Date: June 16, 2016

ATTENTION - PROSPECTIVE BIDDERS

OFFICIAL BID PACKAGE
FOR
SALE OF NDDOT-OWNED LAND
NEAR EXIT 292 (KATHRYN DRIVE INTERCHANGE)
(PART OF SE1/4 OF SEC. 28-140-58, BARNES COUNTY)

This file contains:

1. The Official Advertisement of Sale, Notice of Sale of State Land Owned by the North Dakota Department of Transportation.

2. A Preliminary plat, depicting the parcels to be sold.

3. Cartway Agreement, dated May 6, 1975

4. Report from NDDOT Valley City District Engineer, dated May 20, 2016

5. A sample Quit Claim Deed (to be used in the conveyance of the sale property).

6. Official Bid Sheet, North Dakota Department of Transportation, Bid for Public Sale of Land.

7. Sample Bid Envelope

8. Geotechnical Report, dated June 8, 2012, prepared by Midwest Testing Laboratory, Inc.; report was commissioned independently by Valley City-Barnes Development Corporation.

NOTICE OF SALE OF STATE LAND OWNED BY
THE NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

The North Dakota Department of Transportation (NDDOT) will sell to the highest bidder by sealed bids, with the three highest bidders having the opportunity to orally raise their bid at sale time, the following two tracts of land located near Valley City, ND, and described as follows:

Parcel Number 1B-1

A portion of the SE ¼ of Section 28, Township 140 N, Range 58 W, of the 5th Principal Meridian, County of Barnes, State of North Dakota, described as follows and as shown on plat 1B of 1:

Commencing at the SE corner of section 28, thence westerly along the south line of section 28, S 88 deg. 45 min. 56 sec. W a distance of 1338.11 feet. Thence N 01 deg. 14 min. 04 sec. W a distance of 33.00 feet to the SW corner of Parcel 1A-1. Thence N 01 deg. 56 min. 28 sec. W along the west line of Parcel 1A-1 a distance of 717.45 feet to the point of beginning. Thence S 88 deg. 45 min. 56 sec. W a distance of 1263.43 feet to a point on the ¼ line of section 28. Thence N 02 deg. 02 min. 35 sec. W along the ¼ line of section 28 a distance of 689.51 feet. Thence N 11 deg. 34 min. 33 sec. E a distance of 222.44 feet. Thence N 88 deg. 40 min. 48 sec. E a distance of 1212.64 feet. Thence S 01 deg. 56 min. 28 sec. E along the west line of Parcel 1A-1 a distance of 908.23 feet to the point of beginning.

Said parcel is shown on the plat as parcel 1B-1 and contains 26.20 Acres more or less.
END OF DESCRIPTION.

The legal description was prepared by Lou Ann Gosbee, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, North Dakota 58505-0700.

Parcel Number 1B-2

A portion of Parcel No. 2 less the NW 75' of Parcel No. 2 of the E ½ of the SE ¼ of Section 28, Township 140 N, Range 58 W, of the 5th Principal Meridian, County of Barnes, State of North Dakota, described as follows and as shown on plat 1B of 1:

Commencing at the SE corner of section 28, thence westerly along the south line of section 28, S 88 deg. 45 min. 56 sec. W a distance of 2599.80 feet to the ¼ line of section 28. Thence N 02 deg. 02 min. 35 sec. W along the ¼ line of section 28 a distance of 750.48 feet to the point of beginning. Thence N 29 deg. 44 min. 02 sec. W a distance of 245.94 feet. Thence N 11 deg. 34 min. 33 sec. E a distance of 485.38 feet to the ¼ line of section 28. Thence S 02 deg. 02 min. 35 sec. E along the ¼ line of section 28 a distance of 689.51 feet to the point of beginning.

Said parcel is shown on the plat as parcel 1B-2 and contains 0.90 Acres more or less.
END OF DESCRIPTION.

The above two tracts of unimproved land will be sold as a single unit totaling approximately 27.1+/- acres, more or less. The site is located near the southeast quadrant of the Kathryn Drive interchange (Exit 292) in Valley City, ND. Access to the site is available only from Kathryn Drive via a 75-foot dedicated easement, as illustrated on the plat prepared for this sale. The site's market value, based on the average of two recent appraisals, was estimated at $489,260.

The property is being sold "as is", subject to the following conditions:

1. The sale is subject to all easements of record, including (but not limited to) a cartway easement that provides access to neighboring properties, and a transmission line easement;

2. As a condition of sale, the purchaser agrees, at his or her personal expense, to erect and maintain a minimum three-strand barbed wire fence along the south boundary of the sale property. No access will be available to the site from across its south boundary;

3. The sale is subject to certain Non-discrimination covenants. Please visit NDDOT's website at www.dot.nd.gov/ for more information, including a draft quitclaim deed.

4. The purchaser is responsible for payment of all real estate taxes and special assessments (current or delinquent), if any, heretofore or hereafter levied against said real estate;

5. The property is being sold without any warranty as to title.

All bidders should inspect the property and inform themselves of existing conditions, and conditions of the sale prior to submitting a bid. Please visit NDDOT's website at www.dot.nd.gov/ for more information.

The sale will be held at 1:00 P.M. (CST) on Thursday, July 14, 2016 in the 'Ops' Room of the Barnes County Courthouse, 230 4th Street NW, Valley City, ND. Sealed bids will be publically opened and announced at 1:00 P.M. (CST). All bidders are requested to be present.

The three highest bidders will have the opportunity to orally raise their bid at the time of bid opening. In the event that only two bids are received, both bidders will have the opportunity to raise their bids at the time of the bid opening.

All bids must be submitted in a sealed envelope, the outside plainly marked with the bidder's printed name and address and the phrase, "BID FOR STATE LAND – DO NOT OPEN". Bids are to be addressed to Greg F. Doll, Maintenance Division, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, ND 58505-0700. Mailed bids must be postmarked on or before Friday, July 8, 2016. Hand-delivered, sealed bids will also be accepted until 5:00PM the following Monday, July 11, 2016, either at NDDOT's Maintenance Division, 608 East Boulevard Avenue, Bismarck, ND, or at the Valley City District Office, 1524 8th Avenue SW, Valley City, ND.

Only sealed bids, submitted on an official bid form, will be accepted. A bid package, including official bid form and other information, is available on-line at www.dot.nd.gov/

Terms of the sale will be cash, to be paid no later than 30 days following opening of bids.

All bids shall be accompanied by a bank cashier's check in the amount of 10% of the total bid, made payable to the North Dakota Department of Transportation. Unsuccessful bidders' checks will be returned the day of sale. Bidders must bring a valid driver's license for identification purposes; checks will not be released without proof of identity.

The successful bidder's check will be held as a deposit and deducted from the total bid at the time of final settlement. The successful bidder must then remit a second cashier's check by Monday, August 15, 2016 for the balance owed. Said deposit to be forfeited in the event that the successful bidder fails to comply with the terms of the sale.

Conveyance will be via quitclaim deed, which the department will prepare and deliver to the purchaser after settlement. The property is being sold without warranty as to title, and the State of North Dakota will not furnish an abstract of title to the property. The buyer will be responsible for obtaining any desired title insurance at personal expense.

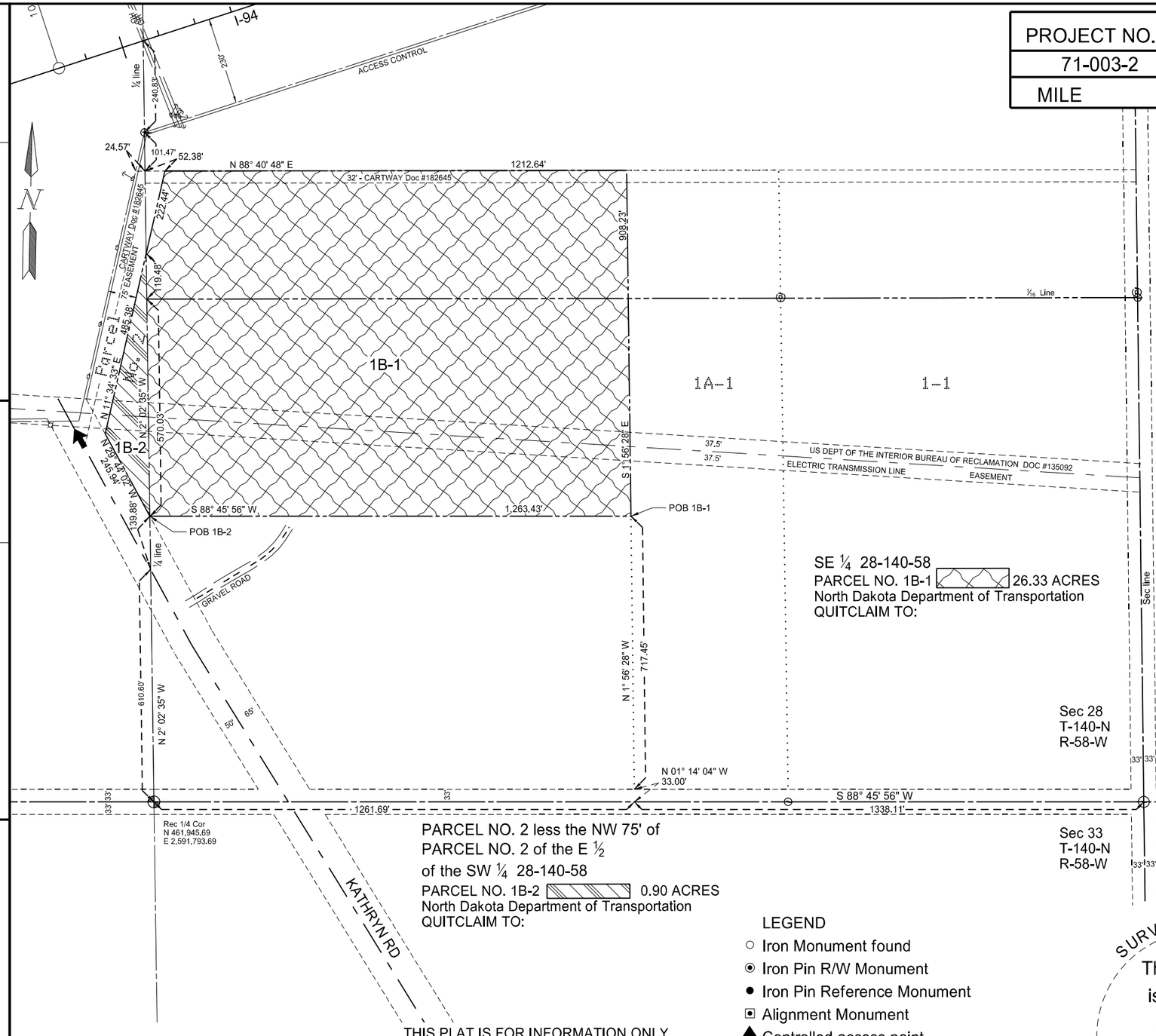
The sale is subject to final approval by the Director of the North Dakota Department of Transportation. Seller reserves the right to reject any or all bids, to waive technicalities, or to accept such bids as may be in the best interest of the state.

To request accommodations for disabilities and/or language assistance, contact Civil Rights Division, NDDOT, 701-328-2978 or civilrights@nd.gov or TTY 711, as soon as possible.

Questions may be directed to Greg F. Doll, Maintenance Division, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, North Dakota 58505-0700; e-mail: gdoll@nd.gov; phone: (701) 328-2613; or to John Thompson, District Engineer for the Valley City District, 1524 8th Avenue SW, Valley City, ND 58072-4200; e-mail: jthompso@nd.gov; phone: (701) 845-8800.

GRANT LEVI
DIRECTOR

PROJECT NO.	PCN	PARCEL	PLAT NO.	SUPPLEMENTS
71-003-2		1B-1	1B of 1	NONE
MILE		1B-2		



SE ¼ 28-140-58
PARCEL NO. 1B-1 26.33 ACRES
North Dakota Department of Transportation
QUITCLAIM TO:

PARCEL NO. 2 less the NW 75' of
PARCEL NO. 2 of the E ½
of the SW ¼ 28-140-58
PARCEL NO. 1B-2 0.90 ACRES
North Dakota Department of Transportation
QUITCLAIM TO:

LEGEND
- ○ Iron Monument found
- ◉ Iron Pin R/W Monument
- ● Iron Pin Reference Monument
- ⊡ Alignment Monument
- ▲ Controlled access point

GRAPHIC SCALE (in feet)
0 300' 600' 900'
1" = 300'

Basis of bearing is: GRID NORTH

x All coordinates on this sheet are BARNES County ground coordinates. They are derived from the "North Dakota Coordinate System of 1983", NAD83 (CORS), SOUTH Zone Combination Factor (cf) = 0.9998710 (International Foot)

Assumed Coordinates

THIS PLAT IS FOR INFORMATION ONLY. THE DATA ON THE PLAT IS NOT OFFICIAL UNTIL THE PLAT IS SEALED AND SIGNED BY A REGISTERED LAND SURVEYOR.

Parcel Number 1B-1

A portion of the SE ¼ of Section 28, Township 140 N, Range 58 W, of the 5th Principal Meridian, County of Barnes, State of North Dakota, described as follows and as shown on plat 1B of 1:

Commencing at the SE corner of section 28, thence westerly along the south line of section 28, S 88 deg. 45 min. 56 sec. W a distance of 1338.11 feet. Thence N 01 deg. 14 min. 04 sec. W a distance of 33.00 feet to the SW corner of Parcel 1A-1. Thence N 01 deg. 56 min. 28 sec. W along the west line of Parcel 1A-1 a distance of 717.45 feet to the point of beginning. Thence S 88 deg. 45 min. 56 sec. W a distance of 1263.43 feet to a point on the ¼ line of section 28. Thence N 02 deg. 02 min. 35 sec. W along the ¼ line of section 28 a distance of 689.51 feet. Thence N 11 deg. 34 min. 33 sec. E a distance of 222.44 feet. Thence N 88 deg. 40 min. 48 sec. E a distance of 1212.64 feet. Thence S 01 deg. 56 min. 28 sec. E along the west line of Parcel 1A-1 a distance of 908.23 feet to the point of beginning.

Said parcel is shown on the plat as parcel 1B-1 and contains 26.20 Acres more or less.
END OF DESCRIPTION.

The legal description was prepared by Lou Ann Gosbee, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, North Dakota 58505-0700.

Parcel Number 1B-2

A portion of Parcel No. 2 less the NW 75' of Parcel No. 2 of the E ½ of the SE ¼ of Section 28, Township 140 N, Range 58 W, of the 5th Principal Meridian, County of Barnes, State of North Dakota, described as follows and as shown on plat 1B of 1:

Commencing at the SE corner of section 28, thence westerly along the south line of section 28, S 88 deg. 45 min. 56 sec. W a distance of 2599.80 feet to the ¼ line of section 28. Thence N 02 deg. 02 min. 35 sec. W along the ¼ line of section 28 a distance of 750.48 feet to the point of beginning. Thence N 29 deg. 44 min. 02 sec. W a distance of 245.94 feet. Thence N 11 deg. 34 min. 33 sec. E a distance of 485.38 feet to the ¼ line of section 28. Thence S 02 deg. 02 min. 35 sec. E along the ¼ line of section 28 a distance of 689.51 feet to the point of beginning.

Said parcel is shown on the plat as parcel 1B-2 and contains 0.90 Acres more or less.
END OF DESCRIPTION.

The legal description was prepared by Lou Ann Gosbee, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, North Dakota 58505-0700.

SURVEYOR'S SEAL
This document is preliminary and not for recording or implementation purposes.
PRELIMINARY

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY PLAT

PROJECT NO. 71-003-2

BARNES COUNTY

APPROVED _____

DATE _____

DATE: 3/12/15
CHECKED BY L.S.: Chad Hanson
DATE: 1/14/15
PLAT MADE BY: Lou Ann Gosbee
DATE SURVEY WAS COMPLETED: 8/10/2011

DOCUMENT NUMBER 182645

CARTWAY

This indenture, made this 6th day of May, 1975, by and between Barnes County, a Municipal Corporation, and Arnold H. Bjornson of Valley City, North Dakota, WITNESSETH:

WHEREAS, Arnold H. Bjornson has presented to this Board a Petition to establish a Cartway pursuant to Section 24-07-06 and,

WHEREAS, It appears to the Board of County Commissioners, that a tract of land owned by Arnold H. Bjornson does not touch upon a public road so as to allow the owner of such tract access to a public Highway and,

WHEREAS, the Board of County Commissioners in its judgment deems it necessary to establish such a cartway for the benefit of Arnold H. Bjornson and his heirs, successors in interest and assigns.

NOW, THEREFORE, IT IS RESOLVED, by the Board of County Commissioners to establish a Cartway as follows:

A strip of land extending 32 feet wide along and adjoining the southerly right-of-way line of Interstate Highway No. 10 in the S½ of Sec. 28, Twp. 140 N., Rge. 58 W., said strip beginning at the centerline of the Kathryn Road and running N 13 degrees 25' 30" E. a distance of 700 ft., more or less.

ALSO, a strip of land 32 feet wide lying South of and Parallel with the north right of way of the following described state Highway Dept. right of way line.

Beginning at a point 336.31 feet North of the SW ¼ ¼ Corner of the N½ SE ¼ Section 28, Township 140 N Range 58 W 5th PM, thence at a right angle to the east a distance of 2637.6 ft. to a point on the E section line of said Section 28, thence S along said Section line a distance of 32 ft., thence at a right angle to the W a distance of 2637.6 ft. more or less to the W property line of the North Dakota State Highway Department, thence N along said line a distance of 32 ft. to the point of beginning.

Given to Arnold H. Bjornson to have and to hold said Cartway unto the said Arnold H. Bjornson, his heirs, successors in interest, and assigns forever as appurtenant to all or any part of the premises of the said Arnold H. Bjornson and his heirs, successors in interest or assigns as above described done by order of the Barnes County Commissioners, at Valley City, North Dakota this 6th day of May, 1975.

BARNES County

BY Edwin L. Heinze
Chairman Board of County Commisioners

Margaret A. Conlon
County Auditor

69

STATE OF NORTH DAKOTA)
SS)
COUNTY OF BARNES)

On this 6th day of May, 1975, personally appeared before me a Notary Public within the aforesaid County and State, EDWIN J. HEINZE and MARGARET A. CONLON to me personally known to be the Chairman of the Board of County Commissioners and the Auditor, respectively of the said County, and each acknowledged to me that he executed the foregoing deed on behalf of the said County.

John T. Paulson, Notary Public
Barnes County, North Dakota

My Commission expires:

August 30, 1979.

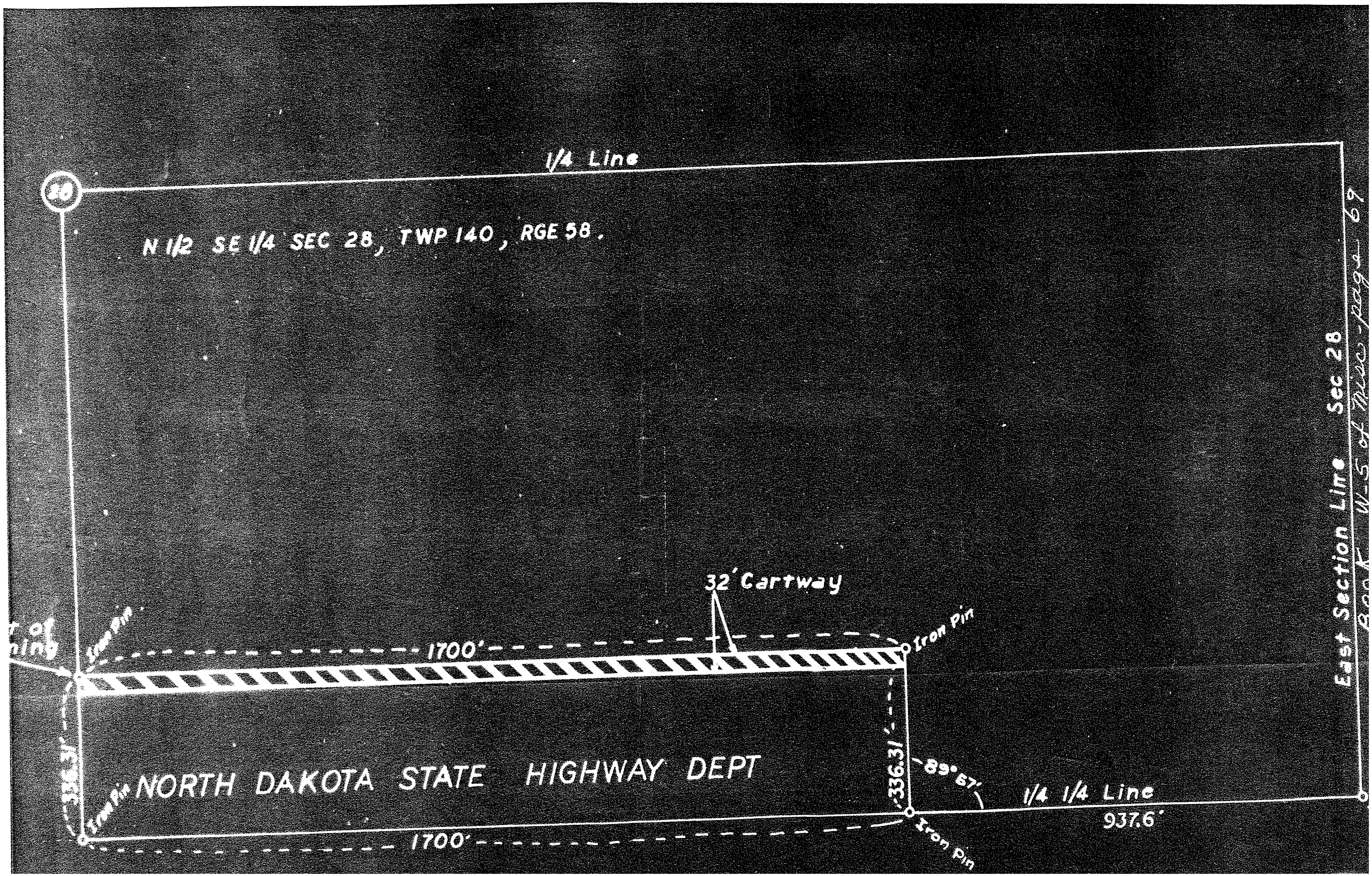
NOTARY PUBLIC STATE OF ... SEAL

DOCUMENT NUMBER 182645

OFFICE OF REGISTER OF DEEDS, County of Barnes, North Dakota. } ss.
I hereby certify that the within instrument was filed in this office for record on the 7th day of May 19 75 at 9:00 o'clock A. M., and was duly recorded in Book W-5 of Misc. Page 69-70
JESSIE J. LANG
Register of Deeds
By Luella H. Leicht Deputy
Rec fee, no chg.

REGISTER OF DEEDS OFFICE BARNES COUNTY SEAL STATE OF N. DAKOTA

Compared	
Grantor	
Grantee	
Indexed	M
Checked	C


1/4 Line
28
N 1/2 SE 1/4 SEC 28, TWP 140, RGE 58.
32' Cartway
Iron Pin
1700'
Iron Pin
336.31'
336.31'
NORTH DAKOTA STATE HIGHWAY DEPT
Iron Pin
89°57'
1/4 1/4 Line
937.6'
1700'
Iron Pin
East Section Line Sec 28
Book W-5 of Misc - page 69

TO: Gregory Doll-NDDOT Maintenance

FROM: John Thompson-Valley City District Engineer
Kevin Hanson-Valley City Dist. Material Coordinator

DATE: May 20, 2016

SUBJECT: NDDOT Pit at 28-140-58 Valley City

In 1971, the Department of Transportation purchased the property from Wick Construction. Since then, it has been used for a variety of reasons ranging from storage of snow plow wings and guardrail items to serving as an aggregate and asphalt stockpile. Other items that have been stored at the pit are jersey barriers and old tires.

Material from this pit has been used for Department of Transportation construction projects from 1977 to 2007, and have also been utilized by the National Guard for training on rock crushing equipment as well.

The pit was frequently used until 2001 when a contractor was mining the pit. The workers at the site that day uncovered some barrels. A few days later, a couple of those people claimed to have felt sick. MSHA was then brought in, and all activity in the pit was shut down for a few weeks. The pit was cleared, using an underground detection system. MSHA determined that the barrels were old paint barrels. Since then, the pit has been used for two other projects.

The pit currently has numerous small piles of gravel and some topsoil piles.

There is a ramp which was used by the Army Nation Guard to practice setting up an aggregate production system.

The following utilities are known to exist in/on this property:

Western Area Power Authority has an overhead transmission line. The line has an easement on this property.

Intercommunity Telephone Coop is located on the west edge of the pit. This is there by permit with 21473.

North Dakota Department of Transportation
QUITCLAIM DEED (State to Others)

PCN: ${FIELD:PROJECT_CONTROL_NUMBER}

PROJECT: ${FIELD:PROJECT_NUMBER}

PARCEL(S):

This deed, made this day of 20 , between the state of North Dakota, acting by and through its Director of Transportation, hereinafter referred to as Grantor, whose address is 608 East Boulevard Avenue, Bismarck, North Dakota 58505-0700, and hereinafter referred to as the Grantee(s), whose address is .

WITNESSETH, that the Grantor, for and in consideration of the sum of Dollars, the receipt of which is hereby acknowledged, do BARGAIN, SELL, REMISE, RELEASE, QUITCLAIM, and CONVEY to the Grantee(s) heirs and assigns, FOREVER, all its right, title, interest, claim, or demand in and to that tract or parcel of land lying and being in County, State of North Dakota and more specifically described as follows, to wit:

The Grantee, for him or herself, his or her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that in the event facilities are constructed, maintained, or otherwise operated on the property described in this deed for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the Grantee will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

That in the event of breach of any of the above Non-discrimination covenants, the State of North Dakota will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the State of North Dakota and its assigns.

TO HAVE AND TO HOLD, the above quitclaimed premises, together with all the hereditaments and appurtenances thereunto belonging or in anywise appertaining to the Grantee(s) heirs and assigns, forever.

IN TESTIMONY WHEREOF, the state of North Dakota has caused this instrument to be executed in the name of the state of North Dakota by the Governor of the state of North Dakota, on recommendation of the Director of the North Dakota Department of Transportation, and who has affixed his signature hereto and the seal of the state of North Dakota.

The above-described property was acquired by the state of North Dakota for the use and benefit of the North Dakota Department of Transportation by purchase. As required by Section 24-01-28 of the North Dakota Century Code, I hereby recommend to the Governor that this transaction be completed.

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

_____
DIRECTOR (TYPE OR PRINT)

_____
SIGNATURE

Attest:
STATE OF NORTH DAKOTA)
COUNTY OF BURLEIGH)

_____
Jack Dalrymple
Governor

The foregoing instrument was executed before me, this _____, 20____, by Jack Dalrymple, Governor of the State of North Dakota (See N.D.C.C. Sec. 47-19-14.5 et seq.)

_____
Alvin A. Jaeger
Secretary of State

GRANTEE(S) CERTIFICATION

I certify that the requirements for a report or statement of full consideration paid does not apply because this deed is for one of the transactions exempted by subdivision e of subsection 7 of NDCC Section 11-18-02.2.

_____ _____
SIGNATURE SIGNATURE

_____ _____
DATE DATE

NDDOT USE ONLY

I certify that the requirements for a report or statement of full consideration paid does not apply because this deed is for one of the transactions exempted by subdivision e of subsection 7 of NDCC Section 11-18-02.2.

NORTH DAKOTA DEPT. OF TRANSPORTATION

MARK S. GAYDOS
Director of Environmental & Transportation Services Grantee or Agent
Date _____

For Recording Purposes Only

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
BID FOR PUBLIC SALE OF LAND

See official advertisement, as published in the official newspaper of Barnes County, and NDDOT's website (www.dot.nd.gov) for sale terms, conditions, and bid procedures.

Bids will be publicly opened and read 1:00 P.M. (CST) on Thursday, July 14, 2016 in the 'Ops' Room of the Barnes County Courthouse, 230 4th Street NW, Valley City, ND. Bidders must be present. The three highest bidders will be given the opportunity to orally raise their bids.

As a condition of sale, the purchaser agrees to erect and maintain at his or her personal expense a minimum three-strand barbed wire fence along the south boundary of the sale property; no access will be available to the site from across its south boundary.

The sale is subject to final approval by the Director of the North Dakota Department of Transportation. Seller reserves the right to reject any or all bids, to waive technicalities, or to accept such bid as may be in the best interest of the state.

ENCLOSED HEREWITH IS BID SECURITY IN THE FORM OF [ ] CERTIFIED CHECK [ ] CASHIER'S CHECK, MADE PAYABLE TO 'NORTH DAKOTA DEPARTMENT OF TRANSPORTATION' IN THE SUM OF $_____ WHICH IS 10% OF THE BID PRICE. **(NOTE: Personal checks or cash will not be accepted and will cause bid to be rejected.)**

In response to the terms of this sale, the undersigned, if award is tendered, agrees to purchase the property described in the official advertisement for the notice of sale, as published in the official newspaper of Barnes County, for the bid price quoted below:

AMOUNT OF BID: $_____

SIGNATURE OF BIDDER: _____ DATE:_____

IMPORTANT - PLEASE PRINT THE FOLLOWING INFORMATION

BIDDER'S NAME: _____
MAILING ADDRESS: _____
_____
_____

BUS. PHONE: _____
RES. PHONE: _____
E-MAIL ADDRESS: _____

Only sealed bids, submitted using this official bid form, will be accepted. Altered bid forms or conditional bids will be rejected. Bid must be placed in a sealed envelope, the outside plainly marked with the bidder's printed name and address and the phrase, "BID FOR STATE LAND – DO NOT OPEN" prominently displayed in the lower left hand corner. Mail the bid to NDDOT – Maintenance Division, c/o Greg F. Doll, NDDOT 608 East Boulevard Avenue, Bismarck, ND 58505-0700. MAILED BIDS MUST BE POSTMARKED ON OR BEFORE FRIDAY, JULY 8, 2016. Hand-delivered, sealed bids will also be accepted until 5:00PM the following MONDAY, JULY 11, 2016, either at NDDOT's Maintenance Division, 608 East Boulevard Avenue, Bismarck, ND, or at the Valley City District Office, 1524 8th Avenue SW, Valley City, ND.

SAMPLE BID ENVELOPE

BIDDER'S NAME
BIDDER'S ADDRESS
CITY STATE ZIP

BID FOR STATE LAND
– DO NOT OPEN

MAINTENANCE DIVISION – GREG DOLL
NDDOT
608 EAST BOULEVARD AVE
BISMARCK ND 58505-0700

DISCLAIMER

The enclosed “Geotechnical Report”, dated June 8, 2012, was prepared by Midwest Testing Laboratories, Inc. This report was commissioned by the Valley City-Barnes Development Corporation, independent of the North Dakota Department of Transportation (NDDOT).

The Valley City-Barnes Development Corporation furnished this report to NDDOT on June 15, 2016. NDDOT is providing this report in the interests of disclosure, but makes no representation as to its completeness or accuracy.

From:	Thompson, John E.
To:	Doll, Gregory F.
Cc:	Darr, Brad W.
Subject:	FW: Land Sale at Exit 292: Geotechnical Engineering Report
Date:	Thursday, June 16, 2016 7:59:01 AM
Attachments:	Geotechnical Engineering Report (2) - Larger Map 6-8-2012.pdf

This information was made available to us by Jennifer Feist.

John Thompson PE
North Dakota Department of Transportation
1524 8th Ave SW
Valley City, ND 58072
(701)845-8811 Office
(701)490-0305 Cell

From: Trinity Potts [mailto:vdgoffice@hellovalley.com]
Sent: Wednesday, June 15, 2016 2:40 PM
To: Thompson, John E.
Subject: Land Sale at Exit 292: Geotechnical Engineering Report

Hello John,

Attached is the report you asked for.

Thanks,

Trinity Potts
Administrative Assistant
Valley City Barnes County Development Corporation
250 West Main St
Valley City, ND 58072
vdgoffice@hellovalley.com
(701)845-1891

From:	Jennifer Feist
To:	Thompson, John E.
Cc:	Doll, Gregory F.
Subject:	RE: Land Sale at Exit 292
Date:	Wednesday, June 15, 2016 12:01:19 PM

Hi John
We will send them to you shortly.
Happy to help.
Thank you.
Jennifer

From: Thompson, John E. [mailto:jthompso@nd.gov]
Sent: Wednesday, June 15, 2016 10:44 AM
To: vdg@hellovalley.com
Cc: Doll, Gregory F.
Subject: RE: Land Sale at Exit 292

I will provide the web address when it is available. Yes the soil boring reports would be helpful. Can you provide them electronically? They would become a public record.

John Thompson PE
North Dakota Department of Transportation
1524 8th Ave SW
Valley City, ND 58072
(701)845-8811 Office
(701)490-0305 Cell

From: Jennifer Feist [mailto:vdg@hellovalley.com]
Sent: Tuesday, June 14, 2016 3:51 PM
To: Thompson, John E.
Subject: Land Sale at Exit 292

Hi John
Could you send the website address for the land sale when it's available?
Also, I have 2 soil borings reports that we will make available.
Would you like them electronically or hard copy or both?
Another option is to refer interested parties here as well.
Please let me know. We are happy to help.
Thank you.
Jennifer Feist
Jennifer Feist
Director of Development

Valley City - Barnes County Dev. Corp.
vdg@hellovalley.com
Phone: 701-840-7820
Fax: 701-845-1892

Geotechnical Engineering Report

NDANG Readiness Center
Valley City, North Dakota
June 8, 2012
Terracon Project No. M1125030

Prepared for:
Valley City-Barnes County Development Corporation
Valley City, North Dakota

Prepared by:
Midwest Testing Laboratory/Terracon
Fargo, North Dakota

Midwest Testing LABORATORY, INC.
A Terracon COMPANY

June 8, 2012

Midwest Testing LABORATORY, INC. A Terracon COMPANY

Valley City-Barnes County Development Corporation
250 West Main Street
Valley City, ND 58072-3321

Attn: Ms. Jennifer Feist
P: 701.845.1891
E: vdg@hellovalley.com

Re: Geotechnical Engineering Report
Proposed NDANG Readiness Center
Valley City, North Dakota
MTL/Terracon Project Number: M1125030

Dear Ms. Feist:

Midwest Testing Laboratory (A Terracon Company) has completed the geotechnical engineering services for the above referenced project. This study was performed in general accordance with our Agreement for Services number M1125030 dated May 21, 2012. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning the design and construction of the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Midwest Testing Laboratory - A Terracon Company

Loel M. Fetting, PE
Geotechnical Department Manager

Theodore J. Engelstad, PE
Office Manager

Enclosures
cc: 2 – Client (mail)
1 – Client (PDF)
1 – RHR Architects,
Attn: Brian Durgian, AIA (PDF)
E: bdurgian@rhrarch.com
1 – File

LOEL M. FETTING REGISTERED PROFESSIONAL PE-3096 ENGINEER NORTH DAKOTA

Date 6-8-2012

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EXECUTIVE SUMMARY

Geotechnical engineering services have been completed for the proposed North Dakota Army National Guard Readiness Center in Valley City, North Dakota. As requested, eleven (11) soil test borings were advanced to depths of 18 to 26 feet below the existing ground surface.

Based on the information obtained from our subsurface exploration, the site can be developed for the proposed project. The following geotechnical considerations were identified:

- The test borings encountered variable amounts of uncontrolled fill on this site which was previously used as a sand and gravel borrow site. It is sometimes difficult to distinguish between uncontrolled fill and the natural soils, due to the their similar nature. Fill depths of up to 12 feet below existing grade were estimated at our boring locations. We recommend all existing uncontrolled fill be excavated from below the proposed building footprint and replaced with a well compacted engineered fill.

- We recommend a number of test pits be excavated around each building perimeter prior to final design to provide a better indication regarding the amount of uncontrolled fill at the actual building sites.

- The proposed buildings may be supported on shallow spread foundations bearing on natural, undisturbed soils or upon a well compacted engineered fill after the removal of the existing fill and topsoil.

- Assuming proper site preparation and any needed repair, total and differential settlement should be within acceptable levels.

- We estimate the groundwater level at the site was located at least 15 to 20 feet below the existing ground surface at the time of our field activities. We do not expect the groundwater level to be a notable concern for the proposed construction.

- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that the Terracon be retained to monitor this portion of the work.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

GEOTECHNICAL ENGINEERING REPORT
PROPOSED NDANG READINESS CENTER
VALLEY CITY, NORTH DAKOTA

MTL/Terracon Project No. M1125030
June 8, 2012

1.0 INTRODUCTION

Geotechnical engineering services have been completed for the proposed North Dakota Army National Guard Readiness Center in Valley City, North Dakota. As requested, eleven (11) soil test borings (B-11 to B-21) were advanced to depths ranging from 18 to 26 feet below the existing ground surface. In 2011, ten (10) preliminary borings (B-1 to B-10) were performed at this site. Logs of the borings along with a site location map and a boring location plan are included in Appendix A of this report.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- subsurface soil conditions
- groundwater conditions
- earthwork
- foundation design and construction
- slab design and construction

2.0 PROJECT INFORMATION

2.1 Project Description

Item	Description
Site layout	See Appendix A, Exhibit A-2: Boring Location Plan
Structures	Readiness Center Two story building with a floor slab on grade. Finished floor elevation 1335 feet. Overall dimensions 200'x290'. Field Maintenance Shop (FMS) Two story building with a floor slab on grade. Finished floor elevation 1330 feet. Overall dimensions 122'x225'.

Item	Description
Structures	Unit Equipment Vehicle Storage (UEVS) Two stories with a floor slab on grade. Finished floor elevation 1335 feet. Overall dimensions 52'x196'.
Maximum loads	Columns: 100 kips (assumed) Walls: 6 kips per lineal foot (assumed) Slabs: 150 psf (assumed)
Maximum allowable settlement	Columns: 1 inch total Walls: ¾ inch differential over 40 feet
Grading	Cut and fill as needed to obtain the desired floor elevation. In some areas, existing stockpiles of granular material will need to be removed to allow for the new construction.
Below grade areas	None

2.2 Site Location and Description

Item	Description
Location	See Appendix A, Exhibit A-1: Site Location Plan 10 preliminary geotechnical borings were performed on this site by Midwest Testing Laboratory in 2011 (Project Number M1115040).
Existing improvements	The site is currently used as a gravel pit and includes large stockpiles of aggregate materials. Based upon recent and previous test borings, it appears some of the mined areas may have been backfilled with less desirable material such as clayey sand and sandy lean clay.
Current ground cover	Occasional grass and vegetation
Existing topography	The site elevation varies significantly down to approximate elevation 1290 along the west edge of the property with some stockpiles on the site above elevation 1365. Please refer to Exhibit A-2 regarding existing topography.

3.0 SUBSURFACE CONDITIONS

3.1 Typical Profile

In 2011, ten test borings were performed across this property to obtain preliminary information regarding soil conditions for future construction of a possible readiness center. These

preliminary test borings were identified as B-1 through B-10. Please refer to the 2011 report (M1115040) dated August 23, 2011 for information regarding the ten preliminary borings performed at this site.

Midwest Testing Laboratory has recently completed eleven (11) additional borings on this property at the locations indicated in Exhibit A-2. These 11 new boring locations were performed as directed by your project architect and are identified as borings B-11 through B-21. The soil conditions at the property are somewhat variable and consist mostly of various types of sand deposits. The soil deposits included: sand, sand with silt, silty sand, clayey sand, sandy silt, lean clay with sand, sandy lean clay and fat clay. Most of the soils in the upper 20 feet consisted of various types of sand deposits which are in a loose to very dense condition. These soils are mostly brown to grayish brown in color with the majority of the sand deposits having a fine texture. The soils were also noted to contain occasional cobbles which resulted in obstruction of the split spoon sampler at a number of boring locations and depths. We would expect these soils also include occasional boulders. A boulder at boring B-11 prevented advancement of the hollow stem auger below 18 feet. Shale consisting of a light gray fat clay was encountered below depths of 18 to 24 feet at borings B-12, B-19 and B-20.

Conditions at each boring location are indicated on the attached individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in situ, the transition between materials may be gradual. Details for each of the borings can be found on the boring logs in Appendix A of this report. A discussion of the field sampling is included in Appendix A.

3.2 Groundwater

The boreholes were observed while drilling and after completion for the presence and level of groundwater. In addition, attempts were made to measure the groundwater level after the borings were completed. The water levels observed in the boreholes are noted on the attached boring logs, and are summarized below:

Boring Number	Depth to groundwater while drilling, (ft.)	Depth to groundwater after drilling, (ft.)
B-13	24.1	Dry cave-in at 11.8’ (22 hrs)
B-14	24.1	Dry cave-in at 13.1’ (19 hrs)
B-21	23.8	Dry cave-in at 8.7’ (14 hrs)

Groundwater was not measurable in the remaining borings while drilling, or for the short duration that the borings were allowed to remain open. However, this does not necessarily mean these borings terminated above groundwater, or that the water levels summarized above

are stable groundwater levels. Due to the fairly high permeability characteristics of the natural granular soils, fairly accurate water level measurements can be obtained with relatively short periods of observation time. Based upon the waterbearing condition of some of the deeper samples of sand collected from the site, we estimate the water level at our boring locations was typically located below depths of 15 to 20 feet at the time of our field activities. A longer period of time may be needed for the groundwater level to develop and stabilize in a borehole in these materials. Long-term observations and piezometers or observation wells sealed from the influence of surface water are often required to define groundwater levels and materials of this type.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

Based on the results of the subsurface exploration, laboratory testing, and our analyses, it is our opinion that that the three proposed buildings can be supported on shallow spread foundations bearing on natural, inorganic soils or on a well compacted engineered fill after removal of uncontrolled fill.

The depth of uncontrolled fill across the site is quite variable with anticipated depths of up to 12 feet estimated at borings B-16 and B-19. It is difficult to distinguish uncontrolled fill from the natural soils at this site due to their similarity. Based on the presence of PVC and other debris occasionally encountered during sampling, it appears that some of the less desirable soils encountered at the gravel pit may have been buried in areas where previous gravel was removed. Some concrete rubble was noted at boring B-16. Therefore, when the actual building locations have been finalized, we recommend performing test pits just outside each proposed building footprint to obtain improved information regarding the amounts of uncontrolled fill which would need to be removed from below the proposed buildings.

4.2 Earthwork

4.2.1 Site Preparation

Prior to placing engineered fill, we recommend the uncontrolled fill be excavated from the proposed building footprints, along with an appropriate excavation oversize. Based on the soil

conditions encountered at our boring locations, excavation depths could be quite variable with uncontrolled fill noted as deep as 12 feet below grade at boring B-16 and B-19. Some concrete debris was noted at boring B-16 and could cause some excavating difficulties.

We recommend that MTL/Terracon be retained to evaluate the bearing material for the foundations, floor slab and pavement subgrade soils to evaluate whether additional subgrade excavation is required. Subsurface conditions, as identified by the field and laboratory testing programs, have been reviewed and evaluated with respect to the proposed building plans known to us at this time.

4.2.2 Material Requirements

Compacted structural fill should meet the following material property requirements:

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Select Granular Fill	SP, SP-SM, SP-SC, SW, SW-SM, SW-SC (P200<12%)	Support of foundations and floor slabs
Inorganic on-site soils	CL, SM, SC, SP, SP-SM	Exterior Foundation backfill

1. Controlled, compacted fill should consist of approved materials that are free of organic matter, debris, or other deleterious substance. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the geotechnical engineer for evaluation.

4.2.3 Compaction Requirements

ITEM	DESCRIPTION
Fill lift thickness	9-inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack, plate compactor, etc.) is used
Compaction requirements [1]	95% beneath foundations and floor slabs 90% for exterior foundation backfill
Moisture content granular material [2]	Workable moisture levels
Moisture Content Clayey Material Below Grassed Areas	-3 to +3% of Standard Proctor optimum moisture

1. We recommend that engineered fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved. Compaction levels are relative to the soil's standard Proctor maximum dry density (ASTM D698).
2. Specifically, moisture levels should be maintained low enough to allow for satisfactory compaction to be achieved without the cohesionless fill material pumping when proofrolled.

4.2.4 Utility Trench Backfill

Excavations should be performed in accordance with governing safety regulations. All vehicles and soil piles should be kept back from the crest of excavation slopes. The stability of excavation slopes should be reviewed continuously by qualified personnel. The responsibility for excavation safety and temporary construction slopes lies solely with the contractor. Trenches that remain open for an extended period of time should be protected by changes in moisture by covering with plastic sheeting or another suitable method.

4.2.5 Grading and Drainage

Final surrounding grades should be sloped away from the structure on all sides to prevent ponding of water. Gutters and downspouts that drain water a minimum of 10 feet beyond the footprint of the proposed structures are recommended. This can be accomplished through the use of splash-blocks, downspout extensions, and flexible pipes that are designed to attach to the end of the downspout. Flexible pipe should only be used if it is daylighted in such a manner that it gravity-drains collected water. Splash-blocks should also be considered below hose bibs and water spigots.

4.2.6 Earthwork Construction Considerations

We recommend performing a number of test pits around the perimeter of the proposed building locations to provide a better indication regarding the amount of uncontrolled fill and debris to be expected at the time of construction. During construction, a geotechnical engineer should be retained to observe the footing and floor areas to determine the proper amount of excavating was performed to remove uncontrolled fill.

We estimate a groundwater level on the order of 15 to 25 feet below existing grade at the time of our field activities. We do not expect the groundwater level will be a notable concern for the proposed construction.

The natural granular soils are susceptible to disturbance during construction. Any natural soils which become disturbed beneath footing and floor areas should be surface compacted prior to the placement of additional fill and concrete.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of floor slabs and pavements. The site should also be graded to

prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become frozen, desiccated, saturated, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted prior to floor slab and pavement construction. Fill should not be placed on frozen subgrades.

As a minimum, all temporary excavations should be sloped or braced as required by Occupational Safety and Health Administration (OSHA) regulations to provide stability and safe working conditions. Temporary excavations will probably be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

MTL/Terracon should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proofrolling; placement and compaction of structural fill; backfilling of excavations into the completed subgrade; and just prior to construction of building floor slabs.

4.3 Foundations

In our opinion, the proposed buildings can be supported on shallow spread foundations bearing on natural undisturbed soils or on a well compacted engineered fill after proper site preparation. Design recommendations for shallow foundations for the proposed structures are presented in the following sections.

4.3.1 Foundation Design Recommendations

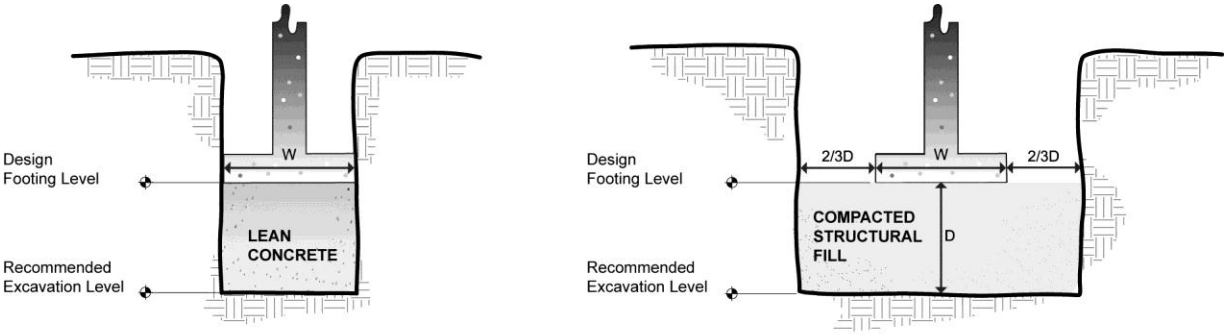
Description	Column	Wall
Net allowable bearing pressure [1] ■ **Compacted structural fill or native soil**	2000 psf	2000 psf
Minimum dimensions	30 inches	18 inches
Minimum embedment below finished grade for frost protection [2]	60 inches	60 inches
Approximate total settlement from foundation loads [3]	< 1 inch	<1 inch
Estimated differential settlement from foundation loads [3]	< ½ inch between columns	< ¾ inches over 40 feet

1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Assumes any unsuitable existing fill or soft soils, if encountered, will be undercut and replaced with compacted structural fill. Based upon a minimum Factor of Safety of 3.
2. For perimeter footings beneath continuously heated areas. Interior footings should have a minimum of 18 inches of embedment.
3. The above settlement estimates from foundation loads have assumed that the maximum footing size is 10 feet for column footings and 3 feet for continuous footings.

4.3.2 Foundation Construction Considerations

The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed or saturated, or frozen, the affected soil should be evaluated by a geotechnical engineer prior to placing concrete. It is recommended that MTL/Terracon be retained to observe and test the soil foundation bearing materials.

If unsuitable bearing soils are encountered in footing excavations, the excavation could be extended deeper to suitable soils and the footing could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. As an alternative, the footings could also bear on properly compacted structural backfill extending down to the suitable soils. Over excavation for compacted structural fill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of over excavation depth below footing base elevation. The over excavation should then be backfilled up to the footing base elevation with well graded granular material placed in lifts of 9 inches or less in loose thickness (6 inches or less if using hand-guided compaction equipment) and compacted to at least 95 percent of the material's standard effort maximum dry density (ASTM D 698). The over excavation and backfill procedure is described in the following figure.



Lean Concrete Backfill **Overexcavation / Backfill**

NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

4.4 Floor Slabs

In our opinion, the proposed floor slabs can be supported on engineered fill after removal of existing uncontrolled fill or upon the natural soils. Design recommendations for floor slabs for the proposed structures are presented in the following sections.

4.4.1 Floor Slab Design Recommendations

ITEM	DESCRIPTION
Floor slab support[1]	Engineered fill after removal of the existing fill
Modulus of subgrade reaction	150 pounds per square inch per in (psi/in) for point loading conditions
Aggregate base course/capillary break [2]	6 inches of free draining granular material

1. Floor slabs should be structurally independent of any building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. The floor slab design should include a capillary break, comprised of free-draining, compacted, granular material, at least 6 inches thick and can be considered as part of the low volume change zone. Free-draining granular material should have less than 5 percent fines (material passing the #200 sieve). Other design considerations such as cold temperatures and condensation development could warrant more extensive design provisions.

The use of a vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

4.4.2 Floor Slab Construction Considerations

On most project sites, the site grading is generally accomplished early in the construction phase. However as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, freezing weather, rainfall, etc. As a result, the floor slab subgrade may not be suitable for placement of concrete and corrective action will be required. Prepared interior subgrades should be protected from freezing temperatures.

Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the affected material with properly compacted fill. All floor slab subgrade areas should be moisture conditioned and properly compacted to the recommendations in this report immediately prior to placement of concrete.

5.0 GENERAL COMMENTS

MTL/Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. MTL/Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless MTL/Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A
FIELD EXPLORATION

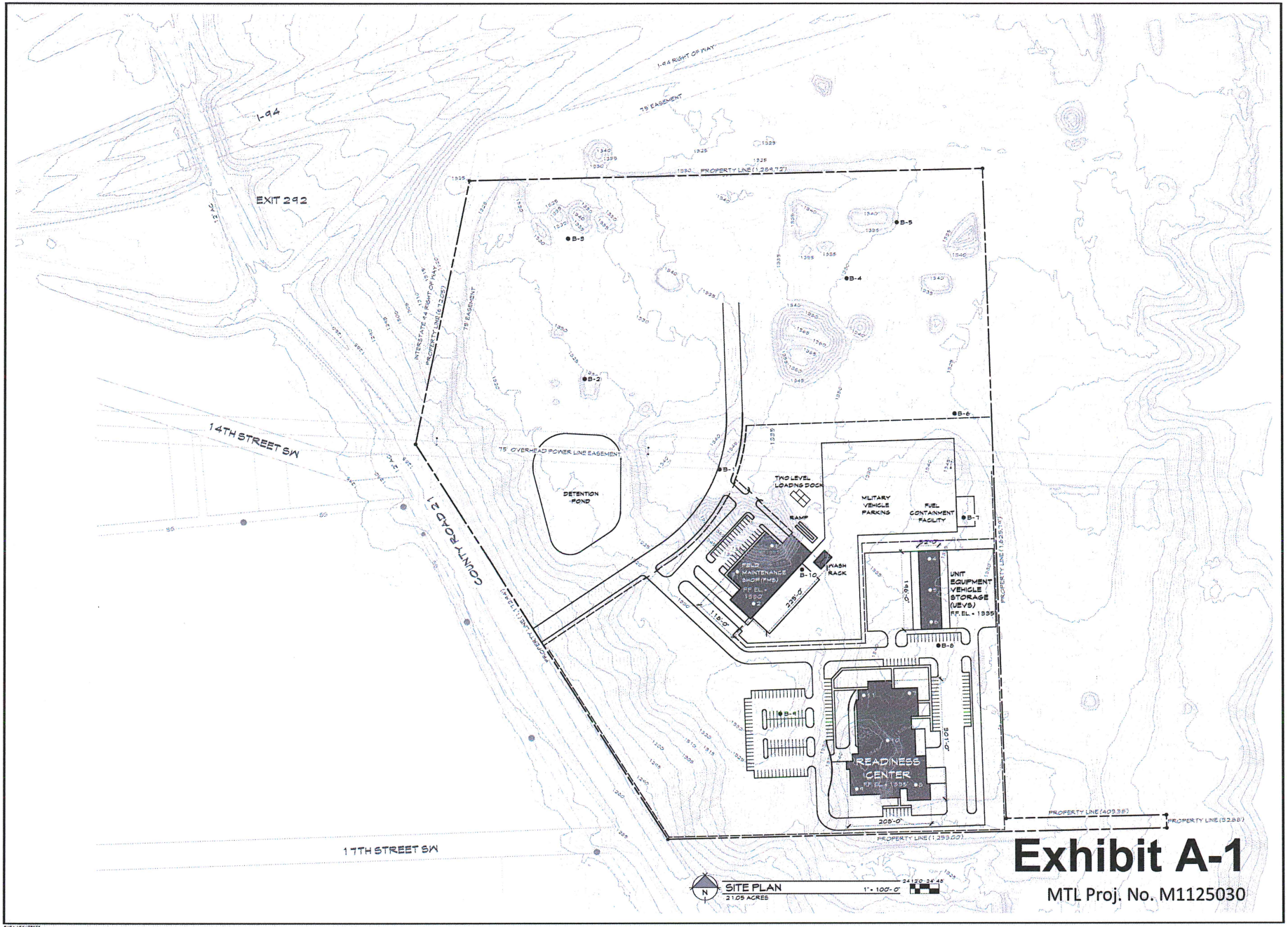


Exhibit A-1

MTL Proj. No. M1125030

RHRA ARCHITECTS

PROPOSED NORTH DAKOTA ARMY NATIONAL GUARD

READINESS CENTER

VALLEY CITY, NORTH DAKOTA

• SITE INVESTIGATION

Project No.	1214
Drawn By	FMH
Checked By	BDD
Date	5-16-12

Sheet No.

SCHEME 5

RHRA ARCHITECTS
Thursday, April 19, 2012

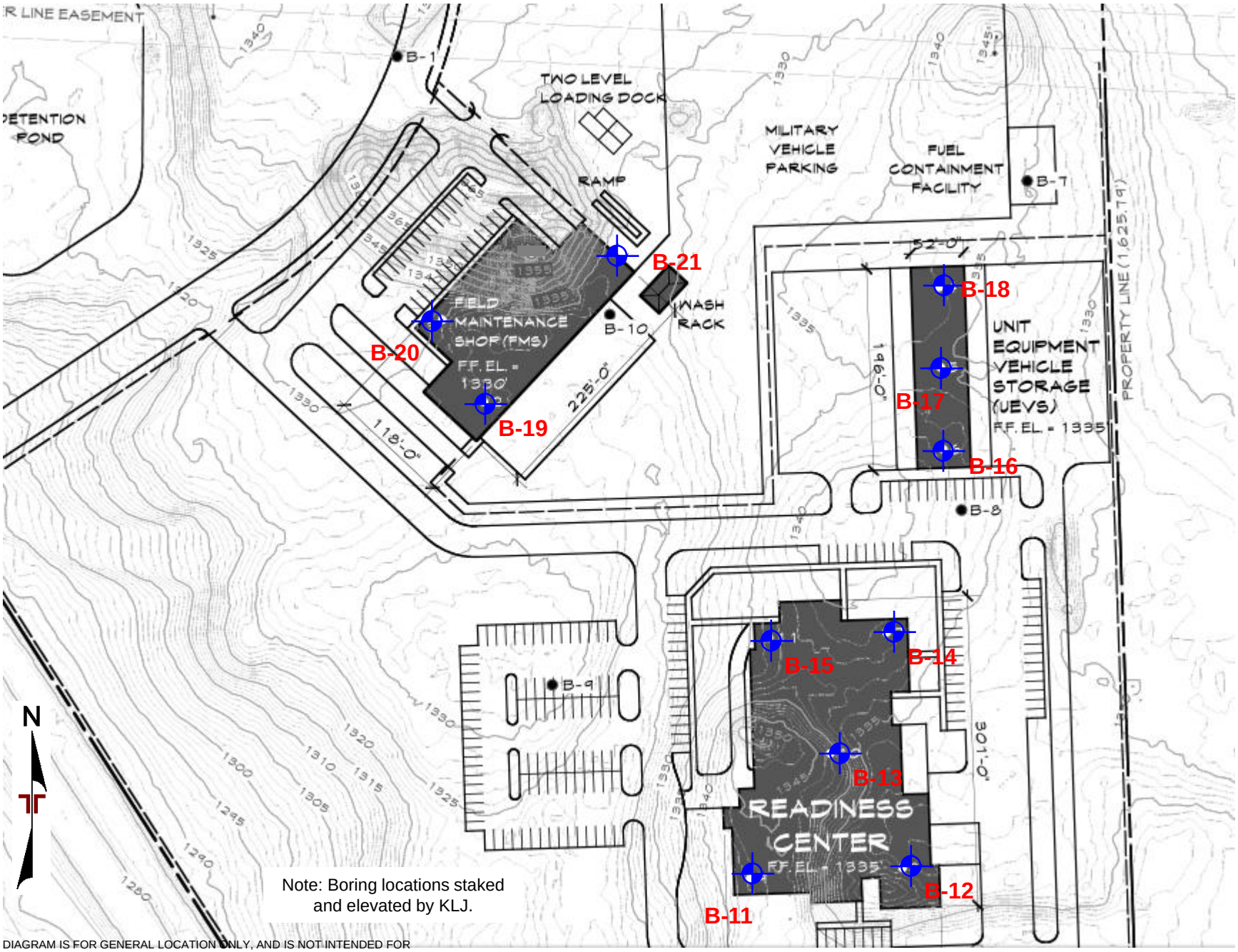


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	LMF
Drawn by:	bkj
Checked by:	LMF
Approved by:	LMF

Project No.	M1125030
Scale:	See above
Date:	6-7-2012

Midwest Testing Laboratory, Inc.
A Terracon Company
4102 7th Avenue North Fargo, North Dakota 58102
PH. (701) 282-9633 FAX. (701) 282-9635

BORING LOCATION MAP

Proposed NDANG Readiness Center

County Road 21 Site
Valley City, North Dakota

EXHIBIT

A-2

BORING LOG NO. B-11

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1343.14

DEPTH	ELEVATION		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
1.0	1342	**TOPSOIL, SILTY SAND WITH ORGANIC FINES (SM)**, very dark brown, moist				0.6	12-10-17 N=27			
4.0	1339	**SAND WITH SILT (SP-SM)**, trace gravel, brown, medium dense, fine, moist				1.3	7-4-9 N=13			
7.0	1336	**SAND (SP)**, trace gravel, brown, medium dense, fine, moist	5			1.3	4-3-7 N=10	3		
9.0	1334	**SAND WITH SILT AND GRAVEL (SP-SM)**, with cobbles, dark brown, fine to medium, moist				0.4				
12.0	1331	**SAND WITH SILT (SP-SM)**, trace gravel, light brown, medium dense, fine, moist	10			1.5	8-8-14 N=22			
18.0	1325	**SAND WITH SILT AND GRAVEL (SP-SM)**, trace gravel, brown and dark brown, very dense, fine to medium, moist	15			1.3	14-17-35 N=52			
						0.5				
		Boring Terminated at 18 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-19½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

4.5 Ft.:See attached mechanical analysis.
7 Ft.:No N-Value due to sampler refusal on cobble.
14.5 Ft.:24 blow for 6" set then refusal on cobble at 15 ft.

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012	Boring Completed: 5/22/2012
Drill Rig: Mobile B-53	Driller: DW
Project No.: M1125030	Exhibit A-3

BORING LOG NO. B-12

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1329.86

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		SANDY SILT (ML), trace gravel, brown and dark brown, medium dense to loose, moist, some seams of sand				1.1	4-5-10 N=15			
						1	7-5-6 N=11	10		
			5			1.3	5-3-3 N=6	19		
7.0	1323									
		SAND WITH SILT (SP-SM), trace gravel, brown, dense, fine, moist				1.3	13-14-18 N=32	9		
9.0	1321									
		SAND (SP), trace gravel, brown, medium dense to dense, fine to medium, moist	10			1.5	18-14-14 N=28	2		
						1.5	12-13-17 N=30	4		
			15			1.5	11-13-17 N=30	9		
			20			1.3	13-20-26 N=46			
24.0	1306									
		SHALE, TEXTURAL CLASSIFICATION: FAT CLAY (CH), light gray, hard, fractured	25			1.3	31-43-47 N=90			
26.0	1304									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:
4.5 Ft.:See attached mechanical analysis.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Dry cave-in at 13.4' (0 hrs).

Dry cave-in at 9.2' (23 hrs).

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-4

BORING LOG NO. B-13

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1335.22

DEPTH	ELEVATION	Description	RECOVERY (ft)	FIELD TEST RESULTS
		FILL - SILTY SAND, trace gravel, brown, fine, moist	1.3	3-3-4 N=7
2.0	1333			
		TOPSOIL, SILTY SAND WITH ORGANIC FINES (SM), very dark brown, moist	1.3	7-6-5 N=11
3.0	1332			
		SAND WITH GRAVEL (SP), brown, medium dense, fine to medium, moist	1.1	6-7-13 N=20
6.0	1329			
		SAND WITH SILT (SP-SM), trace gravel, grayish-brown, medium dense to very dense, fine to medium, moist	1.3	6-5-5 N=10
			1	6-12 N=
			0	18-32-39 N=71
14.0	1321			
		SAND WITH SILT (SP-SM), trace gravel, light brown, medium dense, fine, moist	1.3	9-14-12 N=26
18.0	1317			
		SAND WITH SILT AND GRAVEL (SP-SM), dark brown, medium dense, fine to medium, moist	1	9-10-17 N=27
22.0	1313			
		LEAN CLAY WITH SAND (CL), trace gravel, grayish-brown, stiff, with layers of waterbearing sand	1.5	4-5-6 N=11
26.0	1309			
		Boring Terminated at 26 Feet		

DEPTH (ft): 5, 10, 15, 20, 25

WATER LEVEL OBSERVATIONS: ▽

WATER CONTENT (%) | DRY UNIT WEIGHT (pcf) | ATTERBERG LIMITS LL-PL-PI

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

10 Ft.:Sampler refusal on cobble @ 10.5 ft
12 Ft.:N-Value influenced by rock in sampler tip.

WATER LEVEL OBSERVATIONS

▽ *24.1' initially observed before HSA removal.*

Dry cave-in at 12.7' (0 hrs).

Dry cave-in at 11.8' (22 hrs).

Midwest Testing LABORATORY, INC. A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-5

BORING LOG NO. B-14

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1336.04

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		SAND WITH SILT (SP-SM), trace gravel, brown, medium dense, fine, moist				1.1	5-7-8 N=15			
2.0	1334									
		SAND WITH SILT AND GRAVEL (SP-SM), brown, loose, fine to medium, moist				1.3	6-3-4 N=7			
			5			1.1	2-2-3 N=5			
7.0	1329									
		SAND WITH SILT (SP-SM), trace gravel, grayish-brown, medium dense, fine, moist				1.3	10-9-8 N=17	12		
9.0	1327									
		SILTY SAND WITH GRAVEL (SM), brown, loose to medium dense, fine to medium, moist	10			0.8	11-5-4 N=9			
						1.3	8-10-11 N=21			
14.0	1322									
		SAND (SP), trace gravel, brown, dense, fine, moist	15			1.3	17-21-26 N=47			
			20			1.5	22-23-28 N=51			
23.0	1313									
		SAND WITH SILT AND GRAVEL (SP-SM), dark brown, dense, medium to fine, waterbearing		▽						
			25			1.5	11-15-23 N=38			
26.0	1310									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:
4.5 Ft.:See attached mechanical analysis.

WATER LEVEL OBSERVATIONS

▽ *24.1' initially observed before HSA removal.*

Dry cave-in at 15.6' (0 hrs).

Dry cave-in at 13.1' (19 hrs).

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-6

BORING LOG NO. B-15

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1338.56

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
1.0	1337.5	**SILTY SAND (SM)**, trace gravel, grayish-brown, fine, dry (may be fill)				1.3	7-10-11 N=21			
		CLAYEY SAND (SC), trace gravel, dark brown, dense, moist (may be fill)				0.8	9-16-21 N=37			
			5			0.3	20 N=			
7.0	1331.5									
		SILTY SAND (SM), trace gravel, brown, medium dense, fine, moist				1.3	6-8-5 N=13	14		
10.0	1328.5		10			1.5	8-7-7 N=14			
		SAND WITH SILT (SP-SM), trace gravel, light brown, medium dense, fine, moist								
12.0	1326.5					0.8	5-6-7 N=13			
		SILTY SAND (SM), trace gravel, grayish-brown, medium dense to very dense, fine, moist	15			0.7	14-24-30 N=54			
18.0	1320.5									
		SAND WITH SILT AND GRAVEL (SP-SM), brown, very dense, fine to medium, moist	20			0.8	20-24-29 N=53			
22.0	1316.5									
		CLAYEY SAND WITH GRAVEL (SC), dark reddish brown, very dense, moist	25			1.3	24-30-41 N=71			
26.0	1312.5									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

4.5 Ft.:No N-Value due to sampler refusal on cobble.
7 Ft.:See attached mechanical analysis.

Midwest Testing Laboratory, Inc.
A Terracon Company
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-7

BORING LOG NO. B-16

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1337.57

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		FILL - SILTY SAND, trace gravel, dark brown, fine, moist				0	7-9-10 N=19			
4.0	1333.5									
		FILL - SANDY LEAN CLAY, dark brownish-gray, with pieces of asphalt	5			1.1	17-7-10 N=17			
7.0	1330.5									
		FILL, MOSTLY CONCRETE DEBRIS				0.1	10-17-20 N=37			
10.0	1327.5		10			0.5	17-26-47 N=73			
		FILL - MIXTURE OF SANDLY LEAN CLAY AND SAND, trace gravel, brown and dark brown								
12.0	1325.5					1.3	18-25-33 N=58	16		
		CLAYEY SAND WITH GRAVEL (SC), gray and reddish brown, very dense, moist								
14.0	1323.5									
		SAND WITH GRAVEL (SP), brown, dense, medium to fine, moist	15			1.3	12-18-17 N=35	4		
19.0	1318.5									
		CLAYEY SAND (SC), trace gravel, brownish-gray, dense, moist, with lenses of sand	20			1.3	20-24-23 N=47	20		
24.0	1313.5									
		SAND WITH SILT (SP-SM), trace gravel, brown, dense, fine, waterbearing	25			1.3	15-20-16 N=36			
26.0	1311.5									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-8

BORING LOG NO. B-17

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1535.11 ELEVATION

DEPTH	ELEVATION	DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		FILL - SANDY LEAN CLAY, trace gravel, dark brown, (may be natural)				1.3	7-10-13 N=23			
						1.3	6-7-11 N=18			
4.0	1531									
		SAND WITH SILT (SP-SM), brown, medium dense, fine, moist, occasional cobbles	5			1	7-9 N=	10		
7.0	1528									
		SAND WITH SILT AND GRAVEL (SP-SM), brown, very dense to dense to very dense, medium to fine, moist, a few lenses and layers of brown SANDY LEAN CLAY and CLAYEY SAND, some occasional cobbles				1.3	16-27-34 N=61	10		
			10			1.3	17-22-27 N=49	11		
			15			1.3	20-27-36 N=63			
			20			1.3	28-25-30 N=55			
24.0	1511									
		SANDY LEAN CLAY WITH GRAVEL (CL), dark brown, hard	25			1	25-30-41 N=71			
26.0	1509									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

4.5 Ft.:No N-Value due to sampler refusal on cobble.
9.5 Ft.:See attached mechanical analysis.
12 Ft.:No N-Value due sampler refusal on cobble.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Dry cave-in at 14.1' (0 hrs).

Dry cave-in at 9.2' (16 hrs).

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-9

BORING LOG NO. B-18

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1336.09

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		FILL - SANDY LEAN CLAY, trace gravel, dark brown, occasional cobbles (may be natural)				1.3	9-12-16 N=28			
						0.6	20 N=			
6.0	1330		5			1.3	9-10-9 N=19			
		SAND (SP), trace gravel, light brown, medium dense, fine, moist				1.5	9-10-15 N=25			
9.0	1327									
		SAND WITH SILT AND GRAVEL (SP-SM), grayish-brown, medium dense to dense, fine to medium, moist, occasional cobbles and/or boulders	10			1.5	20-15-11 N=26			
						1.5	8-16-18 N=34			
			15			1.5	16-21-28 N=49			
			20			1.3	15-18-26 N=44			
			25			0	5 N=			
26.0	1310	***Boring Terminated at 26 Feet***								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

2 Ft.:No N-Value due to sampler refusal on cobble.
24.5 Ft.:No N-Value due to sampler refusal on cobble.

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-10

BORING LOG NO. B-19

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1327.92

DEPTH	ELEVATION	GRAPHIC LOG	DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
			FILL - SILTY SAND, SILT AND CLAYEY SAND, trace gravel, mostly brown, moist (may be natural)				1.3	3-4-4 N=8			
							1.3	4-5-6 N=11			
				5			1.1	6-7-13 N=20	12		
							1.1	6-5-5 N=10	11		
				10			1.3	5-4-5 N=9	14		
12.0	1316										
			SAND (SP), trace gravel, brown, very dense, fine to medium, moist				1	20-26-31 N=57	9		
14.0	1314										
			SAND WITH GRAVEL (SP), brown, dense, medium to fine, waterbearing, occasional cobbles	15			1	12-17 N=	13		
18.0	1310										
			SHALE, TEXTURAL CLASSIFICATION, FAT CLAY (CH), light gray, hard	20			0.8				
				25			0.6				
26.0	1302										
			Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

14.5 Ft.:No N-Value due to obstruction.
19.5 Ft.:N= 100/10 inches
24.5 Ft.:N= 100/8 inches

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-11

BORING LOG NO. B-20

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1329.92

DEPTH	ELEVATION	GRAPHIC LOG	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		FILL - LEAN CLAY AND SANDY LEAN CLAY, trace gravel, dark brown				0.8	4-6-7 N=13			
						0.2	3-2-2 N=4			
			5			0.2	3-2-2 N=4			
6.5	1323.5									
		SILTY SAND WITH GRAVEL (SM), brown, dense, fine to medium, moist				1.1	12-16-19 N=35			
9.0	1321									
		SANDY LEAN CLAY WITH GRAVEL (CL), brown, hard, some lenses of sand, occasional cobbles	10			1	14-15-19 N=34			
						1.3	15-23-29 N=52			
14.0	1316									
		SILTY SAND (SM), trace gravel, brown, dense, fine to medium, moist	15			1.1	15-20-24 N=44			
18.0	1312									
		SHALE, TEXTURAL CLASSIFICATION, FAT CLAY (CH), light gray, hard	20			1.3	22-28-50 N=78			
			25			0.8				
26.0	1304									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

Not measurable before HSA removal.

Reversed auger upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:
25 Ft.:N-Value = 100/11 inches

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/23/2012 | Boring Completed: 5/23/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-12

BORING LOG NO. B-21

PROJECT: Proposed NDANG Readiness Center

CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota

SITE: C.R. 21 Site
Valley City, North Dakota

LOCATION See Exhibit A-2

Approximate Surface Elev.: 1330.87

DEPTH	ELEVATION	Description	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (ft)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI
		FILL - CLAYEY SAND AND SANDY LEAN CLAY WITH GRAVEL, brown and dark brown, occasional cobbles (may be natural)				1.3	13-10-12 N=22			
						1.3	12-16-19 N=35			
5.0	1326		5			1.3	9-10-16 N=26	7		
		SILTY SAND (SM), trace gravel, grayish-brown, medium dense, fine to medium, moist								
7.0	1324					1.5	9-13-12 N=25	9		
		SAND WITH SILT (SP-SM), trace gravel, grayish-brown, medium dense, fine, moist								
9.0	1322									
		SILTY SAND WITH GRAVEL (SM), brown to grayish brown, medium dense to dense, fine to medium, moist, occasional cobbles	10			1.3	12-15-14 N=29	17		
						1.3	13-20-27 N=47	15		
14.0	1317									
		SAND WITH SILT AND GRAVEL (SP-SM), brown, very dense, fine to medium, moist, occasional cobbles	15			1.3	14-25-31 N=56	5		
19.0	1312									
		SILTY SAND WITH GRAVEL (SM), brown, dense, fine to medium, waterbearing	20			1	15-20-27 N=47	20		
24.0	1307			▽						
		SAND WITH SILT AND GRAVEL (SP-SM), gray, dense, fine, waterbearing	25			1.5	12-17-24 N=41			
26.0	1305									
		Boring Terminated at 26 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Mobile Downhole

Advancement Method:
3¼" HSA 0-24½'

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Exhibit A-14 for description of field procedures.

See Appendix B for description of laboratory procedures and additional data, (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:
4.5 Ft.:See attached mechanical analysis.

WATER LEVEL OBSERVATIONS

▽ *23.8' initially observed before HSA removal.*

Dry cave-in at 14.1' (0 hrs).

Dry cave-in at 8.7' (14 hrs).

Midwest Testing LABORATORY, INC.
A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

Boring Started: 5/22/2012 | Boring Completed: 5/22/2012

Drill Rig: Mobile B-53 | Driller: DW

Project No.: M1125030 | Exhibit A-13

Field Exploration Description

Eleven (11) soil test borings were completed from May 22 to 23, 2012. The borings were advanced at the approximate locations staked by KLJ and as indicated on Exhibit A-2. The surface elevations indicated on the soil boring logs were also provided by KLJ.

The borings were drilled with a truck-mounted rotary drill rig using 3 ¼ hollow stem to advance the boreholes. Soil samples were obtained using both spilt-barrel and Shelby tube sampling procedures in accordance with ASTM Specifications D1586 and D1587, respectively.

In the split-barrel sampling procedure the number of blows required to advance a standard 2-inch O.D., 1-3/8-inch I.D spilt-barrel sampler from 6 to 18 inches of penetration by means of a 140-pound hammer with a free fall of 30 inches is used to obtain the Standard Penetration Test (SPT) or N-value. The SPT is used to estimate the in-situ relative density of cohesionless soils and the consistency of cohesive soils. A Mobile Drill downhole hammer was used to drive the split-barrel sampler. In the Shelby tube sampling procedure, a thin wall seamless steel tube with a sharp cutting edge is pushed into the soil by hydraulic pressure to obtain a relatively undisturbed sample of cohesive soil.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The borings were backfilled with auger cuttings prior to the drill crew leaving the site.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

APPENDIX B
SUPPORTING INFORMATION

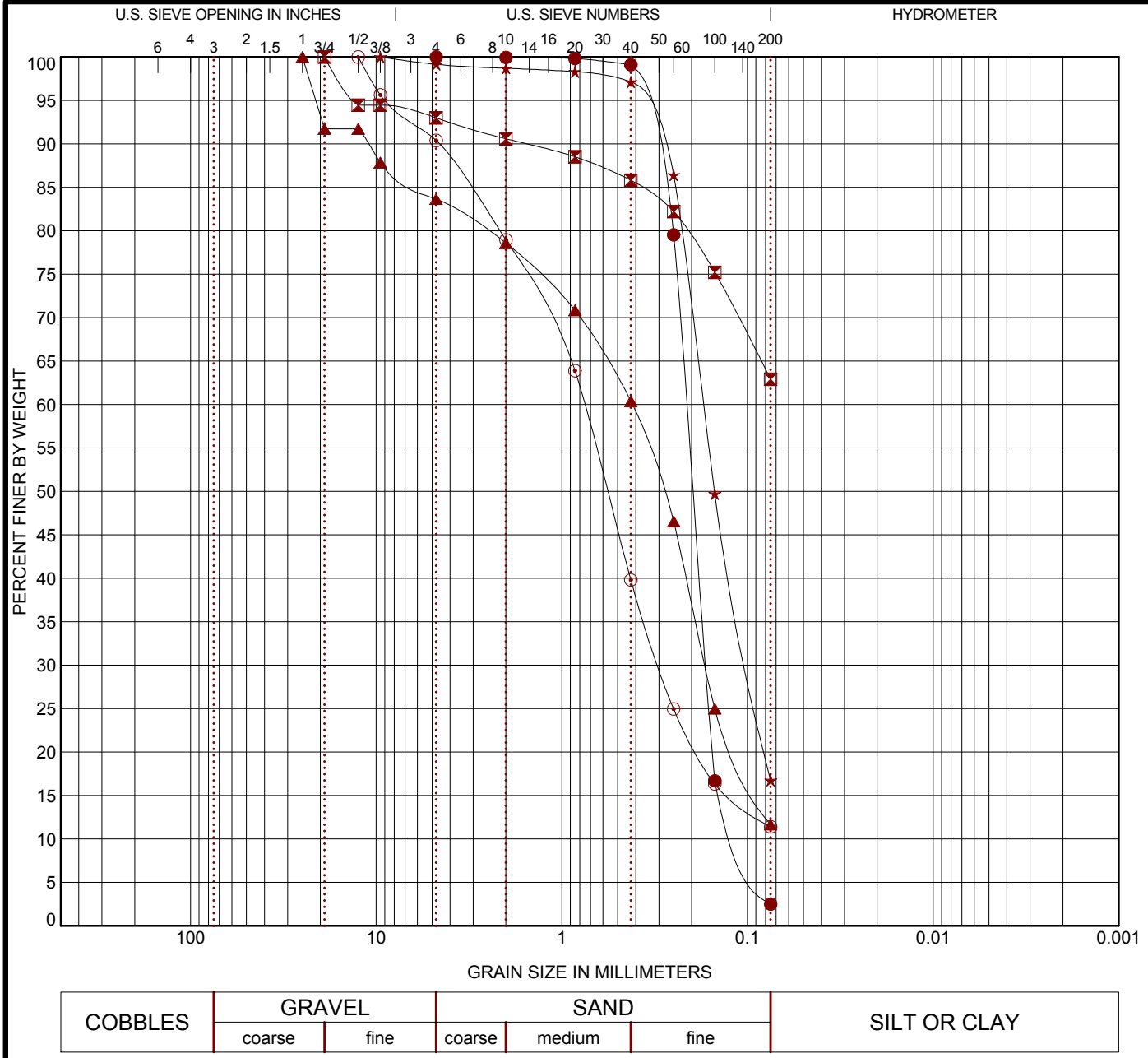
Laboratory Testing

Representative samples were selected for laboratory analysis. The testing program consisted of determining moisture content and grain size distribution. The moisture content test results are found on the boring logs, opposite the samples they represent. The results of the grain size distribution testing are provided on the following pages.

Descriptive classifications of the soils indicated on the boring logs are in accordance with the enclosed General Notes and the Unified Soil Classification System. Also shown are estimated Unified Soil Classification Symbols. A brief description of this classification system is attached to this report. All classification was by visual manual procedures.

GRAIN SIZE DISTRIBUTION

ASTM D422



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			USCS Classification	LL	PL	PI	Cc	Cu
●	B-11	4.5	SAND (SP) - brown, fine				1.21	1.97
⊠	B-12	4.5	SANDY SILT (ML)					
▲	B-14	4.5	SAND WITH SILT (SP-SM)				0.99	6.08
★	B-15	7.0	SILTY SAND (SM)					
⊙	B-17	9.5	SAND WITH SILT (SP-SM)				1.91	12.34

Specimen Identification			D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Clay
●	B-11	4.5	4.75	0.213	0.167	0.108	0.0	97.5	2.5	
⊠	B-12	4.5	19				7.0	30.1	62.9	
▲	B-14	4.5	25	0.419	0.169		16.4	72.0	11.6	
★	B-15	7.0	9.5	0.173	0.099		0.8	82.4	16.7	
⊙	B-17	9.5	12.5	0.76	0.299		9.6	79.0	11.4	

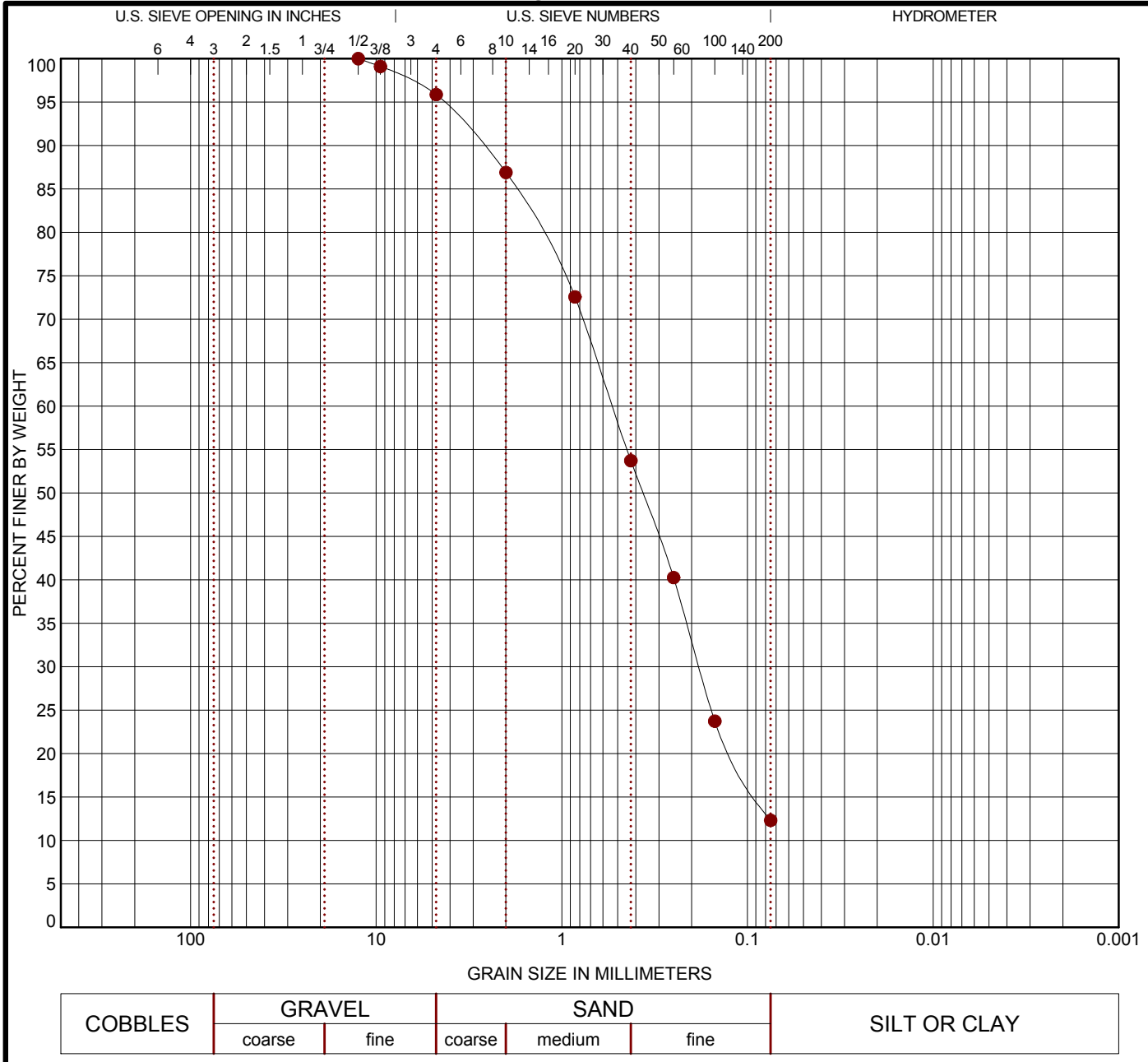
PROJECT: Proposed NDANG Readiness Center
SITE: C.R. 21 Site
Valley City, North Dakota

Midwest Testing Laboratory, Inc.
A Terracon Company
4102 7th Ave., North
Fargo, North Dakota

PROJECT NUMBER: M1125030
CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota
EXHIBIT: B-2

GRAIN SIZE DISTRIBUTION

ASTM D422



Specimen Identification		USCS Classification	LL	PL	PI	Cc	Cu
● B-21	4.5	SILTY SAND (SM)				0.95	8.22

Specimen Identification		D_{100}	D_{60}	D_{30}	D_{10}	%Gravel	%Sand	%Silt	%Clay
● B-21	4.5	12.5	0.535	0.182		4.1	83.5	12.3	

PROJECT: Proposed NDANG Readiness Center
SITE: C.R. 21 Site
Valley City, North Dakota

Midwest Testing LABORATORY, INC. A Terracon COMPANY
4102 7th Ave., North
Fargo, North Dakota

PROJECT NUMBER: M1125030
CLIENT: Valley City-Barnes County Development Corp.
Valley City, North Dakota
EXHIBIT: B-3

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS-2 BORING LOGS.GPJ TERRACON2012.GDT 6/4/12

APPENDIX C
SUPPORTING DOCUMENTS

EXPLANATION OF BORING LOG INFORMATION

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING


Auger


Split Spoon


Shelby Tube


Macro Core


Ring Sampler


Rock Core


Grab Sample


No Recovery

WATER LEVEL


Water Initially Encountered


Water Level After a Specified Period of Time


Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	5 - 7	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 14	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Midwest Testing LABORATORY, INC. A Terracon COMPANY

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]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,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	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			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	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			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] 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

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% 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.