grained, brown, moist, loose (GLACIAL OUTWASH)		AU			Bulk sample obtained from 1 to 5 feet
				3-3-4 (7) 14"		13	Non-plastic P200=25% MDD=112.4 pcf OMC=12.6%
2405.2							
4.0		SENTINEL BUTTE FORMATION, SANDSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		4-6-7 (13) 18"		19	
			5				
				6-12-16 (28) 16"		11	
			10	7-14-19 (33) 16"		13	
2398.2							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-323**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.869256 LONGITUDE: -102.801672
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2394.8 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
2394.1		BITUMINOUS, 8.25 inches					
0.7		SANDY LEAN CLAY (CL), dark brown to brown, moist, stiff to medium, iron oxide staining (GLACIAL TILL)	AU				Bulk sample obtained from 1 to 5 feet
				7-7-6 (13) 12"		13	LL=32, PL=13, PI=19 P200=56% MDD=110.8 pcf OMC=14.0%
			5	3-3-5 (8) 14"		16	
				4-4-8 (12) 14"		14	
			10	4-4-4 (8) 12"		30	
2383.8							
11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-324**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.904614 LONGITUDE: -102.780126
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2508.7 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, iron oxide staining, hand deformed sample classified as "Fat Clay (CH)"	AU				Bulk sample obtained from 1 to 5 feet
				3-4-6 (10) 12"		35	LL=51, PL=20, PI=31 P200=60% MDD=100.8 pcf OMC=21.7%
			5	3-4-7 (11) 16"		33	
2502.2 6.5		SENTINEL BUTTE FORMATION, SILTSTONE, brown, moist, decomposed, very soft, fine-grained, sample retrieved as non-cemented "Clayey Sand (SC)"		8-11-15 (26) 16"		13	
			10	12-14-12 (26) 16"		23	
2497.7 11.0		END OF BORING Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2406649.02
Geotechnical Evaluation
2025 Road Maintenance
Dickinson, North Dakota

BORING: **ST-325**
LOCATION: Captured with RTK GPS.
DATUM: WGS 84
LATITUDE: 46.904605 LONGITUDE: -102.779247
DRILLER: V.Burnham LOGGED BY: C.Yoder START DATE: 08/15/24 END DATE: 08/15/24
SURFACE ELEVATION: 2511.5 ft RIG: 5702 METHOD: 3 1/4" HSA SURFACING: Asphalt WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
		SANDY LEAN CLAY (CL), brown, moist, stiff (GLACIAL TILL)		AU			Bulk sample obtained from 1 to 5 feet
				6-6-8 (14) 12"		23	LL=39, PL=15, PI=24 P200=54% MDD=113.8 pcf OMC=14.5%
2507.5 4.0		SENTINEL BUTTE FORMATION, CLAYSTONE, brown, moist, decomposed, very soft, Sandstone lesnes and crystalization, hand deformed sample classified as "Fat Clay (CH)"		5-7-8 (15) 10"		26	
				4-7-10 (17) 16"		31	
2500.5 11.0		END OF BORING		5-7-10 (17) 14"		31	Water not observed while drilling.
		Boring then backfilled with auger cuttings					

Photograph:	Core ST-301	Project B2406649.02
Description:	6.75 inches	BRAUN INTERTEC

Photograph:	Core ST-302	Project B2406649.02
Description:	7 inches	BRAUN INTERTEC

Photograph:	Core ST-303	Project B2406649.02
Description:	3 inches	BRAUN INTERTEC

Photograph:	Core ST-304	Project B2406649.02
Description:	2.5 inches	BRAUN INTERTEC

Photograph:	Core ST-305	Project B2406649.02
Description:	5.5 inches	BRAUN INTERTEC

Photograph:	Core ST-306	Project B2406649.02
Description:	5.5 inches	BRAUN INTERTEC

Photograph:	Core ST-307	Project B2406649.02
Description:	5.25 inches	BRAUN INTERTEC

Photograph:	Core ST-308	Project B2406649.02
Description:	2.5 inches	BRAUN INTERTEC

Photograph:	Core ST-309	Project B2406649.02
Description:	4.75 inches	BRAUN INTERTEC

Photograph:	Core ST-310	Project B2406649.02
Description:	3.5 inches	BRAUN INTERTEC

Photograph:	Core ST-311	Project B2406649.02
Description:	8.75 inches	BRAUN INTERTEC

Photograph:	Core ST-312	Project B2406649.02
Description:	5.75 inches	BRAUN INTERTEC

Photograph:	Core ST-313	Project B2406649.02
Description:	6 inches	BRAUN INTERTEC

Photograph:	Core ST-314	Project B2406649.02
Description:	7.5 inches	BRAUN INTERTEC

Photograph:	Core ST-315	Project B2406649.02
Description:	4 inches	BRAUN INTERTEC

Photograph:	Core ST-316	Project B2406649.02
Description:	4.5 inches	BRAUN INTERTEC

Photograph:	Core ST-317	Project B2406649.02
Description:	3.5 inches	BRAUN INTERTEC

No image available

Photograph:	Core ST-318	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core ST-319	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

No image available

Photograph:	Core ST-320	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core ST-321	Project B2406649.02
Description:	7.25 inches	BRAUN INTERTEC

Photograph:	Core ST-322	Project B2406649.02
Description:	6 inches	BRAUN INTERTEC

Photograph:	Core ST-323	Project B2406649.02
Description:	8.25 inches	BRAUN INTERTEC

Photograph:	Core C-324	Project B2406649.02
Description:	7 inches	BRAUN INTERTEC

Photograph:	Core C-325	Project B2406649.02
Description:	8 inches	BRAUN INTERTEC

Photograph:	Core C326	Project B2406649.02
Description:	5.5 inches	BRAUN INTERTEC

Photograph:	Core C327	Project B2406649.02
Description:	4 inches	BRAUN INTERTEC

Photograph:	Core C328	Project B2406649.02
Description:	4.75 inches	BRAUN INTERTEC

Photograph:	Core C329	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C330	Project B2406649.02
Description:	9 inches	BRAUN INTERTEC

No image available

Photograph:	Core C331	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C332	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C333	Project B2406649.02
Description:	5.75 inches	BRAUN INTERTEC

Photograph:	Core C334	Project B2406649.02
Description:	4 inches	BRAUN INTERTEC

Photograph:	Core C335	Project B2406649.02
Description:	9 inches	BRAUN INTERTEC

Photograph:	Core C336	Project B2406649.02
Description:	3 inches	BRAUN INTERTEC

Photograph:	Core C337	Project B2406649.02
Description:	4.75 inches	BRAUN INTERTEC

Photograph:	Core C338	Project B2406649.02
Description:	7 inches	BRAUN INTERTEC

Photograph:	Core C339	Project B2406649.02
Description:	4.5 inches	BRAUN INTERTEC

Photograph:	Core C340	Project B2406649.02
Description:	5.5 inches	BRAUN INTERTEC

Photograph:	Core C341	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C342	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C343	Project B2406649.02
Description:	7 inches	BRAUN INTERTEC

Photograph:	Core C344	Project B2406649.02
Description:	3.5 inches	BRAUN INTERTEC

Photograph:	Core C345	Project B2406649.02
Description:	5.5 inches	BRAUN INTERTEC

Photograph:	Core C346	Project B2406649.02
Description:	6 inches	BRAUN INTERTEC

Photograph:	Core C347	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C348	Project B2406649.02
Description:	5 inches	BRAUN INTERTEC

Photograph:	Core C349	Project B2406649.02
Description:	7.25 inches	BRAUN INTERTEC

Photograph:	Core C350	Project B2406649.02
Description:	6.5 inches	BRAUN INTERTEC

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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/16/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

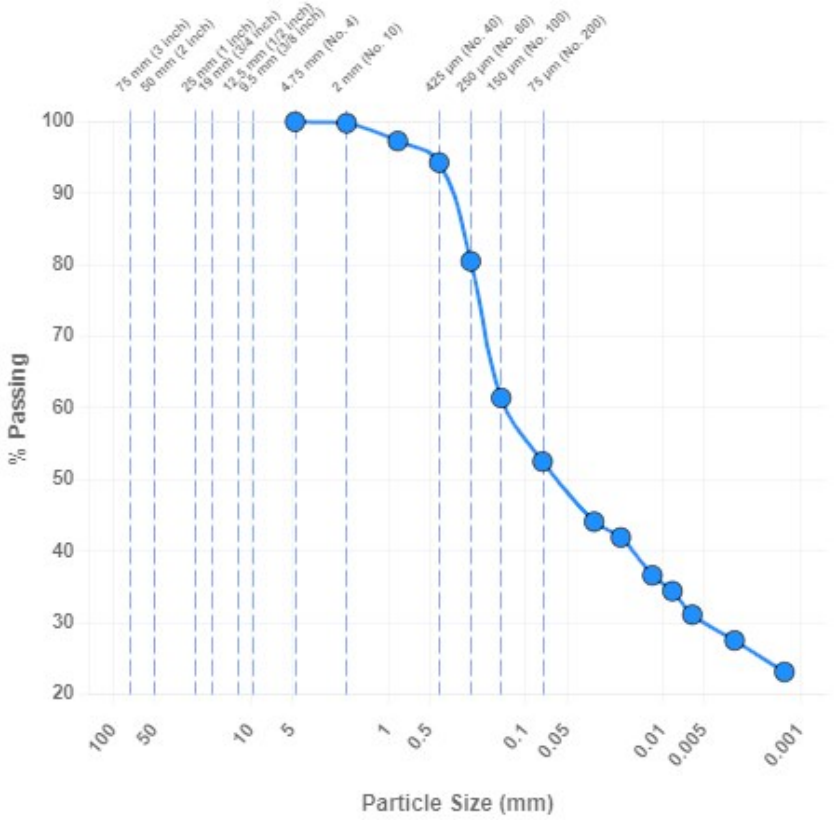
Sample Information

Sample Number:	618788	**Depth (ft):**	Bulk 5'
Boring Number:	ST-301	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/16/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	99.8	-
850 µm (No. 20)	97.3	-
425 µm (No. 40)	94.3	-
250 µm (No. 60)	80.5	-
150 µm (No. 100)	61.4	-
75 µm (No. 200)	52.5	-
31.6 (µm)	44.1	-
20.2 (µm)	41.9	-
11.9 (µm)	36.6	-
8.5 (µm)	34.4	-
6.1 (µm)	31.1	-
3.0 (µm)	27.5	-
1.3 (µm)	23.1	-



Soil Classification: CL Sandy lean clay

Gravel (%):	0.0	**Sand (%):**	47.5	**Silt (%):**	22.7	**Clay (%):**	29.8
D_{60} (µm):	138.2	**D_{30} (µm):**	5.2				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

BRAUN INTERTEC
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2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

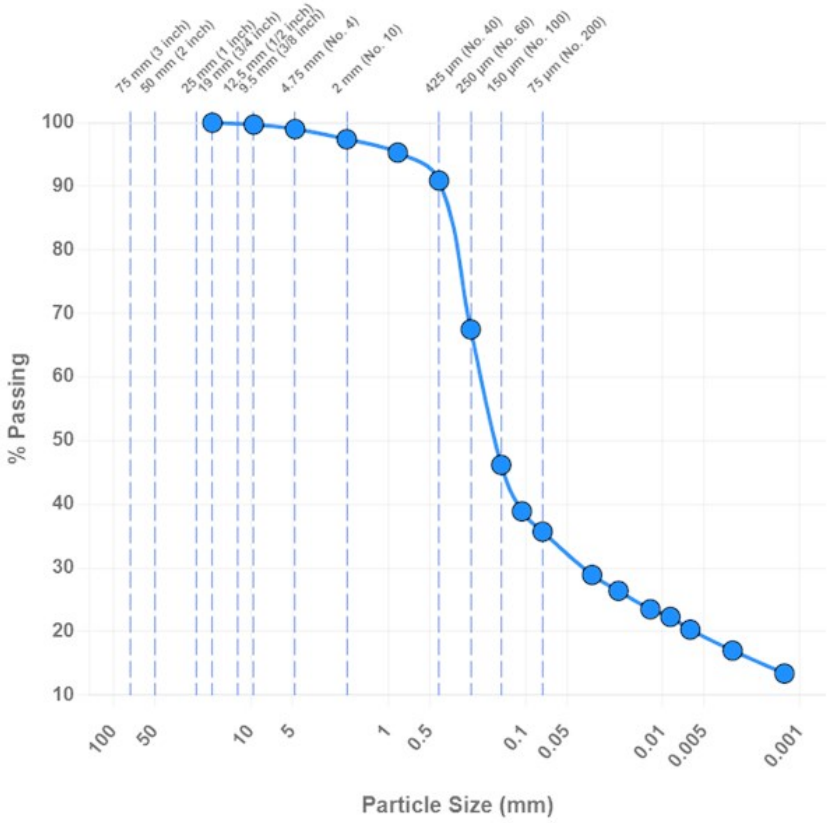
Sample Information

Sample Number:	619951	**Alternate ID:**	ST-302
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-302	**Sampled By:**	Drill Crew
Location Details:	Boring ST-302		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.7	-
4.75 mm (No. 4)	99.0	-
2 mm (No. 10)	97.4	-
850 µm (No. 20)	95.3	-
425 µm (No. 40)	90.9	-
250 µm (No. 60)	67.5	-
150 µm (No. 100)	46.2	-
106 µm (No. 140)	38.9	-
75 µm (No. 200)	35.7	-
32.7 (µm)	28.9	-
21.0 (µm)	26.4	-
12.3 (µm)	23.5	-
8.8 (µm)	22.3	-
6.3 (µm)	20.3	-
3.1 (µm)	17.0	-
1.3 (µm)	13.4	-



Soil Classification: SC Clayey sand

Gravel (%):	1.0	**Sand (%):**	63.3	**Silt (%):**	16.7	**Clay (%):**	19.0
D_{60} (µm):	214.8	**D_{30} (µm):**	39.5				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

BRAUN INTERTEC
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2908 Morrison Ave.
Suite 3
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Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

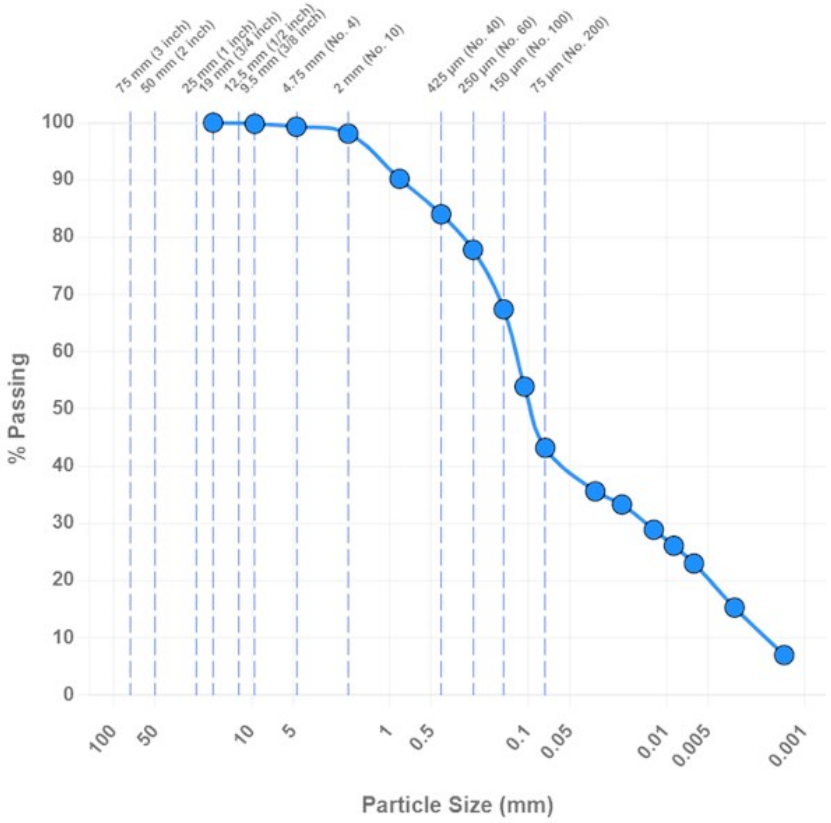
Sample Information

Sample Number:	619953	**Alternate ID:**	ST-303
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-303	**Sampled By:**	Drill Crew
Location Details:	Boring ST-303		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.8	-
4.75 mm (No. 4)	99.3	-
2 mm (No. 10)	98.1	-
850 µm (No. 20)	90.2	-
425 µm (No. 40)	84.0	-
250 µm (No. 60)	77.8	-
150 µm (No. 100)	67.4	-
106 µm (No. 140)	53.9	-
75 µm (No. 200)	43.2	-
32.6 (µm)	35.6	-
20.9 (µm)	33.3	-
12.3 (µm)	28.9	-
8.8 (µm)	26.1	-
6.3 (µm)	23.0	-
3.2 (µm)	15.3	-
1.4 (µm)	7.0	-



Soil Classification: SC Clayey sand

Gravel (%):	0.7	**Sand (%):**	56.1	**Silt (%):**	23.4	**Clay (%):**	19.8		
D_{60} (µm):	125.9	**D_{30} (µm):**	14.5	**D_{10} (µm):**	2.1	**C_u:**	59.95	**C_c:**	0.80

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 09/25/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

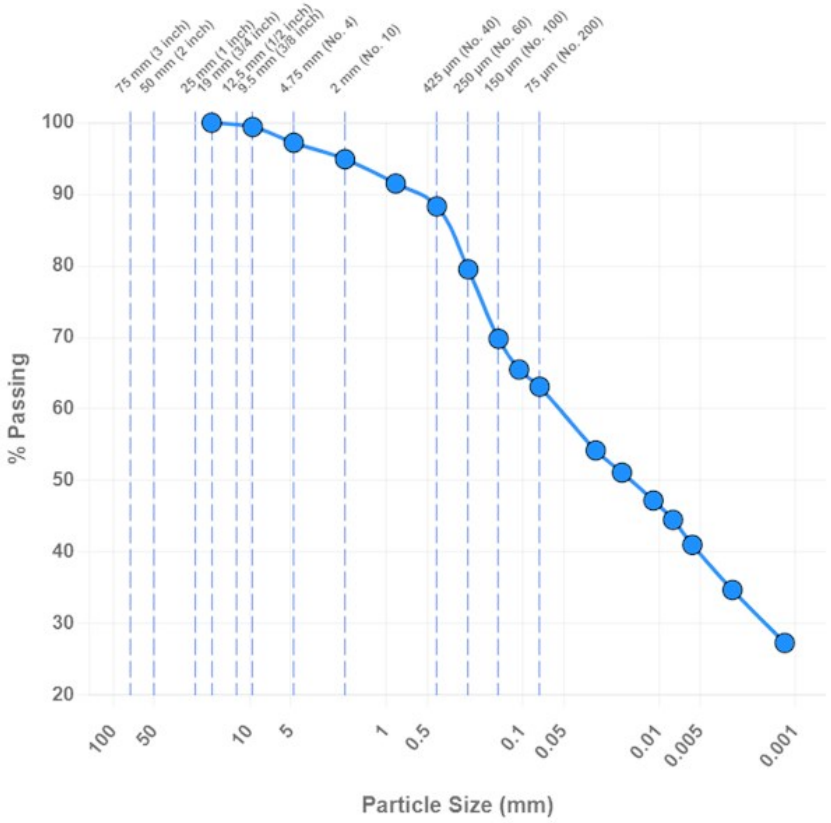
Sample Information

Sample Number:	619828	**Alternate ID:**	ST-304
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-304	**Sampled By:**	Drill Crew
Location Details:	Boring ST-304		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/19/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.4	-
4.75 mm (No. 4)	97.2	-
2 mm (No. 10)	94.9	-
850 µm (No. 20)	91.5	-
425 µm (No. 40)	88.3	-
250 µm (No. 60)	79.5	-
150 µm (No. 100)	69.8	-
106 µm (No. 140)	65.5	-
75 µm (No. 200)	63.1	-
29.1 (µm)	54.2	-
18.7 (µm)	51.1	-
11.0 (µm)	47.2	-
7.9 (µm)	44.5	-
5.7 (µm)	41.0	-
2.9 (µm)	34.7	-
1.2 (µm)	27.3	-



Soil Classification: CL Sandy lean clay

Gravel (%):	2.8	**Sand (%):**	34.1	**Silt (%):**	23.7	**Clay (%):**	39.4
D_{60} (µm):	59.0	**D_{30} (µm):**	1.8				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

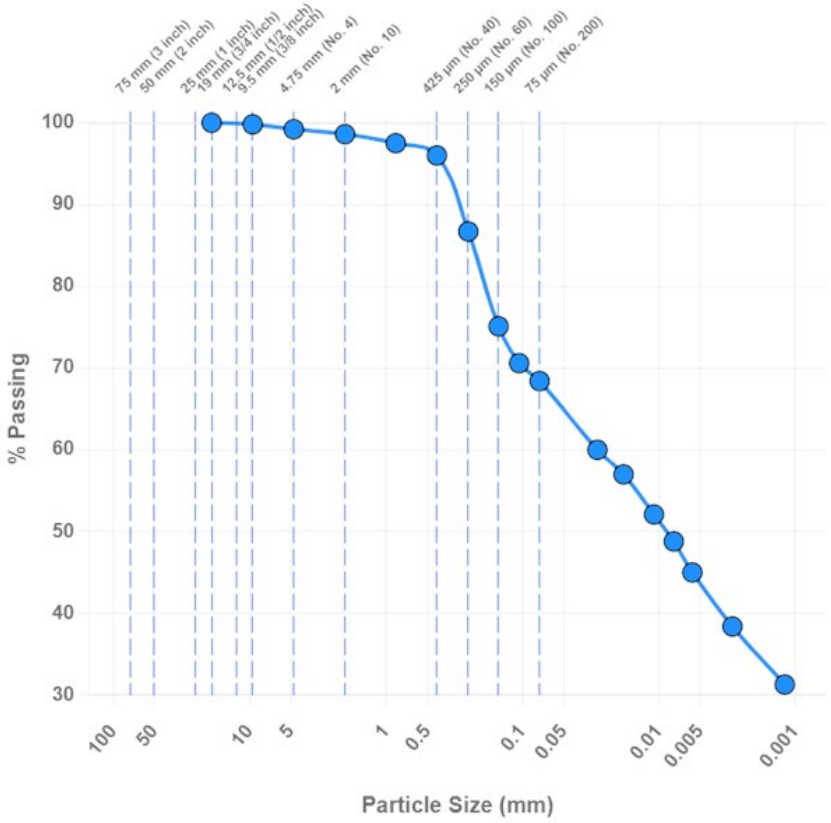
Sample Information

Sample Number:	619955	**Alternate ID:**	ST-305
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-305	**Sampled By:**	Drill Crew
Location Details:	Boring ST-305		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.8	-
4.75 mm (No. 4)	99.2	-
2 mm (No. 10)	98.6	-
850 µm (No. 20)	97.5	-
425 µm (No. 40)	96.0	-
250 µm (No. 60)	86.7	-
150 µm (No. 100)	75.1	-
106 µm (No. 140)	70.6	-
75 µm (No. 200)	68.4	-
28.3 (µm)	60.0	-
18.2 (µm)	57.0	-
10.9 (µm)	52.1	-
7.8 (µm)	48.8	-
5.7 (µm)	45.0	-
2.9 (µm)	38.4	-
1.2 (µm)	31.3	-



Soil Classification: CH Sandy fat clay

Gravel (%):	0.8	**Sand (%):**	30.8	**Silt (%):**	25.0	**Clay (%):**	43.4
D_{60} (µm):	28.3						

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

BRAUN INTERTEC
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2908 Morrison Ave.
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Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

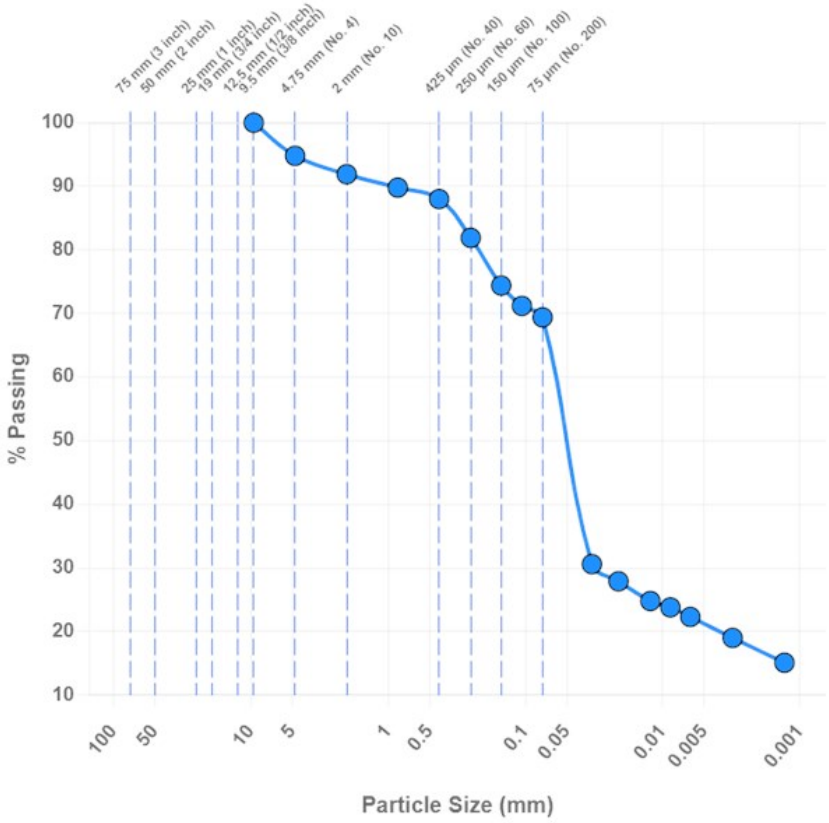
Sample Information

Sample Number:	619956	**Alternate ID:**	ST-306
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-306	**Sampled By:**	Drill Crew
Location Details:	Boring ST-306		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
9.5 mm (3/8 inch)	100.0	-
4.75 mm (No. 4)	94.8	-
2 mm (No. 10)	91.9	-
850 µm (No. 20)	89.8	-
425 µm (No. 40)	88.0	-
250 µm (No. 60)	81.9	-
150 µm (No. 100)	74.4	-
106 µm (No. 140)	71.2	-
75 µm (No. 200)	69.4	-
32.8 (µm)	30.6	-
21.0 (µm)	27.9	-
12.3 (µm)	24.8	-
8.8 (µm)	23.8	-
6.3 (µm)	22.3	-
3.1 (µm)	19.0	-
1.3 (µm)	15.1	-



Soil Classification: CL Lean clay with sand

Gravel (%):	5.2	**Sand (%):**	25.4	**Silt (%):**	48.4	**Clay (%):**	21.0
D_{60} (µm):	64.8	**D_{30} (µm):**	30.2				

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/21/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

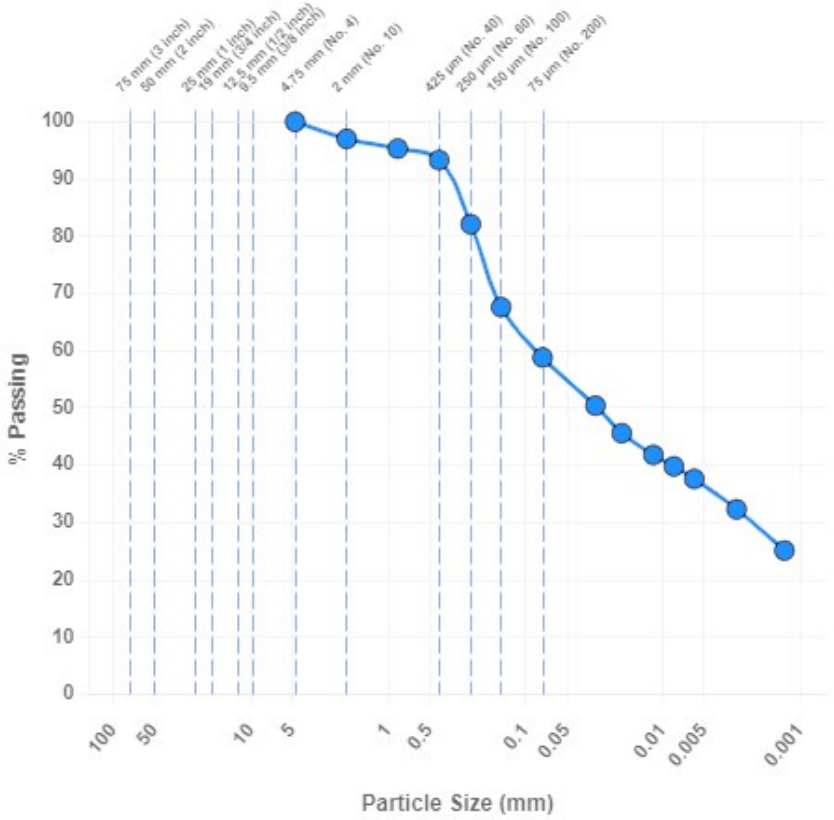
Sample Information

Sample Number:	618790	**Depth (ft):**	Bulk 5'
Boring Number:	ST-307	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/21/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	97.0	-
850 µm (No. 20)	95.3	-
425 µm (No. 40)	93.3	-
250 µm (No. 60)	82.1	-
150 µm (No. 100)	67.6	-
75 µm (No. 200)	58.8	-
30.9 (µm)	50.4	-
19.9 (µm)	45.6	-
11.7 (µm)	41.8	-
8.3 (µm)	39.8	-
5.9 (µm)	37.6	-
2.9 (µm)	32.3	-
1.3 (µm)	25.1	-



Soil Classification: CL Sandy lean clay

Gravel (%):	0.0	**Sand (%):**	41.2	**Silt (%):**	22.8	**Clay (%):**	36.0
D_{60} (µm):	85.2	**D_{30} (µm):**	2.4				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

BRAUN INTERTEC
The Science You Build On.

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

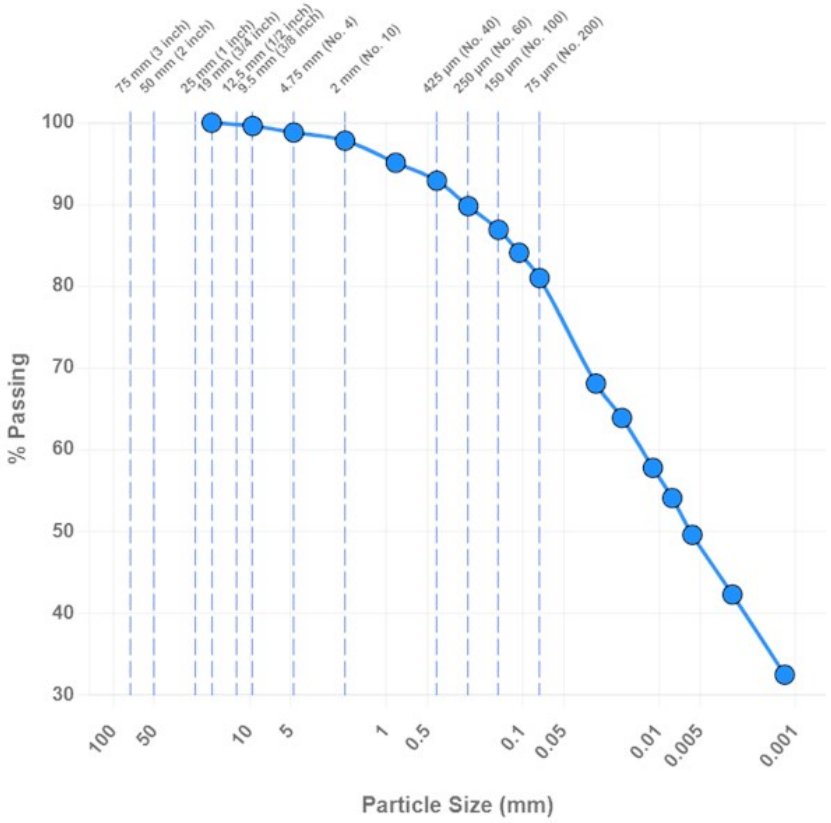
Sample Information

Sample Number:	619957	**Alternate ID:**	ST-308
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-308	**Sampled By:**	Drill Crew
Location Details:	Boring ST-308		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.6	-
4.75 mm (No. 4)	98.8	-
2 mm (No. 10)	97.8	-
850 µm (No. 20)	95.1	-
425 µm (No. 40)	92.9	-
250 µm (No. 60)	89.8	-
150 µm (No. 100)	86.9	-
106 µm (No. 140)	84.1	-
75 µm (No. 200)	81.0	-
29.0 (µm)	68.1	-
18.7 (µm)	63.9	-
11.1 (µm)	57.8	-
8.0 (µm)	54.1	-
5.7 (µm)	49.6	-
2.9 (µm)	42.3	-
1.2 (µm)	32.5	-



Soil Classification: CL Lean clay with sand

Gravel (%):	1.2	**Sand (%):**	17.8	**Silt (%):**	33.2	**Clay (%):**	47.8
D_{60} (µm):	13.8						

General

BRAUN INTERTEC
The Science You Build On.

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

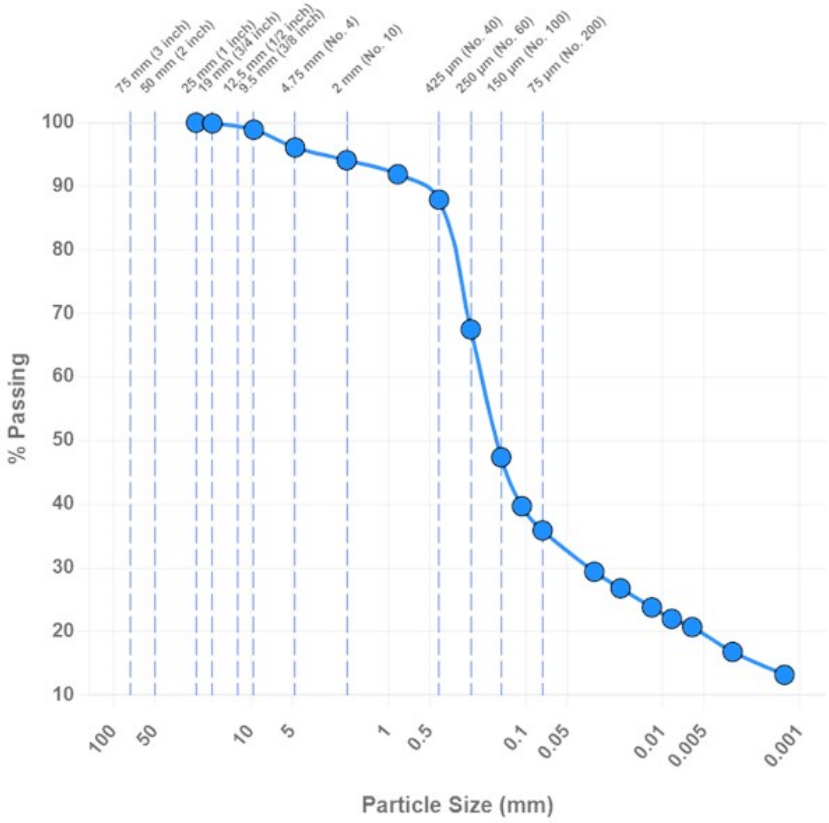
Sample Information

Sample Number:	619958	**Alternate ID:**	ST-309
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-309	**Sampled By:**	Drill Crew
Location Details:	Boring ST-309		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
25 mm (1 inch)	100.0	-
19 mm (3/4 inch)	99.9	-
9.5 mm (3/8 inch)	98.9	-
4.75 mm (No. 4)	96.1	-
2 mm (No. 10)	94.1	-
850 µm (No. 20)	91.9	-
425 µm (No. 40)	87.9	-
250 µm (No. 60)	67.5	-
150 µm (No. 100)	47.4	-
106 µm (No. 140)	39.7	-
75 µm (No. 200)	35.9	-
31.5 (µm)	29.4	-
20.3 (µm)	26.8	-
12.0 (µm)	23.8	-
8.6 (µm)	22.0	-
6.1 (µm)	20.7	-
3.1 (µm)	16.8	-
1.3 (µm)	13.2	-



Soil Classification: SC Clayey sand

Gravel (%):	3.9	**Sand (%):**	60.2	**Silt (%):**	16.6	**Clay (%):**	19.3
D_{60} (µm):	212.7	**D_{30} (µm):**	35.5				

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/16/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

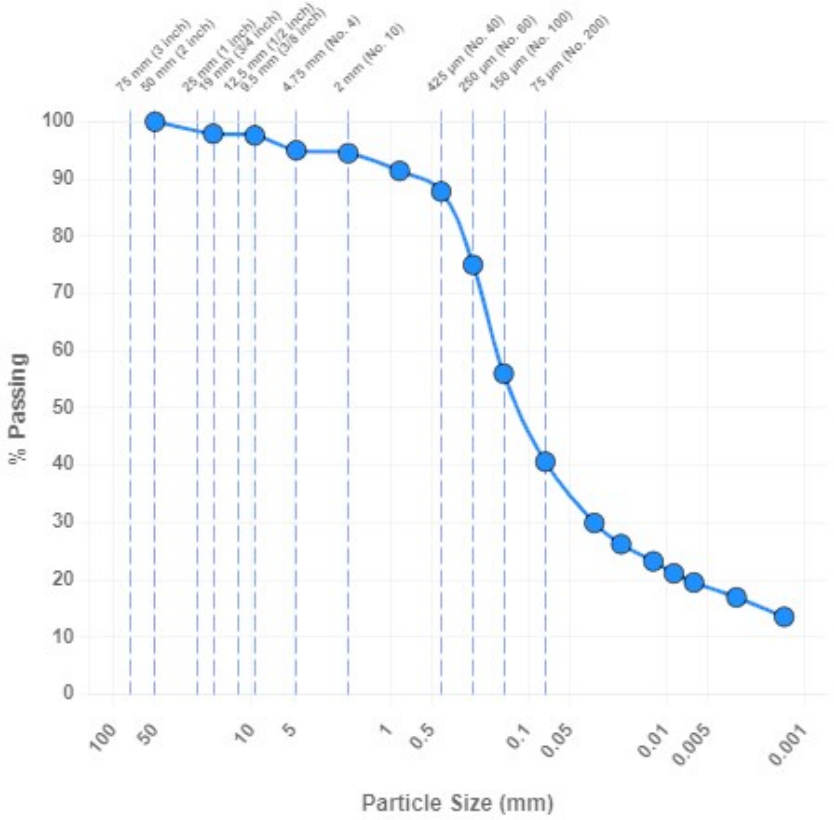
Sample Information

Sample Number:	618792	**Depth (ft):**	Bulk 5'
Boring Number:	ST-310	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/16/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
50 mm (2 inch)	100.0	-
19 mm (3/4 inch)	97.9	-
9.5 mm (3/8 inch)	97.6	-
4.75 mm (No. 4)	95.0	-
2 mm (No. 10)	94.5	-
850 µm (No. 20)	91.4	-
425 µm (No. 40)	87.8	-
250 µm (No. 60)	75.0	-
150 µm (No. 100)	56.0	-
75 µm (No. 200)	40.6	-
33.1 (µm)	29.9	-
21.2 (µm)	26.2	-
12.4 (µm)	23.2	-
8.8 (µm)	21.1	-
6.3 (µm)	19.5	-
3.1 (µm)	16.9	-
1.4 (µm)	13.5	-



Soil Classification: SC Clayey sand

Gravel (%):	5.0	**Sand (%):**	54.4	**Silt (%):**	22.2	**Clay (%):**	18.4
D_{60} (µm):	171.1	**D_{30} (µm):**	33.5				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/16/2024

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Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

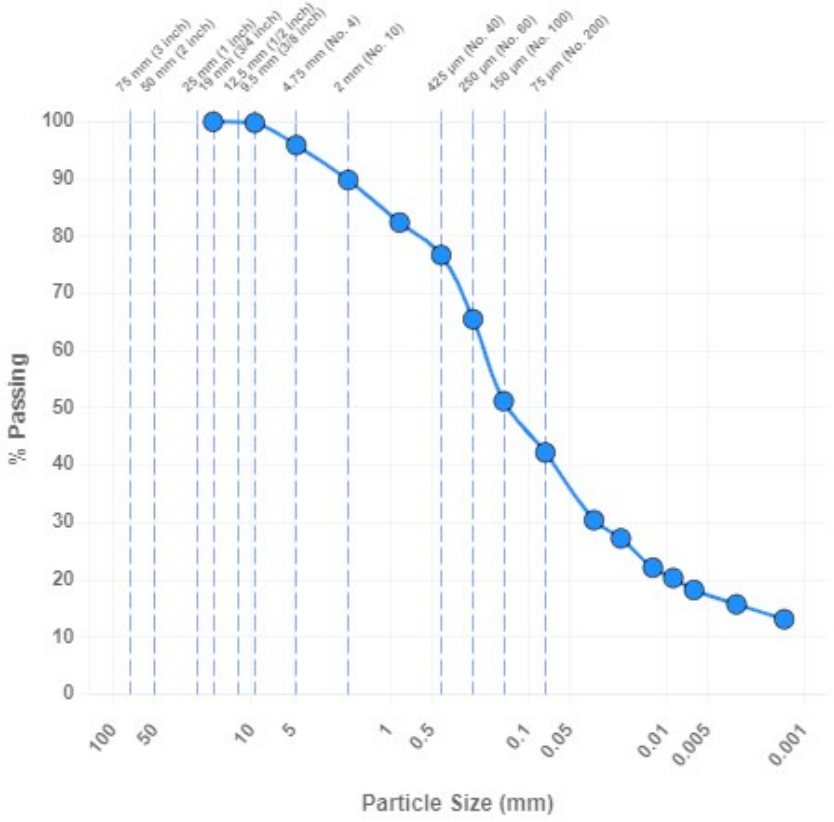
Sample Information

Sample Number:	618795	**Depth (ft):**	Bulk 5'
Boring Number:	ST-311	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/16/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.8	-
4.75 mm (No. 4)	95.9	-
2 mm (No. 10)	89.8	-
850 µm (No. 20)	82.4	-
425 µm (No. 40)	76.7	-
250 µm (No. 60)	65.5	-
150 µm (No. 100)	51.2	-
75 µm (No. 200)	42.2	-
33.3 (µm)	30.4	-
21.3 (µm)	27.2	-
12.5 (µm)	22.1	-
8.9 (µm)	20.3	-
6.3 (µm)	18.2	-
3.1 (µm)	15.7	-
1.4 (µm)	13.1	-



Soil Classification: SC Clayey sand

Gravel (%):	4.1	**Sand (%):**	53.7	**Silt (%):**	25.0	**Clay (%):**	17.2
D_{60} (µm):	211.5	**D_{30} (µm):**	31.8				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

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Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

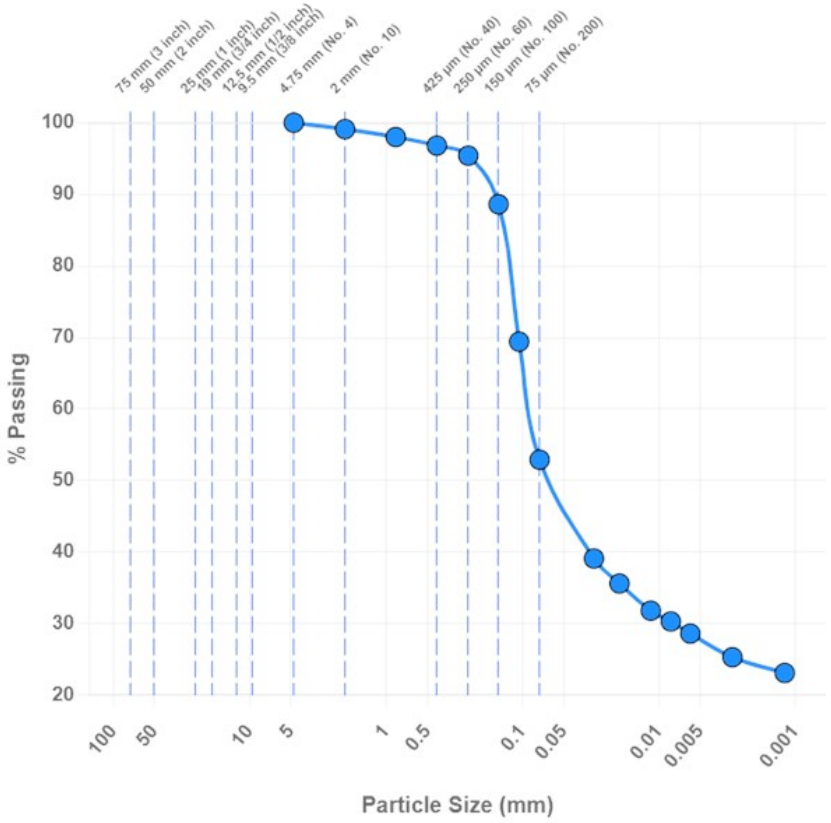
Sample Information

Sample Number:	619959	**Alternate ID:**	ST-312
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-312	**Sampled By:**	Drill Crew
Location Details:	Boring ST-312		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	99.1	-
850 µm (No. 20)	98.0	-
425 µm (No. 40)	96.8	-
250 µm (No. 60)	95.4	-
150 µm (No. 100)	88.6	-
106 µm (No. 140)	69.4	-
75 µm (No. 200)	52.9	-
30.0 (µm)	39.1	-
19.5 (µm)	35.6	-
11.5 (µm)	31.8	-
8.2 (µm)	30.3	-
5.9 (µm)	28.6	-
2.9 (µm)	25.3	-
1.2 (µm)	23.1	-



Soil Classification: CL Sandy lean clay

Gravel (%):	0.0	**Sand (%):**	47.1	**Silt (%):**	25.3	**Clay (%):**	27.6
D_{60} (µm):	88.3	**D_{30} (µm):**	7.8				

General

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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 09/25/2024

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Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

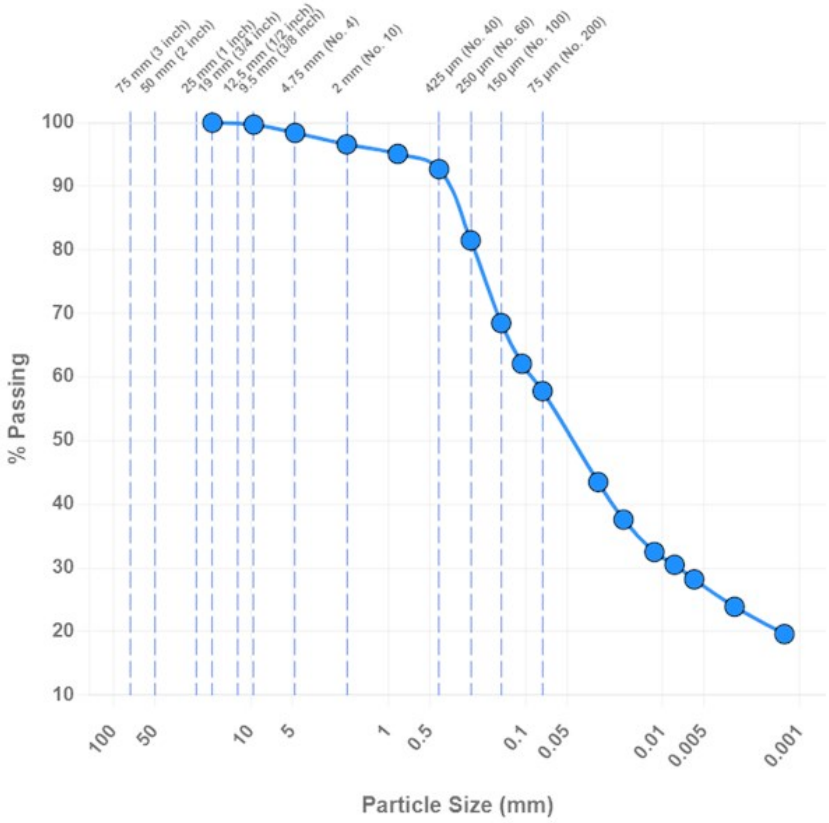
Sample Information

Sample Number:	619831	**Alternate ID:**	ST-313
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-313	**Sampled By:**	Drill Crew
Location Details:	Boring ST-313		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/19/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.7	-
4.75 mm (No. 4)	98.4	-
2 mm (No. 10)	96.6	-
850 µm (No. 20)	95.1	-
425 µm (No. 40)	92.7	-
250 µm (No. 60)	81.5	-
150 µm (No. 100)	68.5	-
106 µm (No. 140)	62.1	-
75 µm (No. 200)	57.8	-
29.5 (µm)	43.5	-
19.3 (µm)	37.6	-
11.5 (µm)	32.5	-
8.2 (µm)	30.5	-
5.9 (µm)	28.2	-
3.0 (µm)	23.9	-
1.3 (µm)	19.6	-



Soil Classification: CL Sandy lean clay

Gravel (%):	1.6	**Sand (%):**	40.6	**Silt (%):**	30.9	**Clay (%):**	26.9
D_{60} (µm):	90.9	**D_{30} (µm):**	7.7				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 09/25/2024

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Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

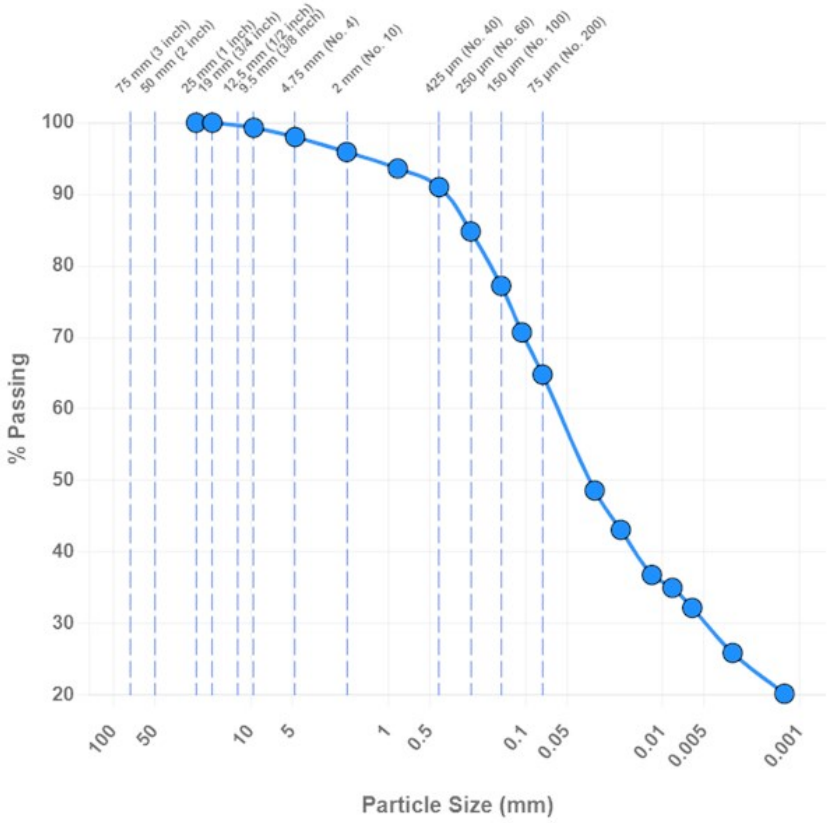
Sample Information

Sample Number:	619833	**Alternate ID:**	ST-314
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-314	**Sampled By:**	Drill Crew
Location Details:	Boring ST-314		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/24/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
25 mm (1 inch)	100.0	-
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.3	-
4.75 mm (No. 4)	98.0	-
2 mm (No. 10)	95.9	-
850 µm (No. 20)	93.6	-
425 µm (No. 40)	91.0	-
250 µm (No. 60)	84.8	-
150 µm (No. 100)	77.2	-
106 µm (No. 140)	70.7	-
75 µm (No. 200)	64.8	-
31.3 (µm)	48.6	-
20.2 (µm)	43.1	-
12.0 (µm)	36.8	-
8.5 (µm)	35.0	-
6.1 (µm)	32.2	-
3.1 (µm)	25.9	-
1.3 (µm)	20.2	-



Soil Classification: CL Sandy lean clay

Gravel (%):	2.0	**Sand (%):**	33.2	**Silt (%):**	34.9	**Clay (%):**	29.9
D_{60} (µm):	62.1	**D_{30} (µm):**	5.1				

General

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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/21/2024

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Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

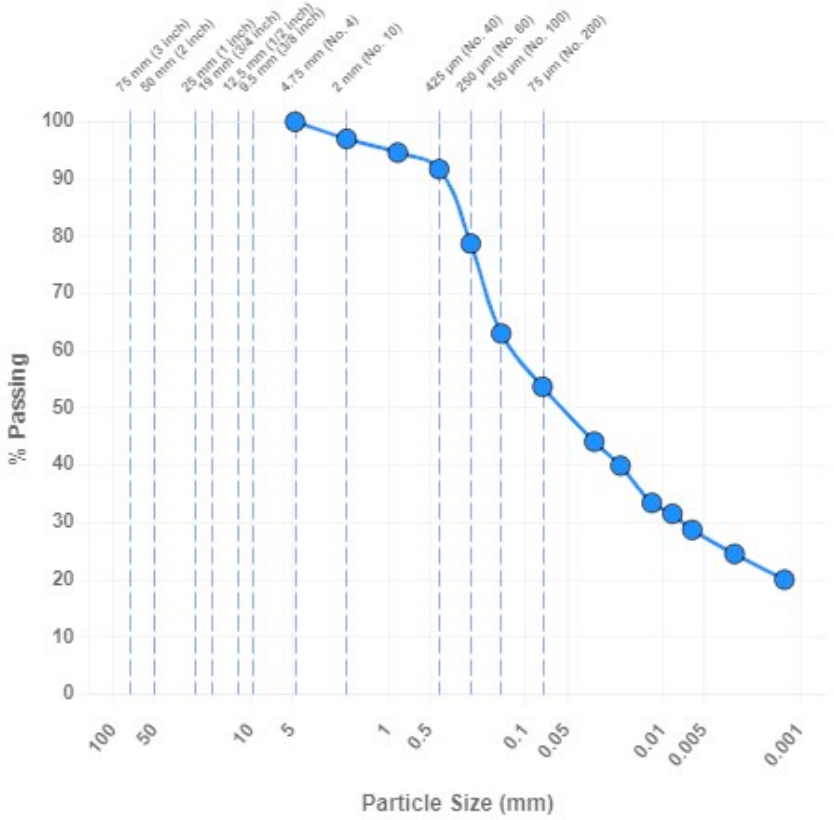
Sample Information

Sample Number:	618796	**Depth (ft):**	Bulk 5'
Boring Number:	ST-315	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/21/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	97.0	-
850 µm (No. 20)	94.6	-
425 µm (No. 40)	91.7	-
250 µm (No. 60)	78.7	-
150 µm (No. 100)	63.0	-
75 µm (No. 200)	53.7	-
31.5 (µm)	44.1	-
20.3 (µm)	39.9	-
12.0 (µm)	33.4	-
8.5 (µm)	31.5	-
6.1 (µm)	28.7	-
3.0 (µm)	24.5	-
1.3 (µm)	20.0	-



Soil Classification: CL Sandy lean clay

Gravel (%):	0.0	**Sand (%):**	46.3	**Silt (%):**	26.5	**Clay (%):**	27.2
D_{60} (µm):	125.8	**D_{30} (µm):**	7.2				

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 09/25/2024

2908 Morrison Ave.
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Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

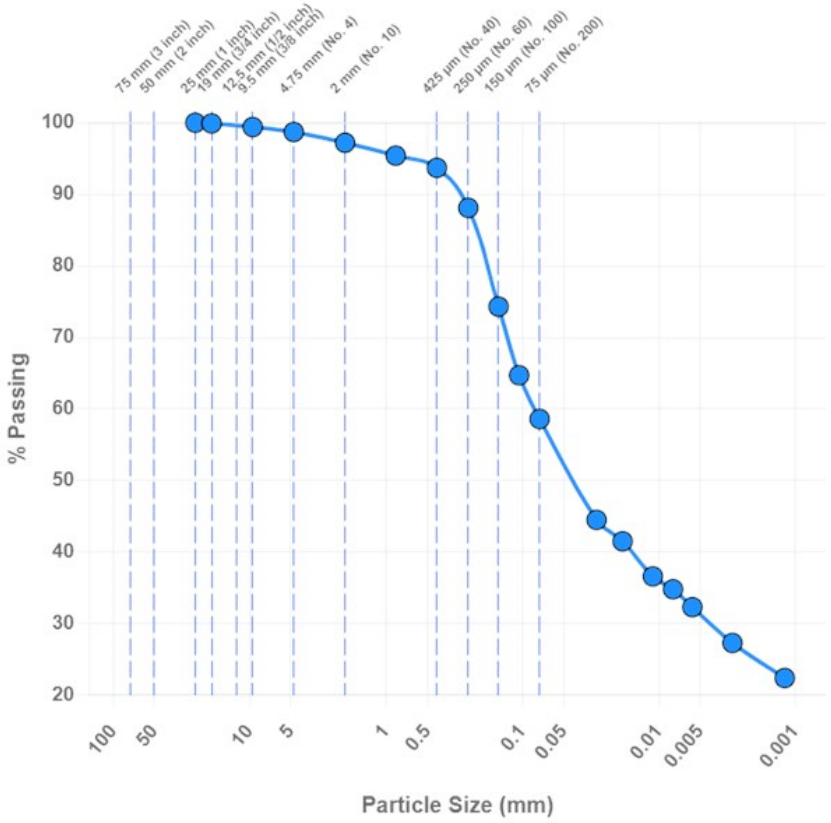
Sample Information

Sample Number:	619832	**Alternate ID:**	ST-316
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-316	**Sampled By:**	Drill Crew
Location Details:	Boring ST-316		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/19/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
25 mm (1 inch)	100.0	-
19 mm (3/4 inch)	99.9	-
9.5 mm (3/8 inch)	99.4	-
4.75 mm (No. 4)	98.7	-
2 mm (No. 10)	97.2	-
850 µm (No. 20)	95.4	-
425 µm (No. 40)	93.7	-
250 µm (No. 60)	88.1	-
150 µm (No. 100)	74.3	-
106 µm (No. 140)	64.7	-
75 µm (No. 200)	58.6	-
28.7 (µm)	44.5	-
18.5 (µm)	41.5	-
11.1 (µm)	36.6	-
7.9 (µm)	34.8	-
5.7 (µm)	32.3	-
2.9 (µm)	27.3	-
1.2 (µm)	22.4	-



Soil Classification: CL Sandy lean clay

Gravel (%):	1.3	**Sand (%):**	40.1	**Silt (%):**	27.5	**Clay (%):**	31.1
D_{60} (µm):	82.1	**D_{30} (µm):**	4.4				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

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Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

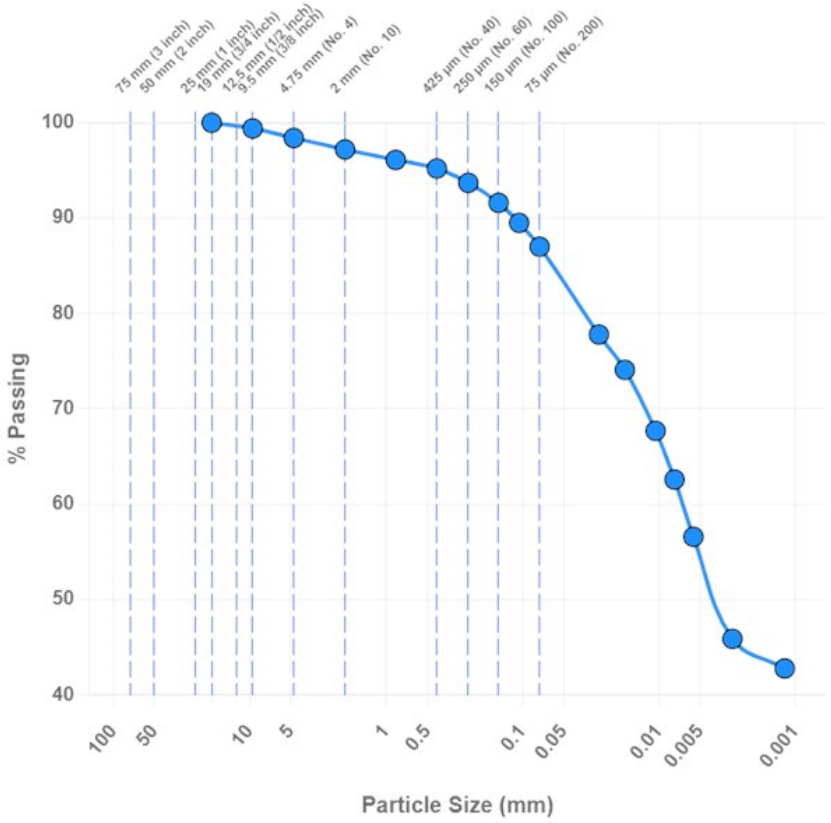
Sample Information

Sample Number:	619961	**Alternate ID:**	ST-317
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-317	**Sampled By:**	Drill Crew
Location Details:	Boring ST-317		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.4	-
4.75 mm (No. 4)	98.4	-
2 mm (No. 10)	97.2	-
850 µm (No. 20)	96.1	-
425 µm (No. 40)	95.2	-
250 µm (No. 60)	93.7	-
150 µm (No. 100)	91.6	-
106 µm (No. 140)	89.5	-
75 µm (No. 200)	87.0	-
27.6 (µm)	77.8	-
17.8 (µm)	74.1	-
10.6 (µm)	67.7	-
7.7 (µm)	62.6	-
5.6 (µm)	56.6	-
2.9 (µm)	45.9	-
1.2 (µm)	42.8	-



Soil Classification: CL Lean clay

Gravel (%):	1.6	**Sand (%):**	11.4	**Silt (%):**	32.8	**Clay (%):**	54.2
D_{60} (µm):	6.8						

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/16/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

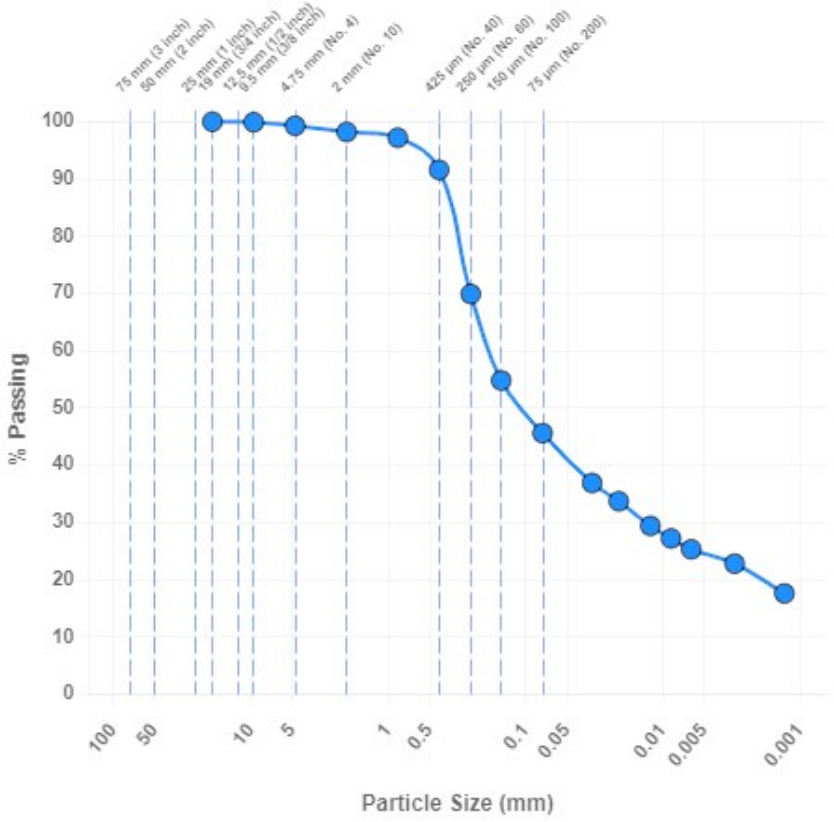
Sample Information

Sample Number:	618797	**Depth (ft):**	Bulk 5'
Boring Number:	ST-318	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/16/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.9	-
4.75 mm (No. 4)	99.3	-
2 mm (No. 10)	98.2	-
850 µm (No. 20)	97.2	-
425 µm (No. 40)	91.6	-
250 µm (No. 60)	69.9	-
150 µm (No. 100)	54.8	-
75 µm (No. 200)	45.6	-
32.7 (µm)	36.9	-
20.9 (µm)	33.7	-
12.3 (µm)	29.4	-
8.7 (µm)	27.2	-
6.2 (µm)	25.3	-
3.0 (µm)	22.8	-
1.3 (µm)	17.6	-



Soil Classification: SC Clayey sand

Gravel (%):	0.7	**Sand (%):**	53.7	**Silt (%):**	21.2	**Clay (%):**	24.4
D_{60} (µm):	184.4	**D_{30} (µm):**	13.5				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

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Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

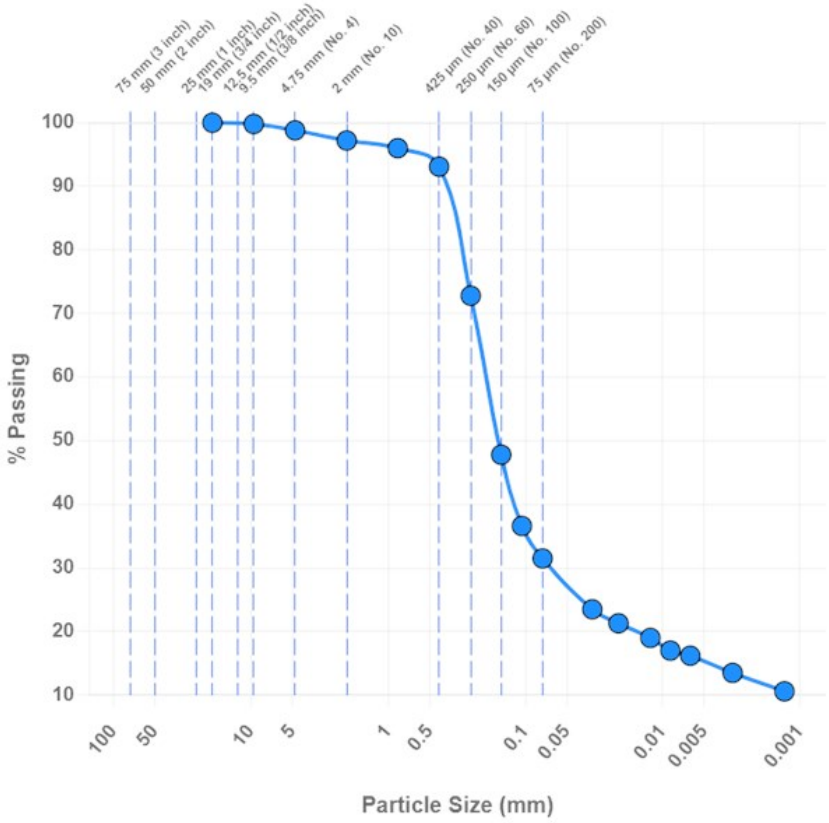
Sample Information

Sample Number:	619962	**Alternate ID:**	ST-319
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-319	**Sampled By:**	Drill Crew
Location Details:	Boring ST-319		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.8	-
4.75 mm (No. 4)	98.8	-
2 mm (No. 10)	97.2	-
850 µm (No. 20)	96.0	-
425 µm (No. 40)	93.1	-
250 µm (No. 60)	72.8	-
150 µm (No. 100)	47.8	-
106 µm (No. 140)	36.6	-
75 µm (No. 200)	31.5	-
32.6 (µm)	23.5	-
21.0 (µm)	21.3	-
12.3 (µm)	19.0	-
8.8 (µm)	17.0	-
6.3 (µm)	16.2	-
3.1 (µm)	13.5	-
1.3 (µm)	10.6	-



Soil Classification: SC Clayey sand

Gravel (%):	1.2	**Sand (%):**	67.3	**Silt (%):**	16.4	**Clay (%):**	15.1
D_{60} (µm):	198.8	**D_{30} (µm):**	67.1				

General

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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/21/2024

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Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

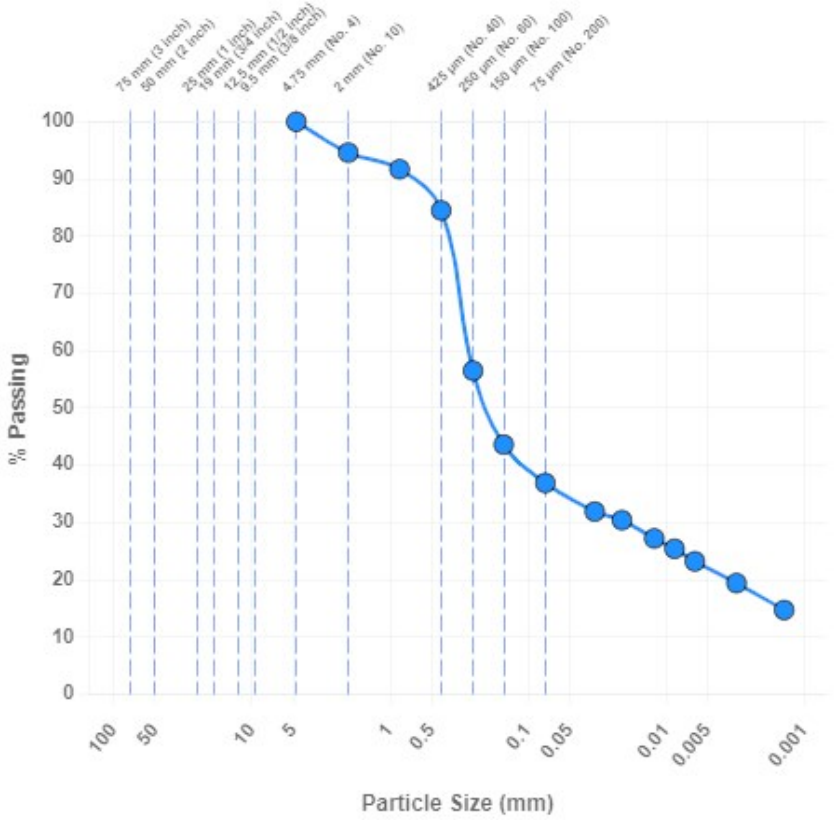
Sample Information

Sample Number:	618798	**Depth (ft):**	Bulk 5'
Boring Number:	ST-320	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/21/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	94.6	-
850 µm (No. 20)	91.7	-
425 µm (No. 40)	84.5	-
250 µm (No. 60)	56.5	-
150 µm (No. 100)	43.6	-
75 µm (No. 200)	36.9	-
32.9 (µm)	31.9	-
20.9 (µm)	30.4	-
12.2 (µm)	27.2	-
8.7 (µm)	25.4	-
6.2 (µm)	23.2	-
3.0 (µm)	19.4	-
1.4 (µm)	14.7	-



Soil Classification: SC Clayey sand

Gravel (%):	0.0	**Sand (%):**	63.1	**Silt (%):**	15.2	**Clay (%):**	21.7
D_{60} (µm):	271.9	**D_{30} (µm):**	19.8				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

BRAUN INTERTEC
The Science You Build On.

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

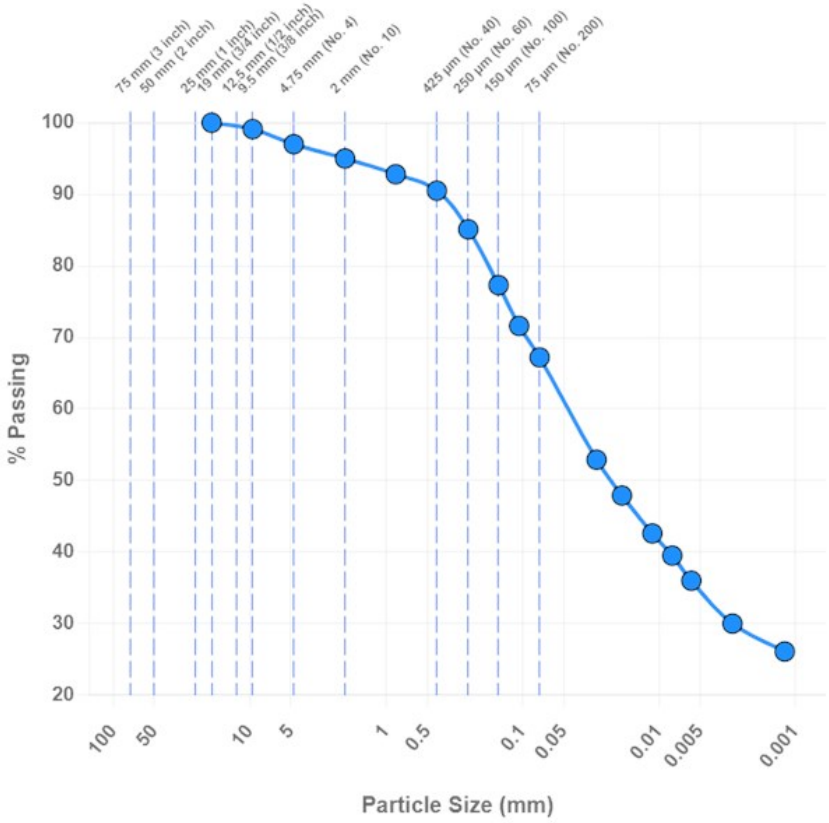
Sample Information

Sample Number:	619963	**Alternate ID:**	ST-321
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-321	**Sampled By:**	Drill Crew
Location Details:	Boring ST-321		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	99.1	-
4.75 mm (No. 4)	97.0	-
2 mm (No. 10)	95.0	-
850 µm (No. 20)	92.8	-
425 µm (No. 40)	90.5	-
250 µm (No. 60)	85.1	-
150 µm (No. 100)	77.3	-
106 µm (No. 140)	71.6	-
75 µm (No. 200)	67.2	-
28.7 (µm)	52.9	-
18.7 (µm)	47.9	-
11.2 (µm)	42.6	-
8.0 (µm)	39.5	-
5.8 (µm)	36.0	-
2.9 (µm)	30.0	-
1.2 (µm)	26.1	-



Soil Classification: CL Sandy lean clay

Gravel (%):	3.0	**Sand (%):**	29.8	**Silt (%):**	32.9	**Clay (%):**	34.3
D_{60} (µm):	51.7	**D_{30} (µm):**	2.9				

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

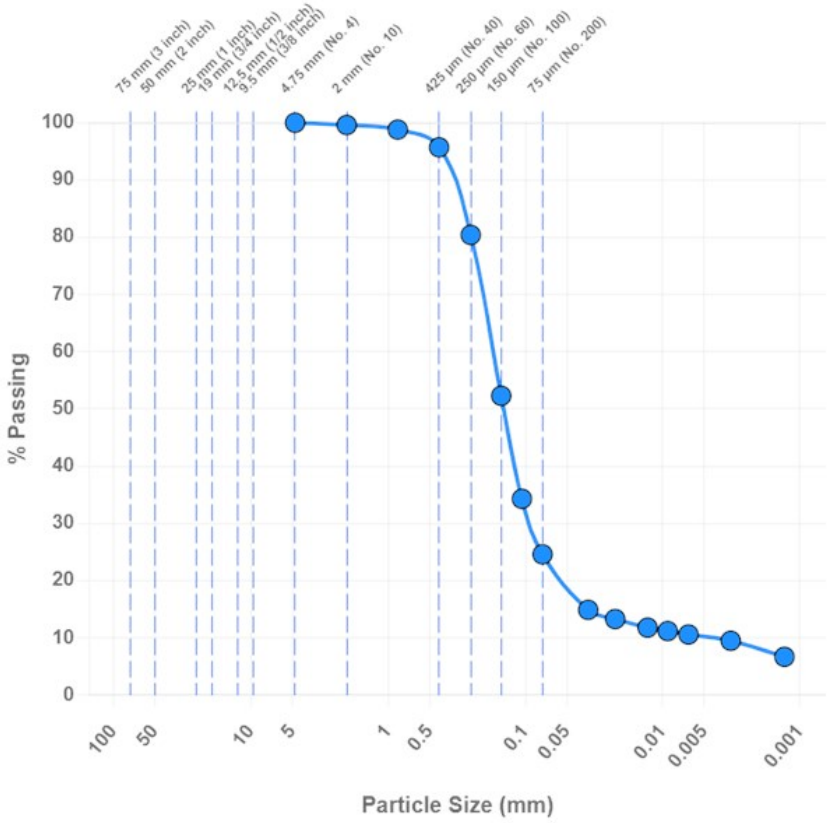
Sample Information

Sample Number:	619965	**Alternate ID:**	ST-322
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-322	**Sampled By:**	Drill Crew
Location Details:	Boring ST-322		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	99.6	-
850 µm (No. 20)	98.8	-
425 µm (No. 40)	95.7	-
250 µm (No. 60)	80.4	-
150 µm (No. 100)	52.3	-
106 µm (No. 140)	34.3	-
75 µm (No. 200)	24.6	-
34.9 (µm)	14.9	-
22.2 (µm)	13.3	-
12.9 (µm)	11.8	-
9.2 (µm)	11.2	-
6.5 (µm)	10.6	-
3.2 (µm)	9.5	-
1.3 (µm)	6.7	-



Soil Classification: SM Silty sand

Gravel (%):	0.0	**Sand (%):**	75.4	**Silt (%):**	14.5	**Clay (%):**	10.1		
D_{60} (µm):	177.4	**D_{30} (µm):**	92.3	**D_{10} (µm):**	4.7	**C_u:**	37.74	**C_c:**	10.22

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

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Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

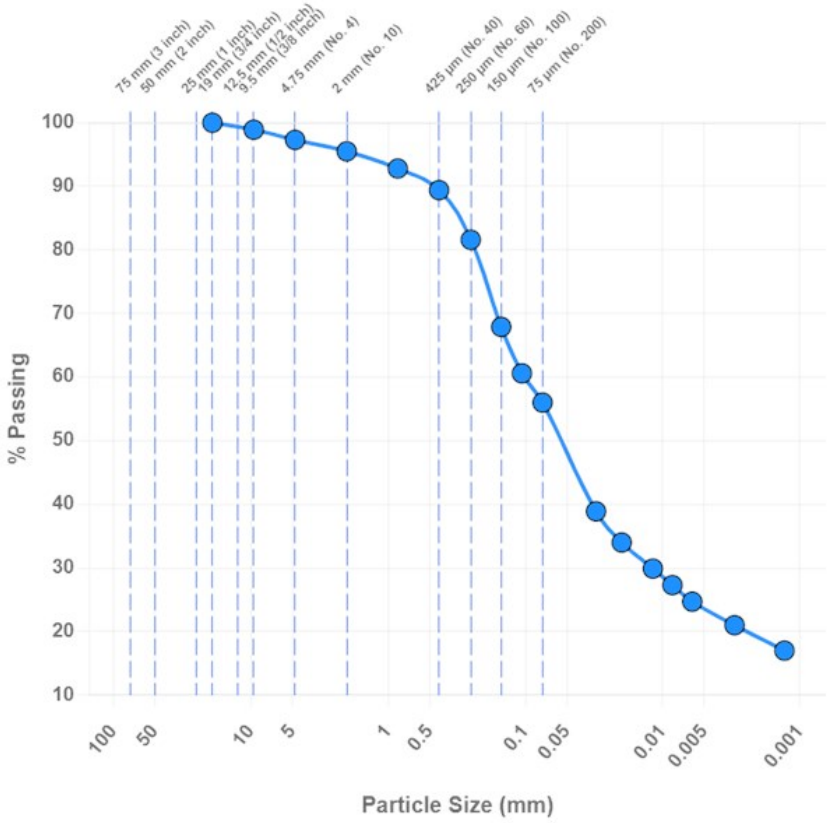
Sample Information

Sample Number:	619966	**Alternate ID:**	ST-323
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-323	**Sampled By:**	Drill Crew
Location Details:	Boring ST-323		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
19 mm (3/4 inch)	100.0	-
9.5 mm (3/8 inch)	98.9	-
4.75 mm (No. 4)	97.3	-
2 mm (No. 10)	95.5	-
850 µm (No. 20)	92.8	-
425 µm (No. 40)	89.4	-
250 µm (No. 60)	81.6	-
150 µm (No. 100)	67.9	-
106 µm (No. 140)	60.6	-
75 µm (No. 200)	56.0	-
30.6 (µm)	38.9	-
19.9 (µm)	34.0	-
11.8 (µm)	29.9	-
8.5 (µm)	27.3	-
6.1 (µm)	24.7	-
3.0 (µm)	21.0	-
1.3 (µm)	17.0	-



Soil Classification: CL Sandy lean clay

Gravel (%):	2.7	**Sand (%):**	41.3	**Silt (%):**	32.6	**Clay (%):**	23.4
D_{60} (µm):	102.0	**D_{30} (µm):**	12.0				

General

Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/21/2024

BRAUN INTERTEC
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Suite 3
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Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

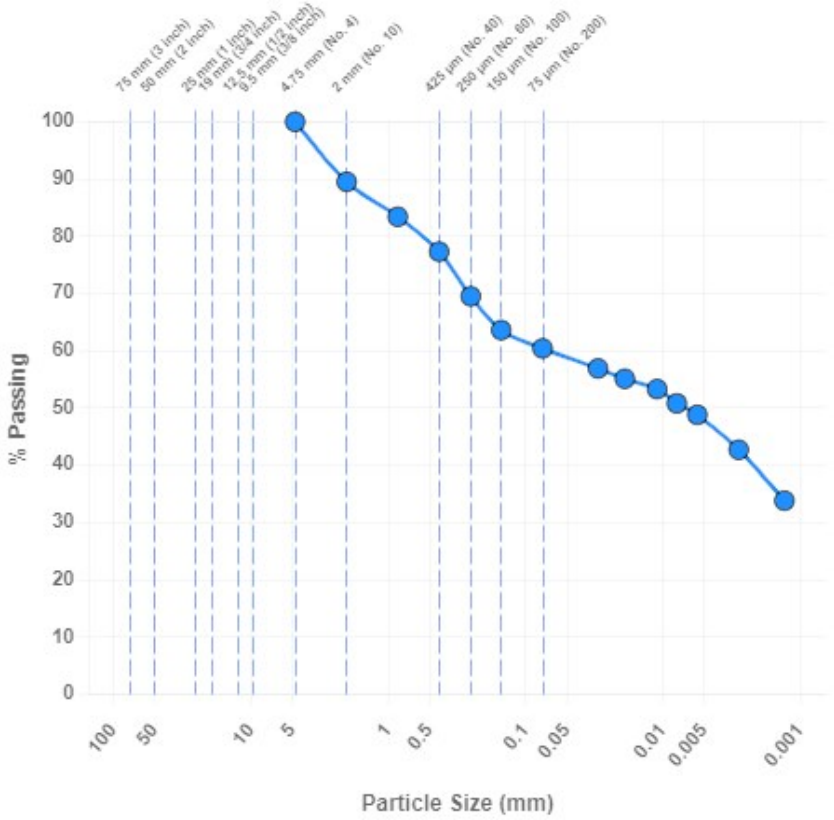
Sample Information

Sample Number:	618799	**Depth (ft):**	Bulk 5'
Boring Number:	ST-324	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/21/2024	**Tested By:**	Streier, Jim

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
4.75 mm (No. 4)	100.0	-
2 mm (No. 10)	89.5	-
850 µm (No. 20)	83.4	-
425 µm (No. 40)	77.3	-
250 µm (No. 60)	69.5	-
150 µm (No. 100)	63.6	-
75 µm (No. 200)	60.4	-
29.6 (µm)	56.9	-
18.9 (µm)	55.1	-
11.0 (µm)	53.3	-
7.9 (µm)	50.8	-
5.6 (µm)	48.8	-
2.8 (µm)	42.7	-
1.3 (µm)	33.8	-



Soil Classification: CH Sandy fat clay

Gravel (%):	0.0	**Sand (%):**	39.6	**Silt (%):**	12.9	**Clay (%):**	47.5
D_{60} (µm):	69.8						

General

BRAUN INTERTEC
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Hydrometer And Sieve Analysis

ASTM D422

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

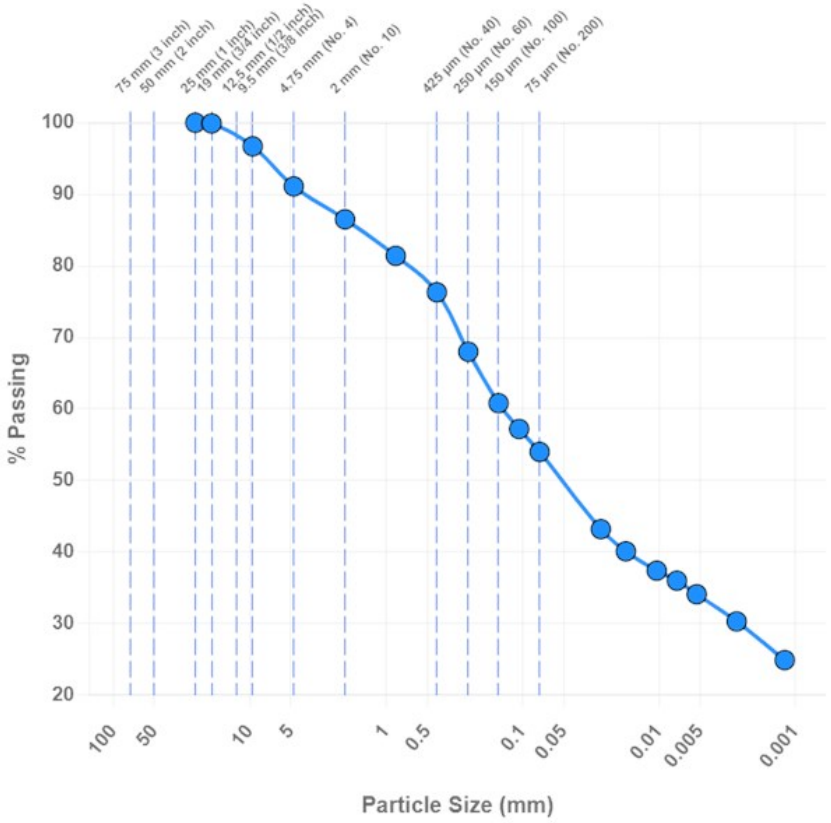
Sample Information

Sample Number:	619967	**Alternate ID:**	ST-325
Sample From:	Auger Cuttings	**Depth (ft):**	1'-5'
Boring Number:	ST-325	**Sampled By:**	Drill Crew
Location Details:	Boring ST-325		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Austin, Jon

Laboratory Data

Sieve-Hydrometer Analysis

Particle Size	% Passing	Specification
25 mm (1 inch)	100.0	-
19 mm (3/4 inch)	99.9	-
9.5 mm (3/8 inch)	96.7	-
4.75 mm (No. 4)	91.1	-
2 mm (No. 10)	86.5	-
850 µm (No. 20)	81.4	-
425 µm (No. 40)	76.3	-
250 µm (No. 60)	68.0	-
150 µm (No. 100)	60.8	-
106 µm (No. 140)	57.2	-
75 µm (No. 200)	54.0	-
26.7 (µm)	43.2	-
17.5 (µm)	40.1	-
10.4 (µm)	37.4	-
7.4 (µm)	36.0	-
5.3 (µm)	34.1	-
2.7 (µm)	30.3	-
1.2 (µm)	24.9	-



Soil Classification: CL Sandy lean clay

Gravel (%):	8.9	**Sand (%):**	37.1	**Silt (%):**	20.3	**Clay (%):**	33.7
D_{60} (µm):	140.2	**D_{30} (µm):**	2.6				

General

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

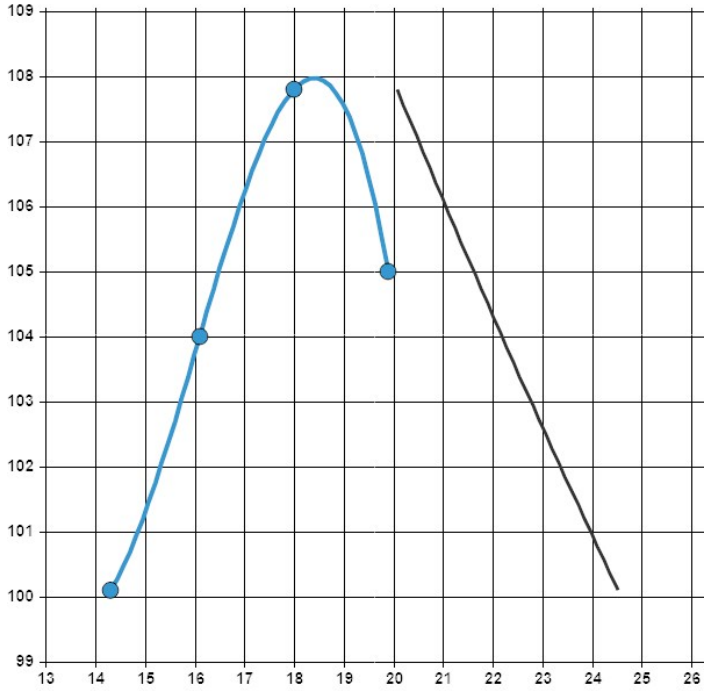
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618788	**Depth (ft):**	Bulk 5'
Boring Number:	ST-301	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/24/2024	**Tested By:**	Vang, Yang

Laboratory Data



Proctor ID:	P-01-std		
Maximum Dry Density (pcf):	108.0		
Optimum Moisture (%):	18.4		
Method:	Method B		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	29	**Plastic Limit:**	16
Plastic Index:	13		
Passes #200 (%):	52.5	**Retained #200 (%):**	47.5
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	0	**Passing #4 (%):**	100

Classification: CL Sandy lean clay, dark brown

General

Remarks: The % passing the #200 is for informational purposes only.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

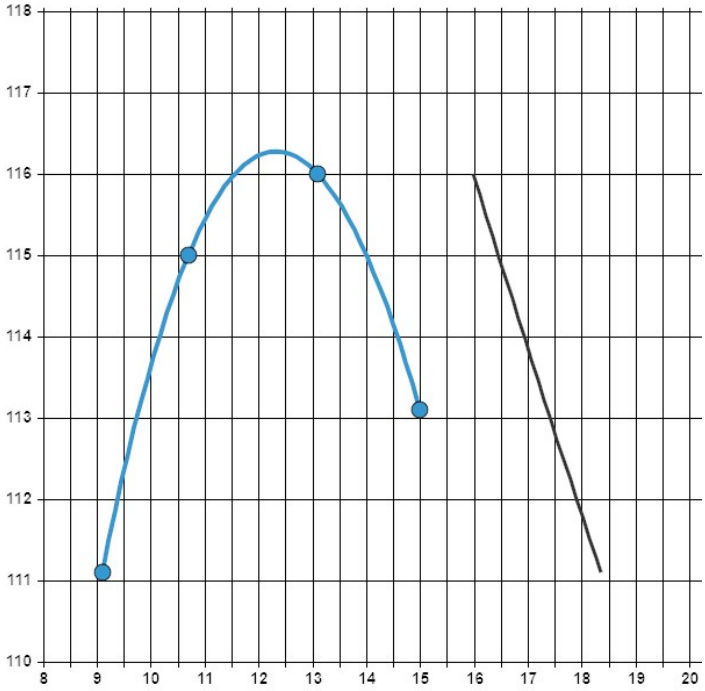
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619951	**Alternate ID:**	ST-302
Boring Number:	ST-302	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-302		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-05		
Maximum Dry Density (pcf):	116.3		
Optimum Moisture (%):	12.3		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	25	**Plastic Limit:**	13
Plastic Index:	12		
Passes #200 (%):	35.7	**Retained #200 (%):**	64.3
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: SC Clayey sand

General

Remarks: The test is for informational purposes.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

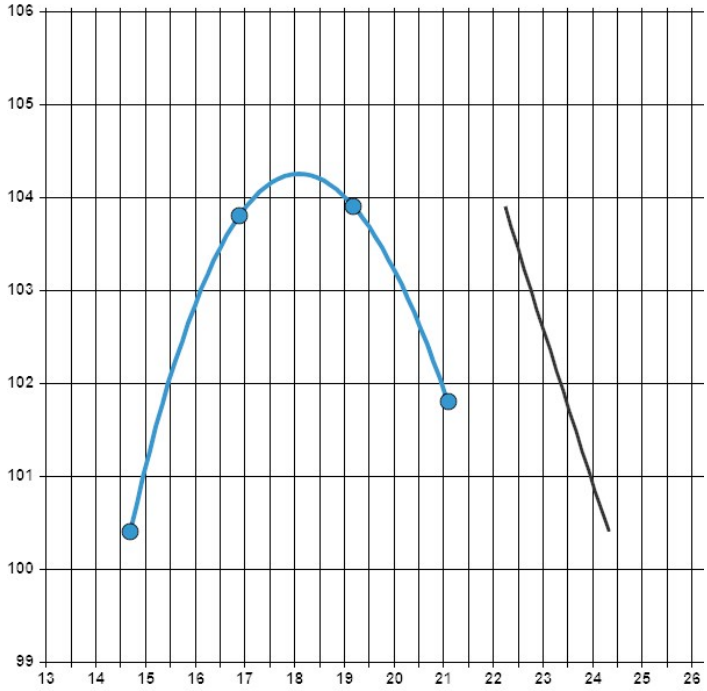
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619953	**Alternate ID:**	ST-303
Boring Number:	ST-303	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-303		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-06		
Maximum Dry Density (pcf):	104.3		
Optimum Moisture (%):	18.1		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	51	**Plastic Limit:**	17
Plastic Index:	34		
Passes #200 (%):	43.2	**Retained #200 (%):**	56.8
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: SC Clayey sand

General

Remarks: The test is for informational purposes.

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ASTM D698

Report Date: 09/26/2024

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Bismarck, ND 58504
Phone: 701-255-7180

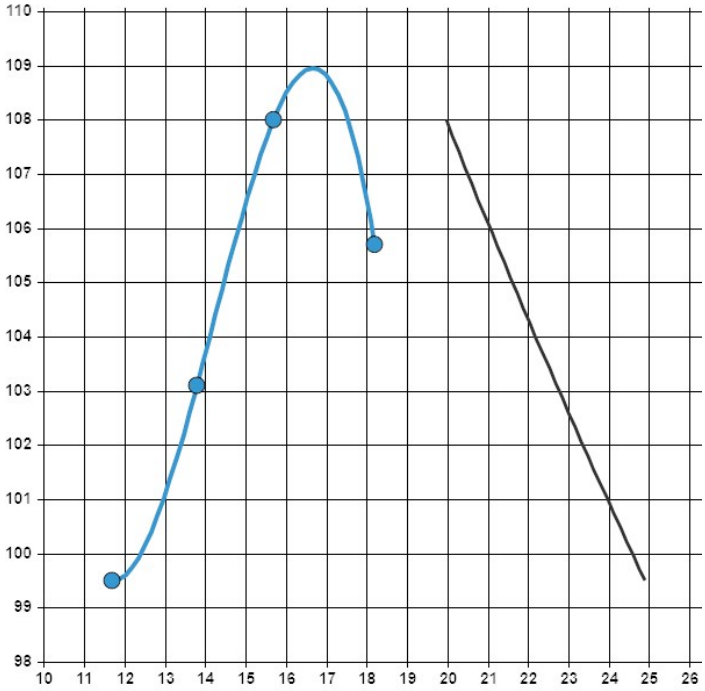
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619828	**Alternate ID:**	ST-304
Boring Number:	ST-304	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-304		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/26/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-01		
Maximum Dry Density (pcf):	109.0		
Optimum Moisture (%):	16.7		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	44	**Plastic Limit:**	14
Plastic Index:	30		
Passes #200 (%):	63.1	**Retained #200 (%):**	36.9
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	3	**Passing #4 (%):**	97

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

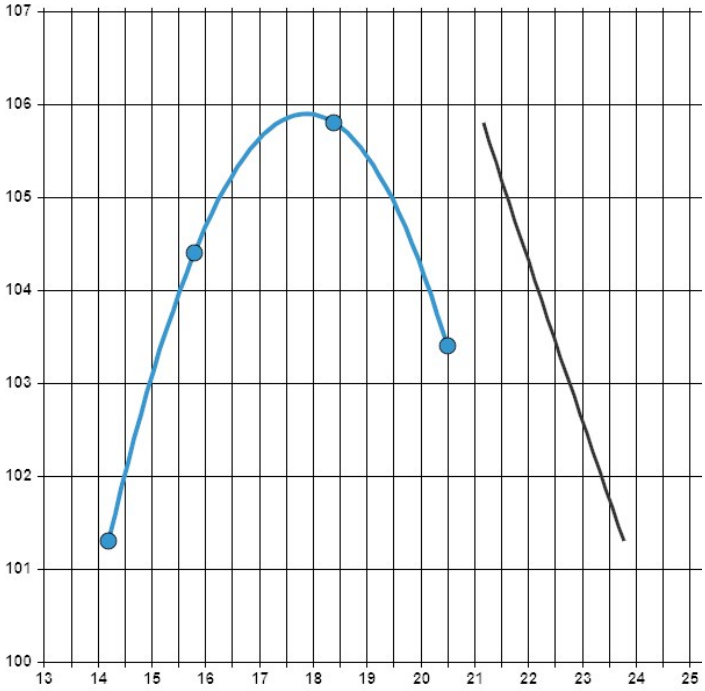
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619955	**Alternate ID:**	ST-305
Boring Number:	ST-305	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-305		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-07		
Maximum Dry Density (pcf):	105.9		
Optimum Moisture (%):	17.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	56	**Plastic Limit:**	16
Plastic Index:	40		
Passes #200 (%):	68.4	**Retained #200 (%):**	31.6
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: CH Sandy fat clay

General

Remarks: The test is for informational purposes.

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ASTM D698

Report Date: 10/18/2024

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Suite 3
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Phone: 701-255-7180

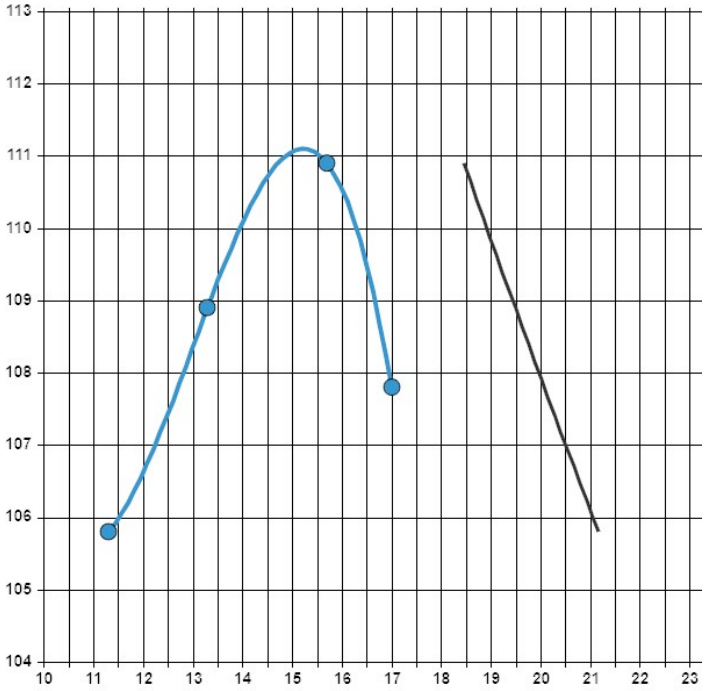
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619956	**Alternate ID:**	ST-306
Boring Number:	ST-306	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-306		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-08		
Maximum Dry Density (pcf):	111.1		
Optimum Moisture (%):	15.2		
Method:	Method B		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	38	**Plastic Limit:**	16
Plastic Index:	22		
Passes #200 (%):	69.4	**Retained #200 (%):**	30.6
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	5	**Passing #4 (%):**	95

Classification: CL Lean clay with sand

General

Remarks: The test is for informational purposes.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

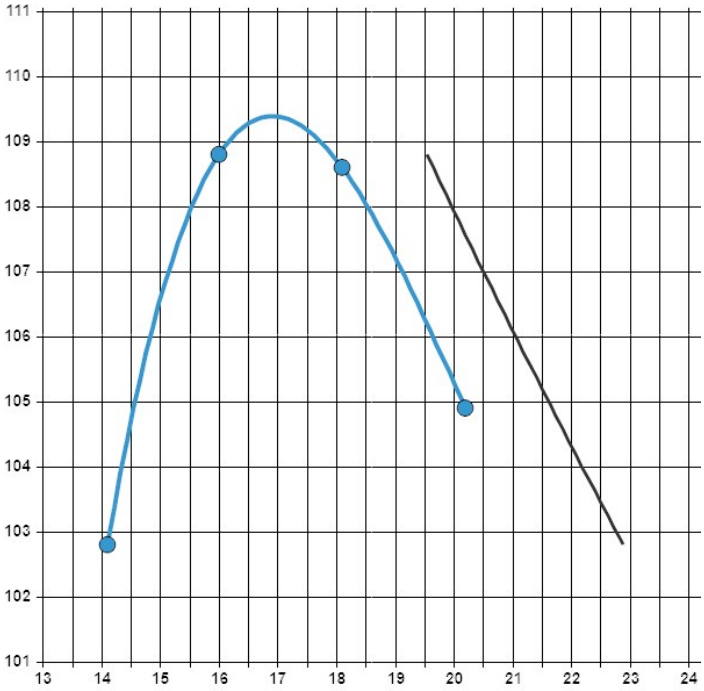
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618790	**Depth (ft):**	Bulk 5'
Boring Number:	ST-307	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/24/2024	**Tested By:**	Vang, Yang

Laboratory Data



Proctor ID:	P-02-std		
Maximum Dry Density (pcf):	109.4		
Optimum Moisture (%):	16.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	36	**Plastic Limit:**	16
Plastic Index:	20		
Passes #200 (%):	58.8	**Retained #200 (%):**	41.2
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	0	**Passing #4 (%):**	100

Classification: CL Sandy lean clay, dark brown

General

Remarks: The % passing the #200 is for informational purposes only.

BRAUN INTERTEC
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2908 Morrison Ave.
Suite 3
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Phone: 701-255-7180

Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

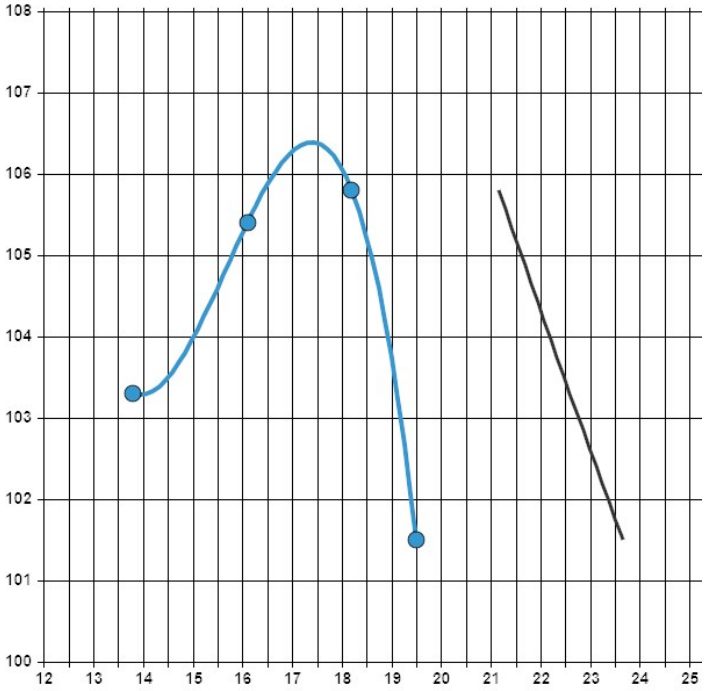
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619957	**Alternate ID:**	ST-308
Boring Number:	ST-308	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-308		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-09		
Maximum Dry Density (pcf):	106.4		
Optimum Moisture (%):	17.4		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	47	**Plastic Limit:**	16
Plastic Index:	31		
Passes #200 (%):	81.0	**Retained #200 (%):**	19.0
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: CL Lean clay with sand

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

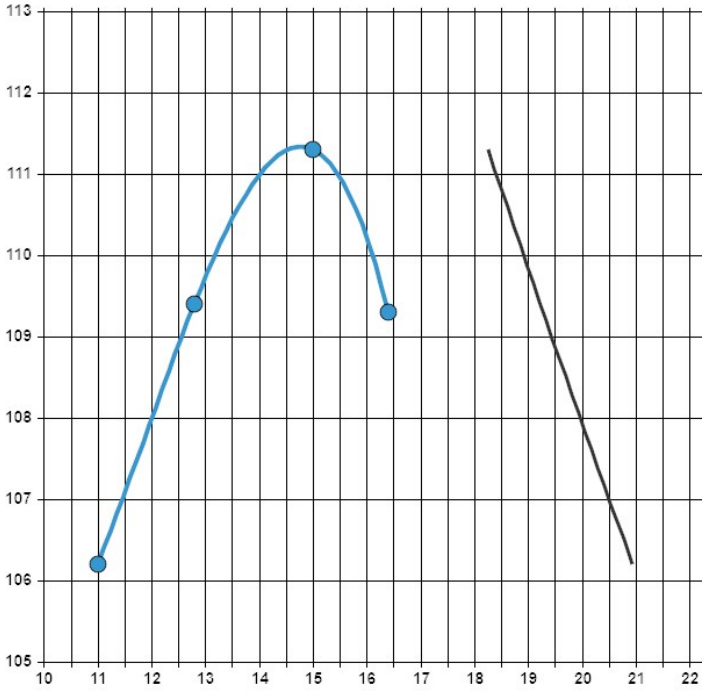
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619958	**Alternate ID:**	ST-309
Boring Number:	ST-309	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-309		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-10		
Maximum Dry Density (pcf):	111.3		
Optimum Moisture (%):	14.8		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	30	**Plastic Limit:**	14
Plastic Index:	16		
Passes #200 (%):	35.9	**Retained #200 (%):**	64.1
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	4	**Passing #4 (%):**	96

Classification: SC Clayey sand

General

Remarks: The test is for informational purposes.

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Suite 3
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Phone: 701-255-7180

Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

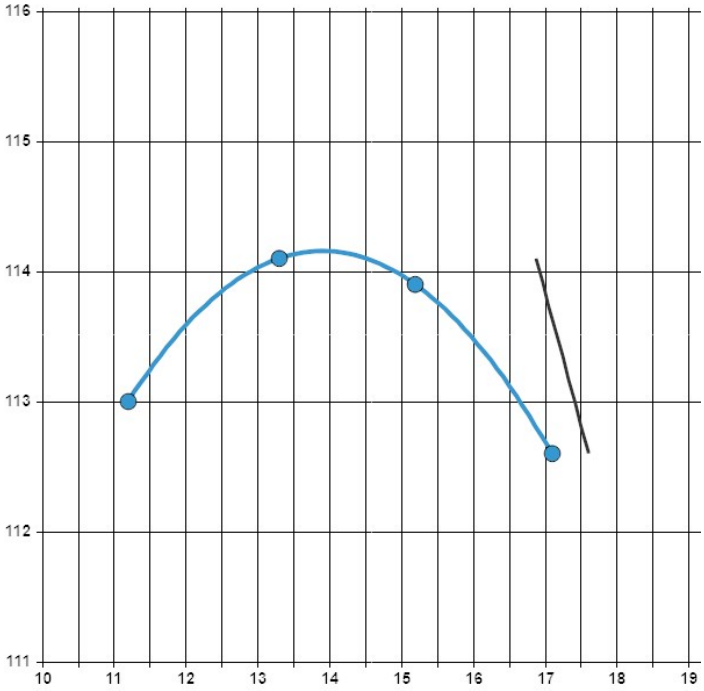
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618792	**Depth (ft):**	Bulk 5'
Boring Number:	ST-310	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/25/2024	**Tested By:**	Vang, Yang

Laboratory Data



Proctor ID:	P-03-std		
Maximum Dry Density (pcf):	114.2		
Optimum Moisture (%):	13.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	26	**Plastic Limit:**	19
Plastic Index:	7		
Passes #200 (%):	40.6	**Retained #200 (%):**	59.4
Retained On 3/4 (%):	2	**Retained On 3/8 (%):**	2
Retained On #4 (%):	5	**Passing #4 (%):**	95

Classification: SC Clayey sand, fine grained, dark brown

General

Remarks: The % passing the #200 is for informational purposes only.

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Phone: 701-255-7180

Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

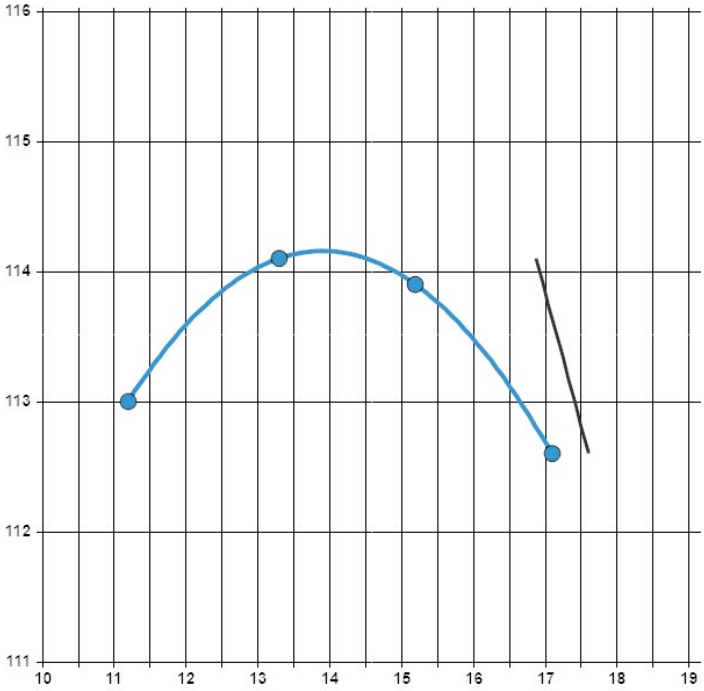
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618792	**Depth (ft):**	Bulk 5'
Boring Number:	ST-310	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/25/2024	**Tested By:**	Vang, Yang

Laboratory Data



Proctor ID:	P-03-std		
Maximum Dry Density (pcf):	114.2		
Optimum Moisture (%):	13.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	26	**Plastic Limit:**	19
Plastic Index:	7		
Passes #200 (%):	40.6	**Retained #200 (%):**	59.4
Retained On 3/4 (%):	2	**Retained On 3/8 (%):**	2
Retained On #4 (%):	5	**Passing #4 (%):**	95

Classification: SC Clayey sand, fine grained, dark brown

General

Remarks: The % passing the #200 is for informational purposes only.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

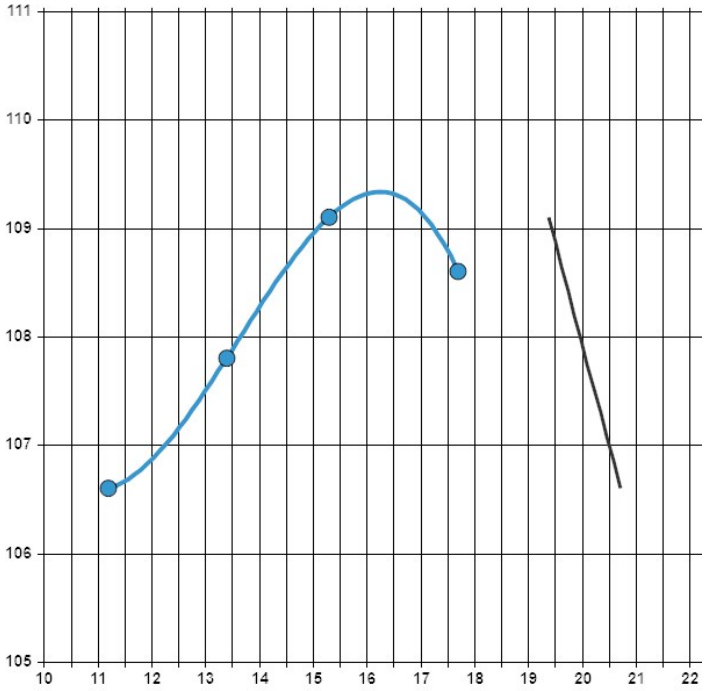
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619959	**Alternate ID:**	ST-312
Boring Number:	ST-312	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-312		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-11		
Maximum Dry Density (pcf):	109.3		
Optimum Moisture (%):	16.2		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	39	**Plastic Limit:**	14
Plastic Index:	25		
Passes #200 (%):	52.9	**Retained #200 (%):**	47.1
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	0	**Passing #4 (%):**	100

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 09/26/2024

2908 Morrison Ave.
Suite 3
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Phone: 701-255-7180

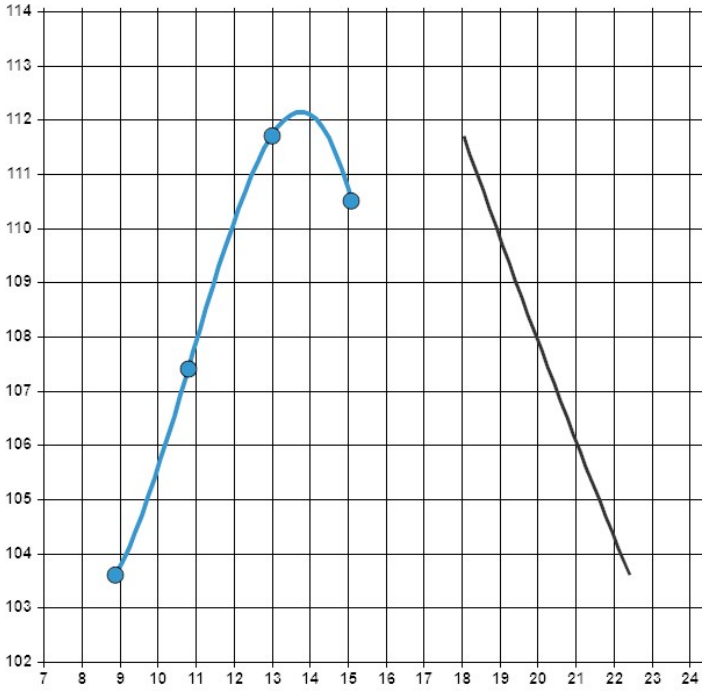
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619831	**Alternate ID:**	ST-313
Boring Number:	ST-313	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-313		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/26/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-02		
Maximum Dry Density (pcf):	112.1		
Optimum Moisture (%):	13.8		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	33	**Plastic Limit:**	13
Plastic Index:	20		
Passes #200 (%):	57.8	**Retained #200 (%):**	42.2
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	2	**Passing #4 (%):**	98

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

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ASTM D698

Report Date: 09/26/2024

2908 Morrison Ave.
Suite 3
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Phone: 701-255-7180

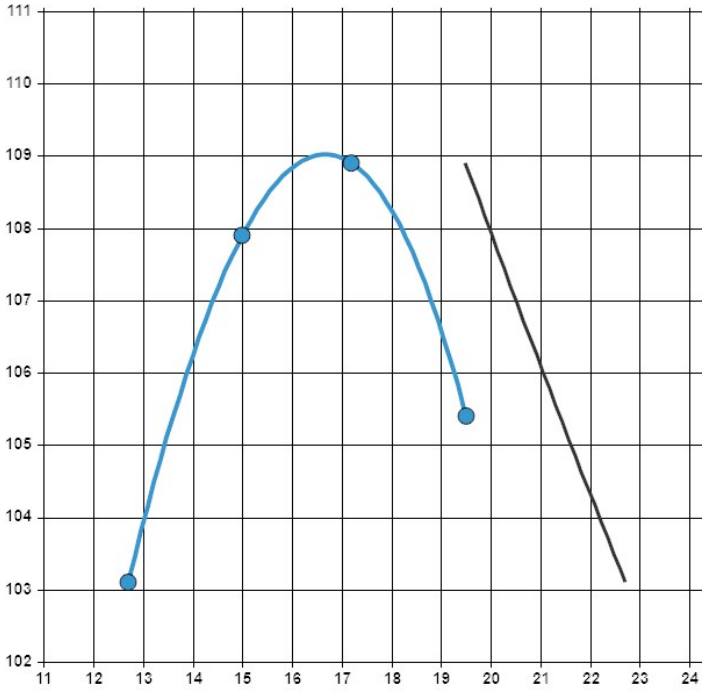
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619833	**Alternate ID:**	ST-314
Boring Number:	ST-314	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-314		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/26/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-03		
Maximum Dry Density (pcf):	109.0		
Optimum Moisture (%):	16.7		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	38	**Plastic Limit:**	14
Plastic Index:	24		
Passes #200 (%):	64.8	**Retained #200 (%):**	35.2
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	2	**Passing #4 (%):**	98

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

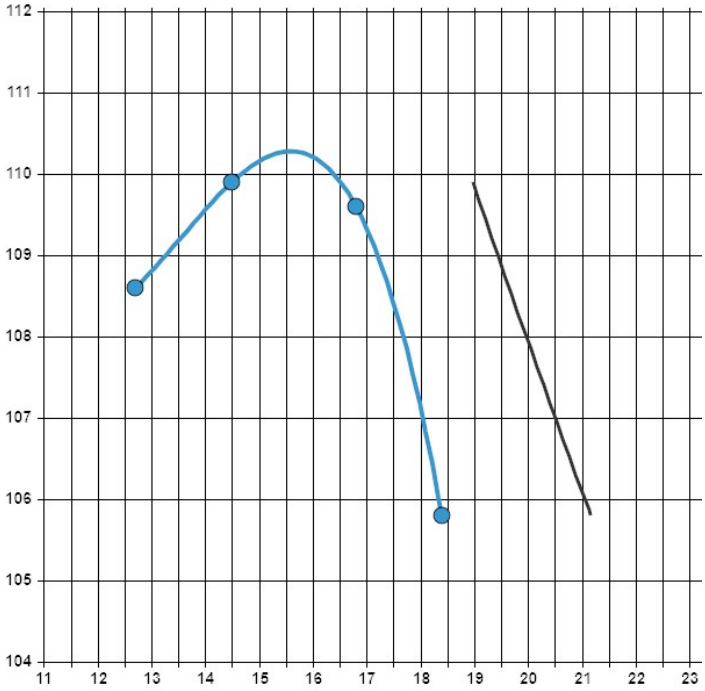
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618796	**Depth (ft):**	Bulk 5'
Boring Number:	ST-315	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/26/2024	**Tested By:**	Wegener, Clarissa

Laboratory Data



Proctor ID:	P-06-std		
Maximum Dry Density (pcf):	110.3		
Optimum Moisture (%):	15.6		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	34	**Plastic Limit:**	17
Plastic Index:	17		
Passes #200 (%):	53.7	**Retained #200 (%):**	46.3
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	4	**Passing #4 (%):**	96

Classification: CL Sandy lean clay, brown

General

Remarks: The % passing the #200 is for informational purposes only.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 09/26/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

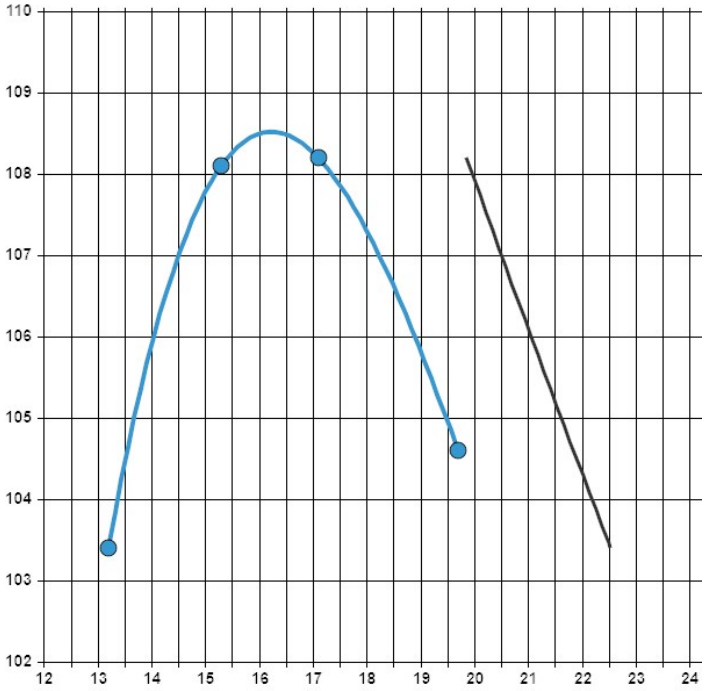
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619832	**Alternate ID:**	ST-316
Boring Number:	ST-316	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-316		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	09/26/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-04		
Maximum Dry Density (pcf):	108.5		
Optimum Moisture (%):	16.2		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	41	**Plastic Limit:**	13
Plastic Index:	28		
Passes #200 (%):	58.6	**Retained #200 (%):**	41.4
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

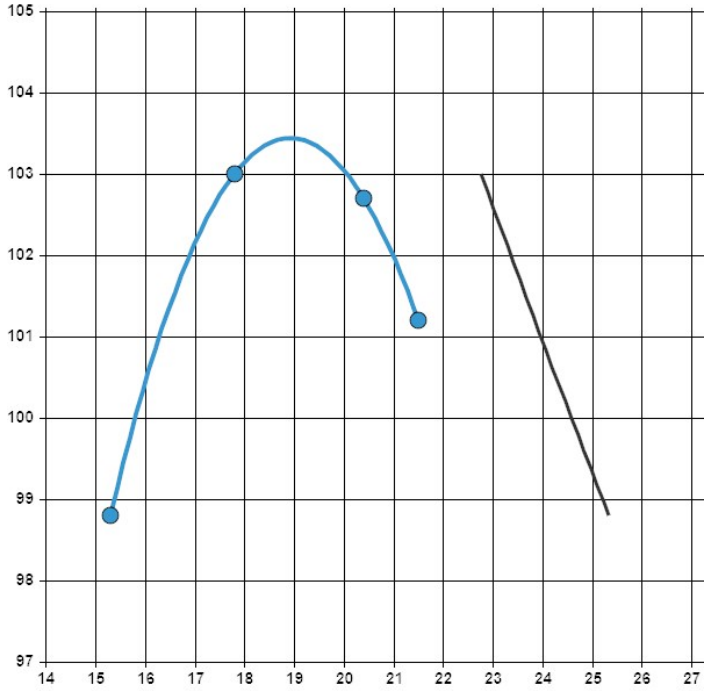
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619961	**Alternate ID:**	ST-317
Boring Number:	ST-317	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-317		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-12		
Maximum Dry Density (pcf):	103.4		
Optimum Moisture (%):	18.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	49	**Plastic Limit:**	15
Plastic Index:	34		
Passes #200 (%):	87.0	**Retained #200 (%):**	13.0
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	2	**Passing #4 (%):**	98

Classification: CL Lean clay

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

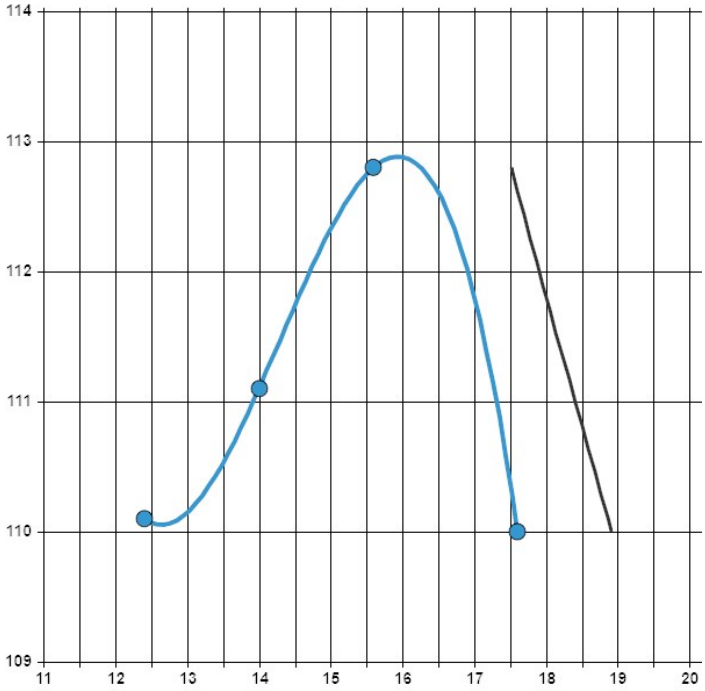
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618797	**Depth (ft):**	Bulk 5'
Boring Number:	ST-318	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/26/2024	**Tested By:**	Wegener, Clarissa

Laboratory Data



Proctor ID:	P-07-std		
Maximum Dry Density (pcf):	112.9		
Optimum Moisture (%):	15.9		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	31	**Plastic Limit:**	16
Plastic Index:	15		
Passes #200 (%):	45.6	**Retained #200 (%):**	54.4
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: SC Clayey sand, fine grained, brown

General

BRAUN INTERTEC
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ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

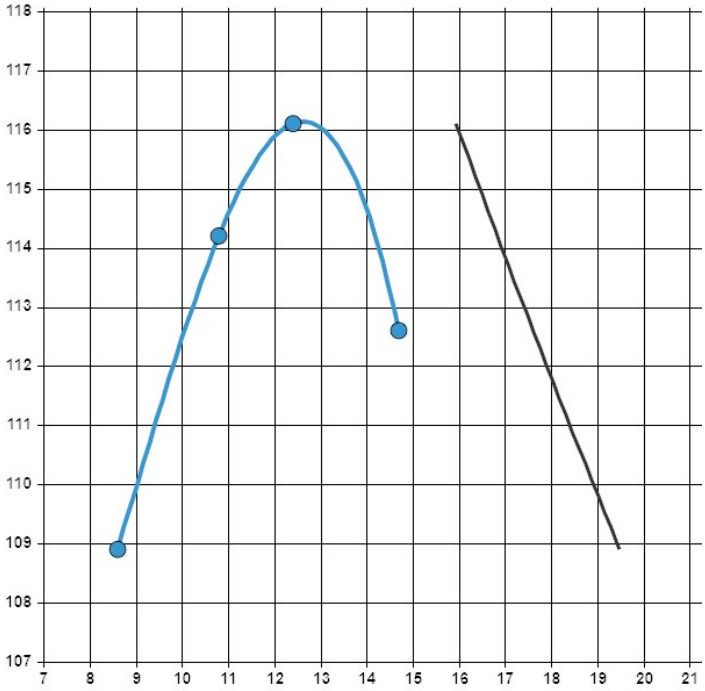
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619962	**Alternate ID:**	ST-319
Boring Number:	ST-319	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-319		
Sample Date:	08/14/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-13		
Maximum Dry Density (pcf):	116.1		
Optimum Moisture (%):	12.6		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	24	**Plastic Limit:**	15
Plastic Index:	9		
Passes #200 (%):	31.5	**Retained #200 (%):**	68.5
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	1	**Passing #4 (%):**	99

Classification: SC Clayey sand

General

Remarks: The test is for informational purposes.

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Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

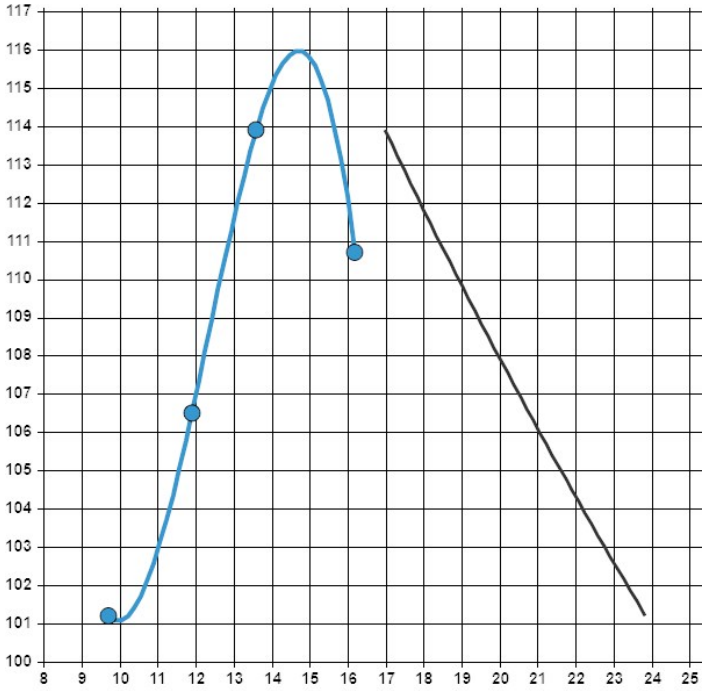
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618798	**Depth (ft):**	Bulk 5'
Boring Number:	ST-320	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/26/2024	**Tested By:**	Wegener, Clarissa

Laboratory Data



Proctor ID:	P-05-std		
Maximum Dry Density (pcf):	116.0		
Optimum Moisture (%):	14.7		
Method:	Method A		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	29	**Plastic Limit:**	16
Plastic Index:	13		
Passes #200 (%):	36.9	**Retained #200 (%):**	63.1
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	3	**Passing #4 (%):**	97

Classification: SC Clayey sand, fine grained, brown

General

Remarks: The % passing the #200 is for informational purposes only.

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ASTM D698

Report Date: 10/18/2024

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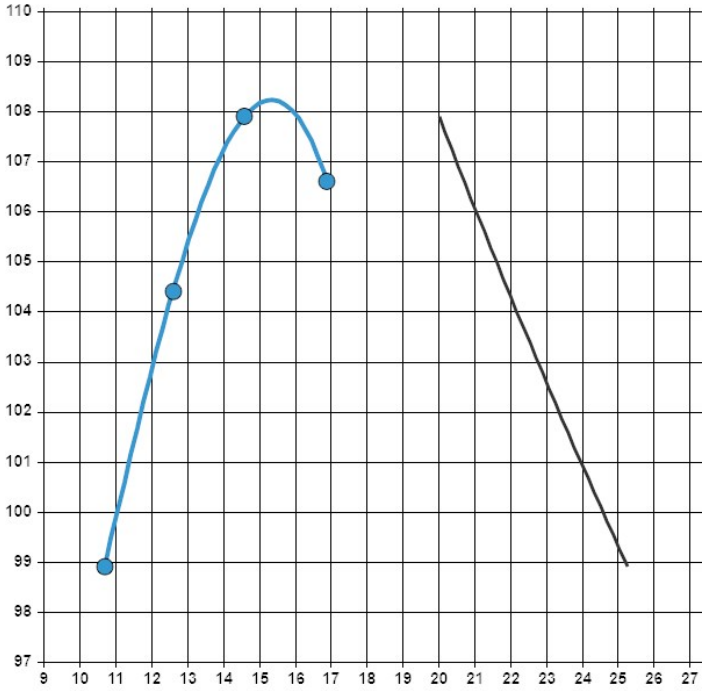
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619963	**Alternate ID:**	ST-321
Boring Number:	ST-321	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-321		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-14		
Maximum Dry Density (pcf):	108.2		
Optimum Moisture (%):	15.3		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	42	**Plastic Limit:**	15
Plastic Index:	27		
Passes #200 (%):	67.2	**Retained #200 (%):**	32.8
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	3	**Passing #4 (%):**	97

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
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Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

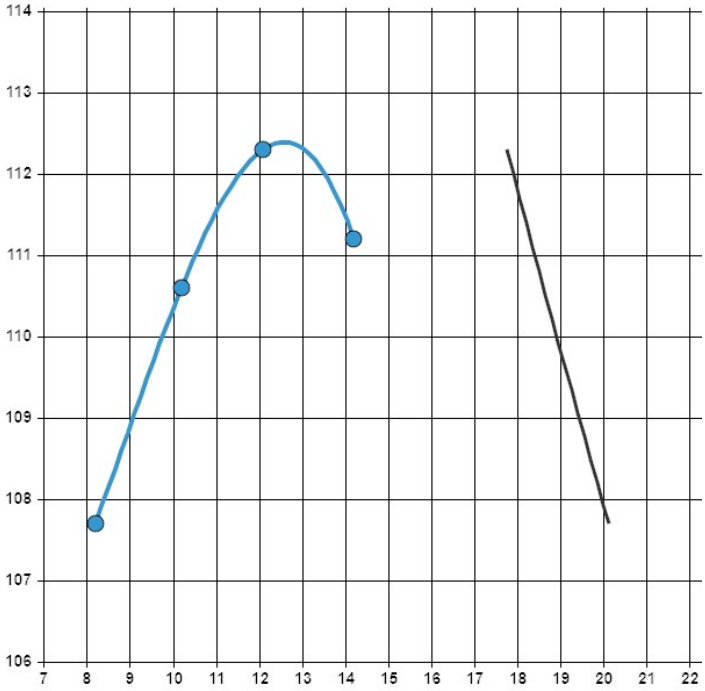
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619965	**Alternate ID:**	ST-322
Boring Number:	ST-322	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-322		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-15		
Maximum Dry Density (pcf):	112.4		
Optimum Moisture (%):	12.6		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	NP	**Plastic Limit:**	NP
Plastic Index:	NP		
Passes #200 (%):	24.6	**Retained #200 (%):**	75.4
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	0
Retained On #4 (%):	0	**Passing #4 (%):**	100

Classification: SM Silty sand

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
The Science You Build On.

Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

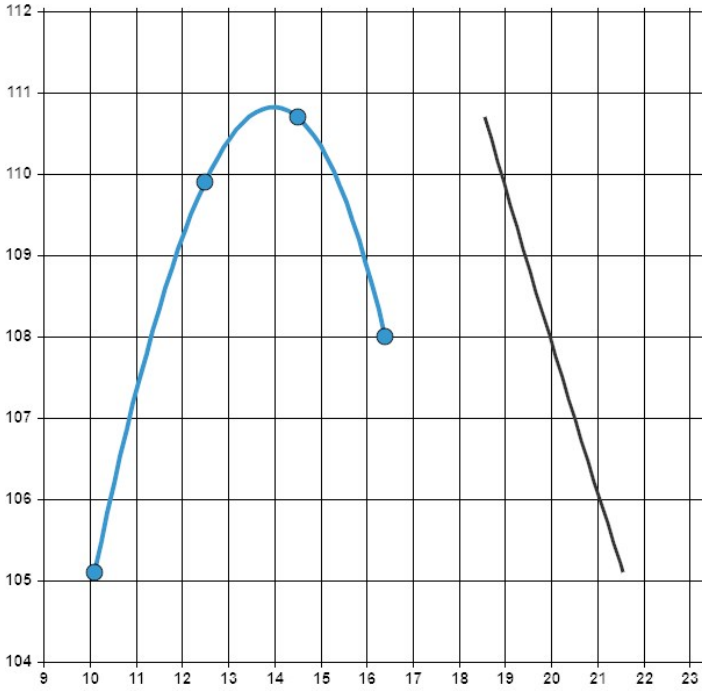
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619966	**Alternate ID:**	ST-323
Boring Number:	ST-323	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-323		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-16		
Maximum Dry Density (pcf):	110.8		
Optimum Moisture (%):	14.0		
Method:	Method A		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	32	**Plastic Limit:**	13
Plastic Index:	19		
Passes #200 (%):	56.0	**Retained #200 (%):**	44.0
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	1
Retained On #4 (%):	3	**Passing #4 (%):**	97

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

BRAUN INTERTEC
The Science You Build On.

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Standard Proctor M-D Relationship

ASTM D698

Report Date: 11/19/2024

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

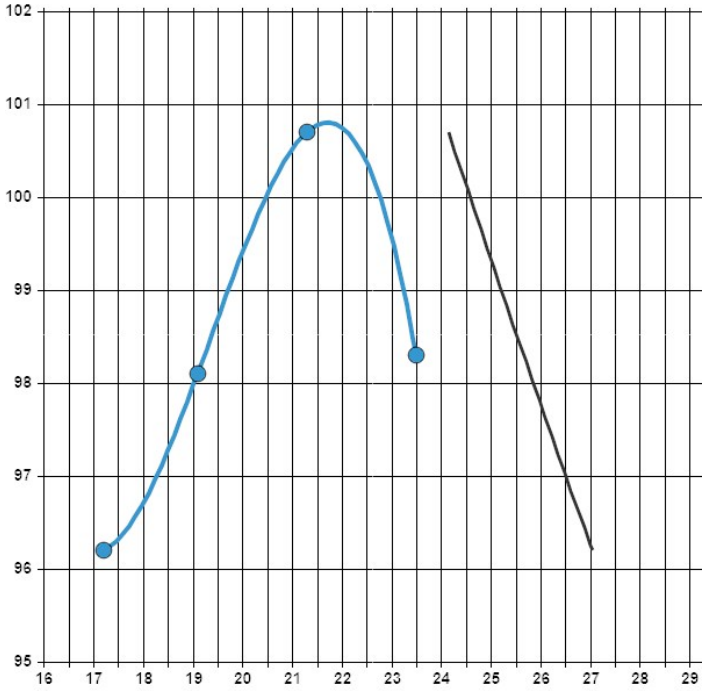
Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618799	**Depth (ft):**	Bulk 5'
Boring Number:	ST-324	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	09/27/2024	**Tested By:**	Vang, Yang

Laboratory Data



Proctor ID:	P-08-std		
Maximum Dry Density (pcf):	100.8		
Optimum Moisture (%):	21.7		
Method:	Method B		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	51	**Plastic Limit:**	20
Plastic Index:	31		
Passes #200 (%):	60.4	**Retained #200 (%):**	39.6
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	3
Retained On #4 (%):	9	**Passing #4 (%):**	91

Classification: CH Sandy fat clay, fine to medium grained, brown

General

Remarks: The % passing the #200 is for informational purposes only.

BRAUN INTERTEC
The Science You Build On.

Standard Proctor M-D Relationship

ASTM D698

Report Date: 10/18/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

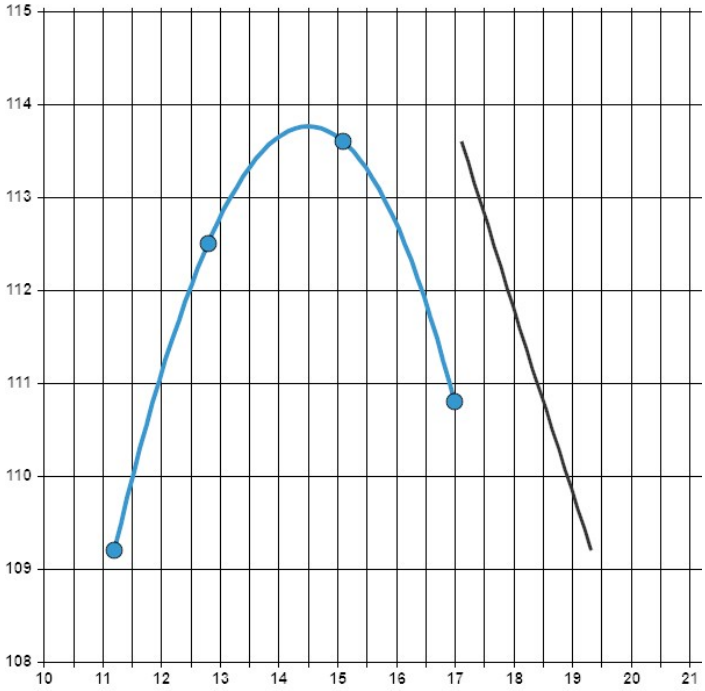
Client:
City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:
B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	619967	**Alternate ID:**	ST-325
Boring Number:	ST-325	**Depth (ft):**	1'-5'
Sample From:	Auger Cuttings	**Sampled By:**	Drill Crew
Location Details:	Boring ST-325		
Sample Date:	08/15/2024		
Received Date:	09/02/2024	**Lab:**	2908 Morrison Ave. Suite 3, Bismarck, ND
Tested Date:	10/18/2024	**Tested By:**	Ficek, Kevin

Laboratory Data



Proctor ID:	P-17		
Maximum Dry Density (pcf):	113.8		
Optimum Moisture (%):	14.5		
Method:	Method B		
Preparation Method:	Moist		
Rammer Type:	Manual Round		
Specific Gravity:	2.65		
Specific Gravity Source:	Assumed		
Liquid Limit:	39	**Plastic Limit:**	15
Plastic Index:	24		
Passes #200 (%):	54.0	**Retained #200 (%):**	46.0
Retained On 3/4 (%):	0	**Retained On 3/8 (%):**	3
Retained On #4 (%):	9	**Passing #4 (%):**	91

Classification: CL Sandy lean clay

General

Remarks: The test is for informational purposes.

California Bearing Ratio

ASTM D1883

Report Date: 10/10/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618788	**Depth (ft):**	Bulk 5'
Boring Number:	ST-301	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/10/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	56
Surcharge (lbs)	10
Average Molding Moisture Content (%)	18.6
Dry Density Molded (pcf)	102.9
Percent Of Maximum Density	95.3
Swell (%)	0.2
Moisture Content Of Whole Specimen (%)	21.2
Moisture Content Of Top Inch (%)	18.5
Corrected Bearing Ratio At 0.1 inch	3.7
Corrected Bearing Ratio At 0.2 inch	3.2
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618788.pdf in the documents section at the end of this report.

Minimum Specified

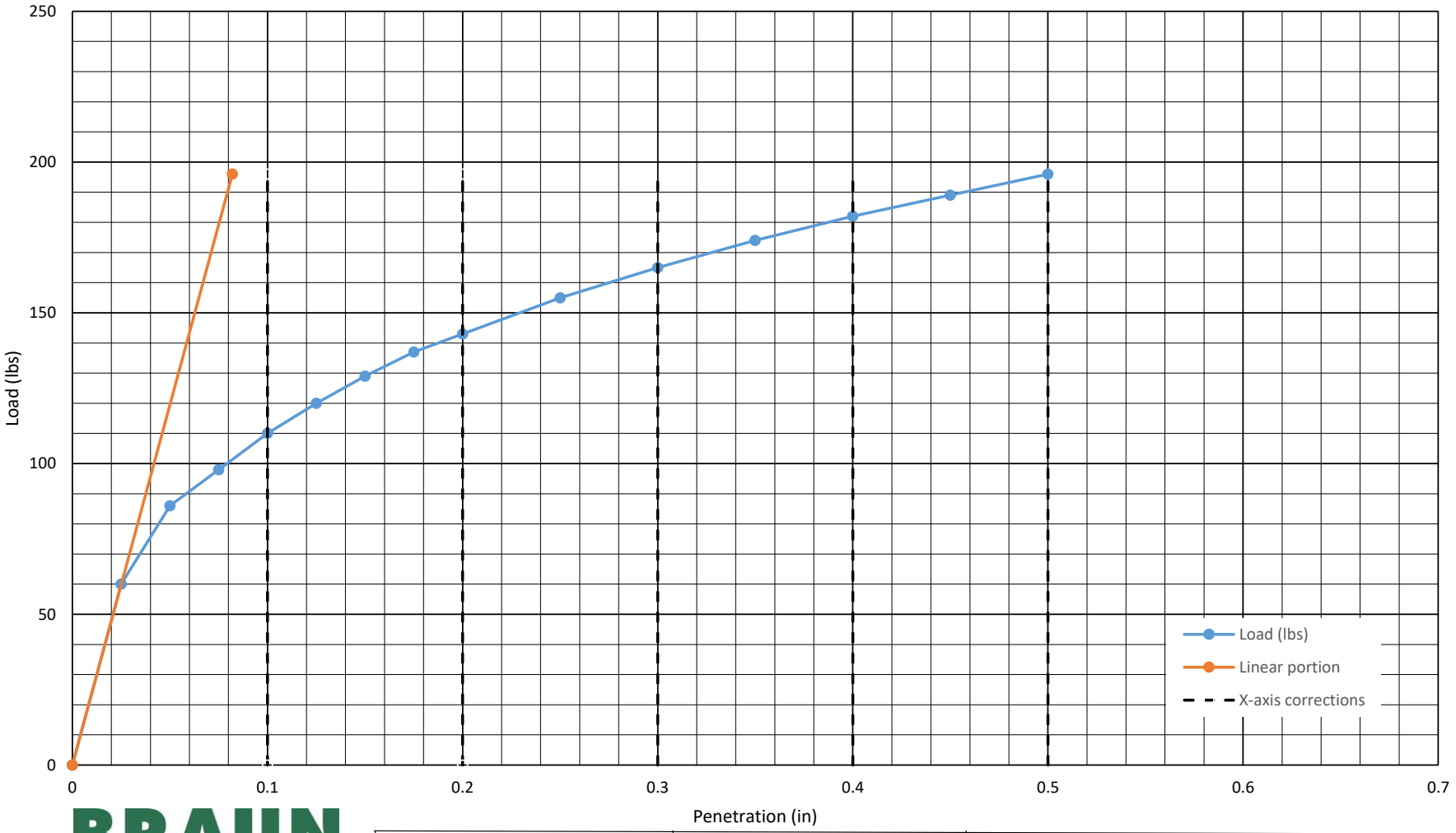
Final Bearing Ratio (%): 3.2

Soil Classification: CL Sandy lean clay

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.3	Classification	
Sample Number	618788	Molding Moisture (%)	18.6	CL Sandy lean clay, dark brown	

California Bearing Ratio

ASTM D1883

Report Date: 10/10/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618795	**Depth (ft):**	Bulk 5'
Boring Number:	ST-311	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/10/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	28
Surcharge (lbs)	10
Average Molding Moisture Content (%)	15.4
Dry Density Molded (pcf)	108.9
Percent Of Maximum Density	95.4
Swell (%)	0.0
Moisture Content Of Whole Specimen (%)	16.2
Moisture Content Of Top Inch (%)	16.0
Corrected Bearing Ratio At 0.1 inch	3.1
Corrected Bearing Ratio At 0.2 inch	3.2
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618795.pdf in the documents section at the end of this report.

Minimum Specified

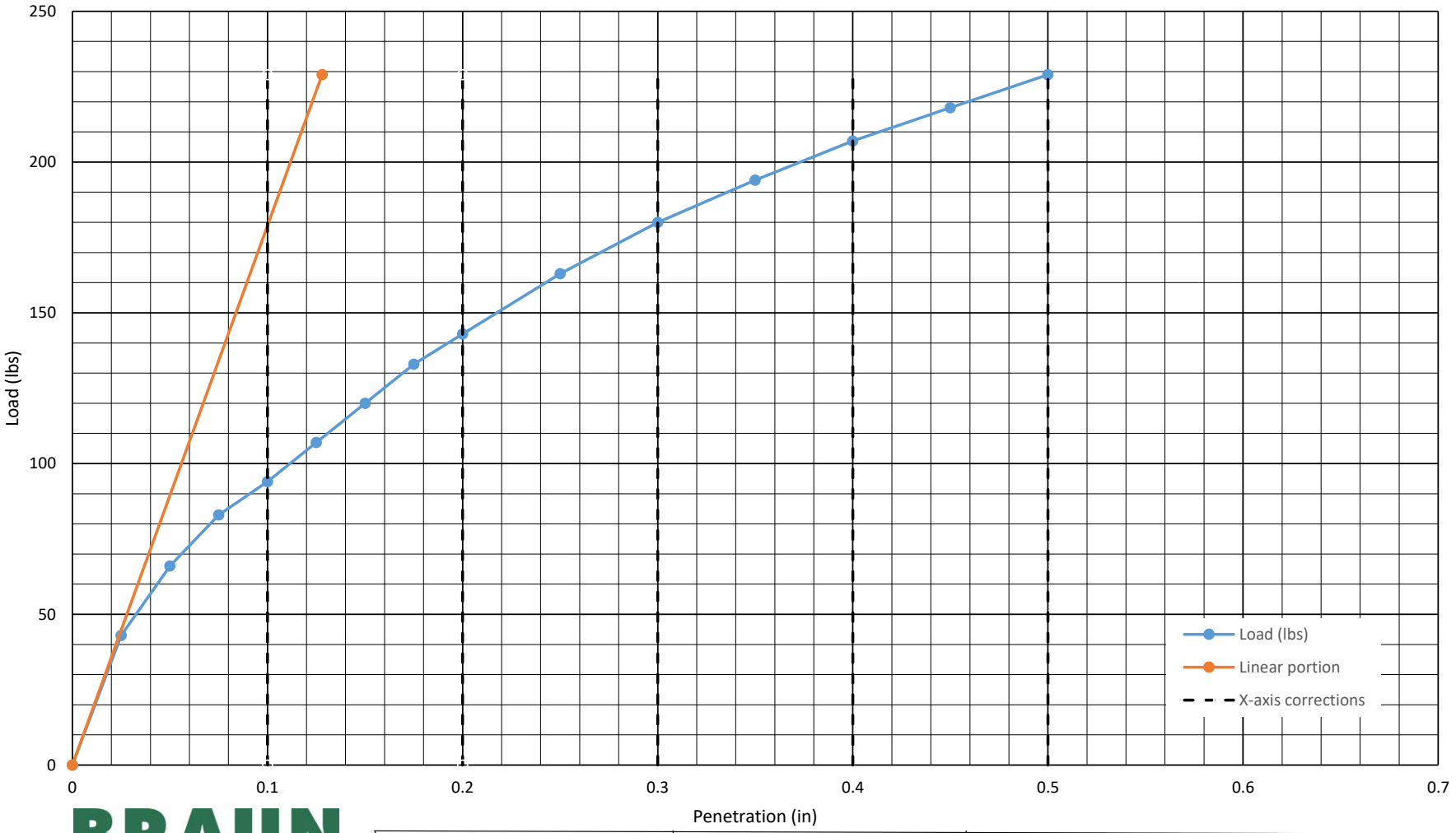
Final Bearing Ratio (%): 3.1

Soil Classification: CL Lean clay

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.4	Classification	
Sample Number	618795	Molding Moisture (%)	15.4	CL Lean clay, brown	

California Bearing Ratio

ASTM D1883

Report Date: 10/28/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618796	**Depth (ft):**	Bulk 5'
Boring Number:	ST-315	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/28/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	18
Surcharge (lbs)	10
Average Molding Moisture Content (%)	15.9
Dry Density Molded (pcf)	105.0
Percent Of Maximum Density	95.2
Swell (%)	0.9
Moisture Content Of Whole Specimen (%)	17.1
Moisture Content Of Top Inch (%)	22.5
Corrected Bearing Ratio At 0.1 inch	3.2
Corrected Bearing Ratio At 0.2 inch	2.6
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618796.pdf in the documents section at the end of this report.

Minimum Specified

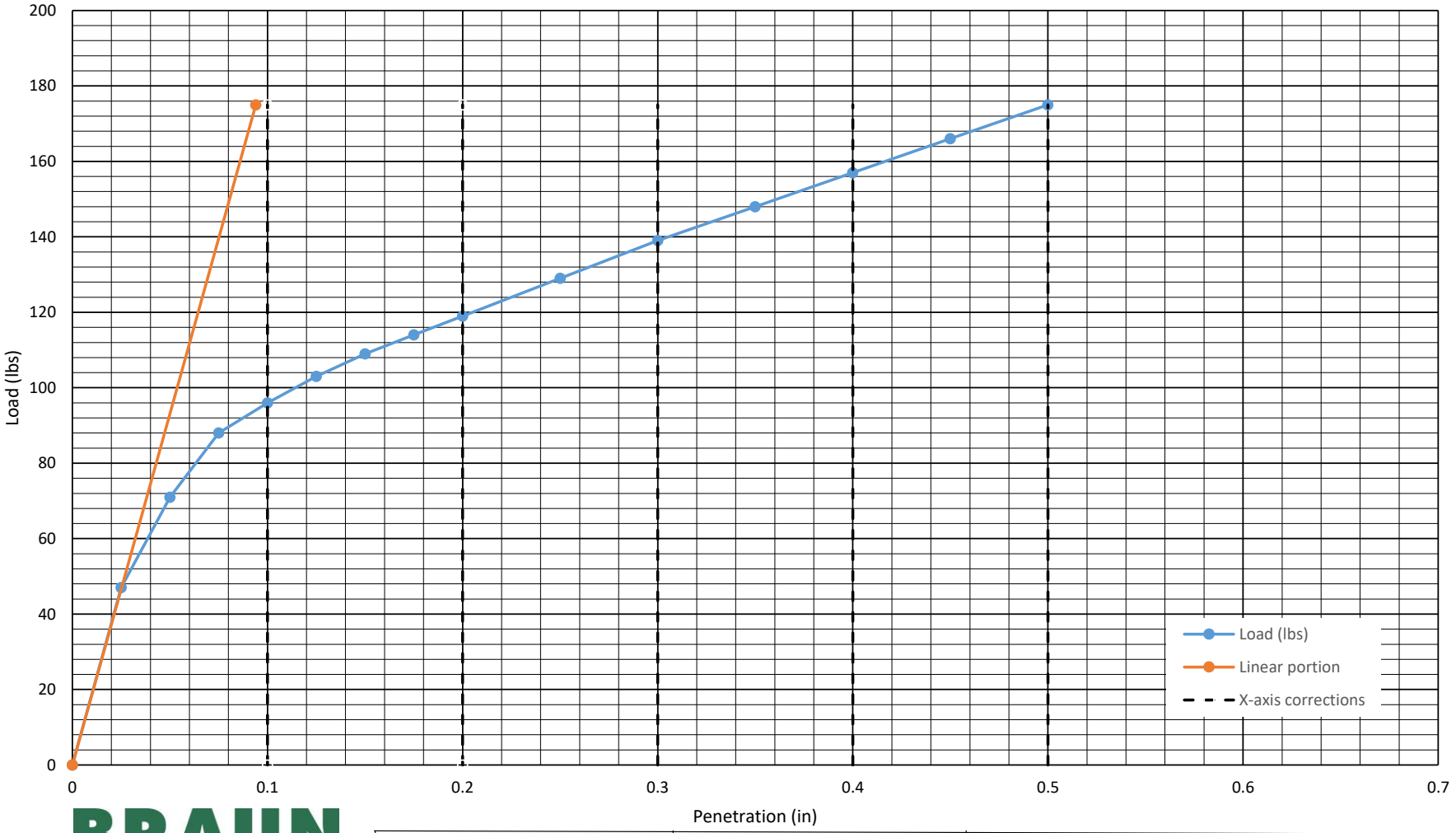
Final Bearing Ratio (%): 2.6

Soil Classification: CL Sandy lean clay

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.2	Classification	
Sample Number	618796	Molding Moisture (%)	15.9	CL Sandy lean clay, brown	

California Bearing Ratio

ASTM D1883

Report Date: 10/28/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618797	**Depth (ft):**	Bulk 5'
Boring Number:	ST-318	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/28/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	18
Surcharge (lbs)	10
Average Molding Moisture Content (%)	16.1
Dry Density Molded (pcf)	107.6
Percent Of Maximum Density	95.3
Swell (%)	0.5
Moisture Content Of Whole Specimen (%)	17.2
Moisture Content Of Top Inch (%)	18.4
Corrected Bearing Ratio At 0.1 inch	4.6
Corrected Bearing Ratio At 0.2 inch	4.2
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618797.pdf in the documents section at the end of this report.

Minimum Specified

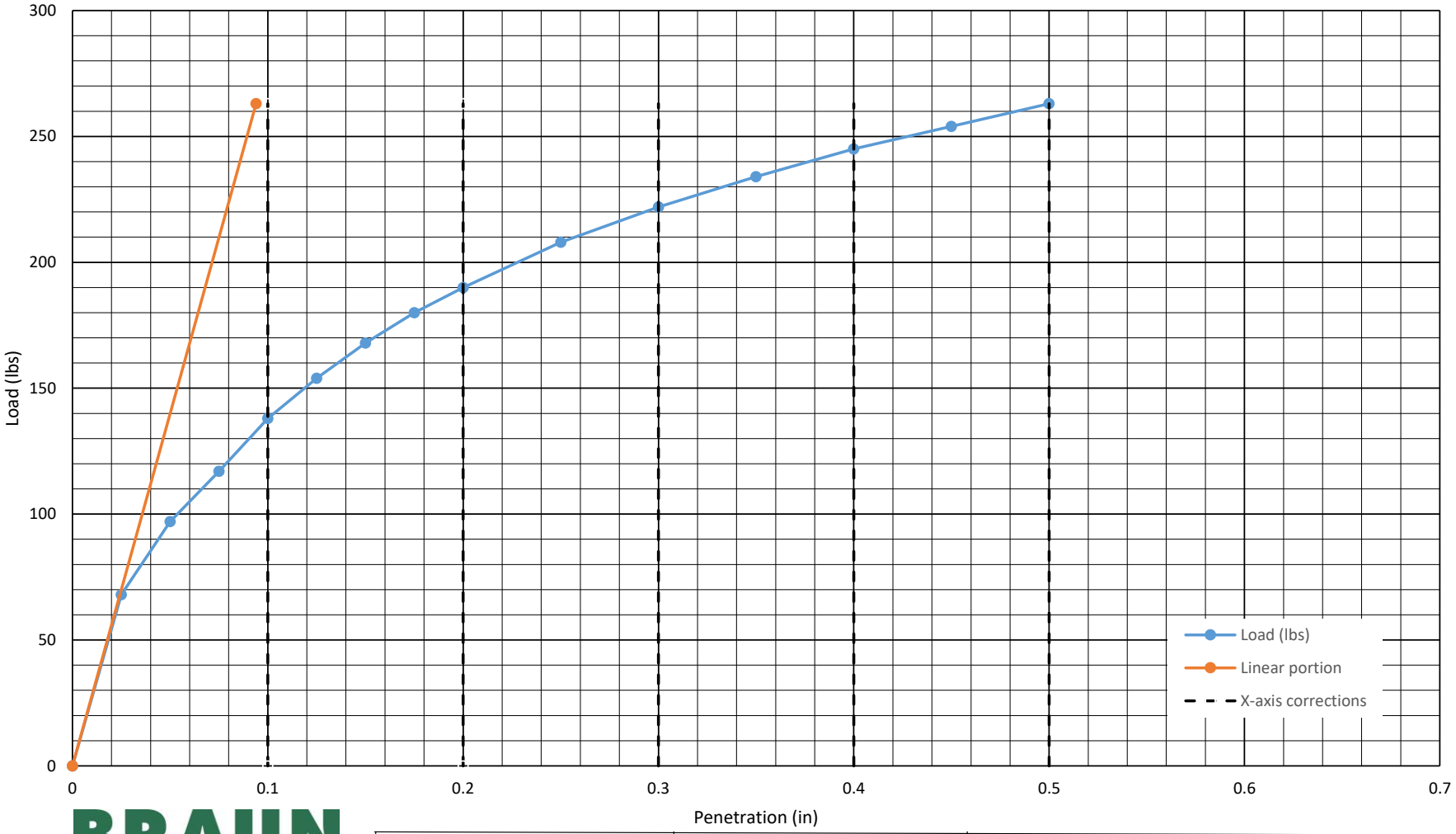
Final Bearing Ratio (%): 4.2

Soil Classification: SM Silty sand

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.3	Classification	
Sample Number	618797	Molding Moisture (%)	16.1	SM Silty sand, brown	

BRAUN INTERTEC
The Science You Build On.

California Bearing Ratio

ASTM D1883

Report Date: 10/29/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618798	**Depth (ft):**	Bulk 5'
Boring Number:	ST-320	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	10/29/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	18
Surcharge (lbs)	10
Average Molding Moisture Content (%)	15.1
Dry Density Molded (pcf)	110.3
Percent Of Maximum Density	95.1
Swell (%)	1.0
Moisture Content Of Whole Specimen (%)	15.1
Moisture Content Of Top Inch (%)	22.0
Corrected Bearing Ratio At 0.1 inch	3.5
Corrected Bearing Ratio At 0.2 inch	2.9
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618798.pdf in the documents section at the end of this report.

Minimum Specified

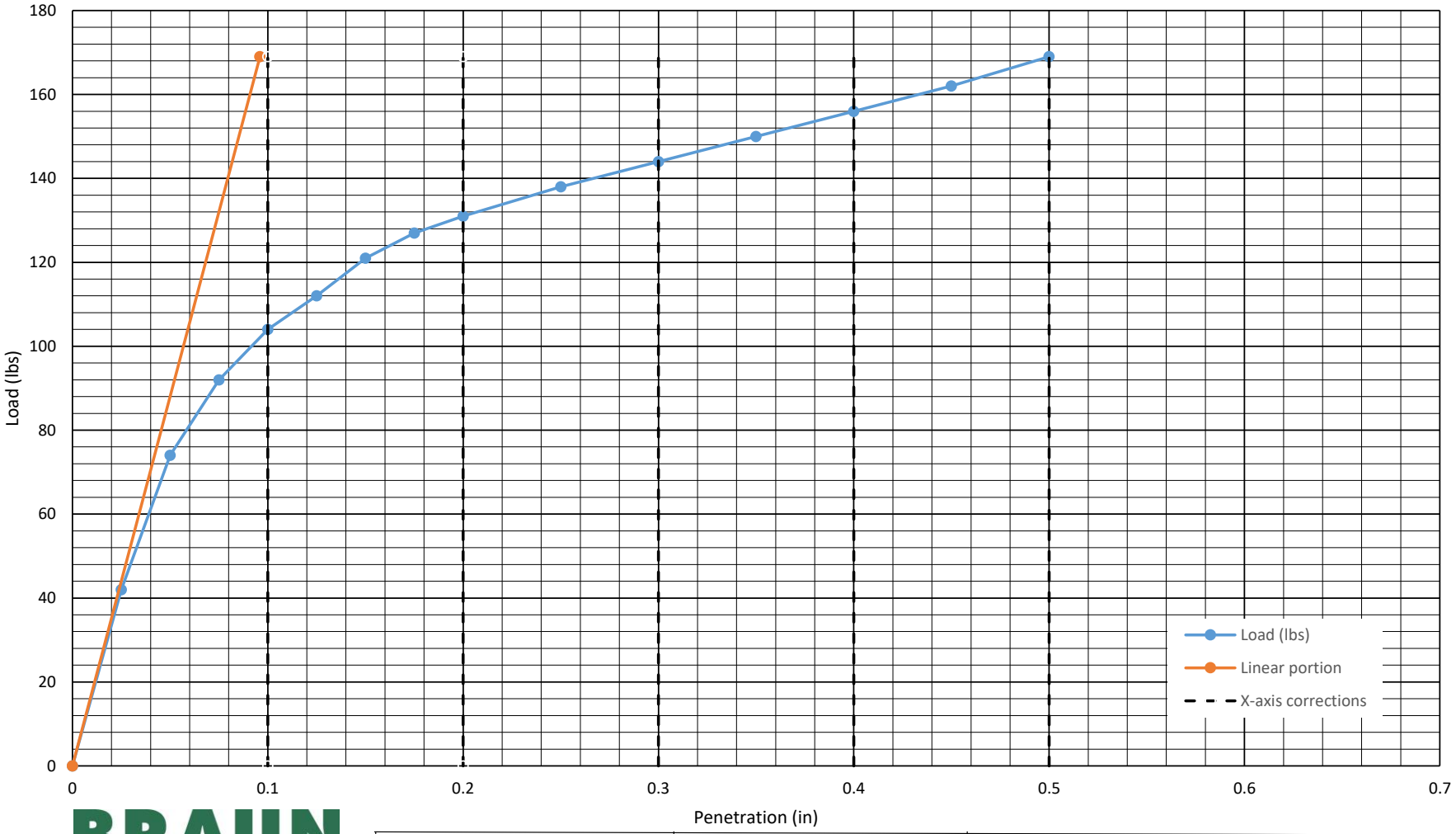
Final Bearing Ratio (%): 2.9

Soil Classification: SC Clayey sand

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.1	Classification	
Sample Number	618798	Molding Moisture (%)	15.1	SC Clayey sand, brown	

California Bearing Ratio

ASTM D1883

Report Date: 11/05/2024

2908 Morrison Ave.
Suite 3
Bismarck, ND 58504
Phone: 701-255-7180

Client:

City of Dickinson
38 1st St W
Dickinson, ND 58601

Project:

B2406649.02
202501 - 2025 Road Maintenance
Dickinson, ND

Sample Information

Sample Number:	618799	**Depth (ft):**	Bulk 5'
Boring Number:	ST-324	**Sampled By:**	Client
Sample Date:	09/20/2024		
Received Date:	09/22/2024	**Lab:**	11001 Hampshire Ave S, Bloomington, MN
Tested Date:	11/05/2024	**Tested By:**	Vang, Yang

Laboratory Data

Soaked Or Unsoaked	Soaked
Method Of Preparation	ASTM D698
Number Of Blows Per Lift	12
Surcharge (lbs)	10
Average Molding Moisture Content (%)	21.7
Dry Density Molded (pcf)	96.2
Percent Of Maximum Density	95.4
Swell (%)	0.1
Moisture Content Of Whole Specimen (%)	23.0
Moisture Content Of Top Inch (%)	21.6
Corrected Bearing Ratio At 0.1 inch	1.7
Corrected Bearing Ratio At 0.2 inch	1.3
Corrected Bearing Ratio At 0.3 inch	
Corrected Bearing Ratio At 0.4 inch	
Corrected Bearing Ratio At 0.5 inch	

See 618799.pdf in the documents section at the end of this report.

Minimum Specified

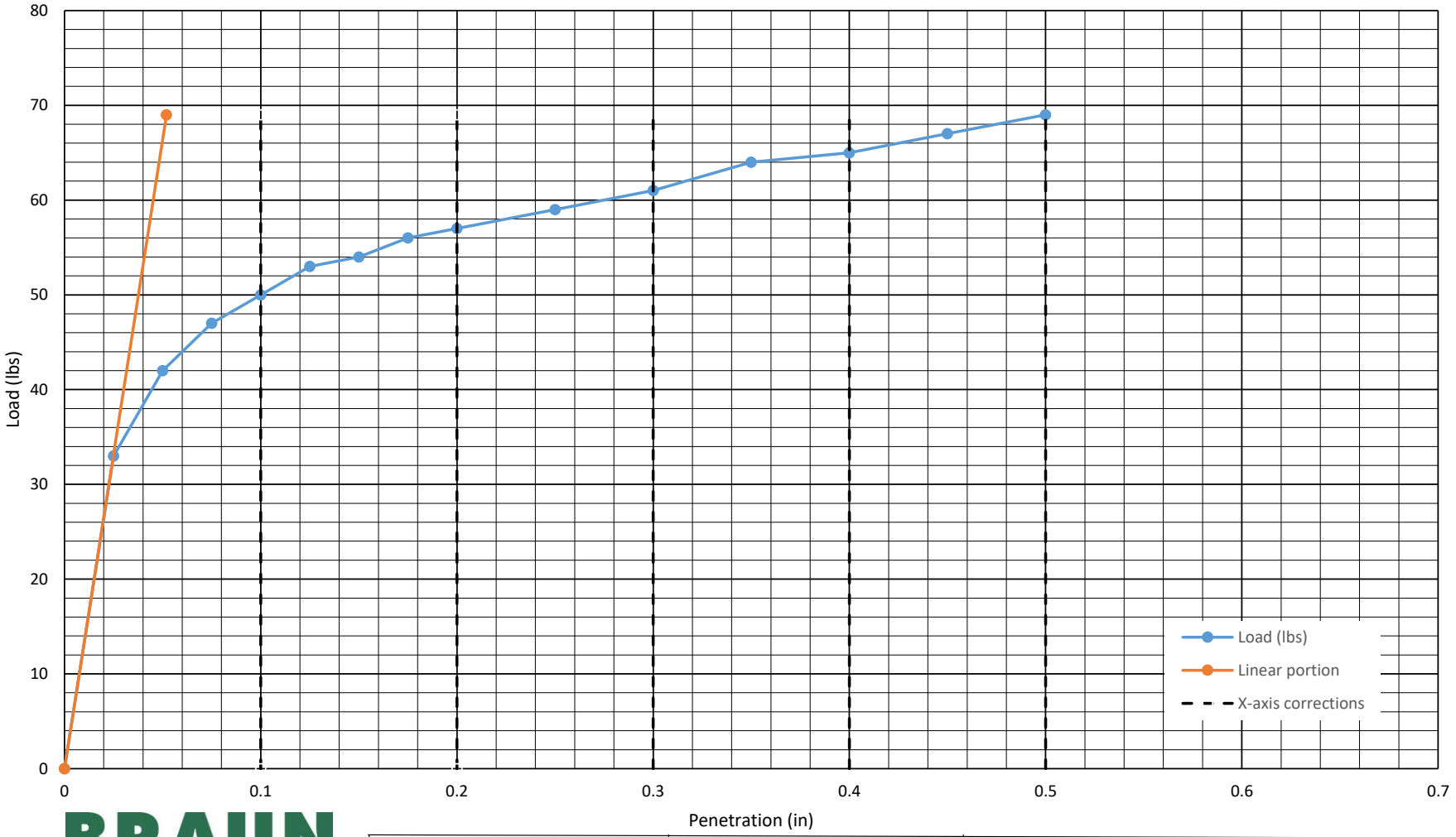
Final Bearing Ratio (%): 1.3

Soil Classification: CL Sandy lean clay

General

Results: The test is for informational purposes.

CBR Load Graph



BRAUN INTERTEC
The Science You Build On.

Project Number	B2406649.02	% of Maximum	95.4	Classification	
Sample Number	618799	Molding Moisture (%)	21.7	CL Sandy lean clay, brown	

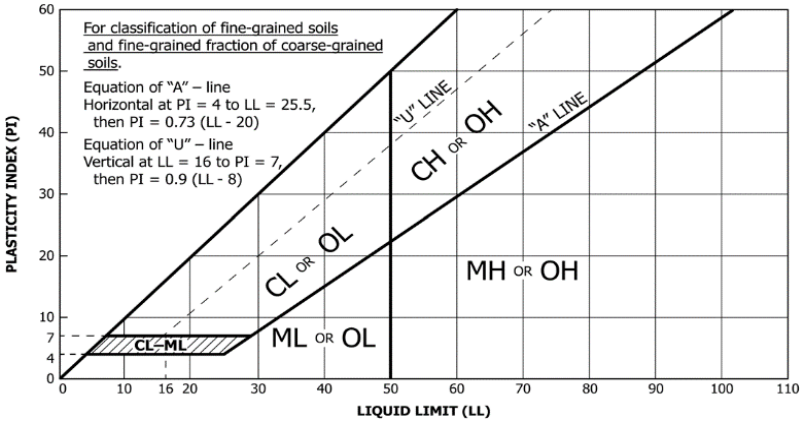
BRAUN INTERTEC
The Science You Build On.

Descriptive Terminology of Soil

Based on Standards ASTM D2487/2488
(Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification	
				Group Symbol	Group Name[B]
Coarse-grained Soils (more than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5% fines[C])	$C_u \geq 4$ and $1 \leq C_c \leq 3^D$	GW	Well-graded gravel[E]
			$C_u < 4$ and/or ($C_c < 1$ or $C_c > 3$)[D]	GP	Poorly graded gravel[E]
		Gravels with Fines (More than 12% fines[C])	Fines classify as ML or MH	GM	Silty gravel[E F G]
			Fines Classify as CL or CH	GC	Clayey gravel[E F G]
	Sands (50% or more coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5% fines[H])	$C_u \geq 6$ and $1 \leq C_c \leq 3^D$	SW	Well-graded sand[I]
			$C_u < 6$ and/or ($C_c < 1$ or $C_c > 3$)[D]	SP	Poorly graded sand[I]
		Sands with Fines (More than 12% fines[H])	Fines classify as ML or MH	SM	Silty sand[F G I]
			Fines classify as CL or CH	SC	Clayey sand[F G I]
Fine-grained Soils (50% or more passes the No. 200 sieve)	Silts and Clays (Liquid limit less than 50)	Inorganic	PI > 7 and plots on or above "A" line[J]	CL	Lean clay[K L M]
			PI < 4 or plots below "A" line[J]	ML	Silt[K L M]
		Organic	Liquid Limit – oven dried / Liquid Limit – not dried <0.75	OL	Organic clay[K L M N] / Organic silt[K L M O]
	Silts and Clays (Liquid limit 50 or more)	Inorganic	PI plots on or above "A" line	CH	Fat clay[K L M]
			PI plots below "A" line	MH	Elastic silt[K L M]
		Organic	Liquid Limit – oven dried / Liquid Limit – not dried <0.75	OH	Organic clay[K L M P] / Organic silt[K L M Q]
Highly Organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

A. Based on the material passing the 3-inch (75-mm) sieve.
B. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
C. Gravels with 5 to 12% fines require dual symbols:
   GW-GM well-graded gravel with silt
   GW-GC well-graded gravel with clay
   GP-GM poorly graded gravel with silt
   GP-GC poorly graded gravel with clay
D. $C_u = D_{60} / D_{10}$ $C_c = (D_{30})^2 / (D_{10} \times D_{60})$
E. If soil contains ≥ 15% sand, add "with sand" to group name.
F. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
G. If fines are organic, add "with organic fines" to group name.
H. Sands with 5 to 12% fines require dual symbols:
   SW-SM well-graded sand with silt
   SW-SC well-graded sand with clay
   SP-SM poorly graded sand with silt
   SP-SC poorly graded sand with clay
I. If soil contains ≥ 15% gravel, add "with gravel" to group name.
J. If Atterberg limits plot in hatched area, soil is CL-ML, silty clay.
K. If soil contains 15 to < 30% plus No. 200, add "with sand" or "with gravel", whichever is predominant.
L. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
M. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
N. PI ≥ 4 and plots on or above "A" line.
O. PI < 4 or plots below "A" line.
P. PI plots on or above "A" line.
Q. PI plots below "A" line.



Laboratory Tests

DD	Dry density, pcf	**q_p**	Pocket penetrometer strength, tsf
WD	Wet density, pcf	**q_U**	Unconfined compression test, tsf
P200	% Passing #200 sieve	**LL**	Liquid limit
MC	Moisture content, %	**PL**	Plastic limit
OC	Organic content, %	**PI**	Plasticity index

Particle Size Identification

Boulders..... over 12"
Cobbles..... 3" to 12"
Gravel
  Coarse..... 3/4" to 3" (19.00 mm to 75.00 mm)
  Fine..... No. 4 to 3/4" (4.75 mm to 19.00 mm)
Sand
  Coarse..... No. 10 to No. 4 (2.00 mm to 4.75 mm)
  Medium..... No. 40 to No. 10 (0.425 mm to 2.00 mm)
  Fine..... No. 200 to No. 40 (0.075 mm to 0.425 mm)
Silt..... No. 200 (0.075 mm) to .005 mm
Clay..... < .005 mm

Relative Proportions[L, M]

trace..... 0 to 5%
little..... 6 to 14%
with..... ≥ 15%

Inclusion Thicknesses

lens..... 0 to 1/8"
seam..... 1/8" to 1"
layer..... over 1"

Apparent Relative Density of Cohesionless Soils

Very loose ..... 0 to 4 BPF
Loose ..... 5 to 10 BPF
Medium dense..... 11 to 30 BPF
Dense..... 31 to 50 BPF
Very dense..... over 50 BPF

Consistency of Cohesive Soils	Blows Per Foot	Approximate Unconfined Compressive Strength
Very soft	0 to 1 BPF	< 0.25 tsf
Soft	2 to 4 BPF	0.25 to 0.5 tsf
Medium	5 to 8 BPF	0.5 to 1 tsf
Stiff	9 to 15 BPF	1 to 2 tsf
Very Stiff	16 to 30 BPF	2 to 4 tsf
Hard	over 30 BPF	> 4 tsf

Moisture Content:

Dry: Absence of moisture, dusty, dry to the touch.
Moist: Damp but no visible water.
Wet: Visible free water, usually soil is below water table.

Drilling Notes:

Blows/N-value: Blows indicate the driving resistance recorded for each 6-inch interval. The reported N-value is the blows per foot recorded by summing the second and third interval in accordance with the Standard Penetration Test, ASTM D1586.

Partial Penetration: If the sampler could not be driven through a full 6-inch interval, the number of blows for that partial penetration is shown as #/x" (i.e. 50/2"). The N-value is reported as "REF" indicating refusal.

Recovery: Indicates the inches of sample recovered from the sampled interval. For a standard penetration test, full recovery is 18", and is 24" for a thinwall/shelby tube sample.

WOH: Indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WOR: Indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

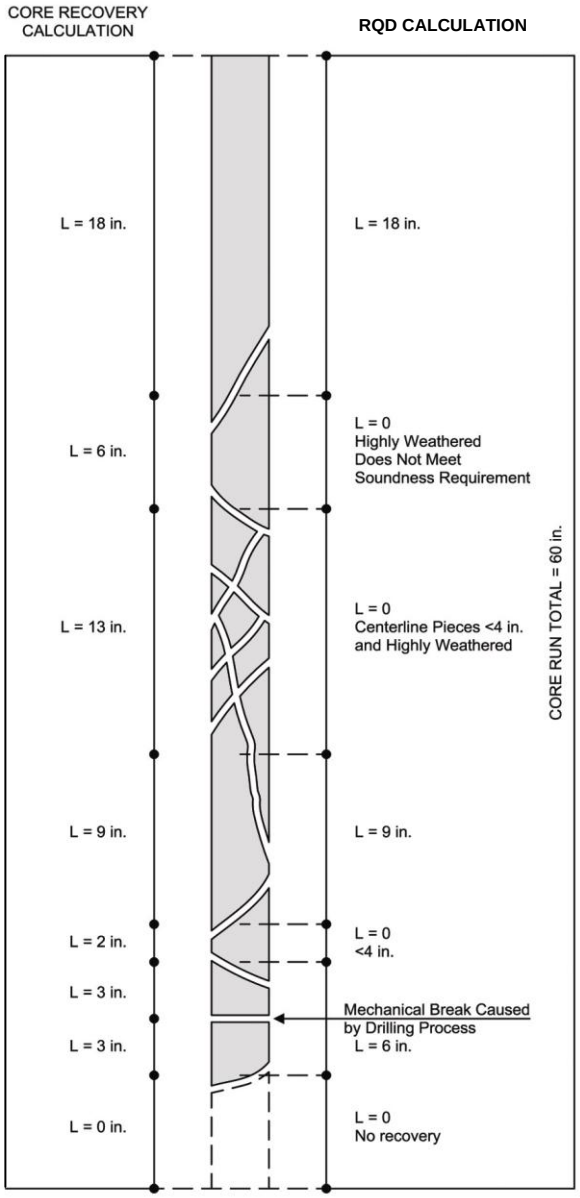
Water Level: Indicates the water level measured by the drillers either while drilling (▽), at the end of drilling (▼), or at some time after drilling (▼).

Sample Symbols

Standard Penetration Test
Modified California (MC)
Auger
Grab Sample
Rock Core
Thinwall (TW)/Shelby Tube (SH)
Texas Cone Penetrometer
Dynamic Cone Penetrometer

Descriptive Terminology of Rock

Based on U.S. Army Corps of Engineers EM 1110-1-2908



Example Calculations

Core Recovery, CR = $\frac{\text{Total length of rock recovered}}{\text{Total core run length}}$

Example:CR = $\frac{(18 + 6 + 13 + 9 + 2 + 3 + 3)}{(60)}$

CR = 90%

RQD = $\frac{\text{Sum of sound pieces 4 inches or larger}}{\text{Total core run length}}$

RQD Percent	Rock Quality
< 25	very poor
25 < 50	poor
50 < 75	fair
75 < 90	good
90 < 100	excellent

Example: RQD = $\frac{(18 + 9 + 6)}{(60)}$

RQD = 55%

Weathering

Unweathered: No evidence of chemical or mechanical alteration.

Slightly weathered: Slight discoloration on surface, slight alteration along discontinuities, less than 10% of rock volume altered.

Moderately Weathered: Discoloration evident, surface pitted and altered with alteration penetrating well below rock surfaces, weathering halos evident, 10% to 50% of the rock altered.

Highly Weathered: Entire mass discolored, alteration pervading nearly all of the rock, with some pockets of slightly weathered rock noticeable, some mineral leached away.

Decomposed: Rock reduced to a soil consistency with relict rock texture, generally molded and crumbled by hand.

Hardness

Very soft:	Can be deformed by hand
Soft:	Can be scratched with a fingernail
Moderately hard:	Can be scratched easily with a knife
Hard:	Can be scratched with difficulty with a knife
Very hard:	Cannot be scratched with a knife

Texture

Sedimentary Rocks:	*Grain Size*
Coarse grained	2 – 5 mm
Medium grained	0.4 – 2 mm
Fine grained	0.1 – 0.4 mm
Very fine grained	< 0.1 mm

Igneous and Metamorphic Rocks:	
Coarse grained	5 mm
Medium grained	1 – 5 mm
Fine grained	0.1 – 1 mm
Aphanitic	< 0.1 mm

Thickness of Bedding

Massive:	3 ft. thick or greater
Thick bedded:	1 to 3 ft. thick
Medium bedded:	4 in. to 1 ft. thick
Thin bedded:	4 in. thick or less

Degree of Fracturing (Jointing)

Unfractured:	Fracture spacing 6 ft. of more
Slightly fractured:	Fracture spacing 2 to 6 ft.
Moderately fractured:	Fracture spacing 8 in. to 2 ft.
Highly fractured:	Fracture spacing 2 in. to 8 in.
Intensely fractured:	Fracture spacing 2 in. or less