

---

**STRUCTURE GEOTECHNICAL REPORT  
I-80 RECONSTRUCTION FROM RIDGE ROAD  
TO HOUBOLT ROAD  
I-55 RAMP AA RETAINING WALL  
SN 099-W1001  
WILL COUNTY, ILLINOIS**

**For  
Stantec  
350 North Orleans Street, Suite 1301  
Chicago, IL 60654**

**Submitted by  
Wang Engineering, Inc. (A Terracon Company)  
1145 North Main Street  
Lombard, IL 60148**

**Original Report: February 23, 2024  
Revised Report: March 1, 2024**

**Technical Report Documentation Page**

<b>1. Title and Subtitle</b> Structure Geotechnical Report I-55 Ramp AA Retaining Wall		<b>2. Original Date:</b> February 23, 2024 <b>Revised Date:</b> March 1, 2024
		<b>3. Report Type</b> <input checked="" type="checkbox"/> SGR <input type="checkbox"/> RGR <input checked="" type="checkbox"/> Draft <input type="checkbox"/> Final <input checked="" type="checkbox"/> Revised
<b>4. Route / Section / County/ District/ Region</b> F.A.I 55 / FAOI 80 21 Structure 5 / Will / 1 / 1		<b>5. IDOT Project No. / Contract No.</b> D-91-038-22 / 62R26
<b>6. PTB / Item No.</b> 194 / 010	<b>7. Existing Structure Number(s)</b> NA	<b>8. Proposed Structure Number(s)</b> SN 099-W1001
<b>9. Prepared by</b> Wang Engineering, Inc. 1145 N Main Street Lombard, IL 60148	<b>Contributor(s)</b> Authors: Azza Hamad, PE Nesam Balakumaran, PE QC/QA: Corina T. Farez, PE, PG PM: Azza Hamad, PE	<b>Contact</b> (630) 785-6220 <a href="mailto:ahamad@wangeng.com">ahamad@wangeng.com</a>
<b>10. Prepared for</b> Stantec 350 North Orleans Street Suite 1301 Chicago, IL, 60654	<b>Design Engineer</b> Stantec	<b>Contacts</b> (312) 262-2245 <a href="mailto:Dave.Pieniazek@stantec.com">Dave.Pieniazek@stantec.com</a>
<b>11. Abstract</b>		
<p>A new retaining wall is proposed along northbound I-55 and Ramp B in Will County, Illinois. The wall will be about 1,805.4-foot long, extending from Station 983+73.75 to Station 1000+24.57. The face of the wall will be constructed about 12.0 to 23.0 feet east of the Ramp B centerline. The wall will have a maximum exposed height of 7.8 feet. This report provides geotechnical recommendations for the design and construction of the proposed retaining wall.</p> <p>Topsoil thickness of 3 to 12 inches was noted along or near the proposed wall alignment. Along the proposed wall alignment, the foundation soils consist primarily of up to 28.0 feet of loose to dense granular fill with intermittent layers of soft to hard clay to silty clay and silty clay loam to clay loam fill followed by 2.5 to 13.0 feet of stiff to hard clay to silty clay and silty clay loam to silty loam overlying dense to very dense silty loam to loam, sandy gravel, and weathered bedrock. Dolostone bedrock was encountered at 550 to 519 feet elevation. The groundwater level was measured at elevations ranging from 551 to 531 feet.</p> <p>The proposed retaining wall will be in a fill section. Fill wall types such as Mechanically Stabilized Earth (MSE) and Reinforced Concrete Cantilever (RCC) will require additional open cut excavations into the existing embankment slope and possibly a temporary soil retention system. Cut wall types such as drilled soldier pile walls could be considered as they will not require excavation and temporary support, thus would be easier to build and more economical.</p> <p>The designer envisions a drilled soldier-pile wall type at the site. Geotechnical parameters for the design and construction of soldier pile walls are provided. A cantilevered pile embedment depth to minimum pile tip elevations of 553 to 542 feet is necessary to achieve a minimum factor of safety of 1.5 for global stability.</p> <p>Drilling for soldier pile installation will encounter hard drilling conditions below an elevation of 568 feet and additional excavation efforts might be needed.</p>		
<b>12. Path to archived file</b>		
<p>\\PKEWFS01\Data\ WANGLegacy\SHARED\Netprojects\2553901\Reports\SGRs\Retaining Walls\I55RW SN099W1001\RPT Wang NSB AZH 2553901 I55RampRWSN099W1001SGR_V02_20240301.doc</p>		

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	EXISTING STRUCTURE AND GROUND CONDITIONS.....	1
1.2	PROPOSED STRUCTURE .....	2
<b>2.0</b>	<b>METHODS OF INVESTIGATION .....</b>	<b>2</b>
2.1	FIELD INVESTIGATION.....	2
2.2	LABORATORY TESTING.....	3
<b>3.0</b>	<b>INVESTIGATION RESULTS .....</b>	<b>3</b>
3.1	LITHOLOGICAL PROFILE.....	4
3.2	GROUNDWATER CONDITIONS.....	5
<b>4.0</b>	<b>FOUNDATION ANALYSIS AND RECOMMENDATIONS .....</b>	<b>6</b>
4.1	SEISMIC DESIGN CONSIDERATIONS .....	6
4.2	SOLDIER-PILE AND LAGGING WALL.....	6
4.3	SETTLEMENT .....	13
4.4	GLOBAL STABILITY .....	13
<b>5.0</b>	<b>CONSTRUCTION CONSIDERATIONS .....</b>	<b>14</b>
5.1	SITE PREPARATION .....	14
5.2	EXCAVATION, DEWATERING, AND UTILITIES.....	14
5.3	FILLING AND BACKFILLING.....	15
5.4	EARTHWORK OPERATIONS .....	15
<b>6.0</b>	<b>QUALIFICATIONS.....</b>	<b>16</b>

REFERENCES

EXHIBITS

*1. SITE LOCATION MAP*

*2. SITE AND REGIONAL GEOLOGY*

*3. BORING LOCATION PLAN*

*4. SOIL PROFILE*

APPENDIX A

*BORING LOGS*

APPENDIX B

*LABORATORY TEST RESULTS*

APPENDIX C

*BEDROCK CORE PHOTOGRAPHS*

APPENDIX D

*GLOBAL STABILITY ANALYSIS*

APPENDIX E

*GENERAL PLAN AND ELEVATION DRAWING*

APPENDIX F

*CROSS-SECTIONS*

**LIST OF TABLES**

Table 1: Drained Geotechnical Parameters for Design of Soldier-Pile Walls.....	7
Table 2: Drained Geotechnical Parameters for Design of Soldier-Pile Walls.....	8
Table 3: Drained Geotechnical Parameters for Design of Soldier-Pile Walls.....	8
Table 4: Drained Geotechnical Parameters for Design of Soldier-Pile Walls.....	9
Table 5: Drained Geotechnical Parameters for Design of Soldier-Pile Walls.....	9
Table 6: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls.....	10
Table 7: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls.....	10
Table 8: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls.....	11
Table 9: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls.....	11
Table 10: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls.....	12
Table 11: Recommended Bedrock Parameters for Lateral Load Analysis of Soldier Pile Walls.....	12
Table 12: Results of Global Stability Analysis .....	13

**STRUCTURE GEOTECHNICAL REPORT  
I-80 RECONSTRUCTION FROM RIDGE ROAD  
TO HOUBOLT ROAD  
I-55 AA RETAINING WALL  
SN 099-W1001  
WILL COUNTY, ILLINOIS  
FOR  
STANTEC**

## **1.0 INTRODUCTION**

This report presents the results of our subsurface investigation, laboratory testing, geotechnical evaluations, and recommendations in support of the design and construction of a new retaining wall proposed along northbound I-55 and Ramp B south of Interstate 80 (I-80) in Will County, Illinois. The project area is located in west central Will County, extending along the Ramp B alignment. On the USGS *Channahon Quadrangle 7.5 Minute Series* map, the project is located in the SW  $\frac{1}{4}$  of Section 27 and NW  $\frac{1}{4}$  of Section 34, Tier 35 N, Range 9 E of the Third Principal Meridian. A *Site Location Map* is presented as Exhibit 1.

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 retaining wall. This retaining wall will be constructed as part of Construction Contract INT-2.

### **1.1 Existing Structure and Ground Conditions**

There is no existing structure at the proposed retaining wall site. The site surface elevation is generally flat gently sloping southeastward towards the Illinois and Michigan Canal. The proposed retaining wall is about 750 yards north of the Canal. The ground surface elevation is about 540 to 545 feet along the proposed retaining wall.

In the project area (see Exhibit 2), up to 35-feet of granular and cohesive man-made ground, the existing roadway embankment, is present over up to 20 feet of overburden. The overburden is made up of low to moderate plasticity, medium to high strength, and low to moderate moisture content silty clayey diamicton resting over granular, very dense, low compressibility silty loam diamicton with lenses of sand which unconformably covers the bedrock in various degrees of weathering (Bauer et al. 1991, Hansel and Johnson 1996, Leighton et al. 1948, Willman et al. 1971). The shallow bedrock is coated with about five feet or less of very dense, saturated gravelly sandy loam, highly weathered bedrock. The bedrock is made up of shaly dolostone. Top of bedrock is mapped at about 519 to 547

feet elevation. The site is located just north of the inactive Sandwich Fault Zone (Kolata 2005). The shallow bedrock is highly to moderately weathered and may show the presence of cavities more likely filled with fine sediment. There are no records of mining activity within the proposed wall site.

## 1.2 Proposed Structure

Based on the *GPE* drawing prepared by Stantec and dated February 27, 2024, Wang understands the proposed retaining wall will measure about 1,805.4 feet in length, extending along Ramp B from Station 983+73.75 to Station 1000+24.57. The front face of the wall will be constructed at a distance of about 12.0 to 23.0 feet east of the Ramp B centerline. The wall will support the new fill to be placed for the widening proposed along Ramp B. A drilled soldier-pile wall type installed into the bedrock is currently shown on the *GPE* sheets. Based on the drawings and *Cross-Sections*, we estimate the wall will have a maximum height of approximately 7.8 feet near Station 996+33.16. The *GPE* drawing is included as Appendix E and the *Cross-Sections* are included as Appendix F.

## 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 24 retaining wall borings, designated as I55-RWB-01 to I55-RWB-24, drilled by Wang Testing Services, Inc. (WTS) in January and February of 2024. The borings were drilled from elevations of 578.2 to 556.1 feet and were advanced to depths of 14.0 to 55.5 feet bgs. Several attempts were made to drill Boring I55-RWB-02 at its originally proposed location, however, obstructions were consistently recorded at depths of 5.0 to 6.0 feet bgs. The boring was offset multiple times within a radius of 10.0 feet and was successfully completed at an offset of 15.0 feet south of the original location. The as-drilled northings and eastings were acquired with a mapping-grade GPS unit. Stations, offsets, and elevations were provided by Stantec. 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 3).

Truck-mounted drilling rigs, equipped with hollow stem augers, were used to advance and maintain open boreholes. Soil sampling was performed according to AASHTO T206, "*Penetration Test and Split Barrel Sampling of Soils.*" The soil in the retaining wall borings was sampled at 2.5-foot intervals to 30.0 feet bgs and at 5.0-foot intervals thereafter to the boring termination depths or to top of bedrock. Bedrock cores were obtained in 5- to 10-foot runs with an NWD4-sized core barrel. Soil

samples collected from each sampling interval were placed in sealed jars, and rock cores were placed into boxes, and transported to the laboratory for further examination and testing.

Field boring logs, prepared and maintained by a Wang field engineer, included lithological descriptions, visual-manual soil (IDH Textural) 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. Bedrock cores were measured for recovery and rock quality designation (RQD), described, and photographed.

Groundwater levels were measured while drilling and at completion of each of the borings. Each borehole location was backfilled upon completion and, where necessary, the pavement surface was restored as much as possible to its original condition.

## 2.2 Laboratory Testing

Soil samples were tested in the laboratory for moisture content (AASHTO T265). Atterberg limits (AASHTO T89 and T90) and particle size (AASHTO T88) analyses were performed on selected samples. Unconfined compressive strength tests were performed on selected bedrock cores. 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 descriptions of the soil conditions encountered during the subsurface investigation are presented in the attached *Boring Logs* (Appendix A) and in the *Soil Profile* (Exhibit 4). 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.

Our subsurface investigation results fit into the local geologic context. The borings drilled in the project area revealed the native sediments consists of silty clay loam diamicton (Unit 2) with occasional lenses of silt, sand, and gravel, over silty loam to silty clay loam diamicton (Unit 2), resting over weathered bedrock (Unit 3). The sand and silt lenses in Units 2 and 3 are water-bearing with seasonal fluctuation. Top of dolostone bedrock was encountered at elevations of 519 to 550 feet (14.0 to 45.5 feet bgs) as predicted based on geologic data.

### 3.1 Lithological Profile

Borings I55-RWB-01 to I55-RWB-23 were drilled along the existing northbound I-55 shoulder and all sampled 8 to 12 inches of concrete pavement overlying sandy gravel fill and/or aggregate base at the surface. Boring I55-RWB-24, drilled along the Ramp B shoulder, sampled 1 inch of asphalt followed by 11 inches of concrete pavement overlying the sandy gravel fill. Topsoil thickness measurements were obtained at distances of 10 to 20 feet east of the shoulders and ranged from 3 to 12 inches thick. In descending order, the general lithologic succession encountered beneath the pavement structure includes: 1) man-made ground (fill); 2) stiff to hard silty clay to silty clay loam, clay loam, silty clay, and silty loam; 3) dense to very dense sandy gravel and/or weathered bedrock; and 4) very weak to strong, very poor to poor quality dolostone.

#### 1) *Man-made ground (fill)*

Underneath the pavement structure, the borings encountered up to 28.0 feet of granular fill and/or cohesive fill with a thickness ranging from 2.0 to 26.0 feet. The granular fill consists of loose to dense, brown and gray gravelly loam to loam, sandy loam, gravelly sand to sand, and sandy gravel with SPT N-values (N) of 7 to 74 blows per foot and/or more than 50 blows per 2 inches with moisture content values (MC) of 3 to 19%.

The cohesive fill consists of soft to hard, black, brown, and gray silty clay to silty clay loam and clay loam to silty loam with unconfined compressive strength ( $Q_u$ ) values of 0.2 to 4.8 tsf and MC values of 9 to 31%. Laboratory index testing on a sample from the fill layer showed liquid limit (LL) and plastic limit (PL) values of 28 and 15%, respectively.

A 30- to 60-inch thick layer of black silty clay to silty clay loam buried topsoil with moisture contents of 16 to 50% was sampled beneath the fill in Borings I55-RWB-02, I55-RWB-08, I55-RWB-09, and I55-RWB-17 to I55-RWB-22. The presence of this layer most likely indicates the boundary between fill and natural soils.

#### 2) *Stiff to hard silty clay to silty clay loam, clay loam, silty clay, and silty loam*

Beneath the fill, at elevations of 563 to 538 feet, the borings generally advanced through 2.5 to 13.0 feet of stiff to hard, black, brown, and gray silty clay to silty clay loam, clay loam, silty clay, and silty loam. This layer is characterized by  $Q_u$  values of 1.0 to 8.2 tsf and MC values of 12 to 29%. Laboratory index testing on samples from this layer showed LL and PL values of 23 to 44% and 15%, respectively.



An approximately 1.5- to 4-foot thick layer of soft to medium stiff black and gray clay and silty clay to silty clay loam was sampled in Borings I55-RWB-09, I55-RWB-10, and I55-RWB-20 at elevations of 545 to 540 feet. This layer has  $Q_u$  values of 0.2 to 0.7 tsf and MC values of 28 to 45%.

An intermittent 2.5- to 5.0-foot thick, damp to saturated, silty loam to loam layer was encountered underneath this unit at elevations of 541 to 536 feet in Borings I55-RWB-12, I55-RWB-17. This layer is considered saturated.

3) *Dense to very dense sandy gravel and/or weathered bedrock*

At elevations of 553 to 530 feet, the borings advanced through up to 10.0 feet of dense very dense, gray, damp to wet sandy gravel and/or weathered bedrock. This soil unit has N values of 32 blows per foot to 50 blows per inch and MC values of 1 to 32%. Auger or sampler refusal indicating the apparent top of bedrock was noted within this layer at depths of 14.0 to 45.0 feet bgs (elevations of 552 to 528 feet). Difficult drilling indicating the possible presence of cobbles was also noted within this layer at depths of 12 to 45 feet bgs (elevations 549 to 525 feet).

4) *Very weak to strong, very poor to fair quality dolostone*

At elevations of 550 to 519 feet (14.0 to 45.5 feet bgs), Borings I55-RWB-01, I55-RWB-03, I55-RWB-05, I55-RWB-07, I55-RWB-09, I55-RWB-11, I55-RWB-13, I55-RWB-15, I55-RWB-17, I55-RWB-19, I55-RWB-20, I55-RWB-21, and I55-RWB-23 cored very weak to strong, very poor to fair quality, highly to slightly weathered dolostone bedrock. The rock quality designation (RQD) ranges from 0 to 58% and uniaxial compressive strength testing revealed  $Q_u$  values of 5,693 to 8,677 psi. The bedrock core data and pictures are shown in the *Bedrock Core Photographs* (Appendix C).

### 3.2 Groundwater Conditions

Groundwater was encountered while drilling at elevations of 551 to 534 feet (10.5 to 43.5 feet bgs). At the completion of drilling, the groundwater level was observed at elevations of 550 to 531 feet (11.0 to 42.0 feet bgs). It should be noted that groundwater levels might change with seasonal rainfall patterns and long-term climate fluctuations or may be influenced by local site conditions.

## 4.0 FOUNDATION ANALYSIS AND RECOMMENDATIONS

The retaining wall will support the Ramp B embankment widening proposed along I-55 just south of the interchange. Based on the *GPE* and *Cross-Sections* (Appendixes E and F), the wall will have a total length of 1,805.4 feet and a maximum height of 7.8 feet near Station 996+33.16. The proposed wall is a fill wall which will support the widened Ramp B roadway embankment.

Fill wall types, such as Mechanically Stabilized Earth (MSE) and Reinforced Concrete Cantilever (RCC) walls would require additional large open cut excavations into the existing embankment, temporary soil retention systems, and will likely impact the existing roadway. The construction of these wall types would likely also require more backfilling thus longer construction time.

In our opinion, non-gravity wall types such as a sheet pile or soldier pile type wall would be more appropriate considering the soil conditions, constructability, and cost. A driven sheet pile wall type will not be feasible due to potential difficulty of driving the sheet piles in the dense to very dense granular soils and/or cohesive soils with unconfined compressive strength values of greater than 4.5 tsf. Considering the presence of shallow bedrock, we anticipate a soldier pile socketed into bedrock will likely be the most suitable wall type at this location. However, the final wall type should be selected based on a wall-type study including cost and construction considerations. Recommendations for the design and construction of the proposed wall type are discussed in the following sections.

### 4.1 Seismic Design Considerations

Seismic design is not required for retaining wall structures located in Seismic Performance Zone (SPZ) 1 in accordance with the IDOT *Bridge Manual* (2023).

### 4.2 Soldier-Pile and Lagging Wall

A soldier-pile wall type could be considered at this location. If soldier piles are designed to support the wall, they could be installed by setting them within prebored holes with diameters sized in accordance with IDOT criteria. The wall should be designed for both lateral earth pressure and lateral deformation. The embedment depth in moment equilibrium for the wall sections should be designed in accordance with the AASHTO LRFD guidelines (AASHTO 2020).

Generally, both granular soils and overconsolidated clayey soils, such as the stiff to hard silty clay to silty clay loam encountered in the borings will exhibit lower overall shear strength in the long-term condition. Therefore, in accordance with AASHTO (2020), the lateral earth pressure analysis

should be performed for walls in the long-term (drained) condition using the soil parameters recommended in Tables 1 to 5. Elevations provided in Tables 1 to 5 are based on the average layer elevations across the soil profile and may vary from one boring location to another. The active and passive earth pressure coefficients are provided for straight backfill behind the wall and slopes of 1:2 (V:H) to 1:4 (V: H) in front of the wall.

The design of the wall should ignore 3.0 feet of soil in front of the wall measured from the finished ground surface elevation in providing passive pressure due to excavations required for installation of concrete facing, drainage systems, and frost-heave conditions. In developing the design lateral pressure, the pressure due to construction equipment surcharge loads should be added to the lateral earth pressure. Drainage behind the wall should be in accordance with IDOT guidelines (IDOT 2012). The water pressures should be added to the earth pressure if drainage is not provided.

Table 1: Drained Geotechnical Parameters for Design of Soldier-Pile Walls  
 Station 983+74 to Station 990+00  
 Borings I55-RWB-01 to I55-RWB-09

Elevation Range (feet) Soil Description	Unit Weight, $\gamma$ (pcf)	Drained Shear Strength Properties		Earth Pressure Coefficients	
		Cohesion (psf)	Friction Angle ( $^{\circ}$ )	Active Pressure (Straight)	Passive Pressure <sup>(1)</sup> (1V:2H)
Proposed Grade to Existing Grade New FILL	120	100	30	0.33	--
Existing Grade to EL 568 SAND to SANDY GRAVEL FILL	120	0	30	0.33	1.49
EL 568 to 552 LOAM to SANDY GRAVEL FILL	120	0	31	0.32	1.61
EL 552 to 543 LOAM to SILTY CLAY LOAM FILL	120	100	30	0.33	1.49
EL 543 to 538 Stiff to V Stiff SILTY CLAY LOAM to SILTY LOAM	58 <sup>(2)</sup>	100	30	0.33	1.49
EL 538 to 532 <sup>(3)</sup> Dense to V Dense SANDY GRAVEL to WEATHERED BEDROCK	63 <sup>(12)</sup>	0	33	0.29	1.84

(1) Earth pressure coefficients for 1:2 (V: H) front slope; (2) Submerged unit weight; (3) Approximate top of bedrock

Table 2: Drained Geotechnical Parameters for Design of Soldier-Pile Walls  
 Station 990+00 to Station 993+15  
 Borings I55-RWB-10 to I55-RWB-13

Elevation Range (feet) Soil Description	Unit Weight, $\gamma$ (pcf)	Drained Shear Strength Properties		Earth Pressure Coefficients	
		Cohesion (psf)	Friction Angle ( $^{\circ}$ )	Active Pressure (Straight)	Passive Pressure <sup>(1)</sup> (1V:2H)
Proposed Grade to Existing Grade New FILL	120	100	30	0.33	--
Existing Grade to EL 557 LOAM to SANDY GRAVEL FILL	120	0	30	0.33	1.49
EL 557 to 546 SILTY LOAM to SANDY GRAVEL FILL	120	0	31	0.32	1.61
EL 546 to 542 (I55-RWB-13) SANDY GRAVEL FILL	120	0	30	0.33	1.49
EL 546 to 542 SILTY CLAY LOAM to LOAM FILL	120	100	30	0.33	1.49
EL 542 to 532 M Stiff to Hard SILTY LOAM to SILTY CLAY LOAM	58 <sup>(2)</sup>	100	30	0.33	1.49
EL 532 to 519 <sup>(3)</sup> V Dense WEATHERED BEDROCK	63 <sup>(2)</sup>	0	33	0.29	1.84

(1) Earth pressure coefficients for 1:2 (V: H) front slope; (2) Submerged unit weight; (3) Approximate top of bedrock

Table 3: Drained Geotechnical Parameters for Design of Soldier-Pile Walls  
 Station 993+15 to Station 995+05  
 Borings I55-RWB-14 to I55-RWB-16

Elevation Range (feet) Soil Description	Unit Weight, $\gamma$ (pcf)	Drained Shear Strength Properties		Earth Pressure Coefficients	
		Cohesion (psf)	Friction Angle ( $^{\circ}$ )	Active Pressure (Straight)	Passive Pressure <sup>(1)</sup> (1V:2H)
Proposed Grade to Existing Grade New FILL	120	100	30	0.33	--
Existing Grade to EL 541 LOAM to SANDY GRAVEL FILL	120	0	31	0.32	1.61
EL 541 to 535 <sup>(3)</sup> V Dense WEATHERED BEDROCK	63 <sup>(2)</sup>	0	33	0.29	1.84

(1) Earth pressure coefficients for 1:2 (V: H) front slope; (2) Submerged unit weight; (3) Approximate top of bedrock

Table 4: Drained Geotechnical Parameters for Design of Soldier-Pile Walls  
Station 995+05 to Station 999+45  
Borings I55-RWB-17 to I55-RWB-21

Elevation Range (feet) Soil Description	Unit Weight, $\gamma$ (pcf)	Drained Shear Strength Properties		Earth Pressure Coefficients	
		Cohesion (psf)	Friction Angle ( $^{\circ}$ )	Active Pressure (Straight)	Passive Pressure <sup>(1)</sup> (1V:3H)
Proposed Grade to Existing Grade New FILL	120	100	30	0.33	--
Existing Grade to 548 SAND to SANDY GRAVEL FILL	120	0	30	0.33	2.26
EL 548 to 544 LOAM to SILTY CLAY LOAM FILL	120	50	28	0.36	2.05
EL 544 to 540 V Soft to Stiff SILTY CLAY LOAM	53 <sup>(2)</sup>	0	27	0.38	1.94
EL 540 to 535 Loose to V Dense SILTY LOAM to SANDY GRAVEL	58 <sup>(2)</sup>	0	31	0.32	2.37
EL 535 to 532 <sup>(3)</sup> V Dense WEATHERED BEDROCK	63 <sup>(2)</sup>	0	33	0.29	2.62

(1) Earth pressure coefficients for 1:3 (V: H) front slope; (2) Submerged unit weight; (3) Approximate top of bedrock

Table 5: Drained Geotechnical Parameters for Design of Soldier-Pile Walls  
Station 999+45 to Station 1000+25  
Borings I55-RWB-22 and I55-RWB-23

Elevation Range (feet) Soil Description	Unit Weight, $\gamma$ (pcf)	Drained Shear Strength Properties		Earth Pressure Coefficients	
		Cohesion (psf)	Friction Angle ( $^{\circ}$ )	Active Pressure (Straight)	Passive Pressure <sup>(1)</sup> (1V:4H)
Proposed Grade to Existing Grade New FILL	120	100	30	0.33	--
Existing Grade to 556 SANDY GRAVEL FILL	120	0	30	0.33	2.56
EL 556 to 553 Soft SILTY CLAY LOAM	120	0	28	0.36	2.35
EL 553 to 547 <sup>(3)</sup> V Dense GRAVELLY LOAM SILTY LOAM to WEATHERED BEDROCK	58 <sup>(2)</sup>	0	30	0.33	2.56

(1) Earth pressure coefficients for 1:4 (V: H) front slope; (2) Submerged unit weight; (3) Approximate top of bedrock

The lateral deformation of the wall should be designed for movement and moment fixity at the base of the pile. The roadway and utilities should not be impacted by the lateral movement of the wall. Therefore, the design of the soldier pile wall should establish lateral movement limits. The evaluations should be performed using the recommended soil parameters shown in Tables 6 to 11,

via the p-y curve (COM624) method. Elevations provided in Tables 6 to 10 are based on the average layer elevations across the profile and may vary from one boring location to another.

Table 6: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls  
Station 983+74 to Station 990+00  
Borings I55-RWB-01 to I55-RWB-09

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
Proposed Grade to Existing Grade New FILL	120	1000	30	500	0.7
Existing Grade to EL 568 SAND to SANDY GRAVEL FILL	120	0	30	30	--
EL 568 to 552 LOAM to SANDY GRAVEL FILL	120	0	31	50	--
EL 552 to 543 LOAM to SILTY CLAY LOAM FILL	120	2000	0	1000	0.5
EL 543 to 538 Stiff to V Stiff SILTY CLAY LOAM to SILTY LOAM	58 <sup>(1)</sup>	1500	0	500	0.7
EL 538 to 532 <sup>(2)</sup> Dense to V Dense SANDY GRAVEL to WEATHERED BEDROCK	63 <sup>(1)</sup>	0	33	125	--

(1) Submerged unit weight; (2) Approximate top of bedrock

Table 7: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls  
Station 990+00 to Station 993+15  
Borings I55-RWB-10 to I55-RWB-13

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
Proposed Grade to Existing Grade New FILL	120	1000	0	500	0.7
Existing Grade to EL 557 LOAM to SANDY GRAVEL FILL	120	0	30	30	--
EL 557 to 546 SILTY LOAM to SANDY GRAVEL FILL	120	0	31	60	--
EL 546 to 542 (I55-RWB-13) SANDY GRAVEL FILL	120	0	30	50	--
EL 546 to 542 SILTY CLAY LOAM to LOAM FILL	120	1000	0	500	0.7

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
EL 542 to 532 M Stiff to Hard SILTY LOAM to SILTY CLAY LOAM	58 <sup>(1)</sup>	1500	0	1000	0.5
EL 532 to 519 <sup>(2)</sup> V Dense WEATHERED BEDROCK	63 <sup>(1)</sup>	0	33	125	--

(1) Submerged unit weight; (2) Approximate top of bedrock

Table 8: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls  
Station 993+15 to Station 995+05  
Borings I55-RWB-14 to I55-RWB-16

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
Proposed Grade to Existing Grade New FILL	120	1000	0	500	0.7
Existing Grade to EL 541 LOAM to SANDY GRAVEL FILL	120	0	31	60	--
EL 541 to 535 <sup>(2)</sup> V Dense WEATHERED BEDROCK	63 <sup>(1)</sup>	0	33	125	--

(1) Submerged unit weight; (2) Approximate top of bedrock

Table 9: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls  
Station 995+05 to Station 999+45  
Borings I55-RWB-17 to I55-RWB-21

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
Proposed Grade to Existing Grade New FILL	120	100	30	500	0.7
Existing Grade to 548 SAND to SANDY GRAVEL FILL	120	0	30	50	--
EL 548 to 544 LOAM to SILTY CLAY LOAM FILL	115	500	0	100	1.0
EL 544 to 540 V Soft to Stiff SILTY CLAY LOAM	53 <sup>(3)</sup>	600	0	100	1.0

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
EL 540 to 535 Loose to V Dense SILTY LOAM to SANDY GRAVEL	58 <sup>(3)</sup>	0	31	100	--
EL 535 to 532 <sup>(2)</sup> V Dense WEATHERED BEDROCK	63 <sup>(1)</sup>	0	33	125	--

(1) Submerged unit weight; (2) Approximate top of bedrock

Table 10: Recommended Soil Parameters for Lateral Load Analysis of Soldier Pile Walls  
 Station 999+45 to Station 1000+25  
 Borings I55-RWB-22 and I55-RWB-23

Elevation Range (feet) Soil Type (Layer)	Unit Weight, $\gamma$ (pcf)	Undrained Shear Strength, $c_u$ (psf)	Estimated Friction Angle, $\Phi$ ( $^\circ$ )	Estimated Lateral Soil Modulus Parameter, k (pci)	Estimated Soil Strain Parameter, $\epsilon_{50}$ (%)
Proposed Grade to Existing Grade New FILL	120	100	30	500	0.7
Existing Grade to 556 SANDY GRAVEL FILL	120	0	30	50	--
EL 556 to 553 Soft SILTY CLAY LOAM	120	300	0	100	1.0
EL 553 to 547 <sup>(2)</sup> V Dense GRAVELLY LOAM SILTY LOAM	58 <sup>(3)</sup>	0	32	110	--

(1) Submerged unit weight; (2) Approximate top of bedrock

Table 11: Recommended Bedrock Parameters for Lateral Load Analysis of Soldier Pile Walls

Bedrock	Total Unit Weight, $\gamma$ (pcf)	Modulus of Rock Mass (ksi)	Poisson's Ratio, $\mu$	Uniaxial Compressive Strength (psi)	RQD (%)	Strain Factor
Dolostone	140	300	0.3	5,693 to 8,677	0 to 58	0.0005



### 4.3 Settlement

Based on the information provided by Stantec, we understand the widening along northbound I-55 and Ramp B, where the retaining wall is proposed, will require the placement of up to 7.0 feet of new fill along the existing embankment slope behind the wall. Wang has performed evaluations of the potential consolidation settlements resulting from the proposed grade change for the wall. Settlement estimates have been made based on correlations to measured index properties obtained from the laboratory tests (Appendix B). Based on the soil conditions, we estimate the foundation soils will undergo long-term settlements of less than 1.0 inch under the load of the new fill.

### 4.4 Global Stability

The global stability of the proposed wall was analyzed based on the soil profile described in Section 3.1 and the information provided in the design drawings and cross-sections. The stability was analyzed at critical sections near Stations 988+00, 993+00, and 996+00. The minimum required factor of safety (FOS) is 1.5 in both short-term (undrained) and long-term (drained) conditions (IDOT 2020).

Details of the global stability analysis with critical failure surfaces and results are presented in Appendix D. The short-term and long-term analyses do not consider the resistance from the distance measured from the proposed finished grade to the bottom of the fascia panel at the front face of the wall. Global stability evaluations were performed to estimate the minimum pile tip elevation required to achieve an FOS of 1.5 in the undrained and drained conditions. The embedded portion of the cantilevered piles will provide resistance against the slope instability above the tip of the piles. The results of our analysis are summarized in Table 12. We recommend that the wall tip elevations be installed at or deeper than the minimum elevation shown in Table 12 to provide long-term global stability FOS values of at least 1.5 as shown in Appendixes D-1 to D-6. It should be noted that typically, the lateral earth pressure and deformation analyses will determine the minimum embedment depth for cantilevered pile walls. Therefore, the designer should perform other analyses including lateral earth pressure and deflection analyses to determine the required design pile embedment.

Table 12: Results of Global Stability Analysis

Station	Reference Boring(s)	Wall Height (feet)	Short-term (Undrained) Condition		Long-term (Drained) Condition	
			FOS	Minimum Tip Elevation (feet)	FOS	Minimum Tip Elevation (feet)
988+00	I55-RWB-07	6.0	1.68	--	1.54	553
993+00	I55-RWB-13	6.0	1.66	547	2.03	545

Station	Reference Boring(s)	Wall Height (feet)	Short-term (Undrained) Condition		Long-term (Drained) Condition	
			FOS	Minimum Tip Elevation (feet)	FOS	Minimum Tip Elevation (feet)
996+00	I55-RWB-17	7.8	1.82	547	2.06	542

## 5.0 CONSTRUCTION CONSIDERATIONS

### 5.1 Site Preparation

Vegetation, surface topsoil, pavement, 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 structural fill as described in Section 5.3.

### 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 construction of the wall should be sloped at no steeper than 1:2 (V: H). Any slope that cannot be graded at 1:2 (V:H) should be properly shored. Dewatering may be necessary if groundwater perched within the granular layers is encountered.

For cantilevered pile walls, it should be noted that higher N-values of 40 to more than 50 blows per 2 inches and possible cobbles were noted in the borings at elevations of 568 to 536 feet (5.5 to 31.5 feet bgs) and should be anticipated during drilled-soldier pile installation.

Groundwater was encountered while drilling at elevations of 551 to 534 feet (10.5 to 43.5 feet bgs). At the completion of drilling, the groundwater was observed at elevations of 550 to 531 feet (11.0 to 42.0 feet bgs). If drilled soldier piles are designed, temporary casing and wet installation methods will be needed for drilling and setting into the granular layers and/or bedrock. Additionally, perched or temporary water may be encountered during times of heavy precipitation while excavating within the upper fill soils and will require dewatering efforts. Water that does accumulate in 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 5.3.

### **5.3 Filling and Backfilling**

Fill material used to attain final design elevations should be pre-approved, compacted, cohesive or granular soil conforming to Section 204, *Borrow and Furnished Excavation* (IDOT 2022). The fill material should be free of organic matter and debris and should be placed in lifts and compacted according to Section 205, *Embankment* (IDOT 2022). Backfill materials must be pre-approved by the Resident Engineer.

### **5.4 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 3. 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 structure are planned, we should be timely informed so that our recommendations can be adjusted accordingly.

It has been a pleasure to assist Stantec 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.**

Azza Hamad, P.E.  
Senior Geotechnical Engineer

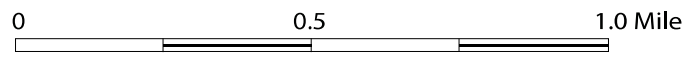
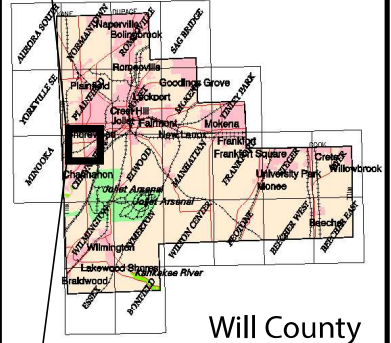
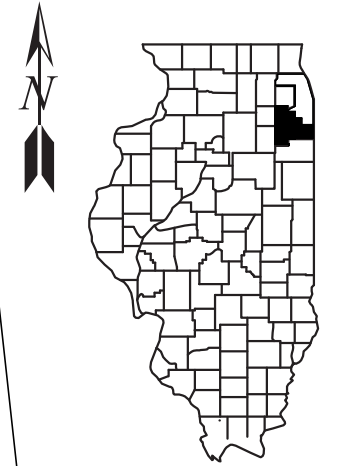
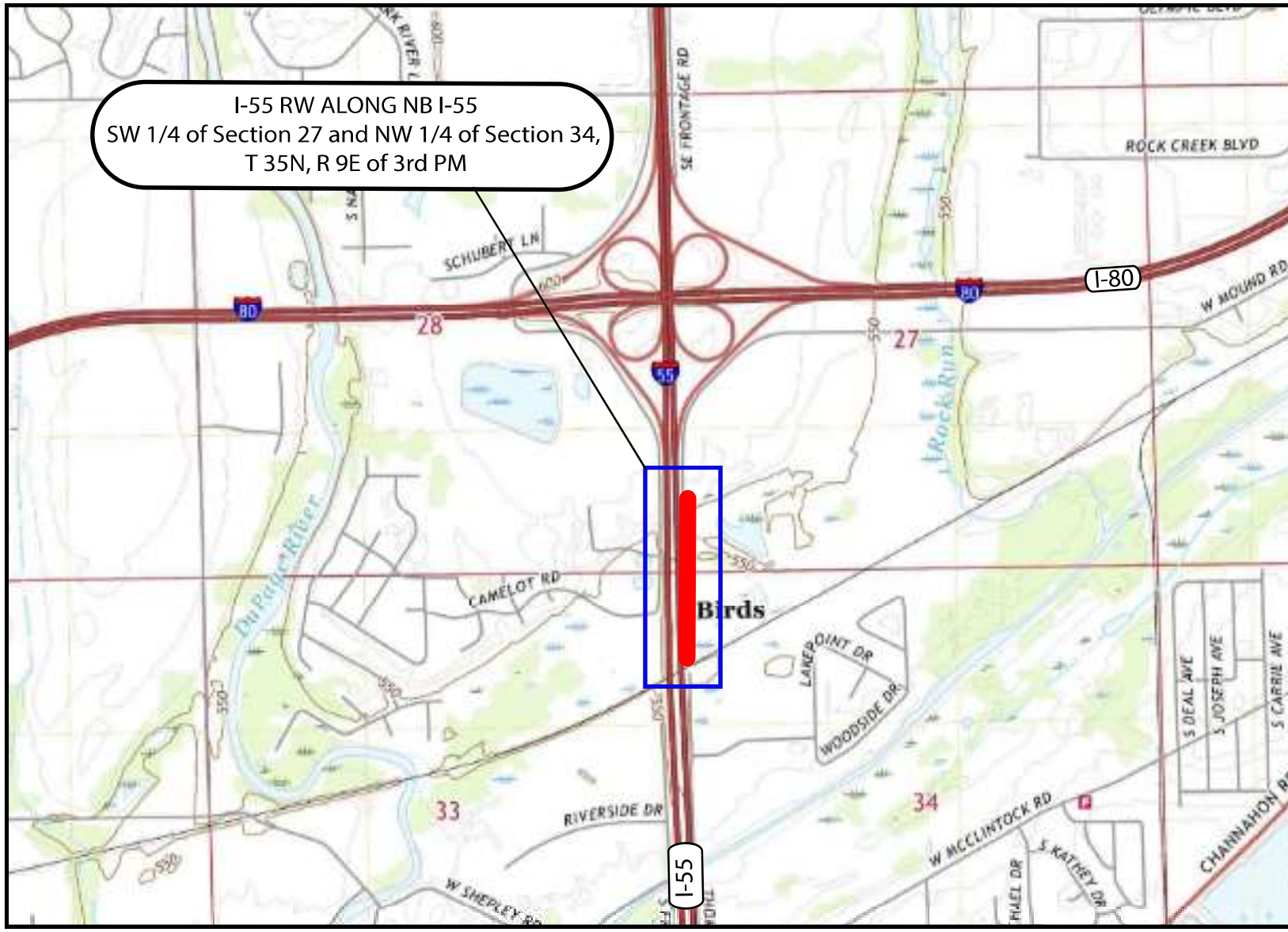
Nesam Balakumaran, P.E.  
Project Geotechnical Engineer

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

## **REFERENCES**

- AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (2020) "*AASHTO LRFD Bridge Design Specifications*" United States Dept of Transportation, Washington, D.C.
- BAUER, R.A., CURRY, B.B., GRAESE, A.M., VAIDEN, R.C., SU, W.J., AND HASEK, M.J. (1991) "*Geotechnical Properties of Selected Pleistocene, Silurian, and Ordovician Deposits of Northeastern Illinois.*" Environmental Geology 139, Illinois State Geological Survey.
- HANSEL, A.K., and JOHNSON, W.H. (1996) "*Wedron and Mason Groups: Lithostratigraphic Reclassification of the Wisconsin Episode, Lake Michigan Lobe Area.*" ISGS Bulletin 104. Illinois State Geological Survey, Champaign 116 p.
- IDOT (2023) *Bridge Manual*. Illinois Department of Transportation.
- IDOT (2022) *Standard Specifications for Road and Bridge Construction*. Illinois Department of Transportation.
- IDOT (2020) *Geotechnical Manual*. Illinois Department of Transportation.
- KOLATA, D.R. (2005) *Bedrock Geology of Illinois*: Illinois State Geological Survey, Illinois Map 14, 1:500,000.
- LEIGHTON, M.M., EKBLAW, G.E., and HORBERG, L. (1948) "*Physiographic Divisions of Illinois.*" The Journal of Geology, v. 56. p. 16-33.
- WILLMAN, H.B. (1971) *Surficial Deposits of Illinois*: Illinois State Geological Survey, ISGS, OFS 2000-7, 1:500,000.

## **EXHIBITS**

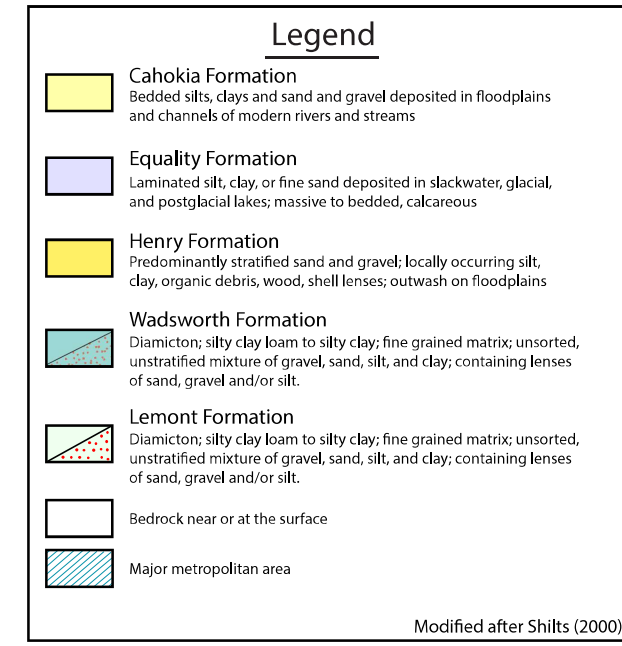
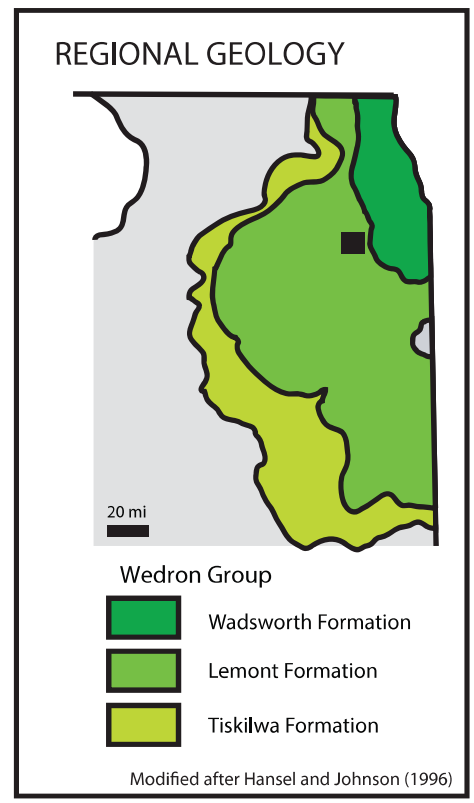


SITE LOCATION MAP: I-55 RETAINING WALL ALONG NB I-55, I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

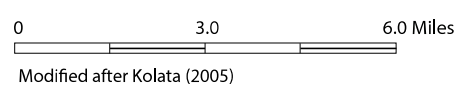
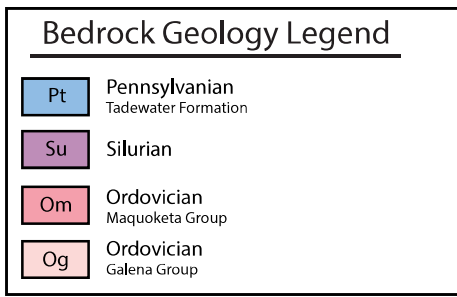
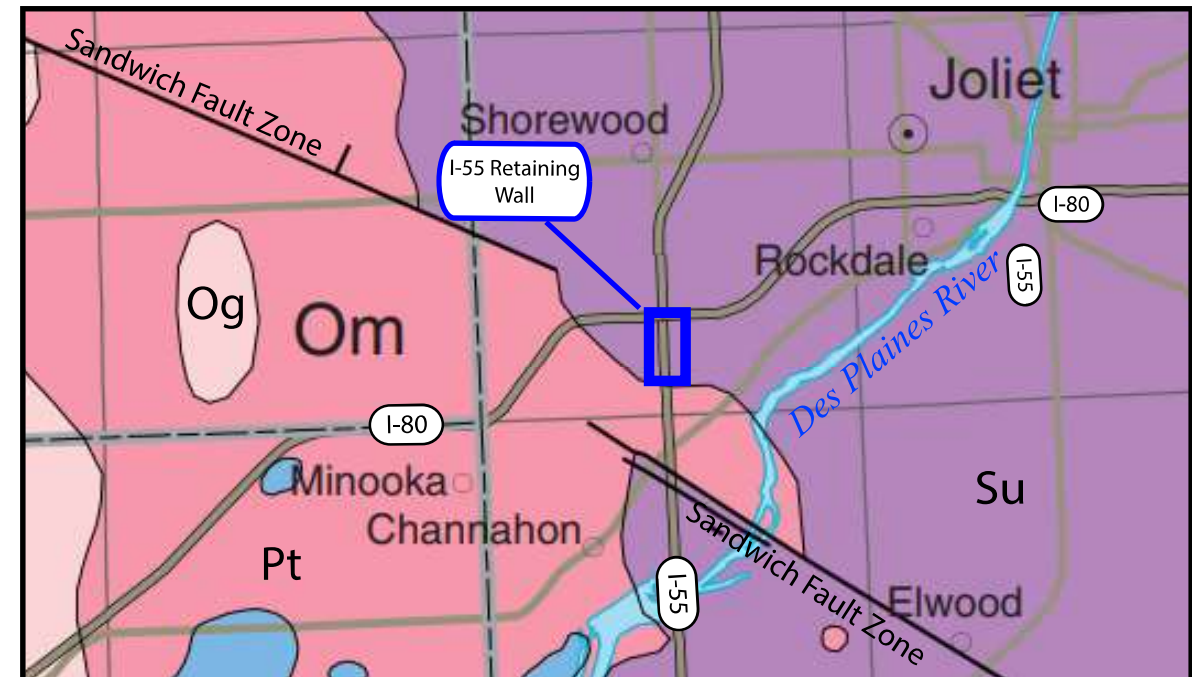
SCALE: GRAPHICAL	<b>EXHIBIT 1</b>	DRAWN BY: J. Bensen CHECKED BY: A. Hamad
------------------	------------------	---

 <b>Wang Engineering</b>	1145 N. Main Street Lombard, IL 60148 www.wangeng.com
	FOR STANTEC

255-39-01




Modified after William W. Shilts (2000)



SITE AND REGIONAL GEOLOGY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL	<b>EXHIBIT 2</b>	DRAWN BY: J. Bensen CHECKED BY: A. Hamad
------------------	------------------	---



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

FOR STANTEC 255-39-01



Benchmark: Set 2" CWA aluminum disc in concrete base of light pole on north side of westbound I-80, approximately 250'± east of mile marker 126 & 950'± west of I-55 centerline. Elev. 609.80

Existing Structure: None  
Traffic Control: None  
No Salvage.

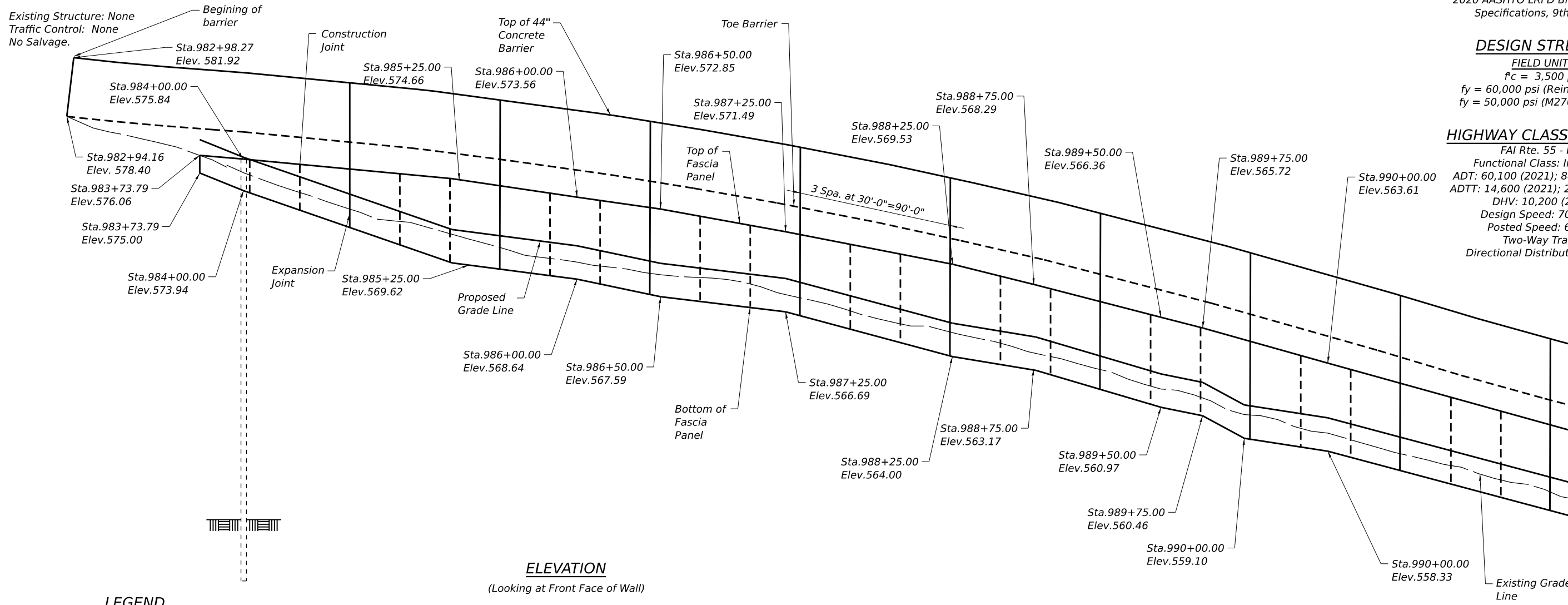
**DESIGN SPECIFICATIONS**  
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

**DESIGN STRESSES**

**FIELD UNITS**  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (Reinforcement)  
f<sub>y</sub> = 50,000 psi (M270 Grade 50)

**HIGHWAY CLASSIFICATION**

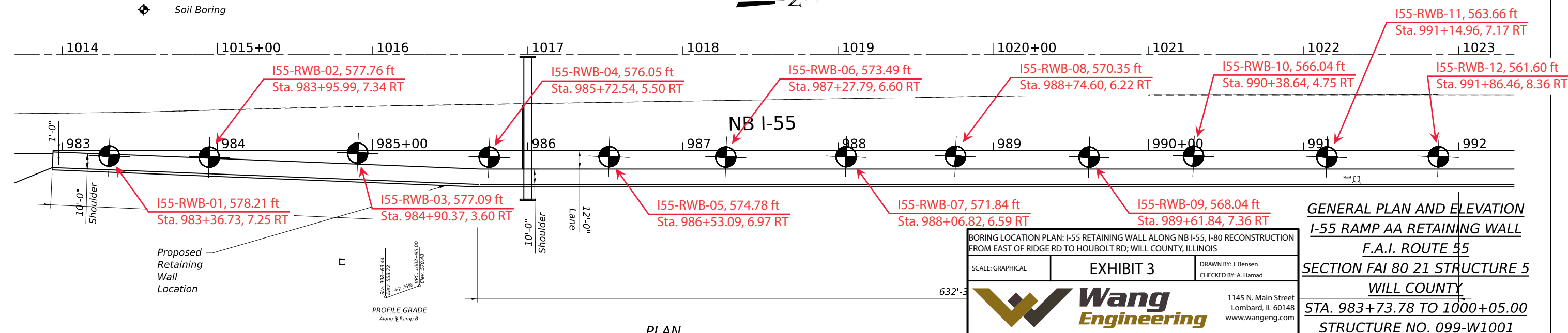
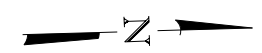
FAI Rte. 55 - I-55  
Functional Class: Interstate  
ADT: 60,100 (2021); 84,900 (2040)  
ADTT: 14,600 (2021); 20,630 (2040)  
DHV: 10,200 (2040)  
Design Speed: 70 m.p.h.  
Posted Speed: 65 m.p.h.  
Two-Way Traffic  
Directional Distribution: 50:50



**ELEVATION**  
(Looking at Front Face of Wall)

**LEGEND**

- E — Existing Electrical Line
- ⊕ Soil Boring



**PLAN**

BORING LOCATION PLAN: I-55 RETAINING WALL ALONG NB I-55, I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL	<b>EXHIBIT 3</b>	DRAWN BY: J. Bensen CHECKED BY: A. Hamad
		1145 N. Main Street Lombard, IL 60148 www.wangeng.com
		255-39-01

FOR STANTEC

**GENERAL PLAN AND ELEVATION**  
**I-55 RAMP AA RETAINING WALL**  
**F.A.I. ROUTE 55**  
**SECTION FAI 80 21 STRUCTURE 5**  
**WILL COUNTY**  
**STA. 983+73.78 TO 1000+05.00**  
**STRUCTURE NO. 099-W1001**

MODEL: Default  
FILE NAME: pw://transyscorp-pw1-hosted/Documents/Projects\_2018/CH401/40118002201-Stantec/CAD/INT-02\_g2R26/04-Sheet/04-Structures/099W1001\_Ramp AA Retaining Wall/TSL/099W1001\_62R26-Retaining Wall-TSL-001.dgn



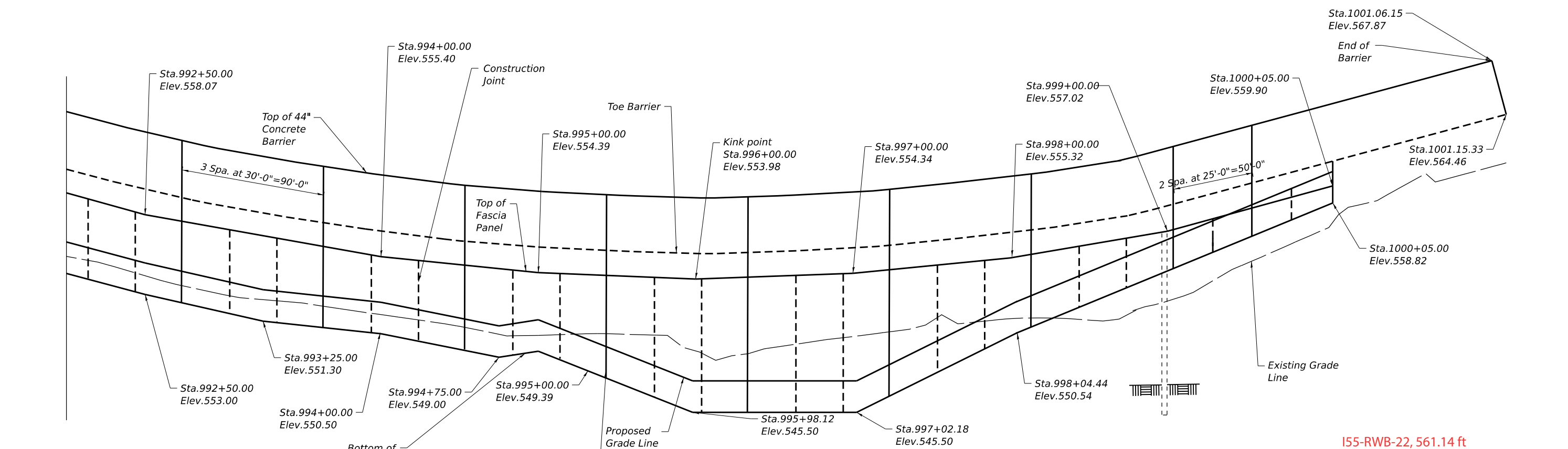
USER NAME = sdotati	DESIGNED - EAO	REVISED -
PLOT SCALE = 63.9531' / in.	CHECKED - JZ	REVISED -
PLOT DATE = 1/30/2024	DRAWN - EAO	REVISED -
	CHECKED - JZ	REVISED -

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

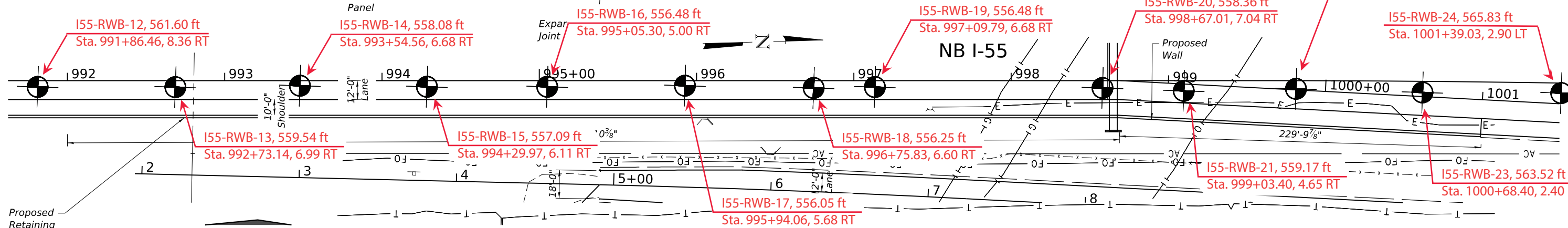
SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	FAI 80 21 STRUCTURE 5	WILL	STOT	\$504
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R26	

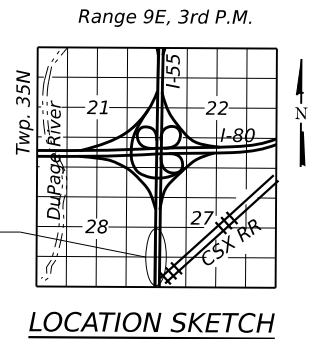
MODEL: Default  
 FILE NAME: p:\projects\transystems-pw-bentley.com\transystems-pw-hosted\Documents\Projects\_2018\CH401\401180022\01-Structec\CAD\INT-02\_62R26\604-Structures\099W1001\_Ramp\_AA\_Retaining Wall\TSI\099W1001\_62R26-Retaining Wall-TSI-002.dgn  
 1/30/2024 3:21:37 PM



**ELEVATION VIEW**



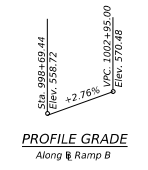
**PLAN**



**LOCATION SKETCH**

**LEGEND**

- E — Existing Electrical Line
- FO — Existing Fiber Optic Line
- T — Existing Telephone
- ⊕ Soil Boring
- ⊙ Existing Light Pole



BORING LOCATION PLAN: I-55 RETAINING WALL ALONG NB I-55, I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS		
SCALE: GRAPHICAL	<b>EXHIBIT 3</b>	DRAWN BY: J. Bensen CHECKED BY: A. Hamad
		1145 N. Main Street Lombard, IL 60148 www.wangeng.com
		FOR STANTEC

**GENERAL PLAN AND ELEVATION**  
**I-55 RAMP AA RETAINING WALL**  
**F.A.I. ROUTE 55**  
**SECTION FAI 80 21 STRUCTURE 5**  
**WILL COUNTY**  
**STA. 983+73.78 TO 1000+05.00**  
**STRUCTURE NO. 099-W1001**



USER NAME = sdo1at1	DESIGNED -	REVISED -
PLOT SCALE = 64.0358' = 1 in.	CHECKED -	REVISED -
PLOT DATE = 1/30/2024	DRAWN -	REVISED -
	CHECKED -	REVISED -

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

SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	FAI 80 21 STRUCTURE 5	WILL	\$TOT \$505	
CONTRACT NO. 62R26				

ILLINOIS FED. AID PROJECT

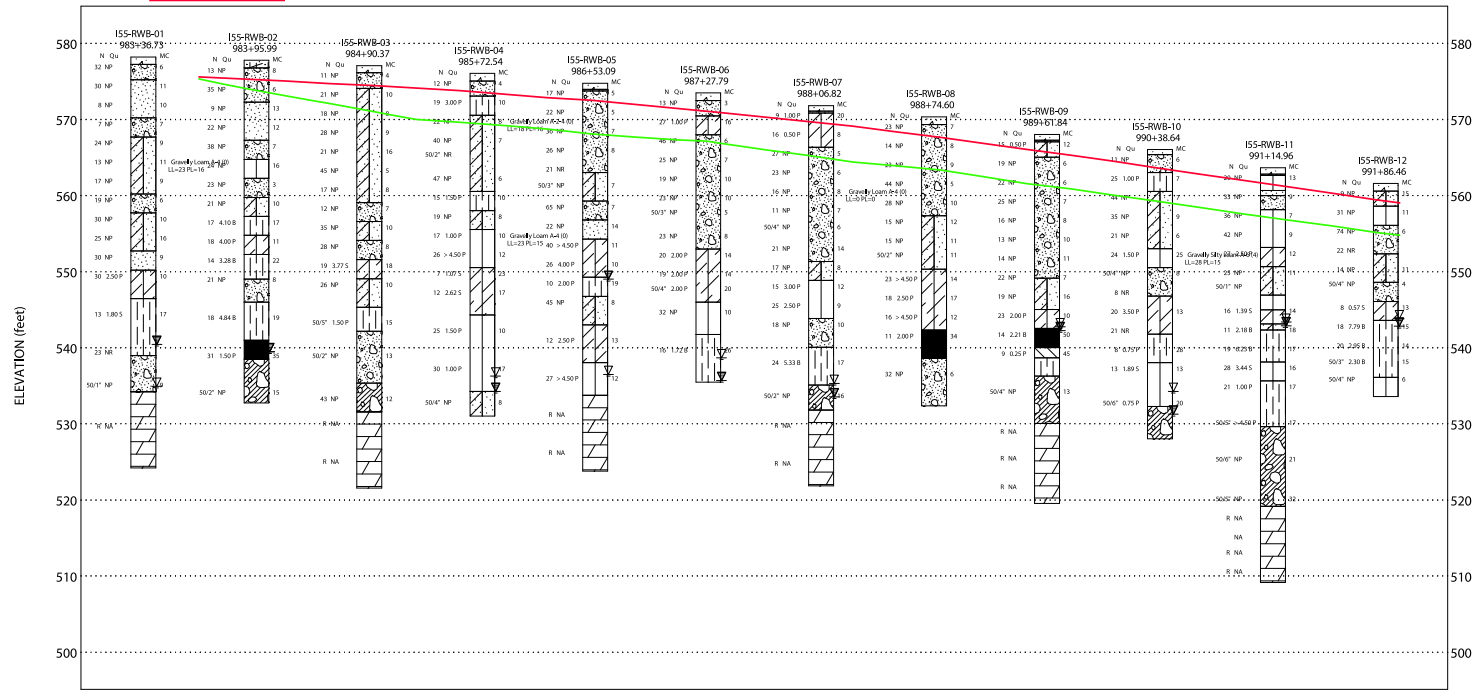


Begin Wall  
Sta. 983+73.79

— Top of Facia Panel  
— Proposed Grade Line at Front Face of the Wall



I55-RWB-12  
I55-RWB-11  
I55-RWB-10  
I55-RWB-09  
I55-RWB-08  
I55-RWB-07  
I55-RWB-06  
I55-RWB-05  
I55-RWB-04  
I55-RWB-03  
I55-RWB-02  
I55-RWB-01



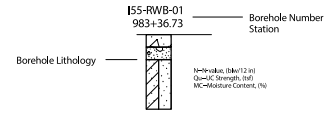
DISTANCE ALONG PROFILE (feet)

Lithology Graphics

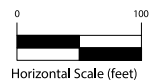
- Concrete
- IDH Clay Loam
- IDH Silt, Silty Loam
- Gravelly sand, sandy gravel
- IDH Silty Clay, Silty Clay Loam
- Topsail
- IDH Sand, Sandy Loam
- Dolomite or Dolomitic Limestone
- Weathered bedrock
- IDH Loam
- Pavement
- IDH Clay

Site Map Scale 1 inch equals 365 feet

Explanation:



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



Vertical Exaggeration: 6x

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

Soil Profile  
I-55 Retaining Wall  
SN 099-W1001



I-80 Reconstruction, Ridge Road to  
Houbolt Road  
Will County, Illinois

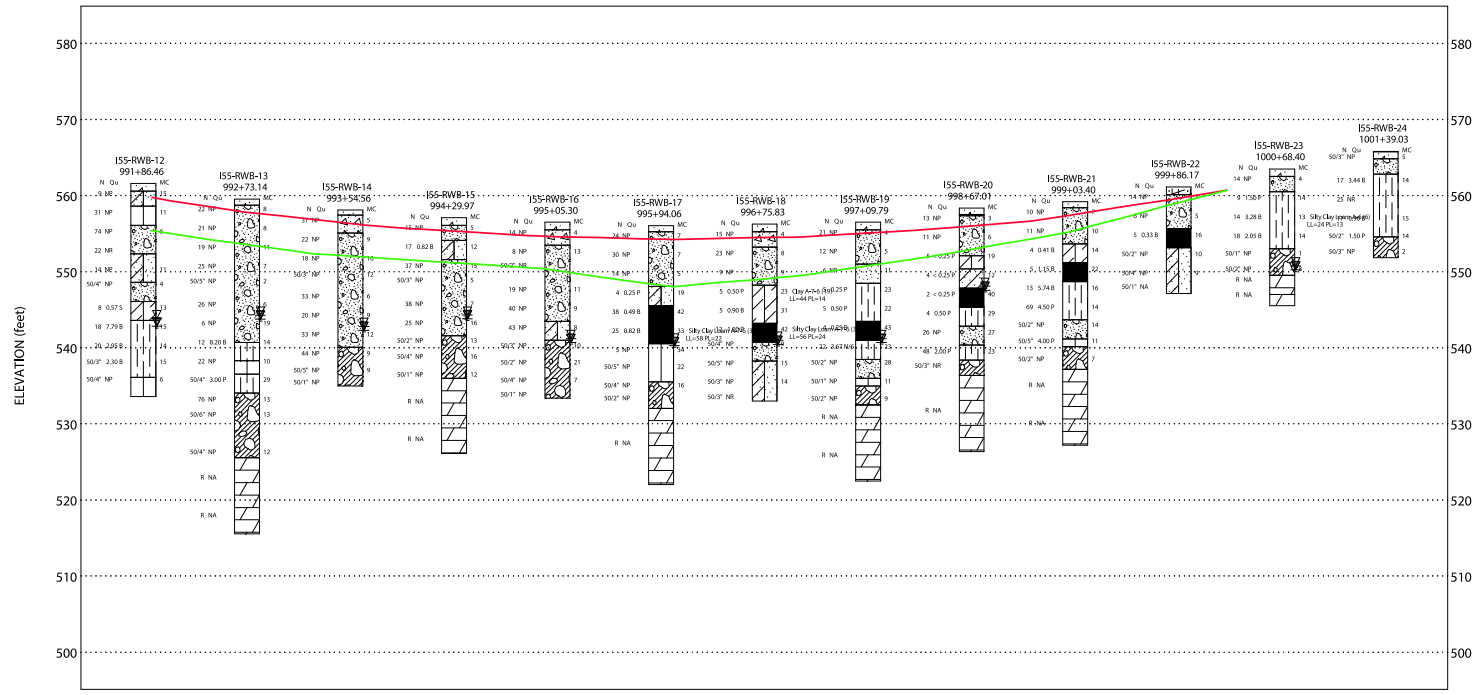
JOB NUMBER	PLATE NUMBER
255-39-01	EXHIBIT 4-1



— Top of Facia Panel  
 — Proposed Grade Line at Front Face of the Wall



End Wall  
 Sta. 1000+24.57



DISTANCE ALONG PROFILE (feet)

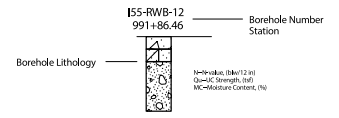
Lithology Graphics

- |               |                                 |                      |                                 |
|---------------|---------------------------------|----------------------|---------------------------------|
| Concrete      | IDH Loam                        | IDH Silt, Silty Loam | Gravelly sand, sandy gravel     |
| IDH Clay Loam | IDH Silty Clay, Silty Clay Loam | Weathered bedrock    | Dolomite or Dolomitic Limestone |
| Crushed stone | Topsail                         | IDH Sand, Sandy Loam | IDH Sandy Clay, Sandy Clay Loam |
| Pavement      |                                 |                      |                                 |

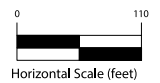
- I55-RWB-24
- I55-RWB-23
- I55-RWB-22
- I55-RWB-21
- I55-RWB-20
- I55-RWB-19
- I55-RWB-18
- I55-RWB-17
- I55-RWB-16
- I55-RWB-15
- I55-RWB-14
- I55-RWB-13
- I55-RWB-12

Site Map Scale 1 inch equals 405 feet

**Explanation:**



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



Vertical Exaggeration: 6.5x

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

Soil Profile  
 I-55 Retaining Wall  
 SN 099-W1001



I-80 Reconstruction, Ridge Road to  
 Houboit Road  
 Will County, Illinois

JOB NUMBER	PLATE NUMBER
255-39-01	EXHIBIT 4-2

## **APPENDIX A**



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-01

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 578.21 ft  
 North: 1751463.00 ft  
 East: 1021655.00 ft  
 Station: 983+36.73  
 Offset: 7.25 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 (%)	
		12-inch thick CONCRETE --PAVEMENT--								557.7								
	577.2	Dense, brown SANDY GRAVEL; damp --FILL--			1	10 16 16	NP	6			Medium dense to dense, brown LOAM to SANDY LOAM, little to some gravel; damp --FILL-- --RDR 2--			9	7 9 21	NP	10	
	575.2	Loose to dense, brown and gray SANDY LOAM, trace to some gravel; damp --FILL-- --RDR 2--			2	5 13 17	NP	11						10	8 12 13	NP	16	
					3	4 5 3	NP	10			Dense, brown SANDY LOAM to SAND, little gravel; damp --FILL--			11	12 13 17	NP	9	
	570.2	Loose, brown Gravelly SAND; damp --FILL-- --RDR 2--			4	4 4 3	NP	7						12	10 10 20	2.50 P	10	
	567.7	Medium dense, brown Gravelly LOAM to SANDY LOAM; damp --FILL-- --RDR 2--			5	7 12 12	NP	9						13	5 6 7	1.80 S	17	
		--L <sub>I</sub> (%)=23, P <sub>I</sub> (%)=16-- --%Gravel=23.3-- --%Sand=33.6-- --%Silt=34.2-- --%Clay=8.9-- --A-4 (0)--			6	3 6 7	NP	11			552.7	Dense, brown SANDY LOAM to SAND, little gravel; damp --FILL--						
					7	10 8 9	NP	9			550.2	Very stiff, brown and black CLAY LOAM, little to some gravel; damp --FILL-- --RDR 2--						
	560.2	Medium dense, brown SANDY GRAVEL; damp --FILL-- --RDR 2--			8	10 10 9	NP	6			546.5	Stiff, black CLAY LOAM to SILTY CLAY LOAM, trace gravel; damp --RDR 2--						
					15									14	5 10 13	NR		
					20					539.0	Very dense, gray SANDY			40				

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-07-2024** Complete Drilling **01-07-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&NC** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **43.50 ft**  
 At Completion of Drilling **38.00 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-01

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 578.21 ft  
 North: 1751463.00 ft  
 East: 1021655.00 ft  
 Station: 983+36.73  
 Offset: 7.25 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 (%)
		GRAVEL; wet															
	534.2	--RDR 2-4--															
		Strong, light gray, fair quality, DOLOSTONE; closely spaced, highly weathered, horizontal, oblique, and vertical joints, with 0-0.2 inch opening, slightly rough walls, and >0.2 inch thick clay infill.	45			50/1"	NP	9									
		--RUN 1: 44.0 to 54.0 feet-- --Recovery: 92%-- --RQD: 58%-- --Q <sub>u</sub> =6,155 psi--			1												
	524.2	Boring terminated at 54.00 ft	55														
			60														

### GENERAL NOTES

Begin Drilling **01-07-2024** Complete Drilling **01-07-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&NC** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **43.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **38.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-02

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 577.76 ft  
 North: 1751522.24 ft  
 East: 1021653.29 ft  
 Station: 983+95.99  
 Offset: 7.34 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 (%)
	576.8	12-inch thick CONCRETE --PAVEMENT--								577.3	Hard, gray SILTY CLAY LOAM, trace gravel; moist						
		Medium dense to dense, light brown and gray SANDY GRAVEL; damp --FILL-- --RDR-2--			1	10 7 6	NP	8						9	12 9 8	4.10 B	17
					2	5 16 19	NP	6		554.8	Hard, light brown to brown, gravelly CLAY LOAM; moist --FILL-- --RDR-2--			10	11 10 8	4.00 P	11
	572.3	Loose to medium dense, light brown to brown, gravelly LOAM to SANDY LOAM; moist --FILL-- --RDR-2-- --wet spoon--			3	5 4 5	NP	13		552.3	Very stiff, brown and gray SILTY CLAY LOAM to SILTY LOAM, trace gravel; moist --FILL-- --RDR-2--			11	7 7 7	3.28 B	22
					4	10 12 10	NP	12		549.0	Medium dense, light brown and gray SANDY GRAVEL; damp --FILL-- --RDR-2--			12	13 14 7	NP	8
	567.3	Dense, light brown and gray SANDY GRAVEL; damp to moist --FILL-- --RDR-2-- --wet spoon--			5	11 18 20	NP	7		546.0	Hard, brown and gray SILTY CLAY LOAM, trace gravel; moist --FILL-- --RDR-2--			13	9 10 8	4.84 B	19
	564.8	Medium dense, light brown, gravelly SILTY LOAM; moist --FILL-- --RDR-2--			6	6 13 11	NP	16						13			
	562.3	Medium dense, light brown and gray SANDY GRAVEL; damp --FILL-- --RDR-2--			7	9 14 9	NP	3		541.0	Stiff, black SILTY CLAY LOAM; moist --possible buried TOPSOIL-- --RDR-2--			14	6 8 23	1.50 P	35
	559.8	Medium dense, light brown to brown LOAM; moist --FILL-- --RDR-2--			8	6 11 10	NP	10		538.5	Very dense, light gray GRAVEL;			14			

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **02-07-2024** Complete Drilling **02-08-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **38.50 ft**  
 At Completion of Drilling  $\nabla$  **38.50 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24





wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-02

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 577.76 ft  
 North: 1751522.24 ft  
 East: 1021653.29 ft  
 Station: 983+95.99  
 Offset: 7.34 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 (%)
		wet --RDR-2-3-- --wet spoon-- --Weathered BEDROCK--															
	532.8	--sampler refusal-- --possible cobbles and boulders-- Boring terminated at 45.00 ft	45		15	16 12 50/2"	NP	15									
			50														
			55														
			60														

### GENERAL NOTES

Begin Drilling **02-07-2024** Complete Drilling **02-08-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **38.50 ft**  
 At Completion of Drilling  $\nabla$  **38.50 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-03

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 577.09 ft  
 North: 1751616.46 ft  
 East: 1021646.66 ft  
 Station: 984+90.37  
 Offset: 3.60 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 (%)
	576.2	11-inch thick CONCRETE --PAVEMENT--								556.6	Dense, brown Gravelly LOAM to SILTY LOAM; damp						
		Medium dense, brown and white Gravelly SAND; dry --AGGREGATE BASE--			1	8 6 5	NP	4			--FILL--			9	14 17 18	NP	10
	574.1	Medium dense to dense, brown Gravelly LOAM to SILTY LOAM; damp --FILL-- --RDR 2--			2	6 11 10	NP	10		554.1	Medium dense, brown SANDY GRAVEL; damp			10	6 16 12	NP	8
					3	6 9 9	NP	8		551.6	Very stiff, brown SILTY CLAY to CLAY LOAM, little gravel; damp --FILL--			11	4 8 11	3.77 S	18
					4	16 16 12	NP	9		549.1	Medium dense, brown Gravelly LOAM to SILTY LOAM; damp --FILL-- --RDR 2--			12	5 13 13	NP	10
					5	16 13 8	NP	16		545.3	Stiff, brown Gravelly SILTY CLAY LOAM; damp --RDR 2--			13	19 11 50/5"	1.50 P	15
					6	15 26 19	NP	5		542.2	Very dense, brown Gravelly SAND; damp --RDR 2--			14		NP	13
					7	3 7 10	NP	8			--possible cobbles--						
	559.1	Medium dense, brown Gravelly SAND; damp --FILL--			8	3 5 7	NP	7									

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **groundwater not encountered**  
 At Completion of Drilling **groundwater not recorded**  
 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-03

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 577.09 ft  
 North: 1751616.46 ft  
 East: 1021646.66 ft  
 Station: 984+90.37  
 Offset: 3.60 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 (%)
	535.3	Dense, gray Gravelly SILTY LOAM to LOAM; moist --Weathered BEDROCK-- --RDR 3--	45		15	20 21 22	NP	12									
	531.6	Strong, light gray, very poor quality, DOLOSTONE; closely spaced, moderately weathered, horizontal, oblique, and vertical joints, with 0-0.2 inch opening, slightly rough walls, and no infill. --RUN 1: 45.5 to 49.5 feet-- --Recovery: 19%-- --RQD: 8%--  --RUN 2: 49.5 to 55.5 feet-- --Recovery: 81%-- --RQD: 17%--	50		1	C O R E											
			55		2	C O R E											
	521.6	Boring terminated at 55.50 ft	60														

### GENERAL NOTES

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **groundwater not encountered**  
 At Completion of Drilling **groundwater not recorded**  
 Time After Drilling **NA**  
 Depth to Water **NA**

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



# BORING LOG I55-RWB-04

wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 576.05 ft  
 North: 1751698.65 ft  
 East: 1021646.04 ft  
 Station: 985+72.54  
 Offset: 5.50 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 (%)
	575.0	12-inch thick CONCRETE --PAVEMENT--								555.5	Stiff to hard, brown Gravelly LOAM to SILTY LOAM; damp						
	573.0	Medium dense, brown Gravelly SAND; damp --FILL--	1		5 7 5	NP	4				--L <sub>L</sub> (%)=23, P <sub>L</sub> (%)=15-- --%Gravel=27.9-- --%Sand=28.6-- --%Silt=35.1-- --%Clay=8.4-- --A-4 (0)--	9		10 7 10	1.00 P	10	
	570.5	Very stiff, brown Gravelly CLAY LOAM; damp --FILL--	2		4 9 10	3.00 P	10					10		10 14 12	4.50 P	12	
	570.5	Medium dense to dense, brown Gravelly LOAM to SANDY LOAM; damp --FILL-- --RDR 2-- --L <sub>L</sub> (%)=18, P <sub>L</sub> (%)=16-- --%Gravel=39.3-- --%Sand=29.7-- --%Silt=26.7-- --%Clay=4.3-- --A-2-4 (0)--	3		5 10 12	NP	8			550.5	Stiff to very stiff, brown CLAY LOAM to SILTY LOAM, some gravel; damp --FILL-- --RDR 2--	11		2 2 5	1.07 S	23	
			4		15 20 20	NP	7					12		7 6 6	2.62 S	17	
			5		50/2"	NR				544.3	Medium dense to dense, brown Gravelly LOAM to SILTY LOAM; damp --FILL-- --RDR 2--	13		7 8 17	1.50 P	10	
	560.5	Stiff, brown Gravelly CLAY LOAM, some gravel; damp --FILL--	7		6 8 7	1.50 P	10					14		3 9 21	1.00 P	17	
	558.0	Medium dense, brown Gravelly LOAM to SANDY LOAM; damp --FILL--	8		5 8 11	NP	8					14		3 9 21	1.00 P	17	

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **40.00 ft**  
 At Completion of Drilling **42.00 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-04

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 576.05 ft  
 North: 1751698.65 ft  
 East: 1021646.04 ft  
 Station: 985+72.54  
 Offset: 5.50 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 (%)
	534.3	Dense, gray LOAM to CLAY LOAM, little to some gravel; wet --RDR 2--															
		--possible cobbles--			15	50/4	NP	8									
	531.0	--AUGER REFUSAL-- Boring terminated at 45.00 ft	45														
			50														
			55														
			60														

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **40.00 ft**  
 At Completion of Drilling  $\blacktriangledown$  **42.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-05

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 574.78 ft  
 North: 1751779.21 ft  
 East: 1021645.05 ft  
 Station: 986+53.09  
 Offset: 6.97 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 (%)
	574.0	10-inch thick CONCRETE --PAVEMENT--								554.3	Very stiff to hard, brown and gray CLAY LOAM, trace gravel; damp						
	573.8	2-inch thick, brown GRAVEL --AGGREGATE BASE--									--FILL--						
		Medium dense to dense, brown Gravelly SAND; damp			1	9 9 8	NP	5			--RDR 2--			9	20 18 22	> 4.50 P	11
		--FILL-- --RDR 2--			2	8 9 13	NP	5				25		10	7 10 16	4.00 P	10
			5		3	5 14 22	NP	7			--FILL--			11	3 5 5	2.00 P	19
					4	6 12 14	NP	8						12	30 18 27	NP	8
			10		5	11 8 13	NR										
	563.0	Very dense, brown and gray Gravelly LOAM; damp to moist			6	12 12 13	NP	7			--FILL-- --RDR 2--			13	5 7 5	2.50 P	13
		--FILL-- --RDR 4--			7	45 45 20	NP	7			--wet spoon recovery; possible sand lens--						
	559.3	Very dense, brown and gray SANDY GRAVEL; damp			8	5 11 11	NP	14						14	11 11 16	> 4.50 P	12
		--FILL--								538.0	Hard, gray SILTY LOAM, trace gravel; wet						
	556.8	Medium dense, brown and gray SANDY LOAM, trace gravel; damp									--RDR 2--						
		--FILL--															
			20														

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **M. Rojo** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **38.50 ft**  
 At Completion of Drilling **26.00 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-05

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 574.78 ft  
 North: 1751779.21 ft  
 East: 1021645.05 ft  
 Station: 986+53.09  
 Offset: 6.97 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 (%)
	533.8	Strong, light gray, very poor quality, DOLOSTONE; closely spaced, slightly weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and <0.2 inch thick clay infill. --RUN 1: 41.0 to 47.0 feet-- --Recovery: 92%-- --RQD: 7%--  --RUN 2: 47.0 to 51.0 feet-- --Recovery: 52%-- --RQD: 8%--			1												
						2											
	523.8	Boring terminated at 51.00 ft															

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-10-2024** Complete Drilling **01-10-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **M. Rojo** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **38.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **26.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-06

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 573.49 ft  
 North: 1751853.86 ft  
 East: 1021642.38 ft  
 Station: 987+27.79  
 Offset: 6.60 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 (%)
		12-inch thick CONCRETE --PAVEMENT--								553.0							
	572.5	Medium dense, brown SANDY GRAVEL; damp --FILL--			1	9 7 6	NP	3			Very stiff, brown CLAY LOAM to SILTY CLAY LOAM, trace to little gravel; damp --FILL-- --RDR 2--			9	10 6 14	2.00 P	14
	570.5	Stiff, brown CLAY LOAM, trace gravel; damp --FILL--			2	3 9 18	1.00 P	16				25		10	10 8 11	2.00 P	14
	568.0	Medium dense to very dense, brown Gravelly SANDY LOAM to SANDY GRAVEL; damp --FILL-- --RDR 2--			3	9 19 27	NP	6						11	50/4	2.00 P	20
					4	5 13 12	NP	7		546.0	Dense, brown and gray LOAM to SILTY LOAM, trace gravel; damp --FILL-- --RDR 2--			12	10 16 16	NP	10
					5	8 9 10	NP	10		541.7	Stiff, dark gray SILTY CLAY, trace gravel; damp --RDR 2--						
					6	10 10 13	NP	10				35		13	4 7 9	1.72 B	26
					7		NP	5			--wet spoon recovery; possible sand lens--						
					8	14 12 11	NP	8		535.5	--AUGER REFUSAL-- Boring terminated at 38.00 ft						

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-11-2024** Complete Drilling **01-11-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **M. Rojo** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **35.00 ft**  
 At Completion of Drilling  $\nabla$  **38.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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







wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-07

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 571.84 ft  
 North: 1751932.86 ft  
 East: 1021639.96 ft  
 Station: 988+06.82  
 Offset: 6.59 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 (%)
		Strong, light brownish gray, very poor to poor quality, DOLOSTONE; very closely spaced, moderately weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and 0 - 0.2 inch thick clay infill. --RUN 1: 40.0 to 45.0 feet-- --Recovery: 95%-- --RQD: 37%-- --coring rate: 2.2 min/ft--45 --Q <sub>v</sub> =6,447 psi-- --RUN 2: 45.0 to 50.0 feet-- --Recovery: 87%-- --RQD: 13%--			1												
						2											
	521.8	Boring terminated at 50.00 ft	50														
			55														
			60														

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-28-2024** Complete Drilling **01-28-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **36.75 ft**  
 At Completion of Drilling  $\blacktriangledown$  **38.50 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-08

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 570.35 ft  
 North: 1752000.59 ft  
 East: 1021637.51 ft  
 Station: 988+74.60  
 Offset: 6.22 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 (%)
	569.3	12-inch thick CONCRETE --PAVEMENT--															
		Medium dense to dense, brown Gravelly SANDY LOAM to LOAM; damp --FILL-- --RDR 2-3--	1	X	1	12 11 12	NP	7			Very stiff to hard, brown and gray CLAY LOAM, trace gravel; damp --FILL-- --RDR 2--	9	X	9	13 11 12	> 4.50 P	14
			2	X	2	4 2 12	NP	8				10	X	10	6 8 10	2.50 P	17
			3	X	3	8 11 12	NP	9				11	X	11	7 4 12	> 4.50 P	12
			4	X	4	21 25 19	NP	5		542.3	Very stiff, dark gray and black SILTY CLAY, trace gravel; damp --Buried TOPSOIL-- --RDR 2--	12	X	12	8 6 5	2.00 P	34
			5	X	5	6 11 17	NP	10		538.6	Dense, gray SANDY GRAVEL; damp --RDR 2--						
	557.3	Medium dense to very dense, brown LOAM to SILTY LOAM, trace to some gravel; damp --FILL-- --RDR 2--15	6	X	6	5 5 10	NP	12				13	X	13	7 16 16	NP	6
			7	X	7	8 8 7	NP	11									
			8	X	8		NP	11		532.3	--AUGER REFUSAL-- Boring terminated at 38.00 ft						
	550.3		20			50/2"											

### GENERAL NOTES

Begin Drilling **01-11-2024** Complete Drilling **01-11-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **M. Rojo** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  **DRY**  
 At Completion of Drilling  **DRY**  
 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-09

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 568.04 ft  
 North: 1752087.82 ft  
 East: 1021635.99 ft  
 Station: 989+61.84  
 Offset: 7.36 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 (%)
	567.3	9-inch thick CONCRETE --PAVEMENT--									trace gravel; moist						
	567.0	3-inch thick SANDY GRAVEL --BASE COURSE--									--FILL-- --RDR-2--						
		Medium stiff, brown LOAM; moist --FILL--			1	9 6 9	0.50 P	12						9	5 8 11	NP	16
	565.0	Medium dense to dense, brown and gray SANDY GRAVEL to Gravelly SAND; damp to moist --FILL-- --RDR-2--			2	17 8 11	NP	6						10	9 11 12	2.00 P	10
					3	8 12 10	NP	6			--wet spoon recovery; possible sand lens-- Very stiff, black SILTY CLAY LOAM; moist to wet --Buried TOPSOIL--			11	15 7 7	2.21 B	50
					4	8 10 15	NP	7			Soft, dark gray CLAY to SILTY CLAY, trace organic matter; wet --RDR-2--			12	3 3 6	0.25 P	45
					5	5 6 10	NP	8			Very stiff (2.21B), dark gray SILTY CLAY LOAM; wet --RDR-2--						
					6	5 4 9	NP	10			Very dense, light gray Gravelly SILTY LOAM; wet --RDR-3-- --possible weathered bedrock--			13	38 22 50/4"	NP	13
					7	5 6 8	NP	11									
	549.1	Medium dense, dark brown and black LOAM to CLAY LOAM,			8	49 9 13	NP	7			Strong, light gray, very poor to poor quality, DOLOSTONE; very closely spaced, slightly weathered, horizontal, oblique,			1			

### GENERAL NOTES

Begin Drilling **01-29-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **25.50 ft**  
 At Completion of Drilling **26.00 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.

WANGENG 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-09

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 568.04 ft  
 North: 1752087.82 ft  
 East: 1021635.99 ft  
 Station: 989+61.84  
 Offset: 7.36 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 (%)
		and vertical joints, with <0.05 inch opening, slicken to rough walls, and no infill.															
		--RUN 1: 38.0 to 41.0 feet-- --Recovery: 50%-- --RQD: 11%--			2												
		--RUN 2: 41.0 to 45.0 feet-- --Recovery: 92%-- --RQD: 17%--															
		--RUN 3: 45.0 to 48.5 feet-- --Recovery: 100%-- --RQD: 33%--	45		3												
	519.5	Boring terminated at 48.50 ft															
			50														
			55														
			60														

### GENERAL NOTES

Begin Drilling **01-29-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **25.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **26.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-10

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 566.04 ft  
 North: 1752164.51 ft  
 East: 1021631.02 ft  
 Station: 990+38.64  
 Offset: 4.75 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 (%)
	565.4	8-inch thick CONCRETE --PAVEMENT--															
		Medium dense, brown SANDY GRAVEL; damp --FILL--			1	5 6 5	NP	6			CLAY LOAM to CLAY LOAM, some gravel; moist --FILL-- --RDR 2--			9	5 12 8	3.50 P	13
	563.0	Stiff, brown and gray SILTY CLAY LOAM to SILTY LOAM, some gravel; damp --FILL--			2	2 7 18	1.00 P	7		541.8	Medium stiff, gray, black and white SILTY CLAY to SILTY CLAY LOAM, some gravel; moist --possible trace peat seams-- --RDR 2--			10	11 13 8	NR	
	560.5	Medium dense to dense, brown Gravelly LOAM to SILTY LOAM; damp --FILL-- --RDR 2--			3	7 24 20	NP	7						11	2 4 4	0.75 P	28
					4	9 15 20	NP	9			Medium stiff to stiff, gray SILTY LOAM to CLAY LOAM, little to some gravel; moist --RDR 2--			12	7 6 7	1.89 S	13
					5	7 11 10	NP	6									
	553.0	Stiff, brown Gravelly SILTY LOAM to LOAM; wet --FILL-- --RDR 2-- --L <sub>L</sub> (%)=28, P <sub>L</sub> (%)=15-- --%Gravel=15.6-- --%Sand=29.8-- --%Silt=42.4-- --%Clay=12.2-- --A-6 (4)--			6	6 9 15	1.50 P	25		538.0	Medium stiff to stiff, gray SILTY LOAM to CLAY LOAM, little to some gravel; moist						
	550.5	Very dense, gray and brown SANDY GRAVEL; damp --FILL-- --RDR 2--			7	4 5	NP	8		532.3	Very dense, gray rock fragments; saturated --Weathered BEDROCK--			13	50/6"	0.75 P	20
	546.8	Very stiff, gray and brown SILTY			8	3 2 6	NR			528.0	--AUGER REFUSAL-- Boring terminated at 38.00 ft						

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-11-2024** Complete Drilling **01-11-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **2.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **32.00 ft**  
 At Completion of Drilling  $\nabla$  **35.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-11

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 563.66 ft  
 North: 1752240.87 ft  
 East: 1021631.10 ft  
 Station: 991+14.96  
 Offset: 7.17 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 (%)
	562.8	10-inch thick CONCRETE --PAVEMENT--								543.2	Brown Gravelly LOAM; wet						
	562.7	2-inch thick SANDY GRAVEL --BASE COURSE--								542.3	--FILL-- Very stiff to hard, brown and gray SILTY CLAY, trace gravel; damp			9	6 4 7	2.18 B	18
	560.7	Medium dense, brown SILTY LOAM to SILTY CLAY LOAM, little gravel; dry			1	8 10 10	NP	13			--RDR 2--						
	560.0	--FILL-- Brown, fine SAND, some gravel; dry			2	7 23 10	NP	9				25		10	6 12 7	6.23 B	17
	558.2	Dense, black and brown SANDY GRAVEL; dry			5					538.2	Very stiff, gray SILTY LOAM, trace gravel; damp						
		Dense, brown SILTY LOAM to SILTY CLAY LOAM, some gravel; dry			3	6 18 18	NP	7			--RDR 2--			11	8 13 15	3.44 S	16
		--FILL-- --RDR 2--			4	6 26 16	NP	9		535.7	Stiff to hard, greenish gray SILTY CLAY LOAM, trace to little gravel; moist				12 12 9	1.00 P	17
	553.2	Very stiff, brown CLAY LOAM to SILTY LOAM, little gravel; damp			5	7 11 16	2.50 P	12									
	550.7	Medium dense, brown LOAM, little to some gravel; damp			6	5 10 15	NP	11		529.7	Very dense, greenish gray Gravelly LOAM to SILTY LOAM, trace cobbles; saturated			13	28 50/5"	> 4.50 P	17
		--FILL-- --RDR 2--			7		NP				--Highly weathered BEDROCK--						
	546.9	Brown and gray SILTY LOAM to SILTY CLAY LOAM, little gravel; damp				50/1"					--RDR 3--						
	545.0	Stiff, dark gray CLAY LOAM, little gravel; damp			8	12 7 9	1.39 S	14			--possible cobbles--			14	50/6"	NP	21
		--FILL--			20							40					

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-30-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **20.50 ft**  
 At Completion of Drilling  $\nabla$  **21.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-11

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 563.66 ft  
 North: 1752240.87 ft  
 East: 1021631.10 ft  
 Station: 991+14.96  
 Offset: 7.17 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 (%)
	519.2				15	27	NP	32									
		Strong, light brownish gray, very poor to poor quality, DOLOSTONE; closely spaced, weathered, horizontal, oblique, and vertical joints, with 0 inch opening, slightly rough walls, 0->0.2 inch thick clay infill, and vuggy.	45		1	50/5"			CORE								
		--RUN 1: 44.5 to 48.5 feet-- --Recovery: 50%-- --RQD: 0%--			2												
		--RUN 2: 48.5 to 49.5 feet-- --Recovery: 34%-- --RQD: 0%--	50		3				CORE								
		--RUN 3: 49.5 to 52.5 feet-- --Recovery: 86%-- --RQD: 39%--			4				CORE								
		--RUN 4: 52.5 to 54.5 feet-- --Recovery: 25%-- --RQD: 0%--															
	509.2	Boring terminated at 54.00 ft	55														
			60														

### GENERAL NOTES

Begin Drilling **01-30-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **20.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **21.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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





# BORING LOG I55-RWB-12

wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 561.60 ft  
 North: 1752312.37 ft  
 East: 1021630.11 ft  
 Station: 991+86.46  
 Offset: 8.36 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 (%)
	560.6	12-inch thick CONCRETE --PAVEMENT--									moist						
	558.6	Loose, brown LOAM to SILTY LOAM, some gravel; damp --FILL--	5	X	1	6 5 4	NP	15			--RDR 2--	25	X	9	4 8 12	2.95 B	14
	556.1	Dense, brown and gray SILTY LOAM to SILTY CLAY LOAM, some gravel; damp --FILL--	5	X	2	5 18 13	NP	11				25	X	10	9 50/3"	2.30 B	15
	552.4	Very dense, brown SANDY GRAVEL; damp --FILL-- --RDR 2--	10	X	3	30 49 25	NP	6			Very dense, gray Gravelly SILTY LOAM; damp --RDR 2-- --possible cobbles--	30	X	11	50/4"	NP	6
	548.6	Medium dense, brown Gravelly LOAM; damp --FILL-- --RDR 2--	10	O	4	9 13 9	NR				--AUGER REFUSAL-- Boring terminated at 28.00 ft	30					
	546.1	Very dense, brown and gray SANDY GRAVEL; dry --FILL--	15	X	6	7 9 5	NP	11				35					
	543.6	Medium stiff, gray and black CLAY LOAM, little to some gravel; damp --FILL--	15	X	7	5 4 4	0.57 S	13				35					
		--wet spoon recovery; possible sand lens--															
		Very stiff to hard, brown to gray SILTY CLAY LOAM to CLAY LOAM, trace gravel; damp to	20	X	8	6 6 12	7.79 B	15				40					

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-11-2024** Complete Drilling **01-11-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&KG** Logger **I. Romero** Checked by **C. Marin**  
 Drilling Method **2.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **18.00 ft**  
 At Completion of Drilling  $\nabla$  **19.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENG 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-13

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 559.54 ft  
 North: 1752398.97 ft  
 East: 1021626.09 ft  
 Station: 992+73.14  
 Offset: 6.99 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 (%)
	558.7	10-inch thick CONCRETE --PAVEMENT--									--RDR 2--						
		Loose to very dense, light brown SANDY GRAVEL to Gravelly SAND; damp to saturated --FILL-- --RDR 2-3--			1	5 13 9	NP	8		538.3	Medium dense, light gray Gravelly SILTY LOAM; moist			9	12 13 9	NP	10
			5		2	5 8 13	NP	8		536.5	Very stiff, light greenish gray SILTY CLAY LOAM; moist --RDR 3--	25		10	16 30 50/4"	3.00 P	29
					3	10 11 8	NP	11		534.0	Very dense, light gray SANDY GRAVEL; wet --Weathered BEDROCK-- --RDR 3--			11	27 29 47	NP	13
			10		4	12 17 8	NP	7			--possible cobbles--	30		12	50/6"	NP	13
					5	50/5"	NP	2									
			15		6	7 15 11	NP	6		525.5	Strong, light brownish gray, very poor to poor quality, DOLOSTONE; very closely spaced, slightly weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and <0.2 inch thick clay infill. --RUN 1: 34.0 to 40.0 feet-- --Recovery: 90%-- --RQD: 11%-- --Qu=6,587 psi--	35		13	50/4"	NP	12
					7	5 3 3	NP	19									
	540.7	Hard, dark gray SILTY CLAY LOAM; moist	20		8	4 6 6	8.20 B	14				40					

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-30-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **15.50 ft**  
 At Completion of Drilling **16.00 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.



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-13

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 559.54 ft  
 North: 1752398.97 ft  
 East: 1021626.09 ft  
 Station: 992+73.14  
 Offset: 6.99 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 (%)
	515.5	--RUN 2: 40.0 to 44.0 feet-- --Recovery: 94%-- --RQD: 48%--			2	C O O C											
		Boring terminated at 44.00 ft	45														
			50														
			55														
			60														

### GENERAL NOTES

Begin Drilling **01-30-2024** Complete Drilling **01-30-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **15.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **16.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-14

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 558.08 ft  
 North: 1752480.34 ft  
 East: 1021623.28 ft  
 Station: 993+54.56  
 Offset: 6.68 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 (%)
	557.4	8-inch thick CONCRETE --PAVEMENT--															
		Dense, light brown SANDY GRAVEL; damp --AGGREGATE BASE--			1	30 24 7	NP	5			--possible cobbles--			9	45 50/5"	NP	9
	555.1	Medium dense, light brown Gravelly SANDY LOAM to LOAM; damp to wet --FILL-- --RDR 2--			2	4 8 14	NP	9			--AUGER REFUSAL-- Boring terminated at 23.10 ft			10	50/1"	NP	
					3	7 9 9	NP	10									
		--trace clay loam interbeds--			4	10 50/3"	NP	12									
					5	12 13 20	NP	6									
					6	6 9 11	NP	9									
		--some clay loam interbeds--			7	6 9 24	NP	12									
	540.1	Dense to very dense, light gray Gravelly LOAM; moist to wet --Weathered BEDROCK-- --RDR 2-3--			8	15 29 15	NP	9									

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-21-2024** Complete Drilling **01-21-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **15.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **16.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-15

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 557.09 ft  
 North: 1752555.70 ft  
 East: 1021620.41 ft  
 Station: 994+29.97  
 Offset: 6.11 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 (%)
	556.1	12-inch thick CONCRETE --PAVEMENT--								536.0							
	554.1	Medium dense, brown Gravelly SAND; damp --FILL--	5		1	8 8 7	NP	5			Strong, light gray, very poor quality, DOLOSTONE; very closely spaced, slightly weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and <0.2 inch thick clay infill. --RUN 1: 21.1 to 28.0 feet-- --Recovery: 75%-- --RQD: 14%--	25		9			
	551.6	Medium stiff, brown Gravelly LOAM to CLAY LOAM; moist --FILL--	5		2	3 7 10	0.82 B	12						1			
		Medium dense to very dense, brown and gray Gravelly SANDY LOAM to SANDY GRAVEL; damp to wet --FILL-- --RDR 2--	5		3	6 18 19	NP	15									
			10		4	5 3	NP	5			--RUN 2: 28.0 to 31.0 feet-- --Recovery: 61%-- --RQD: 0%--	30		2			
			15		5	25 24 14	NP	7		526.1	Boring terminated at 31.00 ft						
			15		6	5 12 13	NP	16									
	541.6	Very dense, brown and gray SANDY GRAVEL; wet to saturated --Weathered BEDROCK--	15		7	7 6	NP	13									
		--possible cobbles--	20		8	50/2"	NP	16									
			20			50/4"	NP	16									

### GENERAL NOTES

Begin Drilling **02-05-2024** Complete Drilling **02-05-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **13.00 ft**  
 At Completion of Drilling **13.50 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 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-16

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 556.48 ft  
 North: 1752630.96 ft  
 East: 1021616.99 ft  
 Station: 995+05.30  
 Offset: 5.00 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 (%)
	555.5	12-inch thick CONCRETE --PAVEMENT--															
	553.5	Medium dense, light brown SANDY GRAVEL; damp --AGGREGATE BASE--			1	9 8 6	NP	4		533.4	--possible cobbles--			9	50/4"	NP	7
	553.5	Medium dense to dense, light brown SANDY GRAVEL; moist --FILL-- --RDR 2--	5		2	3 3 5	NP	13			--AUGER REFUSAL-- Boring terminated at 23.10 ft			10	50/1"	NP	
					3		NR										
		--some clay loam interbeds--	10		4	7 9 10	NP	11									
		--trace clay loam interbeds--			5	16 18 22	NP	9									
	543.5	Dense, gray Gravelly LOAM to SILTY LOAM; moist --FILL-- --RDR 2--	15		6	16 13 30	NP	8									
	541.0	Very dense, greenish gray to light gray Gravelly SILTY LOAM to LOAM; wet to saturated --Weathered BEDROCK-- --RDR 3--			7	24 49 50/3"	NP	10									
					8	47 50/2"	NP	21									
			20														

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-21-2024** Complete Drilling **01-21-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **15.50 ft**  
 At Completion of Drilling  $\nabla$  **16.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-17

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 556.05 ft  
 North: 1752719.69 ft  
 East: 1021614.96 ft  
 Station: 995+94.06  
 Offset: 5.68 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 (%)
	555.2	10-inch thick CONCRETE --PAVEMENT--								535.5	Very dense, light gray SANDY GRAVEL, trace cobbles; saturated --Weathered BEDROCK-- --RDR 3-4--						
		Medium dense to dense, brown and gray SANDY GRAVEL; damp --FILL-- --RDR 2--			1	18 12 12	NP	7						9	20 50/4"	NP	16
					2	8 13 17	NP	7		532.0	Strong, light brownish gray, poor quality, DOLOSTONE; very closely spaced, moderately weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and 0 - 0.2 inch thick clay infill. --RUN 1: 24.0 to 34.0 feet-- --Recovery: 94%-- --RQD: 33%-- --Q <sub>u</sub> =6,325 psi--			10	50/2"	NP	
			5		3	6 6 8	NP	5									
	548.0	Soft, brown LOAM; moist --FILL-- --RDR 2--			4	1 2 2	0.25 P	19						1			
			10														
	545.5	Soft to medium stiff, black SILTY CLAY LOAM, trace to little organic matter; moist --RDR 2--			5	2 30 8	0.49 B	42									
		--organic content= 10.0%-- --L <sub>l</sub> (%)=58, P <sub>L</sub> (%)=22-- --%Gravel=1.0-- --%Sand=11.6-- --%Silt=60.7-- --%Clay=26.7-- --A-7-6 (34)--			6	2 3 22	0.82 B	33		522.0	Boring terminated at 34.00 ft						
			15														
	540.5	Loose to very dense, dark gray to greenish gray Gravelly SILTY LOAM to LOAM; wet to saturated --RDR 2-3--			7	3 2 3	NP	34									
					8	32	NP	22									
			20			50/5"											

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **01-28-2024** Complete Drilling **01-28-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling **15.50 ft**  
 At Completion of Drilling **16.00 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.



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-18

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 556.25 ft  
 North: 1752801.46 ft  
 East: 1021613.37 ft  
 Station: 996+75.83  
 Offset: 6.60 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 (%)
	555.3	12-inch thick CONCRETE --PAVEMENT--									--Weathered BEDROCK-- --RDR 3-4-- --possible cobbles--						
	553.3	Medium dense, light brown SANDY GRAVEL; damp --AGGREGATE BASE--			1	12 9 6	NP	4		533.0	--AUGER REFUSAL-- Boring terminated at 23.00 ft			9	50/3"	NP	14
	553.3	Loose to medium dense, light gray and brown SANDY GRAVEL; damp to moist --FILL-- --RDR 2--	5		2	9 15 8	NP	8				25		10	50/3"	NR	
		--some silty clay loam interbeds--			3	9 6 3	NP	9									
	548.3	Medium stiff, gray to dark gray CLAY to CLAY LOAM, trace gravel; moist --FILL-- --RDR 2--	10		4	2 2 3	0.50 P	23				30					
		--L <sub>L</sub> (%)=44, P <sub>L</sub> (%)=15-- --%Gravel=2.8-- --%Sand=26.4-- --%Silt=41.0-- --%Clay=29.7-- --A-7-6 (19)--			5	2 2 3	0.90 B	31									
	543.3	Stiff, black SILTY CLAY LOAM, trace gravel; moist --Buried TOPSOIL-- --RDR 2--	15		6	3 6 6	1.00 P	42				35					
		--organic content= 5.5%-- --L <sub>L</sub> (%)=56, P <sub>L</sub> (%)=24-- --%Gravel=1.7-- --%Sand=12.7-- --%Silt=56.7-- --%Clay=28.8-- --A-7-6 (30)--			7			9							50/4"		
	540.8	Very dense, light brown and gray SANDY GRAVEL; wet --RDR3--			8			15				40			50/5"		
	538.3	Very dense, gray Gravelly LOAM; wet to saturated	20														

### GENERAL NOTES

Begin Drilling **01-21-2024** Complete Drilling **01-21-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **15.50 ft**  
 At Completion of Drilling **16.00 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.





wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-19

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 556.48 ft  
 North: 1752835.40 ft  
 East: 1021612.41 ft  
 Station: 997+09.79  
 Offset: 6.68 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 (%)	
	555.5	12-inch thick CONCRETE --PAVEMENT--								536.0	Greenish gray Gravelly SILTY LOAM; damp							
		Medium dense, brown and gray SANDY GRAVEL; damp			1	12 12 9	NP	4		535.0	--RDR 3-- Very dense, light gray GRAVEL; saturated			9	25 50/2"	NP	11	
		--FILL-- --RDR 2--									--Weathered BEDROCK--			10		NP	9	
	551.0	Loose, brown and gray Gravelly SANDY LOAM; moist			2	4 4 8	NP	5		532.5	Strong, light gray, very poor quality, DOLOSTONE; very closely spaced, slightly weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, <0.2 inch thick clay infill, and vugs.				50/2" C O R E			
		--FILL--			3	5 4 2	NP	11			--RUN 1: 24.0 to 28.0 feet-- --Recovery: 100%-- --RQD: 19%-- --RUN 2: 28.0 to 34.0 feet-- --Recovery: 100%-- --RQD: 15%--			1				
	548.5	Soft to medium stiff, brown, gray and black SILTY CLAY LOAM to CLAY LOAM, trace to little gravel; moist			4	2 2 3	0.25 P	23										C O R E
		--FILL-- --RDR 2--			5	3 2 3	0.50 P	22						2				
	543.5	Soft, black SILTY CLAY LOAM, trace to little organic matter; moist			6	2 1 3	0.25 P	43		522.5	Boring terminated at 34.00 ft							
		--Buried TOPSOIL--			7	14 12 10	3.67 N/6	23										
	541.0	--wet spoon recovery; possible gravel lens--			8	41	NP	28										
		Very stiff, black and brown Gravelly SILTY CLAY LOAM; moist																
	538.5	Very dense, brown and gray SANDY GRAVEL; saturated																
		--RDR 3--																

## GENERAL NOTES

Begin Drilling **02-06-2024** Complete Drilling **02-06-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

## WATER LEVEL DATA

While Drilling **15.50 ft**  
 At Completion of Drilling **16.00 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.



# BORING LOG I55-RWB-20

wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 558.36 ft  
 North: 1752992.56 ft  
 East: 1021607.96 ft  
 Station: 998+67.01  
 Offset: 7.04 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 (%)
	557.5	10-inch thick CONCRETE --PAVEMENT--									--possible cobbles-- --Weathered BEDROCK--						
	557.4	2-inch thick BASE COURSE Medium dense, brown and gray SANDY GRAVEL; damp --FILL-- --RDR 2--			1	12 8 5	NP	3		536.4	Strong, light greenish gray, poor quality, DOLOSTONE; very closely spaced, slightly weathered, horizontal, oblique, and vertical joints, slicken to slightly rough walls, and <0.2 inch thick clay infill. --RUN 1: 22.0 feet to 32.0 feet-- --Recovery: 96%-- --RQD: 36%-- --coring rate: 2.0 min/ft-- --Qu=5,693 psi--	25		9	50/3		NR
	552.1	Very soft, brown and gray Gravelly CLAY LOAM; moist --FILL--			2	5 5 6	NP	6									
	550.4	Very soft, dark gray SANDY CLAY LOAM; moist --FILL--			3	3 3 2	< 0.25 P	19									
	547.9	Very soft, black SILTY CLAY LOAM; wet --Buried TOPSOIL-- --wet spoon recovery; possible sand lens--			4	2 2 2	< 0.25 P	12									
	545.4	Medium stiff, dark gray and black SILTY CLAY LOAM; moist --RDR 2--			5	0 1 1	< 0.25 P	40		526.4	Boring terminated at 32.00 ft						
	542.9	Medium dense, light brown to orange Gravelly SANDY LOAM; saturated --RDR 2--			6	4 2 2	0.50 P	29									
	540.4	Very stiff, greenish gray SILTY CLAY LOAM to SILTY LOAM, trace gravel; wet --RDR 2--			7	7 12 14	NP	27									
	538.4				8	5 5 43	2.00 P	23									

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **02-01-2024** Complete Drilling **02-01-2024**  
 Drilling Contractor **Wang** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **10.50 ft**  
 At Completion of Drilling  $\nabla$  **11.00 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-21

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 559.17 ft  
 North: 1753028.62 ft  
 East: 1021606.23 ft  
 Station: 999+03.40  
 Offset: 4.65 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 (%)
	558.4	9-inch thick CONCRETE --PAVEMENT--									cobbles; damp --Weathered BEDROCK--						
		Medium dense, brown SANDY GRAVEL; damp --FILL-- --RDR 2--			1	5 5 5	NP	7		537.2	Strong, light gray, very poor quality, DOLOSTONE; very closely to closely spaced, slightly weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly rough walls, and <0.2 inch thick clay infill. --RUN 1: 22.0 to 27.0 feet-- --Recovery: 92%-- --RQD: 8%-- --coring rate: 2.2 min/ft-- --Q <sub>u</sub> =6,056 psi-- --RUN 2: 27.0 to 32.0 feet-- --Recovery: 87%-- --RQD: 20%-- --coring rate: 1.3 min/ft--	9		9	50/2"	NP	7
	553.7	Soft, brown CLAY LOAM, trace gravel; moist --FILL--			2	3 6 5	NP	10									
	551.2	Stiff, black SILTY CLAY LOAM; moist --Buried TOPSOIL--			3	2 2 2	0.41 B	14									
	548.7				4	2 3 2	1.15 B	22									
	548.7	Hard, brown and gray SILTY CLAY LOAM; moist --RDR 2--			5	2 6 7	5.74 B	16		527.2	Boring terminated at 32.00 ft						
					6	13 49 20	4.50 P	14									
	543.7	Very dense, brown Gravelly SANDY LOAM; damp --RDR 3--			7	40 49 50/2"	NP	14									
	541.2	Very dense, greenish gray SILTY LOAM, trace gravel; damp --RDR 3--			8	50/5"	4.00 P	11									
	540.2	Very dense, gray GRAVEL, trace															

### GENERAL NOTES

Begin Drilling **01-29-2024** Complete Drilling **01-29-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **17B57T [91%]**  
 Driller **NC&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **groundwater not encountered**  
 At Completion of Drilling **groundwater not recorded**  
 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 2553901.GPJ WANGENG.GDT 2/23/24





wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-23

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 563.52 ft  
 North: 1753193.74 ft  
 East: 1021602.77 ft  
 Station: 1000+68.40  
 Offset: 2.40 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 (%)		
	562.5	12-inch thick CONCRETE --PAVEMENT--									rough walls, <0.2 inch thick clay infill, and vugs. --RUN 2: 16.5 feet to 18.0 feet-- --Recovery: 88%-- --RQD: 25%--								
	560.5	Medium dense, brown and gray SANDY GRAVEL; damp --FILL--			1	9 6 8	NP	4			Boring terminated at 18.00 ft								
		Stiff to very stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace to little gravel; moist --RDR 2--	5		2	7 4 5	1.50 P	14				25							
		--L <sub>L</sub> (%)=24, P <sub>L</sub> (%)=14-- --%Gravel=8.3-- --%Sand=15.4-- --%Silt=55.8-- --%Clay=20.6-- --A-6 (6)--			3	5 6 8	3.28 B	13											
			10		4	4 5 13	2.05 B	14				30							
	553.0	Very dense, gray GRAVEL; dry to wet --Weathered BEDROCK-- --RDR 3--			5	19 39 50/1	NP	1											
	549.5	Very weak, light bluish gray, very poor quality rock mass quality, highly weathered DOLOSTONE, thick clay infill. --Weathered BEDROCK-- --RUN 1: 14.0 feet to 16.5 feet-- --Recovery: 88%-- --RQD: 0%--	15		1	50/2"						35							
	547.0				2														
	545.5	Medium strong, light gray, poor quality, DOLOSTONE; very closely spaced, moderately weathered, horizontal, oblique, and vertical joints, with <0.05 inch opening, slicken to slightly	20									40							

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **02-06-2024** Complete Drilling **02-06-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

While Drilling  $\nabla$  **13.00 ft**  
 At Completion of Drilling  $\nabla$  **13.50 ft**  
 Time After Drilling **NA**  
 Depth to Water  $\nabla$  **NA**

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

WANGENGINC 2553901.GPJ WANGENG.GDT 2/23/24



wangeng@wangeng.com  
 1145 North Main Street  
 60148  
 Telephone: (630) 953-9928  
 Fax: (630) 953-9938

# BORING LOG I55-RWB-24

WEI Job No.: 255-39-01

Client **Stantec**  
 Project **I-80 Reconstruction, Ridge Road to Houbolt Road**  
 Location **Will County, Illinois**

Datum: NAVD 88  
 Elevation: 565.83 ft  
 North: 1753264.36 ft  
 East: 1021603.81 ft  
 Station: 1001+39.03  
 Offset: 2.90 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 (%)
	565.81	1-inch thick ASPHALT															
	564.8	11-inch thick CONCRETE															
		--PAVEMENT--			1	50/3"	NP	5									
		Very dense, black and gray SANDY GRAVEL; damp															
		--FILL--															
	562.8	Medium stiff to very stiff, brown and gray SILTY CLAY LOAM to SILTY LOAM, trace to little gravel and possible cobbles; moist			2	8 7 10	3.44 B	14									
		--RDR 2--															
					3	10 11 14	NR										
					4	6 8 9	0.90 B	15									
	554.6	Very dense, gray GRAVEL; moist			5	10 21	1.50 P	14									
		--Weathered BEDROCK--															
		--RDR 3--															
	551.8	--AUGER REFUSAL--			6	50/3"	NP	2									
		Boring terminated at 14.00 ft															

### GENERAL NOTES

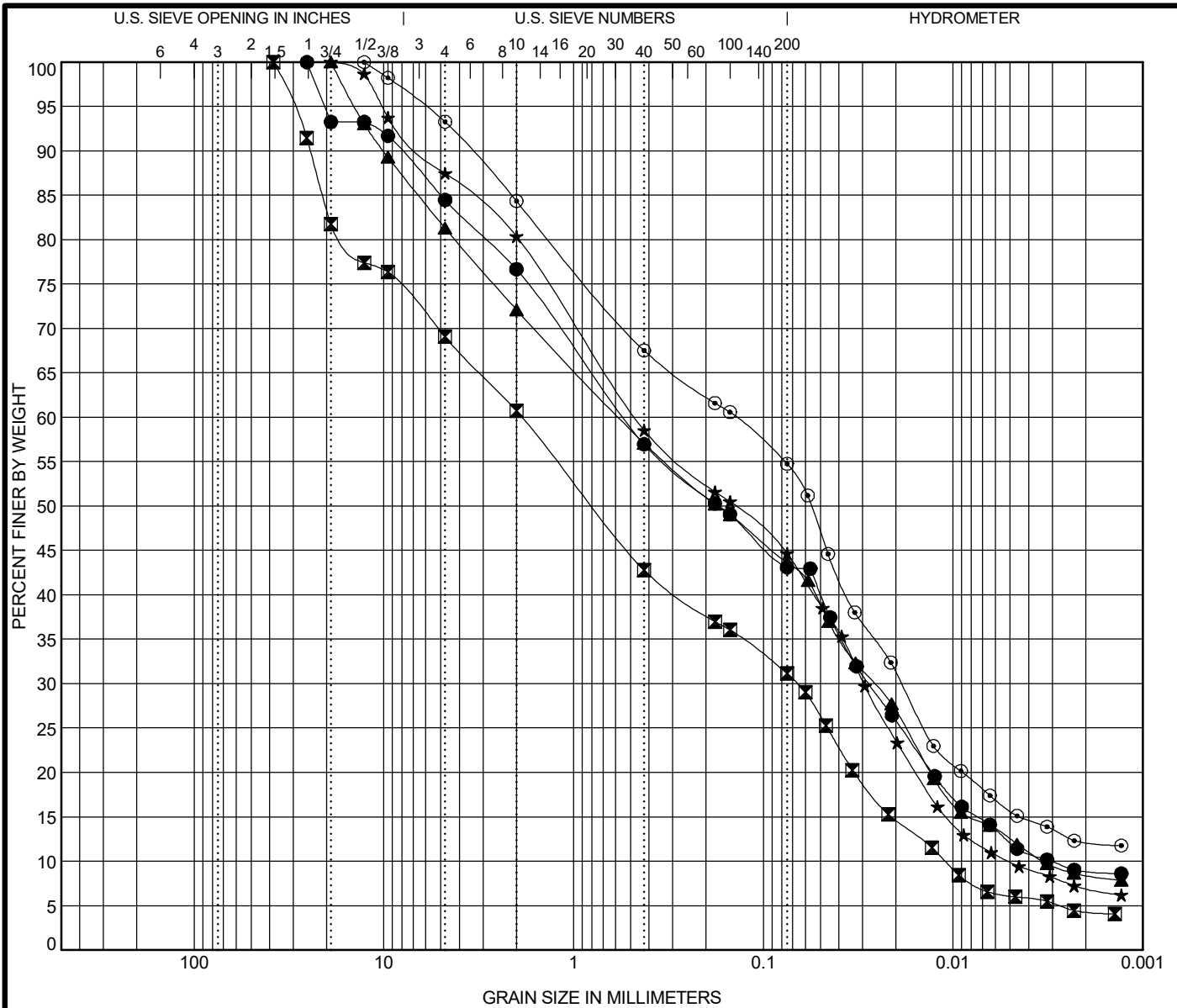
Begin Drilling **02-05-2024** Complete Drilling **02-05-2024**  
 Drilling Contractor **Wang Testing Services** Drill Rig **20D50T [80%]**  
 Driller **RH&JD** Logger **L. Corral** Checked by **C. Marin**  
 Drilling Method **3.25" ID HSA; boring backfilled upon completion**

### WATER LEVEL DATA

While Drilling **groundwater not encountered**  
 At Completion of Drilling **groundwater not recorded**  
 Time After Drilling **NA**  
 Depth to Water **NA**

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

## **APPENDIX B**



COBBLES	GRAVEL	SAND		SILT AND CLAY
		coarse	fine	

Specimen Identification	IDH Classification	LL	PL	PI	Cc	Cu
● I55-RWB-01#6 13.5 ft	Gravelly Loam	23	16	7	0.47	176.23
☒ I55-RWB-04#3 6.0 ft	Gravelly Loam	18	16	2	0.21	170.59
▲ I55-RWB-04#9 21.0 ft	Gravelly Loam	23	15	8	0.36	171.38
★ I55-RWB-07#5 11.0 ft	Gravelly Loam	NP	NP	NP	0.36	92.39

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● I55-RWB-01#6 13.5 ft	25.4	0.54	0.028	0.003	23.3	33.6	34.2	8.9
☒ I55-RWB-04#3 6.0 ft	38.1	1.877	0.067	0.011	39.3	29.7	26.7	4.3
▲ I55-RWB-04#9 21.0 ft	19	0.574	0.026	0.003	27.9	28.6	35.1	8.4
★ I55-RWB-07#5 11.0 ft	19	0.472	0.03	0.005	19.6	35.9	37.5	7.0
⊙ I55-RWB-10#6 13.5 ft	12.7	0.14	0.019		15.6	29.8	42.4	12.2



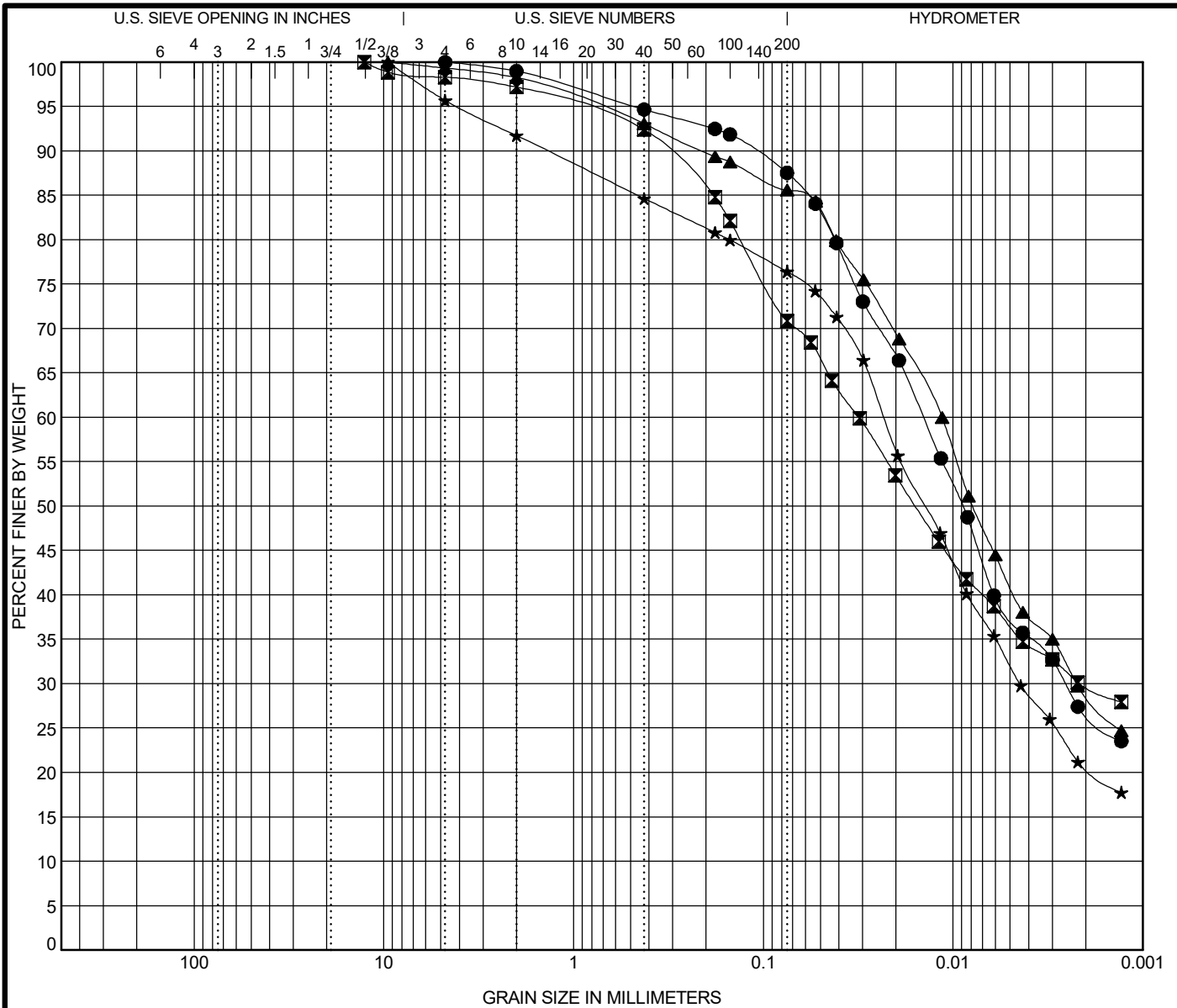
Wang Engineering, Inc.  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

### GRAIN SIZE DISTRIBUTION

Project: I-80 Reconstruction, Ridge Road to Houbolt Road  
 Location: Will County, Illinois  
 Number: 255-39-01

WEI GRAIN SIZE IDH 2553901.GPJ US LAB.GDT 2/22/24







**ORGANIC CONTENT in SOILS by LOSS on IGNITION**  
 ASTM D 2974, Method A

Client: I-80 Reconstruction                      Analyst Name: K. Jacob  
 Project: I-80    Date Received: 1/28/2024  
 WEI Job: KE225039/255-39-01                      Date Tested: 1/30/2024  
 Type/Condition: SS  
 Testing Furnace Temp °C.: 440

Sample No./ Depth	I55-RWB-17 SS#6 (13-15 ft)	I55-RWB-18 SS#6 (13-15 ft)			
Wet Soil + Tare	75.48	67.61			
Dry Soil + Tare	64.76	61.06			
Tare Mass	43.79	42.39			
w (%)	51	35			
Dry Soil + Tare	64.76	61.06			
Ash+ Tare	62.66	60.03			
Tare Mass	43.79	42.39			
Ash Content (%)	90	94			
Organic Content (%)	10.0	5.5			

Prepared By: \_\_\_\_\_

Reviewed By: \_\_\_\_\_



### Unconfined Compressive Strength of Intact Rock Core Specimens

**Project:** I-80 Reconstruction, Ridge Road to Houbolt Road

**Client:** Stantec

**WEI Job No.:** KE225039/255-39-01

Field Sample ID	Run #	Depth (ft)	Location	Sample Description	Length (in)		Diameter (in)	Total Load (lbs)	Total Pressure (psi)	Fracture Type*	Break Date	Tested By	Area (in <sup>2</sup> )
					Before Capping	After Capping							
I55-RWB-01	1	44.5	I-55 Retaining Wall	Dolostone	4.05	NA	2.04	20050	6155	3	2/5/24	KJ	3.25
I55-RWB-07	1	41.0	I-55 Retaining Wall	Dolostone	4.07	NA	2.05	21280	6447	3	2/5/24	KJ	3.28
I55-RWB-13	1	38.0	I-55 Retaining Wall	Dolostone	4.01	NA	2.05	21740	6587	3	2/5/24	KJ	3.31
I55-RWB-17	1	25.0	I-55 Retaining Wall	Dolostone	4.09	NA	2.03	20470	6325	3	2/5/24	KJ	3.32
I55-RWB-21	1	26.0	I-55 Retaining Wall	Dolostone	4.02	NA	2.05	19990	6056	3	2/5/24	KJ	3.32

**\* Fracture Types:**

- Type 1 - Reasonably well-formed cones on both ends, less than 1 in. [25 mm] of cracking through caps;
- Type 2 - Well-formed cone on one end, vertical cracks running through caps, no well defined cone on other end;
- Type 3 - Columnar vertical cracking through both ends, no well-formed cones;
- Type 4 - Diagonal fracture with no cracking through ends; tap with hammer to distinguish from Type 1;
- Type 5 - Side fractures at top or bottom (occur commonly with unbonded caps);
- Type 6 - Similar to Type 5 but end of cylinder is pointed.

Prepared by: \_\_\_\_\_

Checked by: \_\_\_\_\_



### Unconfined Compressive Strength of Intact Rock Core Specimens

**Project:** I-80 Reconstruction, Ridge Road to Houbolt Road

**Client:** Stantec

**WEI Job No.:** KE225039/255-39-01

Field Sample ID	Run #	Depth (ft)	Location	Sample Description	Length (in)		Diameter (in)	Total Load (lbs)	Total Pressure (psi)	Fracture Type*	Break Date	Tested By	Area (in <sup>2</sup> )
					Before Capping	After Capping							
I55-RWB-20	1	23.0	I-55 Retaining Wall	Dolostone	4.10	NA	2.05	18790	5693	3	2/15/24	KJ	3.31
I55-RWB-20	1	29.0	I-55 Retaining Wall	Dolostone	4.07	NA	2.05	28640	8677	3	2/5/24	KJ	3.31

**\* Fracture Types:**

- Type 1 - Reasonably well-formed cones on both ends, less than 1 in. [25 mm] of cracking through caps;
- Type 2 - Well-formed cone on one end, vertical cracks running through caps, no well defined cone on other end;
- Type 3 - Columnar vertical cracking through both ends, no well-formed cones;
- Type 4 - Diagonal fracture with no cracking through ends; tap with hammer to distinguish from Type 1;
- Type 5 - Side fractures at top or bottom (occur commonly with unbonded caps);
- Type 6 - Similar to Type 5 but end of cylinder is pointed.

Prepared by: \_\_\_\_\_

Checked by: \_\_\_\_\_

## APPENDIX C

Run #1

TOP



0 6 inches

Boring I55-RWB-01:  
Run #1, 44.0 to 54.0 feet, RECOVERY=92%, RQD=58%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: M. Rojo  
CHECKED BY: A. Hamad

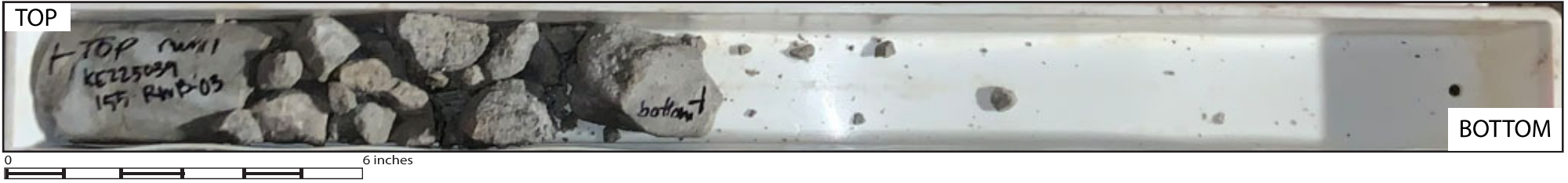


1145 N. Main Street  
Lombard, IL 60148  
www.wangeng.com

FOR STANTEC

255-39-01

Run #1



Run #2



**Boring I55-RWB-03:**

Run #1, 45.5 to 49.5 feet, RECOVERY=19%, RQD=8%  
 Run #2, 49.5 to 55.5 feet, RECOVERY=81%, RQD=17%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: M. Rojo  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01



Run #1

TOP



BOTTOM

Run #2

TOP



BOTTOM

Boring I55-RWB-05:  
 Run #1, 41.0 to 47.0 feet, RECOVERY=92%, RQD=7%  
 Run #2, 47.0 to 51.0 feet, RECOVERY=52%, RQD=8%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: M. Rojo  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1

TOP



BOTTOM

6 inches

Run #2

TOP



BOTTOM

6 inches

**Boring I55-RWB-07:**

Run #1, 40.0 to 45.0 feet, RECOVERY=95%, RQD=37%

Run #2, 45.0 to 50.0 feet, RECOVERY=87%, RQD=13%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: L. Corral  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1

TOP



BOTTOM

0 6 inches

Run # 2

TOP

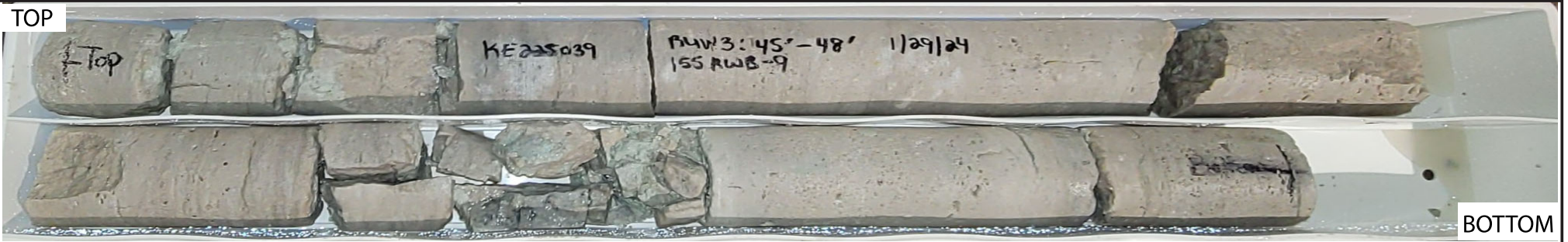


BOTTOM

0 6 inches

Run # 3

TOP



BOTTOM

0 6 inches

**Boring I55-RWB-09:**

Run #1, 38.0 to 41.0 feet, RECOVERY=50%, RQD=11%  
 Run #2, 41.0 to 45.0 feet, RECOVERY=92%, RQD=17%  
 Run #3, 45.0 to 48.5 feet RECOVERY=100%, RQD=33%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: L. Corral  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1

TOP



BOTTOM

Run #2

TOP



BOTTOM

Run #3

TOP



BOTTOM

Run #4

TOP



BOTTOM



**Boring I55-RWB-11:**

Run #1, 44.5 to 48.5 feet, RECOVERY=50%, RQD=0%

Run #2, 48.5 to 49.5 feet, RECOVERY=34%, RQD=0%

Run #3, 49.5 to 52.5 feet, RECOVERY=86%, RQD=39%

Run #4, 52.5 to 54.5 feet, RECOVERY=25%, RQD=0%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1

TOP



BOTTOM

Run #2

TOP



BOTTOM

**Boring I55-RWB-13:**

Run #1, 34.0 to 40.0 feet, RECOVERY=90%, RQD=11%

Run #2, 40.0 to 44.0 feet, RECOVERY=94%, RQD=48%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: L. Corral  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1



BOTTOM

Run #2



BOTTOM

Boring I55-RWB-15:  
 Run #1, 21.1 to 28.0 feet, RECOVERY=75%, RQD=14%  
 Run #2, 28.0 to 31.0 feet, RECOVERY=61%, RQD=0%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
 CHECKED BY: A. Hamad

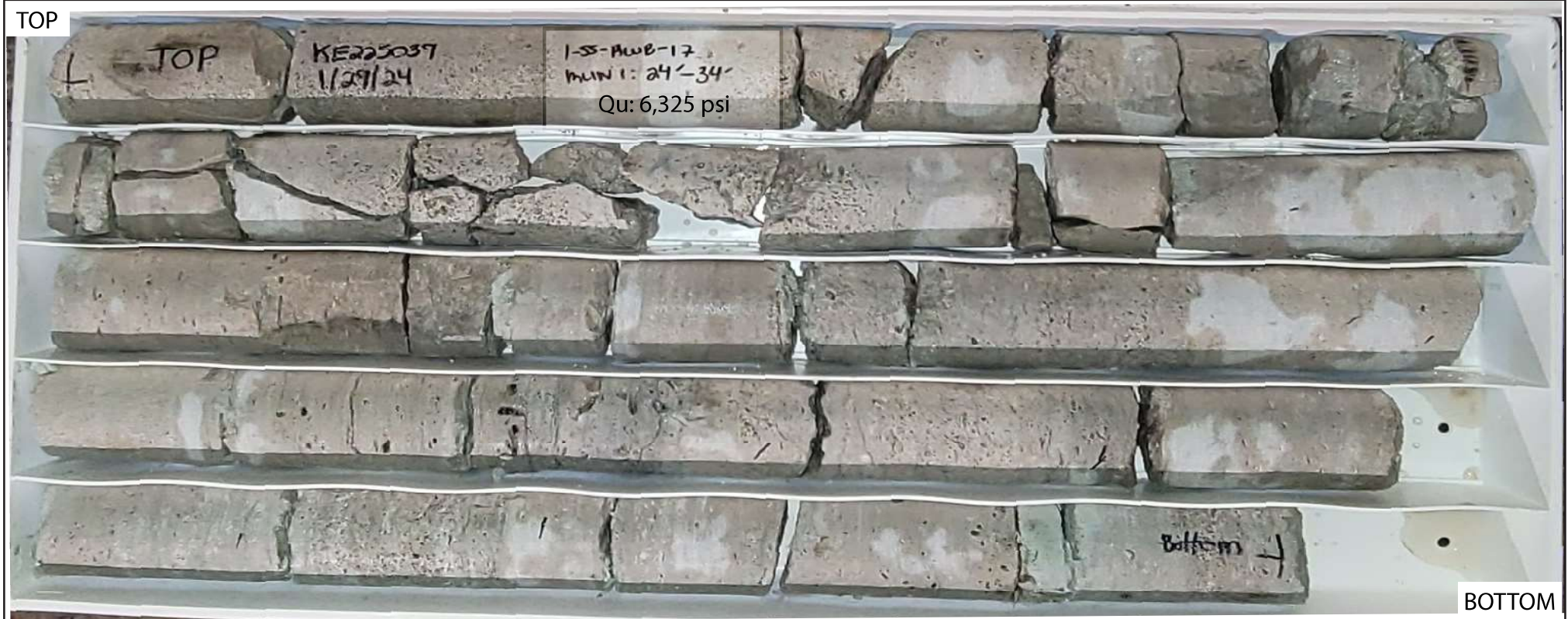


1145 N. Main Street  
 Lombard, IL 60148  
 www.wangeng.com

FOR STANTEC

255-39-01

Run #1



0 6 inches

Boring I55-RWB-17:  
Run #1, 24.0 to 34.0 feet, RECOVERY=94%, RQD=33%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: L. Corral  
CHECKED BY: A. Hamad



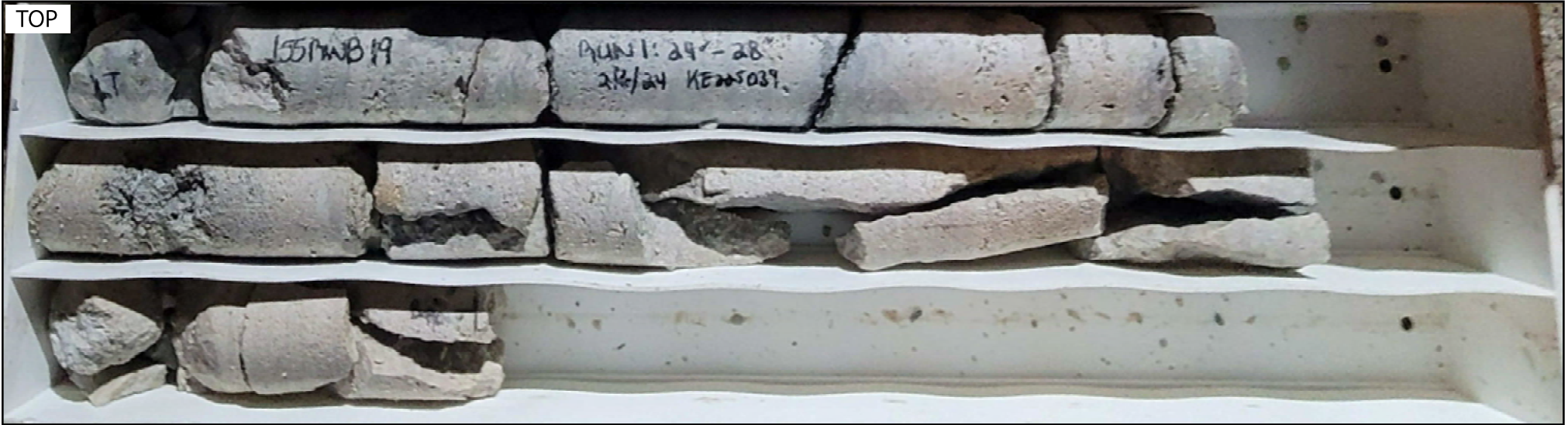
1145 N. Main Street  
Lombard, IL 60148  
www.wangeng.com

FOR STANTEC

255-39-01

Run #1

TOP



0 6 inches

BOTTOM

Boring I55-RWB-19:  
Run #1, 24.0 to 28.0 feet, RECOVERY=100%, RQD=19%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
CHECKED BY: A. Hamad



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

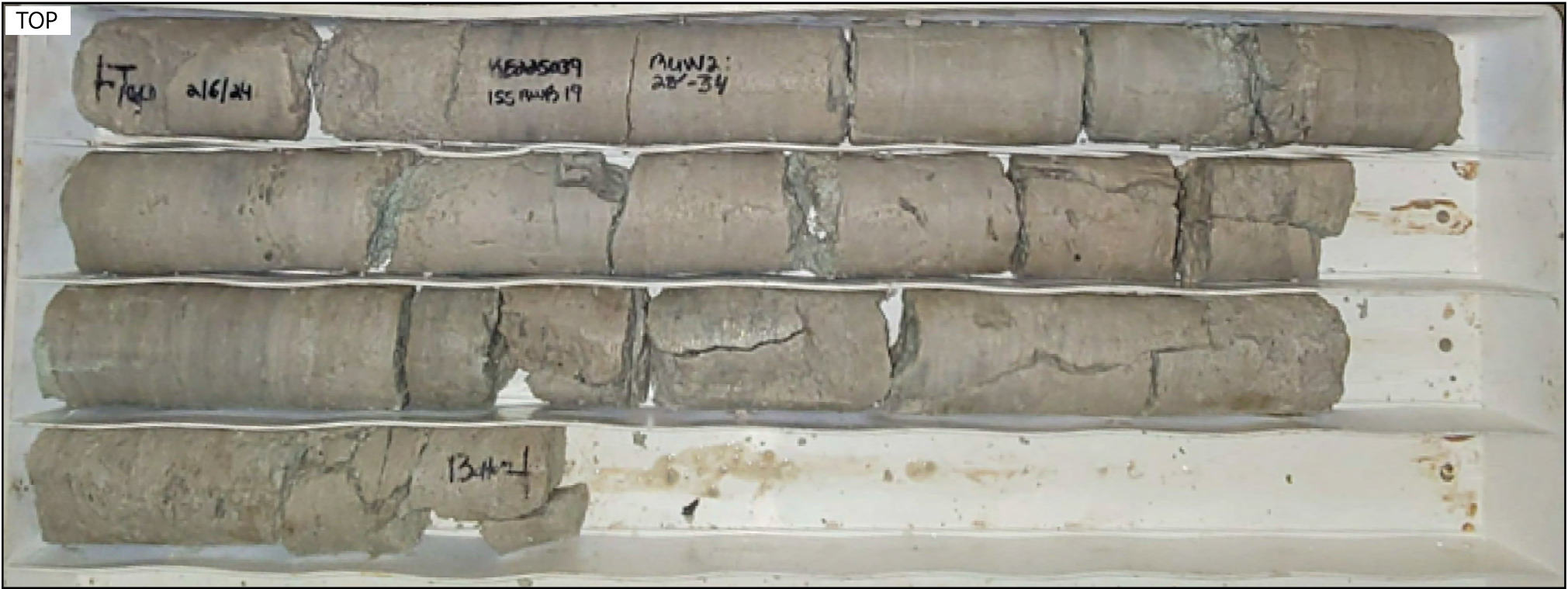
FOR STANTEC

255-39-01



Run #2

TOP



0 6 inches

BOTTOM

Boring I55-RWB-19:  
Run #2, 28.0 to 34.0 feet, RECOVERY=100%, RQD=15%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01

Run #1

TOP



0 6 inches

BOTTOM

Boring I55-RWB-20:  
 Run #1, 22.0 to 32.0 feet, RECOVERY=96%, RQD=36%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

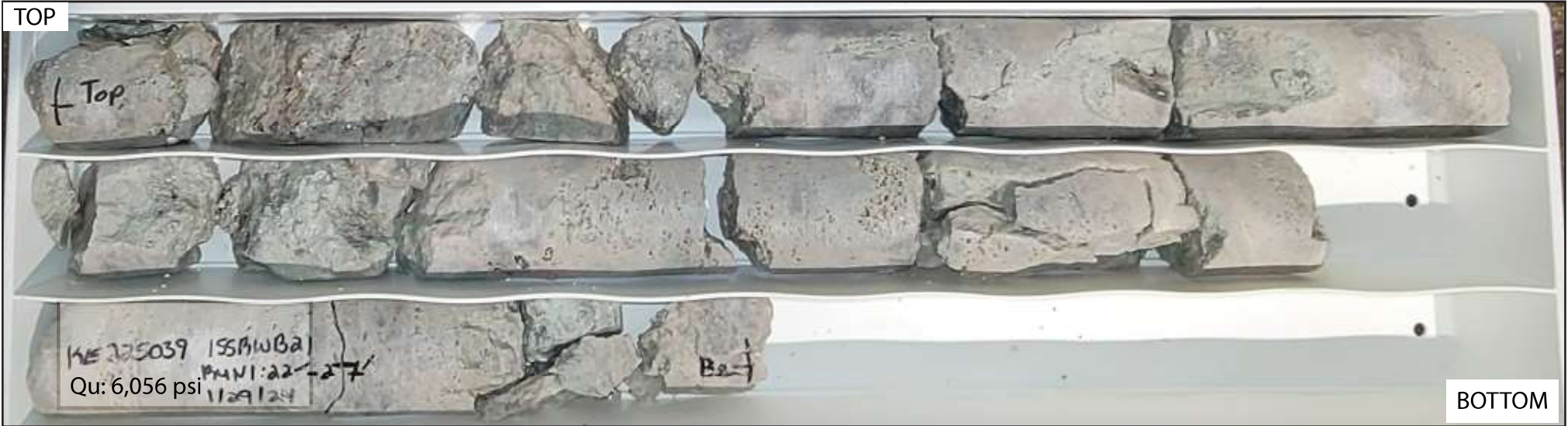
SCALE: GRAPHICAL	APPENDIX C	DRAWN BY: J. Bensen CHECKED BY: A. Hamad
------------------	------------	---

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

255-39-01

Run #1

TOP



BOTTOM

Run #2

TOP



BOTTOM

Boring I55-RWB-21:

Run #1, 22.0 to 27.0 feet, RECOVERY=92%, RQD=8%

Run #2, 27.0 to 32.0 feet, RECOVERY=87%, RQD=20%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
CHECKED BY: A. Hamad

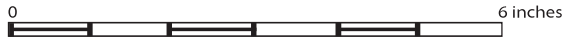
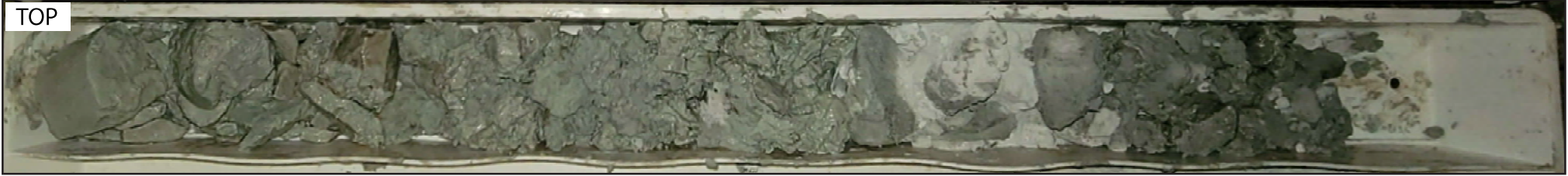


1145 N. Main Street  
Lombard, IL 60148  
www.wangeng.com

FOR STANTEC

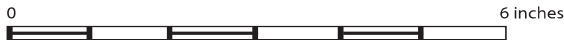
255-39-01

Run #1



BOTTOM

Run #2



BOTTOM

**Boring I55-RWB-23:**

Run #1, 14.0 to 16.0 feet, RECOVERY=88%, RQD=0%

Run #2, 16.0 to 18.0 feet, RECOVERY=88%, RQD=25%

BEDROCK CORE: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX C

DRAWN BY: J. Bensen  
CHECKED BY: A. Hamad

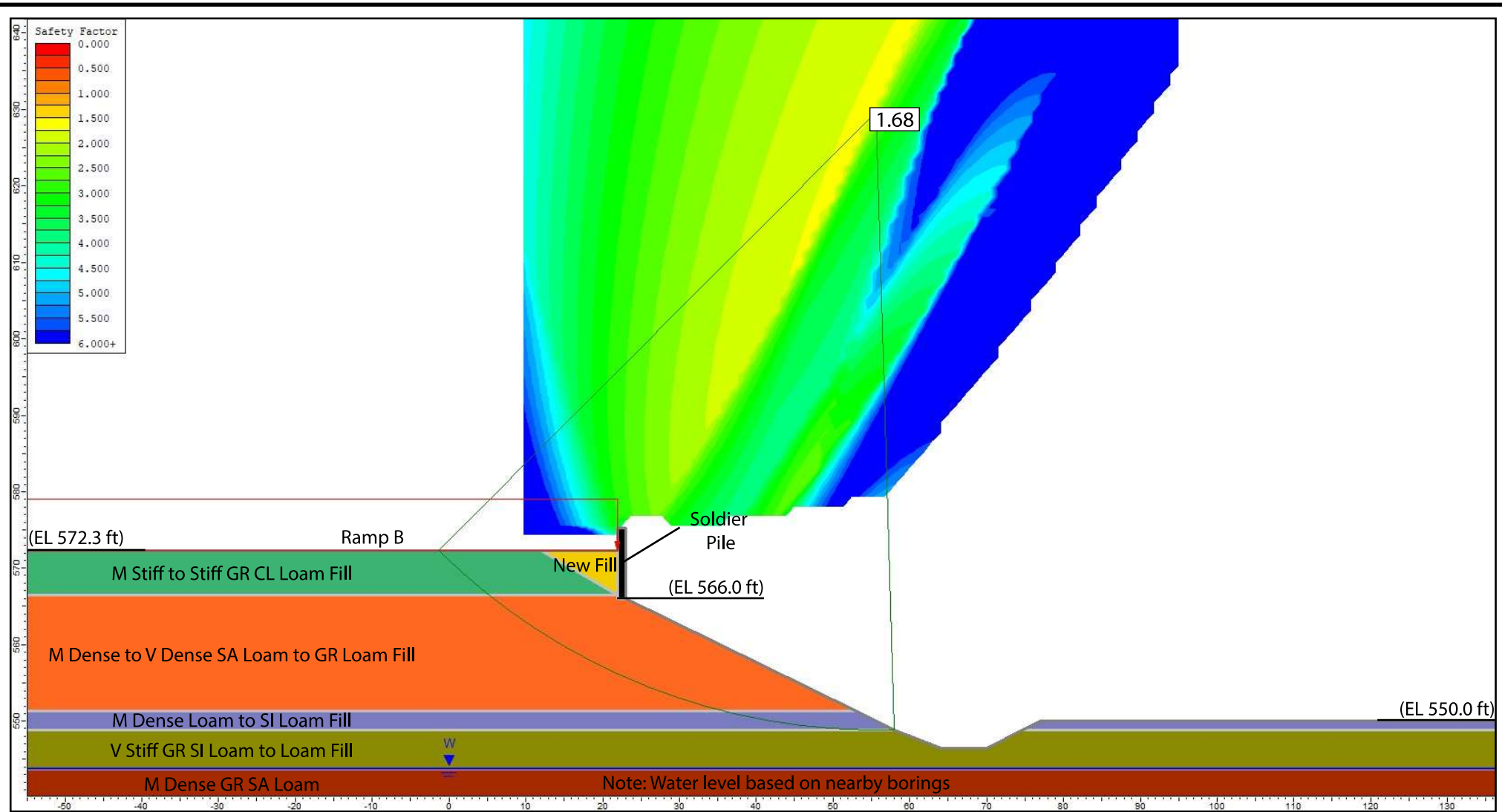


1145 N. Main Street  
Lombard, IL 60148  
www.wangeng.com

FOR STANTEC

255-39-01

## **APPENDIX D**



Undrained Analysis, Retaining Wall, SN 099-W1001, Sta.988+00, Ref Boring: I55-RWB-07

Layer ID	Description	Total Unit Weight (pcf)	Undrained Cohesion (psf)	Undrained Friction Angle (degrees)
1	New Fill	125	1000	0
2	M Stiff to Stiff GR CL Loam Fill	115	1000	0
3	M Dense to V Dense SA Loam to GR Loam Fill	120	0	30
4	M Dense Loam to SI Loam Fill	120	0	30
5	V Stiff GR SI Loam to Loam Fill	120	2500	0
6	M Dense GR SA Loam	120	0	31

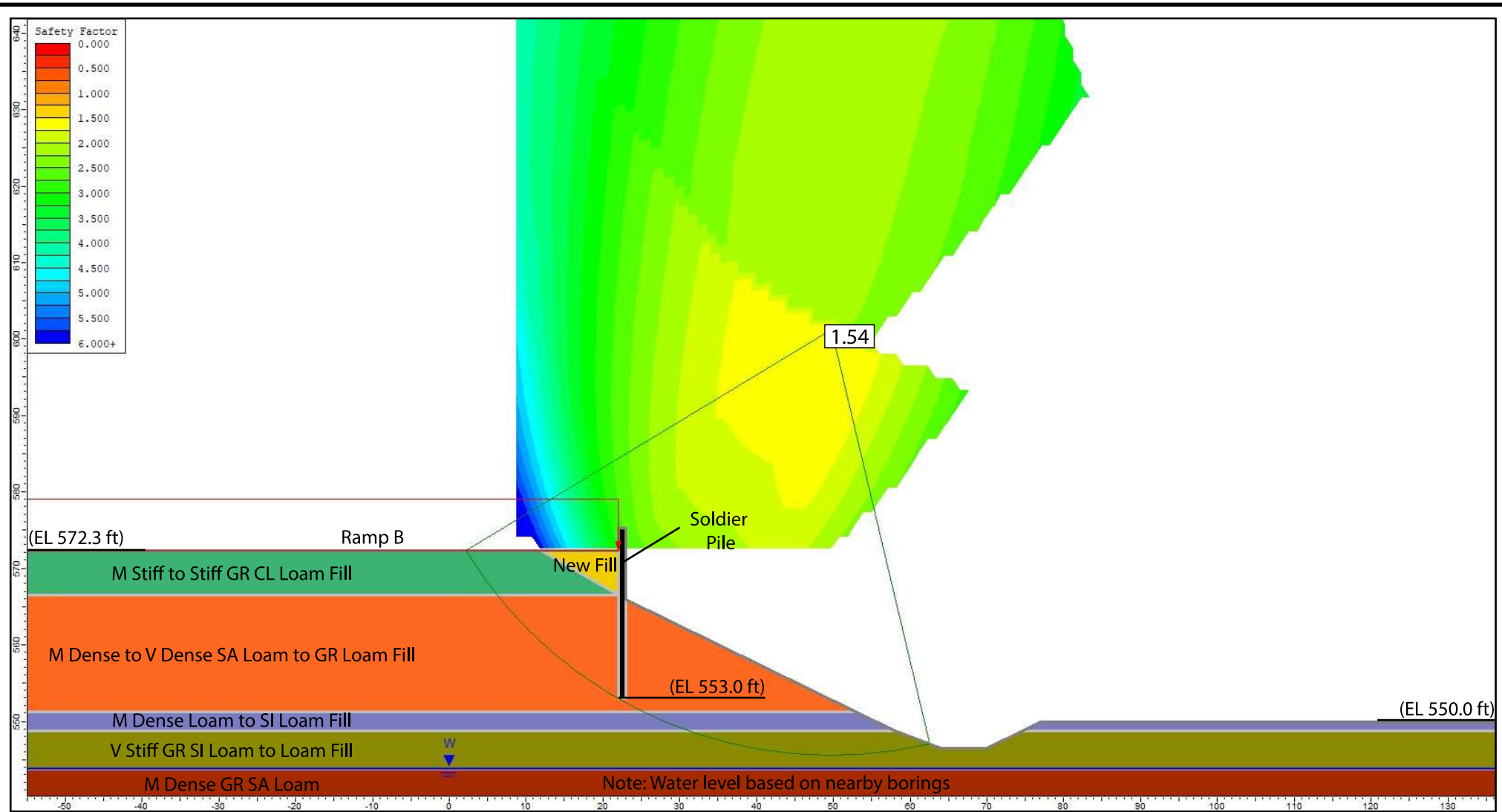
GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL | APPENDIX D-1 | DRAWN BY: D. You  
CHECKED BY: A. Hamad


**Wang Engineering**  
 A Terracon Company

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

FOR STANTEC | 255-39-01



Drained Analysis, Retaining Wall, SN 099-W1001, Sta.988+00, Ref Boring: I55-RWB-07

Layer ID	Description	Total Unit Weight (pcf)	Drained Cohesion (psf)	Drained Friction Angle (degrees)
1	New Fill	125	100	30
2	M Stiff to Stiff GR CL Loam Fill	115	100	30
3	M Dense to V Dense SA Loam to GR Loam Fill	120	0	30
4	M Dense Loam to SI Loam Fill	120	0	30
5	V Stiff GR SI Loam to Loam Fill	120	100	30
6	M Dense GR SA Loam	120	0	31

GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX D-2

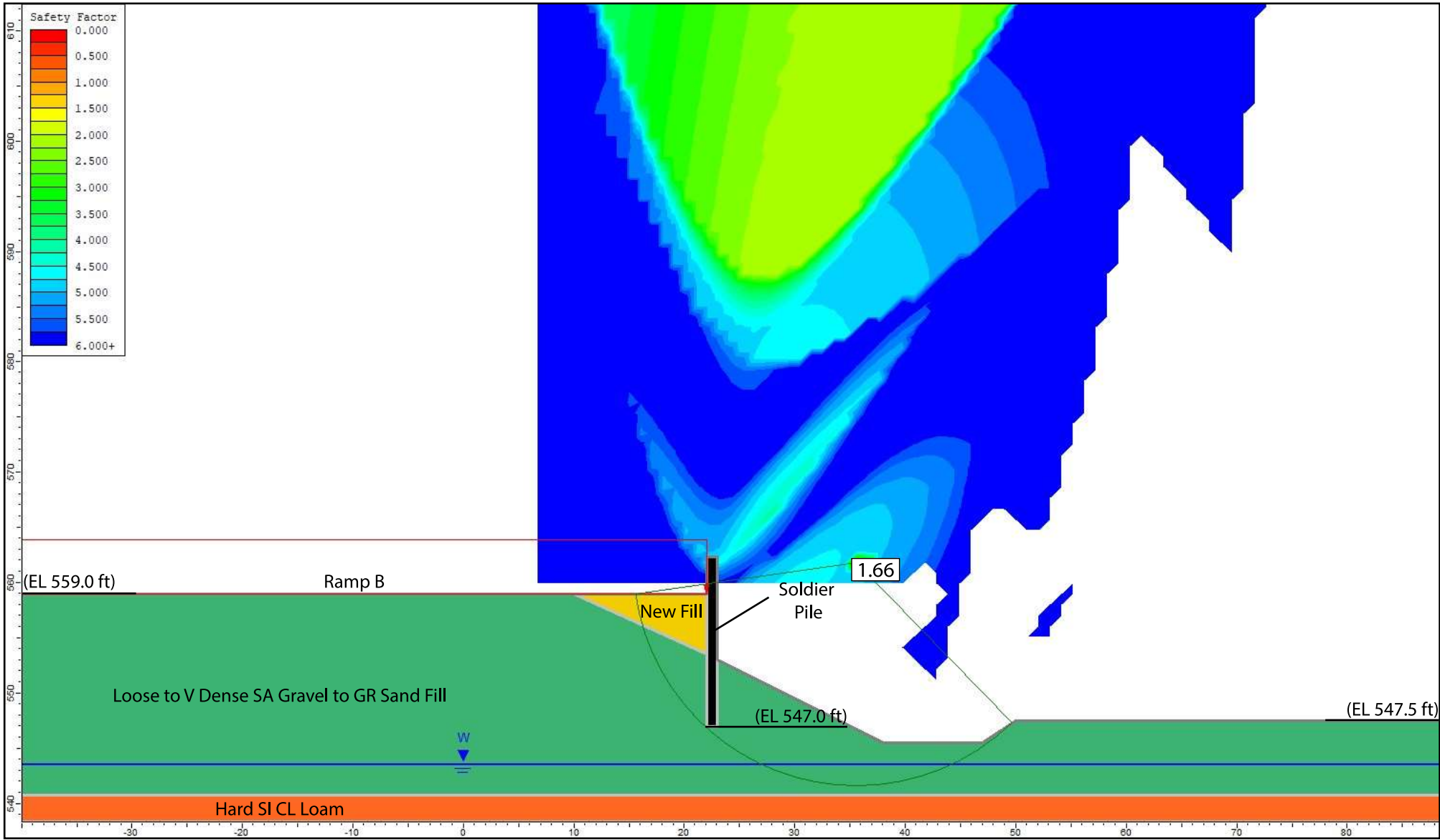
DRAWN BY: D. You  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01



Undrained Analysis, Retaining Wall, SN 099-W1001, Sta.993+00, Ref Boring: I55-RWB-13

Layer ID	Description	Total Unit Weight (pcf)	Undrained Cohesion (psf)	Undrained Friction Angle (degrees)
1	New Fill	125	1000	0
2	Loose to V Dense SA Gravel to GR Sand Fill	120	0	30
3	Hard SI CL Loam	120	4500	0

GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL | APPENDIX D-3 | DRAWN BY: D. You  
CHECKED BY: A. Hamad

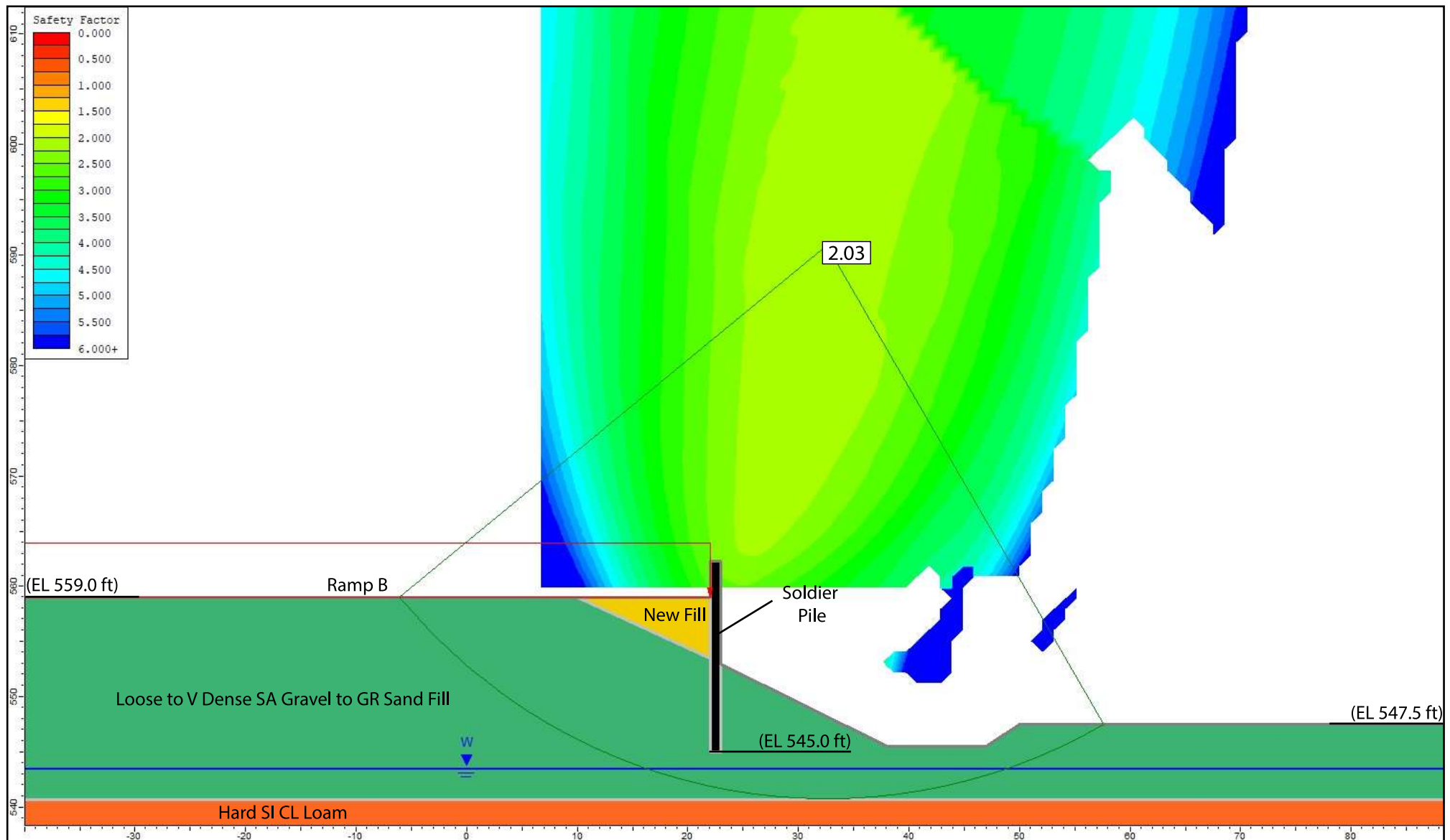


**Wang Engineering**  
A Terracon Company

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

FOR STANTEC | 255-39-01





Drained Analysis, Retaining Wall, SN 099-W1001, Sta.993+00, Ref Boring: I55-RWB-13

Layer ID	Description	Total Unit Weight (pcf)	Drained Cohesion (psf)	Drained Friction Angle (degrees)
1	New Fill	125	100	30
2	Loose to V Dense SA Gravel to GR Sand Fill	120	0	30
3	Hard SI CL Loam	120	100	30

GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX D-4

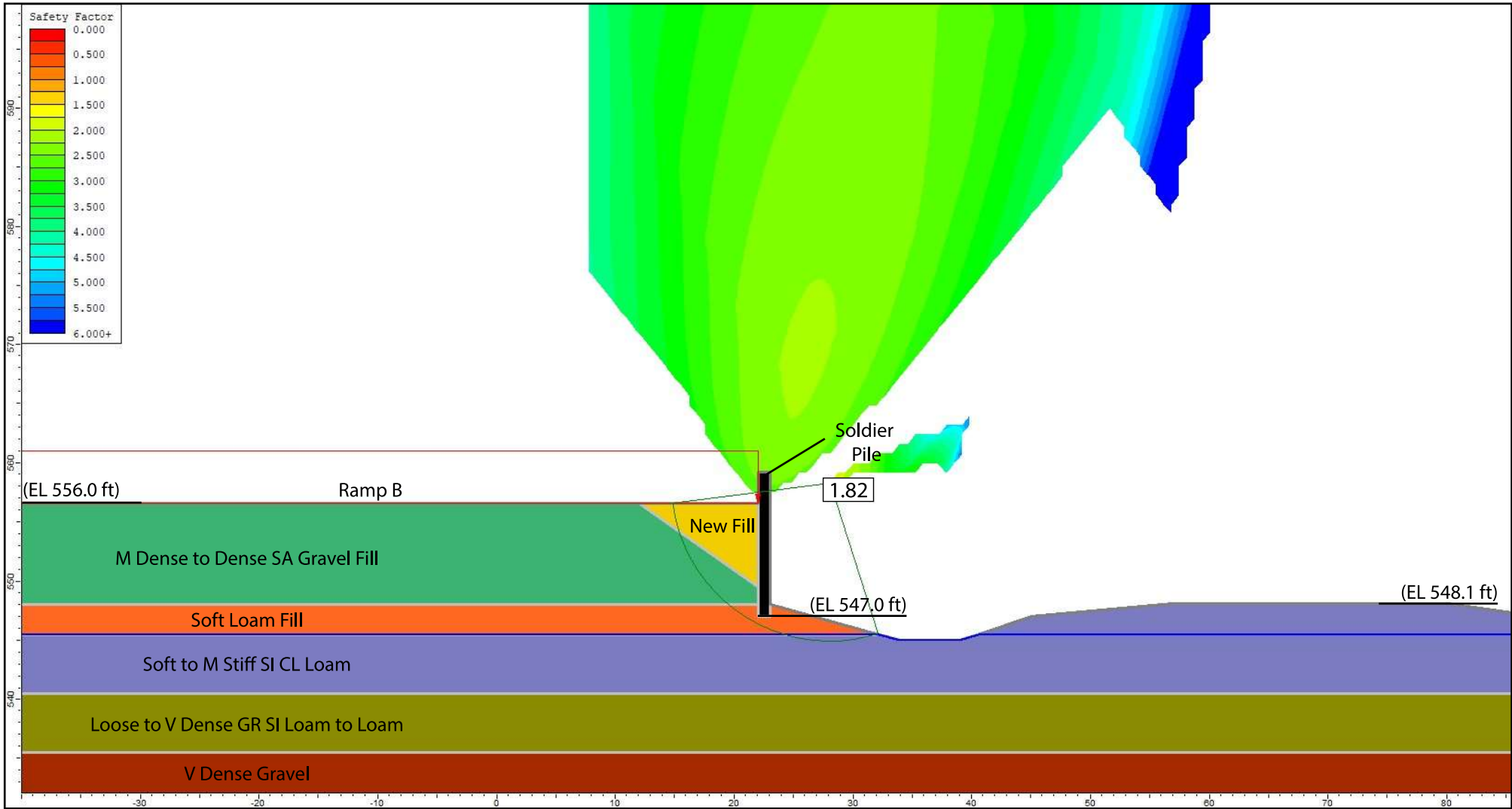
DRAWN BY: D. You  
CHECKED BY: A. Hamad



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

FOR STANTEC

255-39-01



Undrained Analysis, Retaining Wall, SN 099-W1001, Sta.996+00, Ref Boring: I55-RWB-17

Layer ID	Description	Total Unit Weight (pcf)	Undrained Cohesion (psf)	Undrained Friction Angle (degrees)
1	New Fill	125	1000	0
2	M Dense to Dense SA Gravel Fill	120	0	30
3	Soft Loam Fill	115	300	0
4	Soft to M Stiff SI CL Loam	115	600	0
5	Loose to V Dense GR SI Loam to Loam	120	0	31
6	V Dense Gravel	125	0	33

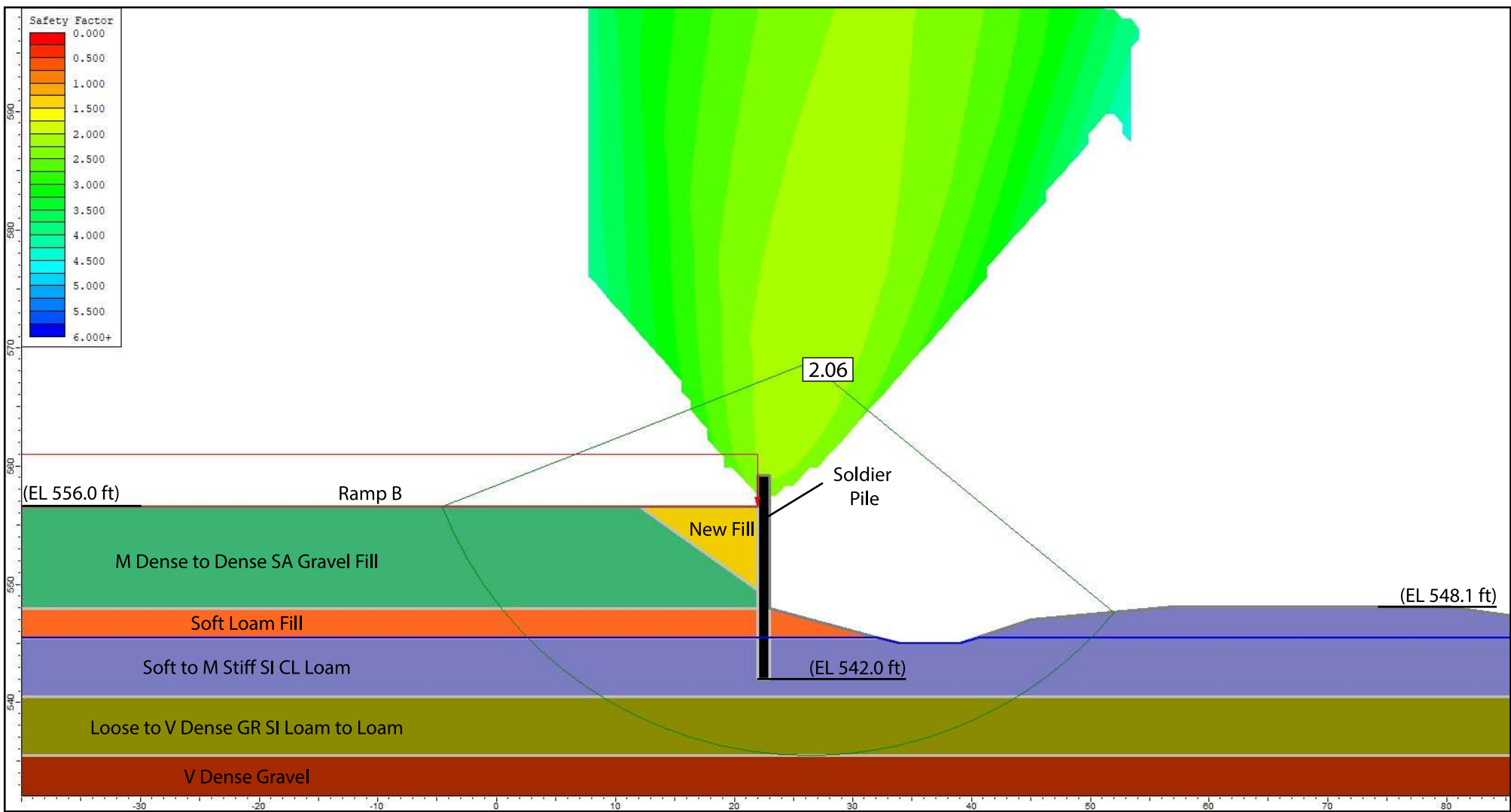
GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL | APPENDIX D-5 | DRAWN BY: D. You  
CHECKED BY: A. Hamad


**Wang Engineering**  
 A Terracon Company

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

FOR STANTEC | 255-39-01




Drained Analysis, Retaining Wall, SN 099-W1001, Sta.996+00, Ref Boring: I55-RWB-17

Layer ID	Description	Total Unit Weight (pcf)	Drained Cohesion (psf)	Drained Friction Angle (degrees)
1	New Fill	125	100	30
2	M Dense to Dense SA Gravel Fill	120	0	30
3	Soft Loam Fill	115	30	28
4	Soft to M Stiff SI CL Loam	115	0	27
5	Loose to V Dense GR SI Loam to Loam	120	0	31
6	V Dense Gravel	125	0	33

GLOBAL STABILITY: I-55 RETAINING WALL ALONG NB I-55; I-80 RECONSTRUCTION FROM EAST OF RIDGE RD TO HOUBOLT RD; WILL COUNTY, ILLINOIS

SCALE: GRAPHICAL      **APPENDIX D-6**      DRAWN BY: D. You  
 CHECKED BY: A. Hamad



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

A Terracon Company

FOR STANTEC      255-39-01

## **APPENDIX E**

Benchmark: Set 2" CWA aluminum disc in concrete base of light pole on north side of westbound I-80, approximately 250'± east of mile marker 126 & 950'± west of I-55 centerline. Elev. 609.80

Existing Structure: None  
Traffic Control: None  
No Salvage.

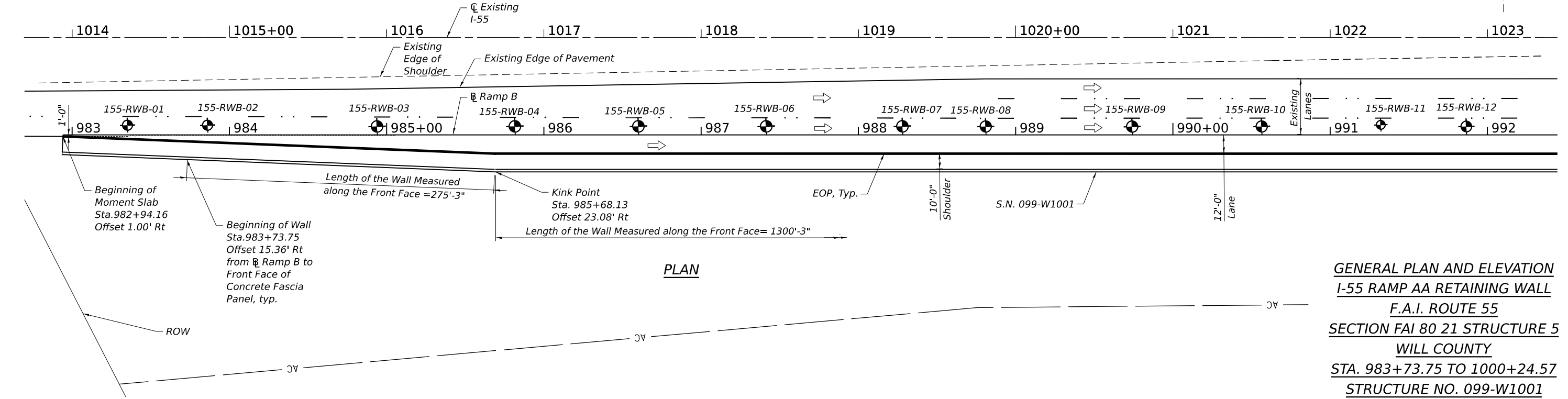
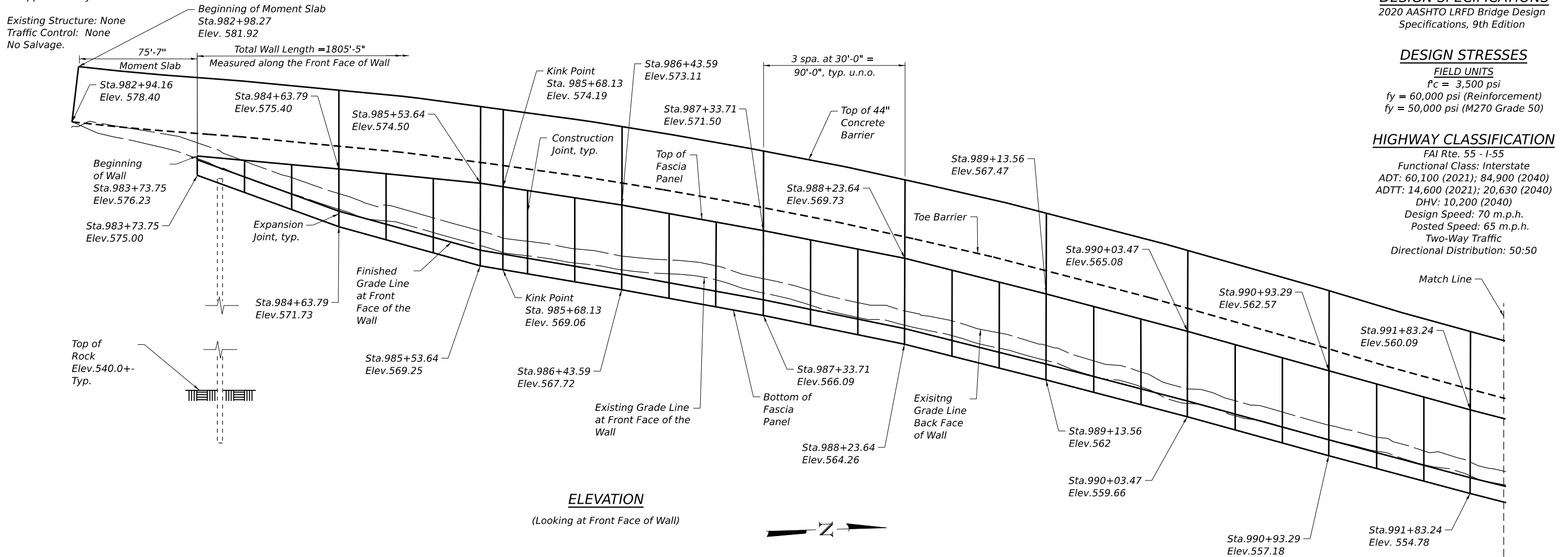
**DESIGN SPECIFICATIONS**  
2020 AASHTO LRFD Bridge Design  
Specifications, 9th Edition

**DESIGN STRESSES**

**FIELD UNITS**  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (Reinforcement)  
f<sub>y</sub> = 50,000 psi (M270 Grade 50)

**HIGHWAY CLASSIFICATION**

FAI Rte. 55 - I-55  
Functional Class: Interstate  
ADT: 60,100 (2021); 84,900 (2040)  
ADTT: 14,600 (2021); 20,630 (2040)  
DHV: 10,200 (2040)  
Design Speed: 70 m.p.h.  
Posted Speed: 65 m.p.h.  
Two-Way Traffic  
Directional Distribution: 50:50



**GENERAL PLAN AND ELEVATION**  
**I-55 RAMP AA RETAINING WALL**  
**F.A.I. ROUTE 55**  
**SECTION FAI 80 21 STRUCTURE 5**  
**WILL COUNTY**  
**STA. 983+73.75 TO 1000+24.57**  
**STRUCTURE NO. 099-W1001**

MODEL: Default  
FILE NAME: p:\transys\p-w-bentley.com\transyscorp\p-w-l-hosted\Documents\Projects\_2018\CH401\401180022\01-Structec\CAD\INT-02\_62R26\02-Mod\04-Structures\Workfiles\SD\099W1001\_62R26-Retaining Wall-TSL-001.dgn



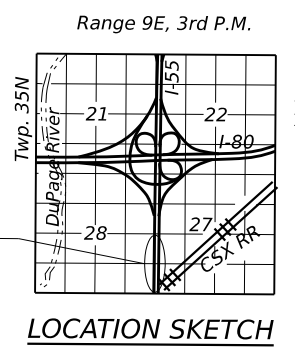
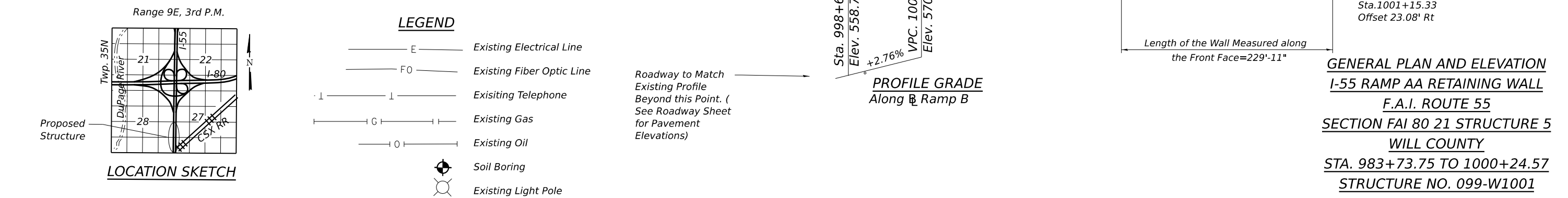
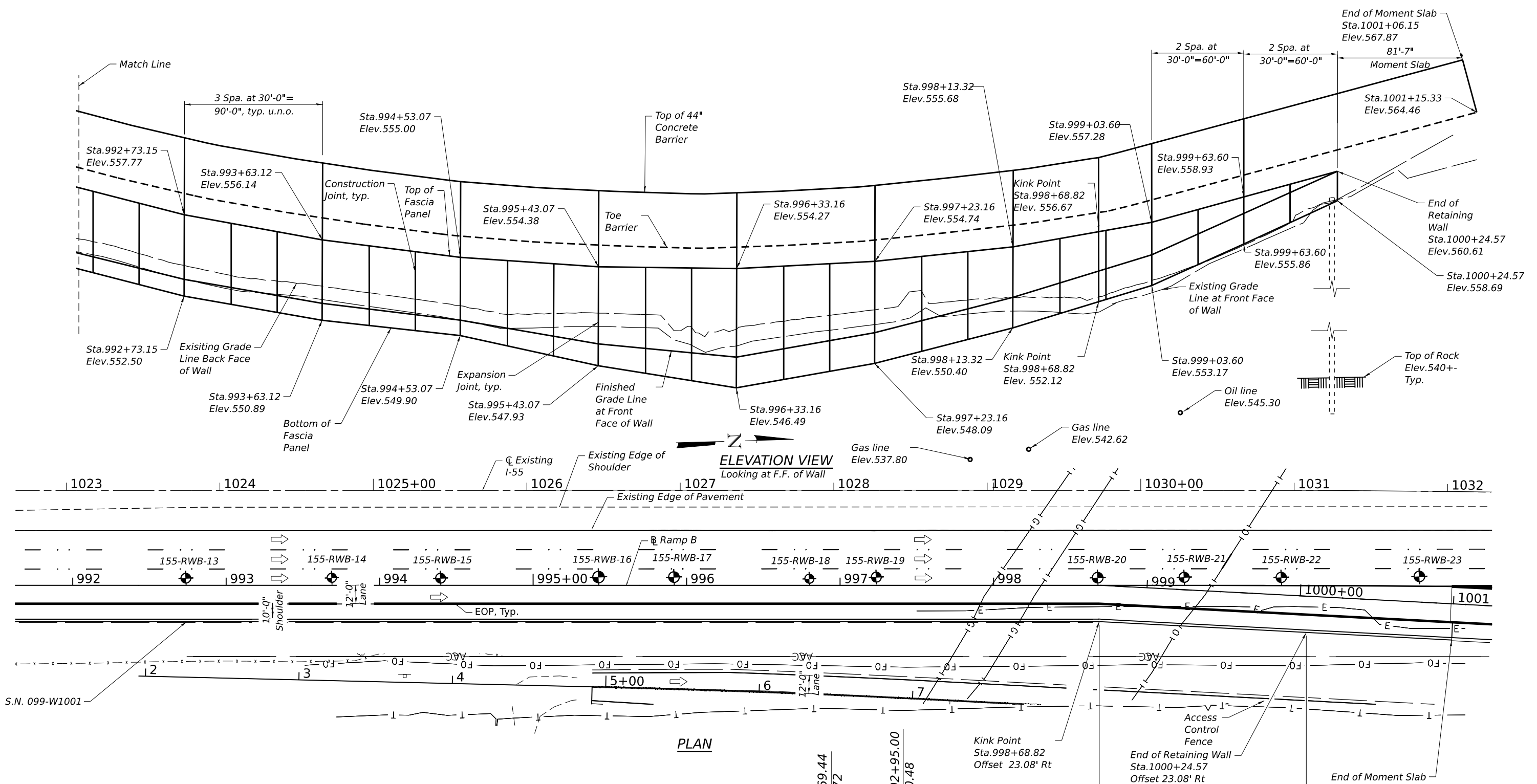
USER NAME = sdoletj	DESIGNED - SD	REVISED -
PLOT SCALE = 63.9285' / in.	CHECKED - DTS	REVISED -
PLOT DATE = 2/27/2024	DRAWN - SD	REVISED -
	CHECKED - DTS	REVISED -

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

SHEET OF SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	FAI 80 21 STRUCTURE 5	WILL	3	1
CONTRACT NO. 62R26				
ILLINOIS FED. AID PROJECT				

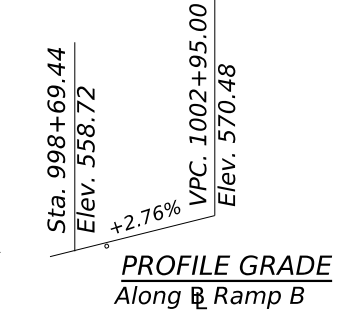
MODEL: Default  
 FILE NAME: p:\transystems-pw\benley.com\transcorp-pw\1-hosted\Documents\Projects\_2018\CH401\401180022\01-Structures\Workfiles\SD\099W1001\_62R26-Retaining Wall-TSL-002.dgn  
 2/27/2024 7:19:52 PM



**LEGEND**

— E —	Existing Electrical Line
— FO —	Existing Fiber Optic Line
— T —	Existing Telephone
— G —	Existing Gas
— O —	Existing Oil
⊙	Soil Boring
⊙	Existing Light Pole

Roadway to Match Existing Profile Beyond this Point. (See Roadway Sheet for Pavement Elevations)



Access Control Fence  
 End of Retaining Wall Sta.1000+24.57 Offset 23.08' Rt  
 End of Moment Slab Sta.1001+15.33 Offset 23.08' Rt  
 Length of the Wall Measured along the Front Face=229'-11"

**GENERAL PLAN AND ELEVATION  
 I-55 RAMP AA RETAINING WALL  
 F.A.I. ROUTE 55  
 SECTION FAI 80 21 STRUCTURE 5  
 WILL COUNTY  
 STA. 983+73.75 TO 1000+24.57  
 STRUCTURE NO. 099-W1001**



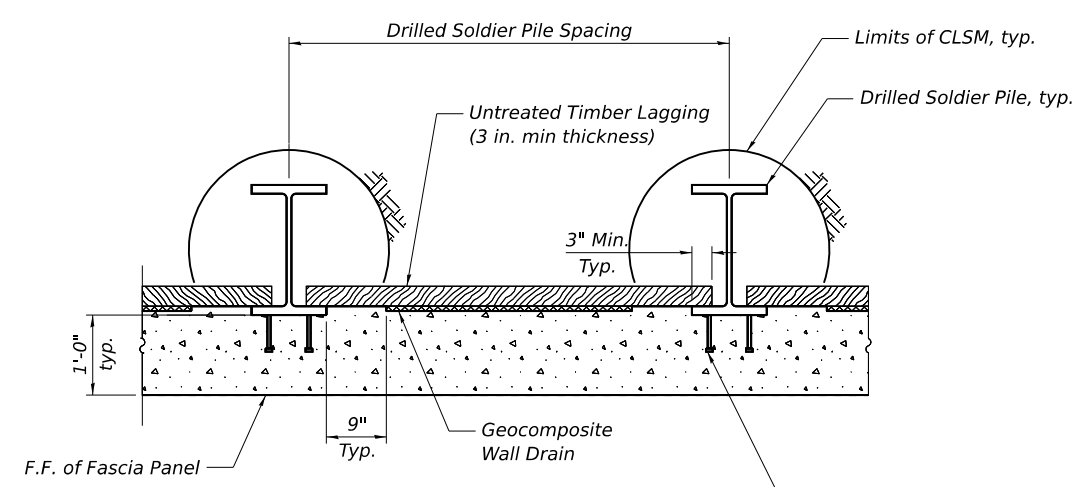
USER NAME = sdotatj	DESIGNED -	REVISED -
PLOT SCALE = 64.0111' = 1"	CHECKED -	REVISED -
PLOT DATE = 2/27/2024	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

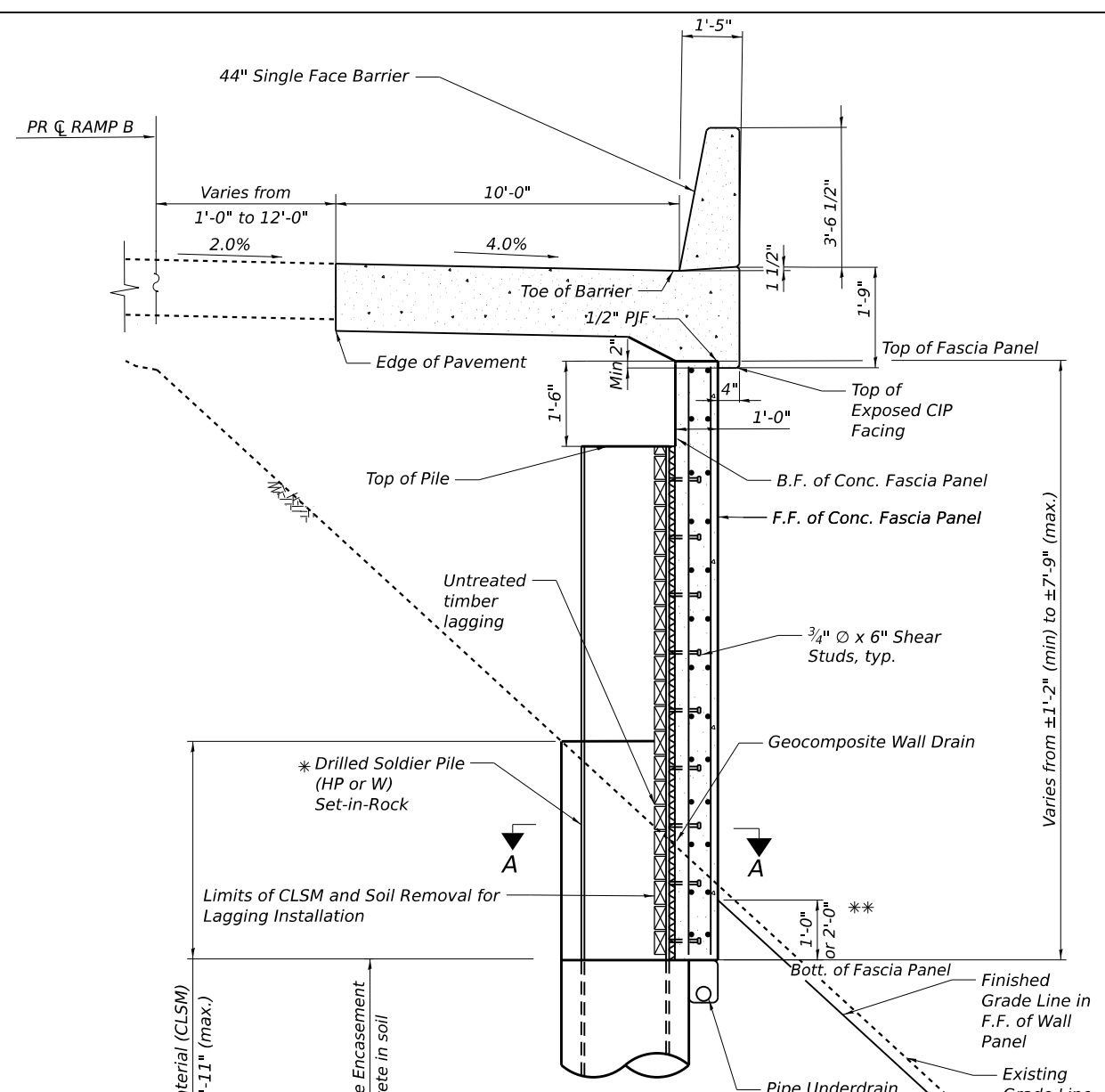
SHEET OF SHEETS

F.A.I. RTE. 55	SECTION FAI 80 21 STRUCTURE 5	COUNTY WILL	TOTAL SHEETS 3	SHEET NO. 2
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R26	

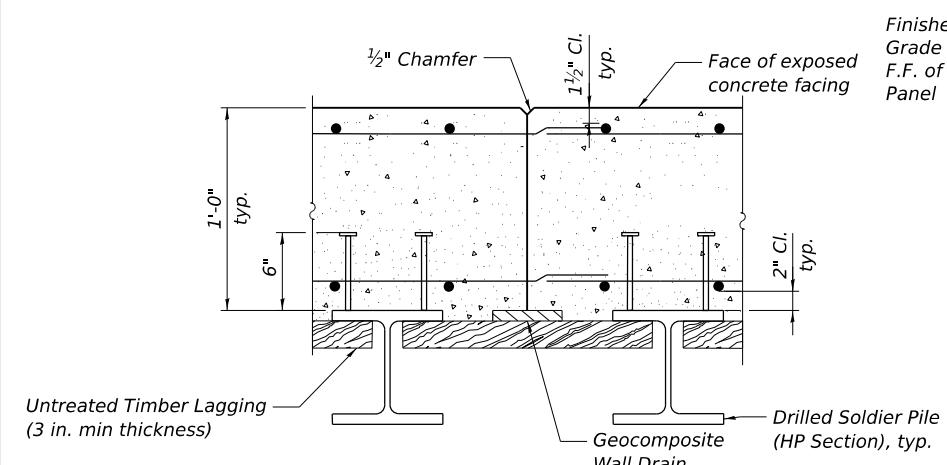
MODEL: Default  
 FILE NAME: pw://transsystems-pw.bentley.com/transcorp-pw1-hosted/Documents/Projects\_2018/CH401/401180022/01-Structures/099W1001\_Ramp\_AA\_Retaining\_Wall/ITSL/099W1001\_62R26-Retaining\_Wall-ITSL-003.dgn  
 2/27/2024 4:14:14 PM



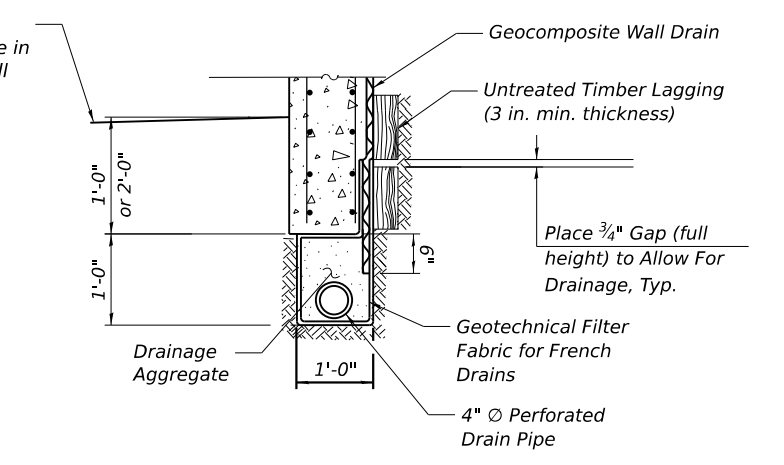
**SECTION A-A**  
 44" Single Face Barrier not shown for clarity  
 3/4"  $\phi$  x 6" Shear Studs, typ.  
 Granular or solid flux filled headed stud conforming to Article 1006.32 of the Standard Specifications. Automatically end welded.



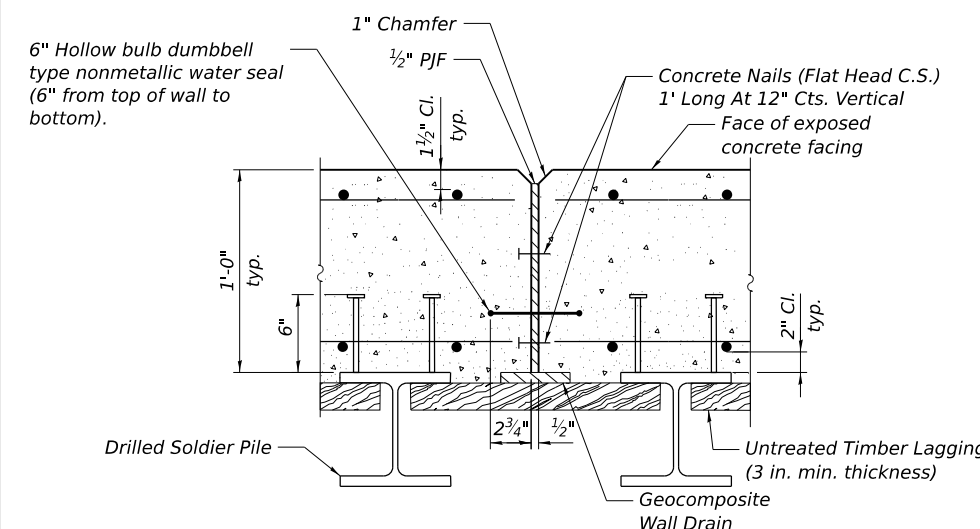
**TYPICAL CROSS SECTION**  
 (Looking North) I-55 RAMP AA RETAINING WALL  
 F.A.I. ROUTE 55  
 SECTION FAI 80 21 STRUCTURES 5  
 WILL COUNTY  
 STA. 983+73.75 TO 1000+24.57  
 STRUCTURE NO. 099-W1001



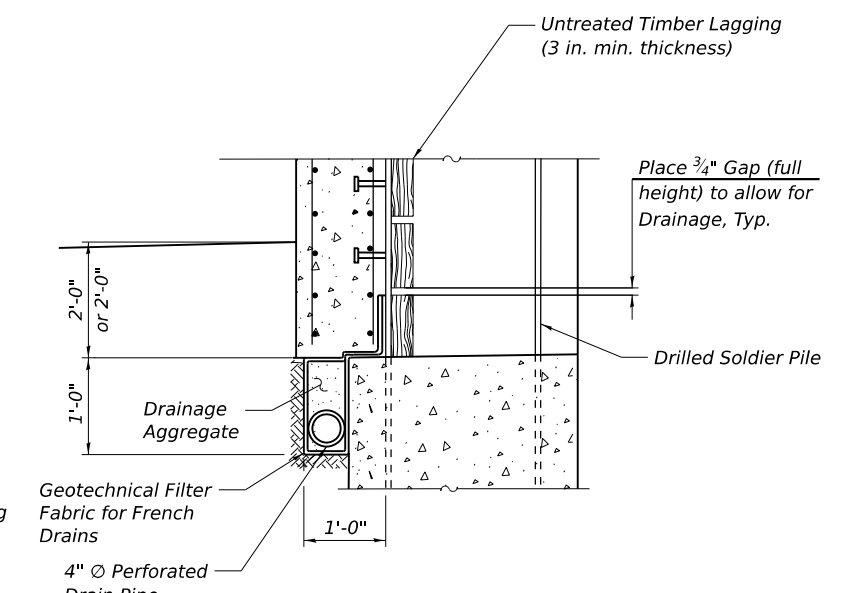
**CONSTRUCTION JOINT DETAILS**



**PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES**



**EXPANSION JOINT DETAILS**



**PIPE UNDERDRAIN DETAIL AT SOLDIER PILE**



USER NAME = sdotatj_	DESIGNED -	REVISED -
PLOT SCALE = 15.0466...in.	CHECKED -	REVISED -
PLOT DATE = 2/27/2024	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET	OF	SHEETS
-------	----	--------

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	FAI 80 21 STRUCTURES 5	WILL	3	3
CONTRACT NO. 62R26				
ILLINOIS FED. AID PROJECT				

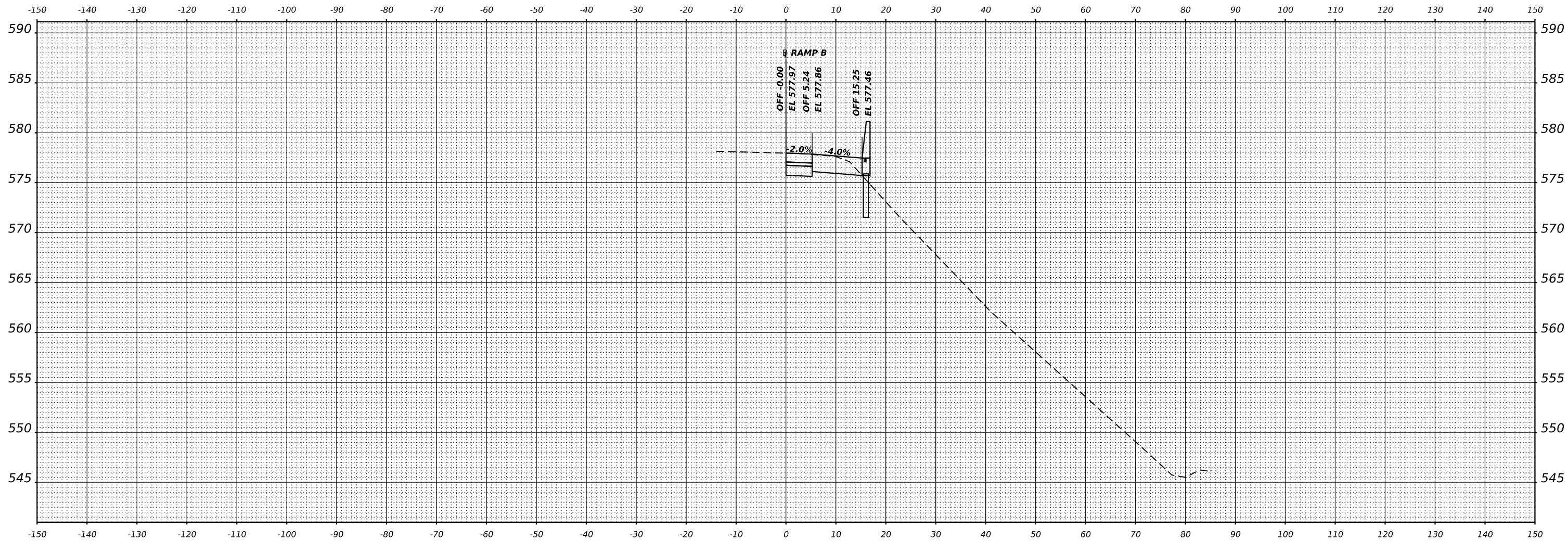
## **APPENDIX F**



FINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	
	TEMPLATE	
	AREAS	
	CHECKED	

ORIGINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	
	TEMPLATE	
	AREAS	
	CHECKED	

MODEL: PBL\_Ramp B - 984+00.00  
 FILE NAME: p:\trans\systems\p\benley.com\trans\scor\p\1\statedocuments\projects\_2018\CH401\401180022\01-States\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\162R26-04-INT02-RampB.dgn



**STA 984+00.00**



USER NAME	ibusansky	DESIGNED	-	REVISED	-
PLOT SCALE	0.16666667 / in.	DRAWN	-	REVISED	-
PLOT DATE	1/18/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

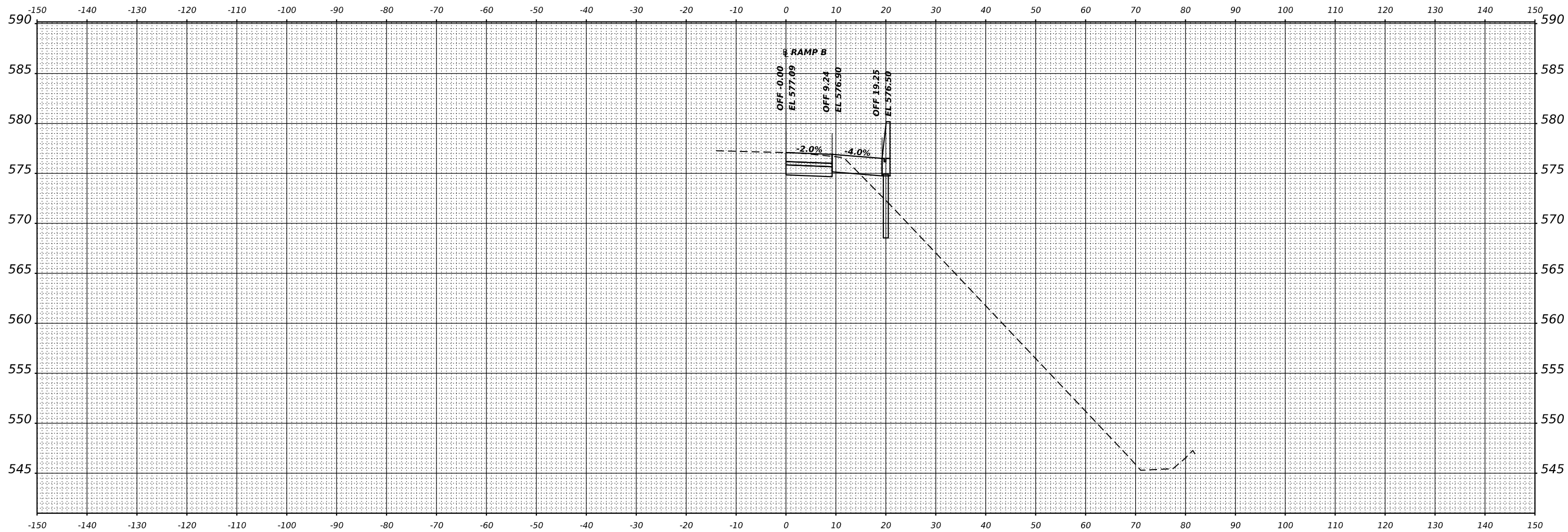
<b>CROSS SECTIONS RAMP B AUX LANE</b>			
SCALE:	SHEET	OF	SHEETS
			STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	268
			CONTRACT NO. 62R26	
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE

MODEL: PBL\_Ramp B - 985+00.00  
 FILE NAME: p:\trans\trans\p\benley.com\trans\score\p\1\statedocuments\projects\_2018\CH401\401\80022\01\State\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\162R26-04-INT02-RampB.dgn



**STA 985+00.00**



USER NAME	ibusansky	DESIGNED	-	REVISED	-
PLOT SCALE	0.16666667 / in.	DRAWN	-	REVISED	-
PLOT DATE	1/18/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>CROSS SECTIONS RAMP B AUX LANE</b>			
SCALE:	SHEET	OF	SHEETS
			STA.

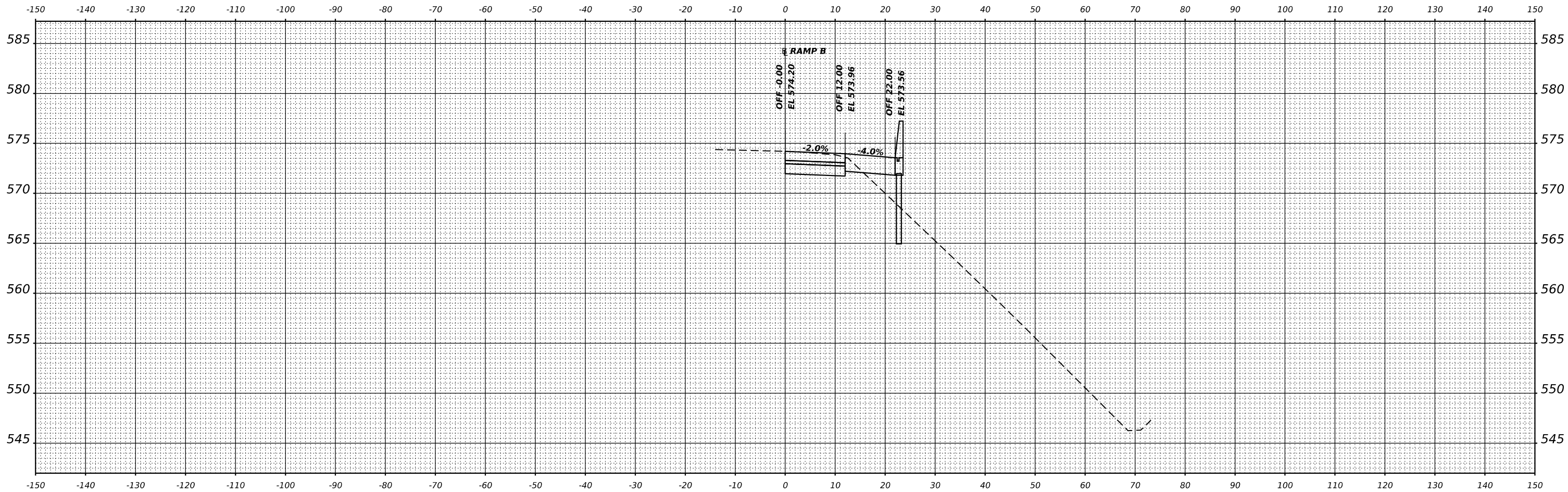
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	269
CONTRACT NO. 62R26				
ILLINOIS FED. AID PROJECT				



FINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE

MODEL: PBL\_Ramp B - 987+00.00  
 FILE NAME: p:\transystems\pw\benfley.com\transys\score\pbl\Isolated\Documents\Projects\_2018\CH401\401180022\01-Stamp\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-05-R1102-RampB.dgn



**STA 987+00.00**



USER NAME	ibusansky	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	0.16666667 / in.	CHECKED	-	REVISED	-
PLOT DATE	1/18/2024	DATE	-	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS  
RAMP B AUX LANE**

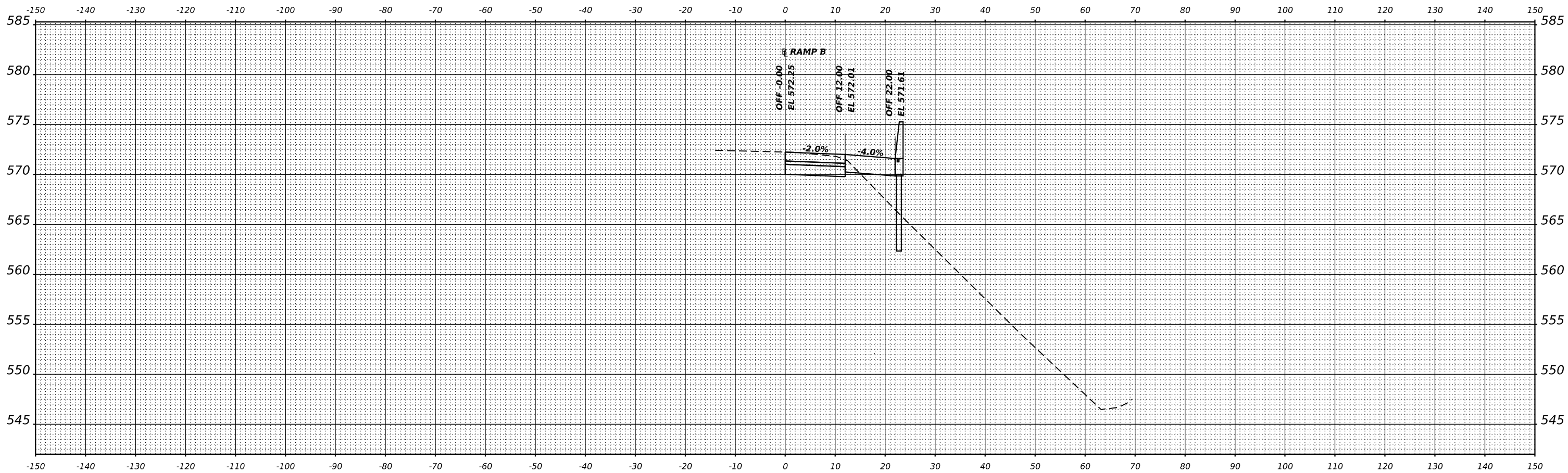
SCALE: SHEET OF SHEETS STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	271
			CONTRACT NO. 62R26	
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	DATE

MODEL: PBL\_Ramp B - 988+00.00  
 FILE NAME: p:\transystems\pw\_bentley.com\transys\score\plotted\Documents\Projects\_2018\CH401\401180022\01-Stamp\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-04-INT02-RampB.dgn



**STA 988+00.00**



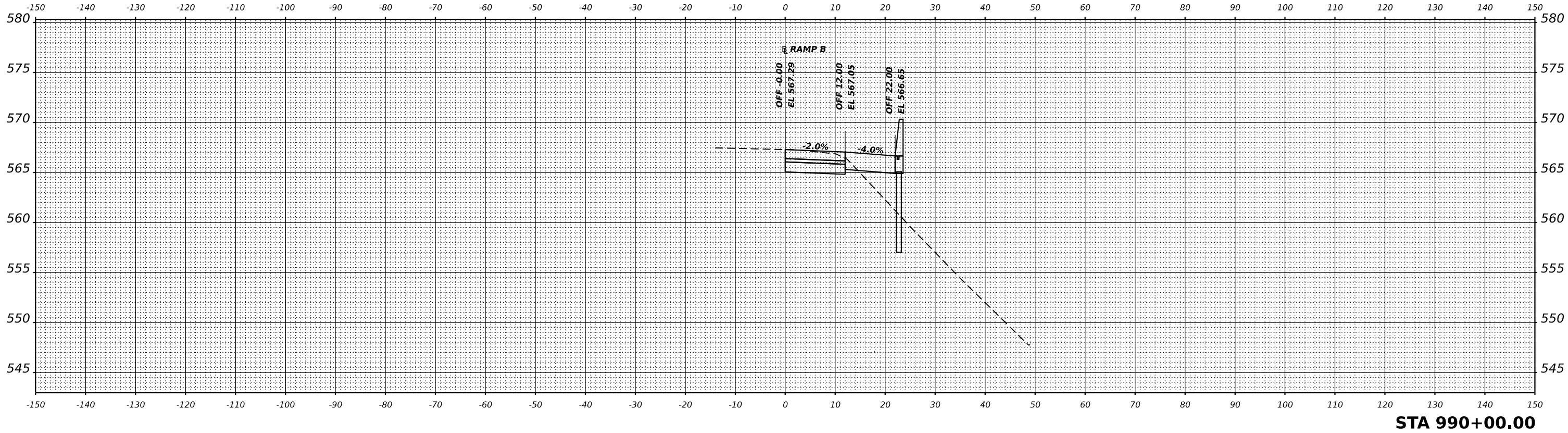
USER NAME	ibusansky	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	0.16666667 / in.	CHECKED	-	REVISED	-
PLOT DATE	1/18/2024	DATE	-	REVISED	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

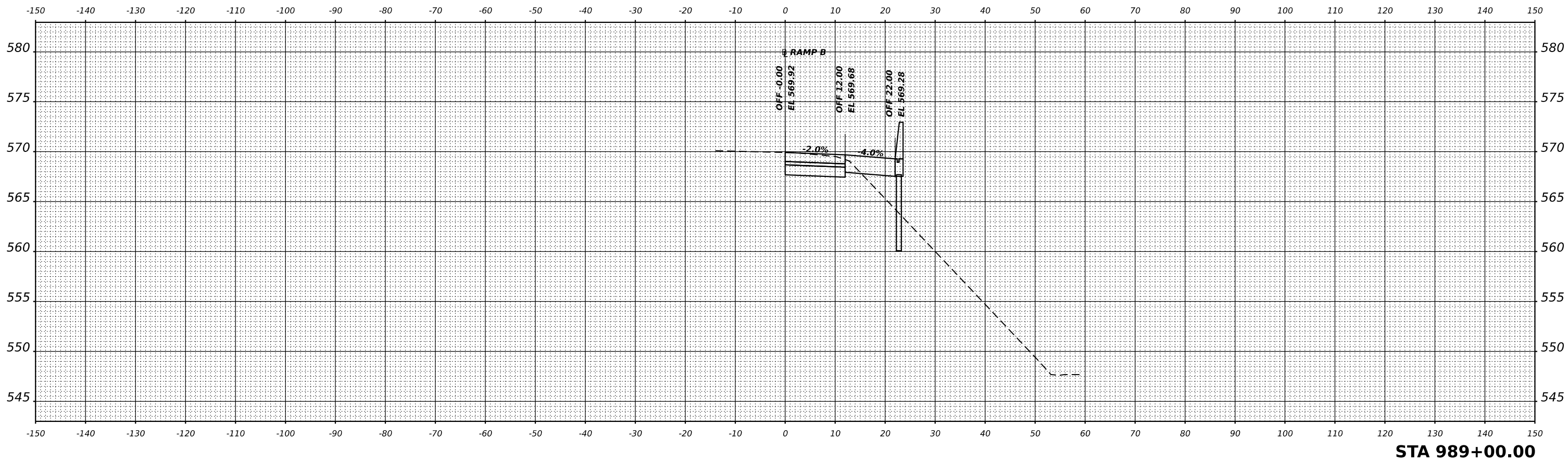
<b>CROSS SECTIONS RAMP B AUX LANE</b>			
SCALE:	SHEET	OF	SHEETS
			STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	272
			CONTRACT NO. 62R26	
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
AREAS CHECKED	TEMPLATE	
	AREAS CHECKED	



ORIGINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
AREAS CHECKED	TEMPLATE	
	AREAS CHECKED	



MODEL: PBL\_Ramp B - 989+00.00  
FILE NAME: p:\transystems\pw\benley.com\transys\corp\pwt\shared\documents\projects\_2018\CH401\401\_80022\01-Station\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-vs-INT02-RampB.dgn



USER NAME	ibusansky	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	0.16666667 / in.	CHECKED	-	REVISED	-
PLOT DATE	1/18/2024	DATE	-	REVISED	-

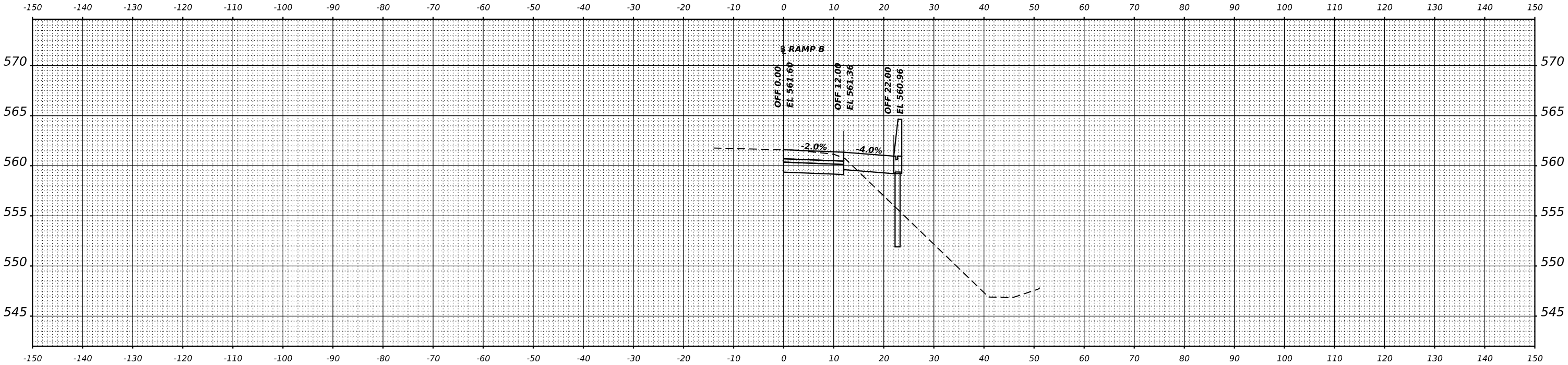
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCALE: SHEET OF SHEETS STA.

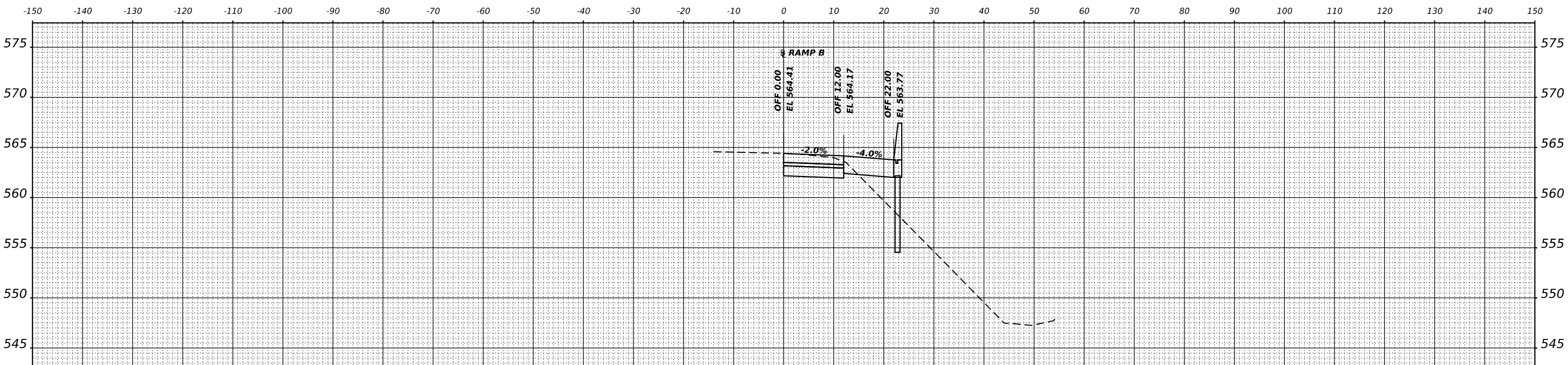
CROSS SECTIONS  
RAMP B AUX LANE

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	273
			CONTRACT NO. 62R26	
		ILLINOIS	FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
FINAL SURVEY NOTE BOOK NO.	



DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
ORIGINAL SURVEY NOTE BOOK NO.	



MODEL: PBL\_Ramp B - 991+00.00  
 FILE NAME: p:\transystems\pw.bentley.com\transys\scorp\pwr\Isolated\Documents\Projects\_2018\CH401\401.1\80022\01-Station\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-Is-INT02-RampB.dgn



USER NAME	ibusansky	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	0.16666667 / in.	CHECKED	-	REVISED	-
PLOT DATE	1/18/2024	DATE	-	REVISED	-

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCALE:	SHEET	OF	SHEETS	STA.
--------	-------	----	--------	------

CROSS SECTIONS  
 RAMP B AUX LANE

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	274
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62R26	

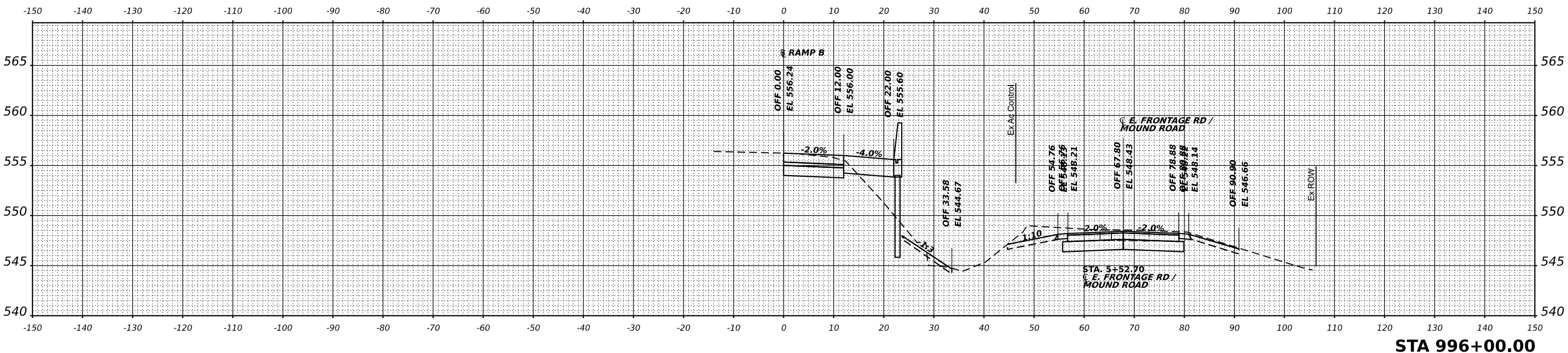




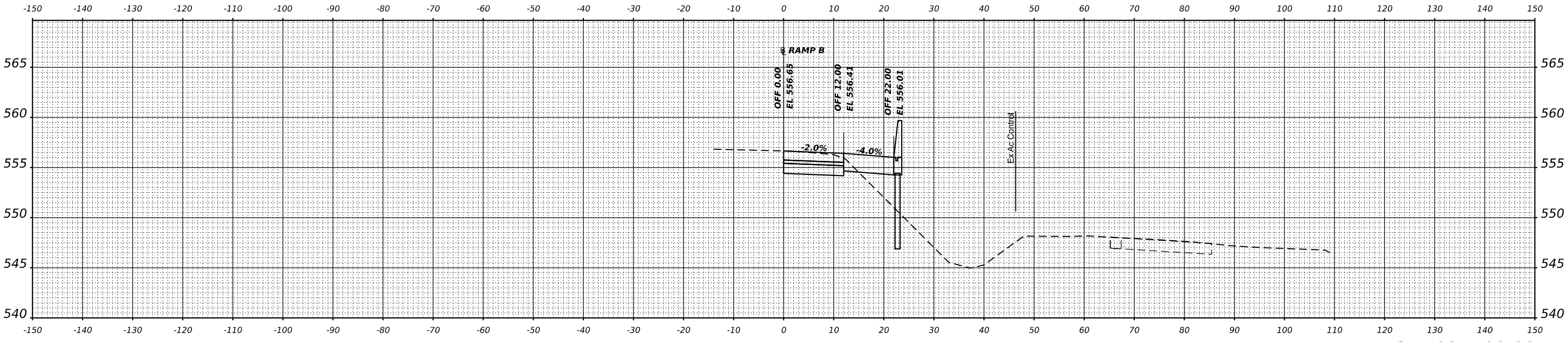
FINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	
AREAS CHECKED	TEMPLATE	
	AREAS	
	CHECKED	

ORIGINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK	PLOTTED	
AREAS CHECKED	TEMPLATE	
	AREAS	
	CHECKED	

MODEL: PBL\_Ramp B - 995+00.00  
 FILE NAME: p:\transystems\p\benley.com\transys\scrfp\l\statedocuments\projects\_2018\CH401\401180022\01-Stamp\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-04-INT02-RampB.dgn



**STA 996+00.00**



**STA 995+00.00**



USER NAME	ibusansky	DESIGNED	-	REVISED	-
PLOT SCALE	0.16666667 / in.	DRAWN	-	REVISED	-
PLOT DATE	1/18/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>CROSS SECTIONS</b>			
<b>RAMP B AUX LANE</b>			
SCALE:	SHEET	OF SHEETS	STA.

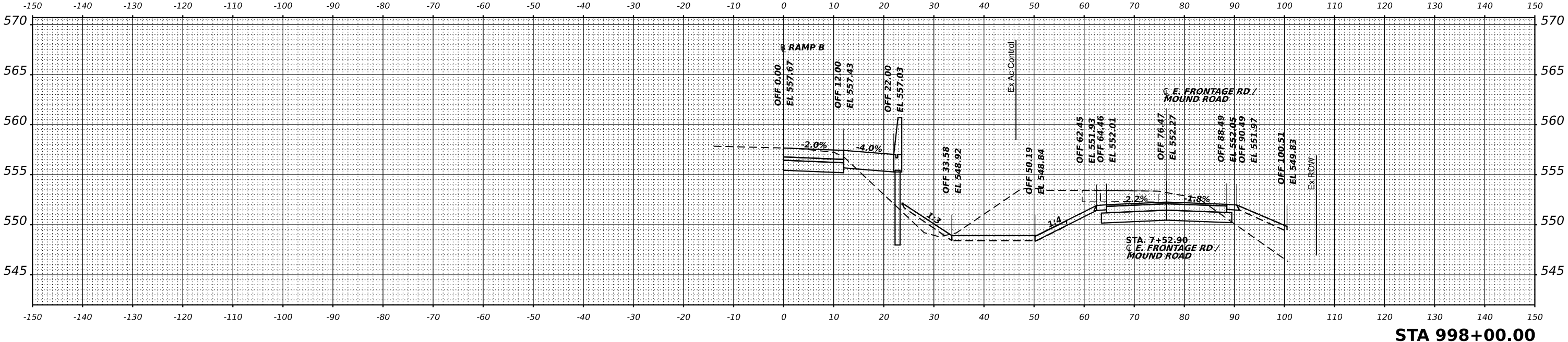
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	276
CONTRACT NO. 62R26			ILLINOIS FED. AID PROJECT	

Ex ROW

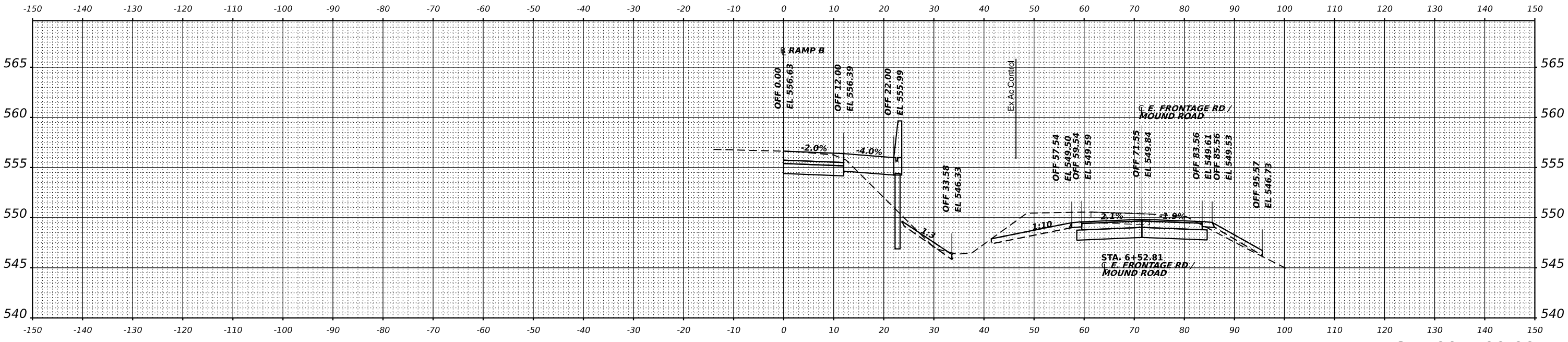
DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

MODEL: PBL\_Ramp B - 997+00.00  
 FILE NAME: p:\transystems\p\benfley.com\transys\scrfp\Isolated\Documents\Projects\_2018\CH401\401180022\01-Station\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-6-INT02-RampB.dgn



**STA 998+00.00**



**STA 997+00.00**



USER NAME	ibusansky	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
PLOT SCALE	0.16666667 / in.	CHECKED	-	REVISED	-
PLOT DATE	1/18/2024	DATE	-	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>CROSS SECTIONS</b>			
<b>RAMP B AUX LANE</b>			
SCALE: SCALE	SHEET	OF SHEETS	STA.

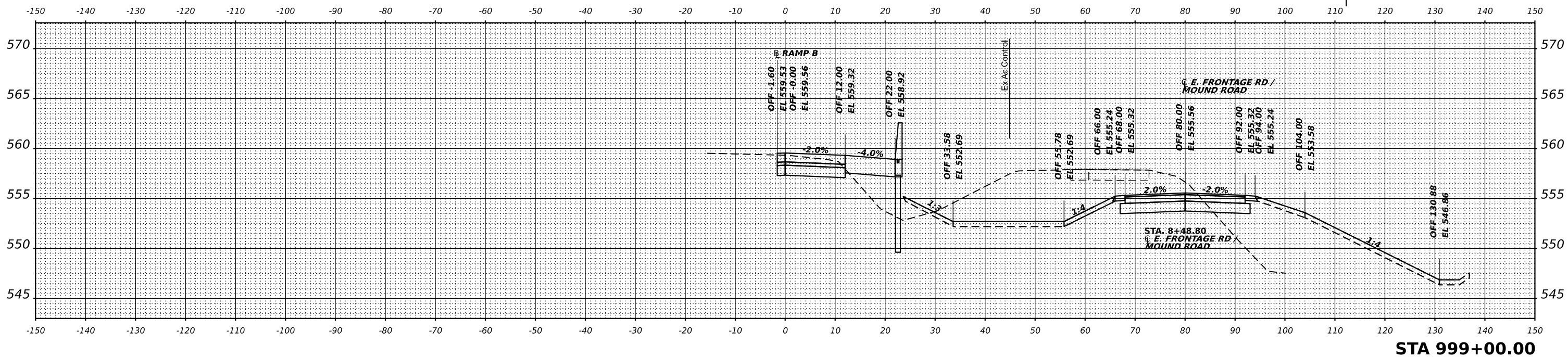
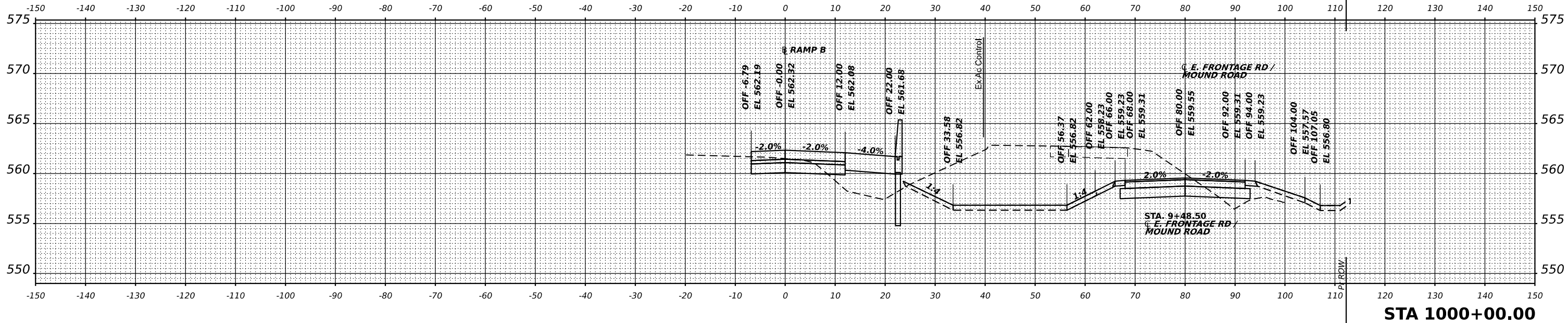
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	277
CONTRACT NO. 62R26				
ILLINOIS				FED. AID PROJECT

Pl. ROW

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	TEMPLATE	
	AREAS CHECKED	

MODEL: PBL\_Ramp B - 999+00.00  
 FILE NAME: p:\transystems\pwr\benley.com\transys\scrf\pwr\Isolated\Documents\Projects\_2018\CH401\401\_180022\01-Stantec\CAD\INT-02\_62R26\04-Sheet\14-Cross Sections\0162R26-04-INT02-RampB.dgn



USER NAME	lbusansky	DESIGNED	-	REVISED	-
PLOT SCALE	0.16666667 / in.	DRAWN	-	REVISED	-
PLOT DATE	1/18/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

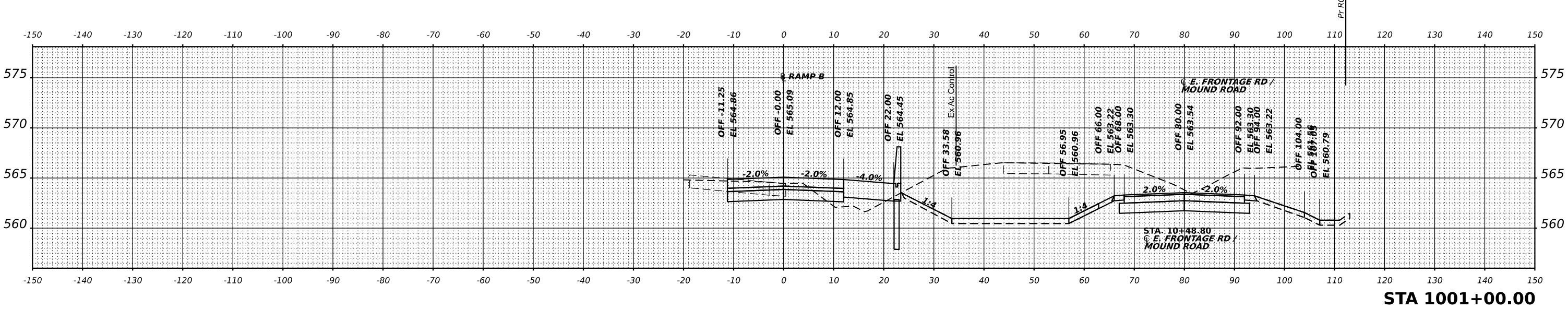
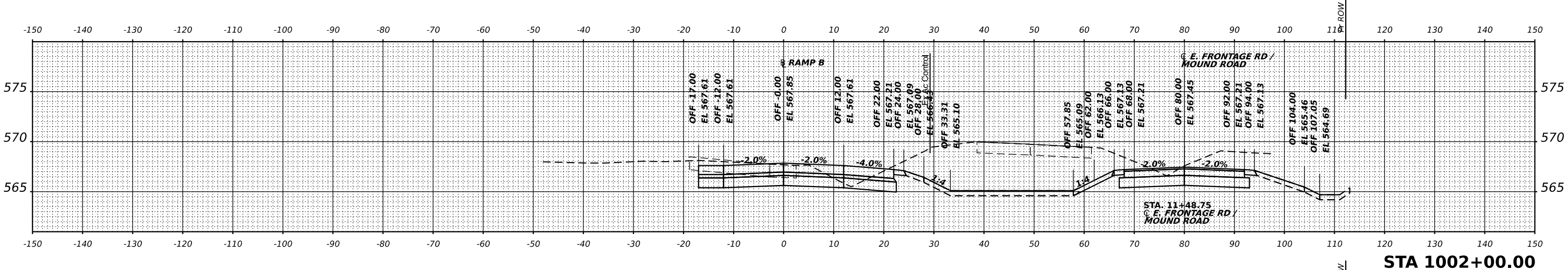
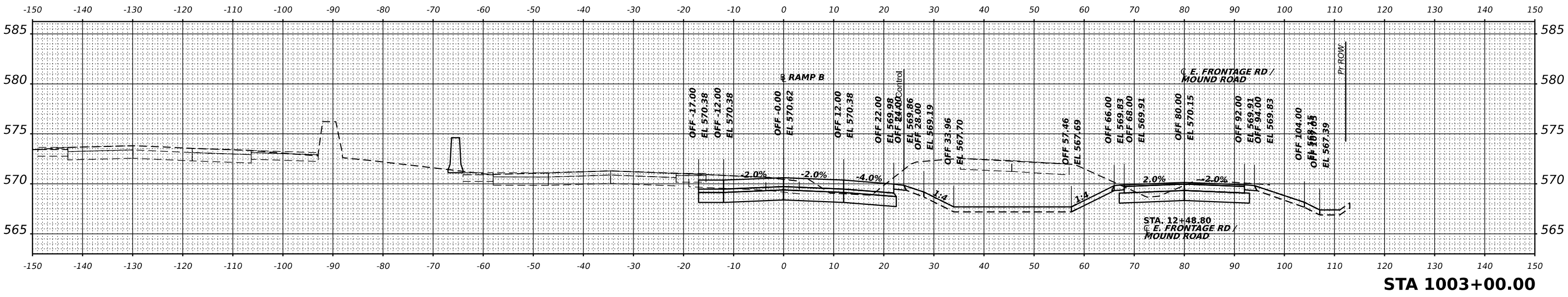
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCALE:		SHEET		OF SHEETS		STA.	
CROSS SECTIONS		SECTION		COUNTY		TOTAL SHEETS	
RAMP B AUX LANE		FAI 80 21 STRUCTURE 5		WILL		325	
						278	
						CONTRACT NO. 62R26	
				ILLINOIS		FED. AID PROJECT	

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	

MODEL: PBL\_Ramp B - 1001+00.00  
 FILE NAME: p:\transystems\p\benley.com\transys\scrfp\l\isted\Documents\Projects\_2018\CH401\401180022\01-Station\CAD\INT-02\_62R26\04-Sheet\1-L-Cross Sections\0162R26-11\T02-RampB.dgn



USER NAME	lbusansky	DESIGNED	-	REVISED	-
PLOT SCALE	0.16666667 / in.	DRAWN	-	REVISED	-
PLOT DATE	1/18/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS			
RAMP B			
SCALE:	SHEET	OF	SHEETS
			STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	FAI 80 21 STRUCTURE 5	WILL	325	279
CONTRACT NO. 62R26				
ILLINOIS		FED. AID PROJECT		