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**STRUCTURE GEOTECHNICAL REPORT**

**Interstate 55 Bridge over Lemont Road**

**Proposed Structure No. 022-2036**

**IDOT P-91-762-10, PTB 188-002**

**Contract Number 62G39**

**DuPage County, Illinois**

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**Prepared for:**

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**GSI Project No. 18080**

**April 17, 2020**



April 17, 2020  
April 2, 2020  
Draft: January 24, 2020

T.Y. Lin International  
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Chicago, IL. 60606

Attn: Ms. Lynn Stock, P.E., S.E.  
Principal Structural Engineer

Job No. 18080

Re: Structure Geotechnical Report  
Interstate 55 Bridge over Lemont Road  
Existing Structure Number 022-0001  
IDOT P-91-762-10, PTB 188-002, Contract 62G39  
DuPage County, Illinois

Dear Ms. Stock:

The following report presents the geotechnical analysis and recommendations for the construction of the proposed I-55 bridge structure over Lemont Road, DuPage County, Illinois. A total of twelve (12) structure borings (BSB-01 thru BSB-12) were completed at the site by Geo Services, Inc. (GSI). Copies of these boring logs, along with soil profiles are included in this report.

If there are any questions regarding the information submitted herein, please do not hesitate to contact us.

Very truly yours,

GEO SERVICES, Inc.

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## **SECTION 01: INTRODUCTION**

This report presents the results of the geotechnical investigation for the construction of the proposed bridge structures along I-55 over Lemont Road, Municipality of Darien, DuPage County, Illinois. Approximate limits of the bridge are from Station 276+00 to 280+75 along F.A.I. Interstate 55 alignment, and width limits of approximately 197'-9" out-to-out. The results of the twelve (12) structure borings (BSB-01 thru BSB-12) were completed by Geo Services are included with this report. This report includes recommendations pertaining to the design and construction of the bridge foundations, a description of soil and groundwater conditions, general construction considerations for the site, boring diagrams, soil profile and boring logs.

## **SECTION 02: PROJECT DESCRIPTION**

The existing bridge structure (SN 022-0001) was originally built in 1959 as FAI Route 55 (US 66) over Downers Grove Road (SA Route 9) under Project I-03-6(9), Section 22-2HB-1. The original construction utilized two parallel (carrying northbound and southbound traffic) 4-span precast prestressed concrete (PPC) I-beam structure. The abutment substructures are supported by cast-in-place reinforced concrete stub abutments. The piers, wingwalls and approach slabs are supported on creosoted timber piles. The length of the spans varied from approximately 49'-4" in Spans 1 and 4 to approximately 76'-6" in Spans 2 and 3 with a total structure length of approximately 258'-2" from back-to-back abutments. The bridge structure was later on rehabilitated and widened under Contract 32310, Project I-IR-FI-55-6(124)264, Section (22,29) R-4, in 1976, and under Contract 82453, Project NHI-55-6(197)270, Section 22-2HB-1 in 1995.

Per discussion with the bridge designer (TY Lin), it is planned that the existing structures will be removed, replaced, and widened to provide additional shoulder lanes. The proposed bridge will be using a 2-span bridge structure with integral abutments with a wrap-around MSE wall. The integral abutment piles will be encased through the MSE wall. Bottom of the MSE wall will be approximate elevation 751 feet (both west and east abutments). Preliminary service and factored loads were provided by the bridge designer, and are bulleted below:

For the Abutments:

- West Abutment DL = 7.9 k/ft (service), 10.5 k/ft (factored)
- West Abutment LL = 13.1 k/ft (service), 23 k/ft (factored)
- East Abutment DL = 6 k/ft (service), 8 k/ft (factored)
- East Abutment LL = 12.5 k/ft (service), 22 k/ft (factored)

For the Median Pier:

- DL = 23.5 k/ft (service), 31 k/ft (factored)
- LL = 22.1 k/ft (service), 39 k/ft (factored)

For the purposes of this report, we are using the information provided in the latest TS&L drawings, where the pile driving elevations at the abutments to be at the proposed bottom of the MSE wall (elevations ranging from 751 to 753 feet at the abutments), and at the median pier at the proposed bottom of the pier cap elevation at approximate elevation 751.4 feet.

Table 1 next page lists the corresponding borings used for analysis at the substructure areas.

**Table 1 – Corresponding Borings at Substructure Areas**

Substructure	Corresponding Borings
West Approach Slab	BSB-01, BSB-02 and BSB-03
West Abutment	BSB-02, BSB-04 and BSB-05
Median Pier	BSB-06 to BSB-07
East Abutment	BSB-08, BSB-09, and BSB-11
East Approach Slab	BSB-10, BSB-11, and BSB-12

### **SECTION 03: SUBSURFACE INVESTIGATION PROCEDURES**

Boring locations were approved by the T.Y. Lin, and were laid out in the field by Geo Services, Inc. (GSI) personnel at the proposed locations. As-staked boring coordinates (northing/eastings) and elevations were taken from the field using a Trimble GeoExplorer surveying device. In addition to the survey elevation shots taken in the field, topographic information provided by T.Y. Lin was also used to correlate in the elevation estimation. Estimated elevations of the as-drilled borings can be seen on the logs.

The borings were performed during the months of December, 2019 through February, 2020 with either a truck-mounted or ATV drilling rig and were advanced by means of hollow stem augers and rotary drilling techniques. Representative soil samples were obtained employing split spoon sampling procedures in accordance with AASHTO Method T-206. Samples obtained in the field were returned to our laboratory for further examination and testing.

Split spoon sampling involves driving a 2.0-inch outside diameter split-barrel sampler into the soil with a 140-pound weight falling freely through a distance of 30 inches. Blow counts are recorded at 6" intervals and are shown on the boring logs. The number of blows required to advance the sampler the last 12 inches is termed the Standard Penetration Resistance (N). The N value is an indication of the relative density of the soil.

All split-spoon samples obtained from the drilling operation were visually classified in the field. Cohesive samples were tested for unconfined compressive strength using an IDOT modified RIMAC test device and/or calibrated penetrometer in the field.

## **SECTION 04: LAB TESTING PROGRAM**

The test procedures were performed in accordance with test procedures discussed in the IDOT Geotechnical Manual and ISHTA Geotechnical Manual. The soil testing program included performing water content, density and either unconfined compression and/or calibrated penetrometer tests on the cohesive samples recovered. Water content tests were performed on the non-cohesive samples recovered. The results of the above testing, along with a visual classification of the material based upon both the Illinois Division of Highways textural classification and the AASHTO Soil Classification System, are indicated on the boring logs.

## **SECTION 05: SUBSURFACE CONDITIONS**

For specific boring information, soil profiles are provided in Appendix B and the individual boring logs are located in Appendix C. Below is a summary of soil conditions found in the borings.

At the West Abutment section of the existing bridge (at borings BSB-01 thru BSB-05), surficial materials indicated 6 to 12 inches of asphalt at BSB-02, 6 inches of topsoil at BSB-03, and 6 inches of crushed stone. Underlying the surficial materials were fill soils from near ground surface elevation (at approximate elevation 773 feet) to approximate elevation 760 feet. Below the fill soils, the boring typically indicated mainly stiff to hard clay to clay loam soils to boring termination at approximate elevation 650 feet at BSB-01 thru BSB-03, and approximate elevation 623 feet at BSB-04 and BSB-05. Note that cobbles/boulders were also encountered at boring BSB-02 at elevations 663 to 665 feet, medium dense silt at boring BSB-03 at elevations 718 to 724 feet, and a strata of dense sand and gravel was encountered at elevations 716 to 721 feet, and very dense silty loam was encountered at elevations 623 to 626 feet at boring BSB-04.

At the Median Pier section of the existing bridge (at borings BSB-06 and BSB-07), surficial materials indicated 6 inches of asphalt with 6 inches of crushed stone. Underlying the surficial materials were mainly stiff to very stiff clay to clay loam soils to approximate elevation 725 feet, medium to dense loam, sand and gravel to approximate elevation and stiff to very stiff clay loam to approximate elevation 676 feet. It was noted that a 2.5-foot stratum of soft silty clay was also encountered at approximate elevation 728 feet. Soil profile then transitioned to medium dense loam to approximate elevation 666 feet and very stiff to hard clay to clay loam soils to boring termination at approximate elevation 653 feet.

At the East Abutment section of the existing bridge (at borings BSB-08 and BSB-12), surficial materials indicated 12 to 14 inches of asphalt with underlying sand, gravel and stone to approximate elevation 770 feet. Below the surficial materials were mainly stiff to hard clay to clay loam with occasional loose to very dense silty loam to sand and gravel soils to boring termination at approximate elevation 650 feet. A 2.5-foot layer of organic silty clay was also noted at boring BSB-11 at approximate elevation 760.5 feet.

## **SECTION 06: WATER TABLE CONDITIONS**

During drilling operations, groundwater was only encountered in boring BSB-03 at approximate elevation 763 feet. Groundwater was not encountered in the remaining borings within the top 10 feet before switching to rotary drilling (wash method). However, considering coloration change of the soils from brown and gray to gray, we anticipate the long-term groundwater level in the area to be at approximate elevations 747 to 752 feet (about 23 to 25 feet below ground level from the top of expressway grade). Fluctuations in the amount of water accumulated and in the hydrostatic water table can be anticipated depending on variations in precipitation and surface runoff.

## **SECTION 07: ANALYSES**

### **Seismic Analysis**

According to the AASHTO LRFD Bridge Design Specification 2017, the project site has a horizontal Response Spectral Acceleration Coefficient of 0.038 ( $S_1$ , AASHTO Figure: 3.10.2.1-3) at a period of 1.0 second and 5% critical dampening and 0.101 ( $S_s$ , AASHTO Figure: 3.10.2.1-2) at a period of 0.2 seconds and 5% critical dampening for a Site Class C according to the soil conditions. This results in a Design Spectral Acceleration at 1.0 second = 0.064 ( $S_{D1}$ ) and at 0.2 seconds = 0.121 ( $S_{Ds}$ ). The project site is considered to be in a low seismic area. Liquefaction is not expected to impact the design of the new bridge. Table 2 contains a summary of the seismic data to be used for design:

**Table 2 – Seismic Data Summary**

Site Class	C
$S_{D1}$	0.064
$S_{Ds}$	0.121
Seismic Performance Zone	1

### **Settlement Analysis**

Majority of the proposed grades for the bridge abutments are estimated to be the same as the existing grade (if existing embankments are to be retained), with the exception of the widened areas and wrap-around MSE wall sections of the proposed bridge where approximately 20 feet of fill are to be placed to match the top of expressway grade. Using worst soil conditions at borings BSB-02 at the west abutment and BSB-11 at the east abutment, we calculate an overall settlement of less than 0.4 inch for the widened sections of the bridge abutments. Pile settlement is considered negligible. Settlement and downdrag concerns are not anticipated at the abutment and wrap-around MSE wall areas.

At the median pier, grade changes (if any) is expected to be minimal. The proposed bridge foundations at the piers are expected to use deep foundation elements; therefore, settlement is not expected to be a concern at the median pier.

### **Slope Stability Analysis**

Wrap-around MSE retaining walls are proposed at the abutments and are to be designed to resist slope-stability failures for the widened embankments. Based on the preliminary TS&L drawings provided by the designer (T.Y. Lin), we have modeled the bottom of the MSE wall at elevation 751 feet to top of expressway grade at approximately 773 feet. Using this soil profile with worst-case soil conditions from BSB-02, and assuming undrained (short-term) and drained (long-term) soil strengths and exposed wall height of 20 feet, we calculate Factors of Safety (FOS) of 3.8 and 1.6 for undrained and drained conditions, respectively. The resultant FOS satisfies the FOS requirement for a fill embankment per IDOT requirements.

## **SECTION 08: FOUNDATION RECOMMENDATIONS**

### **Deep Foundation Pile Capacity Recommendations**

Based on the results of the borings and anticipated high loads, a deep foundation system consisting of driven piles may be considered for the support of the proposed substructures. The use of spread footings is not recommended for support of the bridge structures due to the anticipated high loads for the bridge structure. Although driven piles are feasible for support of the bridge piers, we anticipate that large pile caps are to be constructed.

The proposed bottom-of-pile cap elevations, estimated driving elevations, and estimated pile cut-off elevations for the abutments and at the piers (provided by T.Y. Lin) are shown below in Table 3 – Bottom of Pile Cap Foundation, Estimated Driving Elevations,

Estimated Pile Cut-off Elevations at Substructure Areas. Estimated Pile Capacities and Lengths Tables are shown in the Appendix D section of this report.

**Table 3 – Bottom of Pile Cap Foundation, Estimated Driving Elevations, Estimated Pile Cut-off Elevations at Substructure Areas**

Substructure	Bottom of Pile Cap Foundation Elevation (ft)	Estimated Pile Driving Elevation (ft)	Estimated Pile Cut-off Elevation (ft) <sup>2,3</sup>
West Abutment	766.3	751.7	768.3
Median Pier	751.4	751.4	753.4
East Abutment	766.3	753.4	768.3

Notes:

1. Piles at the abutments also applies to wingwalls.
2. Pile Cap Foundation and Estimated Pile Driving Elevations are estimated based on the TS&L information provided by the designer.
3. Estimated Pile Cut-off elevation is based on the bottom of the pile cap elevation plus 2.0-ft cap embedment at the abutments, and 1-ft cap embedment at the median pier.

Pile capacities and lengths were calculated to the piles' maximum Nominal Required Bearing (NRB) for HP10x42, HP12X53, HP12x63, HP14X73, HP14X89, 12-inch Metal Shell Piles, and 14-inch Metal Shell Piles as prescribed by IDOT for drivability. High blow-count soils were encountered in the borings at about elevation 670 feet and below; the use of pile shoes considered necessary for the HP piles only as most "N" values exceeded a value 50 blows per 12 inches and at cobbles/boulders (noted at boring BSB-02) that were indicated in the boring logs.

As per the IDOT Design Guide AGMU Memo 10.2, dated October 2011, the Washington State DOT (WSDOT) formula has replaced the FHWA Gates Formula as the standard method of construction verification. A modified IDOT static method was used to develop the SGR pile design tables. Nominal required bearing was calculated from LRFD skin-friction (with pile type correction factors) and end-bearing calculations. A value of 1.04 is used for Bias Factor Ratio ( $I_G$ ). A geotechnical resistance factor ( $\Phi_G$ ) of 0.55 was used in calculations for the Strength Limit State and a geotechnical resistance factor ( $\Phi_G$ ) of 1.0 was used for the Extreme Limit State (essentially the NRB = Extreme Limit State).

The estimated pile driving elevation used is the approximate ground surface elevation along the substructure. For the abutments, skin friction values are anticipated to start at the bottom elevation of the MSE retaining walls excavation (where the pile sleeves are assumed to terminate) near elevation of 752 feet, and pile cutoff is anticipated around elevation 768 feet (see Table 3). Considering this, friction values along the pile length within the pile sleeves from pile cutoff to elevation 766 feet is assumed to be zero. Skin

friction value at the median pier is anticipated to start at the base of pile cap at approximate elevation 751 feet.

We estimate that the piles will compress/settle less than ½ inch at the maximum strength limit state, excluding elastic compression of the pile itself.

The pile tables, provided in Appendix D, are estimates, and test piles should be used for final pile length selections. We recommend that a minimum of one test pile be performed at each substructure unit. The piles should be driven until satisfactory driving resistance is developed in accordance with an appropriate pile driving formula. The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information. The pile size and capacity selected should be based on economic considerations and the loads imposed on the structures.

### **Approach Slab Recommendations**

The approach slab will be supported on spread footing foundation system as shown in the TS&L drawings. The approach embankment and slab foundation will be supported on either new or existing embankment fill. We recommend using an assumed CBR of 2.0 for the compacted, fill for the embankment. Shallow footing for the new approach slab should be designed for a factored bearing resistance of 2,000 pounds per square foot. The new fill should be compacted per IDOT specifications for earth embankment. Any organics or soft, yielding subgrade (if any) should be removed prior to new fill placement. A qualified geotechnical engineer should observe the subgrade prior to any base course is placed. We estimate settlement of ½ inch or less for the approach slab.

### **Wrap-around MSE Retaining Wall Recommendations**

Wrap-around MSE Retaining walls are proposed at the west abutment and east abutment to accommodate the geometry of the bridge and the spatial requirements of I-55 bridge widening. MSE walls will be approximately 20 feet high, and are considered fill walls.

At the widened portions of the bridge embankments at the abutments, we recommend that the piles be sleeved through the entire MSE fill (from bottom of MSE wall leveling pad at approximate elevation 751 feet to pile cut-off elevation estimated at 772 feet) due to the approximately 20-feet of proposed fill. An experienced engineer should oversee the driving of the piles as to not damage piles on/through the very dense granular soils on the deeper strata below approximate elevation 675 feet and below. Pile shoes are recommended on all of the H-piles when driving below approximate elevation 675 feet.

Per the Settlement Analysis section of this report, with the soil conditions at the abutments, and about 20 feet of fill soils at the widened areas, settlement at the proposed abutments is calculated to be less than 0.4 inch. In addition, the retaining wall global stability meets the minimum required factors of safety as discussed in the Slope Stability section of this report.

**Lateral Soil Resistance Recommendations**

For design of the lateral forces on piles, the following tables may be used for design of the deep foundation system or temporary earth retaining systems.

**Table 4 – West Abutment Lateral Soil Properties  
 (Borings BSB-01 thru BSB-05)**

Material (elevation, feet)	Unit Weight (pcf)	Drained Friction Angle (°)	Undrained Cohesion (psf)	Lateral Modulus of Subgrade Reaction (pci) <sup>1</sup>	Strain <sup>1</sup>
Clay Loam with Stone FILL (774 to 760)	120	28	1,000	300	0.007
Stiff to Very Stiff Silty Clay to Clay Loam (760 to 691)	125	28	2,500	1,000	0.006
Very Stiff to Hard Clay to Clay Loam (691 to 656) <sup>2</sup>	125	32	3,500	1,500	0.005
Very Dense Silty Loam (656 to 653)	130	32	n/a	125	-

- Notes: 1. Values recommended for use in design from L-pile Software Manual  
 2. A 2-ft strata of cobbles and boulders encountered at boring BSB-02 at approximate elevation 665 feet.

**Table 5 – Median Pier Lateral Soil Properties  
 (Boring BSB-06 to BSB-07)**

<b>Material (elevation, feet)</b>	<b>Unit Weight (pcf)</b>	<b>Drained Friction Angle (°)</b>	<b>Undrained Cohesion (psf)</b>	<b>Lateral Modulus of Subgrade Reaction (pci) <sup>1</sup></b>	<b>Strain <sup>1</sup></b>
Stiff to Very Stiff Clay to Clay Loam (753 to 725)	125	28	1,500	500	0.006
Medium Dense to Dense Loam, Sand and Gravel (725 to 711)	125	28	n/a	125	-
Stiff to Very Stiff Clay to Clay Loam (711 to 676)	125	28	2,500	1,000	0.006
Dense Loam (676 to 666)	130	28	n/a	125	-
Very Stiff to Hard Clay to Clay Loam (666 to 653)	125	32	4,500	1,800	0.005

Note: 1. Values recommended for use in design from L-pile Software Manual

**Table 6 - East Abutment Lateral Soil Properties  
 (Borings BSB-08 thru BSB-12)**

Material (elevation, feet)	Unit Weight (pcf)	Drained Friction Angle (°)	Undrained Cohesion (psf)	Lateral Modulus of Subgrade Reaction (pci) <sup>1</sup>	Strain <sup>1</sup>
Silty Clay to Clay Loam (773 to 760)	120	26	1,000	300	0.007
Loose to Medium Dense Sand and Gravel (760 to 755) <sup>2</sup>	125	28	n/a	50	-
Organic Silty Clay <sup>3</sup> (760 to 758)	80	10	-	5	0.022
Stiff to Very Stiff Clay to Clay Loam (755 to 676)	125	30	1,600	500	0.007
Very Stiff to Hard Clay to Clay Loam (676 to 671)	125	32	4,500	1,800	0.005
Very Dense Silt, Sand and Gravel (671 to 661)	130	32	n/a	125	-
Hard Clay Loam (661 to 653)	125	32	4,500	1,800	0.005

Notes: 1. Values recommended for use in design from L-pile Software Manual.  
 2. Encountered at boring BSB-10.  
 3. Encountered at boring BSB-11.

For temporary or permanent earth retention systems, allowances should be made for surcharge loads adjacent to the retaining structure (if any). Proper drainage should be provided behind the walls. For the long-term active case (permanent case), cohesion in the clay layers should be ignored and the effective stress condition (drained friction angle) should be used. For the long-term passive case, the undrained cohesion should be used at undisturbed depths below the frost line (greater than 4 feet below the ground line).

For the properties/values of new backfill areas, we recommend the design team use these typical backfill parameters for design.

**Table 7 – New Fill Soil Properties**

Material	Unit Weight (pcf)	Drained Friction Angle (°)	Undrained Cohesion (psf)	Lateral Modulus of Subgrade Reaction (pci)	Strain
New Fill Clay	120	26	1,000	230	0.009
Aggregate Stone Fill	120	32	-	90	-

## **SECTION 09: CONSTRUCTION CONSIDERATIONS**

It is proposed that the I-55 mainline be built in staged construction, and embankment will need to be temporarily retained at the abutments. It is anticipated that wall heights may be about 20 feet tall, and sporadic very stiff to hard clay soils (+4.5 tsf, according to the boring logs) will be encountered in the embankment. IDOT temporary sheet pile wall design tables may be used for temporary soil retention where the retained heights are less than 20 feet and hard clay soils (+4.5 tsf, according to the boring logs) are not encountered in the embankment. Soil properties provided in **Section 08: Recommendations** may be used for temporary soil retention wall design.

At the abutments and piers, the concrete and timber piles (at the abutments and piers, respectively) should be spaced to miss any footings, or the piles will need to be cored through.

During excavation for the proposed improvements, movement of adjacent soils into the excavation should be prevented. For design purposes, the designer may use a 1.5H:1V or flatter slope above the water table for temporary slopes; however, excavations slopes is the responsibility of the contractor and should be performed in accordance with the latest Occupational Safety and Health Administration (OSHA) requirements. Allowances should be made for surcharge loads adjacent to the retaining structures.

## **SECTION 10: GENERAL QUALIFICATIONS**

The analysis and recommendations presented in this report are based upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur between borings or across the site. In addition, the soil samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations. The nature and extent of such variations may not become evident until construction. If variations appear evident, it will be necessary to reevaluate the recommendations of the report. In addition, it is recommended that Geo Services Inc.

be retained to perform construction observation and thereby provide a complete professional geotechnical engineering service through the observational method.

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 other warranties, either expressed or implied, are intended or made. In the event that any 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 the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer. Also note that Geo Services Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of the report's subsurface data or engineering analyses without the express written authorization of Geo Services Inc.

**APPENDIX A**  
**GENERAL NOTES**

## GENERAL NOTES

### CLASSIFICATION

American Association of State Highway & Transportation Officials (AASHTO) System used for soil classification.

#### Cohesionless Soils

<u>Relative Density</u>	<u>No. of Blows per foot N</u>
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	Over 50

#### TERMINOLOGY

**Streaks** are considered to be paper thick. **Lenses** are considered to be less than 2 inches thick. **Layers** are considered to be less than 6 inches thick. **Stratum** are considered to be greater than 6 inches thick.

#### Cohesive Soils

<u>Consistency</u>	<u>Unconfined Compressive Strength - qu (tsf)</u>
Very Soft	Less than 0.25
Soft	0.25 - 0.5
Medium Stiff	0.5 - 1.0
Stiff	1.0 - 2.0
Very Stiff	2.0 - 4.0
Hard	Over 4.0

### DRILLING AND SAMPLING SYMBOLS

SS: Split Spoon 1-3/8" I.D., 2" O.D.	HS: Housel Sampler
ST: Shelby Tube 2" O.D., except where noted	WS: Wash Sample
AS: Auger Sample	FT: Fish Tail
DB: Diamond Bit - NX: BX: AX	RB: Rock Bit
CB: Carboloy Bit - NX: BX: AX	WO: Wash Out
OS: Osterberg Sampler	

Standard "N" Penetration: Blows per foot of a 140 lb. hammer falling 30" on a 2" O.D. Split Spoon

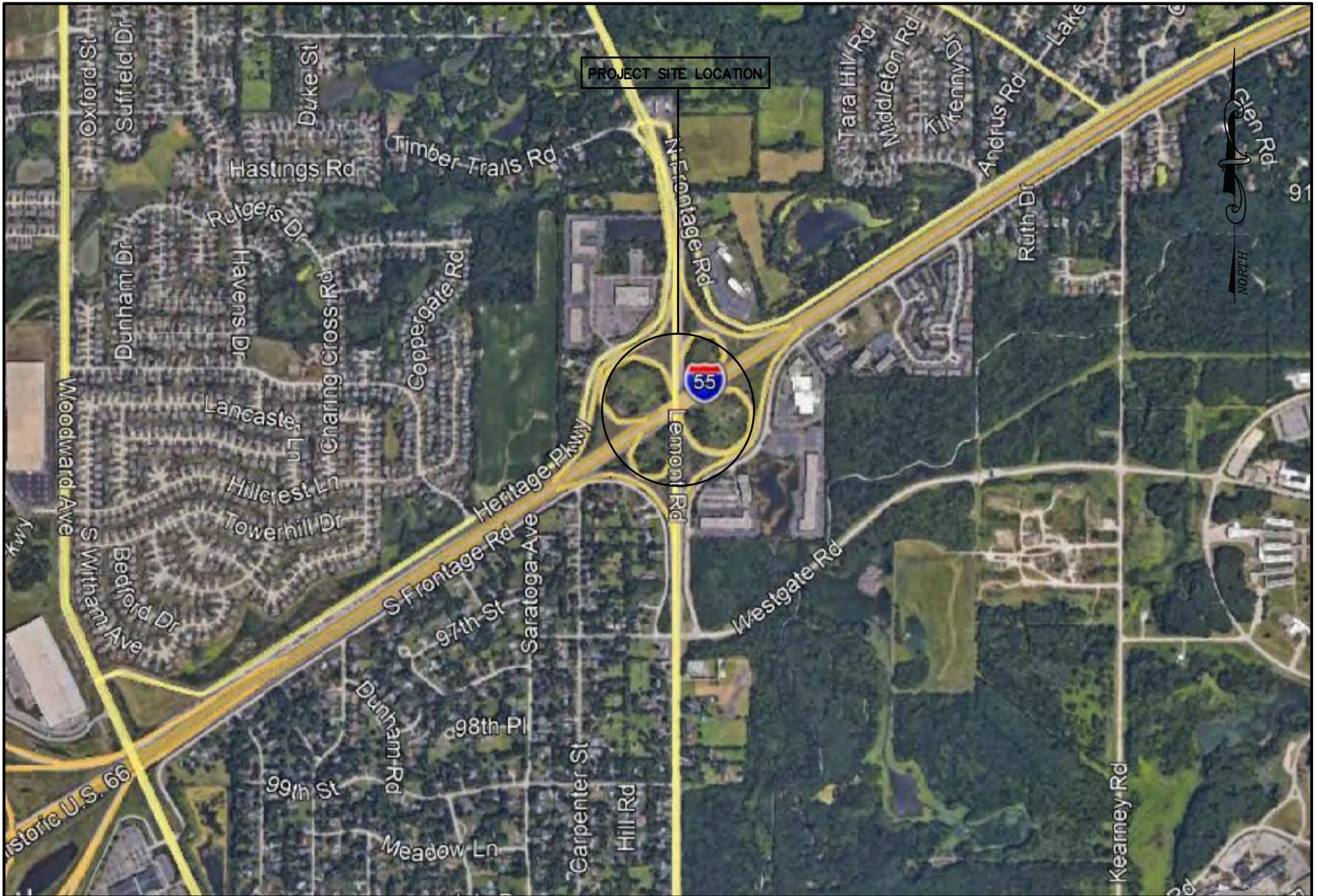
### WATER LEVEL MEASUREMENT SYMBOLS

WL: Water	WD: While Drilling
WCI: Wet Cave In	BCR: Before Casing Removal
DCI: Dry Cave In	ACR: After Casing Removal
WS: While sampling	AB: After Boring

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable ground water levels. In impervious soils, the accurate determination of ground water elevations is not possible in even several days observation, and additional evidence on ground water elevations must be sought.

**APPENDIX B**

**BORING LOCATION SITE,  
PLAN AND PROFILES**

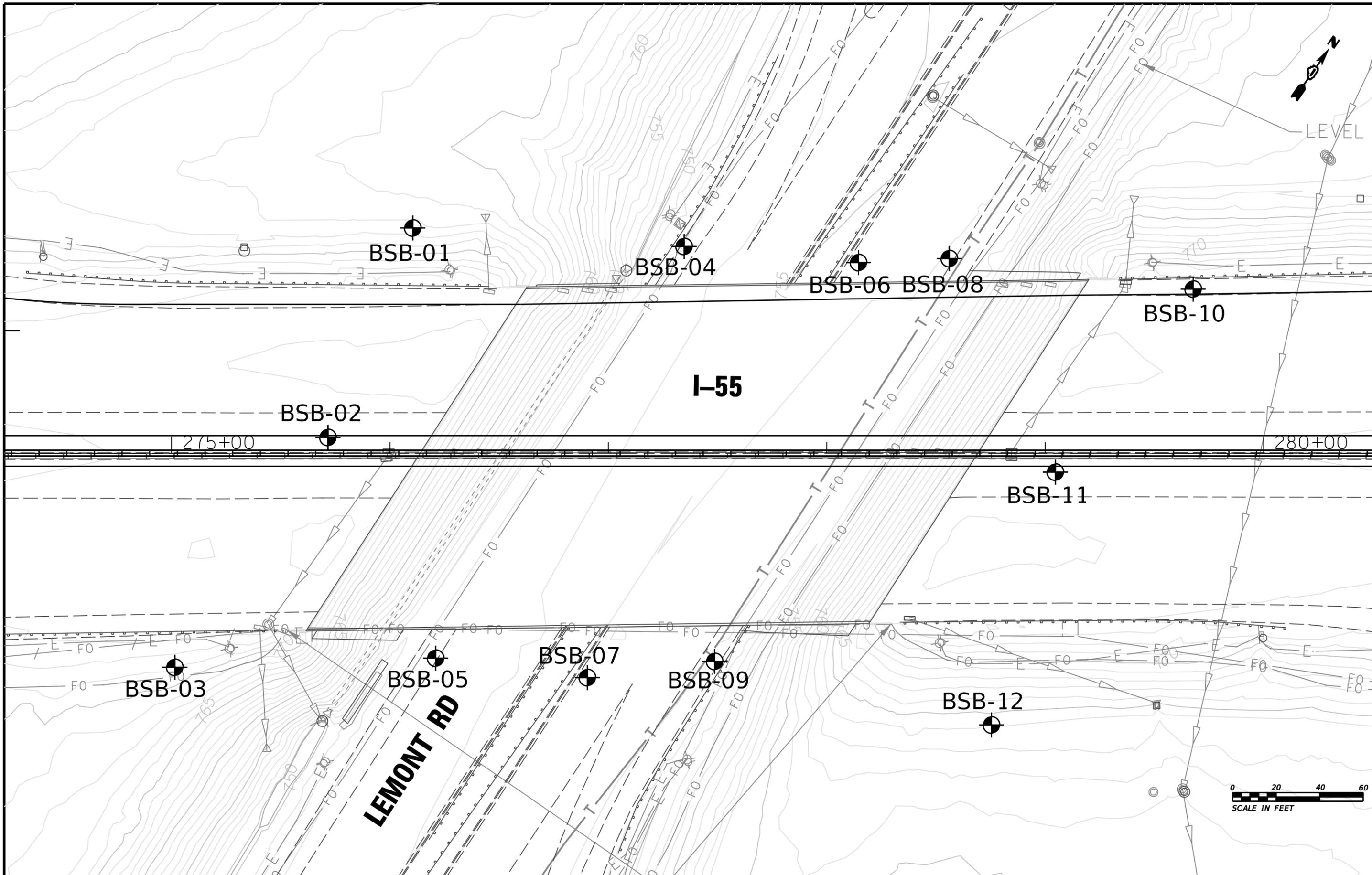


**SITE MAP**

Structure Geotechnical Report  
 Interstate 55 Bridge over Lemont Road  
 Existing Structure Number 022-0001  
 IDOT P-91-762-10, PTB 188-002,  
 Contract 62G39  
 DuPage County, Illinois

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 805 Amherst Court, Suite 204  
 Naperville, Illinois 60565  
 (630) 355-2838

DRAWN BY	MT
APPROVED BY	RR
DATE	January 24, 2020
GSI JOB No.	18080
SCALE	NTS



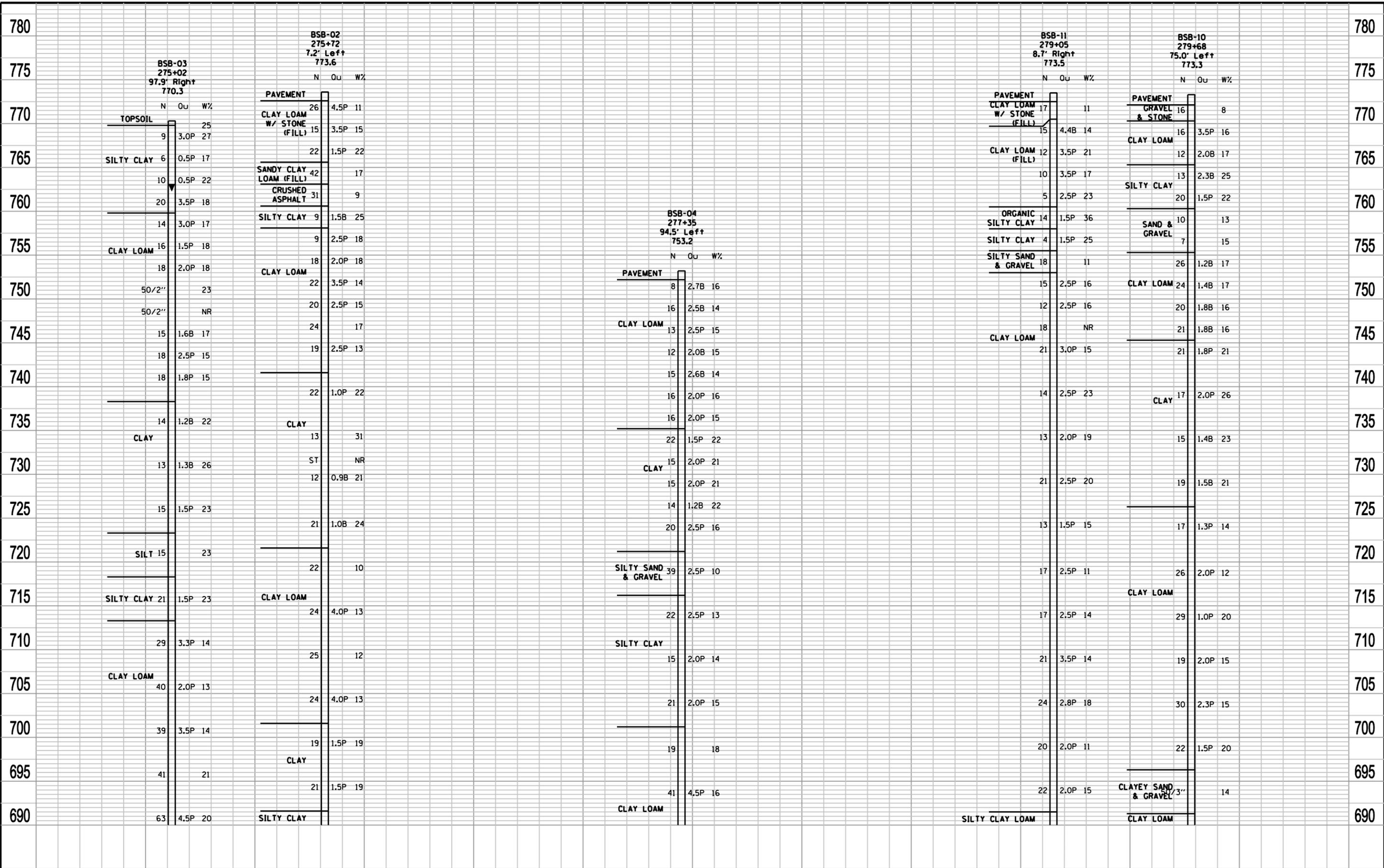
USER NAME *	DESIGNED - RWC	REVISED -
	DRAWN - RWC	REVISED -
PLOT SCALE *	CHECKED - AJP	REVISED -
PLOT DATE *	DATE - 4/1/2020	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**I-55 OVER LEMONT RD BRIDGE RECONSTRUCTION  
SOIL BORING PLAN**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			1	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. OF SHEETS STA. TO STA.



275+00	276+00	277+00	278+00	279+00	280+00
USER NAME *	DESIGNED - RWC	REVISIONS -	I-55 OVER LEMONT RD BRIDGE RECONSTRUCTION		
DRAWN - RWC	REVISIONS -	SOIL BORING PROFILE			
PLOT SCALE *	CHECKED - AJP	REVISIONS -	SCALE:	SHEET NO. OF SHEETS	STA. TO STA.
PLOT DATE *	DATE - 1/14/2020	REVISIONS -	CONTRACT NO.		
Geo Services, Inc.		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		ILLINOIS FED. AID PROJECT	

**APPENDIX C**  
**BORING LOGS**

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. \_\_\_\_\_  
 Station \_\_\_\_\_  
 BORING NO. BSB-01  
 Station 276+10  
 Offset 102.90ft Left  
 Ground Surface Elev. 767.17 ft

DEPTH (ft)	BLOW S (/6")	UCS (tsf)	MOIST (%)
------------	--------------	-----------	-----------

Surface Water Elev. \_\_\_\_\_ ft  
 Stream Bed Elev. \_\_\_\_\_ ft  
 Groundwater Elev.:  
 First Encounter Dry to -10.0 ft  
 Upon Completion n/a ft  
 After \_\_\_\_\_ Hrs. \_\_\_\_\_ ft

DEPTH (ft)	BLOW S (/6")	UCS (tsf)	MOIST (%)
------------	--------------	-----------	-----------

4.0" TOPSOIL 766.83  
 CLAY LOAM-brown-stiff to hard

CLAY LOAM-brown-stiff to hard  
 (continued)

4			22
4			
4	2.3	15	
5	B		
4			
5	1.0	15	
-5	4	B	
2			
7	2.5	16	
8	P		
5			
5	1.7	17	
-10	7	B	
4			
5	1.6	16	
9	B		
5			
9	1.8	14	
-15	11	B	
8			
8	2.8	14	
9	B		
6			
9	2.9	13	
-20	10	B	

8			
10	4.0	13	
11	B		
5			
10	4.0	17	
-25	13	P	
6			
11	2.5	12	
13	B		
7			
10	2.0	14	
-30	9	P	
735.17			
8			
7	2.3	19	
-35	9	B	
4			
7	1.7	23	
-40	8	B	

becoming gray @ -13.0'

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080\_LOG.GPJ 4/1/20





# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. _____	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
Station _____	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C	O
BORING NO. BSB-02	P	O	S	I	Groundwater Elev.: _____	T	W	S	S
Station 275+72	T	S	Qu	T	First Encounter Dry to -15.0 ft	H	S	Qu	T
Offset 7.20ft Left	H	S			Upon Completion n/a ft				
Ground Surface Elev. 773.55 ft	(ft)	(/6")	(tsf)	(%)	After _____ Hrs. _____ ft	(ft)	(/6")	(tsf)	(%)

12.0" ASPHALT					CLAY LOAM-brown-very stiff (continued) becoming gray @ -20.5'				
772.55							6		
CLAY LOAM with STONE-dark brown & gray-stiff to hard (Fill)	8						9	3.5	14
	13	4.5	11				13	P	
	13	P							
	3						5		
	7	3.5	15				8	2.5	15
	-5	8	P				-25	12	P
	4						10		
	10	1.5	22				11		17
	12	P					13		
765.55									
SANDY CLAY LOAM with STONE-dark gray-dense (Fill)	6						4		
	22		17				8	2.5	13
	-10	20					-30	11	P
763.05									
CRUSHED ASPHALT-dense (Fill)	4								
	12		9						
	19				741.55				
760.55					CLAY-gray-medium stiff to stiff				
SILTY CLAY-dark brown & gray-stiff	3						7		
	4	1.5	25				11	1.0	22
	-15	5	B				-35	11	P
758.05									
CLAY LOAM-brown-very stiff	4								
	4	2.5	18						
	5	P							
	5							3	
	7	2.0	18					5	
	-20	11	P					8	
									31

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)





# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. \_\_\_\_\_  
 Station \_\_\_\_\_

BORING NO. BSB-03  
 Station 275+02  
 Offset 97.90ft Right  
 Ground Surface Elev. 770.73 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
------------	-----------------------	-----------	--------------

Surface Water Elev. \_\_\_\_\_ ft  
 Stream Bed Elev. \_\_\_\_\_ ft  
 Groundwater Elev.:  
 First Encounter 762.7 ft ▼  
 Upon Completion n/a ft  
 After \_\_\_\_\_ Hrs. \_\_\_\_\_ ft

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
------------	-----------------------	-----------	--------------

6.0" TOPSOIL-black 770.23  
 SILTY CLAY-dark brown, gray & spotted black-medium stiff to very stiff  
 4  
 4 3.0 27  
 5 P  
 2  
 3 0.5 17  
 -5 3 P  
 4  
 5 0.5 22  
 5 P  
 ▼  
 16  
 10 3.5 18  
 -10 10 P  
 760.23

CLAY LOAM-brown & gray-stiff to very stiff (continued)  
 50/2"  
 NR  
 becoming gray @-23.0'  
 9  
 8 1.6 17  
 -25 7 B  
 5  
 7 2.5 15  
 11 P  
 6  
 7 1.8 15  
 -30 11 P

CLAY LOAM-brown & gray-stiff to very stiff  
 5  
 7 3.0 17  
 7 P  
 4  
 7 1.5 18  
 -15 9 P  
 5  
 7 2.0 18  
 11 P  
 36  
 50/2"  
 23  
 -20

CLAY-gray-stiff 738.73  
 4  
 6 1.2 22  
 -35 8 B  
 4  
 5 1.3 26  
 8 B

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	Surface Water Elev. Stream Bed Elev.	DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)
BORING NO. BSB-03 Station 275+02 Offset 97.90ft Right Ground Surface Elev. 770.73 ft					Groundwater Elev.: First Encounter 762.7 ft ▼ Upon Completion n/a ft After Hrs.				
CLAY-gray-stiff (continued)					CLAY LOAM-gray-stiff to hard (continued)				
		5					11		
		6	1.5	23			18	2.0	13
	-45	9	P			-65	22	P	
723.73									
SILT-gray-medium dense									
		3					12		
		6		23			20	3.5	14
	-50	9				-70	19	P	
718.73									
SILTY CLAY-gray-stiff									
		13					13		
		10	1.5	23			17		21
	-55	11	P			-75	24		
713.73									
CLAY LOAM-gray-stiff to hard									
		12					11		
		14	3.3	14			24	4.5	20
	-60	15	P			-80	39	P	

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)
BORING NO. BSB-03 Station 275+02 Offset 97.90ft Right Ground Surface Elev. 770.73 ft					Groundwater Elev.:					
					First Encounter 762.7 ft ▼					
					Upon Completion n/a ft					
					After _____ Hrs. _____ ft					
CLAY LOAM-gray-stiff to hard (continued)					CLAY LOAM-gray-very stiff to hard (continued)					
some gravel from -83.5' to -85.0'		13						16		
		26		7				23	3.5	12
	-85	40					-105	29	P	
683.73										
CLAY-gray-very stiff										
		19						18		
		27	1.0	17				20	4.5	12
	-90	32	P				-110	33	P	
		12						16		
		50/5"	2.0	17				22	4.5	15
	-95		P				-115	31	P	
673.73										
CLAY LOAM-gray-very stiff to hard										
		18						18		
		23	3.0	13	End Of Boring @ -120.0'. Boring backfilled with cuttings.			23	4.0	13
	-100	31	P					30	P	
							650.73	-120		

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TC

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BLOW W S	UCS Qu	MOIST S T	Surface Water Elev. _____ ft	DEPT H	BLOW W S	UCS Qu	MOIST S T
BORING NO. BSB-04 Station 277+35 Offset 94.50ft Left Ground Surface Elev. 753.21 ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft	(ft)	(/6")	(tsf)	(%)
6.0" ASPHALT, 6.0" CRUSHED STONE 752.21					CLAY--gray-stiff to very stiff (continued)				
CLAY LOAM-brown-very stiff	4					7			
	4	2.7	16			7	2.0	21	
	4	B				8	P		
becoming gray @-3.0'									
	5					8			
	6	2.5	14			6	2.0	21	
	-5	10	B			-25	9	P	
	5					5			
	5	2.5	15			6	1.2	22	
	8	P				8	B		
	5					7			
	4	2.0	15			8	2.5	16	
	-10	8	B			-30	12	P	
	6								
	7	2.6	14						
	8	B			721.21				
					SILTY SAND & GRAVEL-gray-dense				
	6					14			
	8	2.0	16			26	2.5	10	
	-15	8	P			-35	13	P	
	5								
	7	2.0	15						
	9	P			716.21				
					SILTY CLAY-gray-very stiff				
735.21									
CLAY--gray-stiff to very stiff									
	8					6			
	11	1.5	22			9	2.5	13	
	11	P				13	P		
	-20					-40			

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TC

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)
BORING NO. BSB-04 Station 277+35 Offset 94.50ft Left Ground Surface Elev. 753.21 ft										
SILTY CLAY LOAM with GRAVEL-gray-very dense (continued)	671.21				CLAY LOAM-gray-hard (continued)					
CLAY LOAM-gray-hard		18					24			
		22	4.5	14			35	4.5	12	
	-85	25	P				-105	43	P	
					646.21					
		14			SILTY CLAY LOAM with GRAVEL-gray-very dense					
		24	4.5	15			27			
	-90	28	P				50/2"	4.5	10	
					641.21					
		25			SILTY CLAY-gray-hard					
		28	4.5	13			33			
	-95	24	P				33	4.5	11	
							-115	43	P	
		20								
		23	4.5	12			23			
	-100	27	P				27	4.5	15	
							-120	21	P	

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY NW

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BLOW S Qu	UCS Qu	MOIST T	Surface Water Elev. _____ ft	DEPT H	BLOW S Qu	UCS Qu	MOIST T
BORING NO. BSB-05 Station 276+21 Offset 93.70ft Right Ground Surface Elev. 754.70 ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft	(ft)	(/6")	(tsf)	(%)
4.0" ASPHALT, 8.0" CONCRETE					734.20				
753.70					SILTY LOAM-gray-medium dense		10		
CLAY LOAM-brown & gray-stiff to very stiff	6						12		19
	7	3.0					16		
	5	P			731.70				
becoming gray @ -3.0'					CLAY-gray-stiff		5		
	5						7	1.8	23
	10	2.0					10	P	
	-5	P			729.20				
					CLAY LOAM-gray-stiff		4		
	6						4	1.5	16
	9	1.5					6	P	
	11	P							
	7						3		
	10			22			5	1.0	23
	-10	17					7	P	
	6								
	7	2.0		16					
	9	P							
	4						4		
	8	2.0		14			8	1.5	14
	-15	13	P				9	P	
	6								
	8	3.3		18	717.70				
	11	P			SILTY CLAY LOAM-gray-dense				
	11						8		
	14	2.5		15			17		6
	-20	13	P				31		

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY NW

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	Groundwater Elev.:	First Encounter _____ ft	Upon Completion _____ ft	After _____ Hrs. _____ ft	DEPTH H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
SILTY LOAM-gray-very dense (continued)														
		37										23		
		50/3"		17								27	4.5	13
	-85											32	P	
	667.70													
SILTY CLAY-gray-dense														
		10										21		
		17	4.0	13								26	4.5	12
	-90	24	P									29	P	
	662.70													
CLAY LOAM-gray-very stiff to hard														
		18										16		
		39	4.5	13								27	4.5	20
	-95	50/3"	P									38	P	
	642.70													
CLAY-gray-hard														
		12										39		
	15	3.5	15									50/4"	4.5	10
	-100	22	P										P	
	637.70													
CLAY LOAM-gray-hard														

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY NW

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H  (ft)	B L O W S  (/6")	U C S  Qu (tsf)	M O I S T  (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. BSB-05 Station 276+21 Offset 93.70ft Right Ground Surface Elev. 754.70 ft					Groundwater Elev.:
					First Encounter Dry to -10.0 ft Upon Completion n/a ft After _____ Hrs. _____ ft

CLAY LOAM-gray-hard (continued)					
632.70					
SILTY LOAM-gray-very dense					
	26				
	42			15	
	-125	50/3"			
627.70					
SILTY CLAY-gray-hard					
	21				
	29	4.5		21	
	624.70 -130	37	P		
End Of Boring @ -130.0'. Boring backfilled with cuttings.					
	-135				
	-140				

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TZ

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BLOW S Qu	UCS (tsf)	MOIST T (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	GROUNDWATER ELEV. First Encounter _____ ft	Upon Completion _____ ft	After _____ Hrs. _____ ft	DEPTH H S	BLOW S Qu	UCS (tsf)	MOIST T (%)
	(ft)	(/6")	(tsf)	(%)						(ft)	(/6")	(tsf)	(%)
4.0" ASPHALT, 10.0" CRUSHED STONE													
	753.26												
CLAY LOAM-brown-very stiff		11									4		
		5	3.1	14							6	2.0	20
		8	B								8	P	
		6									4		
		7	3.0	16							6	1.2	24
	-5	8	P								10	B	
becoming gray @ -5.5'													
		4											
		5	3.0	14							3		
		7	P								3	0.3	23
											4	P	
		3											
		5	2.5	11							3		
	-10	7	P								4		18
											5		
SILTY CLAY LOAM with Sand Seams-gray-medium dense	743.92												
		4											
		6	4.5	8									
		8	P										
		3											
		5	2.5	11							4		
	-10	7	P								5		
SAND & GRAVEL-gray-medium dense	741.42												
		4											
		13		3							4		
		17									5	1.0	15
	-15										6	P	
		10											
		10		8									
		11											
		10											
		6	2.0	24							6		
		7	P								10	1.3	16
											11	P	
	-20												

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080\_LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TZ

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev. _____ ft	DEPT H	BLOW S	UCS Qu	MOIST T	Stream Bed Elev. _____ ft
BORING NO. BSB-06 Station 278+15 Offset 87.10ft Left Ground Surface Elev. 754.42 ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.:	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.:
					First Encounter Dry to -10.0 ft					Upon Completion n/a ft
					After _____ Hrs. _____ ft					
CLAY-gray-medium dense (continued)					End Of Boring @ -100.0'. Boring backfilled with cuttings.					
	672.42									
CLAYEY SAND & GRAVEL-gray-very dense		50/5"		9						
										-105
	-85									
	667.42									
CLAY LOAM-gray-hard		15								
		21	4.5	13						
		27	P							-110
	-90									
		17								
		50/4"	4.5	12						
			P							-115
	-95									
		16								
		19	4.5	13						
		26	P							-120
	-100									
	654.42									

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080 LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY NW

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST S (%)
BORING NO. BSB-07 Station 276+90 Offset 102.60ft Right Ground Surface Elev. 753.92 ft	711.92				SANDY LOAM-gray-medium dense (continued)	691.92			
		6			SILTY CLAY-gray-medium dense to dense (continued)		10		
		8	2.5	15			11		15
	-45	14	P		CLAY LOAM-gray-very stiff	-65	11		
	706.92				SILTY CLAY-gray-medium dense to dense	686.92			
		9			SILTY CLAY LOAM-gray-medium dense		13		
		12		18			18		13
	-50	20			CLAY LOAM-gray-dense	-70	17		
		9					13		
		14		22			24	4.5	9
	-55	21				-75	25	P	
		9					29		
		13	3.5	19	CLAY LOAM with Gravel-gray-very dense	676.92	50/5"		8
	-60	15	P			-80			

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080 LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY NW

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev. _____ ft	DEPTH H	BLOW S	UCS Qu	MOIST T
BORING NO. BSB-07 Station 276+90 Offset 102.60ft Right Ground Surface Elev. 753.92 ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft	(ft)	(/6")	(tsf)	(%)
CLAY LOAM with Gravel-gray-very dense (continued)					End Of Boring @ -100.0'. Boring backfilled with cuttings.				
		28							
		37		9					
	-85	46				-105			
SILTY CLAY-gray-very stiff to hard									
		12							
		19	3.5	14					
	-90	28	P			-110			
		15							
		22	4.5	14					
	-95	31	P			-115			
		13							
		19	4.5	15					
	-100	27	P			-120			

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TZ

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	DEPTH	BLOW	UCS	MOIST
Station	H	S	Qu	T	ft	H	S	Qu	T
BORING NO.	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
BSB-08									
Station 278+56									
Offset 88.90ft Left									
Ground Surface Elev. 753.77									

SILTY CLAY-gray-stiff (continued)					CLAY-gray-stiff (continued)				
					691.77				
					CLAY LOAM-gray-stiff				
	5					10			
	7	1.5	17			15	1.2	15	
	-45	9	P			-65	22	B	
					686.77				
					SILTY LOAM-gray-medium dense				
	7					11			
	15	1.5	14			11		14	
	-50	21	P			-70	13		
					681.77				
					CLAY LOAM-gray-hard				
	5					23			
	9	1.5	14			41	4.5	12	
	-55	11	P			-75	40	P	
					696.77				
					CLAY-gray-stiff				
					676.77				
					SAND & GRAVEL-gray-very dense				
	5					7			
	8	1.0	20			27		7	
	-60	10	P			-80	42		

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TZ

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
BORING NO. BSB-08 Station 278+56 Offset 88.90ft Left Ground Surface Elev. 753.77 ft					Groundwater Elev.: First Encounter Dry to -10.0 ft Upon Completion n/a ft After _____ Hrs. _____ ft				
SAND & GRAVEL-gray-very dense (continued)	671.77				SILTY CLAY LOAM-gray-dense to very dense (continued)				
SILT-gray-very dense		19					9		
		34		16			18	4.5	15
	-85	35			648.77	-105	29	P	
	666.77				End Of Boring @ -105.0'. Boring backfilled with cuttings.				
CLAY LOAM-gray-hard		12							
		18	4.5	14					
	-90	31	P			-110			
	661.77								
SILTY LOAM-gray-very dense		50/4"		13					
	-95					-115			
	656.77								
SILTY CLAY LOAM-gray-dense to very dense		19							
		50/5"	4.5	13					
	-100		P			-120			

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080 LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)









# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TZ

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H  (ft)	B L O W S  (/6")	U C S  (tsf)	M O I S T  (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. BSB-09 Station 277+49 Offset 95.20ft Right Ground Surface Elev. 752.90 ft					Groundwater Elev.:
					First Encounter Dry to -10.0 ft Upon Completion n/a ft After _____ Hrs. _____ ft

SILTY CLAY LOAM with Fractured Rock-gray-very dense (continued)					
		50/3"		9	
	-125				
	625.90				
SILTY LOAM-gray-very dense		16		18	
		28			
	622.90 -130	46			
End Of Boring @ -130.0'. Boring backfilled with cuttings.					
	-135				
	-140				

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY TC

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BLOW S Qu	UCS S Qu	MOIST S T	Surface Water Elev. _____ ft	DEPT H S	BLOW S Qu	UCS S Qu	MOIST S T
BORING NO. BSB-10 Station 279+68 Offset 75.00ft Left Ground Surface Elev. 773.31 ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft	(ft)	(/6")	(tsf)	(%)
					Groundwater Elev.:				
					First Encounter Dry to -10.0 ft				
					Upon Completion n/a ft				
					After _____ Hrs. _____ ft				

14.0" ASPHALT					CLAY LOAM-brown-stiff (continued)				
772.14		20					7		
CLAYEY SAND, GRAVEL & STONE-brown-medium dense		8		8			10	1.4	17
		8					14	B	
770.31					becoming gray @-23.0'				
CLAY LOAM-brown-very stiff		4					5		
		8	3.5	16			8	1.8	16
	-5	8	P			-25	12	B	
		4					5		
		5	2.0	17			9	1.8	16
		7	B				12	B	
765.31					CLAY-gray-stiff to very stiff	745.31			
SILTY CLAY-dark brown & gray-stiff to very stiff		6					5		
		6	2.3	25			8	1.8	21
	-10	7	B			-30	13	P	
		4							
		11	1.5	22					
		9	P						
760.31									
SAND & GRAVEL-brown-loose to medium dense		4					5		
		5		13			7	2.0	26
	-15	5				-35	10	P	
		4							
		4		15					
		3							
755.31									
CLAY LOAM-brown-stiff		6					5		
		11	1.2	17			7	1.4	23
	-20	15	B			-40	8	B	

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)





# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
12.0" ASPHALT	772.51						753.01			
CLAY LOAM with STONE-dark brown & gray-medium dense (Fill)	8	3		11				5	2.5	16
		9						6	P	
		8						9		
770.51										
CLAY LOAM-brown & gray-very stiff (Fill)		6						6		
		7	4.4	14				5	2.5	16
	-5	8	B				-25	7	P	
		2						7		
		4	3.5	21				8		NR
		8	P					10		
		3						4		
		5	3.5	17				8	3.0	15
	-10	5	P				-30	13	P	
		2								
		2	2.5	23						
		3	P							
760.51										
ORGANIC SILTY CLAY-dark brown & black-stiff		5						3		
		6	1.5	36				5	2.5	23
	-15	8	P				-35	9	P	
758.01										
SILTY CLAY-brown & gray-stiff		2								
		2	1.5	25						
		2	P							
755.51										
SILTY SAND & GRAVEL-gray-medium dense		3						3		
		9		11				5	2.0	19
	-20	9					-40	8	P	

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080\_LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. \_\_\_\_\_  
 Station \_\_\_\_\_  
 BORING NO. BSB-11  
 Station 279+05  
 Offset 8.70ft Right  
 Ground Surface Elev. 773.51 ft

DEPTH H S	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev. \_\_\_\_\_ ft  
 Stream Bed Elev. \_\_\_\_\_ ft  
 Groundwater Elev.:  
 First Encounter Dry to -10.0 ft  
 Upon Completion n/a ft  
 After \_\_\_\_\_ Hrs. \_\_\_\_\_ ft

DEPTH H S	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

CLAY LOAM-brown-stiff to very stiff (continued)			
	6		
	9	2.5	20
-45	12	P	
	5		
	5	1.5	15
-50	8	P	
	7		
	6	2.5	11
-55	11	P	
	6		
	8	2.5	14
-60	9	P	

CLAY LOAM-brown-stiff to very stiff (continued)			
	7		
	9	3.5	14
-65	12	P	
	6		
	11	2.8	18
-70	13	P	
	10		
	9	2.0	11
-75	11	P	
	6		
	8	2.0	15
-80	14	P	

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)

# SOIL BORING LOG

ROUTE I-55 DESCRIPTION I-55 Over Lemont Road Bridge Reconstruction LOGGED BY MM

SECTION LOCATION SW 1/4, SEC. 5, TWP. T37N, RNG. R11E, 3<sup>rd</sup> PM

COUNTY DuPage DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev. _____ ft	DEPT H	BLOW S	UCS Qu	MOIST T
BORING NO. BSB-11 Station 279+05 Offset 8.70ft Right Ground Surface Elev. 773.51 ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft	(ft)	(/6")	(tsf)	(%)
CLAY LOAM-brown-stiff to very stiff (continued)	691.51				SILT-gray-very dense (continued)	671.51			
SILTY CLAY LOAM-gray-loose		3			CLAY LOAM-gray-very stiff to hard		9		
		2	2.5	14			16	3.5	14
	-85	5	P			-105	19	P	
SILT-gray-dense	686.51								
		12					9		
		16		21			14	2.9	13
	-90	21				-110	17	B	
CLAY LOAM-gray-very stiff	681.51								
		24					12		
		27	2.8	11			50/2"	4.5	12
	-95	30	B			-115		P	
SILT-gray-very dense	676.51								
		25					23		
		39		20	End Of Boring @ -120.0'. Boring backfilled with cuttings.		19	4.5	13
	-100	43				-120	28	P	

Z:\PROJECTS\2018\18080 TY LIN, I-55 OVER LEMONT ROAD (PTB 188, ITEM 2)\18080 BORING LOGS\18080\_LOG.GPJ 4/1/20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger  
 BBS, from 137 (Rev. 8-99)







**APPENDIX D**

**PILE CAPACITY TABLES**







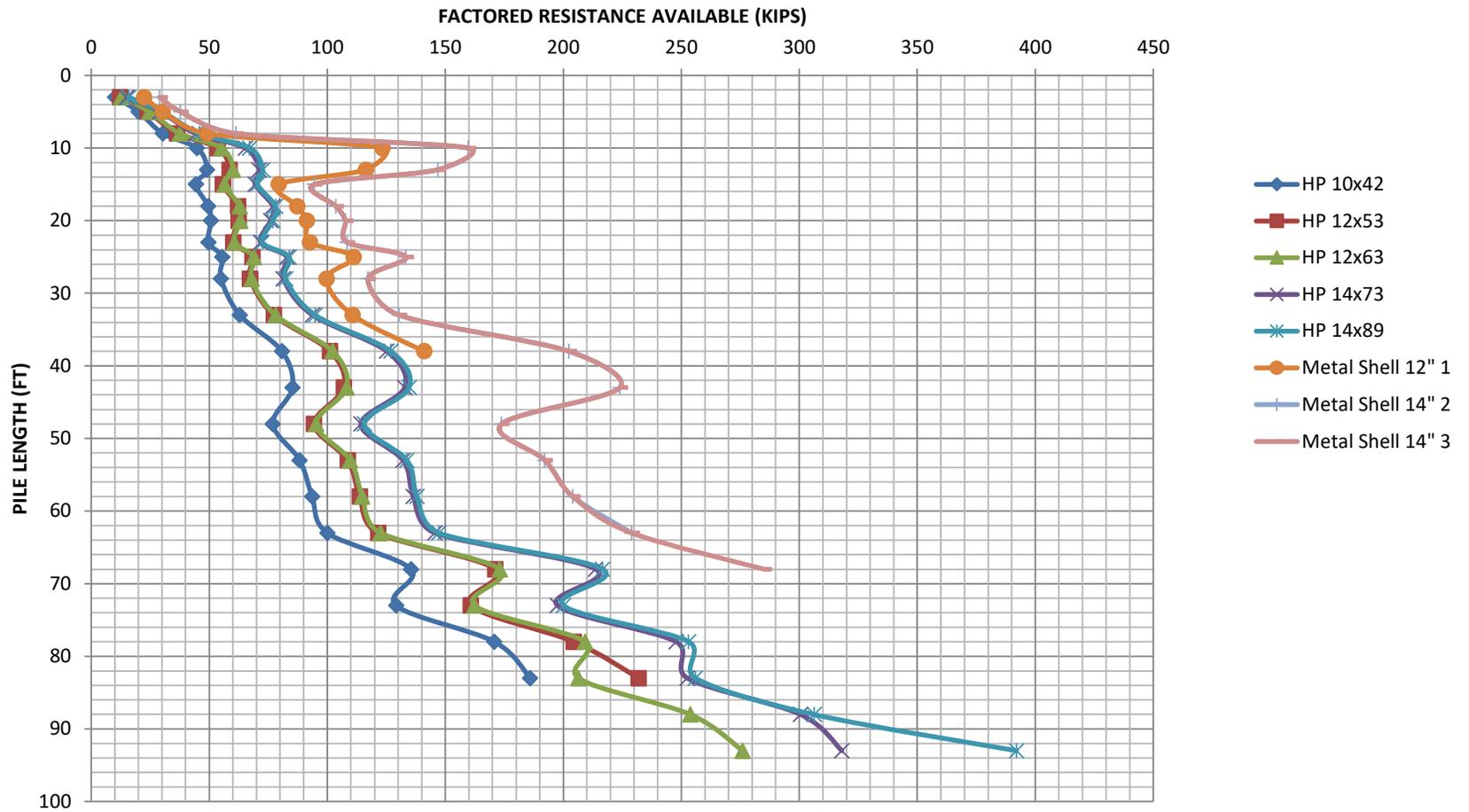




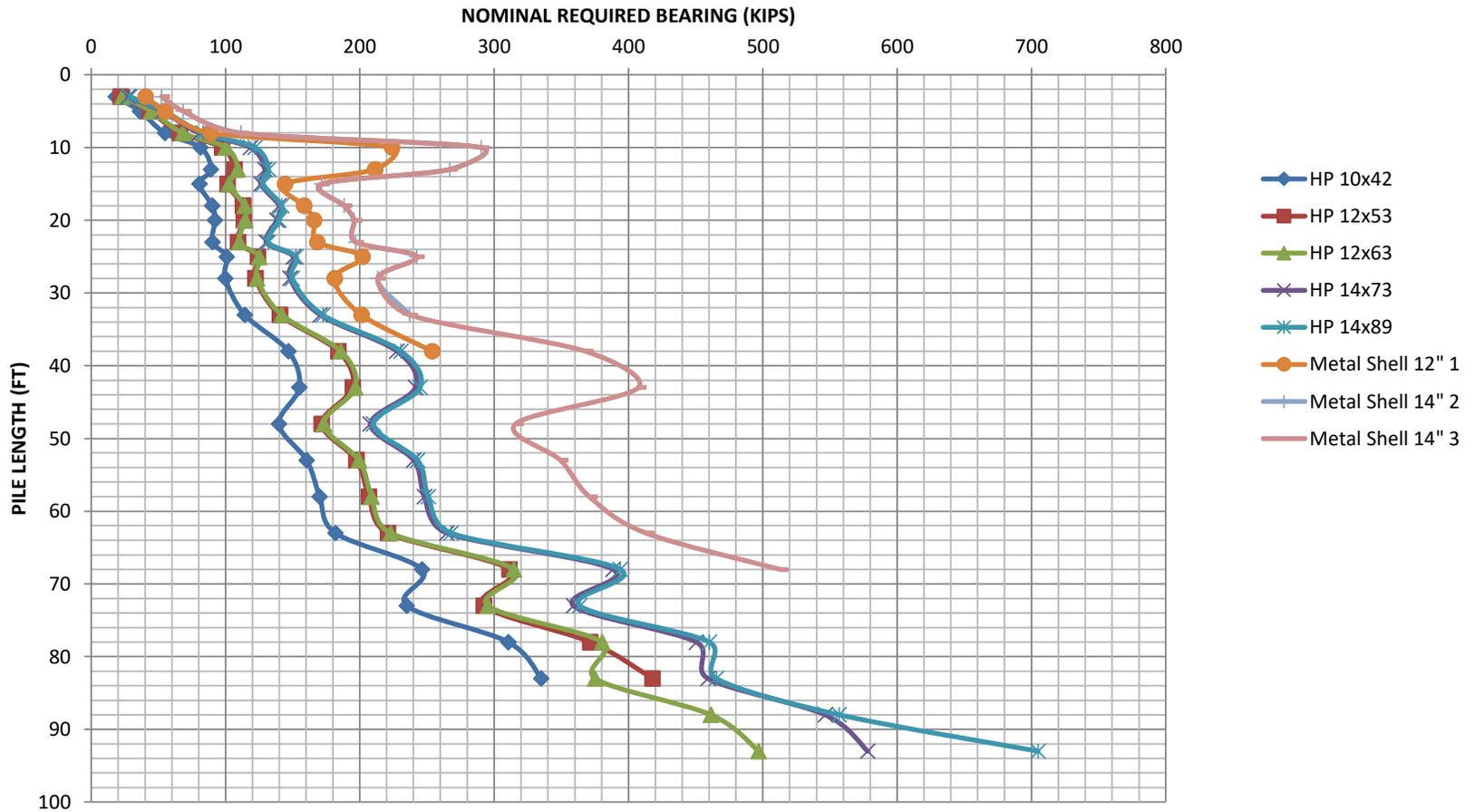




# PILE BEARING (FRA) VS. ESTIMATED PILE LENGTH Median Pier



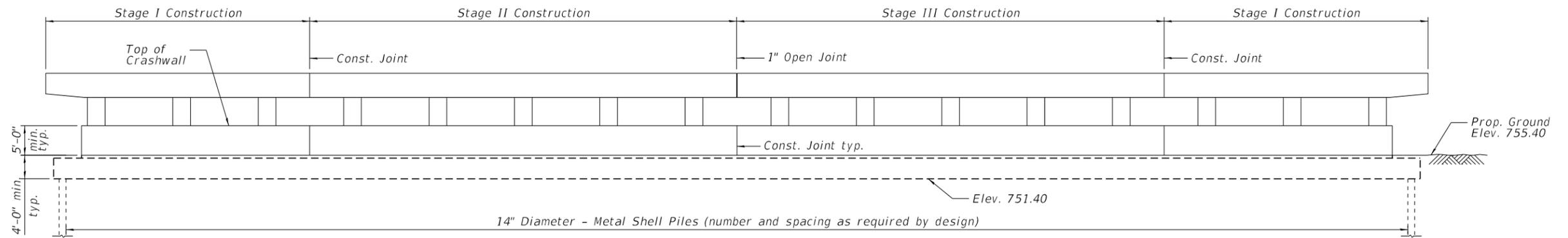
# PILE BEARING (NRB) VS. ESTIMATED PILE LENGTH Median Pier



## **APPENDIX E**

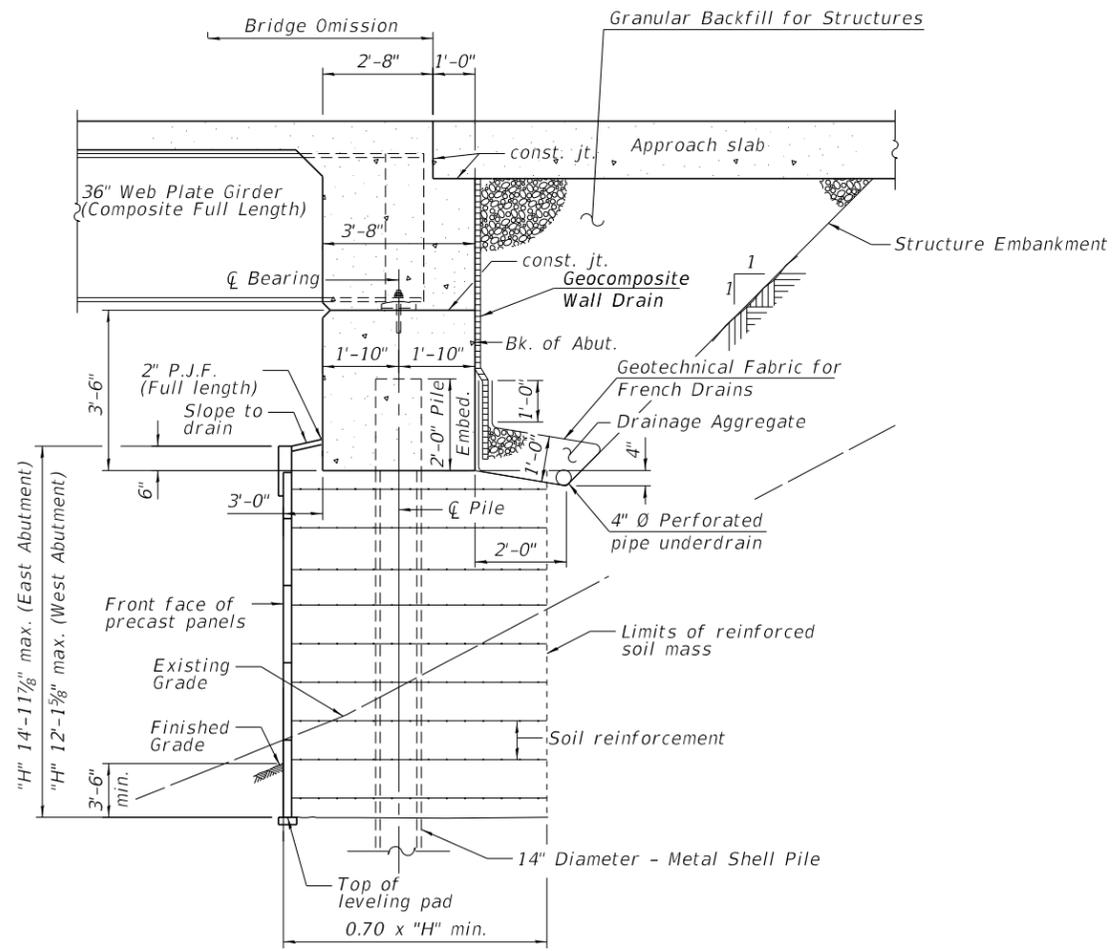
### **TS&L**



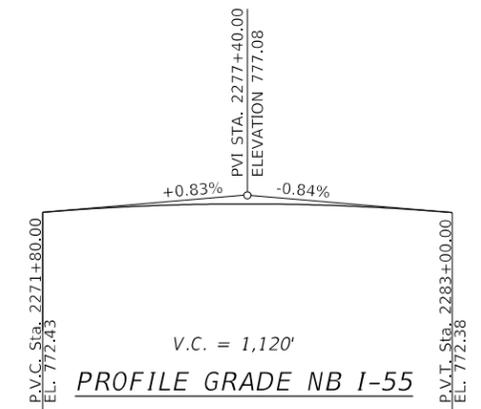
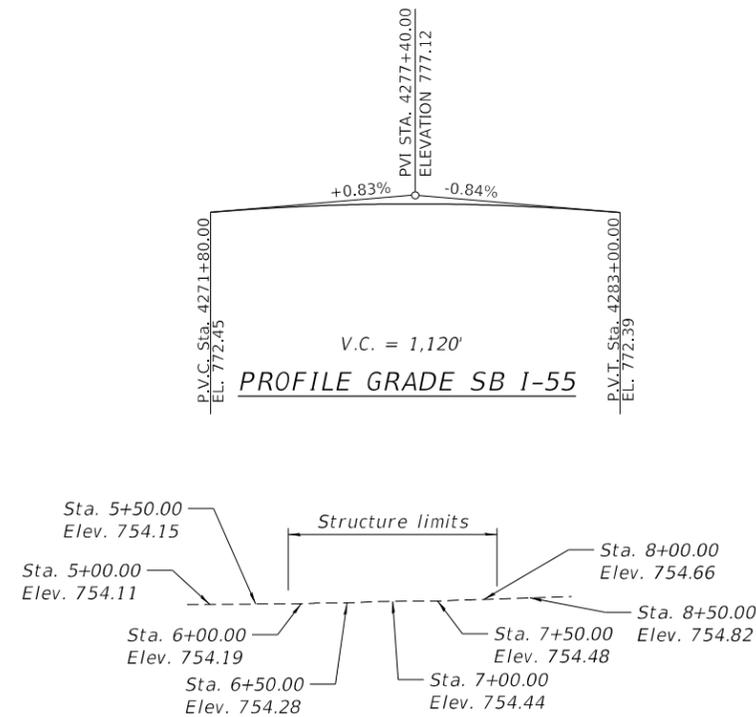


**PIER SKETCH**  
(Looking East)

\*Space new piles to miss existing piles.



**SECTION THRU INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)



**DETAILS**  
**I-55 OVER LEMONT ROAD**  
**F.A.I. RTE. 55 SECTION 22-2HB-1**  
**DUPAGE COUNTY**  
**STATION 277+41.64**  
**STRUCTURE NO. 022-2036**

MODEL: D:\p1\11\TYLIPW011CS011UC5.pdf WORK: 48433071.000134\_2.D\1151\EM-003\_TSL\_Det.dgn

**TYLIN INTERNATIONAL**  
200 S. WACKER DR.  
SUITE 1400  
CHICAGO, IL 60606  
TEL: 312-777-2900

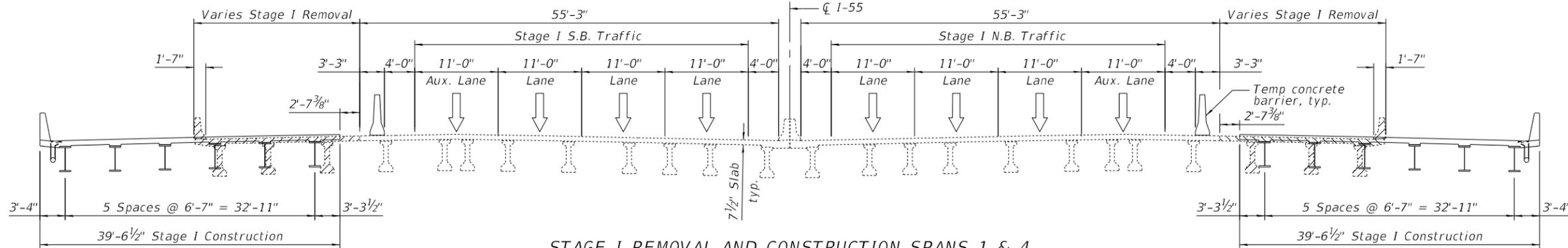
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PLOT SCALE = 0:1.0000 " = 1/ in.	DRAWN - JM	REVISED -
PLOT DATE = 4/3/2020	CHECKED - SP	REVISED -
	DATE 03/27/2020	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

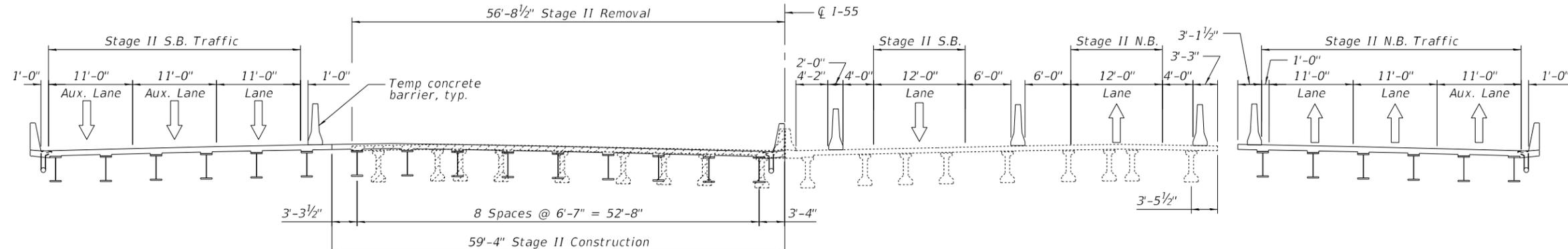
SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	22-36HB-1	DUPAGE	7	2
CONTRACT NO. 62G39				
ILLINOIS FED. AID PROJECT				

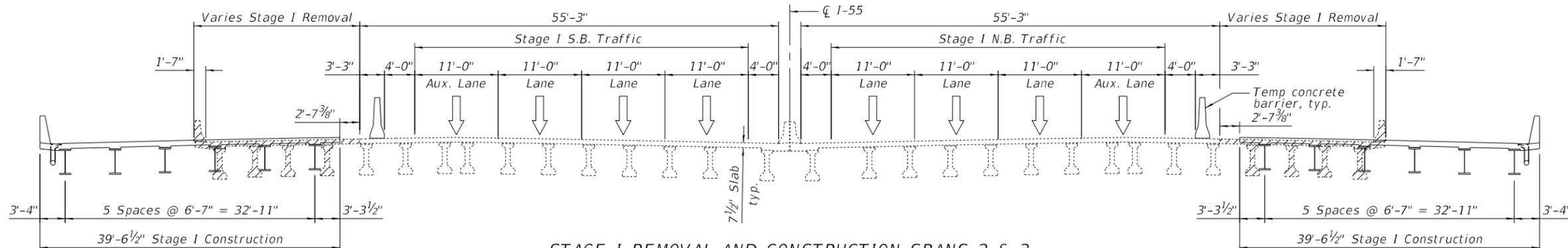




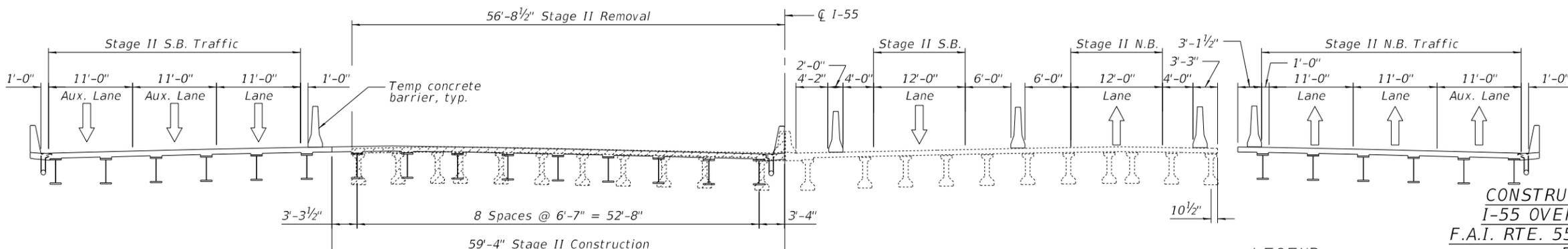
**STAGE I REMOVAL AND CONSTRUCTION SPANS 1 & 4**  
(Looking east)



**STAGE II REMOVAL AND CONSTRUCTION SPANS 1 & 4**  
(Looking east)



**STAGE I REMOVAL AND CONSTRUCTION SPANS 2 & 3**  
(Looking east)



**STAGE II REMOVAL AND CONSTRUCTION SPANS 2 & 3**  
(Looking east)

**LEGEND**  
Denotes concrete removal

**CONSTRUCTION STAGING**  
**I-55 OVER LEMONT ROAD**  
**F.A.I. RTE. 55 Section 22-2HB-1**  
**DUPAGE**  
**STATION 277+41.64**  
**STRUCTURE NO. 022-2036**

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**TYLIN INTERNATIONAL**  
200 S. WACKER DR.  
SUITE 1400  
CHICAGO, IL 60606  
TEL: 312-777-2900

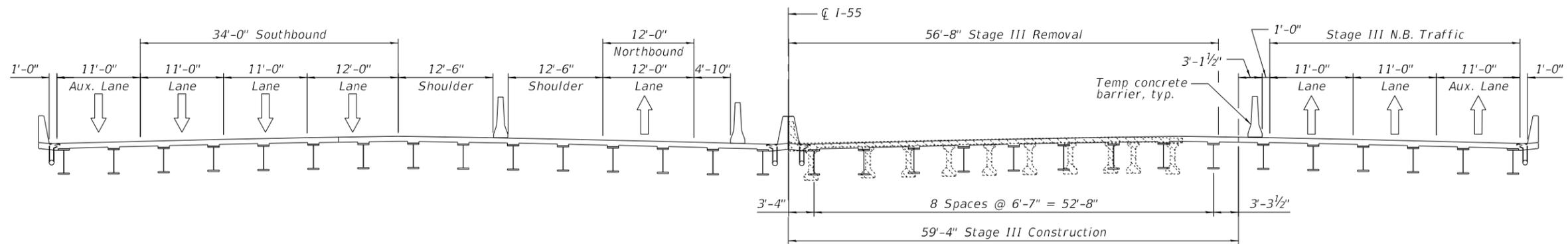
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CHECKED - SP	REVISED -
DATE 03/27/2020	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

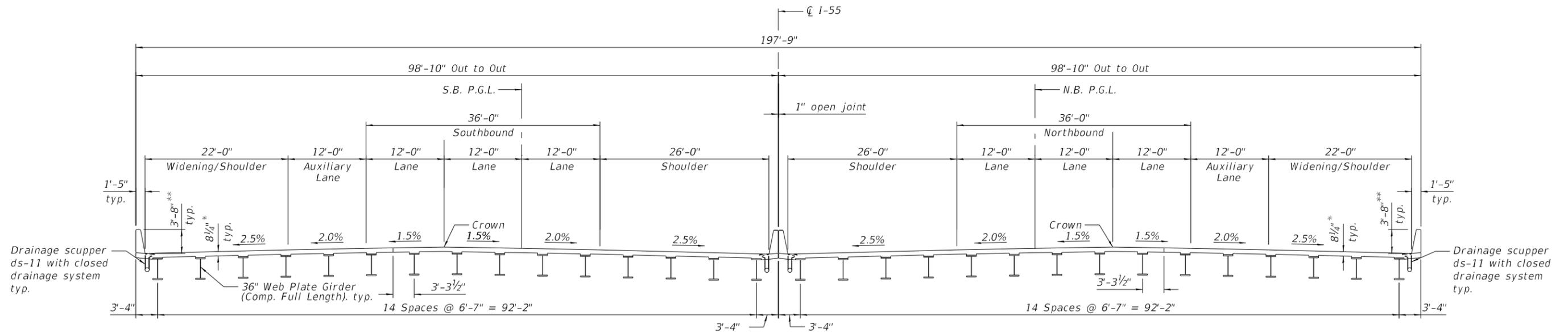
SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	22-36HB-1	DUPAGE	7	4
CONTRACT NO. 62G39			ILLINOIS FED. AID PROJECT	



**STAGE III REMOVAL AND CONSTRUCTION**

(Looking east)  
Span 2 and 3 existing beams shown



**PROPOSED CROSS SECTION**

(Looking east)  
Note:  
Dimensions are measured perpendicular to CL I-55  
\* Prior to grinding  
\*\* After grinding

**PROPOSED CROSS SECTION**  
**I-55 OVER LEMONT ROAD**  
**F.A.I. RTE. 55 Section 22-2HB-1**  
**DUPAGE**  
**STATION 277+41.64**  
**STRUCTURE NO. 022-2036**

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**TYLIN INTERNATIONAL**  
200 S. WACKER DR.  
SUITE 1400  
CHICAGO, IL 60606  
TEL: 312-777-2900

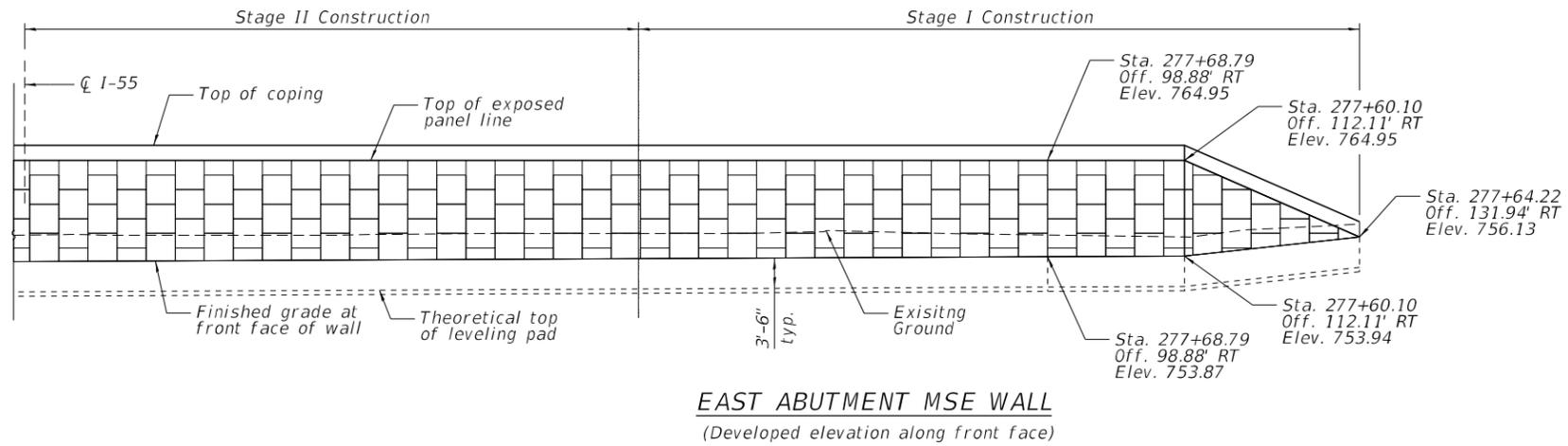
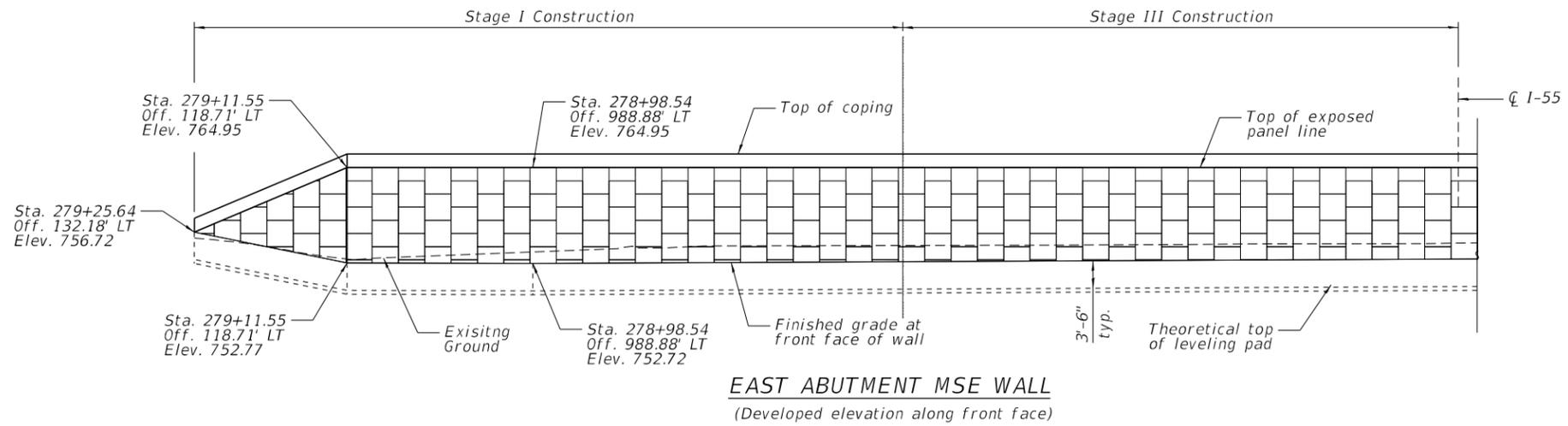
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	DATE 03/27/2020	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	22-36HB-1	DUPAGE	7	5
CONTRACT NO. 62G39				
ILLINOIS FED. AID PROJECT				





Notes:  
Wall offsets measured from ⊘ I-55 to Front Face of wall.

**EAST MSE WALL DETAILS**  
**I-55 OVER LEMONT ROAD**  
**F.A.I. RTE. 55 SECTION 22-2HB-1**  
**DUPAGE COUNTY**  
**STATION 277+41.64**  
**STRUCTURE NO. 022-2036**

MODEL: D:\p\h\... FILE NAME: TYLIPW01ICS01UCS... MASE-EAST.dgn

**TYLIN INTERNATIONAL**  
200 S. WACKER DR.  
SUITE 1400  
CHICAGO, IL 60606  
TEL: 312-777-2900

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PLOT SCALE = 0:1.0000 " = 1/8" in.	CHECKED - SP	REVISED -
PLOT DATE = 4/3/2020	DATE 03/27/2020	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	22-36HB-1	DUPAGE	7	7
CONTRACT NO. 62G39				
ILLINOIS		FED. AID PROJECT		

**APPENDIX F**  
**DISPOSITION OF COMMENTS**

4/17/2020

Comments by: **IDOT** Date received: 04/15/2020**I-55 over Lemont Road****Proposed Structure Number SN 022-2036****IDOT Job No. P-91-762-10, PTB 188-002****FAP Route 55, Section 22-2HB-1****DuPage County, IL****DISPOSITION OF COMMENTS**

Spec./Item No.	Dwg. No./Page No.	Comments	Responses
<b>Report</b>			
1	Cover Sheet, all pages	The proposed structure number (022-2036) needs to be added to the SGR cover sheet.	The SN 022-2036 has been added to the latest versions of the SGR (4/2/20 and 4/17/20).
2	Page 3	On page 3, Note 1 alludes to borings that were taken but not included in the SGR. Please add these borings to the SGR and modify any recommendations pertinent based on this new information.	The complete set of borings has been added to the latest versions of the SGR (4/2/20 and 4/17/20). Both versions of SGRs were modified to include recommendations pertinent based on the new boring information.
3	Page 5	Under Section 7 "Analysis" the Coal Mine Activity" portion of the report should be deleted. Please only provide the information that is requested by the IDOT Geotechnical Manual.	The "Coal Mine Activity" portion of the report has been deleted from the latest SGR date 4/17/2020.
4	Page 5	The project is specified to be designed under the AASHTO LRFD Design code. In the Seismic Analysis section, references to the ASD design code, such as "Seismic Design Category", should be deleted.	The "Seismic Design Category" reference in the report has been deleted from the latest SGR date 4/17/2020.
5	Pages 6 to 7	Table 3 shows 1.5 feet of pile embedment into the abutments, and 2 feet at the median pier. Please verify that the pile embedment at the abutments should be 2 feet, and the pier should be 1 foot as well as modifying the table and Note 3 as necessary.	Per SGR, the 2 feet pile embedment for the abutments matches with the TS&L. However, the pier had 2 feet of pile embedment shown in Table 3 of the SGR (including the Pile Tables in the Appendix section of the SGR); this has been revised to 1 foot per commentary and TS&L drawings. Table 3 and the Pile Table and Graphs for the Median Pier has been modified in the revised SGR to reflect this commentary.
6	Page 8	Please verify that the approach slab will be supported by a spread footing and delete your pile length recommendations at these locations.	Revised per commentary. See page 8 of the revised SGR.
7	Appendix E	The report did not contain a copy of the TS&L plan, therefore please include one in the revised report.	The latest TS&L plan has been included in the Appendix section of the revised SGR.
By: Richard Realeza			Date: 4/17/2020