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**ROADWAY GEOTECHNICAL REPORT  
EAST AVENUE RECONSTRUCTION  
FROM  
JOLIET ROAD TO 55<sup>TH</sup> STREET  
COOK COUNTY, ILLINOIS**

**for**

**Accurate Group**

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**Technical Report Documentation Page**

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| <b>11. Abstract</b>   |  |   |  |
| <p>This report addresses the improvement along East Avenue from Joliet Road to 55th Street. The existing roadway pattern will be maintained. The proposed improvement consists of widening along East Avenue, Joliet Road, and 55th Street, construction of a new 8-foot wide share-use path, intersection reconstruction of Joliet Road at East Avenue and of East Avenue at 55th Street, and two new retaining walls. The reconstructed pavements will be supported by existing soil or new fill. The change in grade is very little, with cuts of about 0.5 to 1.5 feet and fill of about 0.5 to 2.0 feet. For short distances, cuts may get to 3.2 feet deep and fill section may reach 5.0 feet.</p> <p>Based on our subsurface investigation results, the soils consists of up to 8.3 feet of cohesive and granular fill, soft to stiff clay to silty clay about 1.0- to 7.0-foot thick with sporadically occurrences, and stiff to hard clay to silty clay loam diamicton more than 10-foot thick making most of the subgrade.</p> <p>A topsoil thickness of 8 inches should be considered for stripping estimates. In general, the stiff to hard clayey subgrade will provide a stable working platform for the compaction of improved aggregate subgrade. Water-bearing layers are present in the fill and just below it, within the soft soil (Unit 2). Groundwater was encountered in four boring along Joliet Road and south of it. In general, groundwater is deep sited. Since the subgrade will exhibit poor drainage, transversal and longitudinal underdrains should be considered.</p> <p>Subgrade treatment of 12 to 36 inches additional undercut below the 12 inches of IDOT Aggregate Subgrade Improvement is proposed on one section along East Avenue and one section along Joliet Road. It is recommended placing geotextile fabric at the base of the excavation for separation. The pavement sections should be designed for an average SSR value of POOR or an IBR value of 2.</p> <p>The recommendations pertaining to the proposed retaining walls are provided in separate structure geotechnical reports.</p> |  |   |  |
| <b>12. Path to archived file</b>  |  |   |  |
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## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>1.0 INTRODUCTION .....</b>                                  | <b>1</b>  |
| <b>2.0 GEOLOGICAL SETTING.....</b>                             | <b>2</b>  |
| 2.1 PHYSIOGRAPHY .....   | 2         |
| 2.2 PEDOLOGICAL FEATURES .....                                 | 2         |
| 2.3 SURFICIAL COVER .....                                      | 3         |
| 2.4 BEDROCK.....   | 3         |
| 2.5 CLIMATE DATA.....  | 4         |
| <b>3.0 METHODS OF INVESTIGATION .....</b>                      | <b>5</b>  |
| 3.1 SUBSURFACE INVESTIGATION .....                             | 5         |
| 3.2 LABORATORY TESTING.....                                    | 7         |
| <b>4.0 RESULTS OF FIELD AND LABORATORY INVESTIGATIONS.....</b> | <b>7</b>  |
| 4.1 SURFACE CONDITIONS .....                                   | 7         |
| 4.2 SOIL CONDITIONS .....                                      | 8         |
| 4.3 GROUNDWATER CONDITIONS.....                                | 11        |
| <b>5.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS .....</b>      | <b>11</b> |
| 5.1 SITE PREPARATION AND EARTHWORK.....                        | 12        |
| 5.2 SUBGRADE TREATMENT AND RECOMMENDATIONS .....               | 12        |
| 5.3 SUBGRADE SUPPORT RATING .....                              | 13        |
| 5.4 ROADWAY DRAINAGE .....                                     | 13        |
| 5.5 EMBANKMENT AND CUT SECTIONS .....                          | 13        |
| <b>6.0 CONSTRUCTION CONSIDERATIONS.....</b>                    | <b>14</b> |
| 6.1 EXCAVATION, DEWATERING, AND UTILITIES.....                 | 14        |
| 6.2 FILLING AND BACKFILLING.....                               | 14        |
| 6.3 EARTHWORK OPERATIONS.....                                  | 14        |
| <b>7.0 QUALIFICATIONS.....</b>                                 | <b>15</b> |
| REFERENCES .....   | 16        |

**EXHIBITS**

- 1. Site Location Map*
- 2. Site Pedological Map and Data*
- 3. Site and Regional Geological Map*
- 4. Subgrade Support Rating Chart*

**APPENDIX A**

- Boring Logs*

**APPENDIX B**

- IDOT BMPR 507A and 508A Forms*

**APPENDIX C**

- Laboratory Test Results*

**APPENDIX D**

- Pavement Cores*

**APPENDIX E**

- Soil Boring Location Plans and Soil Profiles*

**LIST OF TABLES**

Table 1: Summary of Alignment and Reference Borings ..... 6

Table 2: Summary of Topsoil Thickness..... 7

Table 3: Summary of Existing Pavement Thickness and Composition ..... 8

Table 4: Summary of Existing Fill Properties ..... 9

Table 5: Summary of Soft Soil Properties..... 10

Table 6: Summary of Diamicton Properties ..... 11

Table 7: Summary of Subgrade Soil Condition and Treatment Extent ..... 12

**LIST OF FIGURES**

Figure 1: Monthly Precipitation Data for 2017 ..... 4

Figure 2: Monthly Temperature Data for 2017 ..... 5

**ROADWAY GEOTECHNICAL REPORT  
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COOK COUNTY, ILLINOIS  
FOR  
ACCURATE GROUP**

## **1.0 INTRODUCTION**

This report presents the results of our geotechnical subsurface investigation, laboratory testing, and engineering analysis and evaluations for the roadway widening and reconstruction of East Avenue from Joliet Road to 55<sup>th</sup> Street. A *Site Location Map* is presented as Exhibit 1.

Roadway design drawings provided to Wang Engineering, Inc. (Wang) by Accurate Group, Inc. (Accurate) indicate the improvements include

- (1) Widening, reconstruction, and/or resurfacing of the following alignments
  - East Avenue between Station 203+00.00 and Station 244+18.84;
  - 55<sup>th</sup> Street between Station 304+79.00 and Station 349+35.00;
  - Joliet Road between Station 105+50.00 and Station 115+20.00; and
  - Sergo Drive between Station 400+00.00 and Station 402+60.00;

The new pavements along East Avenue, Joliet Road, and 55<sup>th</sup> Street will have total widths ranging from 55 to 72 feet. The new roadway will be extended over the grassy area along the existing roadways and will be constructed either cutting back the existing surface or over new embankment fill with slopes no steeper than 1:4 (V:H).

- (2) Construction of Shared-use Path: on the west side of East Avenue and the south side of 55<sup>th</sup> Street; the east side of East Avenue and the north side of 55<sup>th</sup> Street; and a portion of the south side of Joliet Road (see Exhibit 1).

Along the roadway widening, an 8-foot wide shared-path will be constructed. The path will be supported on existing ground or by new embankment fill.

The proposed roadway improvement shows two new retaining walls along East Avenue and 55<sup>th</sup> Street. The structures along the alignments were addressed in Wang's structure geotechnical reports.

The purpose of the investigation was to characterize the subsurface soil, assess groundwater conditions, and provides geotechnical analyses and recommendations for the design and construction of the proposed pavements.

## **2.0 GEOLOGICAL SETTING**

The project area is located in western Cook County, in Lyons Township, Illinois. On the USGS Berwyn Quadrangle 7.5 Minute Series map, the improvement extends within SE  $\frac{1}{4}$  of Section 9, SW  $\frac{1}{4}$  of Section 10, NW  $\frac{1}{4}$  of Section 15 and W  $\frac{1}{2}$  of Section 16, Tier 38 N, Range 12 E of the Third Principal Meridian.

The following review of published geologic data, with emphasis on factors that might influence the design and construction of the proposed engineering works, is meant to place the project area within a geological framework and, thus, to confirm the dependability and consistency of the subsurface investigation results. For the study of the regional geologic framework, Wang considered northeastern Illinois area in general and Cook County in particular.

### **2.1 Physiography**

Cook County is dominated by Chicago Lake Plain and Wheaton Morainal Country physiographic sections (Leighton et al. 1948). The project site is situated at the limit between the two physiographic sections mostly within the east limit of Wheaton Morainal Country. The relief within the project area is generally flat. Along the roadway alignments proposed for improvement, the existing surface elevation varies from 645 and 660 feet. There is a Vulcan Quarry located east of the East Avenue with bottom of excavation up to 300 feet below the ground surface (bgs).

### **2.2 Pedological Features**

After the Wisconsin glaciation, several types of soils developed through weathering of glacial sediments. In Cook County, the soil types were surveyed by the USDA (2017). A summary of the

USDA soil types present within the project area, including their relevant geotechnical index properties and suitability as subgrade and road fill, are shown in Exhibits 2-1 and 2-2. The soil information provided by USDA is meant to be used as a general reference in the absence of a site-specific investigation. In this instance, our findings regarding soil features affecting suitability for highway and street construction are not necessarily in agreement with the information presented in Exhibit 2-2.

### **2.3 Surficial Cover**

The surficial cover is 10 to 25-foot thick as a result of Wisconsin-age glacial activity (Leetaru et al. 2004). The glacial deposits were emplaced during pulsating advances and retreats of an icesheet lobe responsible for the formation of end moraines and associated low-relief till and lake plains lacustrine deposit (Johnson and Hansel 1999). The Tinley groundmoraine dominates the surficial cover within the project area and consists predominantly of clayey diamicton of the Wadsworth Formation. The Wadsworth Formation is identified as relatively homogeneous, gray till with clay to silty clay matrix, a high content of dolomite and shale clasts and occasional lenses of sorted and stratified silt and sand (Hansel and Johnson 1996). The diamicton rests over sand and gravel or directly over the bedrock in various degrees of weathering. The site and regional geology is illustrated in Exhibit 2.

From a geotechnical viewpoint, the Wadsworth Formation diamicton is characterized by moderate to low plasticity, medium to low moisture content, medium to hard consistency, poor permeability, and low compressibility (Bauer et al. 1991).

### **2.4 Bedrock**

In Cook County, the surficial cover rests unconformably on top of Silurian-age bedrock that dips eastward at a pace of about 15 feet per mile. The top of the bedrock lies 10 to 25 feet bgs. Being so shallow, the bedrock within the project area is moderately to highly weathered. Structurally, the site is located on the eastern flank of the Wisconsin Arch (Willman 1971). No active faults or underground mines are known in the area. Vulcan Quarry open excavation borders the project site on its east side.

Our subsurface investigation results fit into the local geologic context. The borings drilled in the project area encountered native sediments consisting of occasional, thin patches of clayey, lacustrine deposits overlying silty clay diamicton with gravel and sand lenses. The borings

encountered slightly to highly weathered dolostone bedrock at elevations of 627 to 638 feet, or about 9 to 23 feet bgs.

## 2.5 Climate Data

The subsurface investigation was performed from June to September 2017. To assess the possible effects of temperature and precipitation on water table data and soil moisture, the climatic conditions for the investigation period and three months prior to the start of the investigation are summarized graphically in Figures 1 and 2. The precipitation and temperature data for the investigation period are compared against thirty-year monthly data (1981 to 2010) in box-and-whiskers format to show deviations from “normal” climate conditions during the current investigation. Local climate data were obtained from the O’Hare Station (NCDC 2017).

The deviations from the historical 30-year climate data show the investigation period was characterized in general by average precipitations and temperature with the exception of a relatively wet period with average temperatures in July. Observations of perched water within the granular fill may have been influenced by these climate factors.

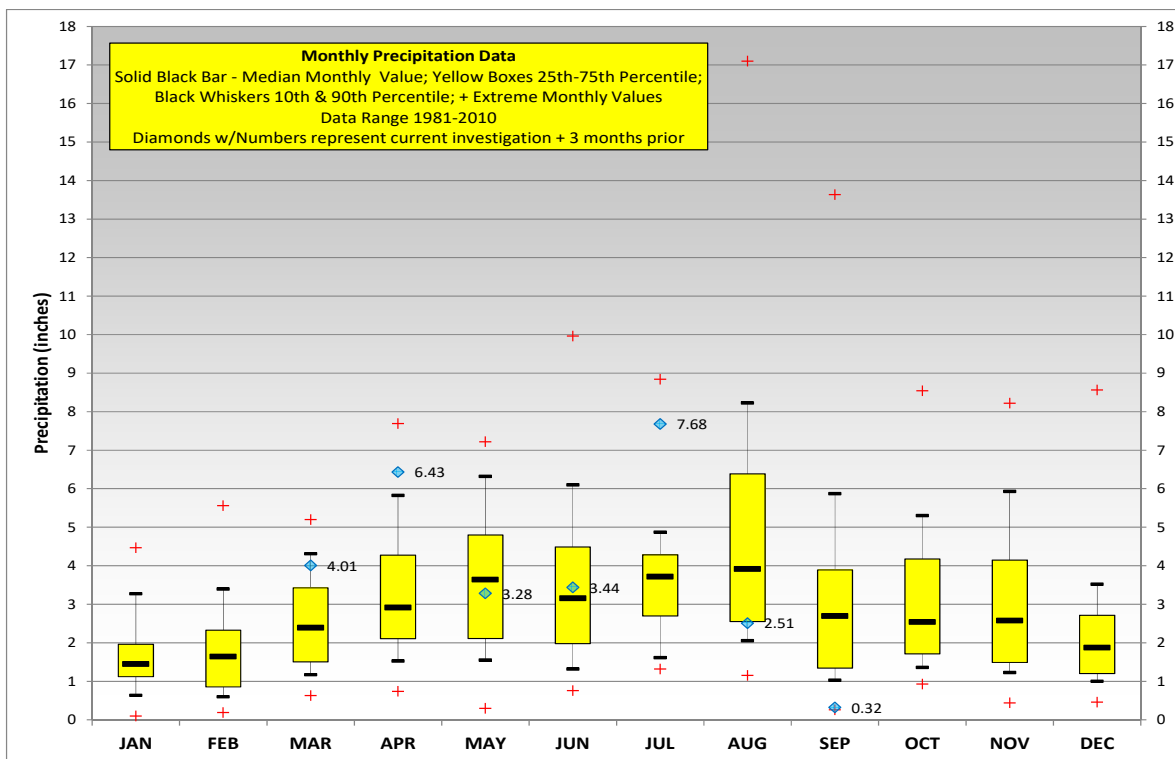


Figure 1: Monthly Precipitation Data for 2017



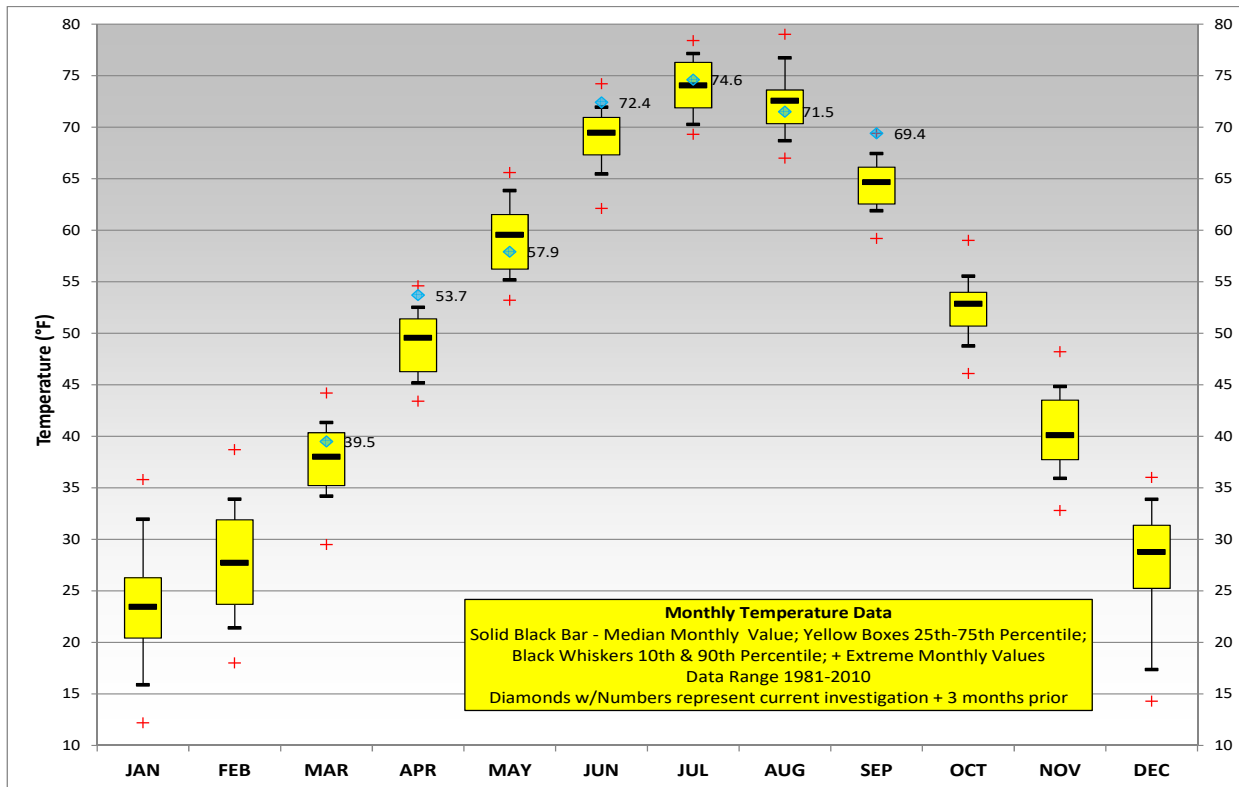


Figure 2: Monthly Temperature Data for 2017

### 3.0 METHODS OF INVESTIGATION

The following sections outline the methods of subsurface and laboratory investigations. All elevations in this report are based on NAVD 1988.

#### 3.1 Subsurface Investigation

To characterize the subsurface soil and groundwater condition along the roadway alignments, we considered data from subgrade (SGB) borings, retaining wall (RWB) /structure borings, and shared-use path (BPB) borings. Limits and reference borings along each roadway alignment are summarized in Table 1.

The as-drilled boring locations northing and easting coordinates were acquired with a mapping-grade GPS unit. Elevations, stations, and offsets were provided by Accurate. The boring location information's are shown in the *Boring Logs* (Appendix A) and in the *Boring Location Plan and Soil*

*Profiles (Appendix E).*

Truck-mounted and ATV drilling rigs equipped with hollow stem augers were used to advance and maintain open boreholes. Soil sampling was performed according to AASHTO T 206, *"Penetration Test and Split Barrel Sampling of Soils."* The soil was sampled continuously in roadway boring and at 2.5-foot intervals to structure boring termination depth or top of bedrock. Bedrock cores were obtained in structure borings in 5- to 10-foot runs with a NWD4-sized core barrel. A manually operated, jackhammer-driven, LB-sized Geoprobe was used to continuously sample the soil in areas with limited access. Soil samples collected from each sampling interval were placed in sealed jars and transported to the laboratory for further examination and laboratory testing.

Table 1: Summary of Alignment Limits and Reference Borings

| Alignment               | Approximate Limits |             | Reference Boring IDs   |
|-------------------------|--------------------|-------------|--|
|                         | Start Station      | End Station |  |
| East Avenue             | 203+00.00          | 244+10.34   | BPB-05, BPB-06, RWB-01 to RWB-22, SGB-01 to SGB-15, SGB-18, SGB-05-HA, SGB-07-HA, SGB-09-HA, SGB-11-HA, SGB-14-HA, and SGB-18-HA |
| 55 <sup>th</sup> Street | 304+79.00          | 349+35.00   | BPB-02, BPB-03, BPB-04, RWB-22 to RWB-25, SGB-16 to SGB-25, SGB-18-HA, SGB-20-HA, and SGB-24-HA                                  |
| Joliet Road             | 105+50.00          | 115+20.00   | BPB-01, SGB-26 to SGB-31, SGB-26-B, and SGB-28-B   |
| Sergo Drive             | 400+00.00          | 402+60.00   | RWB-25 and SGB-21  |
| Shared-use Path         | NA                 | NA          | BPB-01 to BPB-06, SGB-05-HA, SGB-07-HA, SGB-09-HA, SGB-11-HA, SGB-18-HA, SGB-20-HA, and SGB-24-HA                                |

Field boring logs, prepared and maintained by Wang engineers, include lithological descriptions, visual-manual soil classifications (IDH Soil Classification System), results of Rimac and pocket penetrometer unconfined compressive strength tests, and results of Standard Penetration Tests (SPT), recorded as blows per 6 inches of penetration.

Groundwater observations were made in each boring during and at the completion of drilling operations. The borings were backfilled after completion, and the surface was restored to its original condition.

### 3.2 Laboratory Testing

The soil samples were tested in the laboratory for moisture content (AASHTO T-265). Atterberg limits (AASHTO T 89/T 90) and particle size (AASHTO T 88) analyses were performed to classify selected samples near the proposed roadway subgrade. Field visual descriptions of the soil samples were verified in the laboratory. The soils were classified according to the IDH Soil Classification System. Laboratory test results are shown on the *Boring Logs* (Appendix A) and in the *Laboratory Test Results* (Appendix C).

## 4.0 RESULTS OF FIELD AND LABORATORY INVESTIGATIONS

Detailed descriptions of the soil conditions encountered during the subsurface investigation are presented on the attached *Boring Logs* (Appendix A) and on the *Boring Location Plan and Soil Profiles* (Appendix E). 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.

### 4.1 Surface Conditions

The proposed roadway improvements will be constructed over existing roadways and adjacent grassy areas. Thus the surficial cover includes either topsoil or pavement. Topsoil thicknesses measured at various locations across the site range from 3 to 12 inches with an average of 7 inches. The topsoil thicknesses are summarized in Table 2.

Table 2: Summary of Topsoil Thickness

| Alignment               | Number of Measurements | Topsoil Thickness Range (inches) | Average Thickness (inches) |
|-------------------------|------------------------|----------------------------------|----------------------------|
| East Avenue             | 7                      | 6-12                             | 8                          |
| 55 <sup>th</sup> Street | 7                      | 3-6                              | 5                          |
| Joliet Road             | 2                      | 3-8                              | 6                          |
| Shared-use Path         | 12                     | 3-12                             | 7                          |

Most of the borings were drilled on the roadway traffic lanes. Pavement cores were obtained along the improvement at the locations shown in Appendix E. Pavement cores exhibits are attached as Appendix D. The pavement investigation revealed existing roadways of various pavement structures consisting of asphalt or asphalt over concrete. The pavement thickness ranges from 7 to 21 inches with an average of 13 inches. The aggregate base consists of either crushed stone or gravelly sand and its thickness ranges from 2 to 53 inches. The existing pavement composition and thicknesses are summarized in Table 3.

Table 3: Summary of Existing Pavement Thickness and Composition

| Alignment               | Total<br>Number of<br>Measurements<br>(No) | Pavement Structure Thickness<br>(inches) |                                    |  | Pavement<br>Average<br>Thickness<br>(inches) |
|-------------------------|--|--|------------------------------------|--|--|
|                         |  | Asphalt<br>No <sup>1</sup> /Range        | Concrete<br>No <sup>1</sup> /Range | Total Pavement<br>No <sup>1</sup> /Range |  |
| East Avenue             | 6  | 6/5.8 -15.5                              | 1/10                               | 6/11.5-15.8                              | 13.9   |
| 55 <sup>th</sup> Street | 2  | 2/5-5.3                                  | 2/8.5-9.8                          | 2/13.5-15.0                              | 14.3   |
| Joliet Road             | 2  | 2/14.5-20                                | --                                 | 2/14.5-20                                | 17.3   |

<sup>1</sup>No = number of measurements along the alignment.

## 4.2 Soil Conditions

In descending order, the general lithologic succession encountered beneath the pavement structure and topsoil includes: 1) man-made ground (fill); 2) soft to stiff clay to silty clay; and 3) stiff to hard silty clay to silty clay loam. The soils deeper than 10 feet will not impact the roadway pavement design and are not described.

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

Underneath the pavement or topsoil, the borings encountered 0.3 to 8.3 feet of cohesive and granular fill consisting of either medium stiff to hard silty clay to clay loam or very loose to medium dense silty loam to gravelly loam and sand to gravelly sand. The cohesive fill has unconfined compressive strength ( $Q_u$ ) values of 0.5 to 5.3 tsf with an average of 2.6 tsf. Moisture content (MC) tests indicate values between 13 and 32% with an average of 21%. The granular fill has SPT N-values between 4 to 50 blows/foot with an average of 8 blows/foot and MC values of 4 to 28% averaging 14%. Laboratory

index testing performed on samples from this unit shows liquid limit ( $L_L$ ) values of 40 to 50% and plastic limit ( $P_L$ ) values of 15% to 22%. According to the AASHTO soil classification, the subgrade soil belong to the A-6 and A-7-6 groups. A summary of the fill properties along each roadway alignment, is shown in Table 4.

Table 4: Summary of Existing Fill Properties

| Alignment               | $Q_u$                 | SPT N-values                 | Moisture Content   | Liquid Limit   | Plastic Limit  |
|-------------------------|-----------------------|------------------------------|--------------------|----------------|----------------|
|                         | Min-Max/Avg.<br>(tsf) | Min-Max/Avg.<br>(blows/foot) | Min-Max/Avg<br>(%) | Min-Max<br>(%) | Min-Max<br>(%) |
| East Avenue             | 0.5-5.2/2.5           | 3- 15/7                      | 4-29/19            | 36-50          | 15-22          |
| 55 <sup>th</sup> Street | 0.8-5.3/2.8           | 3-50/9                       | 6-32/22            | 38-42          | 17-20          |
| Joliet Road             | 1.9-2.5/2.2           | 4-6/5                        | 9-28/19            | NA             | NA             |
| Sergo Drive             | 4.5/NA                | 5-50/20                      | 16-28/23           | NA             | NA             |
| Shared-use Path         | 0.8-4.5/3.5           | NA                           | 10-22/18           | 36-55          | 20-22          |

2) *Soft to stiff clay to silty clay*

Beneath the fill some borings encountered about 1- to 7-foot thick of soft to stiff clay to silty clay lacustrine deposits interbedded with loose silt and sand. This soil has  $Q_u$  values of about 0.3 to 1.9 tsf, with an average of 1.0 tsf, SPT N-values of 2 to 11 blows/foot with an average of 5 blows/foot, and MC values of 21 to 34% with an average of 26%. Some of this soft soil may have been removed and replaced with granular fill. Laboratory index testing performed on samples from this unit show  $L_L$  values of 44 to 58% and  $P_L$  values of 21 to 22%. According to the AASHTO soil classification, the subgrade soil belongs to the A-7-6 group. A summary of the unit properties along each roadway alignment is shown in Table 5.

Table 5: Summary of Soft Soil Properties

| Alignment               | Q <sub>u</sub>        | SPT N-values                 | Moisture Content   | Liquid Limit   | Plastic Limit  |
|-------------------------|-----------------------|------------------------------|--------------------|----------------|----------------|
|                         | Min-Max/Avg.<br>(tsf) | Min-Max/Avg.<br>(blows/foot) | Min-Max/Avg<br>(%) | Min-Max<br>(%) | Min-Max<br>(%) |
| East Avenue             | 0.5-1.9/0.9           | 4-6/5                        | 21-28/25           | NA             | NA             |
| 55 <sup>th</sup> Street | 0.3-1.8/0.8           | 2-9/5                        | 21-32/26           | 44             | 21             |
| Joliet Road             | 1.5                   | 4-11/8                       | 23-34/29           | 58             | 22             |
| Sergo Drive             | NA                    | NA                           | NA                 | NA             | NA             |
| Shared-use Path         | 0.8                   | NA                           | 22                 | NA             | NA             |

Below the fill, occasionally we encountered 10 to 30 inches of medium stiff to stiff, black silty clay to silty clay loam buried topsoil.

### 3) *Stiff to hard silty clay*

From elevations of 637 to 650 feet (about 1 to 15 feet bgs) to boring termination depth or top bedrock, the borings advanced through stiff to hard, brown and gray clay to silty clay loam diamicton with occasional lenses of gravel. The diamicton has Q<sub>u</sub> values of 1.0 to more than 4.5 tsf with an average of 4.2 tsf, SPT N-values of 4 blows/foot to sampler refusal, and MC values of 8 to 30% averaging 21%. Laboratory index testing performed on samples from this unit shows L<sub>L</sub> values of 39 to 44% and P<sub>L</sub> values of 16 to 21%. According to the AASHTO soil classification, the subgrade soils belong to the A-6 and A-7-6 groups. A summary of the unit properties along each roadway alignment is shown in Table 6.

Table 6: Summary of Diamicton Properties

| Alignment               | Q <sub>u</sub> | SPT N-values | Moisture Content | Liquid Limit | Plastic Limit |
|-------------------------|----------------|--------------|------------------|--------------|---------------|
|                         | Min-Max/Avg.   | Min-Max/Avg. | Min-Max/Avg      | Min-Max      | Min-Max       |
|                         | (tsf)          | (blows/foot) | (%)              | (%)          | (%)           |
| East Avenue             | 1.0-8.0/4.2    | 5- >50/15    | 14-25/21         | 39-44        | 21            |
| 55 <sup>th</sup> Street | 1.4-6.2/3.9    | 4-21/10      | 16-30/21         | 42-44        | 16-21         |
| Joliet Road             | 2.2-6.3/4.6    | 7-20/12      | 16-27/21         | NA           | NA            |
| Sergo Drive             | 2.3-5.4/3.7    | 7-21/11      | 18-26/21         | NA           | NA            |
| Shared-use Path         | 1.0-4.5/3.6    | NA           | 16-24/20         | NA           | NA            |

### 4.3 Groundwater Conditions

Groundwater was observed in four out of 77 borings along the alignments during drilling at elevations of 642.7 to 649.2 feet (1.5 to 7.0 feet bgs) within the silt lenses below the fill or within the granular fill. After drilling, the groundwater was measured in three out of the four borings at elevations of 640.2 to 642.2 feet (9.0 to 11.5 feet bgs). The four borings with observed groundwater were drilled along Joliet Road and East Avenue just south of Joliet Road. Based on our findings, north of Joliet Road groundwater more likely is below bedrock elevation (about 10 to 25 feet bgs). South of Joliet Road we estimate groundwater elevation at about 646 feet.

During periods of precipitation, we anticipate that perched groundwater may be encountered within the shallow granular soil, but otherwise the static water level is deep seated and will not impact the roadway or pavement design.

## 5.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS

From the drawings provided by Accurate dated May 11, 2018, we understand the new pavement structure will include 12 inches of aggregate subgrade as per IDOT Mechanistic Pavement Design. Some roadway sections will just be resurfaced. Our analysis and recommendations address the improvements along the roadway sections of East Avenue, Joliet Road, 55<sup>th</sup> Street, Sergo Drive, and the shared-use path. As shown in Table 7.

The cross sections show the proposed grade at the same elevation or with very little change from the existing one. In general, within the widening areas, the cut is about 0.5 to 1.5 feet and gets as deep as 3.2 feet along East Avenue just north of 55<sup>th</sup> Street. The fill is about 0.5 to 2.0 feet and gets up to 5.0 feet along 55<sup>th</sup> Street in front of the new retaining wall. The widening sections include the shared-use path. The recommendations are same for the roadway and path.

### 5.1 Site Preparation and Earthwork

It is recommended that the existing topsoil be stripped within the limits of the proposed improvement. For estimating purposes, the average topsoil thickness to be stripped from the surface is 8 inches. According to IDOT District One policy, a shrinkage factor of 15% should be used to measure borrowed and furnished excavation quantities.

After pavement, topsoil, vegetation, and debris removal, the stability of the exposed subgrade should be immediately observed for the presence of any unsuitable and/or unstable soils and to determine if remedial treatment is necessary. The prepared subgrade should be proofrolled to observe the amount of deflection and rutting under the wheels of heavy equipment, such as a fully-loaded dump truck. Using either static or dynamic cone penetrometer tests, soft areas should be tested and evaluated according to the IDOT Subgrade Stability Manual (IDOT 2005).

### 5.2 Subgrade Treatment and Recommendations

Based on the result of our subsurface investigation we expect the subgrade soil will consist of soft to hard silty clay diamicton and new fill. If at the proposed subgrade, the buried topsoil is exposed, it should be removed. Table 7 summarizes subgrade soil conditions and treatment areas extent.

Table 7: Summary of Subgrade Soil Condition and Treatment Extent

| Alignment   | Stations         | Recommended Treatment* |                                 | Subgrade Soil Type<br>and Properties   | Reference<br>Boring |
|-------------|------------------|------------------------|---------------------------------|--|---------------------|
|             |                  | Width                  | Depth (inches)                  |  |                     |
| East Avenue | 241+50 to 243+50 | widening<br>section    | 12 to 36<br>(to Elev. 644 feet) | Med Stiff, clay loam to silty<br>clay loam fill<br>Qu=0.75 tsf ; N=4 to 7 bw/ft;<br>MC=15 to 21%; damp | SGB-15              |



| Alignment   | Stations         | Recommended Treatment* |                             | Subgrade Soil Type<br>and Properties  | Reference<br>Boring  |
|-------------|------------------|------------------------|-----------------------------|---|----------------------|
|             |                  | Width                  | Depth (inches)              |   |                      |
| Joliet Road | 109+50 to 115+20 | full<br>width          | 24<br>(to Elev. 646.5 feet) | Med stiff to stiff silty clay<br>Qu=0.7-1.5 tsf ; N=4bw/ft;<br>MC=24-34%; LL=58%; moist | SGB-29 and<br>SGB-30 |

\*the undercut is considered below the IDOT 12 inches aggregate improved subgrade.

At locations shown in Table 7, the subgrade soil will not provide a stable working platform for placement and compaction of improved subgrade aggregate. The improved subgrade should be in accordance with the IDOT special provisions. It is recommended placing geotextile fabric at the base of the excavation for separation.

### 5.3 Subgrade Support Rating

Laboratory testing on the subgrade soils shows a Subgrade Support Rating (SSR) of POOR to FAIR. The pavement should be design based on SSR of POOR or on an IBR of 2, as per IDOT correlation to the A-7-6 soil classification encountered during the investigation (IDOT, 2015).

### 5.4 Roadway Drainage

The proposed subgrade and pavement should have proper surface grading to remove water accumulations and prevent the pooling of water. The clayey subgrade, encountered immediately beneath the proposed roadway pavement, have high clay and silt contents and will exhibit poor drainage characteristics. Although the soils are not frost susceptible, the installation of four-inch diameter transverse underdrains at the low points in the proposed profile and at 300-foot intervals between is recommend to ensure the long-term performance of the pavement. The underdrains should be installed at a depth immediately below the base of improved subgrade elevation and should not be wrapped in filter fabric.

### 5.5 Embankment and Cut Sections

The new roadway pavement will be constructed both on new embankment and in cut sections as part of the widening and reconstruction of the roadway. Most of the significant fill sections will be supported by the proposed retaining walls. The retaining walls design was addressed in separate structure geotechnical reports prepared by Wang.

### 5.5.1 Settlement

The highest embankment sections are retained on one side by walls along sections of East Avenue and 55th Street. By using regular IDOT fill (unit weight of 125 pcf), at each section, we estimate the embankment will undergo settlement 1 inch or less.

### 5.5.2 Global Stability

The slopes along the roadway sections will be graded no steeper than 1:4 (V:H). Based on the soil profile and the information provided in the cross-section drawings we estimate the slopes meet the IDOT required minimum FOS of 1.5 where fill and 1.7 where in cut.

## 6.0 CONSTRUCTION CONSIDERATIONS

### 6.1 Excavation, Dewatering, and Utilities

The excavations should be performed in accordance with local, state, and federal regulations. The potential effect of ground movements upon nearby roadways and utilities should be considered during construction. Excavations should be sloped at no greater than 1:1.5 (V:H). We do not estimate problems generated by the groundwater at an elevation that would require dewatering efforts for any of the proposed cut sections. However, the Contractor should ensure proper surface grading to prevent the pooling of run-off into open excavations. Any water allowed to enter excavations should immediately be removed via sump pump.

### 6.2 Filling and Backfilling

General fill used as embankment material should be structural fill. Pre-approved, compacted, cohesive or granular soil conforming to Section 204, *Borrow and Furnished Excavation* would be acceptable as structural fill (IDOT 2015). The fill material should be free of organic matter and debris and should be placed in lifts and compacted in accordance to Section 205, *Embankment*. The existing fill material excavated from along the proposed improvement, may be reused if it conforms to the following criteria: a)  $L_L$  less than 50%; b) plasticity index less than 20%; c) maximum dry density greater than 90 pcf according to AASHTO T 99; and d) organic content less than 10%.

### 6.3 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.

## 7.0 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 Appendix E. 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 roadway are planned, we should be timely informed so that our recommendations can be adjusted accordingly.

It has been a pleasure to assist Accurate 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.**



Cornelia L. Marin, P.G.

Senior Engineering Geologist



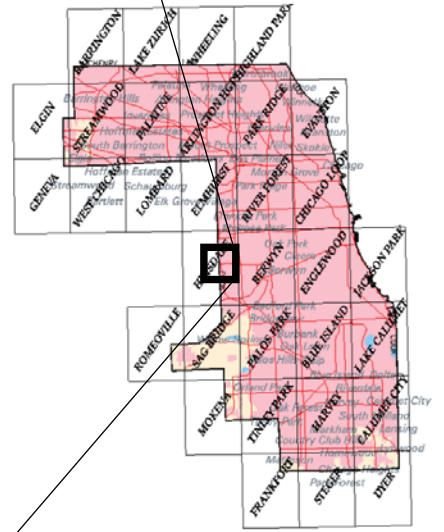
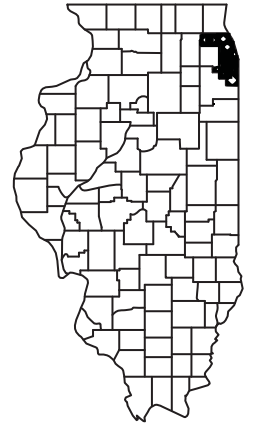
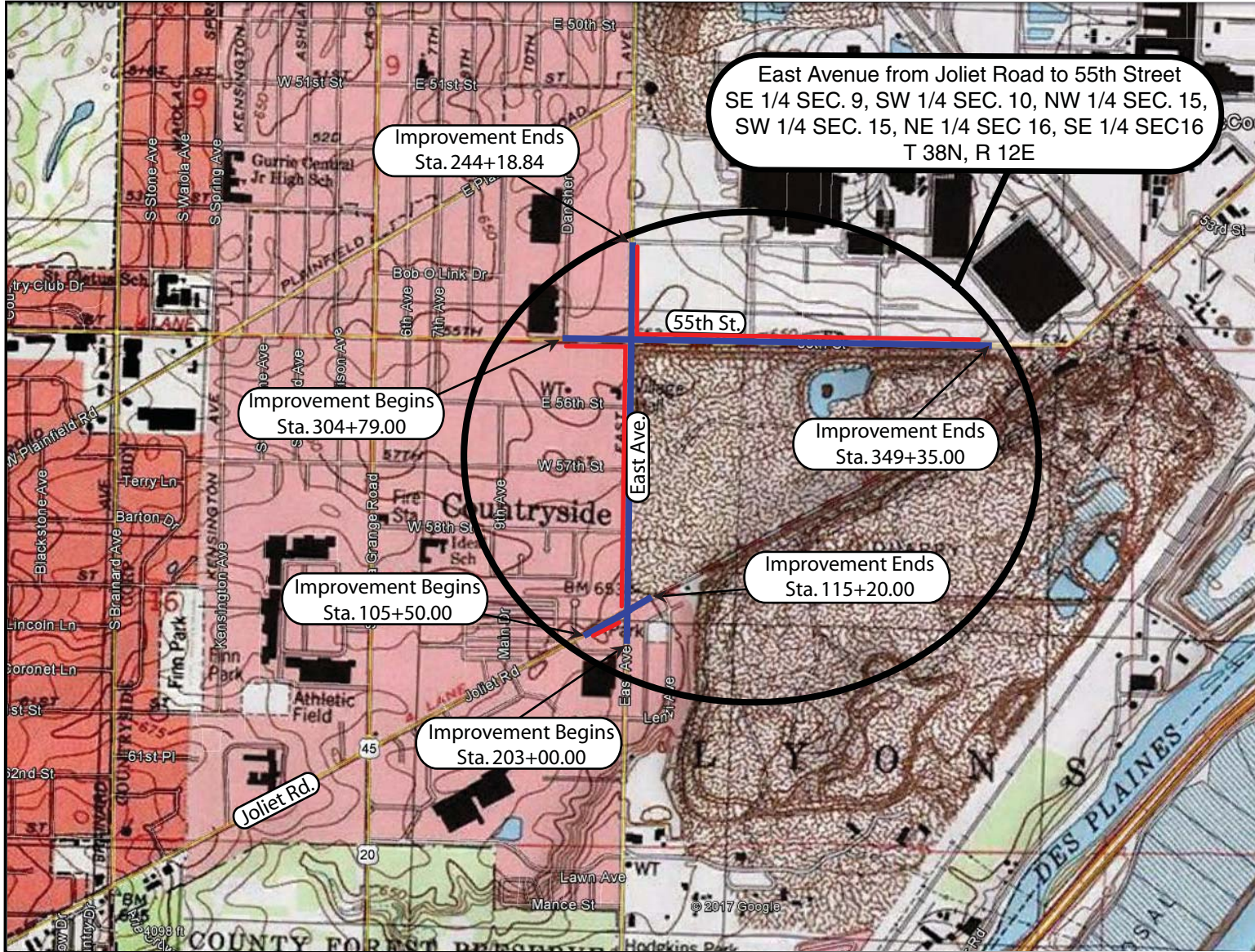
Corina T. Farez, P.E., P.G.

QA/QC Reviewer

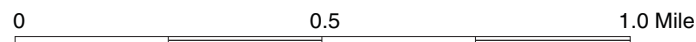
## ***REFERENCES***

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## **EXHIBITS**



Cook County



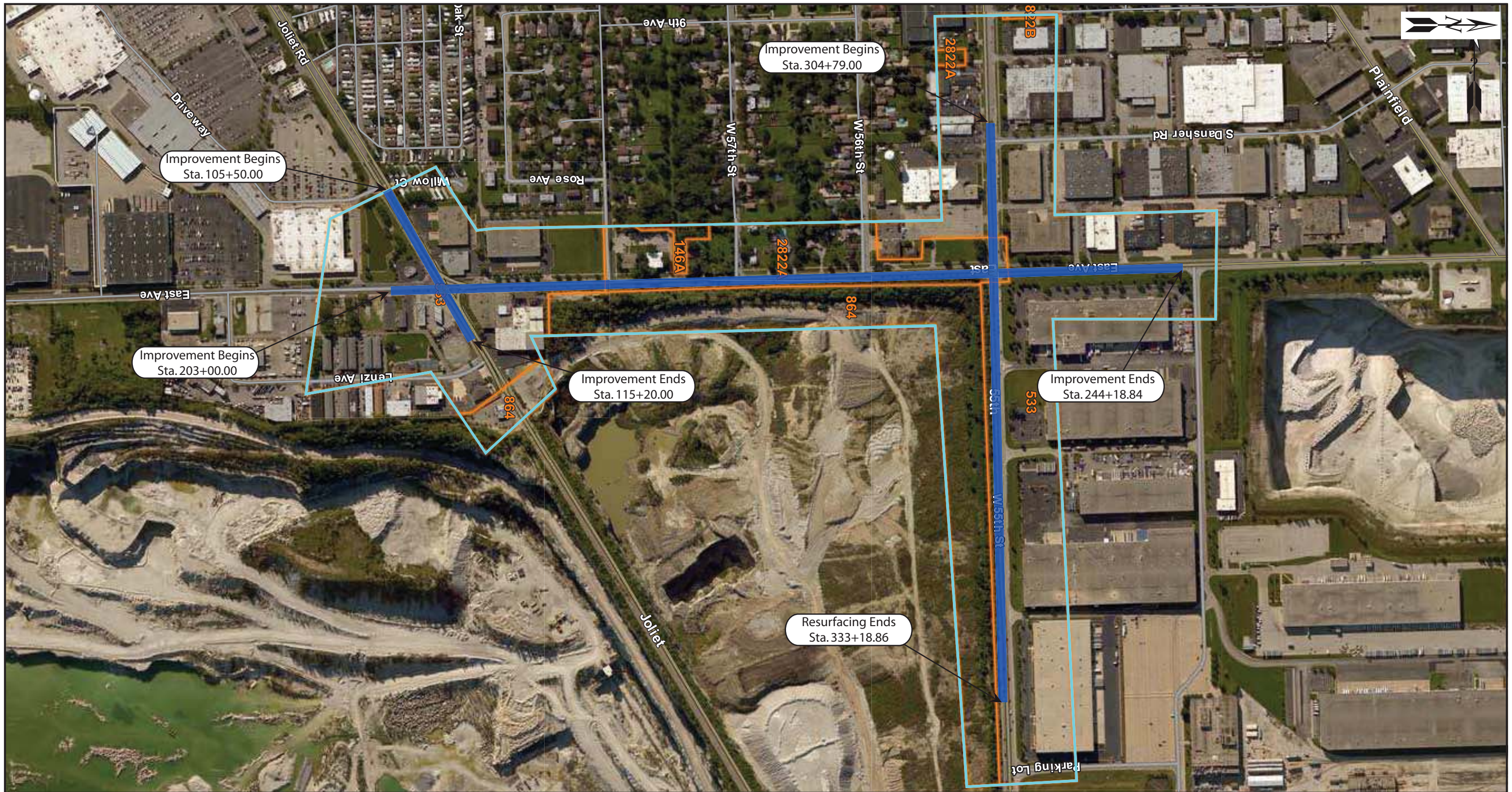
SITE LOCATION MAP: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET, COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL | EXHIBIT 1 | DRAWN BY: RKC | CHECKED BY: C. Marin

- Proposed roadway improvement
- Proposed shared-use path

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

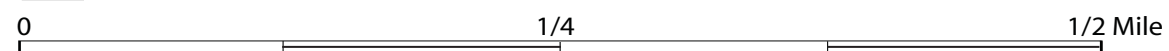
FOR ACCURATE GROUP, INC. | 491-03-01



**Legend**

 Alignment

**Scale**



SITE PEDOLOGICAL MAP: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET, COOK COUNTY, ILLINOIS

|                  |                    |   |
|------------------|--------------------|---|
| SCALE: GRAPHICAL | <b>EXHIBIT 2-1</b> | DRAWN BY: R. KC<br>CHECKED BY: C. Marin |
|------------------|--------------------|---|

|   |   |
|---|---|
|  | 1145 N. Main Street<br>Lombard, IL 60148<br>www.wangeng.com |
|   | FOR ACCURATE GROUP, INC.                                    |

491-03-01

| Map unit symbol and soil name   | Depth     | USDA texture                      | Classification | Fragments |            | Sand    | Silt     | Clay     | Moist bulk density | Saturated hydraulic conductivity | Liquid limit | Plasticity index | Organic matter | Erosion factors |          |    | Potential as a source of roadfill                | Local roads and streets   | Shallow excavations   |
|---|-----------|-----------------------------------|----------------|-----------|------------|---------|----------|----------|--------------------|----------------------------------|--------------|------------------|----------------|-----------------|----------|----|--|---|---|
|   |           |                                   |                | AASHTO    | >10 inches |         |          |          |                    |                                  |              |                  |                | 3-10 inches     | Kw       | Kf | T  | Rating class and limiting features  | Rating class and limiting features  |
|   | <i>ln</i> |                                   |                | %         | %          | %       | %        | %        | <i>g/cc</i>        | <i>micro m/sec</i>               | %            | %                | (0.02 to 0.69) | (0.02 to 0.69)  | (0 to 8) |    |  |   |   |
| 146A—Elliott silt loam, 0 to 2 percent slopes                                   |           |                                   |                |           |            |         |          |          |                    |                                  |              |                  |                |                 |          |    |  |   |   |
| Elliott   | 0-6       | Silt loam                         | A-6, A-7-6     | 0-0-0     | 0-0-0      | 2-10-15 | 58-65-76 | 22-25-27 | 1.30-1.40-1.45     | 4.23-9.17-14.11                  | 38-44-47     | 15-17-18         | 3.0-4.3-5.0    | 0.32            | 0.32     | 4  | Poor, Low strength, Wetness, Dusty               | Very limited, Low strength, Frost action, Depth to saturated zone               | Very limited, Depth to saturated zone, Dusty, Unstable excavation walls                       |
|   | 6-11      | Silty clay loam                   | A-7-6          | 0-0-0     | 0-0-0      | 2-8-15  | 50-62-71 | 27-30-35 | 1.25-1.35-1.45     | 4.23-9.17-14.11                  | 41-46-53     | 18-21-24         | 2.5-3.3-4.0    | 0.28            | 0.28     |    |  |   |   |
|   | 11-16     | Silty clay, silty clay loam       | A-7-6          | 0-0-0     | 0-0-0      | 2-7-15  | 40-51-61 | 37-42-49 | 1.35-1.45-1.55     | 1.41-2.82-4.23                   | 46-52-60     | 26-30-35         | 0.5-1.0-1.6    | 0.32            | 0.32     |    |  |   |   |
|   | 16-41     | Silty clay loam, silty clay       | A-7-6, A-6     | 0-0-0     | 0-0-1      | 2-10-20 | 40-55-65 | 27-35-45 | 1.45-1.55-1.75     | 0.42-1.41-4.23                   | 34-43-55     | 17-24-32         | 0.1-0.4-0.8    | 0.37            | 0.37     |    |  |   |   |
|   | 41-60     | Silty clay loam                   | A-7-6, A-6     | 0-0-0     | 0-0-2      | 3-10-20 | 42-60-70 | 27-30-38 | 1.65-1.75-1.85     | 0.42-0.92-1.41                   | 34-38-46     | 16-19-26         | 0.0-0.2-0.5    | 0.49            | 0.49     |    |  |   |   |
| 533—Urban land  |           |                                   |                |           |            |         |          |          |                    |                                  |              |                  |                |                 |          |    |  |   |   |
| Urban land  | --        | --                                | --             | --        | --         | --      | --       | --       | --                 | --                               | --           | --               | --             | --              | --       | -- | --   | --  | --  |
| 864—Pits, quarry  |           |                                   |                |           |            |         |          |          |                    |                                  |              |                  |                |                 |          |    |  |   |   |
| Pits, quarry  | --        | --                                | --             | --        | --         | --      | --       | --       | --                 | --                               | --           | --               | --             | --              | --       | -- | --   | --  | --  |
| 2822A—Alfic Udarents, clayey- Urban land-Elliott complex, 0 to 2 percent slopes |           |                                   |                |           |            |         |          |          |                    |                                  |              |                  |                |                 |          |    |  |   |   |
| Alfic udarents, clayey, moderately deep water table                             | 0-9       | Silty clay loam                   | A-7-6          | 0-0-0     | 0-1-3      | 2-8-20  | 40-56-68 | 30-36-40 | 1.40-1.48-1.55     | 0.42-0.92-1.41                   | 42-52-59     | 21-26-29         | 0.5-2.5-4.0    | 0.37            | 0.37     | 4  | Poor, Low strength, Shrink-swell, Dusty          | Very limited, Low strength, Frost action, Shrink-swell                          | Somewhat limited, Depth to saturated zone, Dense layer, Too clayey, Unstable excavation walls |
|   | 9-37      | Silty clay, clay, silty clay loam | A-7-6          | 0-0-0     | 0-1-3      | 2-11-30 | 20-50-63 | 35-39-50 | 1.45-1.57-1.70     | 0.42-0.92-1.41                   | 46-51-62     | 25-28-36         | 0.2-0.6-1.0    | 0.37            | 0.37     |    |  |   |   |
|   | 37-42     | Silty clay                        | A-7-6          | 0-0-0     | 0-0-0      | 1-5-20  | 30-50-59 | 40-45-50 | 1.40-1.50-1.60     | 0.42-2.33-4.23                   | 50-57-63     | 29-33-36         | 0.5-1.0-1.5    | 0.32            | 0.32     |    |  |   |   |
|   | 42-56     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-1      | 5-10-20 | 40-59-65 | 27-32-40 | 1.50-1.60-1.90     | 0.42-0.92-4.23                   | 37-42-50     | 19-23-29         | 0.1-0.3-0.5    | 0.43            | 0.43     |    |  |   |   |
|   | 56-60     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-2      | 5-10-20 | 45-62-65 | 27-29-35 | 1.70-1.80-2.00     | 0.42-0.92-1.41                   | 37-40-46     | 19-20-25         | 0.0-0.3-0.5    | 0.49            | 0.49     |    |  |   |   |
| Urban land  | --        | --                                | --             | --        | --         | --      | --       | --       | --                 | --                               | --           | --               | --             | --              | --       | -- | --   | --  | --  |
| Elliott   | 0-6       | Silt loam                         | A-6, A-7-6     | 0-0-0     | 0-0-0      | 2-8-15  | 58-67-78 | 20-25-27 | 1.25-1.35-1.45     | 4.23-9.17-14.11                  | 36-43-47     | 13-17-18         | 3.5-4.3-5.0    | 0.32            | 0.32     | 4  | Poor, Low strength, Shrink-swell, Wetness, Dusty | Very limited, Low strength, Frost action, Shrink-swell, Depth to saturated zone | Very limited, Depth to saturated zone, Dense layer, Dusty, Unstable excavation walls          |
|   | 6-11      | Silty clay loam                   | A-7-6          | 0-0-0     | 0-0-0      | 2-8-15  | 50-62-71 | 27-30-35 | 1.20-1.30-1.40     | 4.23-9.17-14.11                  | 42-47-53     | 18-21-25         | 2.5-3.3-4.0    | 0.32            | 0.32     |    |  |   |   |
|   | 11-16     | Silty clay                        | A-7-6          | 0-0-0     | 0-0-0      | 1-5-20  | 30-50-59 | 40-45-50 | 1.40-1.50-1.60     | 0.42-2.33-4.23                   | 50-57-63     | 29-33-36         | 0.5-1.0-1.5    | 0.32            | 0.32     |    |  |   |   |
|   | 16-41     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-1      | 5-10-20 | 40-59-65 | 27-32-40 | 1.50-1.60-1.90     | 0.42-0.92-4.23                   | 37-42-50     | 19-23-29         | 0.1-0.3-0.5    | 0.43            | 0.43     |    |  |   |   |
|   | 41-60     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-2      | 5-10-20 | 45-62-65 | 27-29-35 | 1.70-1.80-2.00     | 0.42-0.92-1.41                   | 37-40-46     | 19-20-25         | 0.0-0.3-0.5    | 0.49            | 0.49     |    |  |   |   |
| 2822B—Alfic Udarents, clayey- Urban land-Elliott complex, 2 to 4 percent slopes |           |                                   |                |           |            |         |          |          |                    |                                  |              |                  |                |                 |          |    |  |   |   |
| Alfic udarents, clayey, moderately deep water table                             | 0-7       | Silty clay loam                   | A-7-6          | 0-0-0     | 0-1-3      | 2-8-20  | 40-56-68 | 30-36-40 | 1.40-1.48-1.55     | 0.42-0.92-1.41                   | 42-52-59     | 21-26-29         | 0.5-2.5-4.0    | 0.37            | 0.37     | 4  | Poor, Low strength, Shrink-swell, Dusty          | Very limited, Low strength, Frost action, Shrink-swell                          | Somewhat limited, Depth to saturated zone, Dense layer, Dusty, Unstable excavation walls      |
|   | 7-35      | Silty clay, clay, silty clay loam | A-7-6          | 0-0-0     | 0-1-3      | 2-11-30 | 20-50-63 | 35-39-50 | 1.45-1.57-1.70     | 0.42-0.92-1.41                   | 46-51-62     | 25-28-36         | 0.2-0.6-1.0    | 0.37            | 0.37     |    |  |   |   |
|   | 35-39     | Silty clay, silty clay loam       | A-7-6          | 0-0-0     | 0-0-0      | 1-5-20  | 35-56-61 | 38-39-45 | 1.40-1.50-1.60     | 0.42-2.33-4.23                   | 49-52-58     | 27-28-33         | 0.5-1.0-1.5    | 0.37            | 0.37     |    |  |   |   |
|   | 39-54     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-1      | 5-10-20 | 40-59-65 | 27-32-40 | 1.50-1.60-1.70     | 0.42-0.92-4.23                   | 37-42-50     | 19-23-29         | 0.1-0.3-0.5    | 0.43            | 0.43     |    |  |   |   |
|   | 54-60     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-2      | 5-10-20 | 45-62-65 | 27-29-35 | 1.70-1.80-1.90     | 0.42-0.92-1.41                   | 35-38-44     | 18-20-25         | 0.0-0.3-0.5    | 0.49            | 0.49     |    |  |   |   |
| Urban land  | --        | --                                | --             | --        | --         | --      | --       | --       | --                 | --                               | --           | --               | --             | --              | --       | -- | --   | --  | --  |
| Elliott   | 0-9       | Silt loam                         | A-7-6, A-6     | 0-0-0     | 0-0-0      | 2-8-15  | 58-67-78 | 20-25-27 | 1.25-1.35-1.45     | 4.23-9.17-14.11                  | 36-43-47     | 13-17-18         | 3.5-4.3-5.0    | 0.32            | 0.32     | 4  | Poor, Low strength, Shrink-swell, Wetness, Dusty | Very limited, Low strength, Frost action, Shrink-swell, Depth to saturated zone | Very limited, Depth to saturated zone, Dense layer, Dusty, Unstable excavation walls          |
|   | 9-13      | Silty clay loam                   | A-7-6          | 0-0-0     | 0-0-0      | 2-8-15  | 50-62-71 | 27-30-35 | 1.20-1.30-1.40     | 4.23-9.17-14.11                  | 42-47-53     | 18-21-25         | 2.5-3.3-4.0    | 0.37            | 0.37     |    |  |   |   |
|   | 13-17     | Silty clay, silty clay loam       | A-7-6          | 0-0-0     | 0-0-0      | 1-5-20  | 35-56-61 | 38-39-45 | 1.40-1.50-1.60     | 0.42-2.33-4.23                   | 49-52-58     | 27-28-33         | 0.5-1.0-1.5    | 0.37            | 0.37     |    |  |   |   |
|   | 17-40     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-1      | 5-10-20 | 40-59-65 | 27-32-40 | 1.50-1.60-1.70     | 0.42-0.92-4.23                   | 37-42-50     | 19-23-29         | 0.1-0.3-0.5    | 0.43            | 0.43     |    |  |   |   |
|   | 40-60     | Silty clay loam                   | A-6, A-7-6     | 0-0-0     | 0-0-2      | 5-10-20 | 45-62-65 | 27-29-35 | 1.70-1.80-1.90     | 0.42-0.92-1.41                   | 35-38-44     | 18-20-25         | 0.0-0.3-0.5    | 0.49            | 0.49     |    |  |   |   |

Data Source Information  
Soil Survey Area: Cook County, Illinois Survey Area  
Data: Version 11, Sep 20, 2017

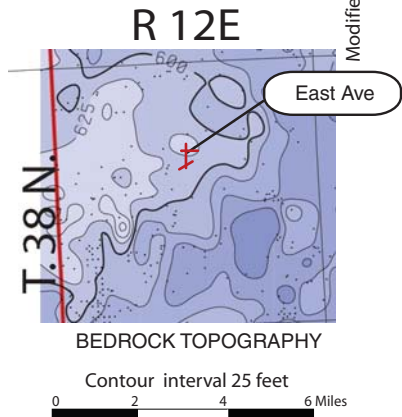
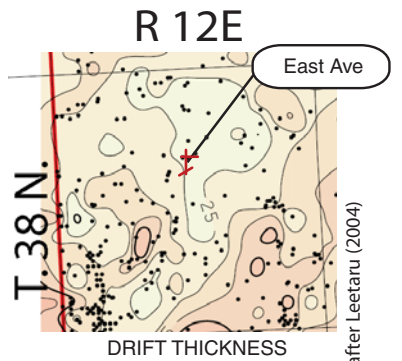
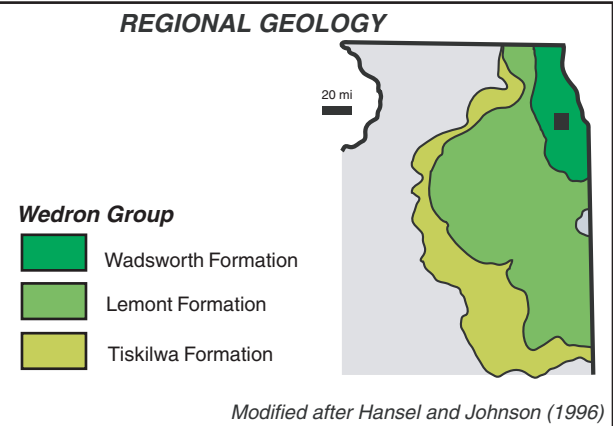
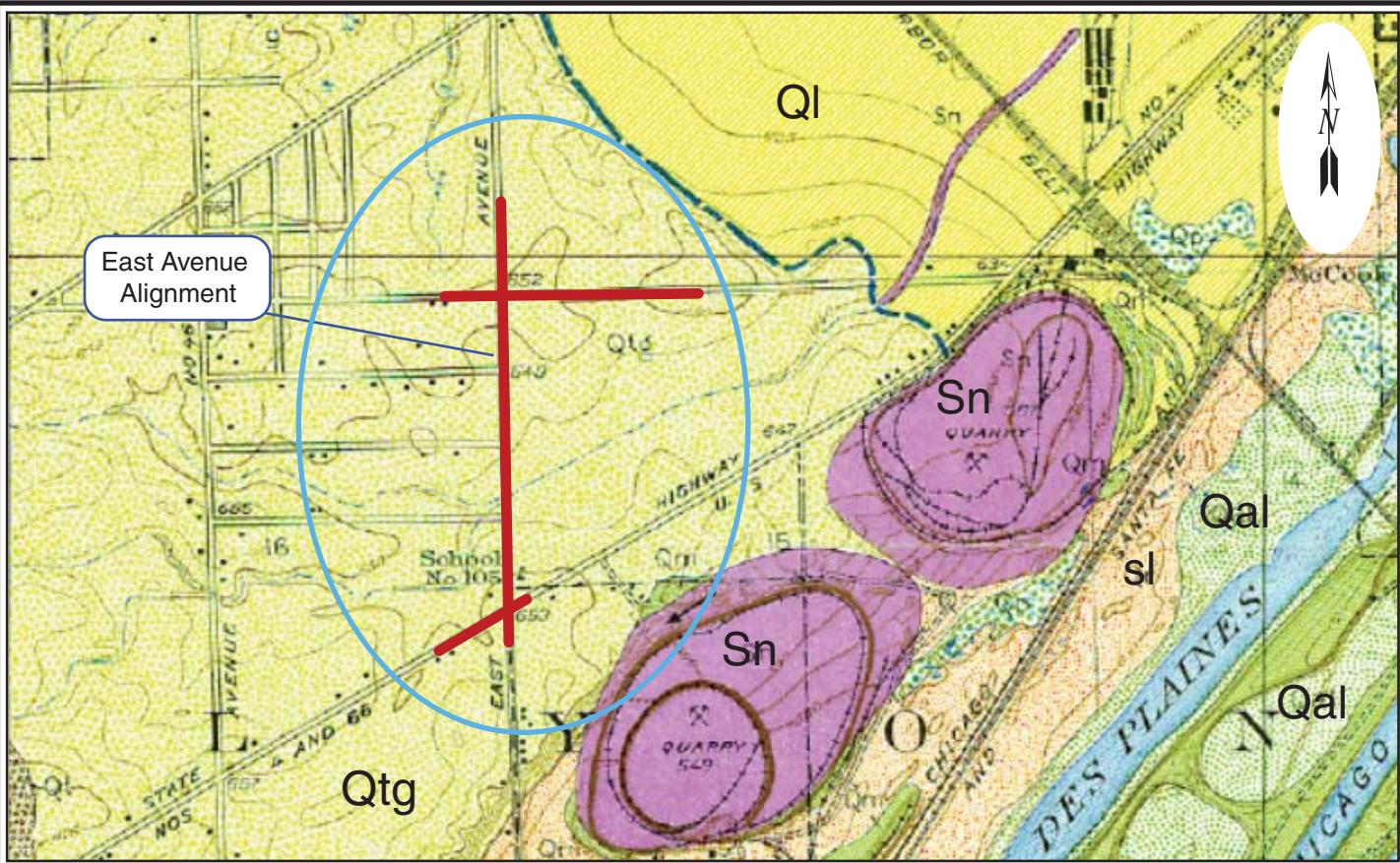
SITE PEDOLOGICAL TABLE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET, COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL EXHIBIT 2-2 DRAWN BY: R. KC CHECKED BY: C. Marin



FOR ACCURATE GROUP, INC. 491-03-01





## LEGEND

- Ql** **Lake plain (Wadsworth Formation)**  
Floors of glacial lakes flattened by wave erosion; largely underlain by glacial till; occasional covered by thin deposits of silt, clay and sand of Equality Formation
- Wadsworth Formation**  
Silty clayey diamicton; from relatively low in content of pebbles to more silty and pebbly with local lenses of sandy to gravelly till.
- Qtg** Tinley groundmoraine;
- Sn** **Silurin Bedrock**  
Largely dolostone, slightly to moderately argillaceous with scattered chert nodules; massive to well bedded dolomite with minor beds of shale and shaly dolomite.

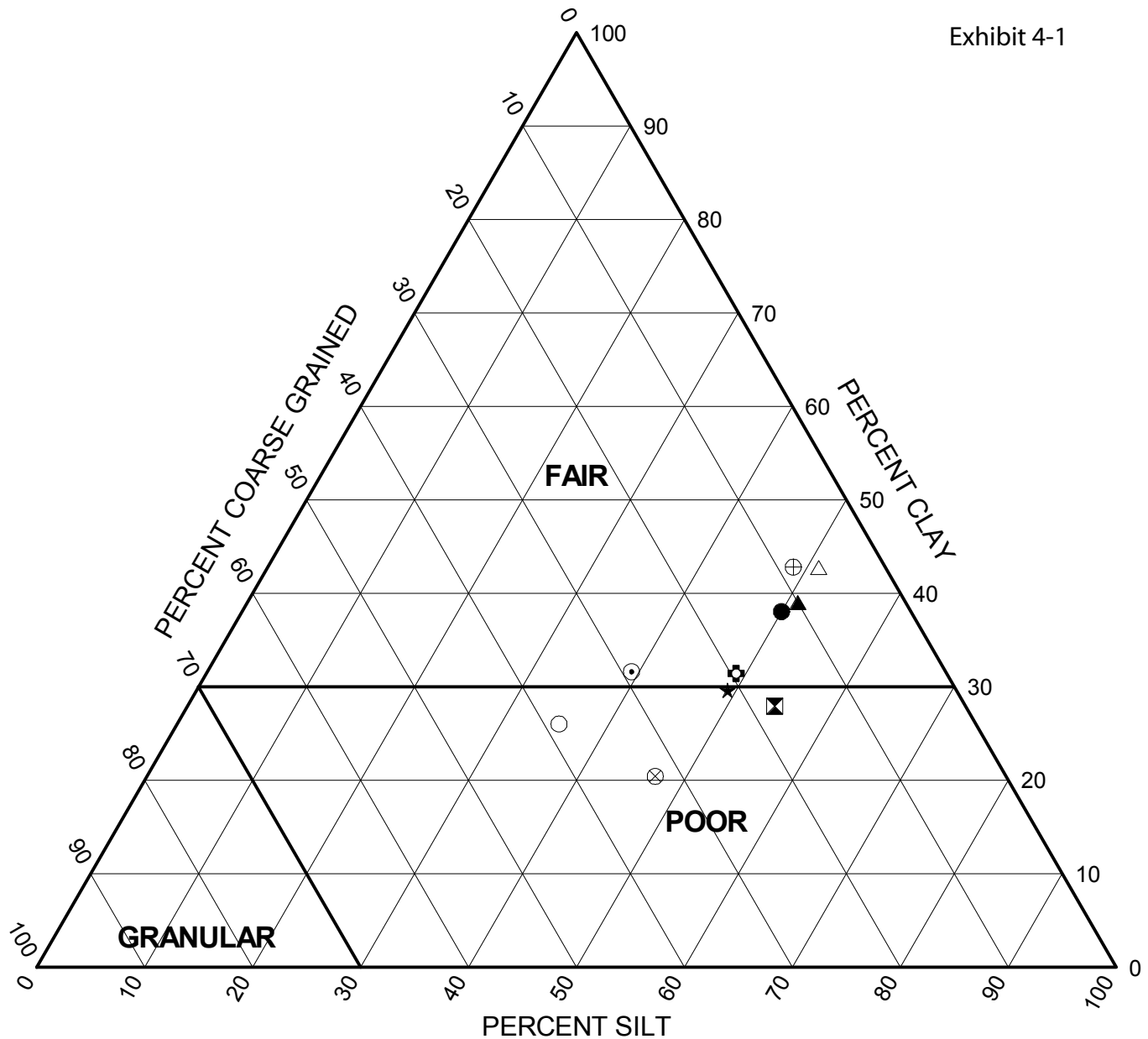
*Modified after Bretz (1925)*

SITE AND REGIONAL GEOLOGY: EAST AVENUE FROM JOLIET TO 55TH STREET, COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL | EXHIBIT 3 | DRAWN BY: J. Rowells  
CHECKED BY: C. Marin

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

FOR ACCURATE GROUP, INC. | 491-03-01



|   | Sample      | Depth (ft) | Coarse (%) | Silt (%) | Clay (%) | Classification  |            |        |
|---|-------------|------------|------------|----------|----------|-----------------|------------|--------|
|   |             |            |            |          |          | IL DOT          | AASHTO     | RATING |
| ● | BPB-02#4    | 6.0        | 12.0       | 50.0     | 38.1     | Silty Clay      | A-7-6 (21) | FAIR   |
| ⊠ | BPB-06#2    | 2.0        | 17.7       | 54.4     | 27.9     | Silty Clay Loam | A-6 (12)   | POOR   |
| ▲ | RWB-05#3    | 6.0        | 10.0       | 51.0     | 39.0     | Silty Clay      | A-6 (17)   | FAIR   |
| ★ | RWB-19#2    | 3.5        | 21.2       | 49.2     | 29.6     | Silty Clay      | A-7-6 (17) | POOR   |
| ⊙ | SGB-01#2    | 3.5        | 29.1       | 39.3     | 31.6     | Clay            | A-7-6 (19) | FAIR   |
| ⊕ | SGB-05#2    | 3.5        | 19.5       | 49.1     | 31.4     | Silty Clay      | A-7-6 (23) | FAIR   |
| ○ | SGB-09-HA#2 | 2.0        | 38.6       | 35.4     | 26.0     | Gravelly Clay   | A-6 (10)   | POOR   |
| △ | SGB-14-HA#2 | 2.0        | 6.2        | 51.1     | 42.8     | Silty Clay      | A-7-6 (27) | FAIR   |
| ⊗ | SGB-15#2    | 3.1        | 32.5       | 47.1     | 20.4     | Silty Clay Loam | A-7-6 (15) | POOR   |
| ⊕ | SGB-17#2    | 2.0        | 8.5        | 48.7     | 42.8     | Clay            | A-7-6 (24) | FAIR   |

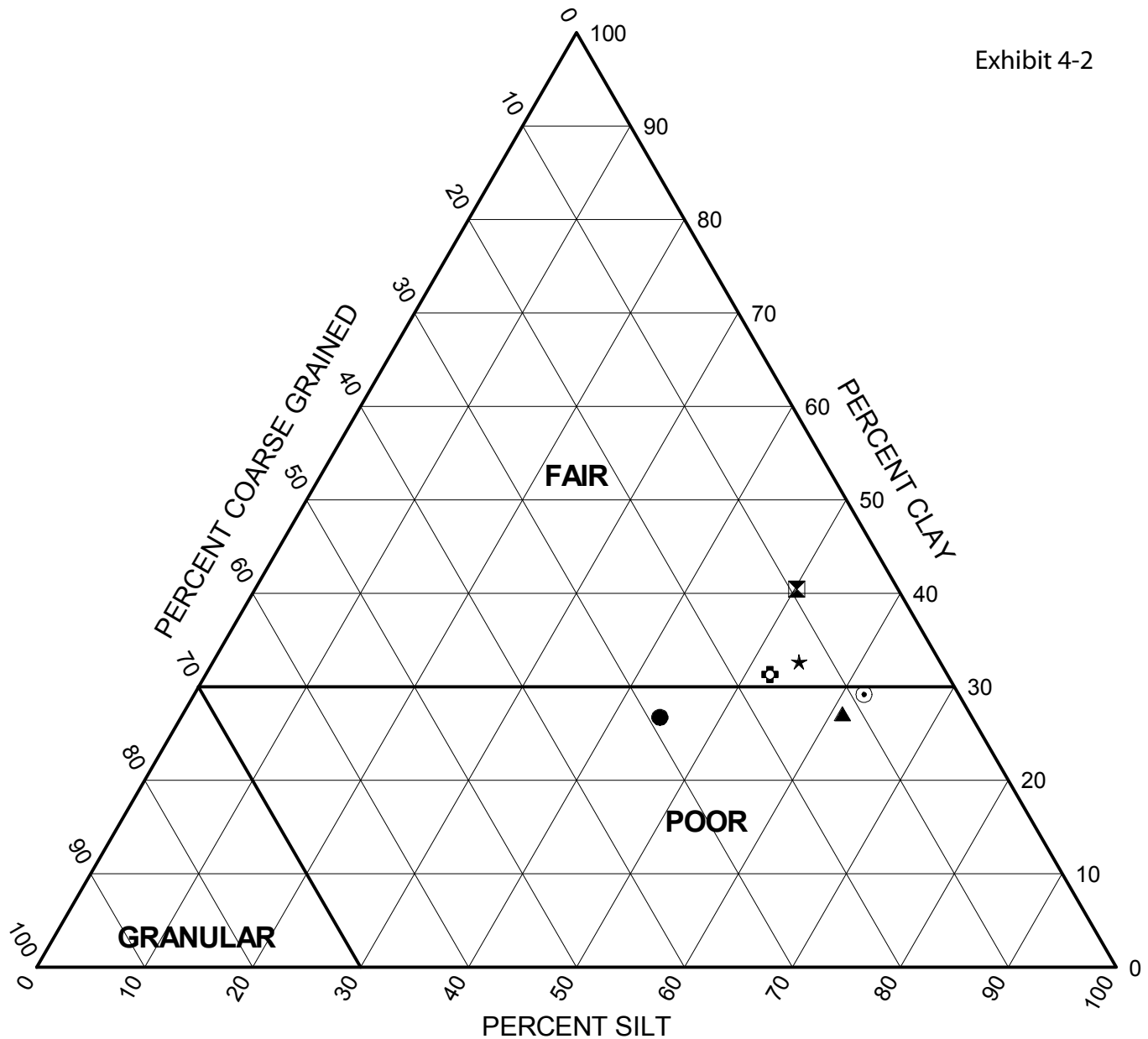
WEI\_SSR\_4910301.GPJ\_WANGENG.GDT\_5/23/18



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### Subgrade Support Rating Chart

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01



|   | Sample      | Depth (ft) | Coarse (%) | Silt (%) | Clay (%) | Classification  |            |        |
|---|-------------|------------|------------|----------|----------|-----------------|------------|--------|
|   |             |            |            |          |          | IL DOT          | AASHTO     | RATING |
| ● | SGB-18#3    | 5.0        | 28.9       | 44.3     | 26.8     | Clay Loam       | A-6 (13)   | POOR   |
| ⊠ | SGB-20-HA#3 | 4.0        | 9.3        | 50.2     | 40.5     | Silty Clay      | A-6 (17)   | FAIR   |
| ▲ | SGB-24#1    | 1.0        | 11.8       | 61.1     | 27.2     | Silty Clay Loam | A-6 (15)   | POOR   |
| ★ | SGB-25#3    | 5.0        | 13.0       | 54.3     | 32.7     | Silty Clay      | A-7-6 (22) | FAIR   |
| ⊙ | SGB-29#2    | 3.0        | 8.8        | 62.0     | 29.2     | Silty Clay Loam | A-7-6 (36) | POOR   |
| ⊞ | SGB-30#1    | 1.3        | 16.4       | 52.3     | 31.3     | Silty Clay      | A-7-6 (18) | FAIR   |
|   |             |            |            |          |          |                 |            |        |
|   |             |            |            |          |          |                 |            |        |
|   |             |            |            |          |          |                 |            |        |
|   |             |            |            |          |          |                 |            |        |

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**Subgrade Support Rating Chart**

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01

## **APPENDIX A**



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# BORING LOG BPB-01

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.00 ft  
 North: 1863504.49 ft  
 East: 1113304.79 ft  
 Station: 107+90.16  
 Offset: 45.36 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.3          | 8-inch thick, hard, brown CLAY; damp                               |            |                      | 1          | P<br>U<br>S<br>H      | 4.50     | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --TOPSOIL--<br>Hard, brown and gray SILTY CLAY, trace gravel; damp |            |                      | 2          | P<br>U<br>S<br>H      | 4.50     | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 3          | P<br>U<br>S<br>H      | 4.50     | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | P<br>U<br>S<br>H      | 4.50     | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | P<br>U<br>S<br>H      | 4.50     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.0          | Boring terminated at 10.00 ft                                      | 10         |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

### WATER LEVEL DATA

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\nabla$  **DRY**  
 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.



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# BORING LOG BPB-02

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.57 ft  
 North: 1866685.32 ft  
 East: 1113015.25 ft  
 Station: 305+95.30  
 Offset: 41.69 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 651.1          | 6-inch thick, brown SILTY LOAM<br>--TOPSOIL--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to very stiff, brown CLAY LOAM to SILTY CLAY LOAM, trace gravel; damp<br>--FILL--  |            |                      | 1          | P<br>U<br>S<br>H      | 3.12<br>B | 14                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.1          | Medium stiff to stiff, brown to gray CLAY to SILTY CLAY, trace gravel; damp to moist   |            |                      | 2          | P<br>U<br>S<br>H      | 1.39<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 3          | P<br>U<br>S<br>H      | 0.82<br>B | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --L <sub>L</sub> (%)=44, P <sub>L</sub> (%)=21--<br>--%Gravel=2.8--<br>--%Sand=9.2--<br>--%Silt=50.0--<br>--%Clay=38.1--<br>--A-7-6 (21)-- |            |                      | 4          | P<br>U<br>S<br>H      | 0.66<br>B | 26                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | P<br>U<br>S<br>H      | 0.75<br>P | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.6          | Boring terminated at 10.00 ft  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **M. Schmelzel** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG BPB-03

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.49 ft  
 North: 1866716.23 ft  
 East: 1114053.50 ft  
 Station: 316+33.99  
 Offset: 34.56 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 651.0          | 6-inch thick, dark brown SILTY LOAM<br>--TOPSOIL--<br>Hard, brown CLAY LOAM, trace gravel; damp<br>--FILL-- |            |                      | 1          | P<br>U<br>S<br>H      | NP        | 13                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.0          | Very stiff to hard, brown and gray CLAY to SILTY CLAY, trace gravel; damp                                   |            |                      | 2          | P<br>U<br>S<br>H      | 4.00<br>P | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 3          | P<br>U<br>S<br>H      | 2.50<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | P<br>U<br>S<br>H      | 4.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | P<br>U<br>S<br>H      | 4.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.5          | Boring terminated at 10.00 ft   | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG BPB-04

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.53 ft  
 North: 1866749.68 ft  
 East: 1115006.21 ft  
 Station: 325+87.28  
 Offset: 33.09 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.0          | 6-inch thick, brown SILTY CLAY LOAM                            |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --TOPSOIL--<br>Hard, brown SILTY CLAY LOAM, trace gravel; damp |            |                      | 1          | P<br>U<br>S<br>H      | 4.50<br>P | 15                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--   |            |                      | 2          | P<br>U<br>S<br>H      | 4.00<br>P | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.5          | Very stiff, brown SILTY CLAY; damp                             | 5          |                      | 3          | P<br>U<br>S<br>H      | 2.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | P<br>U<br>S<br>H      | 3.00<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | P<br>U<br>S<br>H      | 3.00<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.5          | Boring terminated at 10.00 ft                                  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.





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# BORING LOG BPB-05

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 647.76 ft  
 North: 1867048.34 ft  
 East: 1113651.20 ft  
 Station: 237+78.84  
 Offset: 32.47 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.3          | 6-inch thick, brown SILTY CLAY LOAM<br>--TOPSOIL--<br>Dark brown SILTY LOAM, trace organic matter; damp<br>--FILL-- |            |                      | 1          | P<br>U<br>S<br>H      | NP        | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.3          | Very stiff to hard, gray CLAY to SILTY CLAY, trace gravel; damp   |            |                      | 2          | P<br>U<br>S<br>H      | 4.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 3          | P<br>U<br>S<br>H      | 3.25<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | P<br>U<br>S<br>H      | 4.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | P<br>U<br>S<br>H      | 4.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.8          | Boring terminated at 10.00 ft   | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

While Drilling  **DRY**  
 At Completion of Drilling  **DRY**  
 Time After Drilling **NA**  
 Depth to Water  **NA**

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# BORING LOG BPB-06

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 646.96 ft  
 North: 1867646.94 ft  
 East: 1113637.21 ft  
 Station: 248+72.55  
 Offset: 40.02 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 (%) |  |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-------------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|--|
|         | 646.3          | 8-inch thick, SILTY CLAY; damp<br>--TOPSOIL--   |            |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                | Very stiff to hard, brown SILTY LOAM to SILTY CLAY LOAM, trace gravel; dry  |            |                      | 1          | P<br>U<br>S<br>H      | 4.00<br>P   | 12                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                | --FILL--<br>--L <sub>L</sub> (%)=36, P <sub>L</sub> (%)=20--<br>--%Gravel=1.7--<br>--%Sand=15.9--<br>--%Silt=54.4--<br>--%Clay=27.9--<br>--A-6 (12)-- |            |                      | 2          | P<br>U<br>S<br>H      | 4.50<br>P   | 15                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   | 5          |                      | 3          | P<br>U<br>S<br>H      | 3.50<br>P   | 16                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 641.5          | Very soft to stiff, black, brown, and gray CLAY to SILTY CLAY; moist  |            |                      | 4          | P<br>U<br>S<br>H      | 1.00<br>P   | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 5          | P<br>U<br>S<br>H      | < 0.25<br>P | 28                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 637.0          | Boring terminated at 10.00 ft   | 10         |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |  |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG RWB-01

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 644.46 ft  
 North: 1864981.15 ft  
 East: 1113709.25 ft  
 Station: 217+10.90  
 Offset: 16.11 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|-------------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 643.1          | 16-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         | 622.5          |                               |            |                      |            |                       |          |                      |
|         |                | Stiff, brown and gray SILTY CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2--  | 1          |                      | 1          | 3<br>2<br>3           | 1.25<br>P | 26                   |         |                | Boring terminated at 22.00 ft |            |                      |            |                       |          |                      |
|         |                |  | 2          |                      | 2          | 2<br>2<br>2           | 1.50<br>P | 22                   |         |                |                               | 25         |                      |            |                       |          |                      |
|         | 639.0          | Very stiff to hard, brown to gray SILTY CLAY, trace gravel; damp<br>--RDR 2--  | 3          |                      | 3          | 2<br>4<br>5           | 3.61<br>B | 21                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                |  | 4          |                      | 4          | 8<br>13<br>16         | 6.81<br>B | 18                   |         |                |                               | 30         |                      |            |                       |          |                      |
|         | 634.0          | --hard drilling, from 10.5 feet--  | 10         |                      |            |                       |           |                      |         |                |                               |            |                      |            |                       |          |                      |
|         | 632.5          | Very dense, brown rock fragments<br>--WEATHERED BEDROCK--<br>--RDR 4 to 5--  | 5          |                      | 5          | 75/3"                 | NP        |                      |         |                |                               |            |                      |            |                       |          |                      |
|         |                | Strong, light brownish gray, very poor rock mass quality, highly vuggy, moderately weathered DOLOSTONE, horizontal and vertical joints, 3-inch spaced joints, less than 0.05 to more than 0.2-inch joint opening, highly weathered infill to no infill, hard joint walls.<br>--Run 1: 12.0 to 22.0 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%-- | 15         |                      |            |                       |           |                      |         |                |                               | 35         |                      |            |                       |          |                      |
|         |                |  | 20         |                      | 6          |                       |           |                      |         |                |                               | 40         |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-28-2017** Complete Drilling **06-28-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-02

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 644.58 ft  
 North: 1865123.75 ft  
 East: 1113704.21 ft  
 Station: 218+53.59  
 Offset: 16.20 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 643.6          | 12-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.1          | Loose, gray SANDY GRAVEL;<br>moist<br>--AGGREGATE BASE--<br>--RDR 2--                                |            |                      | 1          | 6<br>3<br>3           | 1.50<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.3          | Stiff, brown CLAY LOAM, trace<br>gravel; moist<br>--FILL--<br>--RDR 2--                              |            |                      | 2          | 3<br>3<br>4           |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown to gray<br>SILTY CLAY, trace gravel; moist<br>--RDR 2--                    | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 4<br>5<br>7           | 4.35<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.1          |  |            |                      | 4          | 5<br>7                | 3.94<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.6          | Brown, rock fragments<br>--WEATHERED BEDROCK--<br>--AUGER REFUSAL--<br>Boring terminated at 10.00 ft | 10         |                      |            | 50/3"                 |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-28-2017** Complete Drilling **06-28-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\nabla$  **DRY**  
 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.



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# BORING LOG RWB-03

WEI Job No.: 491-03-01

Client: **Accurate Group, Inc.**  
 Project: **East Avenue from Joliet Road to 55th Street**  
 Location: **Cook County, IL**

Datum: NAVD 88  
 Elevation: 644.95 ft  
 North: 1865208.99 ft  
 East: 1113700.45 ft  
 Station: 219+38.91  
 Offset: 15.51 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.0          | 12-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.5          | Loose, gray SANDY GRAVEL;<br>moist<br>--AGGREGATE BASE--<br>--RDR 2--  |            |                      | 1          | 2<br>2<br>4           | 1.89<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.0          | Stiff, brown SILTY CLAY LOAM,<br>trace gravel<br>--FILL--<br>--RDR 2--   |            |                      | 2          | 3<br>6<br>8           | 5.17<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace<br>gravel  |            |                      | 5          |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 4<br>7<br>10          | 6.48<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 636.3          | Very dense, rock fragments<br>--WEATHERED BEDROCK--<br>--RDR 5--   |            |                      | 4          | 60/4"                 | NP        | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.0          | Strong, light brownish gray, very<br>poor rock mass quality, highly<br>vuggy, moderately weathered<br>DOLOSTONE, horizontal and<br>vertical joints, 2-inch spaced<br>joints, less than 0.05 to more<br>than 0.2-inch joint opening, more<br>than 0.2-inch highly weathered<br>infill, hard joint walls.<br>--Run 1: 10.0 to 20.0 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%-- |            |                      | 5          |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 625.0          | Boring terminated at 20.00 ft  | 20         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-28-2017** Complete Drilling **06-28-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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 4910301.GPJ WANGENG.GDT 5/23/18



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# BORING LOG RWB-04

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.17 ft  
 North: 1865282.73 ft  
 East: 1113698.11 ft  
 Station: 220+12.69  
 Offset: 15.83 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.3          | 10-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.7          | Loose, gray SANDY GRAVEL;<br>moist<br>--AGGREGATE BASE--<br>--RDR 2--                 |            |                      | 1          | 2<br>3<br>5           | 1.75<br>P | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.2          | Stiff, brown SILTY CLAY LOAM;<br>moist<br>--FILL--<br>--RDR 2--                       |            |                      | 2          | 5<br>6<br>9           | 5.33<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace<br>gravel; damp<br>--RDR 2--                            |            |                      | 3          | 4<br>5<br>9           | 5.66<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 5<br>7                | 6.07<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.7          | Very dense, rock fragments<br>--WEATHERED BEDROCK--<br>--RDR 5--<br>--AUGER REFUSAL-- | 10         |                      |            | 50/0"                 |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.2          | Boring terminated at 10.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-28-2017** Complete Drilling **06-28-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-05

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.44 ft  
 North: 1865358.57 ft  
 East: 1113695.90 ft  
 Station: 220+88.56  
 Offset: 16.35 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.3          | 14-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.7          | Loose, gray SANDY GRAVEL;<br>dry<br>--AGGREGATE BASE--<br>--RDR 2--  |            |                      | 1          | 9<br>4<br>4           | NP        | 4                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown SILTY CLAY<br>to SILTY CLAY LOAM, trace<br>gravel; damp<br>--RDR 2--  | 5          |                      | 2          | 2<br>3<br>4           | 1.75<br>P | 14                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --L <sub>L</sub> (%)=39, P <sub>L</sub> (%)=21--<br>--%Gravel=0.8--<br>--%Sand=9.2--<br>--%Silt=51.0--<br>--%Clay=39.0--<br>--A-6 (17)--   |            |                      | 3          | 2<br>3<br>4           | 2.30<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4<br>7<br>12          | 5.41<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.9          | --hard drilling from 10.5 feet--<br>--WEATHERED BEDROCK--<br>--RDR 4 to 5--  |            |                      | 5          |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 633.4          | Strong, light brownish gray, very<br>poor rock mass quality, highly<br>vuggy, moderately weathered<br>DOLOSTONE, horizontal and<br>vertical joints, 0.5-inch spaced<br>joints, 0.05 to more than<br>0.2-inch joint opening, more than<br>0.2-inch highly weathered infill,<br>hard joint walls.<br>--Run 1: 12.0 to 17.0 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%-- | 15         |                      | 6          |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 628.4          | Boring terminated at 17.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-29-2017** Complete Drilling **06-29-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-06

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.59 ft  
 North: 1865427.78 ft  
 East: 1113693.39 ft  
 Station: 221+57.82  
 Offset: 16.33 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.5          | 13-inch thick ASPHALT<br>--PAVEMENT--                                |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.6          | Gray SANDY GRAVEL; dry<br>--AGGREGATE BASE--                         |            |                      |            | 4                     |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.3          | Stiff, brown CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 4<br>4<br>2           | NP        | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray SILTY CLAY; damp<br>--RDR 2--     |            |                      | 2          | 2<br>3<br>3           | 2.00<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 3<br>3<br>4           | 2.54<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 3<br>7<br>11          | 6.64<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.6          | --WEATHERED BEDROCK--<br>--RDR 5--                                   | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.1          | --AUGER REFUSAL--<br>Boring terminated at 10.50 ft                   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-29-2017** Complete Drilling **06-29-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.





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# BORING LOG RWB-07

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.85 ft  
 North: 1865506.87 ft  
 East: 1113690.14 ft  
 Station: 222+36.97  
 Offset: 15.92 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.9          | 12-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.9          | 12-inch thick, gray SANDY GRAVEL; dry<br>--AGGREGATE BASE--<br>--RDR 2--  |            |                      | 1          | 4<br>3<br>4           | NP        | 5                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY; damp<br>--RDR 2--   |            |                      | 2          | 2<br>3<br>5           | 4.10<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 4<br>5<br>7           | 5.49<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 4<br>8<br>12          | 8.04<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.9          | --hard drilling from 11.0 feet--<br>--WEATHERED BEDROCK--<br>--RDR 4 to 5--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 633.9          | Strong, light brownish gray, very poor rock mass quality, highly vuggy, moderately weathered DOLOSTONE, horizontal and vertical joints, 0.75-inch spaced joints, 0.05 to more than 0.2-inch joint opening, more than 0.2-inch highly weathered infill, hard joint walls.<br>--Run 1: 12.0 to 17.0 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%-- |            |                      | 1          |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 628.9          | Boring terminated at 17.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-29-2017** Complete Drilling **06-29-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-08

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 646.11 ft  
 North: 1865583.47 ft  
 East: 1113687.91 ft  
 Station: 223+13.36  
 Offset: 16.45 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 645.1          | 12-inch thick, ASPHALT<br>--PAVEMENT--                                |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.84         | 4-inch thick, loose, gray SANDY GRAVEL<br>--AGGREGATE BASE--          | 1          |                      | 1          | 3<br>3<br>4           | 2.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.1          | Very stiff, brown SILTY CLAY; damp<br>--FILL--<br>--RDR 2--           | 2          |                      | 2          | 5<br>5<br>5           | 3.00<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown SILTY CLAY, trace gravel; damp<br>--RDR 2-- | 5          |                      | 3          | 5<br>6<br>8           | 4.59<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 10         |                      | 4          | 5<br>6<br>10          | 5.17<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.1          | --hard drilling, 10.5 to 11 feet--<br>--AUGER REFUSAL--               |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 11.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-09

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 646.41 ft  
 North: 1865659.99 ft  
 East: 1113684.05 ft  
 Station: 223+90.21  
 Offset: 15.35 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 645.4          | 12-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.9          | Gray SANDY GRAVEL; dry<br>--AGGREGATE BASE--<br>--RDR 2--  |            |                      | 1          | 3<br>4<br>7           | 2.00<br>P | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.4          | Very stiff, brown SILTY CLAY;<br>damp<br>--FILL--<br>--RDR 2--   |            |                      | 2          | 3<br>5<br>7           | 3.53<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray<br>to brown SILTY CLAY, trace<br>gravel; damp<br>--RDR 2--  | 5          |                      | 3          | 4<br>6<br>8           | 4.92<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.6          | Very dense, rock fragments<br>--WEATHERED BEDROCK--<br>--RDR 5--10   |            |                      | 4          | 50/5"                 | NP        | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 636.4          | Strong, light brownish gray, very<br>poor rock mass quality, highly<br>vuggy, highly weathered<br>DOLOSTONE, horizontal and<br>vertical joints, 0.7-inch spaced<br>joints, 0.05 to more than<br>0.2-inch joint opening, more than<br>0.2-inch highly weathered infill,<br>hard joint walls.<br>--Run 1: 10.0 to 14.5 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%-- |            |                      | 5          | C<br>O<br>R<br>E      |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 631.9          | Boring terminated at 14.50 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-29-2017** Complete Drilling **06-29-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-10

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 646.71 ft  
 North: 1865730.47 ft  
 East: 1113682.71 ft  
 Station: 224+60.69  
 Offset: 16.55 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, ASPHALT   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.7          |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.2          | 6-inch thick, gray SANDY GRAVEL; dry<br>--AGGREGATE BASE--                     |            |                      | 1          | 3<br>3<br>5           | 2.13<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray SILTY CLAY, trace gravel; damp<br>--RDR 2-- |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 2          | 4<br>5<br>7           | 5.33<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 4<br>6<br>8           | 5.58<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4<br>5<br>8           | 4.43<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --hard drilling, 10 to 11 feet--<br>--RDR 5--                                  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --AUGER REFUSAL--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.7          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 15         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 20         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

### WATER LEVEL DATA

While Drilling  **DRY**  
 At Completion of Drilling  **DRY**  
 Time After Drilling **NA**  
 Depth to Water  **NA**

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# BORING LOG RWB-11

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 647.08 ft  
 North: 1865807.37 ft  
 East: 1113680.25 ft  
 Station: 225+37.63  
 Offset: 16.86 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|-------------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.1          | 12-inch thick, ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                               |            |                      |            |                       |          |                      |
|         | 645.8          | 3-inch thick, gray SANDY GRAVEL<br>--AGGREGATE BASE--   |            |                      | 1          | 3<br>4<br>4           | 1.75<br>P | 9                    |         | 624.6          | Boring terminated at 22.50 ft |            |                      |            |                       |          |                      |
|         | 644.1          | Stiff, brown CLAY LOAM, trace gravel; dry<br>--FILL--<br>--RDR 2--  |            |                      | 2          | 3<br>5<br>7           | 4.43<br>B | 20                   |         |                |                               | 25         |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace gravel; damp<br>--RDR 2--   |            |                      | 3          | 4<br>4<br>7           | 5.25<br>B | 20                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 5<br>6<br>9           | 5.74<br>B | 21                   |         |                |                               | 30         |                      |            |                       |          |                      |
|         | 636.6          | Very dense, brown, medium SAND; moist   |            |                      | 5          | 3                     | NP        | 6                    |         |                |                               |            |                      |            |                       |          |                      |
|         | 635.3          | --hard drilling, 11.75 to 12.5 feet--<br>--WEATHERED BEDROCK--  |            |                      | 6          |                       |           |                      |         |                |                               |            |                      |            |                       |          |                      |
|         | 634.6          | Strong, light brownish gray, very poor rock mass quality, highly vuggy and fragmented, moderately weathered DOLOSTONE, 1-inch spacing of joints, horizontal and vertical joints, 0.05 to greater than 0.2-inch joint opening, none to less than 0.2-inch highly weathered infill, rough and hard joint walls.<br>--Run 1: 12.5 to 22.5 feet--<br>--RECOVERY = 95%--<br>--RQD = 0%-- |            |                      |            |                       |           |                      |         |                |                               | 35         |                      |            |                       |          |                      |
|         |                |   |            |                      |            |                       |           |                      |         |                |                               | 40         |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.

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# BORING LOG RWB-12

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 647.44 ft  
 North: 1865880.95 ft  
 East: 1113677.41 ft  
 Station: 226+11.26  
 Offset: 16.66 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.5          | 11-inch thick, ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.4          | Medium dense, dark gray<br>GRAVELLY LOAM<br>--FILL--<br>--RDR 2--   |            |                      | 1          | 4<br>7<br>4           | NP        | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown and gray<br>SILTY CLAY<br>--RDR 2--  |            |                      | 2          | 4<br>6<br>9           | 5.00<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 5<br>7<br>10          | 5.66<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 3<br>6<br>8           | 6.89<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.1          | --RDR 5--   |            |                      | 5          | 3<br>3                | 1.64<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.4          | --hard drilling, 12.3 to 13 feet--<br>--WEATHERED BEDROCK--<br>--AUGER REFUSAL--<br>Boring terminated at 13.00 ft |            |                      |            | 50/4"                 |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-13

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 647.66 ft  
 North: 1865953.88 ft  
 East: 1113674.81 ft  
 Station: 226+84.24  
 Offset: 16.69 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.7          | 11-inch thick, ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |   |            |                      |            |                       |          |                      |
|         | 644.7          | Gray SANDY GRAVEL; damp<br>--AGGREGATE BASE--   |            |                      | 1          | 6<br>6<br>3           | NP        | 8                    |         |                | less than 0.2-inch infill, rough and hard joint walls.<br>--Run 1: 17 to 27 feet--<br>--RECOVERY = 100%--<br>--RQD = 0%--<br>--Q <sub>u</sub> =5520 psi |            |                      | 8          |                       |          |                      |
|         | 644.7          | Very stiff to hard, brown and gray SILTY CLAY, trace gravel; moist<br>--RDR 2--   | 5          |                      | 2          | 4<br>4<br>4           | 3.25<br>P | 21                   |         |                |   | 25         |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 4<br>5<br>6           | 3.77<br>B | 21                   |         | 620.7          | Boring terminated at 27.00 ft   |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 3<br>6<br>9           | 5.66<br>B | 21                   |         |                |   | 30         |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 4<br>5<br>7           | 2.30<br>B | 22                   |         |                |   |            |                      |            |                       |          |                      |
|         | 634.7          | Very dense, brown SANDY GRAVEL, some weathered dolostone fragments; damp<br>--RDR 4--   |            |                      | 6          | 10<br>40              | NP        | 4                    |         |                |   |            |                      |            |                       |          |                      |
|         | 633.0          | --WEATHERED BEDROCK--<br>--RDR 5--  | 15         |                      | 7          | 50/2"                 |           |                      |         |                |   | 35         |                      |            |                       |          |                      |
|         | 630.7          | Strong, light greyish gray, very poor rock mass quality, highly vuggy, moderately weathered DOLOSTONE, 2-inch spacing of joints, horizontal and vertical joints, 0.05 to greater than 0.2-inch joint opening, none to | 20         |                      |            |                       |           |                      |         |                |   | 40         |                      |            |                       |          |                      |

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### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG RWB-14

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.03 ft  
 North: 1866030.67 ft  
 East: 1113671.38 ft  
 Station: 227+61.10  
 Offset: 16.02 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 (%) |  |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|--|
|         | 646.9          | 14-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 646.0          | Medium dense, brown SANDY LOAM, trace gravel; dry<br>--AGGREGATE BASE--   |            |                      | 1          | 8<br>5<br>5           | NP        | 7                    |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                | Very stiff to hard, brown to gray SILTY CLAY, trace gravel; moist<br>--RDR 2--  | 5          |                      | 2          | 3<br>2<br>4           | 2.54<br>S | 23                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 3          | 2<br>4<br>5           | 3.69<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   | 10         |                      | 4          | 6<br>9<br>13          | 2.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 5          | 3<br>7<br>7           | 4.59<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 635.0          | Very dense, brown GRAVELLY SAND, some weathered dolostone fragments; damp<br>--RDR 4--                                    | 15         |                      | 6          | 11<br>33<br>50/5      | NP        | 5                    |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 7          |                       | NP        |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 631.0          | --difficult drilling from 17 feet--<br>--WEATHERED BEDROCK--<br>--very hard, steady drilling, from 18 feet--<br>--RDR 5-- |            |                      | 8          | 50/3                  | NP        | 4                    |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 628.0          | Boring terminated at 20.00 ft   | 20         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-07-2017** Complete Drilling **08-07-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-15

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.36 ft  
 North: 1866100.36 ft  
 East: 1113668.61 ft  
 Station: 228+30.84  
 Offset: 15.76 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|-------------------------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.2          | 14-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         | 627.4                         | --WEATHERED BEDROCK--     |            |                      | 9          |                       |          |                      |
|         |                | Stiff, black, brown, and gray<br>CLAY LOAM, trace gravel; damp<br>--FILL--                               |            |                      | 1          | 5<br>3<br>4           | 1.50<br>P | 10                   |         | 626.4                         | --RDR 4--                 |            |                      |            | 50/2                  |          | 3                    |
|         | 645.4          | Medium stiff, black and dark gray<br>SILTY CLAY; moist<br>--BURIED TOPSOIL--                             |            |                      | 2          | 2<br>1<br>3           | 0.75<br>P | 30                   |         | Boring terminated at 22.00 ft |                           |            |                      |            |                       |          |                      |
|         | 644.0          | Very stiff to hard, brown to gray<br>SILTY CLAY, trace gravel; moist<br>--RDR 2--                        | 5          |                      | 3          | 2<br>4<br>6           | 5.33<br>B | 25                   |         |                               |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4<br>6<br>8           | 3.61<br>B | 21                   |         |                               |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 3<br>4<br>6           | 4.18<br>B | 22                   |         |                               |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 6          | 4<br>5<br>6           | 2.87<br>B | 22                   |         |                               |                           |            |                      |            |                       |          |                      |
|         | 632.9          | Very dense, brown and gray<br>GRAVELLY SAND, some<br>weathered dolostone fragments;<br>damp<br>--RDR 4-- | 15         |                      | 7          | 22<br>38<br>20        | NP        | 5                    |         |                               |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 8          | 33<br>23<br>50/3      | NP        | 6                    |         |                               |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-07-2017** Complete Drilling **08-07-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-16

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.72 ft  
 North: 1866174.34 ft  
 East: 1113666.99 ft  
 Station: 229+04.84  
 Offset: 16.81 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.6          | 13-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         | 627.5          | --difficult drilling from 20 feet--<br>--WEATHERED BEDROCK-- |            |                      | 9          |                       |          |                      |
|         |                | Stiff, black and brown CLAY LOAM, little gravel; damp<br>--FILL--<br>--RDR 2 to 3--             |            |                      | 1          | 4<br>2<br>5           | 1.00<br>P | 6                    |         |                | Boring terminated at 21.25 ft                                |            |                      |            | 50/3                  |          | 3                    |
|         | 644.9          | Stiff to hard, brown to gray CLAY to SILTY CLAY, trace gravel; moist<br>--RDR 2 to 3--          | 5          |                      | 2          | 1<br>2<br>3           | 1.89<br>B | 20                   |         |                |  | 25         |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 2<br>4<br>4           | 3.61<br>B | 22                   |         |                |  |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 4<br>7<br>9           | 6.23<br>B | 20                   |         |                |  | 30         |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 4<br>5<br>9           | 4.02<br>B | 20                   |         |                |  |            |                      |            |                       |          |                      |
|         | 634.0          | Dense to very dense, brown GRAVELLY SAND, some weathered dolostone fragments; damp<br>--RDR 4-- | 15         |                      | 6          | 4<br>5<br>17          | 5.00<br>B | 22                   |         |                |  | 35         |                      |            |                       |          |                      |
|         |                |   |            |                      | 7          | 16<br>26<br>20        | NP        | 4                    |         |                |  |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 8          | 9                     | NP        | 5                    |         |                |  | 40         |                      |            |                       |          |                      |
|         | 628.7          |   | 20         |                      |            | 50/3                  |           |                      |         |                |  |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-08-2017** Complete Drilling **08-08-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-17

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.15 ft  
 North: 1866246.86 ft  
 East: 1113663.78 ft  
 Station: 229+77.43  
 Offset: 16.20 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 648.0          | 13-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |
|         | 647.7          | Medium stiff (0.75P), black and brown CLAY LOAM, trace gravel; damp                        |            |                      | 1          | 4<br>2<br>4           | 1.75<br>P | 14                   |         |                | poor rock mass quality, highly weathered DOLOSTONE, 1.3-inch spacing of joints, horizontal and oblique joints, less than 0.05 to greater than 0.2-inch joint opening, less than 0.2-inch infill, slightly rough to rough and hard joint walls. |            |                      |            |                       |          |                      |
|         | 646.1          | Stiff, black SILTY CLAY, trace roots; damp<br>--FILL--                                     |            |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown to gray CLAY to SILTY CLAY, trace gravel; moist<br>--BURIED TOPSOIL-- | 5          |                      | 2          | 2<br>2<br>4           | 2.46<br>B | 24                   |         |                | --Run 1: 19 to 29 feet--<br>--RECOVERY = 98%--<br>--RQD = 12%--<br>--Q <sub>u</sub> =6000 psi  |            |                      | 9          |                       |          |                      |
|         |                | --RDR 2--  |            |                      | 3          | 2<br>5<br>5           | 3.20<br>B | 21                   |         |                |  |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 3<br>4<br>9           | 2.79<br>B | 19                   |         | 620.1          | Boring terminated at 29.00 ft  |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 3<br>5<br>6           | 4.10<br>B | 25                   |         |                |  |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 6          | 2<br>3<br>5           | 1.64<br>B | 21                   |         |                |  |            |                      |            |                       |          |                      |
|         |                | --hard drilling from 15.75 feet--  | 15         |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |
|         | 633.4          | Dense, brown GRAVELLY SAND, some weathered dolostone fragments; damp<br>--RDR 4--          |            |                      | 7          | 25<br>21<br>24        | NP        | 3                    |         |                |  |            |                      |            |                       |          |                      |
|         | 630.6          | --WEATHERED BEDROCK--<br>--RDR 4--   |            |                      | 8          | 50/3                  | NP        | 4                    |         |                |  |            |                      |            |                       |          |                      |
|         | 630.1          | Strong, light greyish yellow, very   | 20         |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **08-08-2017** Complete Drilling **08-08-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; 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.

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# BORING LOG RWB-18

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.50 ft  
 North: 1866321.74 ft  
 East: 1113660.75 ft  
 Station: 230+52.37  
 Offset: 15.87 RT

| Profile | Elevation (ft) | SOIL AND ROCK DESCRIPTION   | Depth (ft) | Sample Type recovery | Sample No. | SPT Values (blw/6 in) | Qu (tsf)  | Moisture Content (%) | Profile | Elevation (ft) | SOIL AND ROCK DESCRIPTION  | Depth (ft) | Sample Type recovery | Sample No. | SPT Values (blw/6 in) | Qu (tsf) | Moisture Content (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 648.7          | 7-inch thick, ASPHALT<br>--PAVEMENT--<br>Stiff to very stiff, black and brown SILTY CLAY to SILTY CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 3<br>2<br>3           | 1.64<br>B | 22                   |         | 626.5          | --WEATHERED BEDROCK--<br>--RDR 4--<br>--hard drilling, 20 to 21 feet--<br>--cobble--<br><br>--AUGER REFUSAL--<br>Boring terminated at 23.00 ft |            |                      | 9          | 21<br>19<br>50/4      | NP       | 8                    |
|         |                |   | 5          |                      | 2          | 1<br>2<br>2           | 2.13<br>B | 22                   |         |                |  | 25         |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 2<br>3<br>3           | 2.62<br>B | 20                   |         |                |  |            |                      |            |                       |          |                      |
|         | 641.5          | Very stiff to hard, brown and gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; moist<br>--RDR 2 to 3--   | 10         |                      | 4          | 5<br>7<br>9           | 4.51<br>B | 20                   |         |                |  | 30         |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 4<br>6<br>9           | 4.18<br>B | 20                   |         |                |  |            |                      |            |                       |          |                      |
|         |                |   | 15         |                      | 6          | 9<br>5<br>7           | 3.28<br>B | 24                   |         |                |  | 35         |                      |            |                       |          |                      |
|         | 632.5          | Medium dense, brown, coarse SAND; moist   |            |                      | 7          | 2<br>13<br>14         | 3.44<br>B | 23                   |         |                |  |            |                      |            |                       |          |                      |
|         | 631.5          | --RDR 2--<br>Dense to very dense, brown and gray SANDY GRAVEL, some highly weathered dolostone fragments; moist   | 20         |                      | 8          | 12<br>17<br>19        | NP        | 4                    |         |                |  | 40         |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **D50 ATV [88%]**  
 Driller **K&K** Logger **R. KC** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-19

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.92 ft  
 North: 1866396.33 ft  
 East: 1113658.68 ft  
 Station: 231+26.98  
 Offset: 16.49 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.2          | 9-inch thick, black ASPHALT   |            |                      |            |                       |           |                      |         | 629.4          |   |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, black, brown and gray SILTY CLAY to CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2--                                  | 1          | X                    | 1          | 7<br>2<br>4           | 1.97<br>B | 19                   |         |                | Very dense, gray SANDY GRAVEL, some weathered dolostone fragments; damp<br>--WEATHERED BEDROCK--<br>--RDR 4-- | 9          | X                    | 9          | 12<br>29<br>32        | NP       | 3                    |
|         |                | --L <sub>L</sub> (%)=43, P <sub>L</sub> (%)=21--<br>--%Gravel=2.4--<br>--%Sand=18.7--<br>--%Silt=49.2--<br>--%Clay=29.6--<br>--A-7-6 (17)-- | 2          | X                    | 2          | 3<br>5<br>5           | 1.89<br>B | 22                   |         |                | --AUGER REFUSAL--   | 10         | O                    | 10         | 50/5"                 | NR       |                      |
|         |                |   | 3          | X                    | 3          | 3<br>4<br>6           | 4.35<br>B | 22                   |         |                | Boring terminated at 24.50 ft   | 25         |                      |            |                       |          |                      |
|         | 641.9          | Hard, brown and gray SILTY CLAY, trace gravel; moist<br>--RDR 2--   | 4          | X                    | 4          | 3<br>5<br>9           | 4.51<br>B | 22                   |         |                |   | 30         |                      |            |                       |          |                      |
|         |                |   | 5          | X                    | 5          | 3<br>6<br>9           | 4.26<br>B | 20                   |         |                |   |            |                      |            |                       |          |                      |
|         | 636.9          | Very stiff, brown to dark brown CLAY to SILTY CLAY; moist<br>--RDR 3--  | 6          | X                    | 6          | 5<br>4<br>8           | 3.53<br>B | 21                   |         |                |   | 35         |                      |            |                       |          |                      |
|         | 633.6          | Loose, brown SAND; wet  | 7          | X                    | 7          | 3<br>3<br>5           | 4.18<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |
|         | 633.1          | Hard, black and brown CLAY; moist<br>--RDR 3--  | 8          | X                    | 8          | 4<br>4<br>26          | NP        | 4                    |         |                |   | 40         |                      |            |                       |          |                      |
|         | 631.9          | Dense, gray SANDY GRAVEL, some highly weathered dolostone fragments; moist<br>--some cobbles--  |            |                      |            |                       |           |                      |         |                |   |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **D50 ATV [88%]**  
 Driller **K&K** Logger **R. KC** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-20

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 650.21 ft  
 North: 1866471.15 ft  
 East: 1113655.08 ft  
 Station: 232+01.89  
 Offset: 15.57 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.5          | 9-inch thick, ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                | --cobbles--<br>--RDR 4--  |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown to light brown SILTY CLAY to CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2-- | 1          | X                    | 1          | 4<br>3<br>5           | 1.23<br>B | 17                   |         |                |   | 9          | X                    | 9          | 20<br>20<br>20        | NP       | 4                    |
|         |                |   | 2          | X                    | 2          | 3<br>3<br>6           | 4.43<br>S | 21                   |         | 627.2          | Very dense, gray SANDY GRAVEL, some weathered dolostone fragments; damp<br>--WEATHERED BEDROCK--<br>--RDR 4-- | 10         | X                    | 10         | 52<br>52<br>28        | NP       | 4                    |
|         | 644.7          | Hard, light brown to brown SILTY CLAY LOAM, trace gravel; moist<br>--RDR 2--                              | 3          | X                    | 3          | 4<br>4<br>7           | 5.33<br>B | 21                   |         |                | Boring terminated at 25.00 ft   |            |                      |            |                       |          |                      |
|         |                |   | 4          | X                    | 4          | 4<br>5<br>8           | 4.59<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |
|         |                |   | 5          | X                    | 5          | 4<br>5<br>8           | 4.10<br>B | 20                   |         |                |   |            |                      |            |                       |          |                      |
|         |                |   | 6          | X                    | 6          | 3<br>7<br>9           | 4.76<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |
|         | 634.7          | Very stiff, dark brown CLAY to SILTY CLAY; moist<br>--RDR 2--   | 7          | X                    | 7          | 4<br>6<br>8           | 2.54<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |
|         | 632.2          | Dense, brown and gray GRAVELLY SAND, some highly weathered dolostone fragments; damp                      | 8          | X                    | 8          | 3<br>26<br>18         | NP        | 4                    |         |                |   |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **D50 ATV [88%]**  
 Driller **K&K** Logger **R. KC** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-21

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 650.63 ft  
 North: 1866547.53 ft  
 East: 1113652.26 ft  
 Station: 232+78.31  
 Offset: 15.51 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.0          | 8-inch thick, ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         | 630.1          | --RDR 4--  |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, black and brown CLAY LOAM, trace gravel; moist                        |            |                      | 1          | 5<br>2<br>3           | 4.51<br>B | 15                   |         | 628.4          | Very dense, gray SANDY GRAVEL, some weathered dolostone fragments; moist |            |                      | 9          | 32<br>50/3            | NP       | 4                    |
|         |                | --FILL--<br>--RDR 2--<br>--trace organic matter--   |            |                      | 2          | 4<br>6<br>7           | 2.87<br>B | 19                   |         |                | --WEATHERED BEDROCK--<br>--RDR 4--<br>--AUGER REFUSAL--                  |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 3          | 4<br>6<br>8           | 5.17<br>B | 20                   |         |                | Boring terminated at 22.25 ft  |            |                      |            |                       |          |                      |
|         | 642.6          | Very stiff to hard, brown and gray SILTY CLAY to SILTY CLAY LOAM, trace gravel; moist     |            |                      | 4          | 4<br>6<br>9           | 4.84<br>B | 19                   |         |                |  |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   | 10         |                      | 5          | 4<br>5<br>7           | 3.69<br>B | 21                   |         |                |  |            |                      |            |                       |          |                      |
|         | 637.6          | Very stiff, brown to dark brown CLAY to SILTY CLAY; moist                                 |            |                      | 6          | 4<br>4<br>6           | 3.53<br>B | 20                   |         |                |  |            |                      |            |                       |          |                      |
|         |                | --RDR 3--   | 15         |                      | 7          | 4<br>6                | 3.20<br>B | 18                   |         |                |  |            |                      |            |                       |          |                      |
|         |                | --hard drilling from 17.5 feet--<br>--cobbles--   |            |                      | 8          | 13<br>24<br>33        | NP        | 4                    |         |                |  |            |                      |            |                       |          |                      |
|         | 632.6          | Very dense, brown and gray SANDY GRAVEL, some highly weathered dolostone fragments; moist |            |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |
|         |                |   | 20         |                      |            |                       |           |                      |         |                |  |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-30-2017** Complete Drilling **06-30-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **D50 ATV [88%]**  
 Driller **K&K** Logger **R. KC** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-22

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 650.94 ft  
 North: 1866645.24 ft  
 East: 1113741.69 ft  
 Station: 313+19.79  
 Offset: 24.96 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 (%) |   |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---|
|         | 649.6          | 4-inch thick ASPHALT over<br>12-inch thick CONCRETE<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                | --RDR 3 to 4--                                |            |                      |            |                       |          |                      |   |
|         | 649.4          | White GRAVELLY SAND; dry<br>--BASE COURSE--  |            |                      | 1          | 3<br>3<br>4           | 2.75<br>P | 23                   |         |                |   |            |                      | 9          | 13<br>15<br>15        |          | NP                   | 5 |
|         |                | Medium stiff to very stiff, brown and gray SILTY CLAY to CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2-- | 5          |                      | 2          | 3<br>2<br>2           | 0.82<br>B | 25                   |         |                | --some highly weathered dolostone fragments-- |            |                      | 10         | 18<br>7<br>11         |          | NP                   | 6 |
|         |                |  |            |                      | 3          | 1<br>1<br>2           | 0.98<br>B | 23                   |         |                | Boring terminated at 25.00 ft                 |            |                      |            |                       |          |                      |   |
|         | 642.9          | Loose, brown GRAVELLY SAND; dry  |            |                      | 4          | 6<br>2<br>4           | NP        | 6                    |         |                |   |            |                      |            |                       |          |                      |   |
|         | 641.2          | Soft to medium stiff, brown and black SILTY CLAY, trace gravel; moist<br>--RDR 3--                               | 10         |                      | 5          | 6<br>4<br>2           | NA        |                      |         |                |   |            |                      |            |                       |          |                      |   |
|         |                |  |            |                      | 6          | 2<br>1<br>3           | 0.49<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |   |
|         | 634.6          | White GRAVELLY SAND; dry   |            |                      | 7          | 3<br>3<br>3           | 0.57<br>B | 25                   |         |                |   |            |                      |            |                       |          |                      |   |
|         | 634.2          | Very stiff (2.0P), gray SILTY CLAY, trace gravel; damp   |            |                      |            |                       |           |                      |         |                |   |            |                      |            |                       |          |                      |   |
|         | 632.2          | Medium dense to dense, brown GRAVELLY SAND to SANDY GRAVEL; damp   | 20         |                      | 8          | 6<br>7<br>30          | NP        | 6                    |         |                |   |            |                      |            |                       |          |                      |   |

### GENERAL NOTES

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; 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.

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# BORING LOG RWB-23

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.56 ft  
 North: 1866715.95 ft  
 East: 1114366.65 ft  
 Station: 319+46.93  
 Offset: 22.81 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.2          | 6-inch thick, ASPHALT over<br>11-inch thick CONCRETE<br>--PAVEMENT--                                   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.9          | Very stiff, gray, brown, and black<br>SILTY CLAY LOAM, trace gravel;<br>moist<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 3<br>3<br>3           | 2.75<br>P | 26                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.1          | Stiff, black SILTY CLAY, trace<br>roots; moist<br>--BURIED TOPSOIL--<br>--RDR 2--                      |            |                      | 2          | 3<br>3<br>5           | 1.75<br>P | 32                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown to gray SILTY<br>CLAY, trace gravel; moist<br>--RDR 2--                           |            |                      | 3          | 2<br>3<br>4           | 1.80<br>B | 26                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4<br>4<br>6           | 3.20<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 7<br>7<br>11          | 6.15<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 6          | 3<br>4<br>6           | 3.94<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 7          | 4<br>5<br>8           | 3.53<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 633.6          | Very dense DOLOSTONE<br>fragments<br>--RDR 4--<br>--WEATHERED BEDROCK--                                |            |                      | 8          | 50/3                  | NP        | 8                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 18.75 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-09-2017** Complete Drilling **08-09-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-24

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.32 ft  
 North: 1866718.44 ft  
 East: 1114431.72 ft  
 Station: 320+12.04  
 Offset: 22.91 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|-------------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.3          | 13-inch thick, ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |          |                      |         |                | Boring terminated at 18.70 ft |            |                      |            |                       |          |                      |
|         | 648.3          | Stiff, gray and black SILTY CLAY, trace gravel; moist<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 3<br>2<br>3           | 1.00 P   | 21                   |         |                |                               |            |                      |            |                       |          |                      |
|         | 645.8          | Stiff, black and brown SILTY CLAY; moist<br>--BURIED TOPSOIL--<br>--RDR 2--    | 5          |                      | 2          | 2<br>2<br>5           | 1.50 P   | 32                   |         |                |                               | 25         |                      |            |                       |          |                      |
|         | 641.6          | Very stiff to hard, brown to gray SILTY CLAY, trace gravel; moist<br>--RDR 2-- |            |                      | 3          | 3<br>5<br>6           | 4.10 B   | 19                   |         |                |                               |            |                      |            |                       |          |                      |
|         | 640.8          | Soft (0.25P), gray CLAY; wet   | 10         |                      | 4          | 2<br>3<br>3           | 2.95 B   | 16                   |         |                |                               | 30         |                      |            |                       |          |                      |
|         | 633.1          | Hard, gray SILTY CLAY, trace gravel; moist<br>--RDR 2--                        |            |                      | 5          | 3<br>5<br>7           | 4.35 B   | 21                   |         |                |                               |            |                      |            |                       |          |                      |
|         | 632.6          | --difficult drilling from 18.25 feet--   |            |                      | 6          | 4<br>5<br>7           | 5.00 B   | 23                   |         |                |                               | 35         |                      |            |                       |          |                      |
|         | 632.6          | Very dense DOLOSTONE fragments<br>--RDR 4--<br>--WEATHERED BEDROCK--           | 20         |                      | 8          | 50/2                  | NP       |                      |         |                |                               | 40         |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-09-2017** Complete Drilling **08-09-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG RWB-25

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.18 ft  
 North: 1866721.26 ft  
 East: 1114512.66 ft  
 Station: 320+93.02  
 Offset: 22.77 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.9          | 15-inch thick, ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                | GRAVELLY SAND; moist<br>Boring terminated at 20.00 ft |            |                      |            |                       |          |                      |
|         | 648.0          | Medium dense, white<br>GRAVELLY SAND; dry<br>--BASE COURSE--<br>--RDR 2--         |            |                      | 1          | 9<br>8<br>5           | NP        |                      |         |                |   |            |                      |            |                       |          |                      |
|         |                | Brown and black CLAY LOAM,<br>trace gravel; moist<br>--FILL--<br>--RDR 2--        | 5          |                      | 2          | 4<br>3<br>15/1        | NA        | 28                   |         |                |   | 25         |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 3<br>2<br>4           | NA        | 25                   |         |                |   |            |                      |            |                       |          |                      |
|         | 643.2          | Very stiff to hard, brown to gray<br>SILTY CLAY, trace gravel; moist<br>--RDR 2-- | 10         |                      | 4          | 2<br>4<br>6           | 2.79<br>B | 26                   |         |                |   | 30         |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 3<br>5<br>5           | 3.61<br>B | 20                   |         |                |   |            |                      |            |                       |          |                      |
|         | 636.4          | --sand lenses; damp--   | 15         |                      | 6          | 3<br>3<br>4           | 2.30<br>B | 21                   |         |                |   | 35         |                      |            |                       |          |                      |
|         |                |   |            |                      | 7          | 2<br>4<br>7           | 5.41<br>B | 18                   |         |                |   |            |                      |            |                       |          |                      |
|         | 631.7          |   |            |                      | 8          | 4<br>11               | 2.46<br>B | 21                   |         |                |   |            |                      |            |                       |          |                      |
|         | 631.2          | Medium dense, brown   | 20         |                      |            | 10                    |           |                      |         |                |   | 40         |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-09-2017** Complete Drilling **08-09-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\nabla$  **DRY**  
 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.

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# BORING LOG SGB-01

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.70 ft  
 North: 1863426.37 ft  
 East: 1113721.70 ft  
 Station: 201+56.68  
 Offset: 27.37 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 (%) |  |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|--|
|         |                | 4-inch thick ASPHALT over<br>10-inch thick CONCRETE<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 650.5          | Loose, gray SANDY GRAVEL;<br>moist<br>--BASE COURSE--<br>--RDR 2--  |            |                      | 1          | 6<br>6<br>3<br>5      | NP        | 9                    |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 648.7          | Very stiff, brown CLAY to CLAY<br>LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=50, P <sub>L</sub> (%)=22--<br>--%Gravel=4.4--<br>--%Sand=24.6--<br>--%Silt=39.3--<br>--%Clay=31.6--<br>--A-7-6 (19)-- |            |                      | 2          | 8<br>3<br>4<br>5      | 2.05<br>B | 25                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 645.7          | Very loose to loose, brown SILT;<br>moist to wet<br>--RDR 1--   |            |                      | 3          | 3<br>3<br>3<br>3      | NA        |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 4          | 1<br>1<br>1<br>2      | NP        | 27                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 5          | 1<br>2<br>4<br>6      | NP        | 22                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 639.1          | Very stiff (2.5P), brown and gray<br>SILTY CLAY, trace gravel; moist  |            |                      | 6          | 2<br>3<br>4<br>6      | NP        | 22                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 638.2          | Boring terminated at 13.50 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |

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### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-27-2017** Complete Drilling **06-27-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

While Drilling  $\nabla$  **6.00 ft**  
 At Completion of Drilling  $\blacktriangledown$  **11.50 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.



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# BORING LOG SGB-02

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.37 ft  
 North: 1863677.33 ft  
 East: 1113765.70 ft  
 Station: 204+05.89  
 Offset: 25.62 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 (%) |
|---------|----------------|--|-------------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.2          | 4-inch thick ASPHALT over<br>10-inch thick CONCRETE<br>--PAVEMENT--            |                   |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.1          | Loose, gray GRAVELLY SAND;<br>moist<br>--BASE COURSE--                         | 5<br>4<br>4<br>1  |                      | 1          |                       | NP        | 8                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.9          | Medium stiff to stiff, brown CLAY<br>LOAM; moist<br>--FILL--<br>--RDR 1 to 2-- | 2<br>2<br>1<br>1  |                      | 2          |                       | 0.50<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.9          | Stiff to hard, brown SILTY CLAY,<br>trace gravel; moist<br>--RDR 2--           | 2<br>1<br>2<br>3  |                      | 3          |                       | 1.97<br>B | 26                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 2<br>3<br>5<br>9  |                      | 4          |                       | 3.53<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.9          |  | 3<br>5<br>8<br>10 |                      | 5          |                       | 4.84<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.9          | Boring terminated at 11.50 ft  |                   |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-03

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 651.10 ft  
 North: 1863928.84 ft  
 East: 1113706.16 ft  
 Station: 206+59.39  
 Offset: 24.83 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 9-inch thick, ASPHALT over<br>10-inch thick CONCRETE<br>--PAVEMENT--            |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.5          |   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.0          | 6-inch thick, white SANDY<br>GRAVEL<br>--AGGREGATE BASE--                       |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.8          | Hard, brown and gray SILTY<br>CLAY, trace gravel; damp<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 2                     | 4.25     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown to gray SILTY<br>CLAY, trace gravel; damp<br>--RDR 2--              |            |                      | 2          | 3                     | 6.56     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 4                     | 6.15     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 8                     | 6.46     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 5                     | 6.40     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.1          | Boring terminated at 12.00 ft   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; 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.



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# BORING LOG SGB-04

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.72 ft  
 North: 1864216.29 ft  
 East: 1113731.08 ft  
 Station: 209+45.75  
 Offset: 10.42 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 ASPHALT<br>--PAVEMENT--                                   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.7          |   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.2          | 6-inch thick, gray SANDY GRAVEL; dry<br>--AGGREGATE BASE--<br>--RDR 2-- |            |                      | 1          | 10<br>7<br>3          | 1.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.2          | Stiff, dark brown CLAY LOAM; damp<br>--FILL--<br>--RDR 2--              |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown SILTY CLAY, trace gravel; damp<br>--RDR 2--   |            |                      | 2          | 2<br>3<br>5<br>7      | 2.62<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 3<br>5<br>7<br>9      | 5.66<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 4<br>6<br>9<br>11     | 4.26<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 3<br>6<br>8<br>10     | 4.67<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 638.7          | Boring terminated at 11.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-05

WEI Job No.: 491-03-01

Client: **Accurate Group, Inc.**  
 Project: **East Avenue from Joliet Road to 55th Street**  
 Location: **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.55 ft  
 North: 1864530.69 ft  
 East: 1113690.58 ft  
 Station: 212+61.40  
 Offset: 18.75 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.4          | Loose, gray SANDY GRAVEL;<br>dry  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.9          | --BASE COURSE--<br>--RDR 2--  |            |                      | 1          | 3                     | 1.50     | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, brown SILTY CLAY to<br>CLAY LOAM, trace gravel; moist  |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --L <sub>L</sub> (%)=49, P <sub>L</sub> (%)=21--<br>--%Gravel=4.0--<br>--%Sand=15.5--<br>--%Silt=49.1--<br>--%Clay=31.4--<br>--A-7-6 (23)-- |            |                      | 2          | 2                     | 1.80     | 26                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.8          | Very stiff to hard, brown SILTY<br>CLAY, trace gravel; moist  |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   |            |                      | 3          | 2                     | 2.79     | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 3                     | 4.35     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 10                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 3                     | 6.40     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 12                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.0          | Boring terminated at 11.50 ft   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-27-2017** Complete Drilling **06-27-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.





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# BORING LOG SGB-05-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.17 ft  
 North: 1864521.45 ft  
 East: 1113666.93 ft  
 Station: 212+53.02  
 Offset: 42.72 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.4          | Very stiff, brown SILTY CLAY to SILTY CLAY LOAM, trace to some gravel; damp |            |                      | 1          | PUSH                  | 3.50 P   | 15                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown CLAY, some gravel; damp   |            |                      | 2          | PUSH                  | 4.50 P   | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.6          |   | 5          |                      | 3          | PUSH                  | 4.50 P   | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.7          | Brown GRAVELLY LOAM<br>--GEOPROBE REFUSAL--                                 |            |                      | 4          | PUSH                  | NP       |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 6.50 ft  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\nabla$  **DRY**  
 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.



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# BORING LOG SGB-06

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.55 ft  
 North: 1864768.56 ft  
 East: 1113716.78 ft  
 Station: 214+98.18  
 Offset: 15.99 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 13-inch thick ASPHALT<br>--PAVEMENT--                                 |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.5          | Medium dense, brown GRAVELLY LOAM; dry<br>--FILL--<br>--RDR 2--       |            |                      | 1          | 4<br>5<br>6<br>5      | NP       | 12                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.2          | Very stiff to hard, brown SILTY CLAY, trace gravel; damp<br>--RDR 2-- | 5          |                      | 2          | 3<br>3<br>2<br>3      | NA       |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 2<br>3<br>4<br>5      | 2.62 B   | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 3<br>6<br>8<br>12     | 5.33 B   | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 3<br>9<br>10<br>12    | 7.05 B   | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.3          | Boring terminated at 11.25 ft   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\blacktriangledown$  **DRY**  
 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.



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# BORING LOG SGB-07

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 644.83 ft  
 North: 1865085.41 ft  
 East: 1113672.37 ft  
 Station: 218+16.42  
 Offset: 16.99 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick ASPHALT<br>--PAVEMENT--                                |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.7          |  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.2          | Loose, gray SANDY GRAVEL<br>--BASE COURSE--                          |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, brown SILTY CLAY LOAM;<br>moist                               |            |                      | 1          | 3                     | 1.50     | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.8          | --FILL--   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown to gray<br>SILTY CLAY, trace gravel; moist |            |                      |            | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 2          | 3                     | 2.46     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 7                     | 4.92     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 8                     | 6.25     | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.7          | --rock fragments in spoon head--                                     |            |                      | 5          | 4                     | 3.75     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --cobbles/boulder--  |            |                      |            | 50/1                  |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 10.10 ft  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-27-2017** Complete Drilling **06-27-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.



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# BORING LOG SGB-07-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 647.05 ft  
 North: 1865090.94 ft  
 East: 1113648.11 ft  
 Station: 218+22.82  
 Offset: 41.04 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.1          | 12-inch thick, dark brown SILTY LOAM<br>--TOPSOIL--        |            |                      | 1          | P<br>U<br>S<br>H      | 4.50     | 15                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.1          | Hard, dark brown CLAY LOAM, trace gravel; damp             |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.6          | Brown GRAVELLY LOAM; damp                                  |            |                      | 2          | P<br>U<br>S<br>H      | NP       | 10                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.3          | Hard SILTY CLAY LOAM, trace gravel; damp                   | 5          |                      | 3          | P<br>U<br>S<br>H      | 4.00     | 13                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.6          | Gray GRAVELLY LOAM; damp                                   |            |                      | 4          | P<br>U<br>S<br>H      | NP       | 8                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.1          | Very stiff, brown and gray SILTY CLAY, trace gravel; moist |            |                      | 5          | P<br>U<br>S<br>H      | 3.00     | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 10.00 ft                              | 10         |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **M. Schmelzel** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

While Drilling  $\nabla$  **DRY**  
 At Completion of Drilling  $\nabla$  **DRY**  
 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.



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# BORING LOG SGB-08

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.45 ft  
 North: 1865395.43 ft  
 East: 1113695.32 ft  
 Station: 221+25.42  
 Offset: 17.09 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 644.4          | 12-inch thick ASPHALT<br>--PAVEMENT--                                       |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.2          | Brown SANDY GRAVEL; dry<br>--AGGREGATE BASE--<br>--RDR 2--                  | 6          |                      | 1          | 6                     | NP       | 3                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, black SILTY CLAY, trace gravel; moist<br>--FILL--<br>--RDR 2--       | 3          |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 2          |                      | 2          | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.2          | Very stiff to hard, brown SILTY CLAY LOAM, trace gravel; moist<br>--RDR 2-- | 2          |                      | 2          | 2                     | 1.00     | 29                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      |            | 3                     | P        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      | 3          | 3                     | 2.05     | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      |            | 3                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 2          |                      | 4          | 2                     | 4.56     | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 4          |                      |            | 4                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 8          |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 6          |                      | 5          | 6                     | 5.99     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 634.4          | Boring terminated at 11.00 ft   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-09

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 646.72 ft  
 North: 1865705.46 ft  
 East: 1113651.09 ft  
 Station: 224+36.83  
 Offset: 15.96 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 12-inch thick ASPHALT<br>--PAVEMENT--               |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.7          |   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.2          | 6-inch thick, gray SANDY GRAVEL; dry                |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.7          | --BASE COURSE--<br>--RDR 2--                        |            |                      | 1          | 3                     | 2.79 B   | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff, brown CLAY LOAM; damp                   |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--                               |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown SILTY CLAY, trace gravel; damp |            |                      | 2          | 3                     | 1.97 B   | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 5                     | 3.20 B   | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 5                     | 5.25 B   | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 10                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 5                     | 4.59 B   | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 635.7          | Boring terminated at 11.00 ft                       |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-27-2017** Complete Drilling **06-27-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.





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# BORING LOG SGB-10

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 647.85 ft  
 North: 1865993.86 ft  
 East: 1113673.07 ft  
 Station: 227+24.26  
 Offset: 16.39 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 11-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.9          |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Medium dense, brown GRAVELLY LOAM; damp<br>--FILL--<br>--RDR 2--                       |            |                      | 1          | 5<br>9<br>4           | NP        | 15                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.6          |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown CLAY to SILTY CLAY, trace gravel; damp to moist<br>--RDR 2-- |            |                      | 2          | 2<br>2<br>3           | 2.05<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 2<br>3<br>4<br>5      | 2.38<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 2<br>4<br>5<br>7      | 4.18<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 3<br>7<br>10<br>12    | 5.17<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 636.8          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.





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# BORING LOG SGB-11

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.92 ft  
 North: 1866284.74 ft  
 East: 1113627.13 ft  
 Station: 230+16.61  
 Offset: 19.06 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick ASPHALT<br>--PAVEMENT--                         |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.7          | Medium dense, gray SANDY GRAVEL; dry                          |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.9          | --BASE COURSE--<br>--RDR 2--                                  |            |                      | 1          | 7                     | 2.50     | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.9          | Very stiff, dark brown SILTY CLAY LOAM, trace gravel; moist   |            |                      |            | 5                     | P        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--   |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, brown and gray CLAY to SILTY CLAY, trace gravel; moist |            |                      | 2          | 2                     | 1.50     | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   | 5          |                      |            | 2                     | P        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 3          | 3                     | 1.97     | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 641.7          | Very stiff to hard, brown SILTY CLAY, trace gravel; damp      |            |                      |            | 3                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   |            |                      | 4          | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 4                     | 3.12     | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 5                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 10         |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 7                     | 5.99     | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 8                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 11                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.4          | Boring terminated at 11.50 ft                                 |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-27-2017** Complete Drilling **06-27-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; 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.



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# BORING LOG SGB-11-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.31 ft  
 North: 1866290.16 ft  
 East: 1113611.19 ft  
 Station: 230+22.59  
 Offset: 34.80 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.6          | 9-inch thick, dark brown SILTY LOAM<br>--TOPSOIL--                                |            |                      | 1          | P<br>U<br>S<br>H      | > 4.50   | 11                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown and gray CLAY LOAM to SILTY CLAY LOAM, trace gravel; damp<br>--FILL-- |            |                      | 2          | P<br>U<br>S<br>H      | > 4.50   | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 3          | P<br>U<br>S<br>H      | > 4.50   | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.4          | Stiff, brown and gray SILTY CLAY, trace gravel; damp                              |            |                      | 4          | P<br>U<br>S<br>H      | 1.25     | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | P<br>U<br>S<br>H      | 1.00     | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 638.3          | Boring terminated at 10.00 ft   | 10         |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **M. Schmelzel** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG SGB-12

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 650.99 ft  
 North: 1866567.46 ft  
 East: 1113600.64 ft  
 Station: 233+00.09  
 Offset: 35.36 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.5          | 6-inch thick black, SILTY LOAM<br>--TOPSOIL--                              |            |                      |            | 7                     |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.5          | Medium dense, black and brown SILTY LOAM, trace roots and gravel           |            |                      | 1          | 6<br>6<br>6           | NP        | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown, gray, and black SILTY CLAY, trace gravel; moist |            |                      | 2          | 4<br>6<br>9<br>12     | 4.84<br>S | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 3--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 3          | 5<br>5<br>3<br>3      | 2.54<br>B | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.0          | Soft, brown, gray, and black CLAY to SILTY CLAY, trace gravel; moist       |            |                      | 4          | 2<br>2<br>2<br>2      | NA        | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 2<br>2<br>2<br>3      | 0.49<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.5          | Stiff, gray SILTY CLAY, trace gravel; moist                                |            |                      | 6          | 2<br>2<br>3<br>3      | 1.72<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.0          | Boring terminated at 12.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-13

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.96 ft  
 North: 1866969.84 ft  
 East: 1113639.19 ft  
 Station: 237+00.82  
 Offset: 17.63 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 15-inch thick ASPHALT<br>--PAVEMENT--                        |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.7          |  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, black and gray CLAY to SILTY CLAY, trace gravel; damp |            |                      | 1          | 1                     | 1.25     | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.5          | --FILL--   |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff to hard, brown to gray SILTY CLAY, trace gravel; damp  |            |                      | 2          | 6                     | 1.07     | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 3                     | 1.72     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 3                     | 4.59     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 6          | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 10         | 10                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4                     | 6.48     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 7          | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 8          | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 10         | 10                    |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.0          | Boring terminated at 11.00 ft                                |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-08-2017** Complete Drilling **08-08-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-14

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.17 ft  
 North: 1867267.82 ft  
 East: 1113594.54 ft  
 Station: 240+00.22  
 Offset: 16.26 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 (%) |  |
|---------|----------------|---|-------------------------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|--|
|         |                | 13-inch thick ASPHALT<br>--PAVEMENT--   |                               |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 647.1          | Very stiff to hard, brown and gray SILTY CLAY, trace gravel; moist<br>--RDR 2-- |                               |                      | 1          | 2<br>2<br>3<br>4      | 2.54<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |                               |                      | 2          | 2<br>4<br>4<br>6      | 3.12<br>S | 20                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |                               |                      | 3          | 2<br>4<br>4<br>6      | 2.79<br>S | 22                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |                               |                      | 4          | 3<br>3<br>4<br>5      | 3.94<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |                               | 10                   | 5          | 2<br>4<br>7<br>8      | 4.35<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 637.2          |   | Boring terminated at 11.00 ft |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-14-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.04 ft  
 North: 1867260.30 ft  
 East: 1113584.09 ft  
 Station: 239+93.08  
 Offset: 26.98 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.3          | 9-inch thick, dark brown SILTY LOAM<br>--TOPSOIL--   |            |                      | 1          | P<br>U<br>S<br>H      | 4.50<br>P | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.0          | Hard, brown SILTY LOAM to CLAY LOAM, trace gravel; damp<br>--FILL--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff, brown CLAY to SILTY CLAY, trace gravel; damp<br>--L <sub>L</sub> (%)=47, P <sub>L</sub> (%)=21--<br>--%Gravel=0.1--<br>--%Sand=6.0--<br>--%Silt=51.1--<br>--%Clay=42.8--<br>--A-7-6 (27)-- | 5          |                      | 2          | P<br>U<br>S<br>H      | 3.50<br>P | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.5          |  |            |                      | 3          | P<br>U<br>S<br>H      | 2.00<br>P | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray SILTY CLAY, trace gravel; damp  |            |                      | 4          | P<br>U<br>S<br>H      | 3.75<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 638.0          |  | 10         |                      | 5          | P<br>U<br>S<br>H      | 4.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 10.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **M. Schmelzel** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG SGB-15

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 648.17 ft  
 North: 1867567.94 ft  
 East: 1113623.09 ft  
 Station: 242+99.11  
 Offset: 23.06 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 13-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.1          |  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.83         | 646.83-inch thick, black GRAVEL<br>--BASE COURSE--   |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Medium stiff, brown and black CLAY LOAM to SILTY CLAY LOAM, trace gravel; damp   |            |                      | 1          | 2                     | 0.75     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=41, P <sub>L</sub> (%)=15--<br>--%Gravel=8.3--<br>--%Sand=24.1--<br>--%Silt=47.1--<br>--%Clay=20.4--<br>--A-7-6 (15)-- |            |                      |            | 2                     | 0.75     | 15                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.9          |  |            |                      | 2          | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown SILTY CLAY, trace gravel; damp   |            |                      | 3          | 4                     | 4.50     | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4                     | 2.21     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 4                     | 4.35     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.1          | Boring terminated at 11.10 ft  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-08-2017** Complete Drilling **08-08-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-16

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.49 ft  
 North: 1866626.31 ft  
 East: 1113107.60 ft  
 Station: 306+85.44  
 Offset: 20.66 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.2          | 5-inch thick, ASPHALT over<br>11-inch thick CONCRETE<br>--PAVEMENT--                                     |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.7          | White SANDY GRAVEL   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, black and gray SILTY CLAY, trace gravel; moist<br>--FILL--<br>--RDR 2--                           |            |                      | 1          | 2<br>1<br>3           | 1.25<br>P | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.2          | Stiff to very stiff, black, brown, and gray CLAY to SILTY CLAY, trace gravel; damp to moist<br>--RDR 2-- |            |                      | 2          | 2<br>3<br>4<br>4      | 1.80<br>B | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 2<br>3<br>4<br>5      | 1.56<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 1<br>2<br>2<br>3      | 2.05<br>B | 30                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      | 5          | 2<br>3<br>5<br>6      | 3.77<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.5          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-14-2017** Complete Drilling **08-14-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.





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# BORING LOG SGB-17

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 652.01 ft  
 North: 1866693.93 ft  
 East: 1113404.82 ft  
 Station: 309+84.93  
 Offset: 36.03 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|-------------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 651.6          | 5-inch thick, black SILTY LOAM<br>--TOPSOIL--   |            |                      |            | 2                     |          |                      |         |                | --RDR 2--                     |            |                      | 8          | 3                     | 2.30     | 22                   |
|         |                | Stiff to hard, black, brown and gray CLAY to SILTY CLAY, trace gravel; damp   |            |                      | 1          | 4                     | 2.94     | 16                   |         | 636.0          | Boring terminated at 16.00 ft |            |                      |            | 5                     |          |                      |
|         |                | --FILL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=42, P <sub>L</sub> (%)=17--<br>--%Gravel=1.6--<br>--%Sand=6.9--<br>--%Silt=48.7--<br>--%Clay=42.8--<br>--A-7-6 (24)-- |            |                      | 2          | 4                     | 4.02     | 20                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 3          | 2                     | 1.64     | 22                   |         |                |                               |            |                      |            |                       |          |                      |
|         | 645.8          | Loose, white and black GRAVELLY SAND; damp  |            |                      | 4          | 5                     | NP       | 6                    |         |                |                               |            |                      |            |                       |          |                      |
|         |                | --FILL--  |            |                      | 4          | 8                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         | 644.3          | Soft to medium stiff, black, brown, and gray CLAY to SILTY CLAY; moist to wet   |            |                      | 5          | 2                     | 0.49     | 25                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   |            |                      | 5          | 1                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   | 10         |                      | 6          | 1                     | 0.25     | 24                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                | --gravel lenses; wet--  |            |                      | 6          | 1                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 7          | 3                     | 0.90     | 24                   |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 7          | 3                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 7          | 3                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         | 637.6          | Very stiff, gray SILTY CLAY, trace gravel   | 15         |                      |            | 1                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |
|         |                |   |            |                      |            | 2                     |          |                      |         |                |                               |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-14-2017** Complete Drilling **08-14-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG SGB-18

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.15 ft  
 North: 1866693.65 ft  
 East: 1113697.25 ft  
 Station: 312+77.16  
 Offset: 25.04 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 15-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.9          | Loose, white and brown GRAVELLY SAND; dry<br>--BASE COURSE--  |            |                      | 1          | 5<br>3<br>5           | NP        | 6                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.7          | --RDR 2--   |            |                      |            | 5                     |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Medium stiff to stiff, brown, gray, and black CLAY to CLAY LOAM, trace gravel; moist<br>--FILL--<br>--RDR 2--                             |            |                      | 2          | 3<br>3<br>2<br>2      | 1.72<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --L <sub>L</sub> (%)=40, P <sub>L</sub> (%)=20--<br>--%Gravel=9.2--<br>--%Sand=19.7--<br>--%Silt=44.3--<br>--%Clay=26.8--<br>--A-6 (13)-- | 5          |                      |            | 3<br>2<br>2<br>2      | 0.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 1<br>2<br>3<br>3      | 1.31<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 10         |                      |            | 1<br>2<br>3<br>3      | 0.74<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.4          | Medium stiff, black, brown, and gray CLAY to SILTY CLAY, trace roots, and gravel; moist<br>--RDR 2--                                      |            |                      | 6          | 1<br>2<br>2<br>3      | 0.98<br>B | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.2          | White GRAVELLY SAND; moist  |            |                      | 7          | 2<br>2<br>2<br>2      | 0.50<br>P | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 636.2          | Boring terminated at 15.00 ft   | 15         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG SGB-18-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.40 ft  
 North: 1866717.81 ft  
 East: 1113709.43 ft  
 Station: 312+90.21  
 Offset: 48.74 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-------------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.9          | 6-inch thick, brown SILTY LOAM<br>--TOPSOIL--      |            |                      | 1          | P<br>U<br>S<br>H      | NP          | 13                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.4          | Brown SILTY LOAM, trace roots;<br>damp             |            |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY LOAM,<br>trace gravel; damp |            |                      | 2          | P<br>U<br>S<br>H      | > 4.50<br>P | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 3          | P<br>U<br>S<br>H      | > 4.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.4          | Boring terminated at 6.00 ft                       |            |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 15         |                      |            |                       |             |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

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.



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# BORING LOG SGB-19

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.52 ft  
 North: 1866655.38 ft  
 East: 1114012.24 ft  
 Station: 315+90.53  
 Offset: 24.74 RT

| Profile | Elevation (ft) | SOIL AND ROCK DESCRIPTION  | Depth (ft) | Sample Type recovery | Sample No. | SPT Values (blw/6 in) | Qu (tsf)  | Moisture Content (%) | Profile | Elevation (ft) | SOIL AND ROCK DESCRIPTION | Depth (ft) | Sample Type recovery | Sample No. | SPT Values (blw/6 in) | Qu (tsf) | Moisture Content (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.3          | 6-inch thick ASPHALT over<br>8-inch thick CONCRETE<br>--PAVEMENT--                     |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.5          | Medium stiff, black SILTY CLAY,<br>trace roots; dry<br>--BURIED TOPSOIL--<br>--RDR 2-- | 1          |                      | 1          | 2<br>3<br>4<br>5      | 0.98<br>B | 29                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray<br>SILTY CLAY, trace gravel; damp<br>--RDR 2--      | 2          |                      | 2          | 3<br>6<br>6<br>7      | 3.44<br>S | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 3          |                      | 3          | 3<br>4<br>6<br>8      | 5.08<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 4          |                      | 4          | 4<br>6<br>7<br>7      | 5.41<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 5          | 3<br>5<br>8<br>8      | 5.08<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.5          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-20

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.96 ft  
 North: 1866712.74 ft  
 East: 1114251.08 ft  
 Station: 318+31.31  
 Offset: 23.84 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.2          | 11-inch thick, ASPHALT over<br>10-inch thick CONCRETE<br>--PAVEMENT--              |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Loose, white GRAVELLY SAND;<br>dry to moist<br>--FILL--<br>--RDR 2--               | 5          |                      | 1          | 5<br>4<br>4<br>2      | NP        | 4                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      | 2          | 2<br>1<br>4<br>4      | NP        | 4                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --moist--  |            |                      | 3          | 2<br>2<br>2<br>2      | NP        | 6                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.5          | Very stiff to hard, brown and gray<br>SILTY CLAY, trace gravel; moist<br>--RDR 2-- | 10         |                      | 4          | 2<br>1<br>2<br>3      | 2.95<br>B | 25                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 6<br>5<br>9<br>11     | 7.46<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.0          | Boring terminated at 12.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-09-2017** Complete Drilling **08-09-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.

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# BORING LOG SGB-20-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 647.94 ft  
 North: 1866735.21 ft  
 East: 1114241.26 ft  
 Station: 318+22.33  
 Offset: 46.65 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.73         | inch thick, dark brown SILTY LOAM; damp<br>--TOPSOIL--<br>Hard, brown and gray SILTY CLAY, trace gravel; damp<br>--FILL--                |            |                      | 1          | P<br>U<br>S<br>H      | NA        | 14                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 2          | P<br>U<br>S<br>H      | 4.00<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 642.9          | Medium stiff, brown, black, and gray CLAY to SILTY CLAY; moist   | 5          |                      | 3          | P<br>U<br>S<br>H      | 0.75<br>P | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.4          | Hard, brown SILTY CLAY, trace gravel; damp   |            |                      | 4          | P<br>U<br>S<br>H      | 4.00<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.9          | --L <sub>L</sub> (%)=38, P <sub>L</sub> (%)=20--<br>--%Gravel=0.8--<br>--%Sand=8.5--<br>--%Silt=50.2--<br>--%Clay=40.5--<br>--A-6 (17)-- | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 8.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

While Drilling  **DRY**  
 At Completion of Drilling  **DRY**  
 Time After Drilling **NA**  
 Depth to Water  **NA**

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# BORING LOG SGB-21

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.14 ft  
 North: 1866673.97 ft  
 East: 1114550.61 ft  
 Station: 321+29.22  
 Offset: 25.88 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick, ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 650.0          | Very stiff to hard, black and brown SILTY CLAY, trace gravel; moist<br>--FILL--<br>--RDR 2-- |            |                      | 1          | 4<br>3<br>4<br>5      | 2.95<br>S | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.6          | Medium stiff (0.75P), black and brown CLAY, trace gravel; moist<br>--RDR 2--                 |            |                      | 2          | 5<br>3<br>2<br>4      | 4.50<br>P | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.5          | Very stiff to hard, brown and gray SILTY CLAY, trace gravel; moist<br>--RDR 2--              |            |                      | 3          | 2<br>2<br>3<br>3      | 2.25<br>P | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 3<br>4<br>5<br>6      | 4.26<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 2<br>4<br>6<br>8      | 5.33<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.0          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-14-2017** Complete Drilling **08-14-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-22

WEI Job No.: 491-03-01

Client: **Accurate Group, Inc.**  
 Project: **East Avenue from Joliet Road to 55th Street**  
 Location: **Cook County, IL**

Datum: NGVD  
 Elevation: 651.17 ft  
 North: 1866728.23 ft  
 East: 1114836.56 ft  
 Station: 324+16.97  
 Offset: 17.87 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 (%) |
|---------|----------------|--|------------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.8          | 4-inch thick ASPHALT over<br>12-inch thick CONCRETE<br>--PAVEMENT--                                      |                  |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.7          | Medium stiff, black SILTY CLAY,<br>trace roots; moist<br>--BURIED TOPSOIL--<br>--RDR 2--                 | 2<br>6           |                      | 1          | 5                     | 0.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray<br>SILTY CLAY to SILTY CLAY<br>LOAM, trace gravel; moist<br>--RDR 2-- | 3<br>4<br>6<br>5 |                      | 2          |                       | 3.61<br>B | 16                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 2<br>4<br>4<br>5 |                      | 3          |                       | 5.25<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 2<br>3<br>4<br>5 |                      | 4          |                       | 2.54<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 2<br>3<br>4<br>7 |                      | 5          |                       | 2.95<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.8          | Boring terminated at 11.00 ft  |                  |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-10-2017** Complete Drilling **08-10-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.





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# BORING LOG SGB-23

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.02 ft  
 North: 1866691.10 ft  
 East: 1115096.51 ft  
 Station: 326+75.39  
 Offset: 28.75 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.8          | White SANDY GRAVEL<br>--SHOULDER--                            |            |                      |            | 14                    |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Medium dense, brown, medium SAND, some gravel; dry            |            |                      | 1          | 9<br>6                | NP        | 4                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.5          | --FILL--<br>--RDR 3--   |            |                      |            | 5                     |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Stiff, brown and black CLAY LOAM, trace gravel; moist         |            |                      | 2          | 2<br>3                | 1.15<br>S | 27                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--   |            |                      |            | 3<br>4                |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.3          | Stiff to hard, brown and gray SILTY CLAY, trace gravel; moist |            |                      |            | 3<br>1<br>3<br>4      | 1.39<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--   |            |                      |            | 3<br>3<br>5<br>6      | 1.80<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 3<br>5<br>7<br>6      | 4.51<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.0          | Boring terminated at 10.00 ft                                 | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-14-2017** Complete Drilling **08-14-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-24

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 649.36 ft  
 North: 1866745.36 ft  
 East: 1115345.84 ft  
 Station: 329+26.53  
 Offset: 16.34 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 648.4          | 2-inch thick, ASPHALT over<br>10-inch thick CONCRETE<br>--PAVEMENT--  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY LOAM,<br>trace gravel; moist<br>--FILL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=35, P <sub>L</sub> (%)=17--<br>--%Gravel=1.3--<br>--%Sand=10.5--<br>--%Silt=61.1--<br>--%Clay=27.2--<br>--A-6 (15)-- | 8          |                      | 1          | 8                     | NA       | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 7          |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 8          |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 8          |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 2          | 5                     | 5.25     | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     | S        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 643.1          | Hard, brown SILTY CLAY, trace<br>gravel; moist<br>--RDR 2--   | 3          |                      | 3          | 3                     | 4.51     | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 4          |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 7          |                      |            | 7                     | S        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 8          |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      | 4          | 3                     | 6.07     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      |            | 5                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 8          |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 638.4          | Boring terminated at 11.00 ft   | 10         |                      | 5          | 6                     | 6.15     | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 9          |                      |            | 9                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **08-09-2017** Complete Drilling **08-09-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; 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.



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# BORING LOG SGB-24-HA

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 649.35 ft  
 North: 1866763.78 ft  
 East: 1115341.77 ft  
 Station: 329+23.14  
 Offset: 34.89 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 (%) |  |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|--|
|         | 648.8          | 6-inch thick, dark brown SILTY LOAM<br>--TOPSOIL--<br>Very stiff to hard, brown and gray SILTY CLAY, trace gravel; damp |            |                      | 1          | P<br>U<br>S<br>H      | 2.50<br>P | 18                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 2          | P<br>U<br>S<br>H      | 2.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   | 5          |                      | 3          | P<br>U<br>S<br>H      | 4.50<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   |            |                      | 4          | P<br>U<br>S<br>H      | 4.00<br>P | 21                   |         |                |                           |            |                      |            |                       |          |                      |  |
|         | 641.3          | Boring terminated at 8.00 ft  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |
|         |                |   | 15         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |  |

### GENERAL NOTES

Begin Drilling **09-26-2017** Complete Drilling **09-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **GEOPROBE**  
 Driller **M&T** Logger **T. Rothschild** Checked by **C. Marin**  
 Drilling Method **1" IDA Pneumatic Geoprobe LB Sampler**

### 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.



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# BORING LOG SGB-25

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 647.38 ft  
 North: 1866714.65 ft  
 East: 1115705.57 ft  
 Station: 332+84.89  
 Offset: 27.52 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 646.8          | 6.6-inch thick, ASPHALT<br>--SHOULDER PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 645.9          | Stiff(1.75P), black and gray<br>CLAY LOAM, trace gravel; moist<br>--FILL--  |            |                      | 1          | 3<br>5<br>5<br>6      | 4.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Very stiff to hard, brown and gray<br>SILTY CLAY, trace gravel; moist<br>--RDR 2--  |            |                      | 2          | 3<br>5<br>7<br>8      | 3.77<br>S | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --L <sub>L</sub> (%)=42, P <sub>L</sub> (%)=16--<br>--%Gravel=1.2--<br>--%Sand=11.9--<br>--%Silt=54.3--<br>--%Clay=32.7--<br>--A-7-6 (22)-- | 5          |                      | 3          | 3<br>3<br>6<br>8      | 4.84<br>S | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 4<br>5<br>7<br>8      | 5.99<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 10         |                      | 5          | 3<br>4<br>7<br>7      | 2.79<br>S | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 636.4          | Boring terminated at 11.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-14-2017** Complete Drilling **08-14-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-26

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.22 ft  
 North: 1863397.96 ft  
 East: 1113096.64 ft  
 Station: 105+56.99  
 Offset: 27.89 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.0          | 14.5-inch thick, ASPHALT<br>--PAVEMENT--                               |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.7          | Medium dense, white and brown, medium SAND, some gravel<br>--FILL--    |            |                      | 1          | 8<br>5<br>5           | NP        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.7          | Very stiff, brown and black SILTY CLAY; moist<br>--FILL--<br>--RDR 2-- |            |                      | 2          | 4<br>4<br>2<br>2      | 2.46<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.7          | Loose, brown and white GRAVELLY SAND; wet<br>--FILL--                  |            |                      | 3          | 2<br>2<br>2<br>3      | NP        | 9                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace gravel<br>--RDR 2--                      |            |                      | 4          | 3<br>4<br>6<br>8      | 4.02<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 3<br>5<br>6<br>7      | 4.76<br>B | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.2          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

While Drilling  $\nabla$  **5.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **9.00 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.



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# BORING LOG SGB-26-B

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.09 ft  
 North: 1863391.68 ft  
 East: 1113097.50 ft  
 Station: 105+54.45  
 Offset: 33.70 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 (%) |
|---------|----------------|--------------------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 650.6          | Black and brown SILTY LOAM; moist    |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--                             |            |                      | 1          | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace gravel |            |                      |            | 3                     | 4.50     | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.1          | --FILL--                             |            |                      |            | 4                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Boring terminated at 2.00 ft         |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |                                      | 5          |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |                                      | 10         |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |                                      | 15         |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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

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# BORING LOG SGB-27

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.91 ft  
 North: 1863571.79 ft  
 East: 1113276.52 ft  
 Station: 108+01.08  
 Offset: 26.81 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick, ASPHALT<br>--PAVEMENT--       |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.7          | Loose, brown GRAVELLY SAND; dry              |            |                      |            | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.9          | --AGGREGATE BASE--                           |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.2          | Stiff, dark gray and brown SILTY CLAY; moist |            |                      | 1          | 2                     | NP       | 5                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--                                     |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace gravel; moist  |            |                      |            | 3                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--                                    |            |                      | 2          | 4                     | 4.10     | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 6                     | S        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 7                     | 5.74     | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 10                    | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 5                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 6                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 9                     | 5.99     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 11                    | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 7                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 8                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      | 5          | 12                    | 5.99     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      |            | 15                    | B        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.9          | Boring terminated at 11.00 ft                |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

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### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-28

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.75 ft  
 North: 1863666.52 ft  
 East: 1113529.41 ft  
 Station: 110+66.30  
 Offset: 24.04 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 12-inch thick, ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.7          | 2-inch thick, brown SANDY GRAVEL<br>--AGGREGATE BASE--<br>Stiff to very stiff, black and gray SILTY CLAY, trace gravel; damp<br>--FILL--<br>--RDR 2--                          |            |                      | 1          | 3                     | 2.75<br>P | 18                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.6          |  | 4          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 647.2          | Stiff, black and gray SILTY CLAY, trace organic matter; moist<br>--BURIED TOPSOIL--<br>Very stiff to hard, brown and gray CLAY to SILTY CLAY, trace gravel; moist<br>--RDR 2-- |            |                      | 2          | 6                     | 1.89<br>B | 28                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.2          |  | 2          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 3          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 4          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 3          | 2                     | 2.21<br>B | 27                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 3          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 4          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 4          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4                     | 4.51<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 5          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 7          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 7          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 7          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 5                     | 6.31<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 6          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 9          |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  | 10         |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.7          | Boring terminated at 11.00 ft  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.





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# BORING LOG SGB-28-B

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 651.24 ft  
 North: 1863657.48 ft  
 East: 1113530.10 ft  
 Station: 110+62.18  
 Offset: 32.11 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 651.03         | 3-inch thick, black SILTY LOAM, trace organic<br>--BURIED TOPSOIL--<br>Stiff, black and brown SILTY CLAY LOAM, little gravel; moist<br>--FILL-- | 0          |                      | 1          | 8<br>5<br>2<br>2      | 1.50<br>P | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.2          | Boring terminated at 2.00 ft  | 2.00       |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; backfilled upon completion**

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.



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# BORING LOG SGB-29

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NGVD  
 Elevation: 650.66 ft  
 North: 1863723.05 ft  
 East: 1113524.33 ft  
 Station: 110+91.40  
 Offset: 26.87 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 13-inch thick, ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.6          | Loose, brown and white<br>GRAVELLY SAND; dry<br>--AGGREGATE BASE--  |            |                      | 1          | 2<br>4<br>3<br>3      | NP        | 7                    |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.2          | Stiff, black SILTY CLAY LOAM,<br>trace roots<br>--BURIED TOPSOIL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=58, P <sub>L</sub> (%)=22--<br>--%Gravel=0.1--<br>--%Sand=8.7--<br>--%Silt=62.0--<br>--%Clay=29.2--<br>--A-7-6 (36)-- |            |                      | 2          | 3<br>2<br>2<br>3      | 1.50<br>P | 34                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.8          | Stiff to hard, brown to gray SILTY<br>CLAY, trace gravel<br>--RDR 2--   |            |                      | 3          | 2<br>2<br>5<br>5      | 4.59<br>B | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 4          | 4<br>5<br>7<br>5      | 3.69<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   |            |                      | 5          | 6<br>6<br>7<br>8      | 4.02<br>B | 22                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.7          | Boring terminated at 11.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **08-18-2017** Complete Drilling **08-18-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **B57 TMR [100%]**  
 Driller **N&N** Logger **A. Tomaras** Checked by **C. Marin**  
 Drilling Method **2.25 HSA; 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.



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# BORING LOG SGB-30

WEI Job No.: 491-03-01

Client: **Accurate Group, Inc.**  
 Project: **East Avenue from Joliet Road to 55th Street**  
 Location: **Cook County, IL**

Datum: NAVD 88  
 Elevation: 650.74 ft  
 North: 1863902.36 ft  
 East: 1113916.17 ft  
 Station: 115+19.30  
 Offset: 24.16 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 (%) |
|---------|----------------|--|------------|----------------------|------------|-----------------------|----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         |                | 14-inch thick ASPHALT<br>--PAVEMENT--  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 649.6          | 8-inch thick CRUSHED STONE;<br>wet   |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 648.9          | --AGGREGATE BASE--<br>Medium stiff, brown SILTY CLAY,<br>trace gravel; moist   |            |                      | 1          | 2                     | 0.74     | 24                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --FILL--<br>--RDR 2--<br>--L <sub>L</sub> (%)=42, P <sub>L</sub> (%)=21--<br>--%Gravel=0.7--<br>--%Sand=15.7--<br>--%Silt=52.3--<br>--%Clay=31.3--<br>--A-7-6 (18)-- |            |                      |            | 2                     |          |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.5          | Hard, brown SILTY CLAY, trace<br>gravel; damp  |            |                      | 2          | 2                     | NR       |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | --RDR 2--  |            |                      | 3          | 3                     | 4.10     | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 4          | 4                     | 4.51     | 17                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |  |            |                      | 5          | 5                     | 5.33     | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.5          | Boring terminated at 11.25 ft  |            |                      |            |                       |          |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

While Drilling  $\nabla$  **1.50 ft**  
 At Completion of Drilling  $\blacktriangledown$  **DRY**  
 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.



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# BORING LOG SGB-31

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 649.97 ft  
 North: 1864060.75 ft  
 East: 1114087.49 ft  
 Station: 117+48.04  
 Offset: 21.82 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 (%) |
|---------|----------------|---|------------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 649.0          | 5-inch thick ASPHALT over<br>7-inch thick CONCRETE<br>--PAVEMENT--            |                  |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Loose to medium dense, brown<br>SANDY GRAVEL; moist<br>--FILL--<br>--RDR 2--  | 8<br>8<br>7<br>7 |                      | 1          |                       | NP        | 7                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 7<br>5<br>4<br>3 |                      | 2          |                       | NP        |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 644.6          | Very loose to medium dense,<br>brown SILT; wet to saturated<br>--RDR 1 to 2-- | 2<br>1<br>1<br>1 |                      | 3          |                       | NP        | 9                    |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3<br>5<br>6<br>8 |                      | 4          |                       | NP        | 23                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 640.0          | Very stiff, gray SILTY CLAY,<br>trace gravel; moist<br>--RDR 2--              | 3<br>4<br>5<br>7 |                      | 5          |                       | 2.54<br>B | 21                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 639.0          | Boring terminated at 11.00 ft   |                  |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

### WATER LEVEL DATA

While Drilling  $\nabla$  **7.00 ft**  
 At Completion of Drilling  $\blacktriangledown$  **9.00 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.



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# BORING LOG SGB-32

WEI Job No.: 491-03-01

Client **Accurate Group, Inc.**  
 Project **East Avenue from Joliet Road to 55th Street**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.81 ft  
 North: 1864179.71 ft  
 East: 1114365.80 ft  
 Station: 120+47.58  
 Offset: 21.58 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 (%) |
|---------|----------------|---|------------|----------------------|------------|-----------------------|-----------|----------------------|---------|----------------|---------------------------|------------|----------------------|------------|-----------------------|----------|----------------------|
|         | 647.8          | 12-inch thick ASPHALT<br>--PAVEMENT--   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |
|         | 646.1          | Very stiff, dark brown CLAY LOAM, concrete fragments; damp<br>--FILL--<br>--RDR 2-- | 1          |                      | 1          | 2<br>34<br>9<br>7     | 2.50<br>P | 14                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                | Hard, brown SILTY CLAY, trace gravel; damp<br>--RDR 2--                             | 2          |                      | 2          | 4<br>5<br>6<br>8      | 4.50<br>P | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 3          |                      | 3          | 6<br>10<br>11         | 5.25<br>B | 19                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 4          |                      | 4          | 6<br>9<br>11          | 6.48<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         |                |   | 5          |                      | 5          | 6<br>10<br>12         | 5.82<br>B | 20                   |         |                |                           |            |                      |            |                       |          |                      |
|         | 637.8          | Boring terminated at 11.00 ft   |            |                      |            |                       |           |                      |         |                |                           |            |                      |            |                       |          |                      |

### GENERAL NOTES

### WATER LEVEL DATA

Begin Drilling **06-26-2017** Complete Drilling **06-26-2017**  
 Drilling Contractor **Wang Testing Services** Drill Rig **CME55 TMR [85%]**  
 Driller **R&J** Logger **F. Bozga** Checked by **C. Marin**  
 Drilling Method **3.25 HSA; backfilled upon completion**

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.

## **APPENDIX B**



State Job Number: D-91-321-16 Projec East Ave from Joliet to 55 St. Route: Joliet Rd, East Ave, 55<sup>th</sup> St.

Section: \_\_\_\_\_ City or Cook County Date: 5/17/2018

ADT: NA Year: \_\_\_\_\_ Design \_\_\_\_\_ Class Highway: NA

Passenger Cars Per Day: \_\_\_\_\_ Trucks S.U. Per \_\_\_\_\_ Trucks M.U. Per Day: \_\_\_\_\_

Pavement Structure: \_\_\_\_\_

Type Surface Course: NA Thickness: NA

Type Base Course: NA Thickness: NA

Type Subbase Material: NA Thickness: NA

| Sta. to Sta.                                  | Joliet Road<br>105+50 to 115+20 | East Avenue<br>203+00 to 244+10 | 55 <sup>th</sup> Street<br>305+83 to 349+35 | + to + |
|---|---------------------------------|---------------------------------|---|--------|
| *Sta. of Test                                 | 110+91.40                       | 220+88.56                       | 329+26.53                                   |        |
| *Drainage Class                               | Poor                            | Poor                            | Poor  |        |
| *Ave. Frost Penetration                       | 42 in                           | 42 in                           | 42  |        |
| Illinois Textural Classification              | Silty Clay Loam                 | Silty Clay                      | Silty Clay Loam                             |        |
| Classification and Group Index (AASHTO M 145) | A-7-6 (36)                      | A-6 (17)                        | A-6 (15)                                    |        |
| *Percent Silt (AASHTO T 88)                   | 62.0                            | 51.0                            | 61.1  |        |
| *Illinois Bearing Ratio (%)                   |                                 |                                 |   |        |
| Std. Dry Density (IL Mod. AASHTO T 99)        |                                 |                                 |   |        |
| Optimum Moisture (IL Mod AASHTO T 99)         |                                 |                                 |   |        |

\* Indicates worst condition within the above station limits.

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**SOIL TEST DATA**

**ROUTE**  
East Avenue from Joliet Road to 55th Street

**PROJECT**  
491-03-01

**SECTION**  
Joliet Road (Sta. 105+50.00 to Sta. 115+20.00)

**COUNTY**  
Cook County

| Lab. No.  | SGB-29 No.2     | SGB-30 No.1 |
|---|-----------------|-------------|
| Station ft)   | 110+91.40       | 115+19.30   |
| Offset (ft)   | 26.87 LT        | 24.16 RT    |
| Depth (ft)  | 3               | 1.25        |
| AASHTO M 145<br>Classification and Group Index        | A-7-6 (36)      | A-7-6 (18)  |
| Illinois Textural Classification<br>(Illinois Method) | Silty Clay Loam | Silty Clay  |
| Gradation--Passing 1" Sieve %                         |                 |             |
| --" 3/4" Sieve %                                      |                 |             |
| --" 1/2" Sieve %                                      |                 |             |
| --" No.4 Sieve %                                      | 100.0           | 99.8        |
| --" No.10 Sieve %                                     | 99.9            | 99.3        |
| --" No.40 Sieve %                                     | 97.9            | 95.3        |
| --" No.100 Sieve %                                    | 93.2            | 88.1        |
| --" No.200 Sieve %                                    | 91.2            | 83.6        |
| Sand % (AASHTO T 88)                                  | 8.7             | 15.7        |
| Silt % (AASHTO T 88)                                  | 62.0            | 52.3        |
| Clay % (AASHTO T 88)                                  | 29.2            | 31.3        |
| Liquid limit % (AASHTO T 89)                          | 58.0            | 42.0        |
| Plasticity index % (AASHTO T 90)                      | 36.0            | 21.0        |
| IBR % (Illinois Method)                               |                 |             |
| Standard Dry Density % (AASHTO T 99)                  |                 |             |
| Optimum Moisture % (AASHTO T 99)                      |                 |             |
| Subgrade Support Rating                               | POOR            | FAIR        |
| Insitu Moisture % (AASHTO T 99)                       | 34              | 24          |



**SOIL TEST DATA**

**ROUTE**  
East Avenue from Joliet Road to 55th Street

**PROJECT**  
491-03-01

**SECTION**  
East Avenue (Sta. 203+00.00 to Sta. 244+10.34)

**COUNTY**  
Cook County

| Lab. No.  | SGB-01 No.2 | SGB-05 No.2 | RWB-05 No.3 | SGB-09-HA No.2 |
|---|-------------|-------------|-------------|----------------|
| Station ft)   | 201+56.68   | 212+61.40   | 220+88.56   | 224+32.72      |
| Offset (ft)   | 27.37 LT    | 18.75 LT    | 16.35 RT    | 39.71 LT       |
| Depth (ft)  | 3.5         | 3.5         | 6           | 2              |
| AASHTO M 145<br>Classification and Group Index        | A-7-6 (19)  | A-7-6 (23)  | A-6 (17)    | A-6 (10)       |
| Illinois Textural Classification<br>(Illinois Method) | Clay        | Silty Clay  | Silty Clay  | Gravelly Clay  |
| Gradation--Passing 1" Sieve %                         |             |             |             |                |
| --"-- 3/4" Sieve %                                    |             |             |             | 100.0          |
| --"-- 1/2" Sieve %                                    |             |             |             | 93.0           |
| --"-- No.4 Sieve %                                    | 99.6        | 98.0        | 99.9        | 84.5           |
| --"-- No.10 Sieve %                                   | 95.6        | 96.0        | 99.2        | 79.5           |
| --"-- No.40 Sieve %                                   | 87.4        | 91.0        | 95.8        | 70.4           |
| --"-- No.100 Sieve %                                  | 76.5        | 84.5        | 92.1        | 64.5           |
| --"-- No.200 Sieve %                                  | 70.9        | 80.5        | 90.0        | 61.4           |
| Sand % (AASHTO T 88)                                  | 24.6        | 15.5        | 9.2         | 18.1           |
| Silt % (AASHTO T 88)                                  | 39.3        | 49.1        | 51.0        | 35.4           |
| Clay % (AASHTO T 88)                                  | 31.6        | 31.4        | 39.0        | 26.0           |
| Liquid limit % (AASHTO T 89)                          | 50.0        | 49.0        | 39.0        | 40.0           |
| Plasticity index % (AASHTO T 90)                      | 28.0        | 28.0        | 18.0        | 20.0           |
| IBR % (Illinois Method)                               |             |             |             |                |
| Standard Dry Density % (AASHTO T 99)                  |             |             |             |                |
| Optimum Moisture % (AASHTO T 99)                      |             |             |             |                |
| Subgrade Support Rating                               | FAIR        | FAIR        | FAIR        | POOR           |
| Insitu Moisture % (AASHTO T 99)                       | 25          | 26          | 23          | 15             |

**SOIL TEST DATA**

**ROUTE**  
East Avenue from Joliet Road to 55th Street

**PROJECT**  
491-03-01

**SECTION**  
East Avenue (Sta. 203+00.00 to Sta. 244+10.34)

**COUNTY**  
Cook County

| Lab. No.  | RWB-19 No.2 | SGB-14-HA No.2 | SGB-15 No.2     | BPB-06 No.2     |
|---|-------------|----------------|-----------------|-----------------|
| Station ft)   | 231+26.98   | 239+93.08      | 242+99.11       | 248+72.55       |
| Offset (ft)   | 16.49 RT    | 26.98 LT       | 23.06 RT        | 40.02 RT        |
| Depth (ft)  | 3.5         | 2              | 3.1             | 2.0             |
| AASHTO M 145<br>Classification and Group Index        | A-7-6 (17)  | A-7-6 (27)     | A-7-6 (15)      | A-6 (12)        |
| Illinois Textural Classification<br>(Illinois Method) | Silty Clay  | Silty Clay     | Silty Clay Loam | Silty Clay Loam |
| Gradation--Passing 1" Sieve %                         |             |                |                 |                 |
| --" 3/4" Sieve %                                      |             |                |                 |                 |
| --" 1/2" Sieve %                                      |             |                |                 |                 |
| --" No.4 Sieve %                                      | 98.9        | 100.0          | 97.5            | 100.0           |
| --" No.10 Sieve %                                     | 97.6        | 99.9           | 91.7            | 98.3            |
| --" No.40 Sieve %                                     | 91.2        | 98.3           | 82.3            | 93.3            |
| --" No.100 Sieve %                                    | 82.5        | 95.7           | 72.1            | 86.7            |
| --" No.200 Sieve %                                    | 78.8        | 93.8           | 67.5            | 82.3            |
| Sand % (AASHTO T 88)                                  | 18.7        | 6.0            | 24.1            | 15.9            |
| Silt % (AASHTO T 88)                                  | 49.2        | 51.1           | 47.1            | 54.4            |
| Clay % (AASHTO T 88)                                  | 29.6        | 42.8           | 20.4            | 27.9            |
| Liquid limit % (AASHTO T 89)                          | 43.0        | 47.0           | 41.0            | 36              |
| Plasticity index % (AASHTO T 90)                      | 21.0        | 27.0           | 26.0            | 16              |
| IBR % (Illinois Method)                               |             |                |                 |                 |
| Standard Dry Density % (AASHTO T 99)                  |             |                |                 |                 |
| Optimum Moisture % (AASHTO T 99)                      |             |                |                 |                 |
| Subgrade Support Rating                               | POOR        | FAIR           | POOR            | POOR            |
| Insitu Moisture % (AASHTO T 99)                       | 22          | 24             | 15              | 15              |

**SOIL TEST DATA**

**ROUTE**  
East Avenue from Joliet Road to 55th Street

**PROJECT**  
491-03-01

**SECTION**  
55th Street (Sta. 305+83.00 to Sta. 349+35.00)

**COUNTY**  
Cook County

| Lab. No.  | BPB-02 No.4 | SGB-17 No.2 | SGB-18 No.3 | SGB-20-HA No.3 |
|---|-------------|-------------|-------------|----------------|
| Station ft)   | 305+95.30   | 309+84.93   | 312+77.16   | 318+22.33      |
| Offset (ft)   | 41.69 LT    | 36.03 LT    | 25.04 LT    | 46.65 LT       |
| Depth (ft)  | 6           | 2           | 5           | 4              |
| AASHTO M 145<br>Classification and Group Index        | A-7-6 (21)  | A-7-6 (24)  | A-6 (13)    | A-6 (17)       |
| Illinois Textural Classification<br>(Illinois Method) | Silty Clay  | Clay        | Clay Loam   | Silty Clay     |
| Gradation--Passing 1" Sieve %                         |             |             |             |                |
| --" 3/4" Sieve %                                      |             |             |             |                |
| --" 1/2" Sieve %                                      |             |             |             |                |
| --" No.4 Sieve %                                      | 99.0        | 99.6        | 97.5        | 100.0          |
| --" No.10 Sieve %                                     | 97.2        | 98.4        | 90.8        | 99.2           |
| --" No.40 Sieve %                                     | 92.8        | 95.0        | 81.0        | 96.3           |
| --" No.100 Sieve %                                    | 89.9        | 93.1        | 73.7        | 92.7           |
| --" No.200 Sieve %                                    | 88.0        | 91.5        | 71.1        | 90.7           |
| Sand % (AASHTO T 88)                                  | 9.2         | 6.9         | 19.7        | 8.5            |
| Silt % (AASHTO T 88)                                  | 50.0        | 48.7        | 44.3        | 50.2           |
| Clay % (AASHTO T 88)                                  | 38.1        | 42.8        | 26.8        | 40.5           |
| Liquid limit % (AASHTO T 89)                          | 44.0        | 42.0        | 40.0        | 38.0           |
| Plasticity index % (AASHTO T 90)                      | 23.0        | 25.0        | 20.0        | 18.0           |
| IBR % (Illinois Method)                               |             |             |             |                |
| Standard Dry Density % (AASHTO T 99)                  |             |             |             |                |
| Optimum Moisture % (AASHTO T 99)                      |             |             |             |                |
| Subgrade Support Rating                               | FAIR        | FAIR        | POOR        | FAIR           |
| Insitu Moisture % (AASHTO T 99)                       | 26          | 20          | 21          | 22             |

**SOIL TEST DATA**

**ROUTE**  
East Avenue from Joliet Road to 55th Street

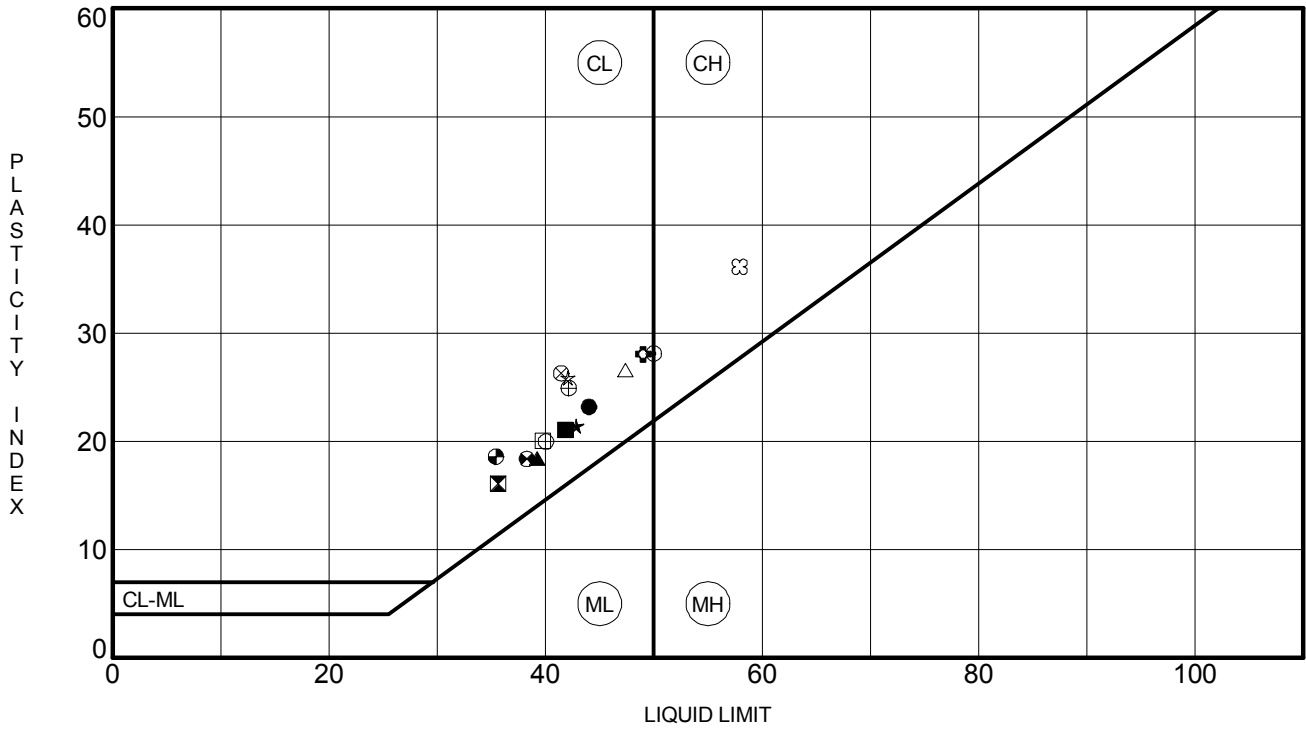
**PROJECT**  
491-03-01

**SECTION**  
55th Street (Sta. 305+83.00 to Sta. 349+35.00)

**COUNTY**  
Cook County

| Lab. No.  | SGB-24 No.1     | SGB-25 No.3 |
|---|-----------------|-------------|
| Station ft)   | 329+26.53       | 332+84.89   |
| Offset (ft)   | 16.34 LT        | 27.52 RT    |
| Depth (ft)  | 1               | 5           |
| AASHTO M 145<br>Classification and Group Index        | A-6 (15)        | A-7-6 (22)  |
| Illinois Textural Classification<br>(Illinois Method) | Silty Clay Loam | Silty Clay  |
| Gradation--Passing 1" Sieve %                         |                 |             |
| --"-- 3/4" Sieve %                                    |                 |             |
| --"-- 1/2" Sieve %                                    |                 |             |
| --"-- No.4 Sieve %                                    | 99.9            | 99.7        |
| --"-- No.10 Sieve %                                   | 98.7            | 98.8        |
| --"-- No.40 Sieve %                                   | 95.5            | 96.5        |
| --"-- No.100 Sieve %                                  | 91.6            | 91.1        |
| --"-- No.200 Sieve %                                  | 88.2            | 87.0        |
| Sand % (AASHTO T 88)                                  | 10.5            | 11.9        |
| Silt % (AASHTO T 88)                                  | 61.1            | 54.3        |
| Clay % (AASHTO T 88)                                  | 27.2            | 32.7        |
| Liquid limit % (AASHTO T 89)                          | 35.0            | 42.0        |
| Plasticity index % (AASHTO T 90)                      | 19.0            | 26.0        |
| IBR % (Illinois Method)                               |                 |             |
| Standard Dry Density % (AASHTO T 99)                  |                 |             |
| Optimum Moisture % (AASHTO T 99)                      |                 |             |
| Subgrade Support Rating                               | POOR            | FAIR        |
| Insitu Moisture % (AASHTO T 99)                       | 22              | 21          |

## **APPENDIX C**



| Specimen Identification | LL     | PL | PI | Fines | IDH Classification |                 |
|-------------------------|--------|----|----|-------|--------------------|-----------------|
| ● BPB-02#4              | 6.0 ft | 44 | 21 | 23    | 88                 | Silty Clay      |
| ⊠ BPB-06#2              | 2.0 ft | 36 | 20 | 16    | 82                 | Silty Clay Loam |
| ▲ RWB-05#3              | 6.0 ft | 39 | 21 | 18    | 90                 | Silty Clay      |
| ★ RWB-19#2              | 3.5 ft | 43 | 21 | 22    | 79                 | Silty Clay      |
| ⊙ SGB-01#2              | 3.5 ft | 50 | 22 | 28    | 71                 | Clay            |
| ⊕ SGB-05#2              | 3.5 ft | 49 | 21 | 28    | 81                 | Silty Clay      |
| ○ SGB-09-HA#2           | 2.0 ft | 40 | 20 | 20    | 61                 | Gravelly Clay   |
| △ SGB-14-HA#2           | 2.0 ft | 47 | 21 | 26    | 94                 | Silty Clay      |
| ⊗ SGB-15#2              | 3.1 ft | 41 | 15 | 26    | 68                 | Silty Clay Loam |
| ⊕ SGB-17#2              | 2.0 ft | 42 | 17 | 25    | 92                 | Clay            |
| □ SGB-18#3              | 5.0 ft | 40 | 20 | 20    | 71                 | Clay Loam       |
| ⊕ SGB-20-HA#3           | 4.0 ft | 38 | 20 | 18    | 91                 | Silty Clay      |
| ⊕ SGB-24#1              | 1.0 ft | 35 | 17 | 18    | 88                 | Silty Clay Loam |
| ☆ SGB-25#3              | 5.0 ft | 42 | 16 | 26    | 87                 | Silty Clay      |
| ⊗ SGB-29#2              | 3.0 ft | 58 | 22 | 36    | 91                 | Silty Clay Loam |
| ■ SGB-30#1              | 1.3 ft | 42 | 21 | 21    | 84                 | Silty Clay      |
|                         |        |    |    |       |                    |                 |
|                         |        |    |    |       |                    |                 |
|                         |        |    |    |       |                    |                 |
|                         |        |    |    |       |                    |                 |

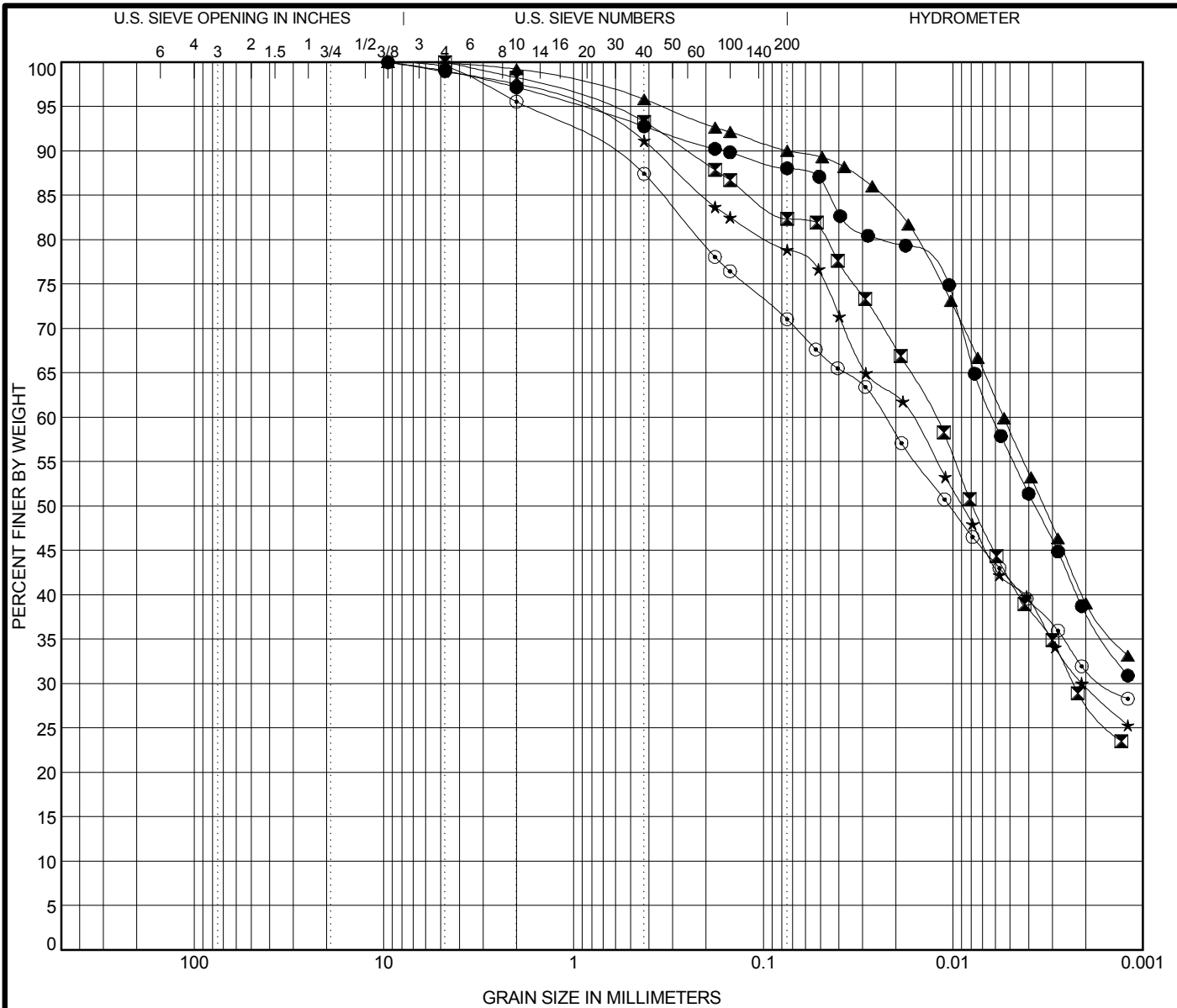
WEI ATTERBERG LIMITS IDH 4910301.GPJ US LAB.GDT 5/23/18



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 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**ATTERBERG LIMITS' RESULTS**

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01



|         |        |        |      |               |
|---------|--------|--------|------|---------------|
| COBBLES | GRAVEL | SAND   |      | SILT AND CLAY |
|         |        | coarse | fine |               |

| Specimen Identification | IDH Classification     | LL | PL | PI | Cc | Cu |
|-------------------------|------------------------|----|----|----|----|----|
| ● BPB-02#4 6.0 ft       | <b>Silty Clay</b>      | 44 | 21 | 23 |    |    |
| ☒ BPB-06#2 2.0 ft       | <b>Silty Clay Loam</b> | 36 | 20 | 16 |    |    |
| ▲ RWB-05#3 6.0 ft       | <b>Silty Clay</b>      | 39 | 21 | 18 |    |    |
| ★ RWB-19#2 3.5 ft       | <b>Silty Clay</b>      | 43 | 21 | 22 |    |    |
| ⊙ SGB-01#2 3.5 ft       | <b>Clay</b>            | 50 | 22 | 28 |    |    |

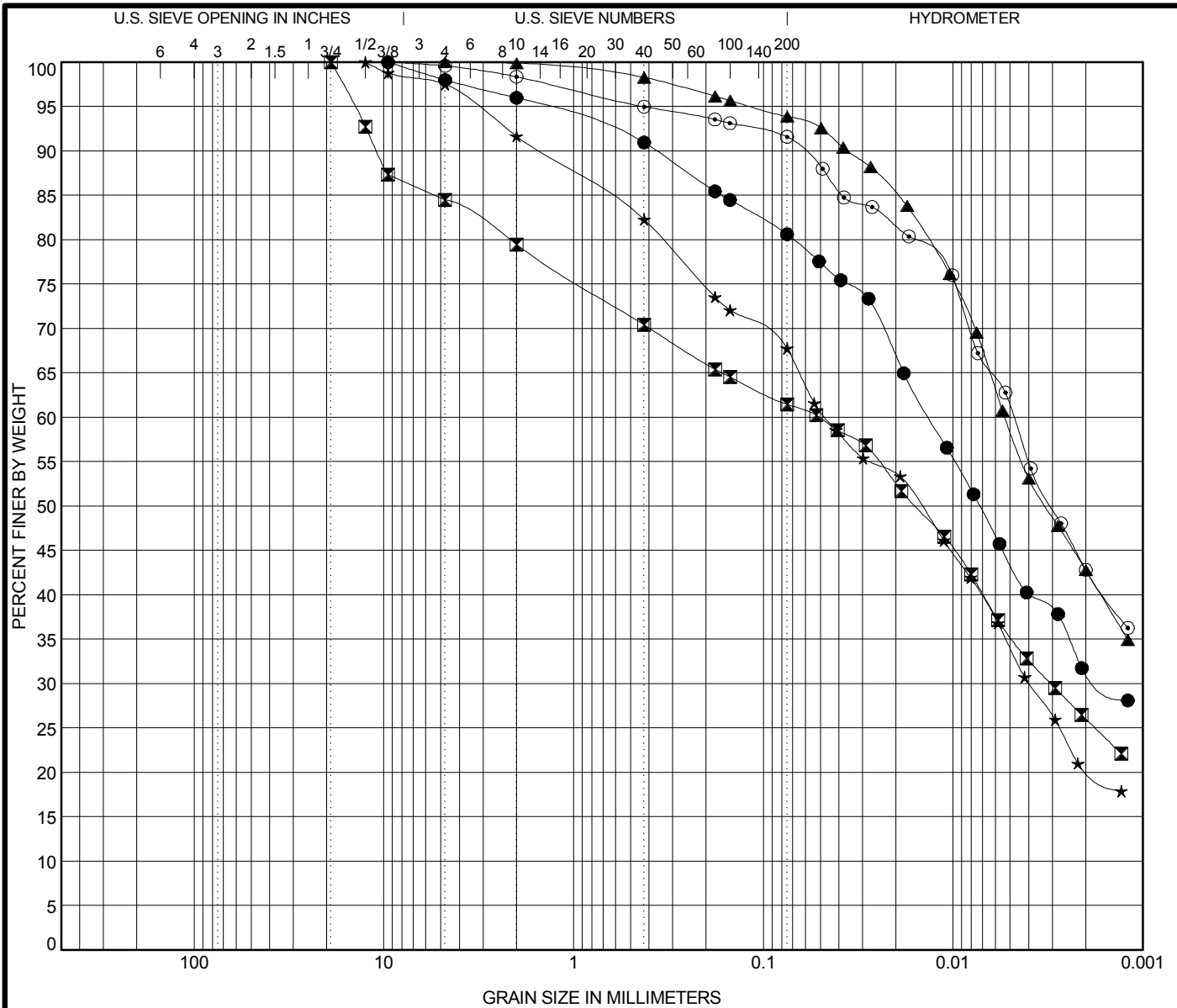
| Specimen Identification | D100 | D60   | D30   | D10 | %Gravel | %Sand | %Silt | %Clay |
|-------------------------|------|-------|-------|-----|---------|-------|-------|-------|
| ● BPB-02#4 6.0 ft       | 9.5  | 0.006 |       |     | 2.8     | 9.2   | 50.0  | 38.1  |
| ☒ BPB-06#2 2.0 ft       | 4.75 | 0.012 | 0.002 |     | 1.7     | 15.9  | 54.4  | 27.9  |
| ▲ RWB-05#3 6.0 ft       | 9.5  | 0.005 |       |     | 0.8     | 9.2   | 51.0  | 39.0  |
| ★ RWB-19#2 3.5 ft       | 9.5  | 0.017 | 0.002 |     | 2.4     | 18.7  | 49.2  | 29.6  |
| ⊙ SGB-01#2 3.5 ft       | 9.5  | 0.023 | 0.002 |     | 4.4     | 24.6  | 39.3  | 31.6  |



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**GRAIN SIZE DISTRIBUTION**  
 Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01

WEI GRAIN SIZE IDH 4910301.GPJ US LAB.GDT 5/23/18



|         |        |        |      |               |
|---------|--------|--------|------|---------------|
| COBBLES | GRAVEL | SAND   |      | SILT AND CLAY |
|         |        | coarse | fine |               |

| Specimen Identification |                    | IDH Classification |       |       |     | LL      | PL    | PI    | Cc    | Cu |
|-------------------------|--------------------|--------------------|-------|-------|-----|---------|-------|-------|-------|----|
| ●                       | SGB-05#2 3.5 ft    | Silty Clay         |       |       |     | 49      | 21    | 28    |       |    |
| ■                       | SGB-09-HA#2 2.0 ft | Gravelly Clay      |       |       |     | 40      | 20    | 20    |       |    |
| ▲                       | SGB-14-HA#2 2.0 ft | Silty Clay         |       |       |     | 47      | 21    | 26    |       |    |
| ★                       | SGB-15#2 3.1 ft    | Silty Clay Loam    |       |       |     | 41      | 15    | 26    |       |    |
| ○                       | SGB-17#2 2.0 ft    | Clay               |       |       |     | 42      | 17    | 25    |       |    |
| Specimen Identification |                    | D100               | D60   | D30   | D10 | %Gravel | %Sand | %Silt | %Clay |    |
| ●                       | SGB-05#2 3.5 ft    | 9.5                | 0.013 | 0.002 |     | 4.0     | 15.5  | 49.1  | 31.4  |    |
| ■                       | SGB-09-HA#2 2.0 ft | 19                 | 0.051 | 0.003 |     | 20.5    | 18.1  | 35.4  | 26.0  |    |
| ▲                       | SGB-14-HA#2 2.0 ft | 4.75               | 0.005 |       |     | 0.1     | 6.0   | 51.1  | 42.8  |    |
| ★                       | SGB-15#2 3.1 ft    | 12.5               | 0.047 | 0.004 |     | 8.3     | 24.1  | 47.1  | 20.4  |    |
| ○                       | SGB-17#2 2.0 ft    | 9.5                | 0.005 |       |     | 1.6     | 6.9   | 48.7  | 42.8  |    |

WEI GRAIN SIZE IDH 4910301.GPJ US LAB.GDT 5/23/18

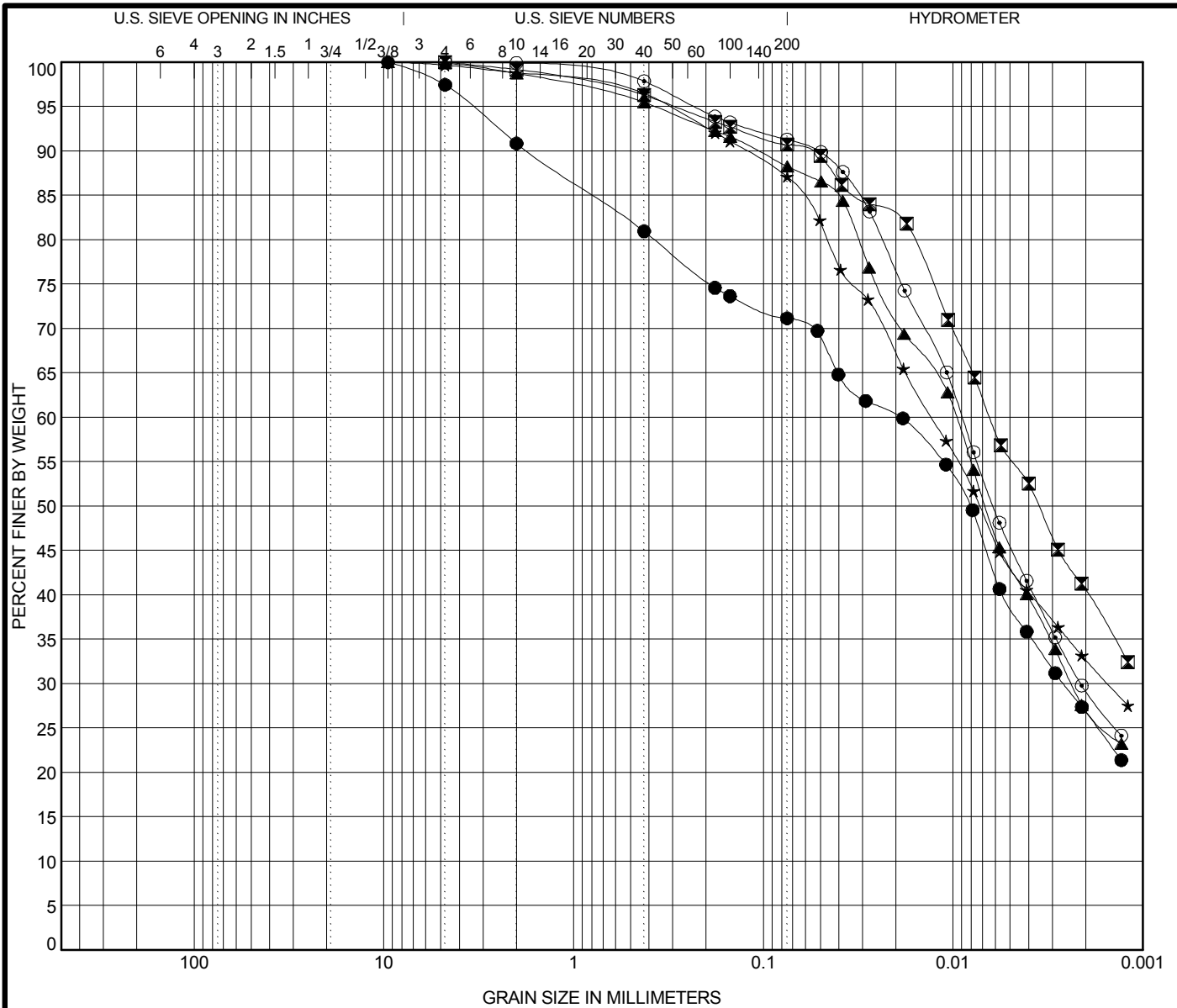


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### GRAIN SIZE DISTRIBUTION

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01





|         |        |        |      |               |
|---------|--------|--------|------|---------------|
| COBBLES | GRAVEL | SAND   |      | SILT AND CLAY |
|         |        | coarse | fine |               |

| Specimen Identification |                    | IDH Classification |       |       |     |         | LL    | PL    | PI    | Cc | Cu |
|-------------------------|--------------------|--------------------|-------|-------|-----|---------|-------|-------|-------|----|----|
| ●                       | SGB-18#3 5.0 ft    | Clay Loam          |       |       |     |         | 40    | 20    | 20    |    |    |
| ☒                       | SGB-20-HA#3 4.0 ft | Silty Clay         |       |       |     |         | 38    | 20    | 18    |    |    |
| ▲                       | SGB-24#1 1.0 ft    | Silty Clay Loam    |       |       |     |         | 35    | 17    | 18    |    |    |
| ★                       | SGB-25#3 5.0 ft    | Silty Clay         |       |       |     |         | 42    | 16    | 26    |    |    |
| ⊙                       | SGB-29#2 3.0 ft    | Silty Clay Loam    |       |       |     |         | 58    | 22    | 36    |    |    |
| Specimen Identification |                    | D100               | D60   | D30   | D10 | %Gravel | %Sand | %Silt | %Clay |    |    |
| ●                       | SGB-18#3 5.0 ft    | 9.5                | 0.019 | 0.003 |     | 9.2     | 19.7  | 44.3  | 26.8  |    |    |
| ☒                       | SGB-20-HA#3 4.0 ft | 4.75               | 0.006 |       |     | 0.8     | 8.5   | 50.2  | 40.5  |    |    |
| ▲                       | SGB-24#1 1.0 ft    | 9.5                | 0.01  | 0.002 |     | 1.3     | 10.5  | 61.1  | 27.2  |    |    |
| ★                       | SGB-25#3 5.0 ft    | 9.5                | 0.013 | 0.002 |     | 1.2     | 11.9  | 54.3  | 32.7  |    |    |
| ⊙                       | SGB-29#2 3.0 ft    | 4.75               | 0.009 | 0.002 |     | 0.1     | 8.7   | 62.0  | 29.2  |    |    |

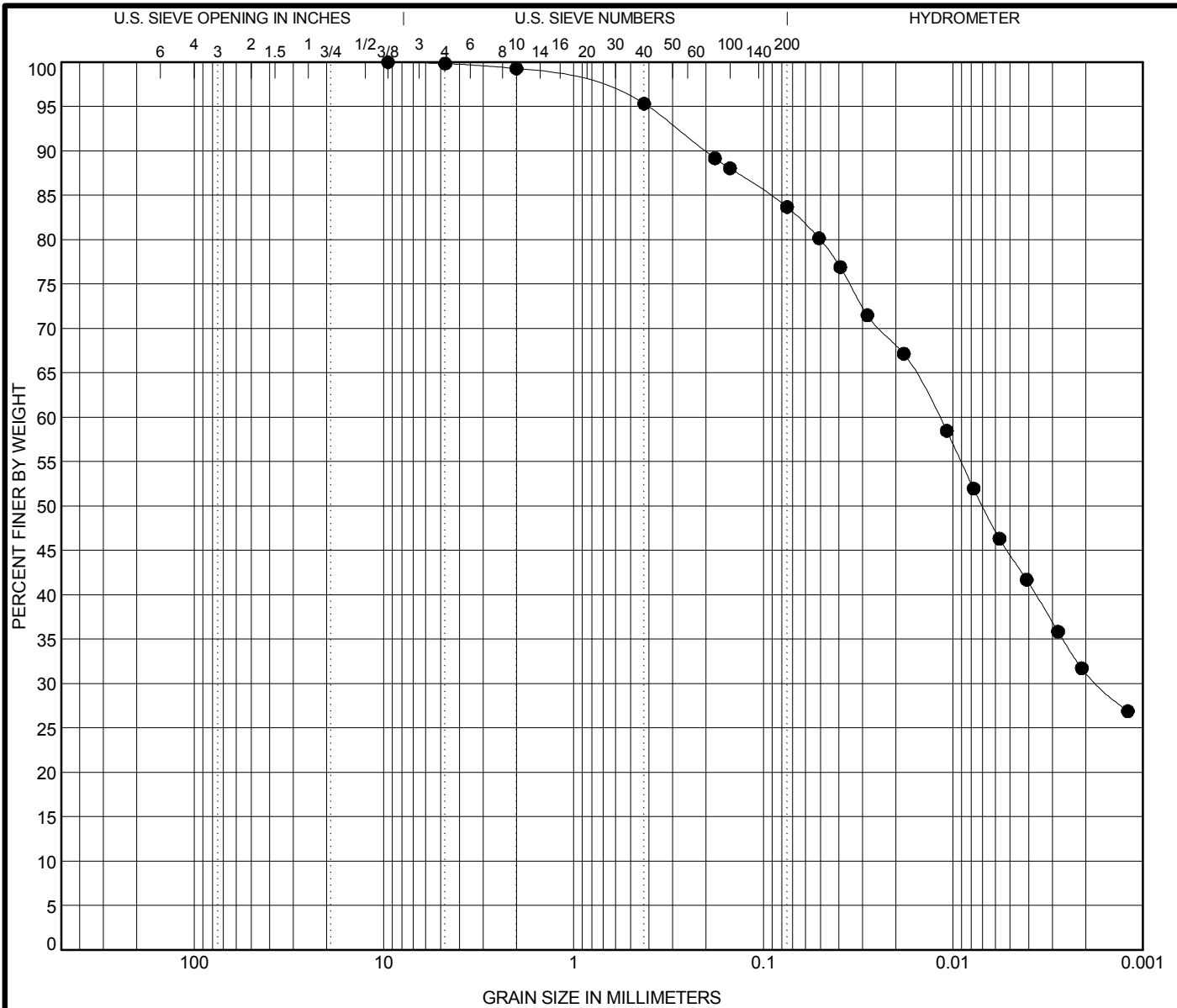
WEI GRAIN SIZE IDH 4910301.GPJ US LAB.GDT 5/23/18



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**GRAIN SIZE DISTRIBUTION**

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01



|         |        |        |      |               |
|---------|--------|--------|------|---------------|
| COBBLES | GRAVEL | SAND   |      | SILT AND CLAY |
|         |        | coarse | fine |               |

| Specimen Identification | IDH Classification | LL        | PL        | PI        | Cc | Cu |
|-------------------------|--------------------|-----------|-----------|-----------|----|----|
| ● SGB-30#1 1.3 ft       | <b>Silty Clay</b>  | <b>42</b> | <b>21</b> | <b>21</b> |    |    |

| Specimen Identification | D100       | D60          | D30          | D10 | %Gravel    | %Sand       | %Silt       | %Clay       |
|-------------------------|------------|--------------|--------------|-----|------------|-------------|-------------|-------------|
| ● SGB-30#1 1.3 ft       | <b>9.5</b> | <b>0.012</b> | <b>0.002</b> |     | <b>0.7</b> | <b>15.7</b> | <b>52.3</b> | <b>31.3</b> |



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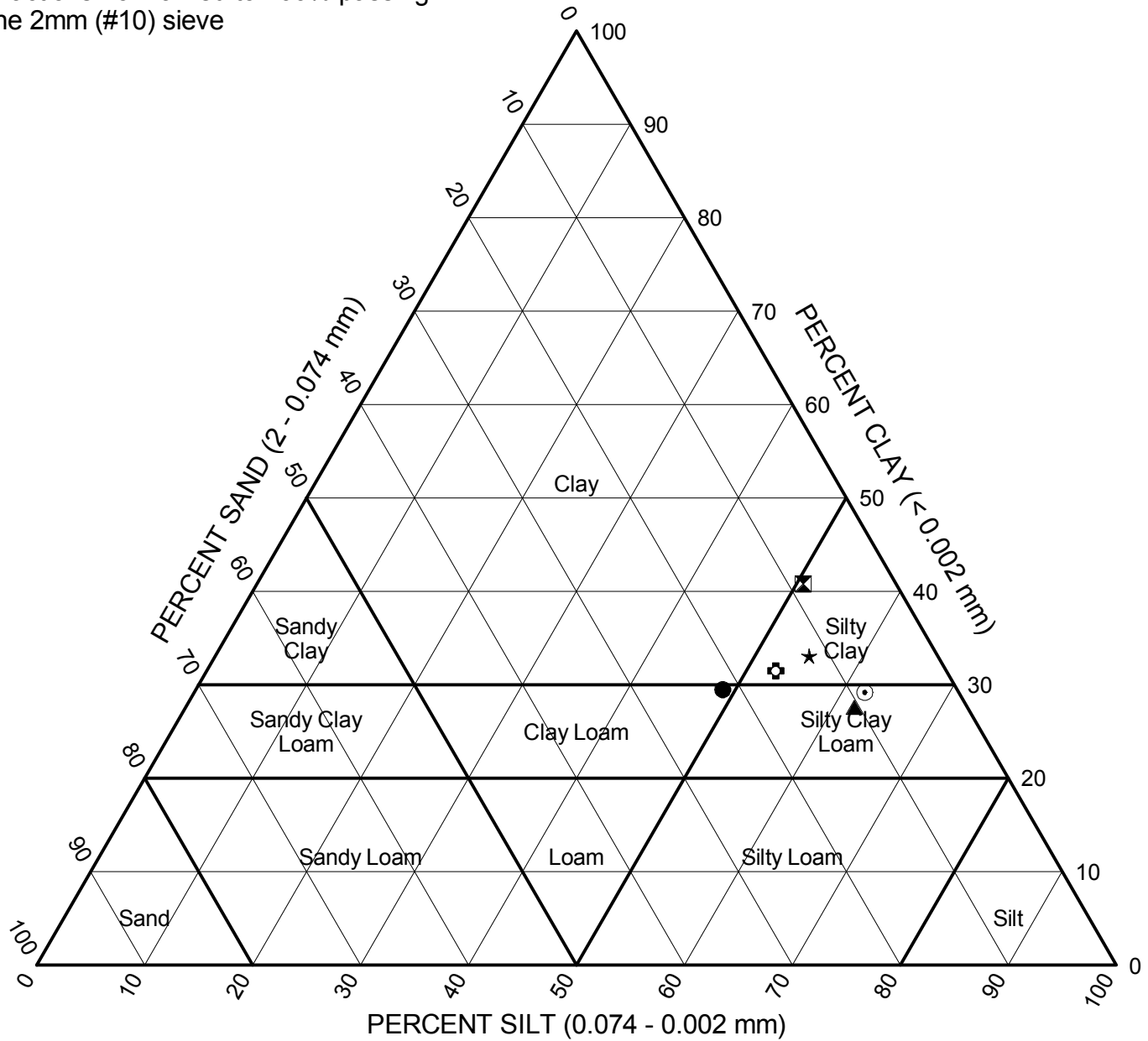
### GRAIN SIZE DISTRIBUTION

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01

WEI GRAIN SIZE IDH 4910301.GPJ US LAB.GDT 5/23/18



Fractions normalized to 100% passing the 2mm (#10) sieve



|   | Sample      | Depth (ft) | Sand (%) | Silt (%) | Clay (%) | Classification  |            |      |
|---|-------------|------------|----------|----------|----------|-----------------|------------|------|
|   |             |            |          |          |          | IL DOT          | AASHTO     | ASTM |
| ● | SGB-18#3    | 5.0        | 21.7     | 48.8     | 29.5     | Clay Loam       | A-6 (13)   | CL   |
| ⊠ | SGB-20-HA#3 | 4.0        | 8.6      | 50.6     | 40.8     | Silty Clay      | A-6 (17)   | CL   |
| ▲ | SGB-24#1    | 1.0        | 10.6     | 61.9     | 27.6     | Silty Clay Loam | A-6 (15)   | CL   |
| ★ | SGB-25#3    | 5.0        | 12.0     | 55.0     | 33.1     | Silty Clay      | A-7-6 (22) | CL   |
| ⊙ | SGB-29#2    | 3.0        | 8.7      | 62.1     | 29.2     | Silty Clay Loam | A-7-6 (36) | CH   |
| ⊕ | SGB-30#1    | 1.3        | 15.8     | 52.7     | 31.5     | Silty Clay      | A-7-6 (18) | CL   |
|   |             |            |          |          |          |                 |            |      |
|   |             |            |          |          |          |                 |            |      |
|   |             |            |          |          |          |                 |            |      |

WEI IDH 4910301.GPJ WANGENG\_GDT 5/23/18



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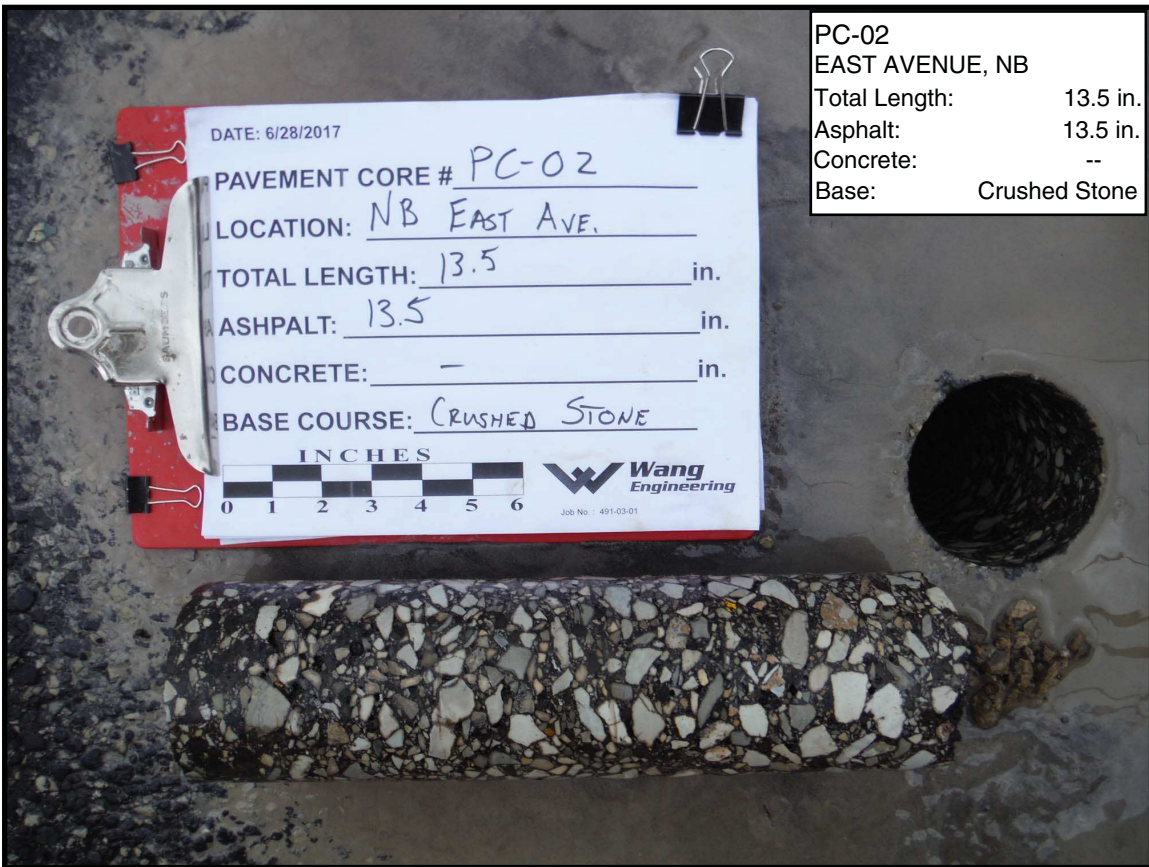
**IDH Textural Classification Chart**

Project: East Avenue from Joliet Road to 55th Street  
 Location: Cook County, IL  
 Number: 491-03-01

## **APPENDIX D**



PC-01  
EAST AVENUE, SB  
Total Length: 15.75 in.  
Asphalt: 5.75 in.  
Concrete: 10.0 in.  
Base: Crushed Stone



PC-02  
EAST AVENUE, NB  
Total Length: 13.5 in.  
Asphalt: 13.5 in.  
Concrete: --  
Base: Crushed Stone

PAVEMENT CORE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET, COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX D-1

DRAWN BY: H. Bista  
CHECKED BY: A. Kurnia



1145 N. Main Street  
Lombard, IL 60148  
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FOR ACCURATE GROUP, INC.

491-03-01



PC-03  
 EAST AVENUE, SB  
 Total Length: 11.5 in.  
 Asphalt: 11.5 in.  
 Concrete: --  
 Base: Crushed Stone



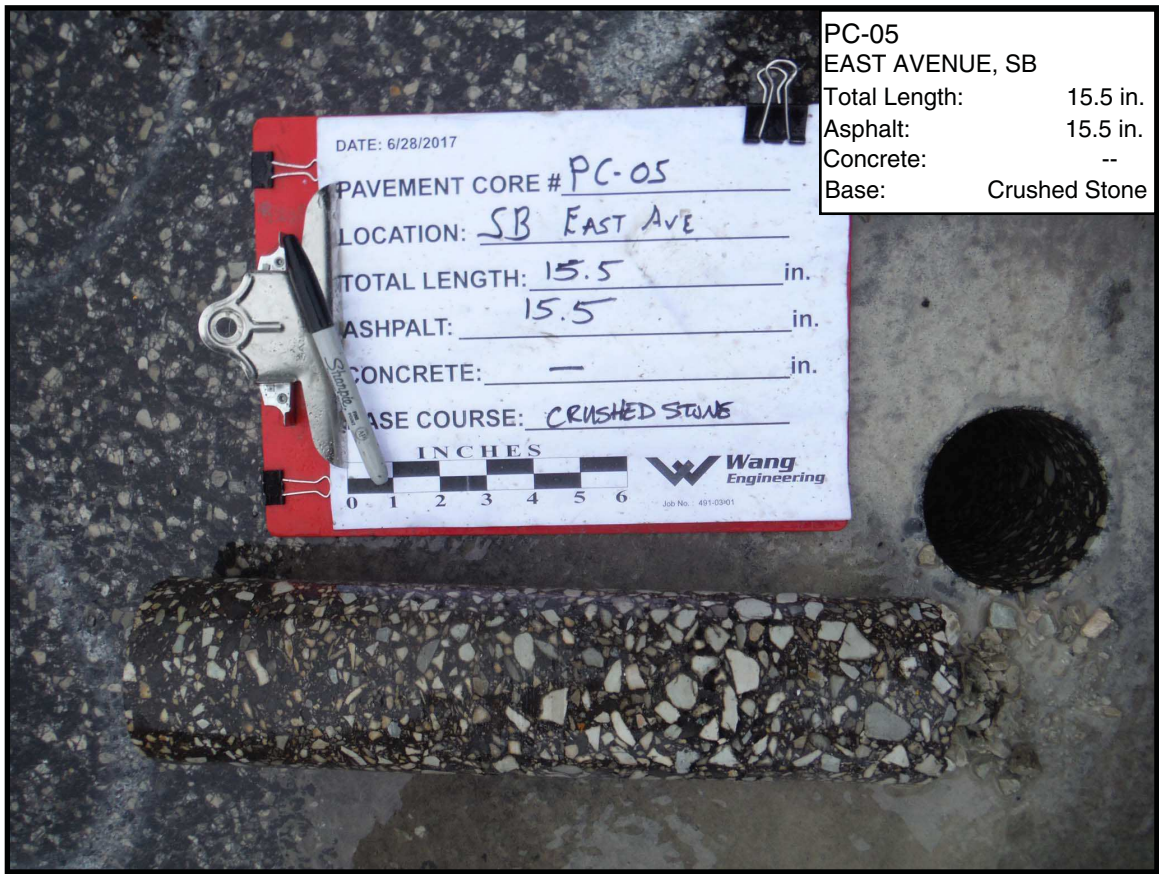
PC-04  
 EAST AVENUE, NB  
 Total Length: 13.25 in.  
 Asphalt: 13.25 in.  
 Concrete: --  
 Base: Crushed Stone

PAVEMENT CORE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET, COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL      APPENDIX D-2      DRAWN BY: H. Bista  
 CHECKED BY: A. Kurnia

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

FOR ACCURATE GROUP, INC.      491-03-01



PC-05  
 EAST AVENUE, SB  
 Total Length: 15.5 in.  
 Asphalt: 15.5 in.  
 Concrete: --  
 Base: Crushed Stone



PC-06  
 EAST AVENUE, NB  
 Total Length: 13.75 in.  
 Asphalt: 13.75 in.  
 Concrete: --  
 Base: Crushed Stone

PAVEMENT CORE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET,  
 COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX D-3

DRAWN BY: H. Bista  
 CHECKED BY: A. Kurnia



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 Lombard, IL 60148  
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FOR ACCURATE GROUP, INC.

491-03-01





PC-07,  
 JOLIET ROAD, EB  
 Total Length: 14.5 in.  
 Asphalt: 14.5 in.  
 Concrete: --  
 Base: Crushed Stone



PC-08  
 JOLIET ROAD, WB  
 Total Length: 20.0 in.  
 Asphalt: 20.0 in.  
 Concrete: --  
 Base: Crushed Stone

PAVEMENT CORE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET,  
 COOK COUNTY, ILLINOIS

SCALE: GRAPHICAL

APPENDIX D-4

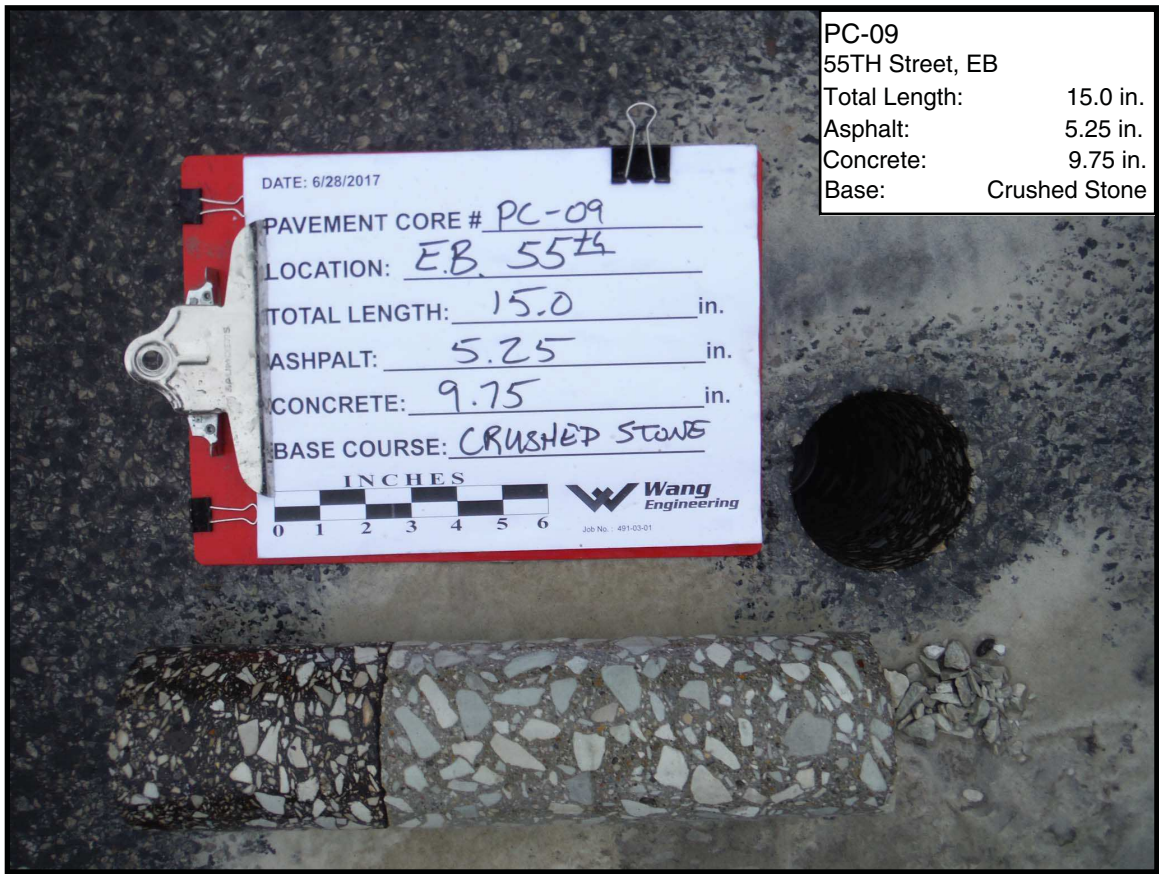
DRAWN BY: H. Bista  
 CHECKED BY: A. Kurnia



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

FOR ACCURATE GROUP, INC.

491-03-01



PC-09  
 55TH Street, EB  
 Total Length: 15.0 in.  
 Asphalt: 5.25 in.  
 Concrete: 9.75 in.  
 Base: Crushed Stone



PC-10  
 55TH Street, WB  
 Total Length: 13.5 in.  
 Asphalt: 5.0 in.  
 Concrete: 8.5 in.  
 Base: Crushed Stone

PAVEMENT CORE: EAST AVENUE FROM JOLIET ROAD TO 55TH STREET,  
 COOK COUNTY, ILLINOIS

|                  |              |   |
|------------------|--------------|---|
| SCALE: GRAPHICAL | APPENDIX D-5 | DRAWN BY: H. Bista<br>CHECKED BY: A. Kurnia |
|------------------|--------------|---|

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 Lombard, IL 60148  
 www.wangeng.com

|                          |           |
|--------------------------|-----------|
| FOR ACCURATE GROUP, INC. | 491-03-01 |
|--------------------------|-----------|

## **APPENDIX E**

# APPENDIX E

## BORING LOCATION PLAN AND SOIL PROFILE EAST AVENUE RECONSTRUCTION FROM JOLIET ROAD TO 55TH STREET

### ROADWAY GEOTECHNICAL REPORT EAST AVENUE RECONSTRUCTION FORM JOLIET ROAD TO 55TH STREET SECTION 180, ITEM 002 COOK COUNTY, ILLINOIS

FOR  
ACCURATE GROUP, INC.  
101 SCHELTER ROAD, SUITE 200B  
LINCLONSHIRE, IL 60069

PREPARED BY  
WANG ENGINEERING  
1145 NORTH MAIN STREET  
LOMBARD, IL 60148

July 09, 2018  
WANG PROJECT 491-03-01

### LEGEND:

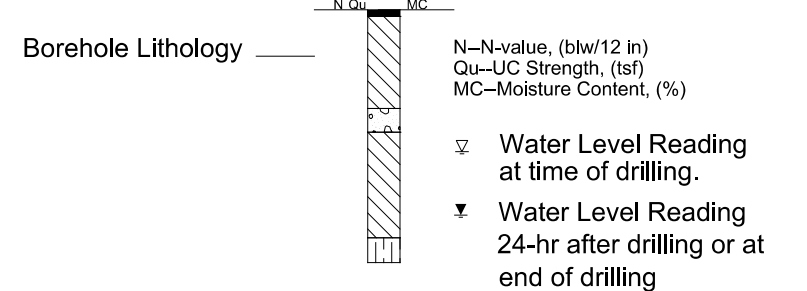


Soil Boring



Pavement Cores

SGB-17      Borehole Number  
652.01 ft,      Elevation  
309+84.93 , 36.03 LT      Station, offset



### Lithology Graphics



Pavement



Concrete



Crushed stone



Topsoil



IDH Clay Loam



IDH Clay



IDH Silty Clay, Silty Clay Loam



IDH Silt, Silty Loam



IDH Loam



IDH Sand, Sandy Loam



Gravelly Sand, Sandy Gravel



Weathered bedrock

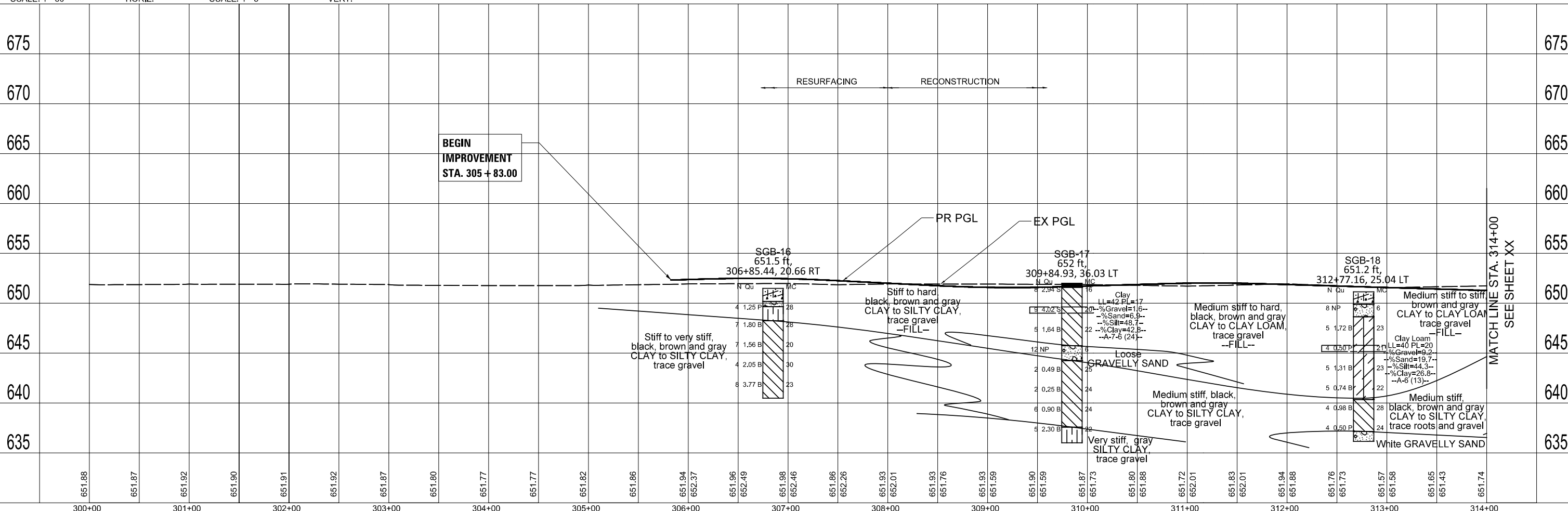
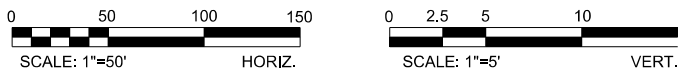
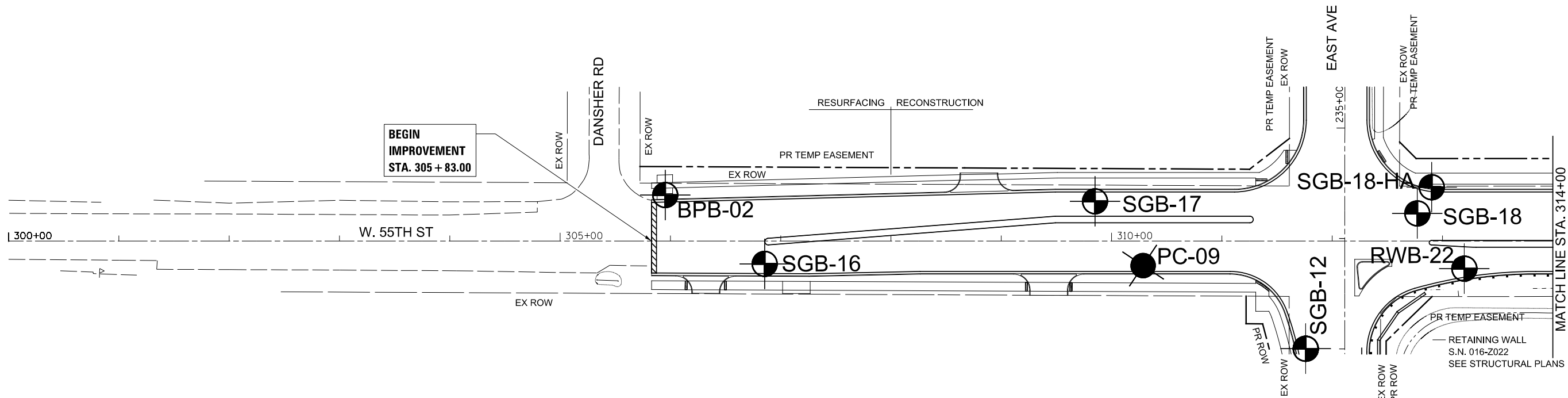


Dolomite or Dolomitic  
Limestone



|      |                |      |
|------|----------------|------|
| PLAN | SURVEYED       | DATE |
|      | PLOTTED        | BY   |
|      | CHECKED        |      |
|      | ALIGNED        |      |
|      | CADD FILE NAME |      |
|      | NO.            |      |

|         |           |      |
|---------|-----------|------|
| PROFILE | SURVEYED  | DATE |
|         | PLOTTED   | BY   |
|         | CHECKED   |      |
|         | GRADES    |      |
|         | STRUCTURE |      |
|         | NOTATIONS |      |
|         | CHKD      |      |
|         | NO.       |      |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**55TH ST. PLAN AND PROFILE-I  
EAST AVENUE (55TH ST. TO JOLIET RD.)**

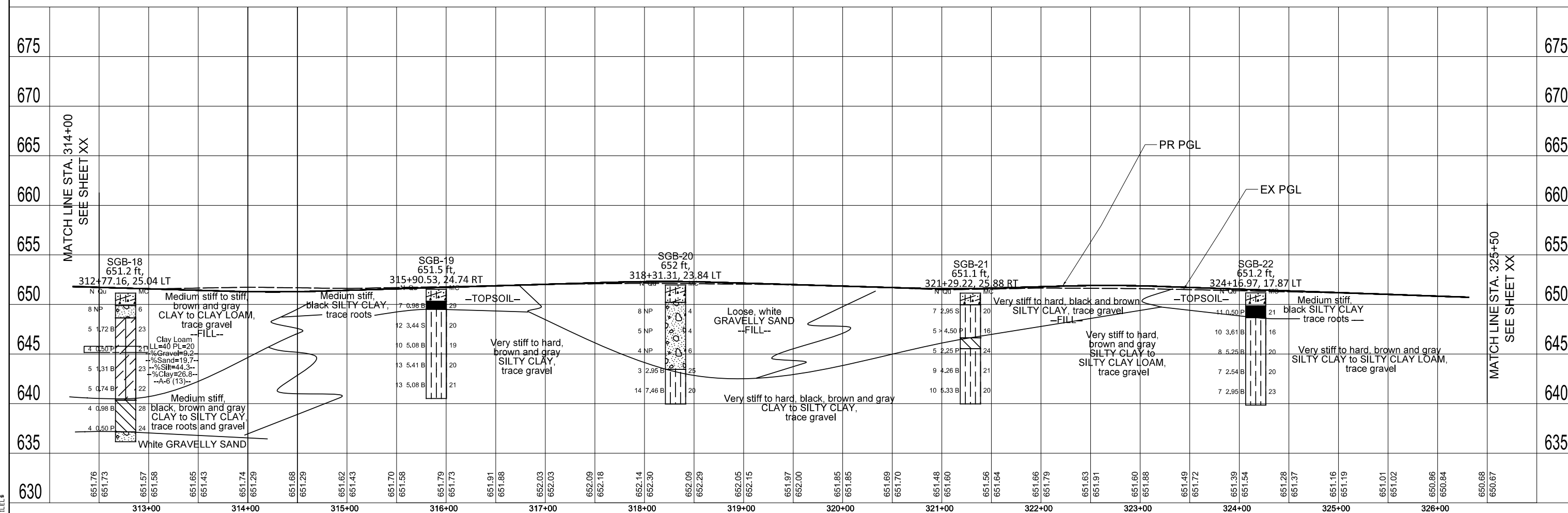
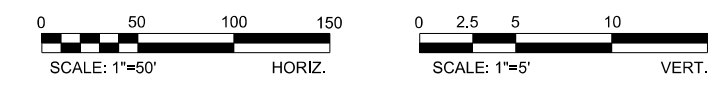
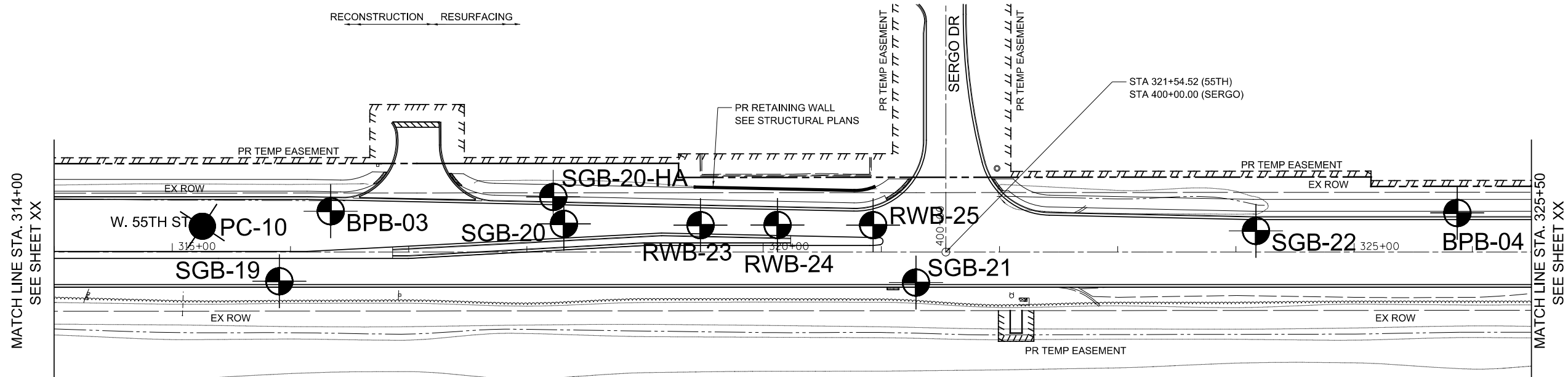
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| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 1         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

SCALE: SHEET OF SHEETS STA. 305+83 TO STA. 314+00



|               |                |    |      |
|---------------|----------------|----|------|
| PLAN          | SURVEYED       | BY | DATE |
|               | PLOTTED        |    |      |
|               | CHECKED        |    |      |
|               | ALIGNED        |    |      |
|               | FILED          |    |      |
| NOTE BOOK NO. | CADD FILE NAME |    |      |

|               |                |    |      |
|---------------|----------------|----|------|
| PROFILE       | SURVEYED       | BY | DATE |
|               | PLOTTED        |    |      |
|               | CHECKED        |    |      |
|               | GRADES         |    |      |
|               | STRUCTURE      |    |      |
|               | NOTATIONS      |    |      |
| NOTE BOOK NO. | CADD FILE NAME |    |      |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

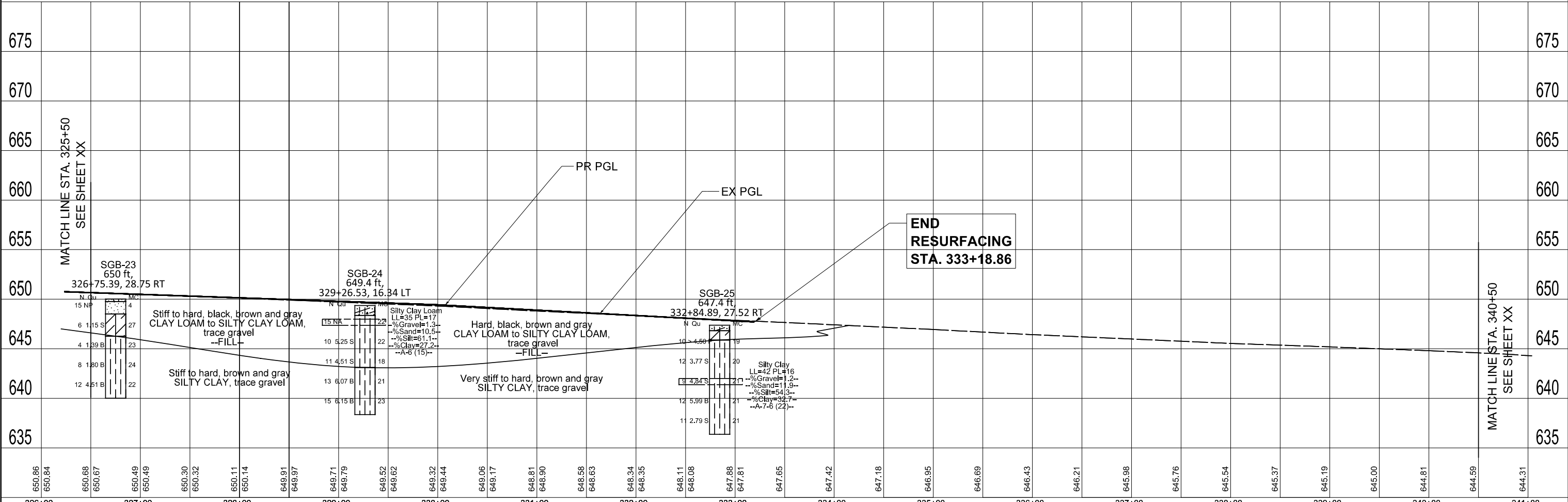
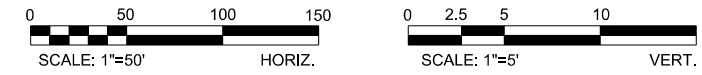
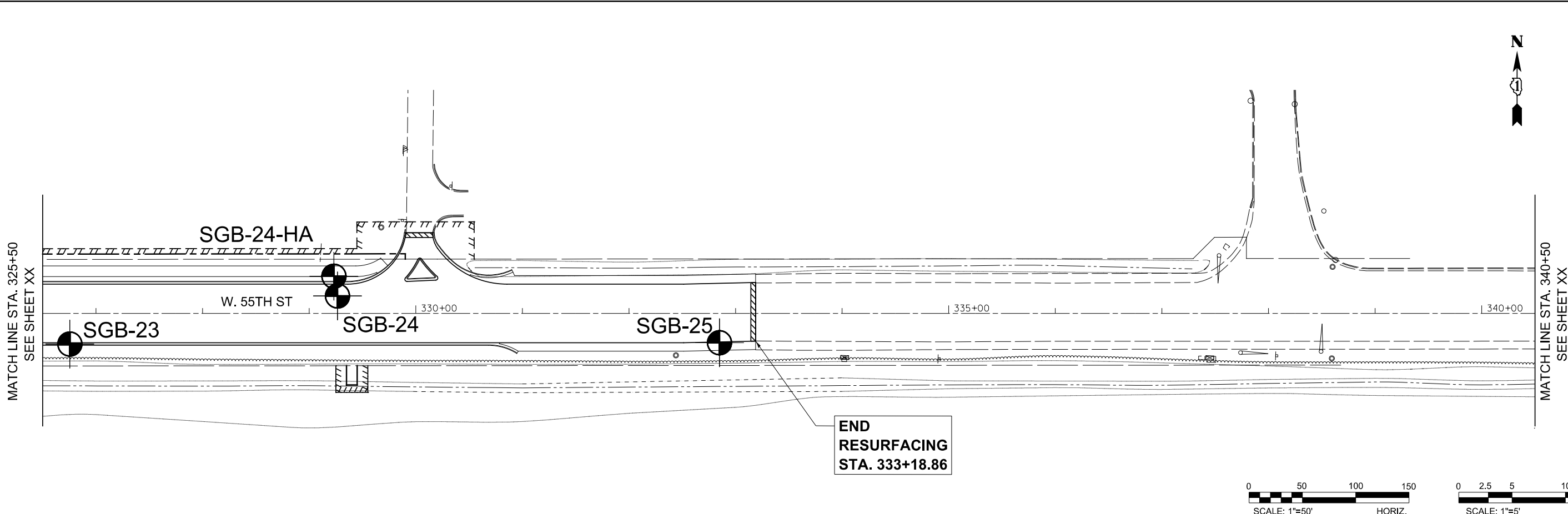
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

55TH ST. PLAN AND PROFILE-II  
EAST AVENUE (55TH ST. TO JOLIET RD.)  
SCALE: SHEET OF SHEETS STA. 314+00 TO STA. 325+50

|                           |         |        |              |           |
|---------------------------|---------|--------|--------------|-----------|
| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 2         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

|      |                |    |      |
|------|----------------|----|------|
| PLAN | SURVEYED       | BY | DATE |
|      | PLOTTED        |    |      |
|      | CHECKED        |    |      |
|      | ALIGNED        |    |      |
|      | CADD FILE NAME |    |      |
|      | NO.            |    |      |

|         |                             |    |      |
|---------|-----------------------------|----|------|
| PROFILE | SURVEYED                    | BY | DATE |
|         | PLOTTED                     |    |      |
|         | GRADES CHECKED              |    |      |
|         | STRUCTURE NOTATIONS CHECKED |    |      |
|         | NO.                         |    |      |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
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|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

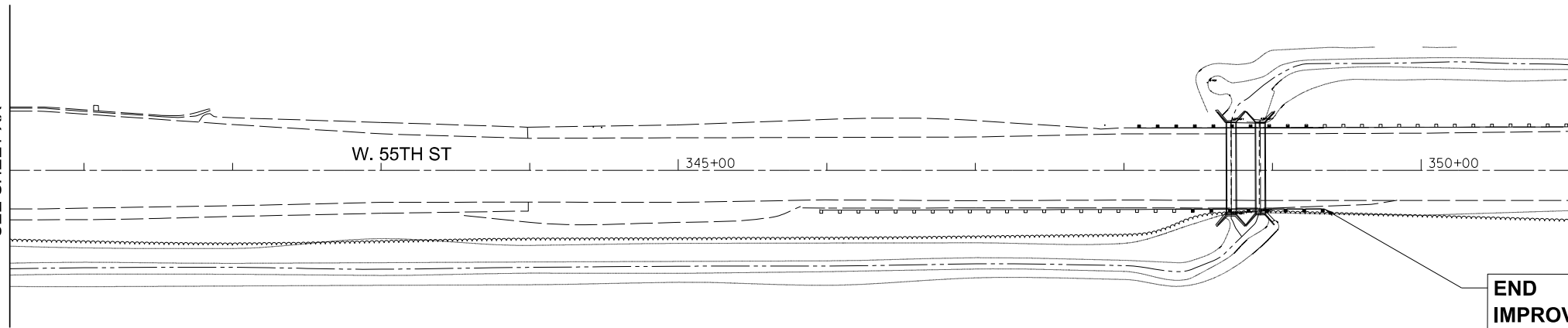
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|--------------------------------------|-------|-----------|----------------------------|
| 55TH ST. PLAN AND PROFILE-III        |       |           |                            |
| EAST AVENUE (55TH ST. TO JOLIET RD.) |       |           |                            |
| SCALE:                               | SHEET | OF SHEETS | STA. 325+50 TO STA. 340+50 |

|                           |         |        |              |           |
|---------------------------|---------|--------|--------------|-----------|
| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 3         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

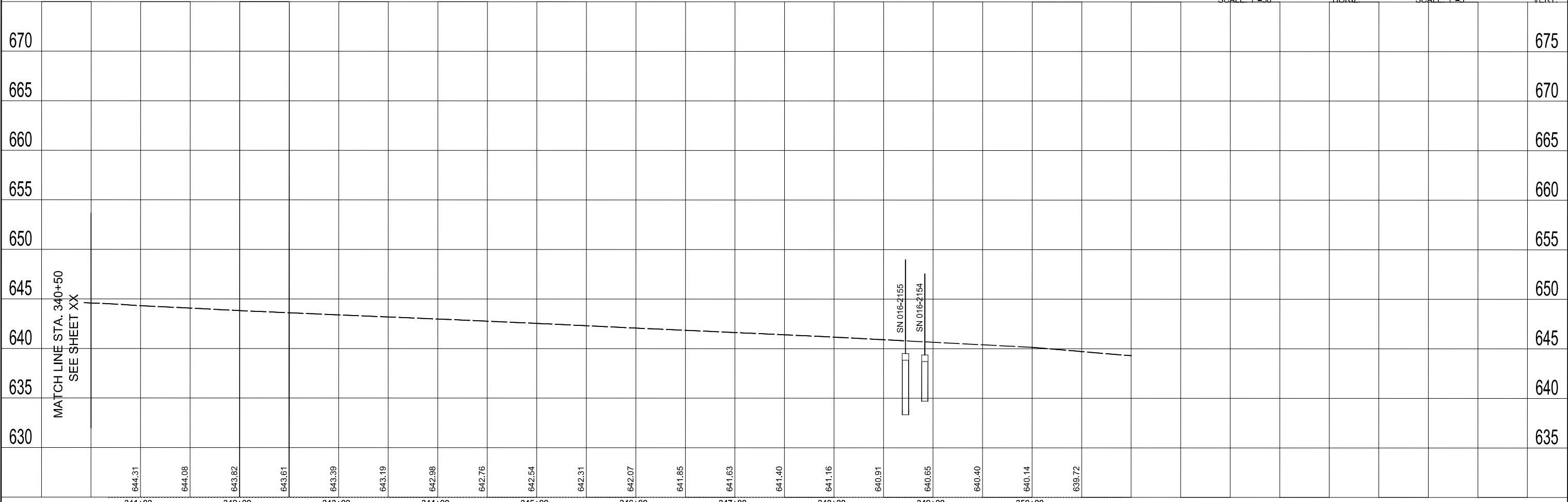
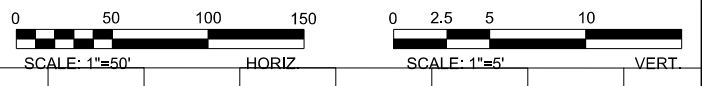
|      |                   |    |      |
|------|-------------------|----|------|
| PLAN | SURVEYED          | BY | DATE |
|      | PLOTTED           |    |      |
|      | ALIGNMENT CHECKED |    |      |
|      | GRADES CHECKED    |    |      |
|      | NOTE BOOK NO.     |    |      |
|      | FILE NAME         |    |      |

|         |                             |    |      |
|---------|-----------------------------|----|------|
| PROFILE | SURVEYED                    | BY | DATE |
|         | PLOTTED                     |    |      |
|         | GRADES CHECKED              |    |      |
|         | STRUCTURE NOTATIONS CHECKED |    |      |
|         | NOTE BOOK NO.               |    |      |
|         | FILE NAME                   |    |      |

MATCH LINE STA. 340+50  
SEE SHEET XX



END  
IMPROVEMENT  
STA 349+35.00



|        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 644.31 | 644.08 | 643.82 | 643.61 | 643.39 | 643.19 | 642.98 | 642.76 | 642.54 | 642.31 | 642.07 | 641.85 | 641.63 | 641.40 | 641.16 | 640.91 | 640.65 | 640.40 | 640.14 | 639.72 |
| 341+00 | 342+00 | 343+00 | 344+00 | 345+00 | 346+00 | 347+00 | 348+00 | 349+00 | 350+00 |        |        |        |        |        |        |        |        |        |        |

FILE NAME = #FILE#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

55TH ST. PLAN AND PROFILE-III  
EAST AVENUE (55TH ST. TO JOLIET RD.)  
SCALE: SHEET OF SHEETS STA. 340+50 TO STA. 349+35

|                    |                 |             |                 |                           |
|--------------------|-----------------|-------------|-----------------|---------------------------|
| F.A.U. RTE. 2719   | SECTION 0102N&T | COUNTY COOK | TOTAL SHEETS 10 | SHEET NO. 4               |
| CONTRACT NO. 62C25 |                 |             |                 | ILLINOIS FED. AID PROJECT |

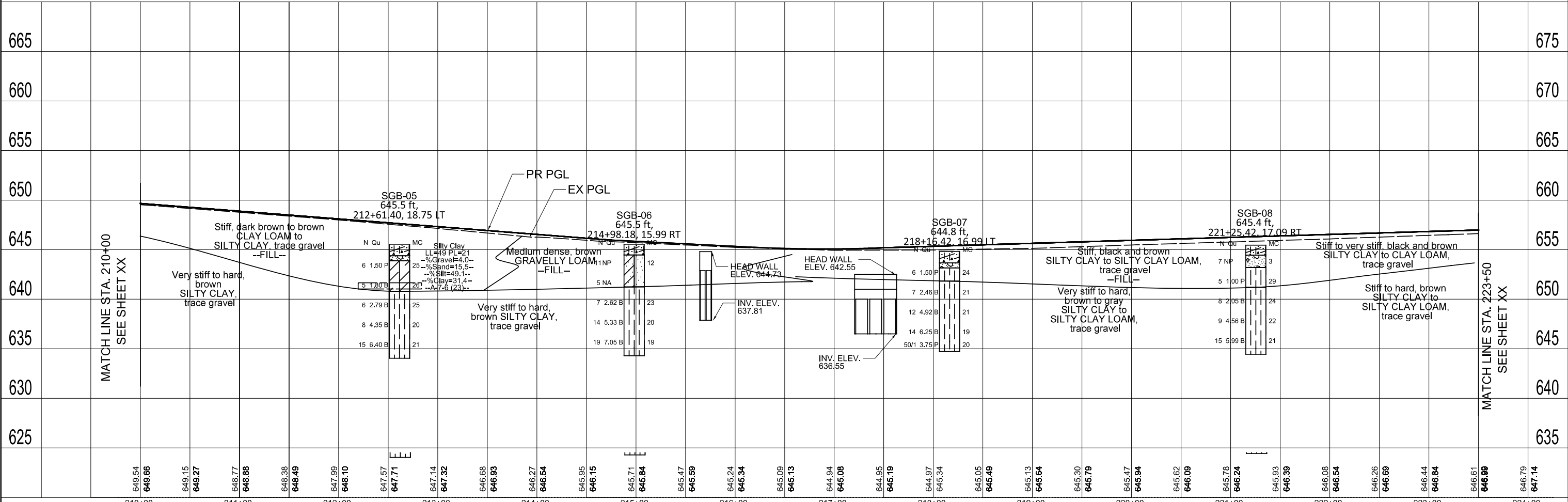
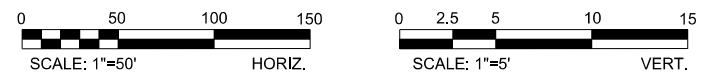
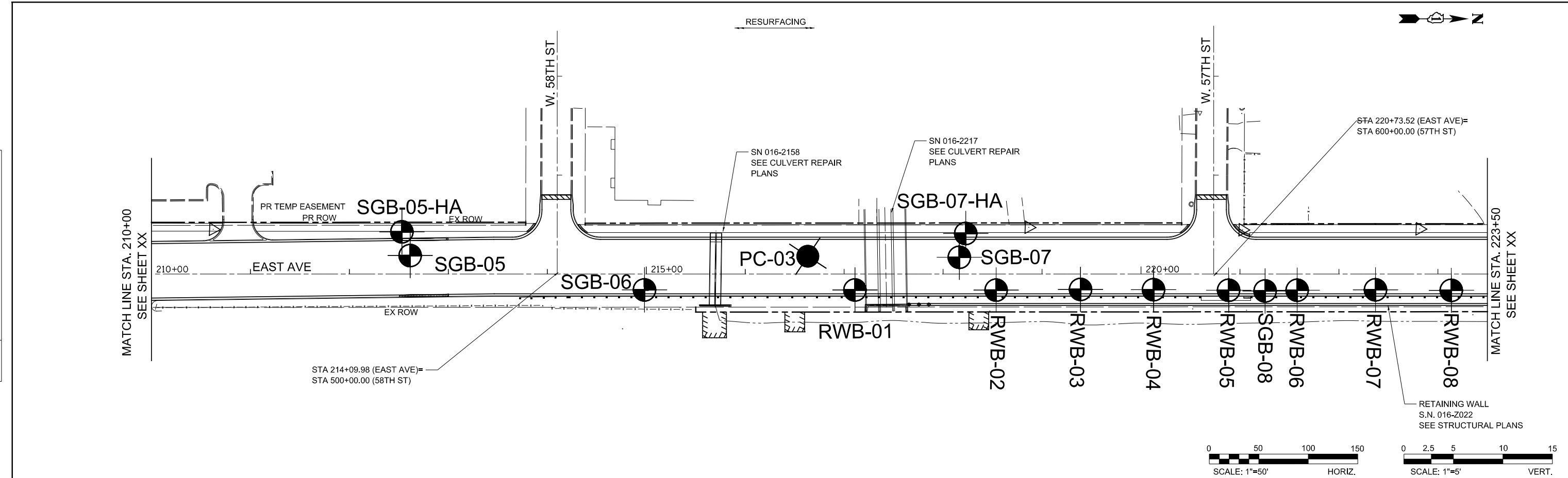






|      |           |    |      |
|------|-----------|----|------|
| PLAN | SURVEYED  | BY | DATE |
|      | PLOTTED   |    |      |
|      | CHECKED   |    |      |
|      | ALIGNED   |    |      |
|      | FILED     |    |      |
|      | NO. _____ |    |      |

|         |                             |    |      |
|---------|-----------------------------|----|------|
| PROFILE | SURVEYED                    | BY | DATE |
|         | GRADES CHECKED              |    |      |
|         | STRUCTURE NOTATIONS CHECKED |    |      |
|         | NO. _____                   |    |      |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

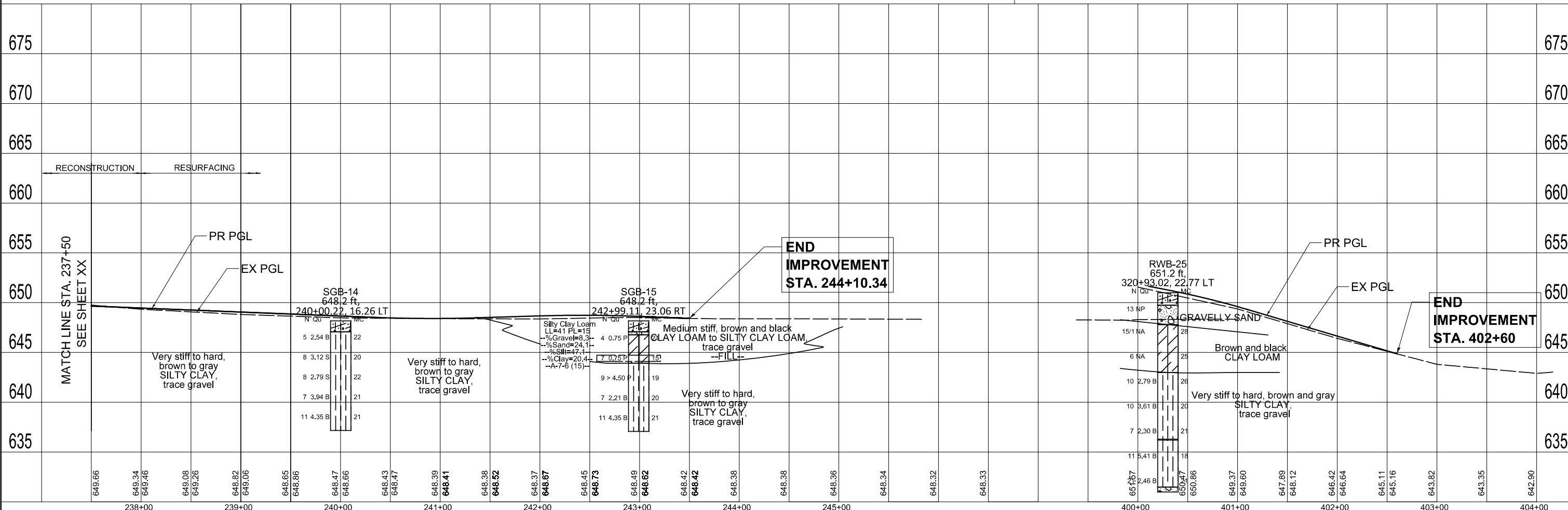
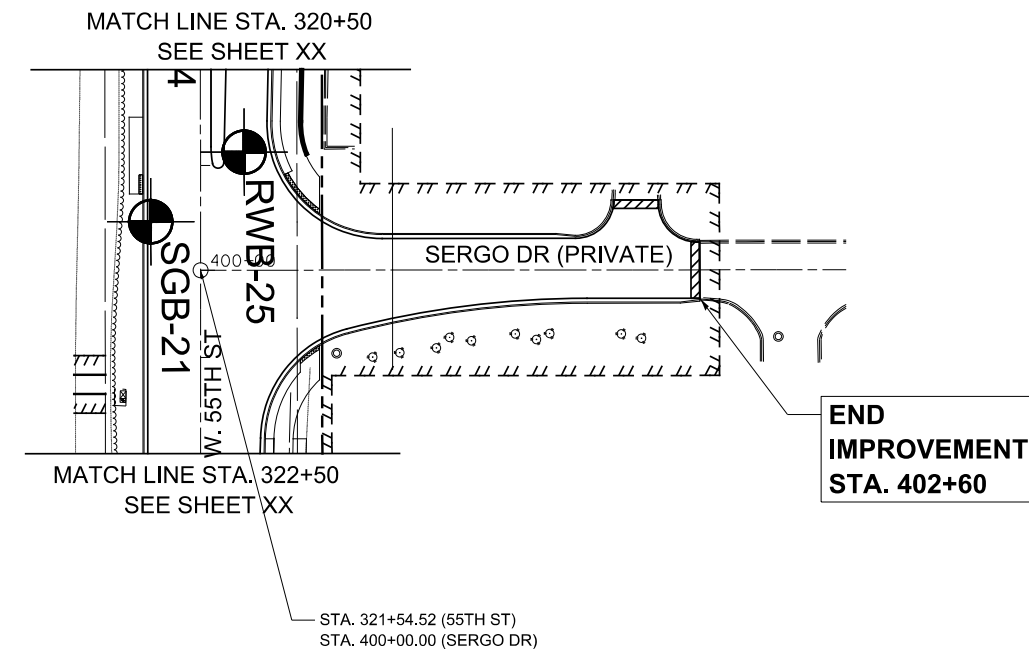
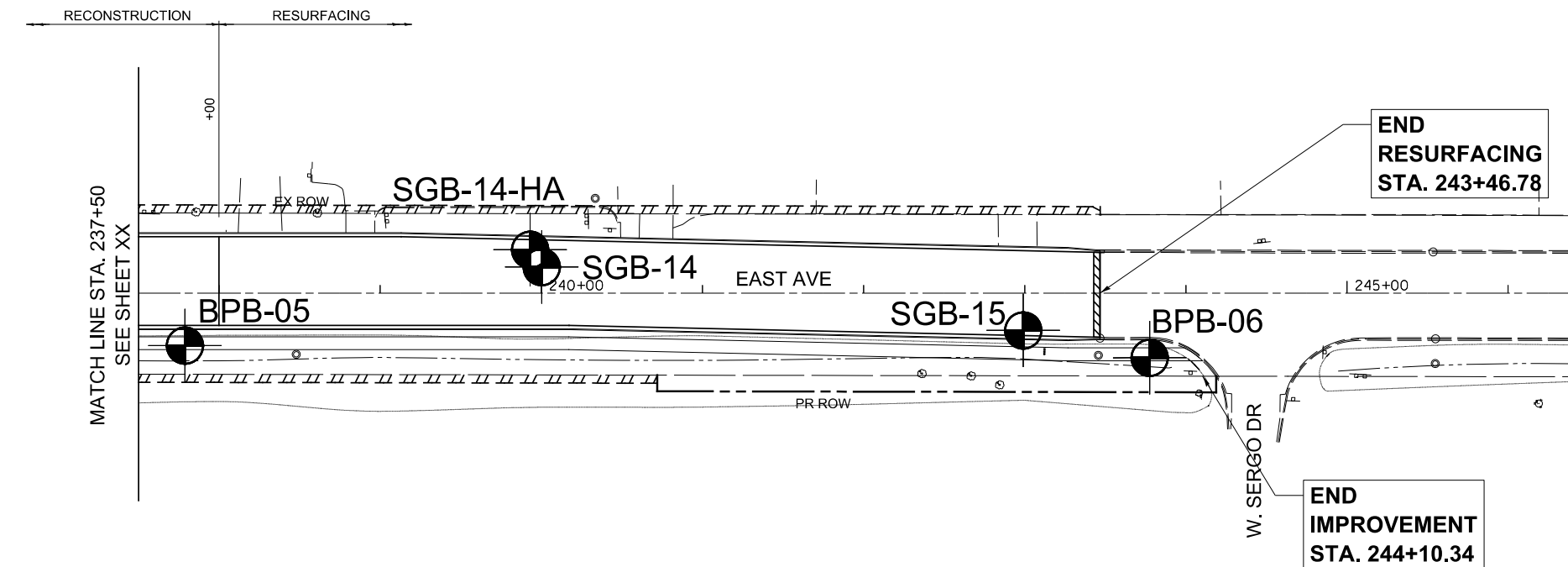
EAST AVE. PLAN AND PROFILE-II  
EAST AVENUE (55TH ST. TO JOLIET RD.)  
SCALE: SHEET OF SHEETS STA. 210+00 TO STA. 223+50

|                           |         |        |              |           |
|---------------------------|---------|--------|--------------|-----------|
| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 6         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |



|               |                |      |
|---------------|----------------|------|
| PLAN          | SURVEYED       | DATE |
|               | PLOTTED        |      |
|               | CHECKED        |      |
|               | ALIGNED        |      |
|               | FILED          |      |
| NOTE BOOK NO. | CADD FILE NAME |      |

|               |                |      |
|---------------|----------------|------|
| PROFILE       | SURVEYED       | DATE |
|               | PLOTTED        |      |
|               | CHECKED        |      |
|               | ALIGNED        |      |
|               | FILED          |      |
| NOTE BOOK NO. | CADD FILE NAME |      |
| STRUCTURE     | NOTATIONS      | CHFD |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

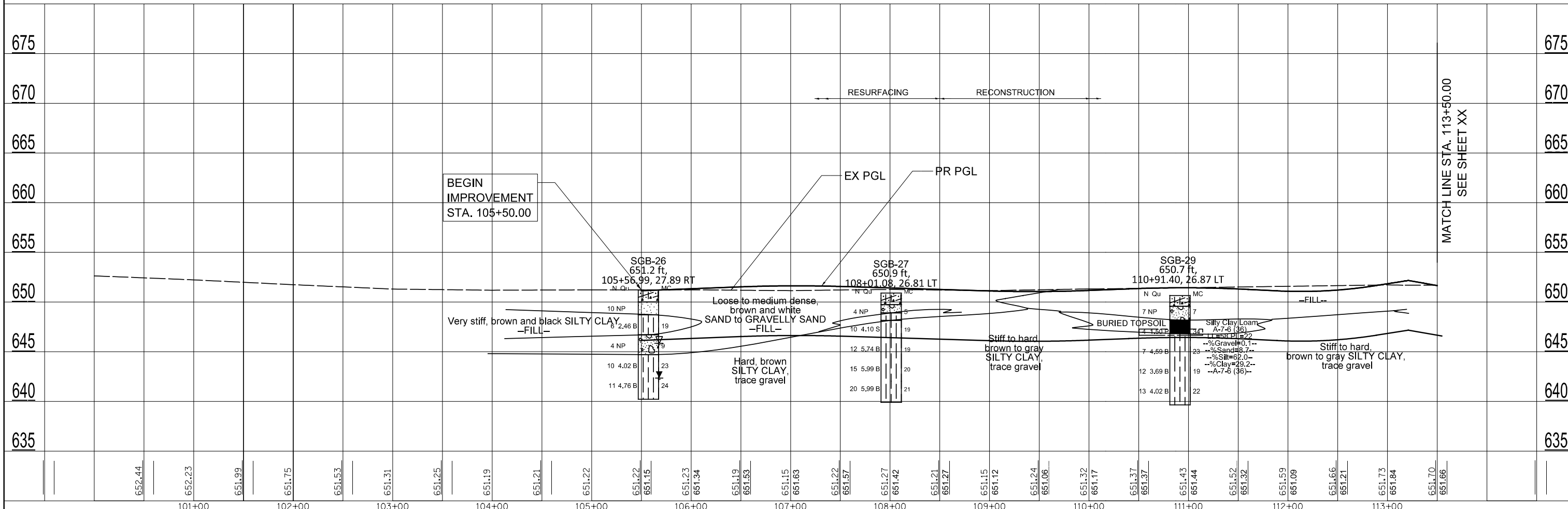
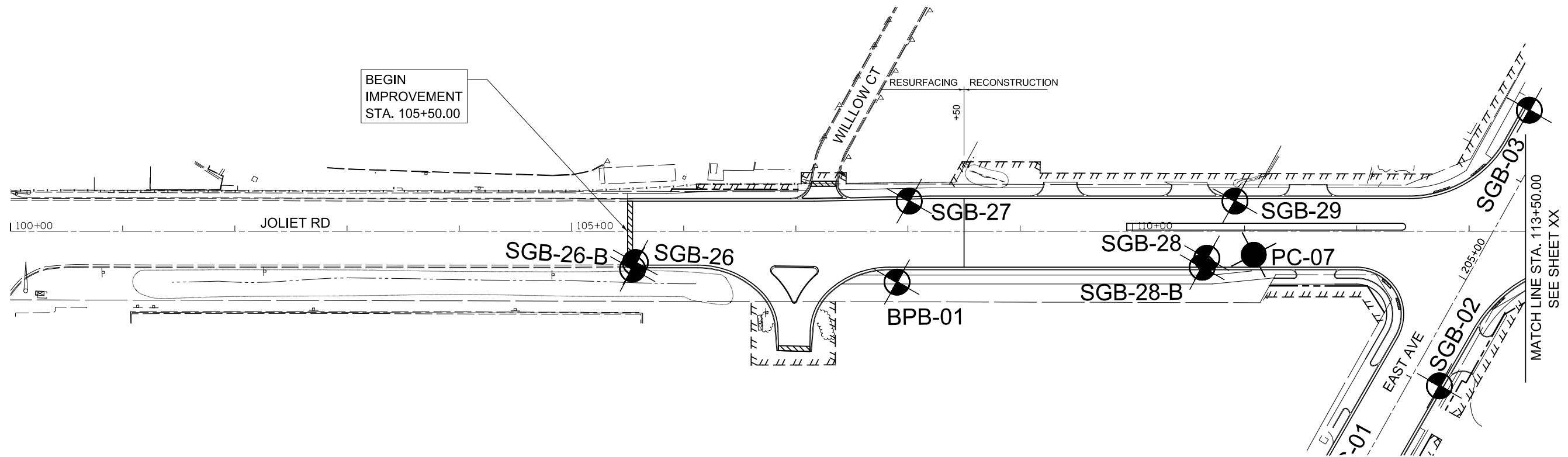
EAST AVE. PLAN AND PROFILE-IV  
EAST AVENUE (55TH ST. TO JOLIET RD.)

SCALE: SHEET OF SHEETS STA. TO STA.

|                           |         |        |              |           |
|---------------------------|---------|--------|--------------|-----------|
| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 8         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

|      |          |    |      |
|------|----------|----|------|
| PLAN | SURVEYED | BY | DATE |
|      | PLOTTED  |    |      |
|      | CHECKED  |    |      |
|      | ALIGNED  |    |      |
|      | FILED    |    |      |
|      | NO.      |    |      |

|         |           |    |      |
|---------|-----------|----|------|
| PROFILE | SURVEYED  | BY | DATE |
|         | PLOTTED   |    |      |
|         | CHECKED   |    |      |
|         | GRADES    |    |      |
|         | STRUCTURE |    |      |
|         | NOTATIONS |    |      |
|         | CHKD      |    |      |
|         | NO.       |    |      |



FILE NAME = #FILEL#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
| PLOT SCALE = #SCALE# | DRAWN - JN        | REVISED - |
| PLOT DATE = #DATE#   | CHECKED - TGM     | REVISED - |
|                      | DATE - 04/13/2018 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

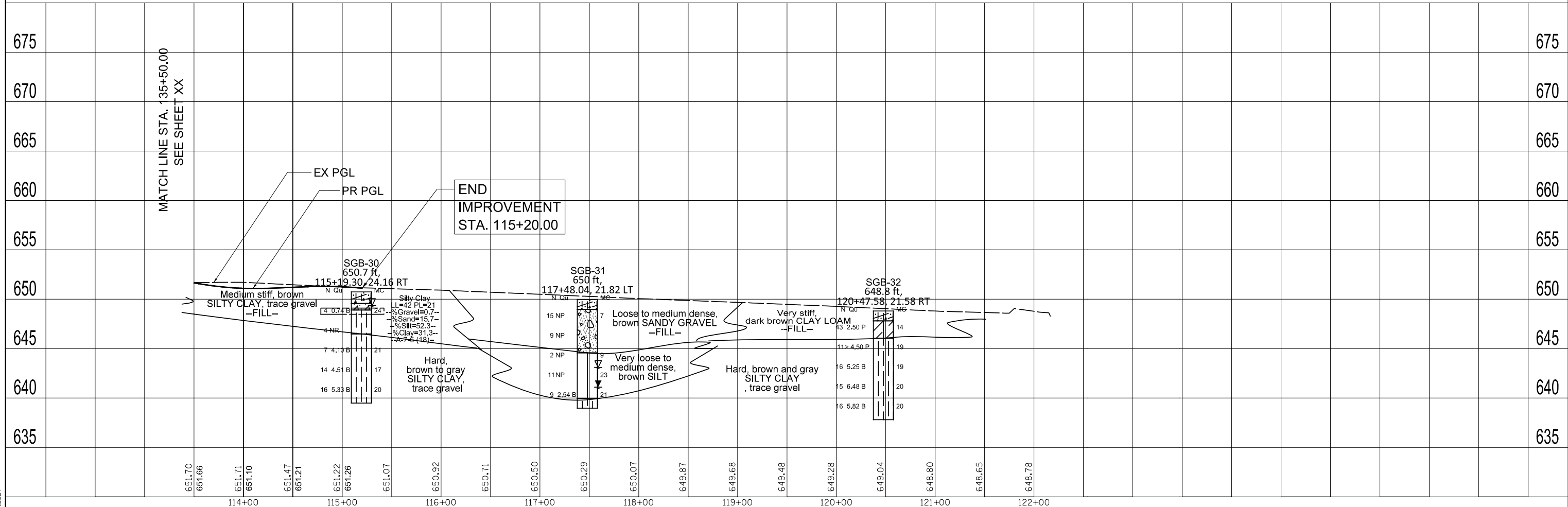
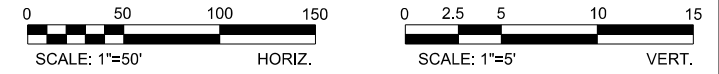
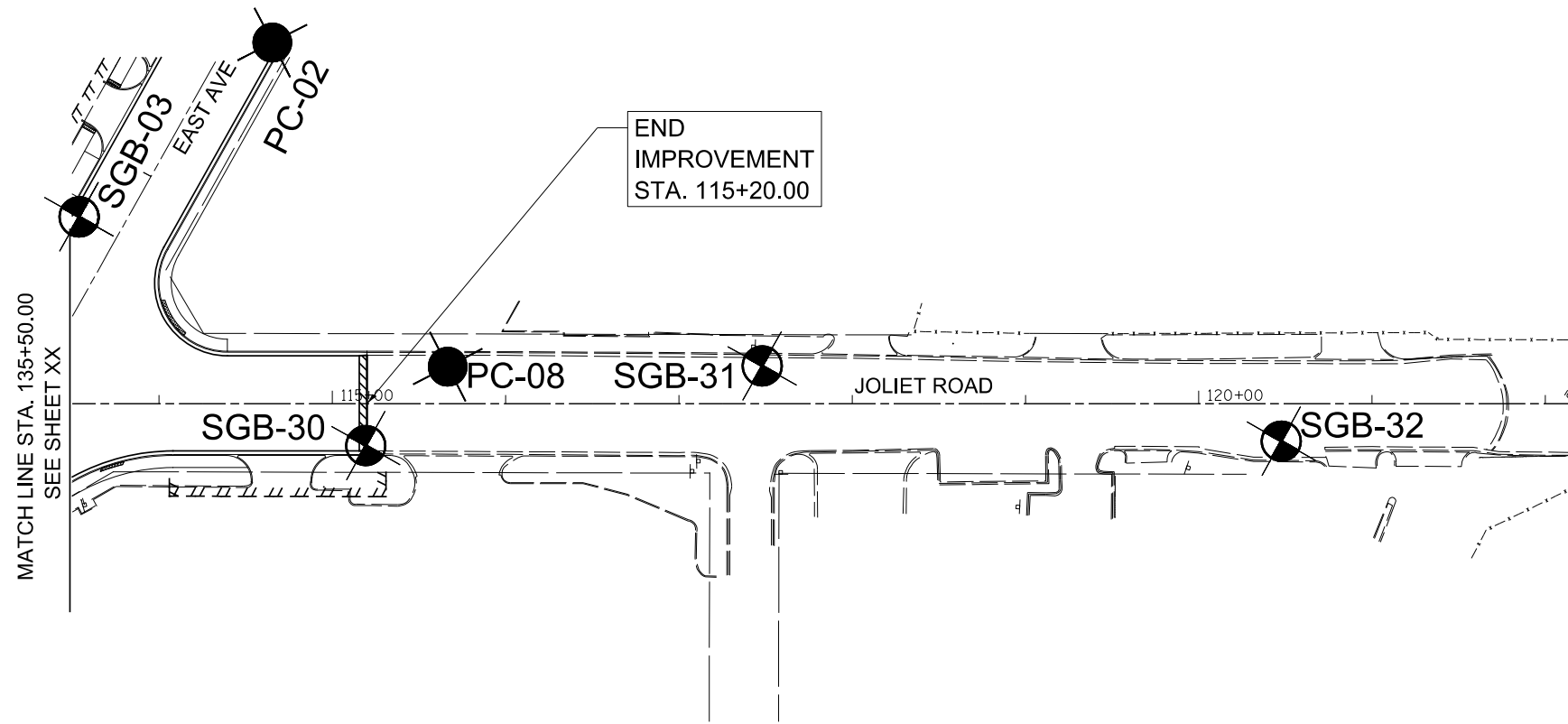
|   |                             |
|---|-----------------------------|
| <b>JOLIET RD. PLAN AND PROFILE-I<br/>EAST AVENUE (55TH ST. TO JOLIET RD.)</b> |                             |
| SCALE: _____  | SHEET _____ OF _____ SHEETS |
| STA. _____  | TO STA. _____               |

|                           |         |        |              |           |
|---------------------------|---------|--------|--------------|-----------|
| F.A.U. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2719                      | 0102N&T | COOK   | 10           | 9         |
| CONTRACT NO. 62C25        |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |

MATCH LINE STA. 113+50.00  
SEE SHEET XX

|               |                |    |      |
|---------------|----------------|----|------|
| PLAN          | SURVEYED       | BY | DATE |
|               | PLOTTED        |    |      |
|               | CHECKED        |    |      |
|               | ALIGNED        |    |      |
|               | CADD FILE NAME |    |      |
| NOTE BOOK NO. |                |    |      |

|               |                          |    |      |
|---------------|--------------------------|----|------|
| PROFILE       | SURVEYED                 | BY | DATE |
|               | PLOTTED                  |    |      |
|               | GRADES CHECKED           |    |      |
|               | STRUCTURE NOTATIONS CHKD |    |      |
| NOTE BOOK NO. |                          |    |      |



FILE NAME = #FILE#



|                      |                   |           |
|----------------------|-------------------|-----------|
| USER NAME = #USER#   | DESIGNED - JMT    | REVISED - |
|                      | DRAWN - JN        | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - TGM     | REVISED - |
| PLOT DATE = #DATE#   | DATE - 04/13/2018 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

JOLIET RD. PLAN AND PROFILE-II  
EAST AVENUE (55TH ST. TO JOLIET RD.)

SCALE: SHEET OF SHEETS STA. 135+50 TO STA. 115+20

|                    |         |        |                           |           |
|--------------------|---------|--------|---------------------------|-----------|
| F.A.U. RTE.        | SECTION | COUNTY | TOTAL SHEETS              | SHEET NO. |
| 2719               | 0102N&T | COOK   | 10                        | 10        |
| CONTRACT NO. 62C25 |         |        | ILLINOIS FED. AID PROJECT |           |