
**STRUCTURE GEOTECHNICAL REPORT
INTERSTATE 55 BRIDGE OVER IL ROUTE 53
SN 099-0260, SECTION 2018-043-BD&BJR
WILL COUNTY, ILLINOIS**

**For
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11. Abstract The bridge carrying Interstate 55 bridge over IL Route 53 will be widened by about 9.6 feet in both northbound and southbound directions. The two-span structure will have back-to-back of abutment length of 188 feet with equal spans of 91.8 feet. The out-to-out deck widths will measure 127.2 feet. The widened approach embankments will have side slopes graded at 1:2.5 (V:H). Beneath the pavement, the lithologic profile includes up to 7 and 28 feet of cohesive and granular fill material at the IL-53 and I-55, respectively. Beneath the fill, the native soils includes up to 36 feet of stiff to hard silty clay to silty clay loam over 38 feet of medium dense to very dense silty loam, sand to gravelly sand and sandy gravel extending to the boring termination depths of 80 feet. We estimate the groundwater is at 697 feet elevation. The approach bents could be supported at the back ends by driven piles. Tables are provided for 12-inch metal shell (MSP), 14-inch MSP, and HP10x42 piles. Approach bent 20- to 55-foot long driven 12-inch MSP pile will provide 40 to 100 kips of allowable resistance. The widened approach embankments will undergo less than 0.4 inches of settlement; therefore, downdrag load allowances are not required for the approach piles. The approach embankments with side slopes graded at 1:2.5 (V: H) have global stability FOS of 3.32 and 1.97 for undrained and drained conditions, respectively. The widened section of the bridge substructures will be supported in-kind as the existing ones; therefore, the widened foundations will be supported by shallow foundations. Following the foundation treatment at the north abutment southbound extension, we estimate the foundation soils will have a maximum allowable bearing capacity of 5,000 psf calculated with a factor of safety of 3.0 (AASHTO 2002). We estimate the new substructure sections will experience about 0.4 inches of long-term settlement under applied service pressures. The construction of the proposed widened abutments and pier will require temporary shoring of the excavations. It is recommended to include the Pay Item Temporary Soil Retention Systems.		
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1.0 INTRODUCTION

This report presents the results of our subsurface investigation, laboratory testing, geotechnical evaluations, and recommendations for the widening of the existing Interstate 55 (I-55) Bridge over Illinois Route 53 (IL 53) in Will County, Illinois. A *Site Location Map* is presented as Exhibit 1.

1.1 Proposed Structure

Based on the *approved General Plan and Elevation* (GPE) sheets dated November 2, 2020, prepared by Ciorba, Wang Engineering, Inc. (Wang) understands the existing bridge deck will be removed and replaced, which will include an in-kind widening of the substructures in both the northbound and southbound directions. The bridge will be widened by about 9.6 feet in both directions. The two span bridge will have back-to-back of abutment length of 188 feet with equal spans of 91.8 feet. The out-to-out deck widths will measure 127.2 feet. The GPE sheets are included as Appendix D.

1.2 Existing Structure

Based on the existing bridge plans and GPE, we understand the bridge was originally built with stub abutments supported on piles and pier supported on shallow foundation. In 1979, the bridge was lengthened with abutments supported on shallow foundations to facilitate the IL-53 widening. The superstructures were also rehabilitated. The existing bottom of footing elevation is 701.37 feet at the abutments and 696.72 feet at the pier. In 1994, the structure was rehabilitated by replacing, jacking and cribbing bridge deck. The existing bridge has total back-to-back abutment length of 188 feet and out-to-out width of 111.1 feet.

The purpose of this investigation was to characterize the site soil and groundwater conditions, perform geotechnical analyses, and provide recommendations for the design and construction of the proposed substructure widening.

2.0 METHODS OF INVESTIGATION

The following sections outline the subsurface and laboratory investigations performed by Wang.

2.1 Field Investigation

The subsurface investigation consisted of six bridge borings, designated as BSB-01 through BSB-06, drilled by Wang in the period of May 6 to May 13, 2020. The borings were drilled from elevations of 699.35 to 700.81 feet along the IL-53 to depths of 80 feet bgs. Boring RWB-01 drilled for the wall on I-55 was also considered to supplement our engineering analysis. As-drilled northing and easting were surveyed by Wang and elevations, stations, and offsets were provided by Lin. Boring location data are presented in the *Boring Logs* (Appendix A) and the as-drilled boring locations are shown in the *Boring Location Plan* (Exhibit 2).

Truck-mounted drilling rigs, equipped with hollow stem augers, were used to advance and maintain open boreholes. Mud rotary drilling technique was used from 10 feet bgs to advance the boreholes. Soil sampling was performed according to AASHTO T206, "*Penetration Test and Split Barrel Sampling of Soils.*" The soil was sampled at 2.5-foot intervals to 30 feet bgs and at 5-foot intervals to the boring termination depth of 80 feet bgs. Soil samples collected from each sampling interval were placed in sealed jars and transported to the laboratory for further examination and laboratory testing.

Field boring logs, prepared and maintained by a Wang field engineer, included lithological descriptions, visual-manual soil classifications, results of Rimac and pocket penetrometer unconfined compressive strength tests, and results of Standard Penetration Tests (SPT) recorded as blows per 6 inches of penetration.

Groundwater levels were measured while drilling and at completion of each boring. At each boring location, the borehole was backfilled upon completion with grouting and the pavement surface was restored as much as possible to its original condition.

2.2 Laboratory Testing

The soil samples were tested in the laboratory for moisture content (AASHTO T265). Atterberg limits (AASHTO T89 and T90) and particle size analysis (AASHTO T88) tests were performed on selected samples. Field visual descriptions of the soil samples were verified in the laboratory and index tested

soils were classified according to the IDH Soil Classification System. The laboratory test results are shown in the *Boring Logs* (Appendix A) and in the *Laboratory Test Results* (Appendix B).

3.0 INVESTIGATION RESULTS

Detailed description of the soil condition encountered during the subsurface investigation is presented in the attached *Boring Logs* (Appendix A) and in the *Soil Profile* (Exhibit 3). Please note that strata contact lines represent approximate boundaries between soil types. The actual transition between soil types in the field may be gradual in horizontal and vertical directions.

3.1 Lithological Profile

The borings drilled on IL-53 encountered 8- to 10-inch thick concrete over 4- to 6-inch thick asphalt followed by up to 24 inches of aggregate base. Borings BSB-03 and BSB-06 drilled on the IL-53 northbound shoulder encountered 7- to 9-inch thick asphalt over 2.4 feet of aggregate base. Boring RWB-01 drilled on the I-55 encountered 17-inch thick asphalt over loose to medium dense sand fill. In descending order, the general lithologic succession encountered beneath the pavement includes: 1) man-made ground (fill); 2) stiff to hard silty clay and silty clay loam; and 3) medium dense to very dense silty loam, sand, gravelly sand, and sandy gravel.

1) Man-made ground (fill)

Beneath the pavement, the borings advanced from IL-53 encountered up to 7 feet of fill materials whereas the boring from I-55 encountered up to 28 feet of fill. The fill consists of primarily cohesive soils. The cohesive fill, as thick as 20 feet, is made up of medium stiff to very stiff brown to brown and black clay loam to silty clay loam with unconfined compressive strength (Q_u) values of 1.2 to 6.4 tsf with an average of 2.4 tsf and moisture content values of 9 to 19%. Beneath the pavement, Boring BSB-06 revealed medium stiff clay loam fill with Q_u value of 0.5 tsf and N values of 1 and 7 blows per foot extending to an elevation of 691.3 feet. Laboratory index testing on a sample of the silty clay loam fill show a liquid limit (L_L) value of 34% and a plastic limit (P_L) value of 14%. Boring RWB-01 encountered 6 feet of loose to medium dense, brown sand fill with SPT N-values of 4 to 11 blows per foot and moisture content values of 5 to 9%.

2) Stiff to hard silty clay and silty clay loam

Beneath the pavement or fill, at elevations of 691 to 692 feet, the borings augured through up to 36 feet of stiff to hard, brown and gray to gray silty clay to silty clay loam. This unit is characterized by

Q_u values of 1.0 to 6.4 tsf with an average of 2.6 tsf and moisture content values of 11 to 26% averaging 17%. Out of 69 samples, five samples have Q_u value less than 1 tsf, from 0.3 to 0.98 tsf. Laboratory index testing on samples of this unit shows L_L values of 27 to 33% and P_L values of 15 to 16%.

3) *Medium dense to very dense silty loam, sand, gravelly sand, and sandy gravel*

At elevations of 655 to 659 feet, the borings advanced through up to 38 feet of medium dense to very dense, gray, saturated silty loam, sand, gravelly sand, and sandy gravel. This soil unit has N-values of 10 blows per foot to refusal with an average of more than 39 blows per foot and moisture content values of 7 to 27% with an average of 14%. Cobbles were encountered throughout this unit.

3.2 Groundwater Conditions

Groundwater was encountered while drilling at elevations of 648 to 664 feet (37 to 52 feet bgs) within the medium dense to very dense granular soils (**Unit 3**). Borings BSB-04 and RWB-01 encountered the groundwater at elevations of 697 and 713 feet (3 and 5.5 feet bgs) within pavement base course and granular fill, respectively. At completion of drilling, the groundwater was measured at elevation of 695 feet (24 feet bgs) in Boring RWB-01. Since mud rotary technique was used to advance the bridge boreholes, the groundwater level measurement at completion of drilling was not possible. Boring RWB-03 drilled for the retaining wall replacement, about 250 feet north of the north abutment southbound lanes, was kept open with hollow stem augers for 24 hours and measured the groundwater level at elevation of 697 feet (20.5 feet bgs).

We estimate the groundwater may be encountered at a level of 697 feet. We note that the groundwater encountered within the granular soils in the bridge borings appeared to be under pressure. It should be noted that groundwater levels might vary with seasonal rainfall patterns and long-term climate fluctuations or be influenced by local site conditions.

4.0 FOUNDATION ANALYSIS AND RECOMMENDATIONS

Based on the information provided by Ciorba, we understand the structural design of the widened abutments and pier will be based on the ASD method in accordance with 2002 AASHTO Standard Specifications for Highway Bridges (AASHTO 2002) except as modified by the IDOT 2012 Bridge Manual (IDOT 2012). Geotechnical evaluations and recommendations for the approach embankments, approach slabs, and substructure foundations are included in the following sections.

4.1 Seismic Design Considerations

The seismic design for the proposed structure widenings will be in accordance with Article 3.4, Division 1-A of AASHTO Standard Specifications for Highway Bridges (AASHTO 2002). Based on the encountered soil conditions in borings, the soil profile Type is I and Site Coefficient (S) is 1.0. Based on Figure 6.12-2.2-1 of 2015 IDOT Geotechnical Manual (IDOT 2015), we estimate a Seismic Performance Category (SPC), and a Horizontal Bedrock Acceleration Coefficient (A).

Seismic Design Parameters

Seismic Performance Category (SPC)	A
Horizontal Bedrock Acceleration Coefficient (A)	0.04g
Site Coefficient (S)	1.0

4.2 Approach Embankments

Wang has performed evaluations of the settlement and global stability for the widened portion of the approach embankments. Based on the in-progress cross-sections and information provided by Lin, we understand the approach embankments will be widened about 8 to 12 feet with side slopes graded at 1:2.5 (V: H), placed on the existing embankment slope. The profile grade along the I-55 will not be changed and new fill height at the widened embankments will be about 2 feet.

4.2.1 Settlement

Based on the soil conditions, we estimate the new widening area will undergo less than 0.4 inches of long-term consolidation settlement under the applied load resulting from 2 feet of new fill material. Settlement of less than 1 inch is normally acceptable for pavement construction. Therefore, no waiting time will be required after the construction of the embankment.

4.2.2 Global Stability

The global stability of the approach embankment was analyzed based on Borings BSB-06 and RWB-01 where weaker soil was encountered. The in-progress cross-section drawing shows the side slopes are proposed to be graded at 1:2.5 (V:H). The minimum required FOS for both short (undrained) and long-term (drained) conditions is 1.5 (IDOT 2012). *Slide v6.0* evaluation exhibits employing the Bishop Simplified method of analysis are shown in Appendix C and we estimate the

slopes have a minimum undrained factor of safety (FOS) of 3.32 (Appendix C-1) and a drained FOS of 1.97 (Appendix C-2). The FOS meets the IDOT minimum requirement.

4.2.3 Approach Slab Foundations

Wang understands the approach slab will be widened in-kind, supporting the approach slab bents on driven MSP or steel H-piles. We assume the piles will be driven through the completed approach embankment widenings. Since the estimated settlement is less than 0.4 inches, we do not anticipate downdrag load on approach bents. We estimate the bottom of footing elevations will be 713.64, same as the existing ones.

The pile nominal, allowable resistances, and pile lengths were estimated using the IDOT spreadsheet, *IDOT Static Method of Estimating Pile Length vs Resistance* with ASD method. The R_U , R_A , estimated pile tip elevations, and pile lengths for 12-inch diameter MSP with 0.25-inch diameter walls, 14-inch diameter MSP with 0.312-inch diameter walls, and HP10x42 are summarized in Tables 1 through 3. The lengths shown in the table assume a 1-foot pile embedment into the pile cap. Pile shoe is not required for the approach bent piles. Based on information provided by Ciorba, the proposed widened approach bents will have a total preliminary service load of 45 kips per pile and a total preliminary factored load of 78 kips per pile.

Table 1: Estimated Pile Lengths and Tip Elevations for 12-inch Dia. w/.25"walls MSP Approach Bents Piles

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_U (kips)	Allowable Geotechnical Loss (kips)	Ultimate Geotechnical Load Loss (kips)	Allowable Resistance Available, R_A (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation (feet)
South Abutment South Approach Northbound BSB-01	713.64	120	0	0	40	20	695
		180	0	0	60	30	685
		240	0	0	80	40	675
North Abutment North Approach Northbound BSB-03	713.64	120	0	0	40	23	692
		180	0	0	60	31	684

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_U	Allowable Geotechnical Loss	Ultimate Geotechnical Load Loss	Allowable Resistance Available, R_A	Total Estimated Pile Length	Estimated Pile Tip Elevation
		(kips)	(kips)	(kips)	(kips)	(feet)	(feet)
		240	0	0	80	40	675
South Abutment South Approach Southbound BSB-04	713.64	120	0	0	40	22	693
		180	0	0	60	32	683
		240	0	0	80	46	669
North Abutment North Approach Southbound BSB-06	713.64	120	0	0	40	26	689
		180	0	0	60	32	683
		240	0	0	80	52	663

Table 2: Estimated Pile Lengths and Tip Elevations for 14-inch Dia. w/.312" walls MSP Approach Bents Piles

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N	Allowable Geotechnical Loss	Ultimate Geotechnical Load Loss	Allowable Resistance Available, R_F	Total Estimated Pile Length	Estimated Pile Tip Elevation
		(kips)	(kips)	(kips)	(kips)	(feet)	(feet)
South Abutment South Approach Northbound BSB-01	713.64	180	0	0	60	25	690
		240	0	0	80	35	680
North Abutment North Approach Northbound BSB-03	713.64	180	0	0	60	27	688
		240	0	0	80	35	680
South Abutment South Approach Southbound BSB-04	713.64	180	0	0	60	27	688
		240	0	0	80	37	678
North Abutment North Approach	713.64	180	0	0	60	31	684

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N (kips)	Allowable Geotechnical Loss (kips)	Ultimate Geotechnical Load Loss (kips)	Allowable Resistance Available, R_F (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation (feet)
Southbound BSB-06		240	0	0	80	43	672

Table 3: Estimated Pile Lengths and Tip Elevations for HP10x42 Steel Approach Bent Piles

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N (kips)	Allowable Geotechnical Loss (kips)	Ultimate Geotechnical Load Loss (kips)	Allowable Resistance Available, R_F (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation (feet)
South Abutment South Approach Northbound BSB-01	713.64	120	0	0	40	28	687
		180	0	0	60	43	672
		240	0	0	80	50	665
North Abutment North Approach Northbound BSB-03	713.64	120	0	0	40	29	686
		180	0	0	60	43	672
		240	0	0	80	55	660
South Abutment South Approach Southbound BSB-04	713.64	120	0	0	40	32	683
		180	0	0	60	52	663
		240	0	0	80	55	660
North Abutment North Approach Southbound BSB-06	713.64	120	0	0	40	41	674
		180	0	0	60	55	660
		240	0	0	80	61	654

4.3 Structure Foundations

As per GPE and information provided by Ciorba, we understand the bridge will be widened in-kind. The proposed abutments and pier footing base elevations will be at 701.37 and 696.72 feet, respectively. The preliminary total service and factored loads are provided by Ciorba. The widened north abutment will have a total preliminary service vertical load of 331 kips and a factored load of 506 kips, the widened south abutment will have a total preliminary service vertical load of 221 kips and a factored load of 352 kips, and the widened pier will have a total preliminary service vertical load of 251 kips and a factored load of 362 kips.

The soil conditions at the proposed new section of the foundations show stiff to hard clayey soils followed by dense to very dense granular soils except at the southbound side of the north abutment where medium stiff clay loam fill is expected to be encountered at the proposed north abutment southbound widening and will require removal and replacement.

4.3.1 Spread Footings

The base of the abutments and pier should be established a minimum of 4.0 feet below the finished ground surface (IDOT 2012).

Based on the GPE and information provided by Ciorba, we understand the proposed abutments and pier spread footings will be 11.61 feet long by 10.00 feet width. Based on our investigation, the foundation soils within the zone of influence of top 10 feet below the footing elevations are expected to be very stiff to hard clayey soil fill or native clayey soil with an exception of north abutment southbound widening where medium stiff clay loam fill is expected to be encountered. To provide adequate bearing and tolerable settlement, we recommend removing these soils to an elevation 691.3 feet and replacing with compacted granular fill such as IDOT District One *Aggregate Subgrade Improvement*. The removal and replacement should extend a minimum of 1.0 foot outside the spread footing footprint. *Temporary Soil Retention System* will be required in the removal and replacement area. The foundation treatment is summarized in Table 4. The actual extent of the removal shall be determined in the field during construction.

Table 4: Summary of Foundation Soil Treatment

Location	Treatment Width	Foundation Soils Removal Depth/Elevation (feet)	Reference Boring, Foundation Concerns
North Abutment	Entire footprint plus	10.0 ⁽¹⁾ /691.3	BSB-06 ($Q_u=0.5$ tsf, N= 1 and 7 blows per foot)
Southbound	1-foot on each side		

⁽¹⁾Below the proposed abutment footing base elevation.

Based on the boring data and following the recommended foundation soil treatment, we estimate the foundation soils will have a maximum allowable bearing capacity of 5,000 psf using a factor of safety of 3.0 (AASHTO 2002). Based on the footing size and preliminary factored loads, we estimate the applied bearing pressures will be approximately 3,050 psf at the south abutment; 3,120 psf at the pier; 4,360 psf at the north abutment. The estimated allowable bearing capacity of the soil is sufficient to support applied bearing pressures.

The estimated friction angles between the base and the cohesive soil and the replacement granular fill are 26 and 30 and the corresponding ultimate values of the friction coefficients can be taken 0.50 and 0.55, respectively. The footing should be designed based on a geotechnical sliding factor of safety of 1.5 (FWHA 2002).

Based on the footing size and preliminary service loads and following the recommended foundation treatment at north abutment southbound widening, we estimate the abutments and pier widened sections will experience up to 0.4 inches of long-term settlement. We understand that any settlement at the widened sections could cause stresses in diaphragms or cracking in the deck when connected to the existing bridge that has already experienced long term settlement. Therefore, an alternative to isolate the widened sections from the existing should be considered.

4.3.2 Driven Piles

At the north abutment southbound, due to the amount of removal and replacement recommended and the need of temporary support system, driven piles could be considered as an alternative to the spread footing option Discussed in Section 5.3.1. Driven piles option could be more cost effective.

Based on information provided by Ciorba, the widened north abutment will have a total preliminary service vertical load of 331 kips and a factored load of 506 kips. The R_F , R_N , estimated pile tip elevations, and pile lengths for 12-inch diameter MSP with 0.25-inch thick walls, 14-inch diameter MSP with 0.312-inch thick walls, HP12x53, and HP14x73 are summarized in Tables 5 through Table 8. The lengths shown in the table assume a 1-foot pile embedment into the pile cap.

Hard drilling conditions with possible cobbles and boulders were encountered below 655 feet elevation. The pile should be installed with metal shoes if driven through dense to very dense granular at or below elevation 655 feet.

Table 5: Estimated Pile Lengths and Tip Elevations for 12-inch Dia. w/0.25" walls MSP

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_U (kips)	Allowable Geotechnical Loss (kips)	Ultimate Geotechnical Load Loss (kips)	Allowable Resistance Available, R_A (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation ⁽¹⁾ (feet)
		150	0	0	50	31	671
North Abutment Southbound BSB-06	701.37	225	0	0	75	45	657
		300	0	0	100	48	654
		355	0	0	118	49	653

⁽¹⁾ Pile shoe is required at or below this depth

Table 6: Estimated Pile Lengths and Tip Elevations for 14-inch Dia. w/0.312" walls MSP

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N (kips)	Factored Geotechnical Loss (kips)	Factored Geotechnical Load Loss (kips)	Factored Resistance Available, R_F (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation ⁽¹⁾ (feet)
		300	0	0	100	47	655
North Abutment Southbound BSB-06	701.37	375	0	0	125	48	654
		450	0	0	150	49	653
		516	0	0	172	50	652

⁽¹⁾ Pile shoe is required at or below this depth

Table 7: Estimated Pile Lengths and Tip Elevations for HP12x63 Steel H Piles

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N (kips)	Factored Geotechnical Loss (kips)	Factored Geotechnical Load Loss (kips)	Factored Resistance Available, R_F (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation ⁽¹⁾ (feet)
North Abutment Southbound BSB-06	701.37	300	0	0	100	52	650
		375	0	0	125	60	642
		419	0	0	140	62	640

⁽¹⁾ Pile shoe is required at or below this depth

Table 8: Estimated Pile Lengths and Tip Elevations for HP14x73 Steel H Piles

Structure Unit (Reference Boring)	Pile Cap Base Elevations (feet)	Nominal Required Bearing, R_N (kips)	Factored Geotechnical Loss (kips)	Factored Geotechnical Load Loss (kips)	Factored Resistance Available, R_F (kips)	Total Estimated Pile Length (feet)	Estimated Pile Tip Elevation ⁽¹⁾ (feet)
North Abutment Southbound BSB-06	701.37	300	0	0	100	49	653
		375	0	0	125	52	650
		450	0	0	150	60	642
		525	0	0	175	67	635

⁽¹⁾ Pile shoe is required at or below this depth

4.3.3 Lateral Design Pressures

For the design of abutments, we recommend linearly increasing lateral pressure at 40 pounds per square foot (psf) per foot of depth below the finished grade and considering drainable backfill. Additional lateral load from traffic should include a surcharge of 2 feet of soil considering unit weight of 125 pounds per cubic foot.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Site Preparation

Vegetation, surface topsoil, and debris should be cleared and stripped where the structure will be placed. If unstable or unsuitable materials are exposed during excavation, they should be removed and replaced with compacted fill as described in Section 5.5.

5.2 Excavation, Dewatering, and Utilities

Excavations should be performed in accordance with local, state, and federal regulations. The potential effect of ground movements upon nearby utilities should be considered during construction. Excavations for the structure widenings should be in accordance with the IDOT Section 502, *Excavation for Structures* (IDOT 2016). Temporary excavations should be properly shored with the *Temporary Soil Retention System* due to the close proximity to the existing foundation location.

In general, the groundwater level is about 0 to 6 feet below the estimated abutments and pier footing elevations. Water that does accumulate in open excavations by seepage or runoff should be immediately removed by sump pump.

Excavations behind the abutment required for replacing the backwalls should be sloped at no steeper than 1:1 (V:H). Temporary soil retention systems will be required due to the presence of hard cohesive soil below elevation 697 feet.

The Contractor should ensure proper surface grading to prevent the pooling of water and runoff into open excavations. Water that does accumulate into open excavations by seepage or runoff should be immediately removed by sump pump. Any soils allowed to soften under standing water should be removed and replaced with compacted fill as described in Section 5.5.

5.3 Stage Construction

The construction of foundation extensions will require *Temporary Soil Retention Systems*. The IDOT Pay Item *Temporary Soil Retention System* should be included.

5.4 Spread Footings Construction

The proposed spread footings shall be constructed in accordance with the IDOT Section 503, *Concrete Structures* (IDOT 2016).

5.5 Filling and Backfilling

Fill material used to attain final design elevations should be as per IDOT Standard Specifications. The fill material should be free of organic matter and debris and should be placed in lifts and compacted according to the IDOT Section 205, *Embankment* (IDOT 2016). For new fill to be placed on existing slopes, we recommend benching the slopes.

Backfill materials for the abutments must be pre-approved by the Resident Engineer. To backfill the abutments, we recommend porous granular material conforming to the requirements specified in the IDOT Special Provision No.76, *Granular Backfill for Structures*. Backfill material should be placed and compacted in accordance with the Special Provision. For new fill to be placed on existing slopes, we recommend benching the slopes according to IDOT embankment construction details.

5.6 Earthwork Operations

The required earthwork can be accomplished with conventional construction equipment. Moisture and traffic will cause deterioration of exposed subgrade soils. Precautions should be taken by the Contractor to prevent water erosion of the exposed subgrade. A compacted subgrade will minimize water runoff erosion.

Earth moving operations should be scheduled to not coincide with excessive cold or wet weather (early spring, late fall or winter). Any soil allowed to freeze or soften due to the standing water should be removed. Wet weather can cause problems with subgrade compaction.

It is recommended that an experienced geotechnical engineer be retained to inspect the exposed subgrade, monitor earthwork operations, and provide material inspection services during the construction phase of this project.

6.0 QUALIFICATIONS

The analysis and recommendations submitted in this report are based upon the data obtained from the borings drilled at the locations shown on the boring logs and in Exhibit 2. This report does not reflect any variations that may occur between the borings or elsewhere on the site, variations whose nature and extent may not become evident until the course of construction. In the event that any changes in the design and/or location of the new foundation are planned, we should be timely informed so that our recommendations can be adjusted accordingly.

It has been a pleasure to assist Lin Engineering, Ltd. and the Illinois Department of Transportation on this project. Please call if there are any questions, or if we can be of further service.

Respectfully Submitted,

WANG ENGINEERING, INC.

Andri Kurnia, P.E.
Project Manager

Nesam S. Balakumaran, P.Eng.
Project Geotechnical Engineer

Corina T. Farez, P.E., P.G.
QA/QC Reviewer

REFERENCES

AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (2002) "AASHTO Standard Specifications for Highway Bridges." United States Department of Transportation, Washington, D.C

AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (2017) "AASHTO LRFD Bridge Design Specifications." United States Department of Transportation, Washington, D.C.

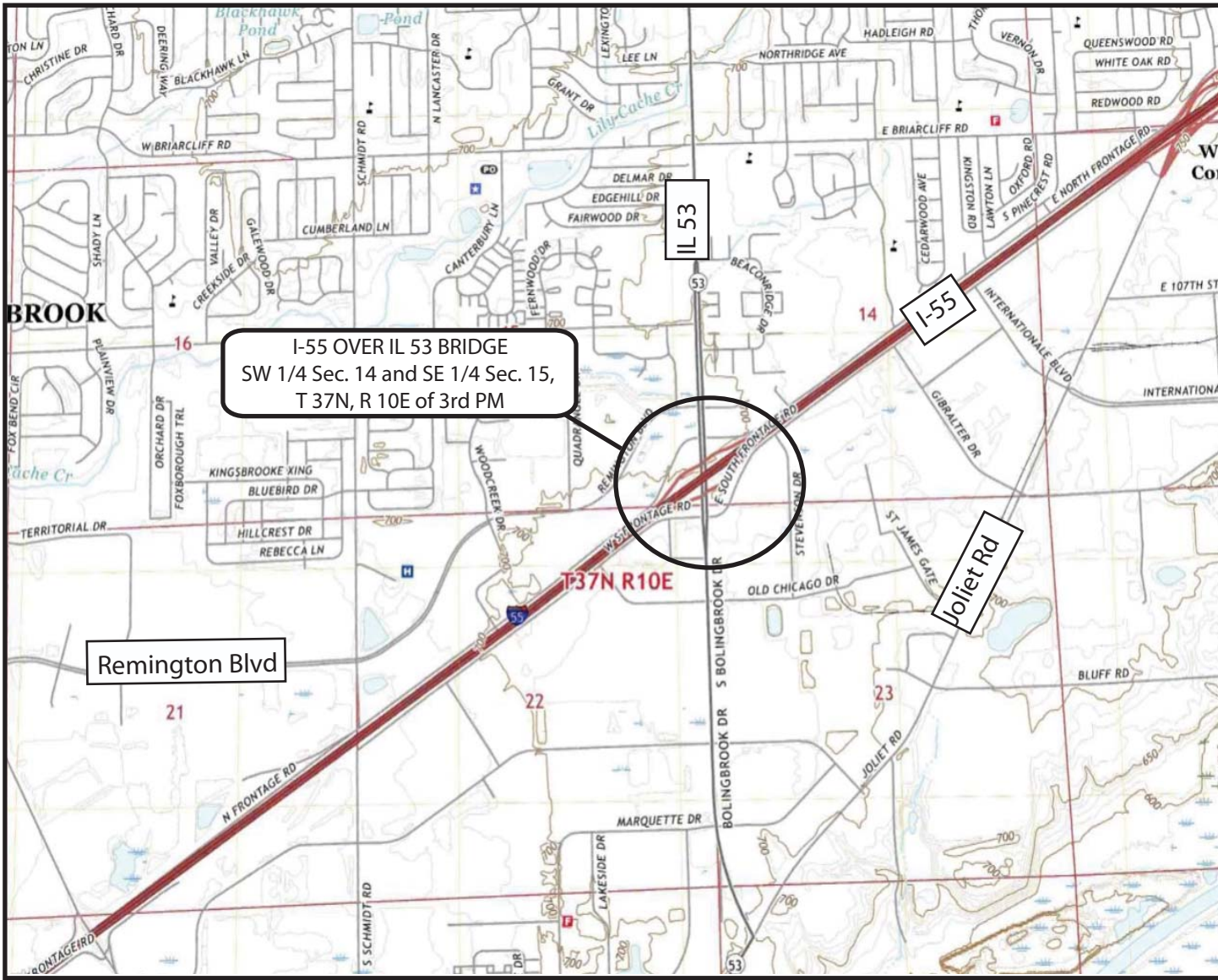
FHWA, (2002), Geotechnical Engineering Circular No.6, Shallow Foundations.

IDOT (2012) *Bridge Manual*. Illinois Department of Transportation.

IDOT (2015) *Geotechnical Manual*. Illinois Department of Transportation.

IDOT (2016) *Standard Specifications for Road and Bridge Construction*. Illinois Department of Transportation. 1098 pp.

EXHIBITS



I-55 OVER IL 53 BRIDGE
 SW 1/4 Sec. 14 and SE 1/4 Sec. 15,
 T 37N, R 10E of 3rd PM

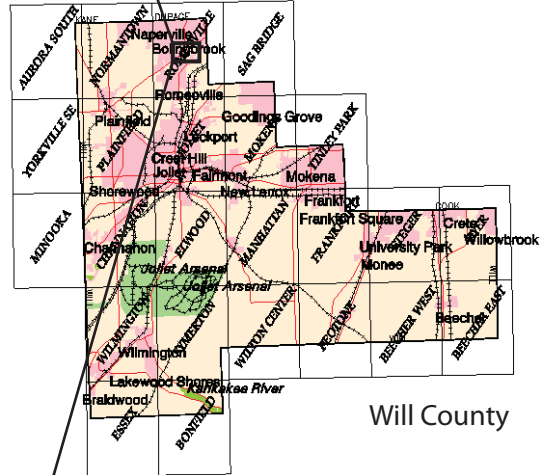
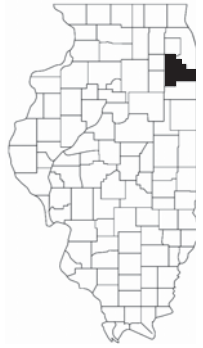
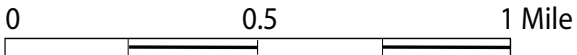
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IL 53


I-55

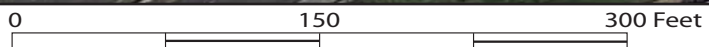
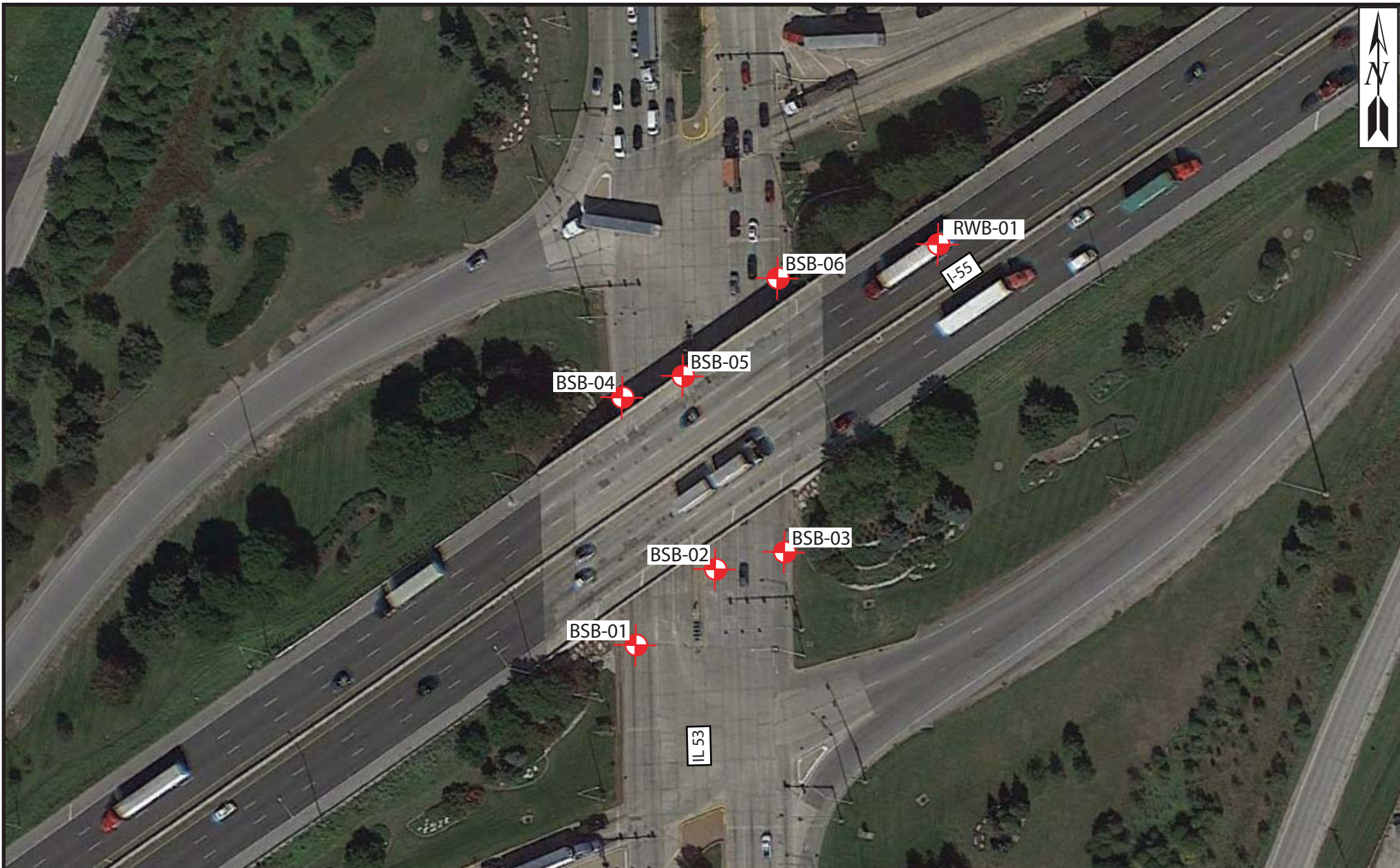
Joliet Rd

T 37N R 10E




Will County

SITE LOCATION MAP: INTERSTATE 55 OVER IL ROUTE 53 BRIDGE WIDENING, SN 099-0260, WILL COUNTY, IL		
SCALE: GRAPHIC AL	EXHIBIT 1	DRAWN BY: J. Bensen CHECKED BY: A. Kurnia
		1145 N. Main Street Lombard, IL 60148 www.wangeng.com
FOR LIN ENGINEERING, LTD.		498-01-02



Legend

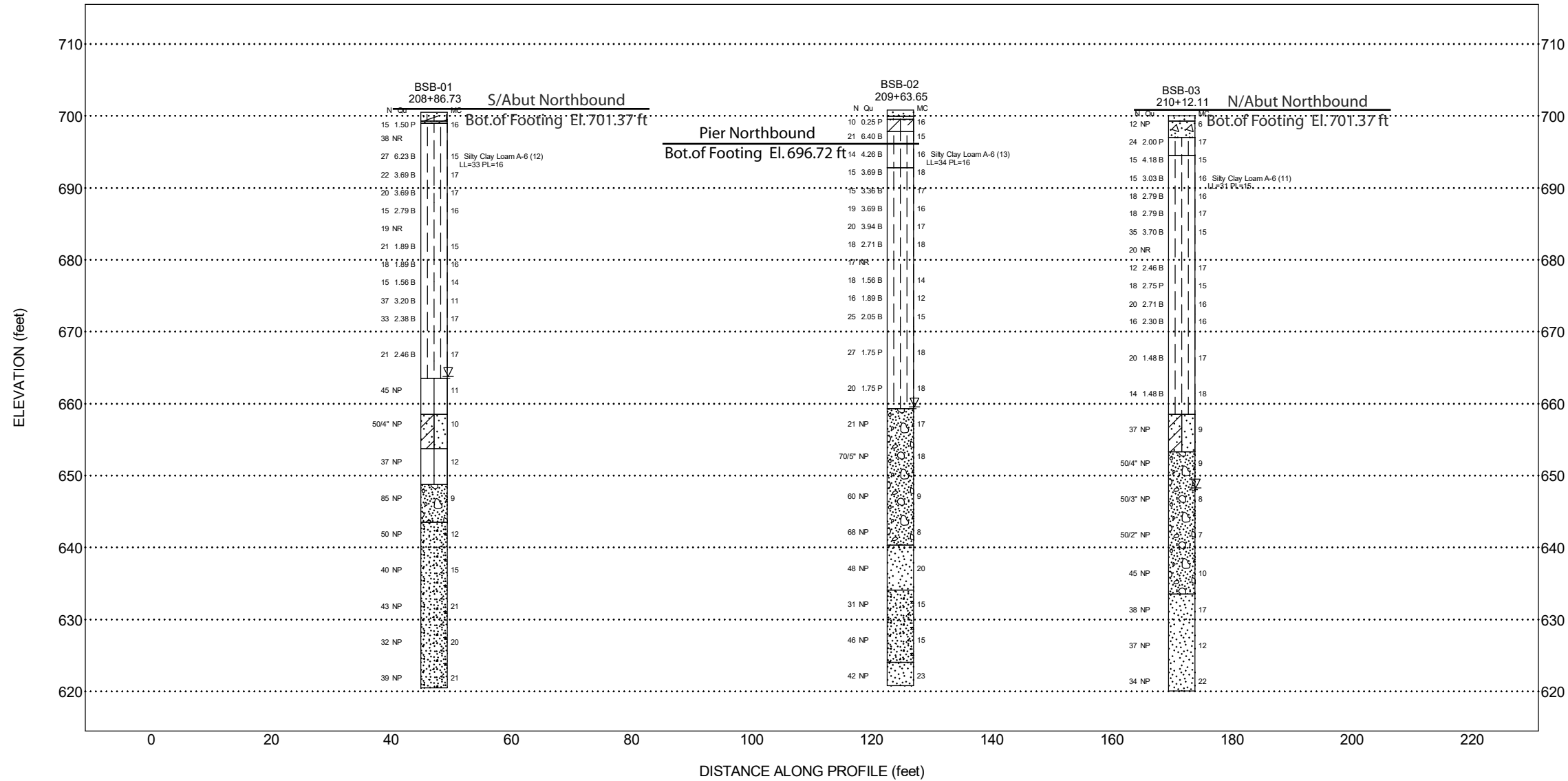
 Soil Boring

BORING LOCATION PLAN: INTERSTATE 55 OVER IL ROUTE 53 BRIDGE WIDENING, SN 099-0260, WILL COUNTY, ILLINOIS

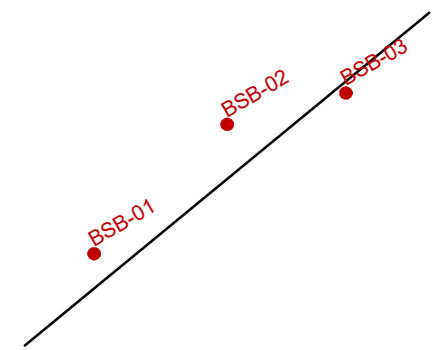
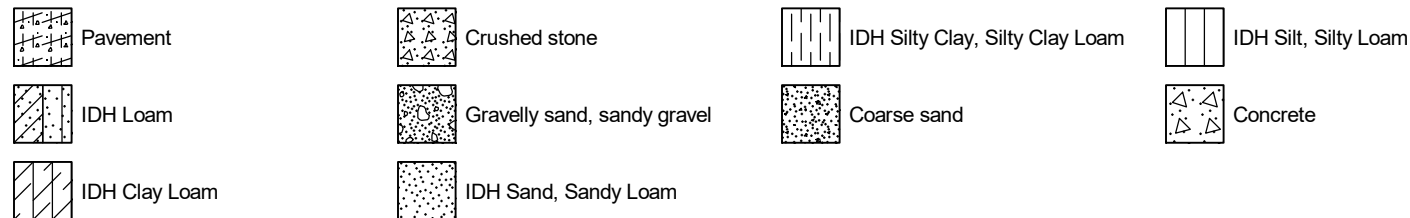
SCALE: GRAPHICAL	EXHIBIT 2	DRAWN BY: J. Bensen CHECKED BY: A. Kurnia
------------------	------------------	--

	1145 N. Main Street Lombard, IL 60148 www.wangeng.com

FOR LIN ENGINEERING, LTD.	498-01-02
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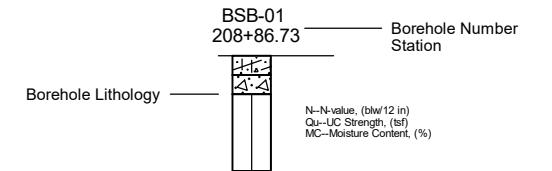


Lithology Graphics

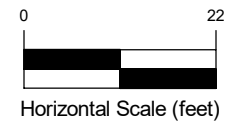


Site Map Scale 1 inch equals 80 feet

Explanation:



- Water Level Reading at time of drilling.
- Water Level Reading 24-hr after drilling or at end of drilling



Vertical Exaggeration: 1x

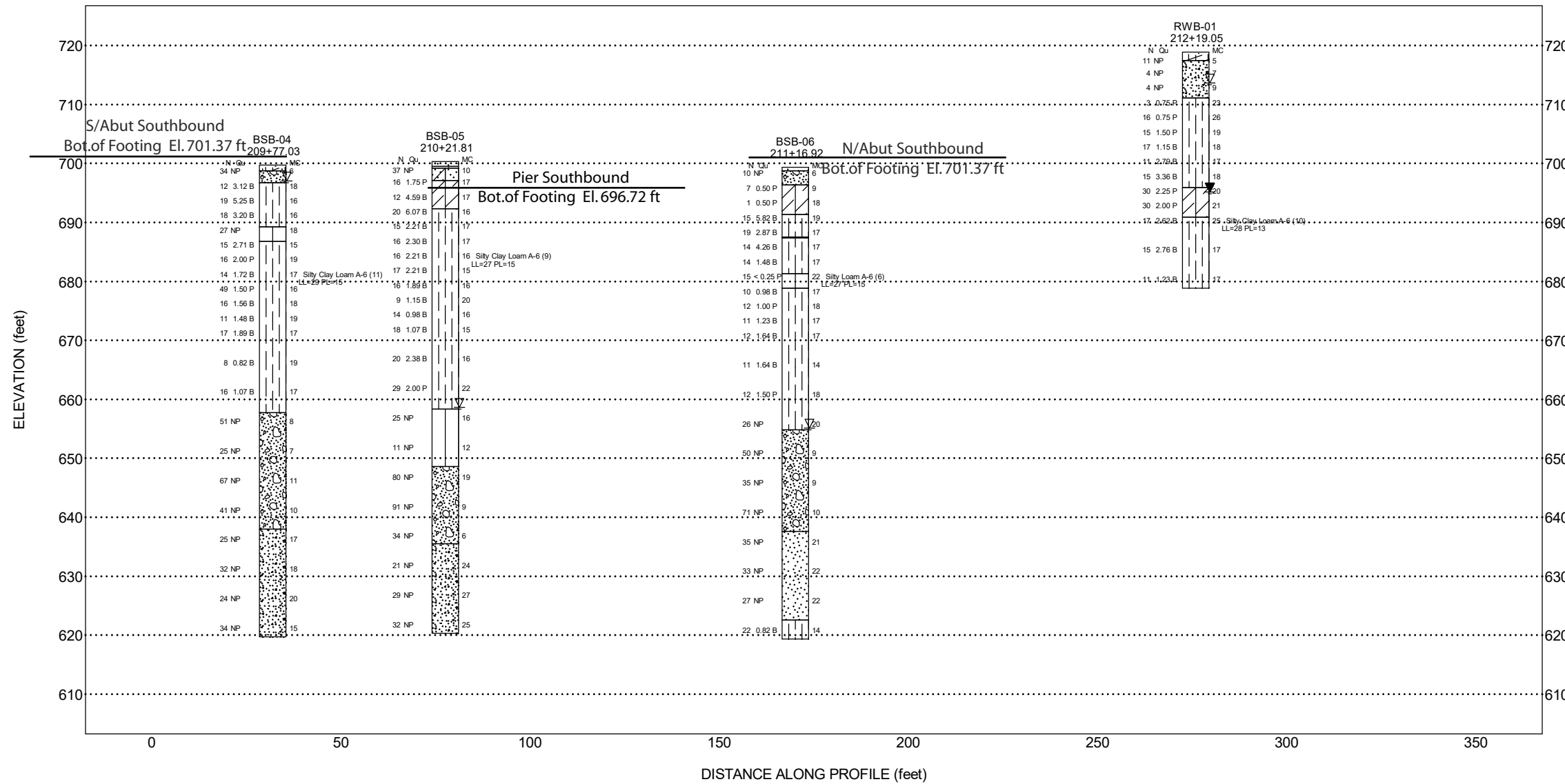
Wang Engineering, Inc.
1145 N. Main Street
Lombard/IL/60148

Soil Profile
Interstate 55 over IL Route 53 Bridge
Northbound Widening, SN 099-0260

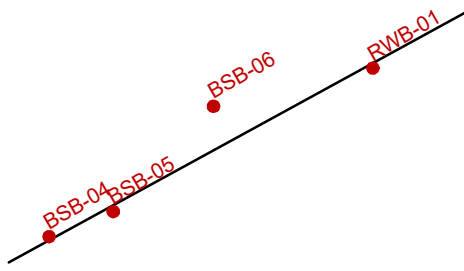
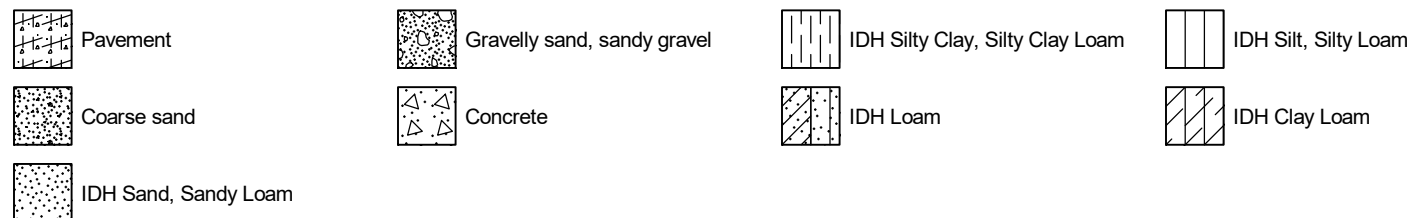


Interstate 55 over IL Route 53
Will County, Illinois

JOB NUMBER	PLATE NUMBER
498-01-02	EXHIBIT 3-1

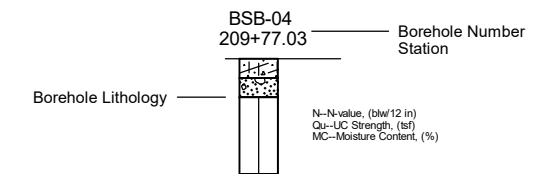


Lithology Graphics

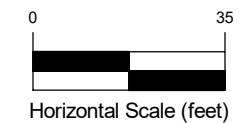


Site Map Scale 1 inch equals 130 feet

Explanation:



- Water Level Reading at time of drilling.
- Water Level Reading 24-hr after drilling or at end of drilling



Vertical Exaggeration: 1.5x

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Soil Profile
Interstate 55 over IL Route 53 Bridge
Southbound Widening, SN 099-0260



Interstate 55 over IL Route 53
Will County, Illinois

JOB NUMBER	PLATE NUMBER
498-01-02	EXHIBIT 3-2

APPENDIX A



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BORING LOG BSB-01

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.51 ft
 North: 1827864.91 ft
 East: 1056728.63 ft
 Station: 208+86.73
 Offset: 71.87' RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	699.3	8-inch thick CONCRETE over 6-inch thick, ASPHALT --PAVEMENT--															
	699.0	4-inch thick, brown SANDY GRAVEL; moist --AGGREGATE BASE--			1	3 6 9	1.50 P	16						9	5 9 9	1.89 B	16
		Stiff to hard, brown and gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--	5		2	14 18 20	NR					25		10	5 6 9	1.56 B	14
		--L _L (%)=33, P _L (%)=16-- --%Gravel=4.1-- --%Sand=13.7-- --%Silt=57.7-- --%Clay=24.5--			3	9 12 15	6.23 B	15						11	8 18 19	3.20 B	11
			10		4	7 9 13	3.69 B	17				30		12	11 16 17	2.38 B	17
					5	5 9 11	3.69 B	17									
			15		6	6 6 9	2.79 B	16				35		13	4 9 12	2.46 B	17
					7	7 9 10	NR			663.5	Dense, brown SILTY LOAM, trace gravel; wet						
					8	6 10 11	1.89 B	15				40		14	20 21 24	NP	11

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-12-2020** Complete Drilling **05-12-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring**
backfilled upon completion

While Drilling **37.00 ft**
 At Completion of Drilling **10' mud**
 Time After Drilling **NA**
 Depth to Water **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20



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BORING LOG BSB-01

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.51 ft
 North: 1827864.91 ft
 East: 1056728.63 ft
 Station: 208+86.73
 Offset: 71.87' RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	658.5	--frequent chatter from 42 ft, possible cobbles--															
		Very dense, gray GRAVELLY LOAM; wet --RDR 3 to 4-- --possible cobbles--	45	X	15	33 50/4"	NP	10				65	X	19	20 20 20	NP	15
	653.8	Dense, gray SILTY LOAM, trace gravel; wet --RDR 3 to 4-- --possible cobbles--	50	X	16	13 18 19	NP	12				70	X	20	17 20 23	NP	21
	648.8	Very dense, gray SANDY GRAVEL; wet --RDR 4--	55	X	17	23 40 45	NP	9				75	X	21	12 16 16	NP	20
	643.5	Medium dense to very dense, gray, medium to coarse SAND; trace gravel; saturated --RDR 2--	60	X	18	16 22 28	NP	12				80	X	22	20 20 19	NP	21
										620.5							

Boring terminated at 80.00 ft

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-12-2020** Complete Drilling **05-12-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring backfilled upon completion**

While Drilling ∇ **37.00 ft**
 At Completion of Drilling ∇ **10' mud**
 Time After Drilling **NA**
 Depth to Water ∇ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG BSB-02

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.81 ft
 North: 1827919.26 ft
 East: 1056784.53 ft
 Station: 209+63.65
 Offset: 59.13' RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	700.0	10-inch thick CONCRETE															
	699.65	5-inch thick ASPHALT --PAVEMENT--															
	697.8	Medium stiff, brown CLAY LOAM, trace gravel; damp --FILL--			1	2 4 6	0.25 P	16						9	5 8 9	NR	
		Hard, brown SILTY CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--			2	5 9 12	6.40 B	15				25		10	5 8 10	1.56 B	14
		--L _L (%)=34, P _L (%)=16-- --%Gravel=6.5-- --%Sand=14.3-- --%Silt=55.1-- --%Clay=24.1--			3	6 6 8	4.26 B	16						11	7 7 9	1.89 B	12
	692.8	Very stiff, gray, SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			4	4 6 9	3.69 B	18				30		12	5 9 16	2.05 B	15
					5	4 7 8	3.36 B	17									
					6	5 9 10	3.69 B	16				35		13	7 13 14	1.75 P	18
					7	7 10 10	3.94 B	17									
					8	4 8 10	2.71 B	18				40		14	7 8 12	1.75 P	18

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-15-2020** Complete Drilling **05-15-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring**
backfilled upon completion

While Drilling **41.50 ft**
 At Completion of Drilling **10' mud**
 Time After Drilling **NA**
 Depth to Water **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG BSB-02

WEI Job No.: 498-01-02

Client: **Lin Engineering, Ltd.**
 Project: **Interstate 55 over IL Route 53**
 Location: **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.81 ft
 North: 1827919.26 ft
 East: 1056784.53 ft
 Station: 209+63.65
 Offset: 59.13' RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	659.3	Medium dense to very dense, gray SANDY GRAVEL; saturated --RDR 3 to 4-- --frequent rig chatter, 41.5 to 60.5 feet-- --possible cobbles--	45		15	12 11 10	NP	17		640.3	feet-- --possible cobbles-- Dense, gray, fine SAND; saturated --RDR 2--	65		19	21 27 21	NP	20
		--possible cobbles--	50		16	70/5"	NP	18		634.1	Dense, gray, coarse SAND, trace to little gravel; saturated --RDR 2--	70		20	14 15 16	NP	15
		--possible cobbles--	55		17	18 22 38	NP	9				75		21	25 25 21	NP	15
		--frequent rig chatter to 60.5	60		18	23 32 36	NP	8		624.1	Dense, gray, fine SAND; saturated --RDR 2--	80		22	24 21 21	NP	23
										Boring terminated at 80.00 ft							

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-15-2020** Complete Drilling **05-15-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring backfilled upon completion**

While Drilling **41.50 ft**
 At Completion of Drilling **10' mud**
 Time After Drilling **NA**
 Depth to Water **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG BSB-03

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.04 ft
 North: 1827932.43 ft
 East: 1056834.38 ft
 Station: 210+12.11
 Offset: 76.74' RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	699.3	9-inch thick CONCRETE --PAVEMENT--															
		Medium dense, brown and gray, SANDY GRAVEL, crushed stone; damp --AGGREGATE BASE--			1	3 5 7	NP	6						9	5 6 6	2.46 B	17
	697.0	Very stiff, brown CLAY LOAM to SILTY CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--			2	9 10 14	2.00 P	17				25		10	5 8 10	2.75 P	15
	694.5	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			3	6 7 8	4.18 B	15						11	5 9 11	2.71 B	16
		--L _L (%)=31, P _L (%)=15-- --%Gravel=6.6-- --%Sand=12.6-- --%Silt=54.8-- --%Clay=26.0--			4	5 6 9	3.03 B	16				30		12	5 7 9	2.30 B	16
					5	7 9 9	2.79 B	16									
					6	5 8 10	2.79 B	17				35		13	6 9 11	1.48 B	17
					7	5 19 16	3.70 B	15									
					8	5 9 11	NR					40		14	5 6 8	1.48 B	18

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-06-2020** Complete Drilling **05-06-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring**
backfilled upon completion

While Drilling ∇ **52.00 ft**
 At Completion of Drilling ∇ **10' mud**
 Time After Drilling **NA**
 Depth to Water ∇ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG BSB-04

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 699.74 ft
 North: 1828038.10 ft
 East: 1056718.28 ft
 Station: 209+77.03
 Offset: 76.27' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	
	698.7	8-inch thick, CONCRETE over 4-inch thick, ASPHALT --PAVEMENT--									--%Silt=64.6-- --%Clay=23.5--							
	696.7	Dense, gray SANDY GRAVEL; damp --BASE COURSE-- --FILL--			1	11 13 21	NP	6						9	10 13 36	1.50 P	16	
		Very stiff to hard, brown and gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			2	5 6 6	3.12 B	18						10	5 7 9	1.56 B	18	
					3	4 7 12	5.25 B	16						11	3 4 7	1.48 B	19	
					4	6 7 11	3.20 B	16						12	4 7 10	1.89 B	17	
	689.2	Medium dense, brown SILTY LOAM; wet --RDR 2--			5	8 13 14	NP	18										
	686.7	Medium stiff to very stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2--			6	3 7 8	2.71 B	15						13	2 3 5	0.82 B	19	
					7	6 7 9	2.00 P	19										
		--L _L (%)=29, P _L (%)=15-- --%Gravel=3.8-- --%Sand=8.1--			8	4 6 8	1.72 B	17						14	6 7 9	1.07 B	17	

GENERAL NOTES

Begin Drilling **05-11-2020** Complete Drilling **05-11-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring**
backfilled upon completion

WATER LEVEL DATA

While Drilling ∇ **3.00 ft**
 At Completion of Drilling ∇ **10' mud**
 Time After Drilling **NA**
 Depth to Water ∇ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG BSB-05

WEI Job No.: 498-01-02

Client: **Lin Engineering, Ltd.**
 Project: **Interstate 55 over IL Route 53**
 Location: **Will County, Illinois**

Datum: NAVD 88
 Elevation: 700.34 ft
 North: 1828054.81 ft
 East: 1056761.20 ft
 Station: 210+21.81
 Offset: 65.52' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	658.3	Medium dense, brown SILTY LOAM, trace to little gravel; wet --RDR 2 to 3--	45	X	15	8 11 14	NP	16		635.5	Medium dense to dense, gray, medium to coarse SAND, trace gravel; saturated --RDR 2--	65	X	19	21 19 15	NP	6
		--RDR 3 to 4-- --frequent rig chatter, 46 to 51.5 feet-- --possible cobbles--	50	X	16	7 5 6	NP	12				70	X	20	9 10 11	NP	24
	648.6	Dense to very dense, gray SANDY GRAVEL, trace cobbles; wet to saturated --RDR 3 to 4--	55	X	17	18 38 42	NP	19				75	X	21	12 16 13	NP	27
		--RDR 3 to 4-- --frequent rig chatter, 51.5 to 62 feet-- --possible cobbles--	60	X	18	34 42 49	NP	9		620.3		80	X	22	13 16 16	NP	25

Boring terminated at 80.00 ft

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-13-2020** Complete Drilling **05-13-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring backfilled upon completion**

While Drilling ∇ **42.00 ft**
 At Completion of Drilling ∇ **10' mud**
 Time After Drilling **NA**
 Depth to Water ∇ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20



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BORING LOG BSB-06

WEI Job No.: 498-01-02

Client: **Lin Engineering, Ltd.**
 Project: **Interstate 55 over IL Route 53**
 Location: **Will County, Illinois**

Datum: NAVD 88
 Elevation: 699.35 ft
 North: 1828125.20 ft
 East: 1056828.11 ft
 Station: 211+16.92
 Offset: 85.15' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	698.8	7-inch thick, CONCRETE								678.8	--L _L (%)=27, P _L (%)=15-- --%Gravel=11.9-- --%Sand=15.9-- --%Silt=55.3-- --%Clay=16.9-- --A-6 (6)--						
		Loose, brown SANDY GRAVEL; damp --AGGREGATE BASE--			1	5 7 3	NP	6						9	5 4 6	0.98 B	17
	696.3	Medium stiff, gray and brown CLAY LOAM, trace to some gravel; damp --FILL-- --RDR 2--			2	5 4 3	0.50 P	9			Medium stiff to stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; moist --RDR 2--			10	5 6 6	1.00 P	18
		--disturbed sample--			3	1 0 1	0.50 P	18						11	4 5 6	1.23 B	17
	691.3	Very stiff to hard, brown to gray, SILTY CLAY, trace gravel; damp --RDR 2--			4	3 7 8	5.82 B	19						12	4 5 7	1.64 B	17
	687.5	2-inch thick, medium SAND; saturated			5	4 8 11	2.87 B	17									
	687.3	Stiff to hard, gray SILTY CLAY LOAM, trace gravel; damp --RDR 2--			6	4 6 8	4.26 B	17						13	4 5 6	1.64 B	14
					7	3 4 10	1.48 B	17									
	681.3	Very soft, gray SILTY LOAM to SILTY CLAY LOAM, little gravel; moist to wet --RDR 2--			8	5 7 8	< 0.25 P	22						14	4 5 7	1.50 P	18

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-06-2020** Complete Drilling **05-06-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**
 Driller **N&K** Logger **I. Nenn** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA, mud rotary after 10 feet; boring**
backfilled upon completion

While Drilling **44.50 ft**
 At Completion of Drilling **9' mud**
 Time After Drilling **NA**
 Depth to Water **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20



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BORING LOG BSB-06

WEI Job No.: 498-01-02

Client: **Lin Engineering, Ltd.**
 Project: **Interstate 55 over IL Route 53**
 Location: **Will County, Illinois**

Datum: NAVD 88
 Elevation: 699.35 ft
 North: 1828125.20 ft
 East: 1056828.11 ft
 Station: 211+16.92
 Offset: 85.15' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	654.8									637.6							
		Dense to very dense, gray GRAVELLY SAND, trace cobbles; saturated --RDR 2 to 3--	45		15	4 12 14	NP	20			Medium dense to dense, gray, fine to medium SAND; saturated --RDR 2--	65		19	10 14 21	NP	21
		--frequent rig chatter, 51 to 61 feet-- --possible cobbles--	50		16	12 27 23	NP	9				70		20	16 16 17	NP	22
			55		17	11 18 17	NP	9				75		21	12 12 15	NP	22
			60		18	31 49 22	NP	10		622.6	Medium stiff, brown SILTY CLAY LOAM, trace gravel; damp --RDR 2--	80		22	15 13 9	0.82 B	14
										619.3		80					

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-06-2020	Complete Drilling	05-06-2020	While Drilling	▽	44.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	17B57T [91%]	At Completion of Drilling	▼	9' mud	
Driller	N&K	Logger	I. Nenn	Time After Drilling		NA	
Drilling Method	2.25" IDA HSA, mud rotary after 10 feet; boring backfilled upon completion			Depth to Water	▼	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20



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BORING LOG RWB-01

WEI Job No.: 498-01-02

Client **Lin Engineering, Ltd.**
 Project **Interstate 55 over IL Route 53**
 Location **Will County, Illinois**

Datum: NAVD 88
 Elevation: 718.87 ft
 North: 1828150.71 ft
 East: 1056934.73 ft
 Station: 212+19.05
 Offset: 45.29' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	717.5	17-inch thick ASPHALT --PAVEMENT--															
		Loose to medium dense, brown, coarse SAND, trace gravel; damp --FILL-- --RDR 2--		X	1	6 6 5	NP	5					X	9	7 9 6	3.36 B	18
			5	X	2	3 2 2	NP	7		695.9	Very stiff, brown and gray to gray CLAY LOAM, few to little gravel; damp --FILL-- --RDR 2--25		X	10	14 16 14	2.25 P	20
				X	3	2 2 2	NP	9					X	11	12 15 15	2.00 P	21
	711.1	Medium stiff to very stiff, brown, gray and black to brown and gray, SILTY CLAY, trace to some gravel --FILL-- --RDR 2--		X	4	2 1 2	0.75 P	23		690.9	Stiff to very stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; damp --RDR 2-- --L _L (%)=28, P _L (%)=13--30 --%Gravel=6.8-- --%Sand=11.1-- --%Silt=57.6-- --%Clay=24.5--		X	12	5 8 9	2.62 B	25
				X	5	22 10 6	0.75 P	26					X	13	5 7 8	2.76 B	17
			15	X	6	10 8 7	1.50 P	19				35	X	14	5 5 6	1.23 B	17
				X	7	4 7 10	1.15 B	18					X	14	5 5 6	1.23 B	17
				X	8	3 4 7	2.79 B	17		678.9		40	X	14	5 5 6	1.23 B	17

Boring terminated at 40.00 ft

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling **05-20-2020** Complete Drilling **05-20-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA; boring backfilled upon completion**

While Drilling ∇ **5.50 ft**
 At Completion of Drilling ∇ **24.00 ft**
 Time After Drilling **NA**
 Depth to Water ∇ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20



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BORING LOG RWB-03

WEI Job No.: 498-01-02

Client: **Lin Engineering, Ltd.**
 Project: **Interstate 55 over IL Route 53**
 Location: **Will County, Illinois**

Datum: NAVD 88
 Elevation: 717.00 ft
 North: 1828234.91 ft
 East: 1057057.42 ft
 Station: 213+67.68
 Offset: 44.63' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick ASPHALT --PAVEMENT--									--%Silt=47.4-- --%Clay=25.9--						
	715.5	Medium dense, brown, coarse SAND, trace gravel; dry --FILL--			1	5 10 7	NP	6		694.0	Very stiff, brown CLAY to SILTY CLAY; damp --RDR 2--			9	4 5 6	2.46 B	26
	713.8	Stiff to very stiff, brown, gray and black, SILTY CLAY, trace gravel --FILL-- --RDR 2--			2	4 4 6	2.13 B	16		691.5	Stiff to very stiff, brown to gray, SILTY CLAY, trace gravel --RDR 2--			10	5 8 8	3.53 B	28
					3	5 5 6	3.12 B	15						11	7 10 12	3.28 B	17
					4	3 3 5	1.89 B	20						12	16 17 20	2.00 P	18
					5	2 3 4	NR										
					6	3 3 5	2.13 B	23						13	7 7 10	1.80 B	16
					7	3 3 4	2.13 B	20									
		--L _L (%)=49, P _L (%)=17-- --%Gravel=12.5-- --%Sand=14.3--			8	3 3 5	1.89 B	19		677.0				14	7 9 12	1.97 B	16

Boring terminated at 40.00 ft

GENERAL NOTES

WATER LEVEL DATA

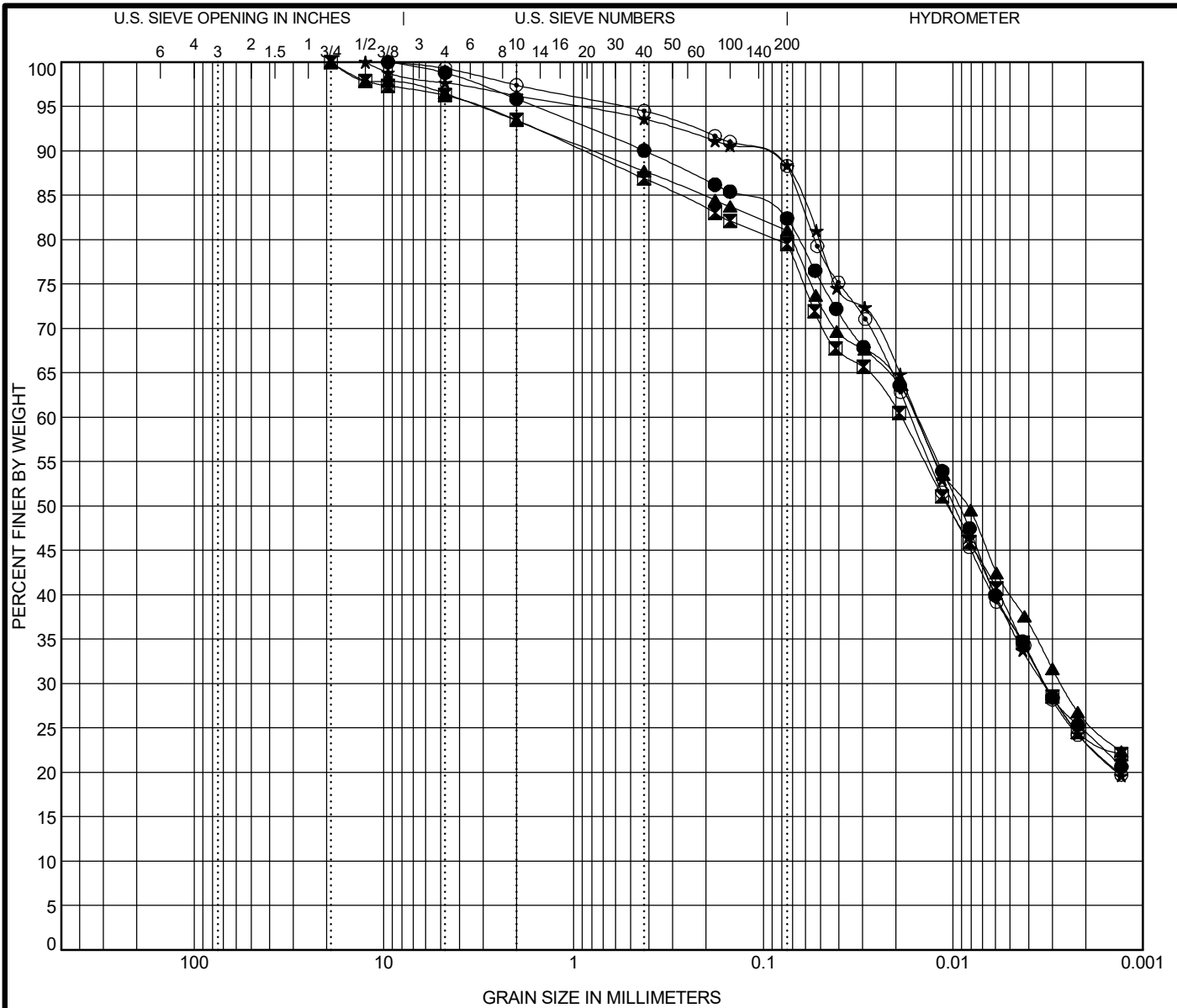
Begin Drilling **05-19-2020** Complete Drilling **05-19-2020**
 Drilling Contractor **Wang Testing Services** Drill Rig **18CME55T [85%]**
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**
 Drilling Method **2.25" IDA HSA; boring backfilled upon completion**

While Drilling **20.50 ft**
 At Completion of Drilling **37.00 ft**
 Time After Drilling **24 hours**
 Depth to Water **20.50 ft**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 4980102.GPJ WANGENG.GDT 7/16/20

APPENDIX B



COBBLES	GRAVEL	SAND		SILT AND CLAY
		coarse	fine	

Specimen Identification		IDH Classification				LL	PL	PI	Cc	Cu
●	BSB-01#3 6.0 ft	Silty Clay Loam				33	16	17		
☒	BSB-02#3 6.0 ft	Silty Clay Loam				34	16	18		
▲	BSB-03#4 8.5 ft	Silty Clay Loam				31	15	16		
★	BSB-04#8 18.5 ft	Silty Clay Loam				29	15	14		
◎	BSB-05#7 16.0 ft	Silty Clay Loam				27	15	12		
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
●	BSB-01#3 6.0 ft	9.5	0.016	0.003		4.1	13.7	57.7	24.5	
☒	BSB-02#3 6.0 ft	19	0.019	0.003		6.5	14.3	55.1	24.1	
▲	BSB-03#4 8.5 ft	19	0.016	0.003		6.6	12.6	54.8	26.0	
★	BSB-04#8 18.5 ft	12.5	0.015	0.003		3.8	8.1	64.6	23.5	
◎	BSB-05#7 16.0 ft	9.5	0.017	0.003		2.6	9.4	64.6	23.4	

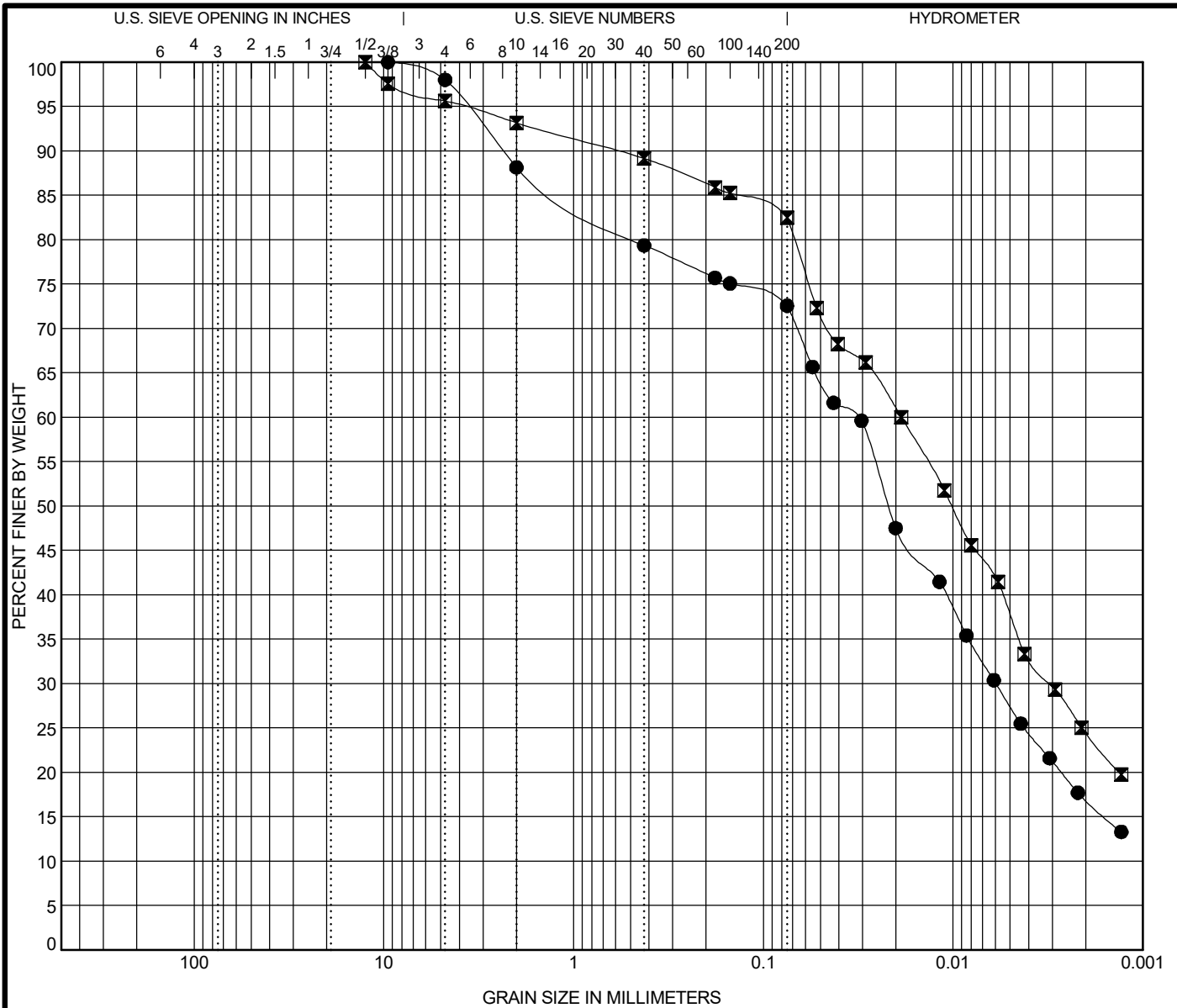
WEI GRAIN SIZE IDH 4980102.GPJ US LAB.GDT 6/12/20



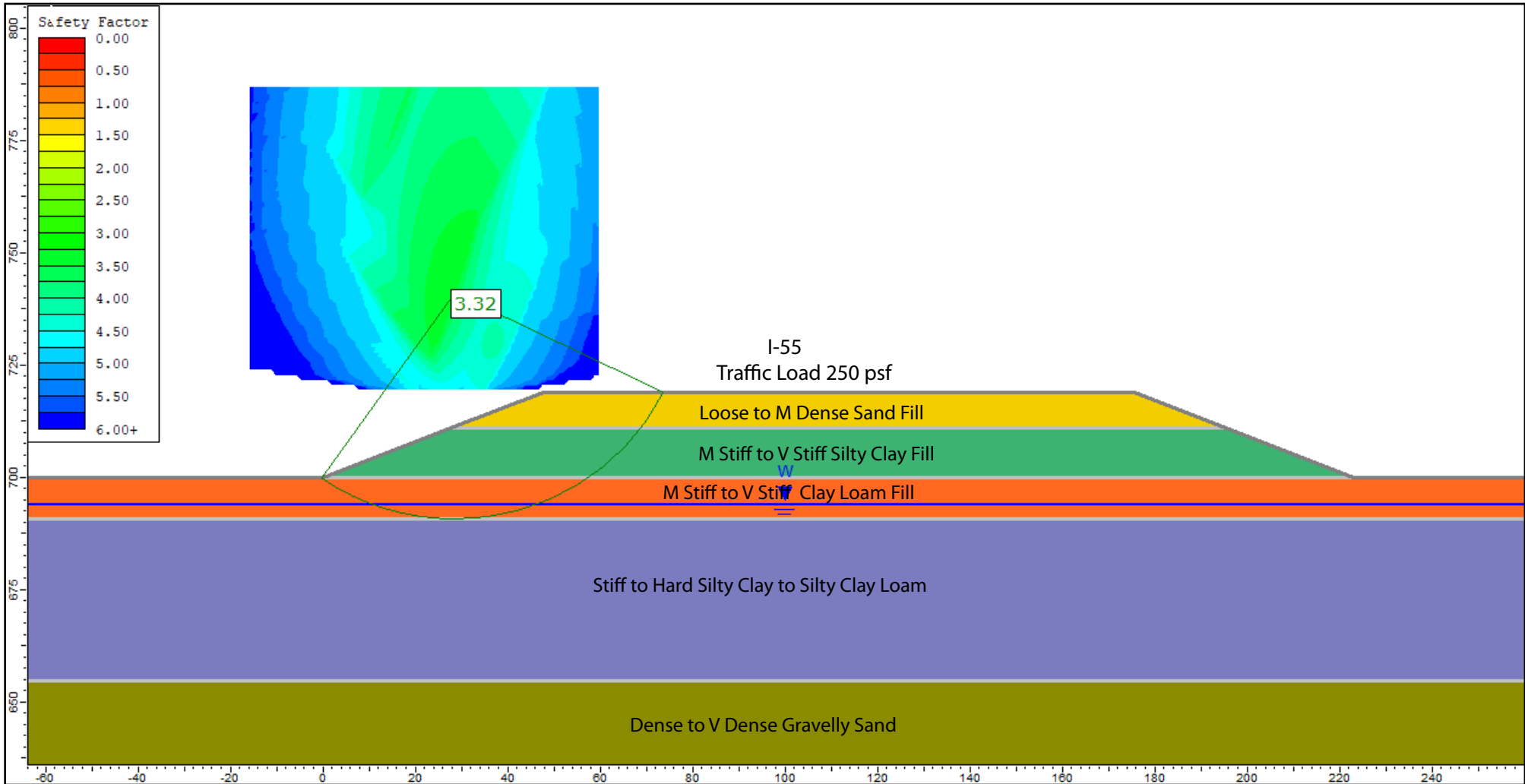
Wang Engineering, Inc.
 1145 N. Main Street
 Lombard/IL/60148
 Telephone: 6309539928
 Fax: 6309539938

GRAIN SIZE DISTRIBUTION

Project: Interstate 55 over IL Route 53
 Location: Will County, Illinois
 Number: 498-01-02



APPENDIX C



Undrained Analysis, North Approach, Southbound, Ref Borings: BSB-06 and RWB-01

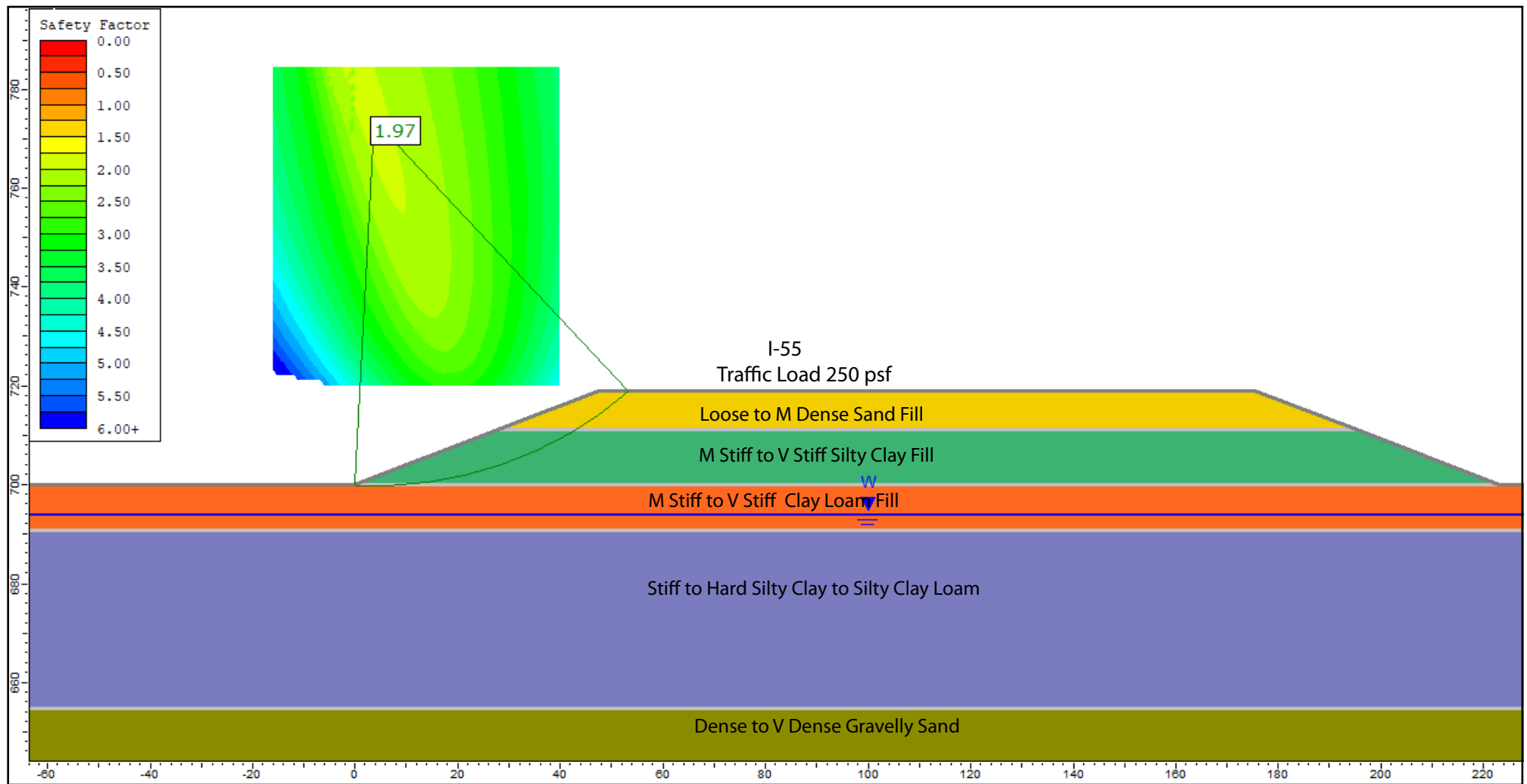
Layer ID	Description	Total Unit Weight (pcf)	Undrained Cohesion (psf)	Undrained Friction Angle (degrees)
1	Loose to M Dense Sand Fill	120	0	30
2	M Stiff to V Stiff Silty Clay Fill	120	1700	0
3	M Stiff to V Stiff Clay Loam Fill	120	1300	0
4	Stiff to Hard Si CL to Si Clay Loam	120	2200	0
5	Dense to V Dense Gravelly Sand	125	0	35

GLOBAL STABILITY: INTERSTATE 55 OVER IL ROUTE 53 BRIDGE WIDENING, SN 099-2260, WILL COUNTY, IL

SCALE: GRAPHICAL	APPENDIX C-1	DRAWN BY: N. Balakumaran CHECKED BY: A. Kurnia
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Wang Engineering
1145 N. Main Street
Lombard, IL 60148
www.wangeng.com

FOR LIN ENGINEERING, LTD.	498-01-02
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Drained Analysis, North Approach, Southbound, Ref Borings: BSB-06 and RWB-01

Layer ID	Description	Total Unit Weight (pcf)	Drained Cohesion (psf)	Drained Friction Angle (degrees)
1	Loose to M Dense Sand Fill	120	0	30
2	M Stiff to V Stiff Silty Clay Fill	120	100	30
3	M Stiff to V Stiff Clay Loam Fill	120	100	30
4	Stiff to Hard Si CL to Si Clay Loam	120	100	31
5	Dense to V Dense Gravelly Sand	125	0	35

GLOBAL STABILITY: INTERSTATE 55 OVER IL ROUTE 53 BRIDGE WIDENING, SN 099-2260, WILL COUNTY, IL

SCALE: GRAPHICAL | APPENDIX C-2 | DRAWN BY: N. Balakumaran
CHECKED BY: A. Kurnia

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Lombard, IL 60148
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FOR LIN ENGINEERING, LTD. | 498-01-02

APPENDIX D

Bench Mark: Cut \square in Northwest corner of Median wall of F.A.P. RTE. 112 (IL-53) North of F.A.I. RTE. 55 Bridge, Sta. 210+36.66 Offset 73.72' Rt., Elevation 703.84

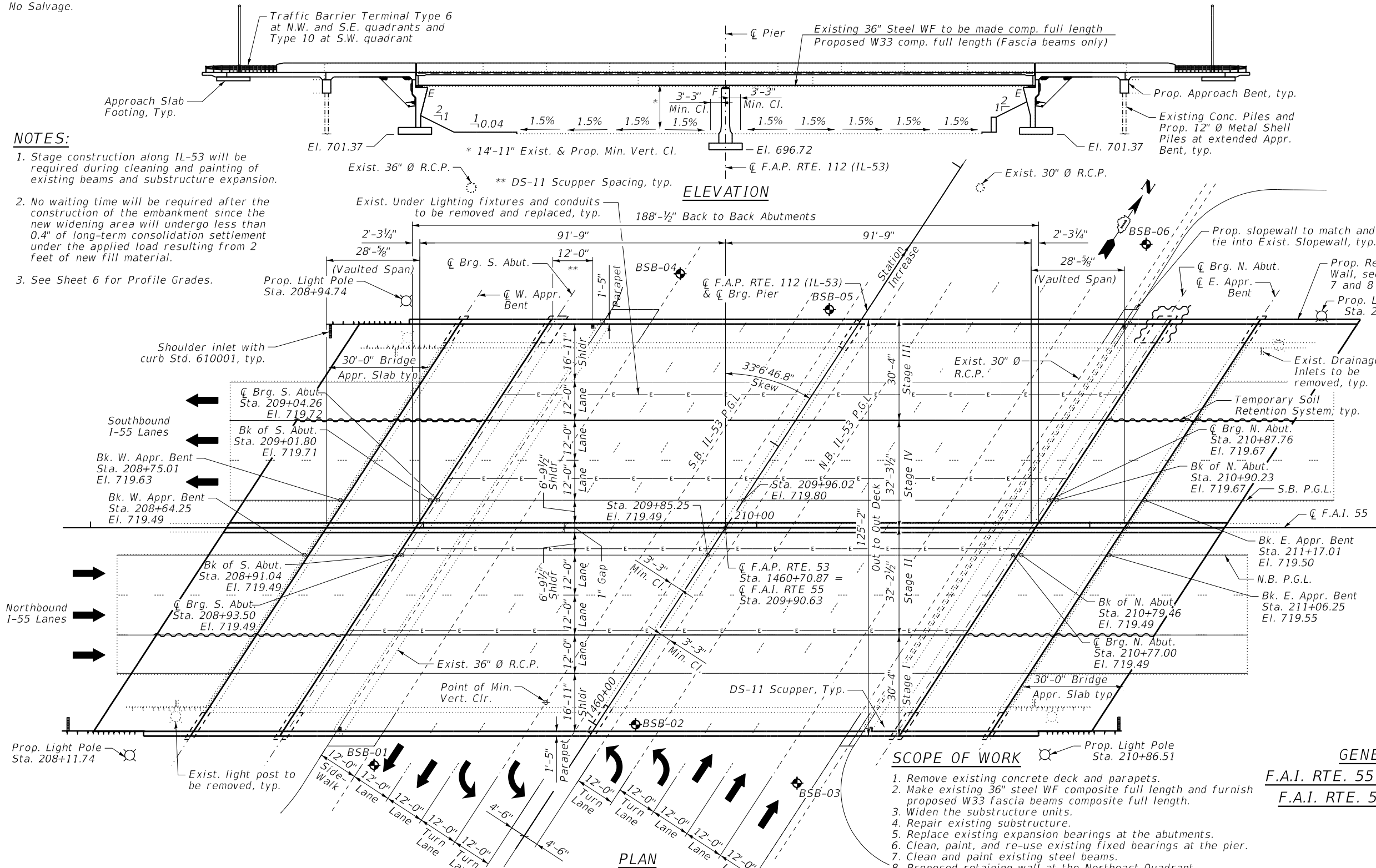
Existing Structure: SN 099-0260 structure was rehabilitated in 1979 and is composed of a positive moment only composite 2-span 36" WF continuous steel girders. In 1994, the structures were rehabilitated by replacing, jacking, and cribbing both bridge decks; each span is 91'-3". The substructure consists of vaulted stub abutments with concrete slopewalls and a single pier with a crashwall; there is a gap between each of the structure's pier caps and the abutments have an expansion joint at the centerline of I-55. The existing approach slabs are 29'-3" and are resting on approach bents. The existing total out-to-out between both existing structures is 111'-2" with a 1" gap between the adjacent existing structures; each bridge deck contains three 12'-0" lanes, a 16'-11" outside shoulder, 6'-9 1/2" inside shoulder, 1'-5" outside parapet, and a 1'-3" inside parapet.

Traffic Control: Traffic is to be maintained during construction utilizing Stage Construction. Control traffic along IL-53 during pier extension work if needed.

No Salvage.

NOTES:

1. Stage construction along IL-53 will be required during cleaning and painting of existing beams and substructure expansion.
2. No waiting time will be required after the construction of the embankment since the new widening area will undergo less than 0.4" of long-term consolidation settlement under the applied load resulting from 2 feet of new fill material.
3. See Sheet 6 for Profile Grades.



LOADING HS20-44 AND ALT
 Allow 50#/sq. ft. for future wearing surface

DESIGN SPECIFICATIONS
 2002 AASHTO Standard Specifications

SEISMIC DATA
 Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.04g
 Site Coefficient (S) = 1.0

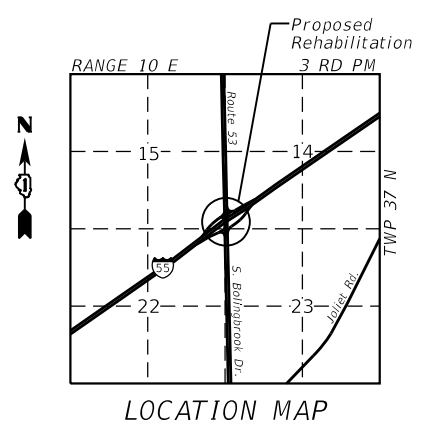
DESIGN STRESSES
FIELD UNITS (NEW STRUCTURE)
 f'c = 3,500 psi
 f'c = 4,000 psi (Superstructure Concrete)
 f'c = 3,500 psi (Substructure Concrete)
 fy = 50,000 psi (Structural Steel)
 fy = 60,000 psi (Reinforcement)

FIELD UNITS (EXISTING STRUCTURE)
 f'c = 3,500 psi
 fy = 50,000 psi (M223 Grade 50)

HIGHWAY CLASSIFICATION
F.A.I. RTE. 55 (I-55)
 Functional Class: Interstate
 ADT: 113,800 (2019) / 178,085 (2032)
 ADTT: 14,794 (2019) / 23,151 (2032)
 DHV: 17,809 (2032)
 Design Speed: 55 m.p.h.
 Posted Speed: 55 m.p.h.

F.A.P. RTE. 112 (IL-53)
 Functional Class: Principal Arterial
 ADT: 10,400 (2019) / 24,809 (2032)
 ADTT: 1,248 (2019) / 2,977 (2032)
 DHV: 2,481 (2032)
 Design Speed: 40 m.p.h.
 Posted Speed: 40 m.p.h.

APPROVED
NOVEMBER 13, 2020
 AS A BASIS FOR
 PREPARATION OF DETAILED PLANS



- SCOPE OF WORK**
1. Remove existing concrete deck and parapets.
 2. Make existing 36" steel WF composite full length and furnish proposed W33 fascia beams composite full length.
 3. Widen the substructure units.
 4. Repair existing substructure.
 5. Replace existing expansion bearings at the abutments.
 6. Clean, paint, and re-use existing fixed bearings at the pier.
 7. Clean and paint existing steel beams.
 8. Proposed retaining wall at the Northeast Quadrant.

GENERAL PLAN AND ELEVATION
F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
WILL COUNTY
STATION 209+90.63
S.N. 099-0260

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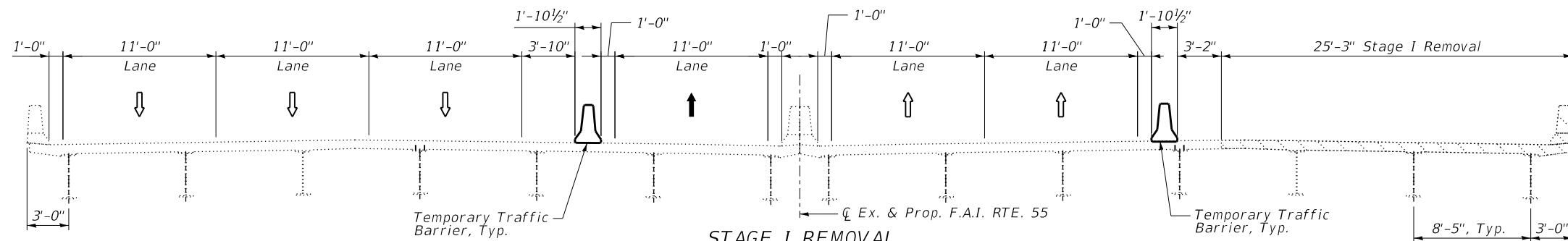


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PLOT DATE = 11/2/2020	DRAWN - RA	REVISED -
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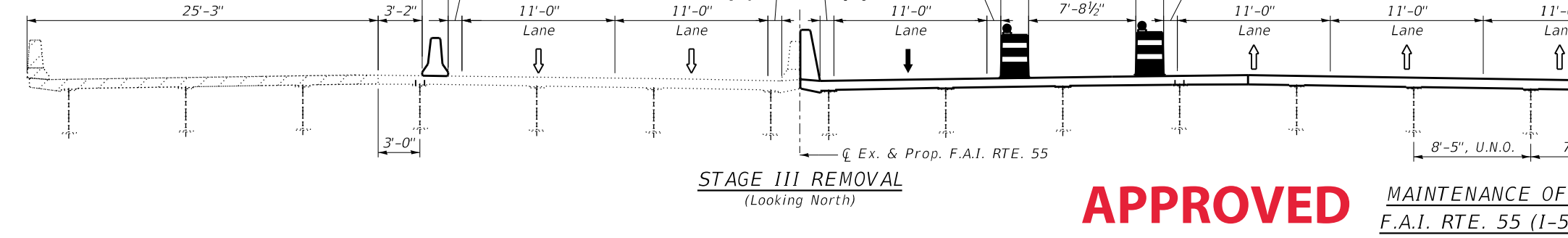
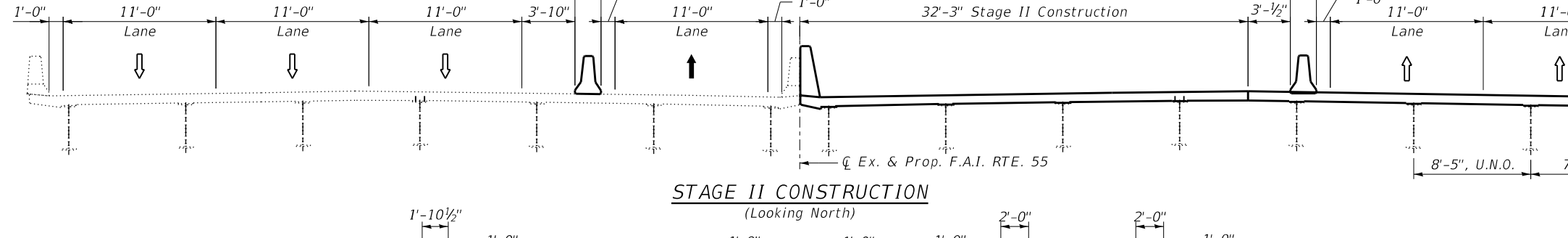
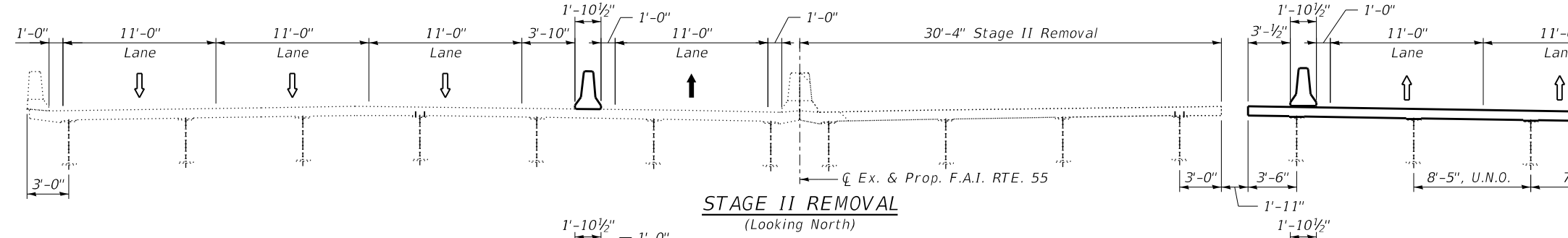
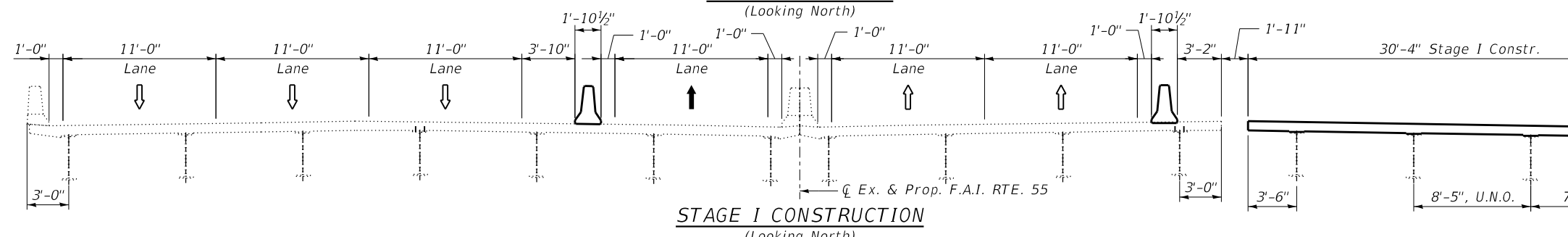
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 099-0260

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2018-043-BD&BJR	WILL	9	1
CONTRACT NO. 62H03				
ILLINOIS FED. AID PROJECT				



LEGEND
 ↓ Lane Direction
 ↓ Crossover Lane Direction
 Existing Deck Removal



APPROVED
NOVEMBER 13, 2020

AS A BASIS FOR
 PREPARATION OF DETAILED PLANS

MAINTENANCE OF TRAFFIC AND CROSS-SECTION
F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
WILL COUNTY
STATION 209+90.63
S.N. 099-0260

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USER NAME =	Structural	DESIGNED -	RA	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0:2.0000" = 1/8"	DRAWN -	RA	REVISED -	
PLOT DATE =	11/12/2020	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

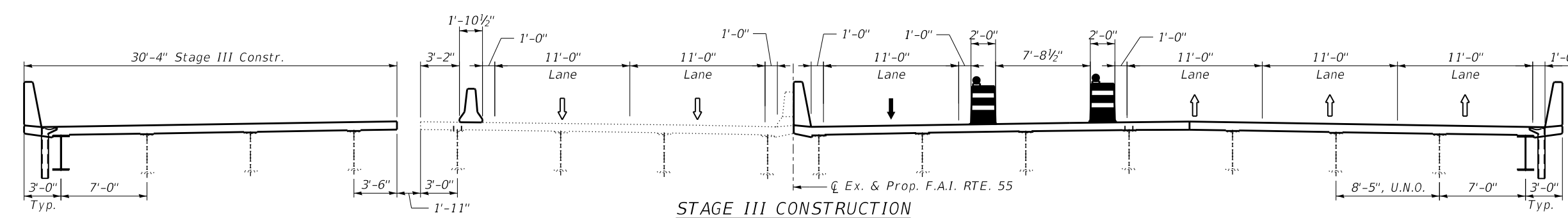
MAINTENANCE OF TRAFFIC & PROP. SECTION
 STRUCTURE NO. 099-0260

SHEET 2 OF 9 SHEETS

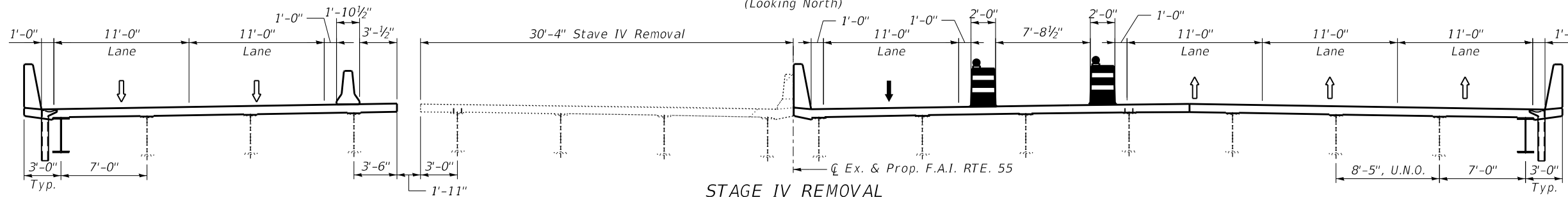
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2018-043-BD&BJR	WILL	9	2
CONTRACT NO. 62H03				
ILLINOIS FED. AID PROJECT				

LEGEND

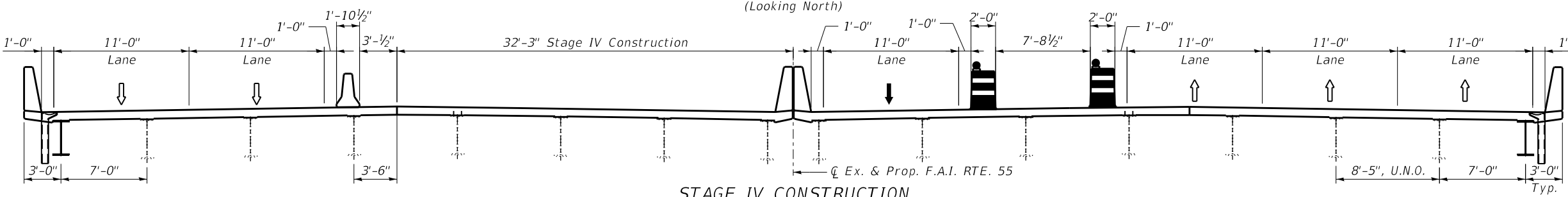
- ↓ Lane Direction
- ↕ Crossover Lane Direction
- Existing Deck Removal



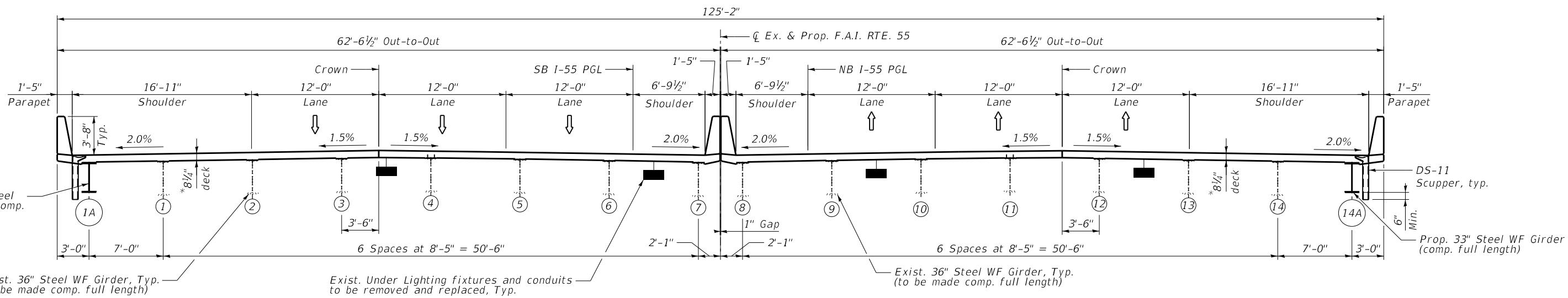
STAGE III CONSTRUCTION
(Looking North)



STAGE IV REMOVAL
(Looking North)



STAGE IV CONSTRUCTION
(Looking North)



PROPOSED CROSS-SECTION
(Looking North)

APPROVED

NOVEMBER 13, 2020

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

MAINTENANCE OF TRAFFIC AND CROSS-SECTION
F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR

WILL COUNTY
STATION 209+90.63
S.N. 099-0260

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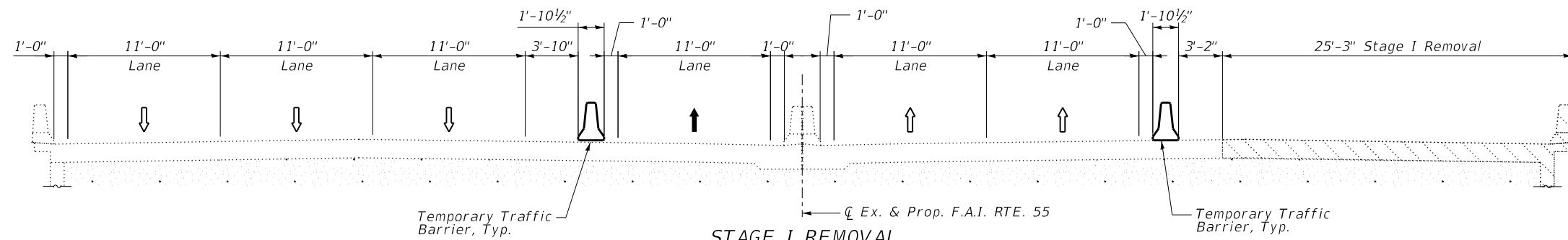


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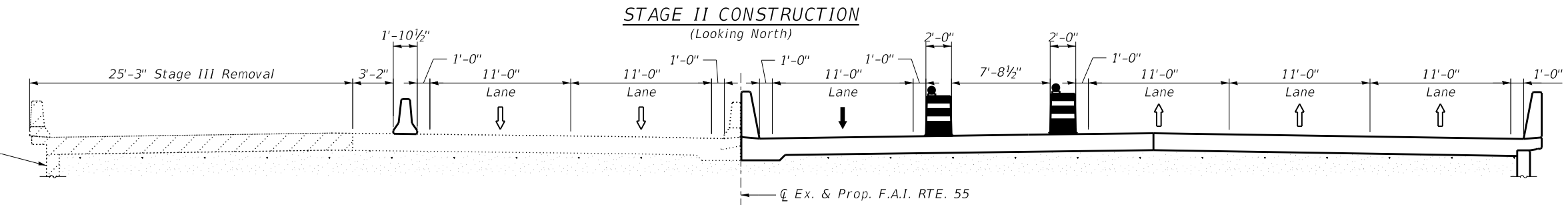
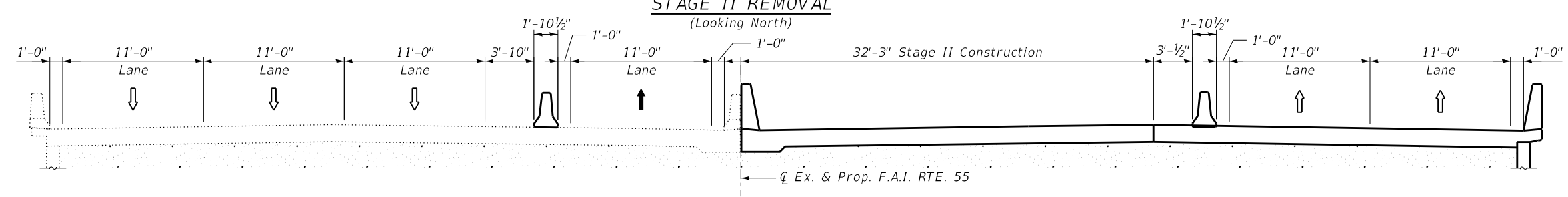
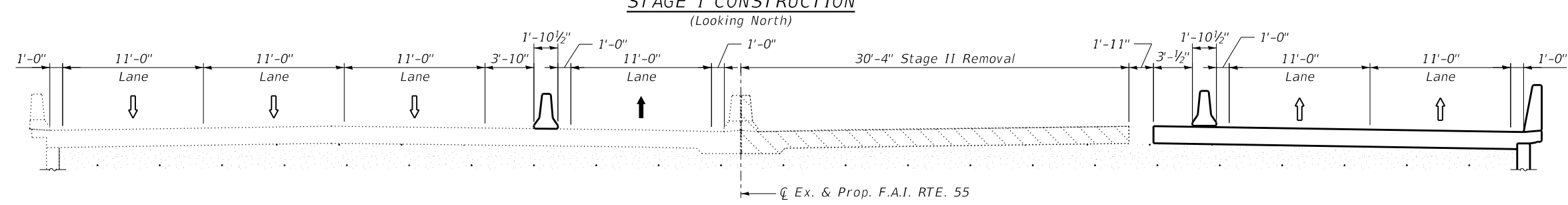
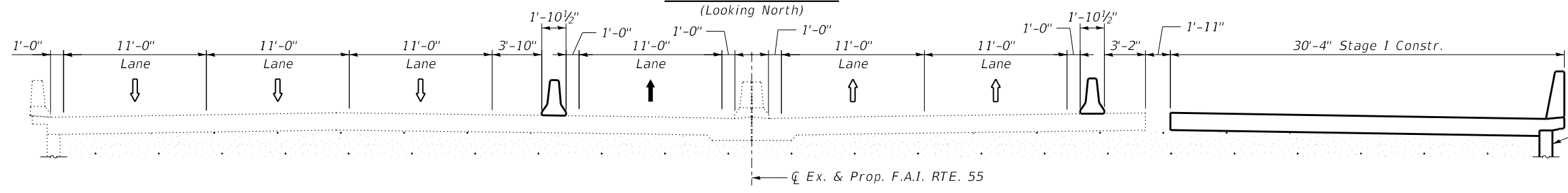
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC & PROP. SECTION
STRUCTURE NO. 099-0260

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2018-043-BD&BJR	WILL	9	3
CONTRACT NO. 62H03				
ILLINOIS FED. AID PROJECT				



LEGEND
 ↓ Lane Direction
 ↓ Crossover Lane Direction
 Existing Deck Removal



APPROVED
 NOVEMBER 13, 2020
 AS A BASIS FOR
 PREPARATION OF DETAILED PLANS

MAINTENANCE OF TRAFFIC AND CROSS-SECTION VAULTED SPAN
 F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
 F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
 WILL COUNTY
 STATION 209+90.63
 S.N. 099-0260

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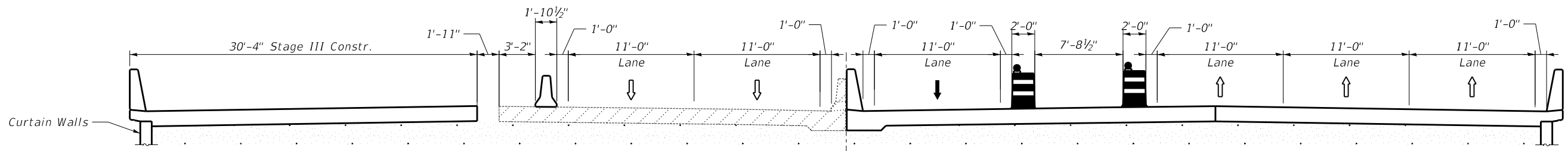
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC & PROP. SECTION
 STRUCTURE NO. 099-0260

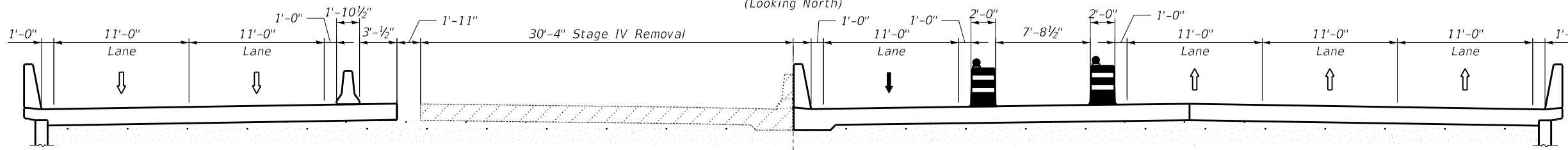
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CONTRACT NO. 62H03				
ILLINOIS FED. AID PROJECT				

SHEET 4 OF 9 SHEETS

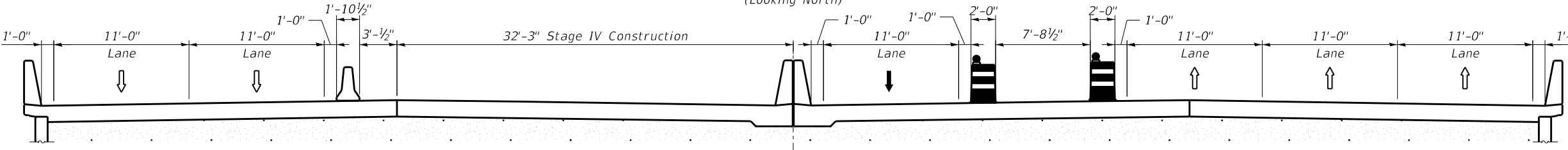
LEGEND
 ↓ Lane Direction
 ↓ Crossover Lane Direction
 Existing Deck Removal



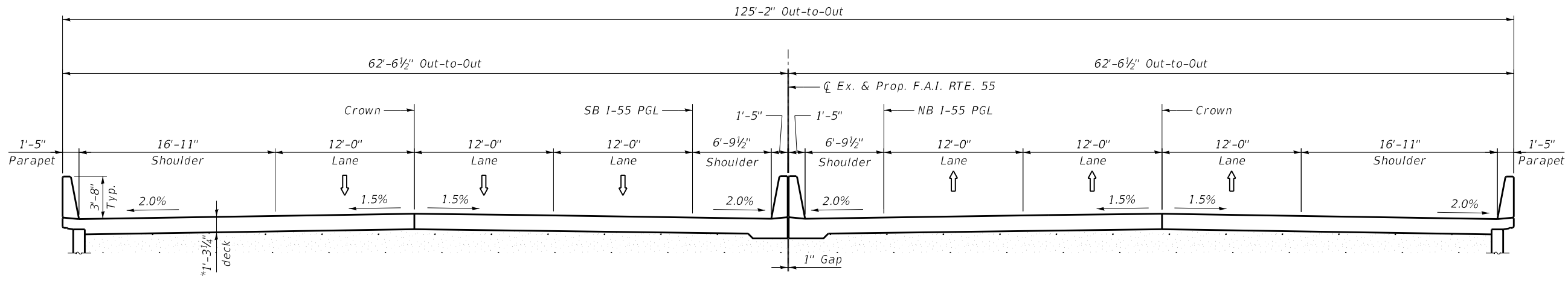
STAGE III CONSTRUCTION
(Looking North)



STAGE IV REMOVAL
(Looking North)



STAGE IV CONSTRUCTION
(Looking North)



* Slab thickness is subject to refinement during final design. Up to 1/4" may be ground off the bridge approach spans.

PROPOSED CROSS-SECTION
(Looking North)

APPROVED MAINTENANCE OF TRAFFIC AND CROSS-SECTION VAULTED SPAN
 F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
 F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
 WILL COUNTY
 STATION 209+90.63
 S.N. 099-0260

NOVEMBER 13, 2020
 AS A BASIS FOR
 PREPARATION OF DETAILED PLANS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC & PROP. SECTION
 STRUCTURE NO. 099-0260

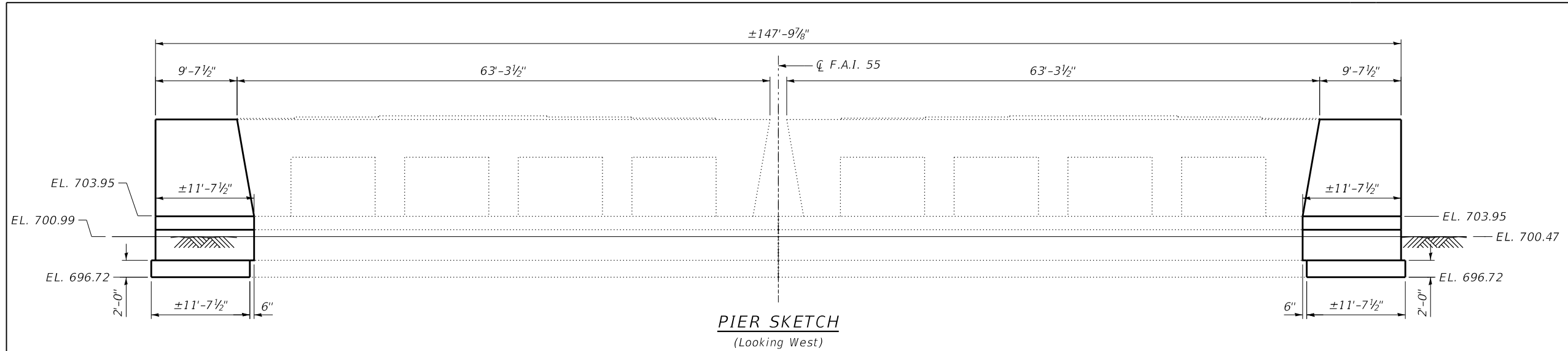
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CONTRACT NO. 62H03				
ILLINOIS FED. AID PROJECT				

SHEET 5 OF 9 SHEETS

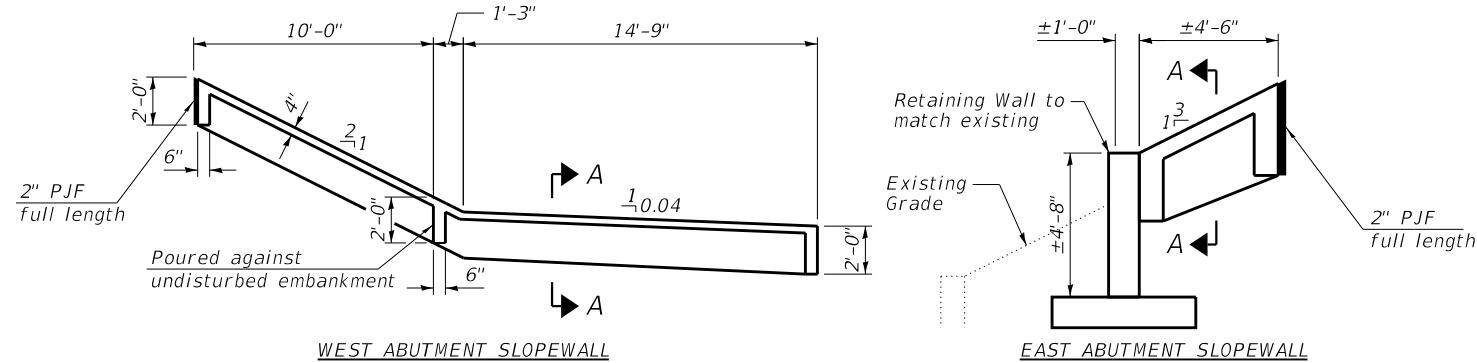
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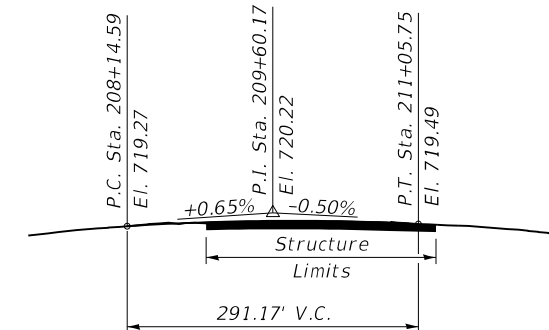
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PIER SKETCH
(Looking West)

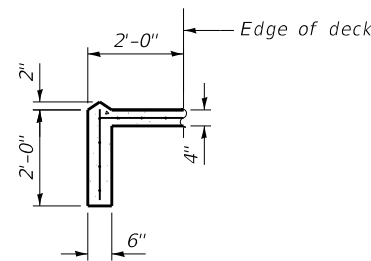


SECTION THROUGH CONCRETE SLOPEWALL
(Horizontal dimensions are at right angles)
Slopewalls to match existing



PROFILE GRADE
(along N.B. F.A.I. 55 P.G.L.)*

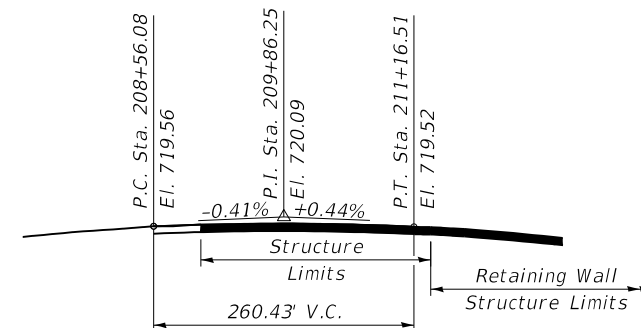
*The profile grade shows the final elevations after grinding.



SECTION A-A

	S.B. IL-53	N.B. IL-53
"X1"	1459+25.47	1459+69.39
"X2"	1461+71.08	1462+18.75
"Y1"	701.28	701.13
"Y2"	700.29	700.16

PROFILE GRADE
(along S.B. & N.B. F.A.P. 112 (IL-53) P.G.L.)



PROFILE GRADE
(along S.B. F.A.I. 55 P.G.L.)**

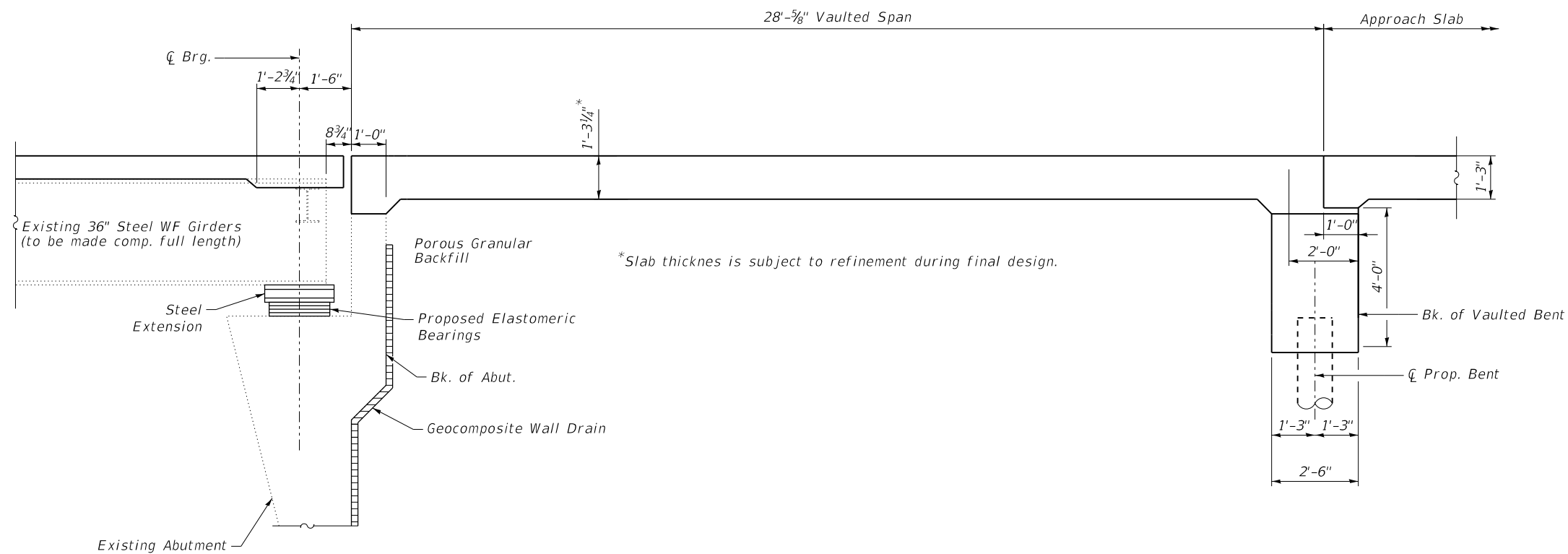
APPROVED

NOVEMBER 13, 2020

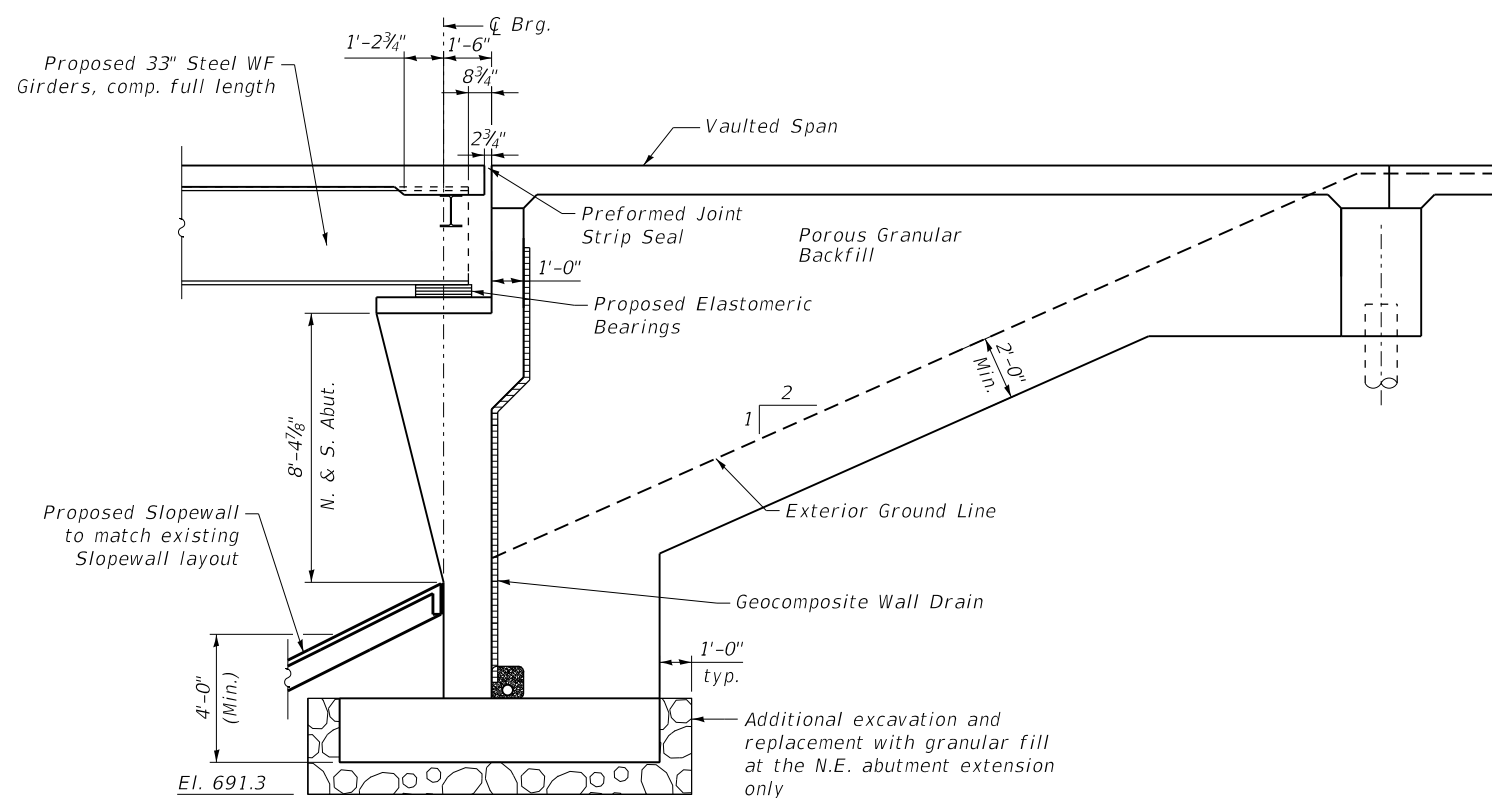
AS A BASIS FOR
PREPARATION OF DETAILED PLANS

GENERAL DETAILS
F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
WILL COUNTY
STATION 209+90.63
S.N. 099-0260

FILE NAME: N:\PROJ\0021086.01\CADD\SHS\Structural\0021086.01_TSL_6_Details.dgn



TYPICAL ABUTMENT SECTION AT EXISTING SECTION



TYPICAL ABUTMENT SECTION AT WIDENED SECTION

APPROVED

NOVEMBER 13, 2020

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

GENERAL DETAILS
 F.A.I. RTE. 55 (I-55) OVER F.A.P. RTE. 112 (IL-53)
 F.A.I. RTE. 55 (I-55) - SEC. 2018-043-BD&BJR
 WILL COUNTY
 STATION 209+90.63
 S.N. 099-0260

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PLOT SCALE =	0:2.0000" = 1/8"	DRAWN -	RA	REVISED -	
PLOT DATE =	11/2/2020	CHECKED -	BWS	REVISED -	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2018-043-BD&BJR	WILL	9	7
			CONTRACT NO. 62H03	
		ILLINOIS	FED. AID PROJECT	