



REPORT TRANSMITTAL

April 3, 2023

To: Randal G. Newkirk, PE
Design Engineering Manager
Hampton Lenzini and Renwick, Inc.
380 Shepard Drive
Elgin, Illinois 6012
P: 847.697.6700

Re: **Roadway Geotechnical Report**
Proposed McLean Boulevard Phase II
From Spring St to Stearns Rd
F.A.U. Route 2509
Section 18-00050-00-PV
South Elgin, Illinois
Kane County

Rubino Report No. G21.165_REV1

Via email: rnewkirk@hlreng.com

Dear Mr. Newkirk,

Rubino Engineering, Inc. (Rubino) is pleased to submit our Geotechnical Engineering Services Report for the proposed reconstruction of McLean Boulevard from W Spring Street to Stearns Road in South Elgin (Kane County), Illinois.

Report Description

Enclosed is the Geotechnical Services Report including results of field and laboratory testing, as well as recommendations for subgrade stability, pavement design, and general site development.

Authorization and Correspondence History

- Rubino Proposal No. Q21.082g dated February 18, 2021
- 20210726 – Rubino Engineering – South McLean Blvd Agreement, between Hampton, Lenzini and Renwick, Inc. and Rubino Engineering, Inc. Signed by Randal G. Newkirk, PE of Hampton Lenzini and Renwick, Inc. and Michelle Lipinski of Rubino Engineering on 7/27/2021
- Illinois Department of Transportation Memorandum of Comments and Recommendations dated March 8, 2023 and provided to Rubino by HLR on March 10, 2023

Closing

Rubino appreciates the opportunity to provide geotechnical services for this project and we look forward to continued participation during the design and in future construction phases of this project.

If you have questions pertaining to this report, or if Rubino may be of further service, please contact our office at (847) 931-1555.

Respectfully submitted,
RUBINO ENGINEERING, INC.

Michelle A. Lipinski, PE
President
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MAL/file/ Enclosures

**PROPOSED McLEAN BOULEVARD
PHASE II**

SOUTH ELGIN, ILLINOIS

KANE COUNTY

**F.A.U. ROUTE 2509
SECTION 18-00050-00-PV**

STATION 13+40 TO STATION 74+05

**RUBINO PROJECT NO.
G21.165_REV1**

***Roadway
Geotechnical
Report***

*Drilling
Laboratory Testing
Geotechnical Analysis*

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PREPARED FOR:

**HAMPTON LENZINI AND RENWICK,
INC.**

380 SHEPARD DRIVE

ELGIN, ILLINOIS 60123

APRIL 3, 2023

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PROJECT DESCRIPTION, LOCATION AND SCOPE

Rubino Engineering, Inc. (Rubino) understands that Hampton Lenzini and Renwick, Inc. (HLR) is planning to aid in the design of the reconstruction of McLean Boulevard from Spring Street to Stearns Road in South Elgin, Illinois. Please refer to the Site Vicinity Map located in [Appendix A](#). The project includes the reconstruction of McLean Boulevard (STA 13+40 to STA 74+05). McLean Blvd currently consists of two (2) lanes. The proposed improvements will result in the expansion to four (4) lanes with a center median, a new traffic signal at N Lancaster Drive, a multi-use path, and turn lane modifications at Stearns Road. The length of the improvements is approximately 1.25 miles long. The proposed pavement consists of 9 inches of asphalt and 12 inches of aggregate subgrade improvement. Please refer to [Appendix B](#) for proposed typical sections and [Appendix C](#) for preliminary plans and profiles with soil profiles.

This report presents the results of the roadway geotechnical field and laboratory investigations performed by Rubino, along with engineering analyses, and recommendations performed by Rubino. The geotechnical recommendations presented in this report are based on the available project information and the subsurface materials described in this report.

GEOLOGY AND PEDOLOGY

The ground elevation in the area of exploration decreases gradually from approximately 816 feet at the intersection of W Springs Street and S McLean Blvd to 750 feet at the intersection of Stearns Road and S McLean Blvd. This slight drop in elevation from north to south is most likely attributed to water-based erosion to the Fox River as well as other flood events.

The geomorphology of central Kane County resulted primarily from the advance of continental glaciers during the last glaciation (Wisconsin Episode; 55,000 – 10,000 years B.P.). During the Wisconsin Episode, two sublobes of the Lake Michigan glacial lobe (the Harvard and Princeton sublobes) merged and overlapped in Kane County (Grimley & Curry, 2002). The westward advance of these sublobes was controlled by preexisting bedrock highs or preexisting moraines from older glacial episodes. Ice stagnation of these sublobes created a kamic landscape, shaping the hills of sand and gravel that exist throughout the county. Subsequent stacking of various types of glacial deposits, of contrasting age and lithology, occur within the area of exploration.

S McLean Blvd lies on top the Minooka and St. Charles Moraines, which trend N-S throughout the Geneva Quadrangle. These moraines are separated by the Fox River, except in western South Elgin, where the Minooka Moraine crossed the St. Charles bedrock valley and deposited an



Quadrangle (Grimley, D.A. & B.B. Curry, 2002).



upland outwash fan delta on top of the St. Charles Moraine (Grimley & Curry, 2002). Fossil tundra plants that date the timing of deposition of these two moraines can be found at the Fox River Stone Quarry just south of the area of exploration along Stearns Road. The Minooka and St. Charles Moraines contain as much as 80 feet of gray to yellow-brown silty clay diamicton and are associated with the Yorkville Member of the Lemont Formation (Grimley & Curry, 2002).

S McLean Blvd also lies on top of the Henry Formation, which consists of coarse-grained outwash sands and gravels. These outwash deposits are stratified to massive, generally well sorted, and were deposited by glacial meltwater streams in front of ice margins. The Henry Formation can be up to 30 feet thick in the outwash fan delta of the Minooka Moraine northwest of the Fox River Stone Quarry (Grimley & Curry, 2002).

Other formations and deposits within the area of exploration include the Cahokia Formation, Grayslake Peat, and human disturbed ground. The alluvial deposits of the Cahokia Formation consist of sand, silt, and clay, with local beds containing sandy gravel. The swampy depressional deposits of the Grayslake Peat consist of peat, muck, organic silt, and clay, which can be interbedded with sand, silt, and clay. Areas containing human-disturbed deposits include significant spoil piles or removed earth in gravel pits, quarries, and landfills (Grimley & Curry, 2002). Bedrock in Kane County consists of Silurian carbonate and Ordovician shale and dolomite of the Maquoketa Group which unconformably underlies about 180 feet of surficial, glacial, and alluvial deposits. These rock units dip gently to the east and crop out along the Fox River south of the area of exploration.

Geology and Pedology maps can be found in [Appendix D](#).

FIELD EXPLORATION

Drilling, Field, and Laboratory Tests

The soil borings were performed and logged by Rubino drillers personnel between 3/31/22 and 4/12/22. The borings were advanced by Rubino using a Geoprobe 7822DT with 3 ¼ inch inside-diameter, hollow stem auger drilling methods and soil samples were routinely obtained during the drilling process.

Table 1: Borings Performed

BORING NO.	DATE	STATION	OFFSET (FEET)	SURFACE ELEVATION (FEET)	DRILLING DEPTH (FEET BEG*)
SB-01	4/11/22	12+77.17	-38.067	749.63	15
SB-02	4/11/22	14+99.07	26.371	760.25	15
SB-03	4/11/22	17+51.27	-26.527	772.35	15
SB-04	3/31/22	20+03.36	21.455	780.57	15
SB-05	4/11/22	21+96.37	-11.104	784.19	15
SB-06	3/31/22	25+48.58	13.027	787.73	15
SB-07	4/1/22	27+80.90	-8.635	792.73	15



BORING NO.	DATE	STATION	OFFSET (FEET)	SURFACE ELEVATION (FEET)	DRILLING DEPTH (FEET BEG*)
SB-08	3/31/22	30+04.29	12.112	798.43	15
SB-09	4/1/22	32+78.83	0.451	805.05	15
SB-10	3/31/22	35+15.47	21.523	808.28	15
SB-11	4/1/22	37+94.41	-15.114	811.66	15
SB-12	3/31/22	40+78.62	29.915	811.98	15
SB-13	4/1/22	43+62.59	-12.015	811.61	15
SB-14	3/31/22	46+32.03	18.707	810.93	15
SB-15	4/1/22	49+17.58	-8.104	810.29	15
SB-16	4/11/22	52+23.35	4.246	809.54	15
SB-17	4/1/22	55+02.85	-8.361	808.88	15
SB-18	4/11/22	58+12.56	5.948	808.93	15
SB-19	4/12/22	60+71.65	-10.204	808.29	15
SB-20	4/12/22	63+76.70	-18.201	807.92	15
SB-21	4/12/22	66+99.24	-1.848	810.75	15
SB-22	4/12/22	69+73.29	-29.204	812.81	15

*BEG = Below existing grade

The boring logs showed data from the following test procedures:

- *Standard Penetration Test*
- *Field Water Level Measurements*
- *Laboratory Determination of Water (Moisture) Content of Soil by Mass*
- *Laboratory Determination of Atterberg Limits (ASTM D4318)*
- *Laboratory Determination of Particle Size (Hydrometer) Analysis of Soils (ASTM D422)*

The results of these tests can be found on the accompanying boring logs located in [Appendix F](#) or Laboratory Test Results in [Appendix G](#).

Subsurface Conditions

Soils generally consisted of silty clay, silty clay loam, silty loam, sandy loam, silt, sand and gravel.

Detailed descriptions of the soils encountered in the soil borings completed by Rubino are presented in the attached Boring Logs in [Appendix E](#) and Soil Plan and Profile in [Appendix C](#).

Groundwater Conditions

Groundwater was encountered in some of the borings along McLean Boulevard during drilling operations. Table 2 summarizes groundwater observations where groundwater was encountered during drilling operations:



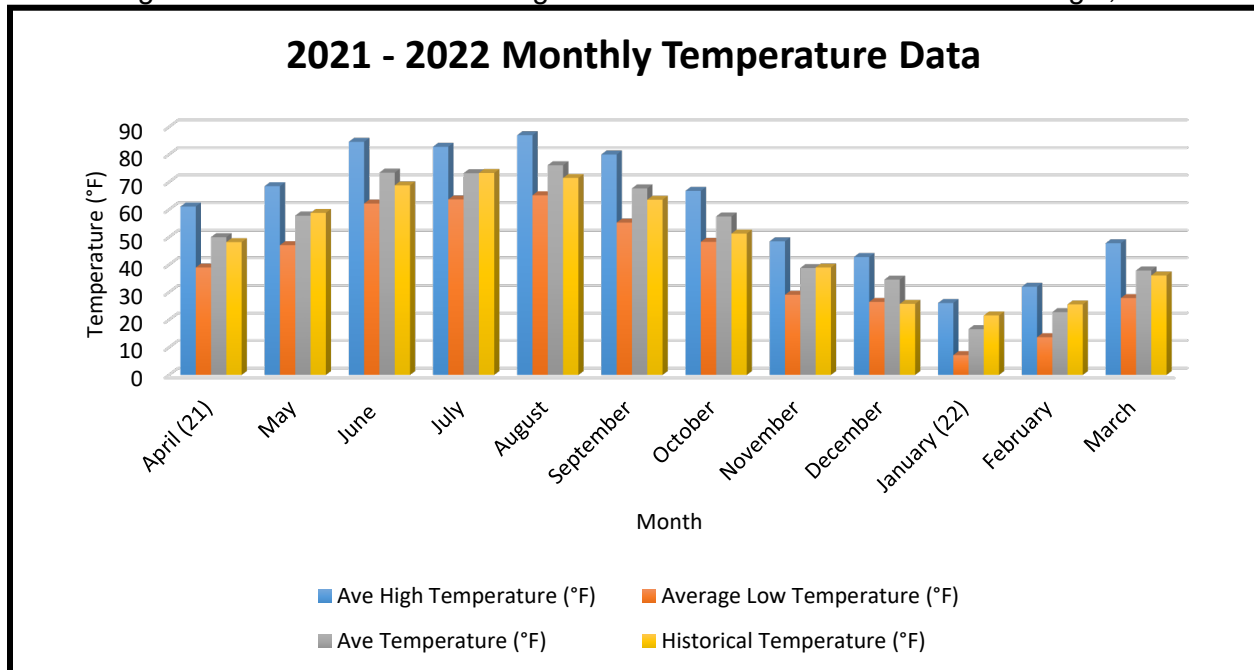
Table 2: Groundwater Observation Summary

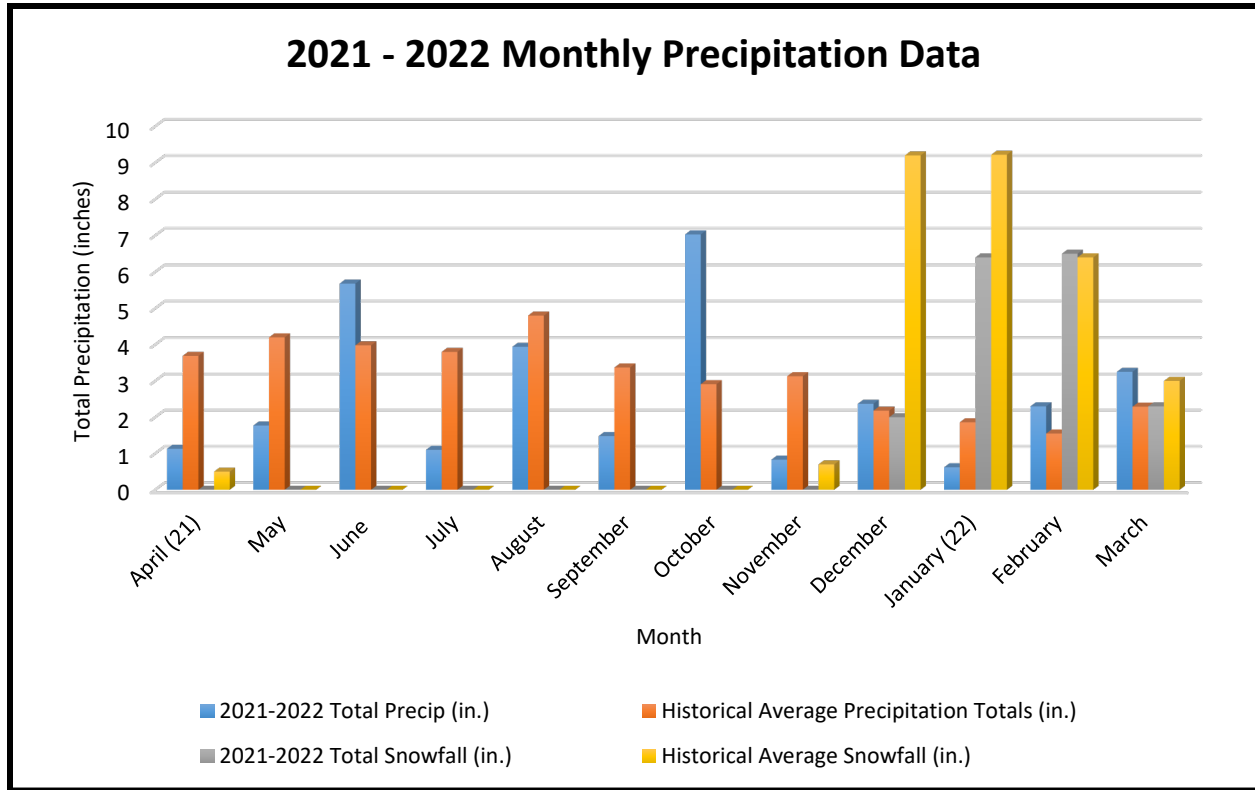
BORING NUMBER	STATION	BORING SURFACE ELEVATION (FEET)	GROUNDWATER ELEVATION DURING DRILLING (FEET)	GROUNDWATER ELEVATION UPON AUGER REMOVAL (FEET)
SB-08	30+04.29	798.43	790	788 ½
SB-10	35+15.47	808.28	796 ½	800 ¾
SB-14	46+32.03	810.93	807 ½	797
SB-15	49+17.58	810.29	798 ¼	796 ¼
SB-17	55+02.85	808.88	800	801
SB-18	58+12.56	808.93	799 ½	800 ½
SB-19	60+71.65	808.29	802 ¼	800 ¼
SB-20	63+76.70	807.92	799 ½	N/A
SB-21	66+99.24	810.75	798 ¾	799 ¾
SB-22	69+73.29	812.81	800	803

It should be noted that fluctuations in the groundwater level should be anticipated throughout the year depending on variations in climatological conditions (as discussed below) and other factors not apparent at the time the borings were performed.

The subsurface investigation for the proposed McLean Boulevard improvements in Kane County, Illinois was performed during the months of March and April 2022. To assess the possible effects of temperature and precipitation on groundwater level and soil moisture during the investigation, the climatic conditions from April 2021 through March 2022 are summarized graphically, below.

The precipitation and temperature data for the investigation period are compared against thirty-year monthly data (1981 to 2010) to illustrate deviations from “normal” climate conditions during the investigation in 2022. Local climatologic data were obtained from the NOAA Elgin, IL station.





Higher than average temperatures were recorded for the months of April, June, August, September, October, and December in 2021 as well as in March in 2022. Higher than average precipitation measurements were recorded for the months of June, October, and December in 2021 as well as in February and March in 2022.

Higher than average precipitation may have affected the moisture contents in the upper soils sampled for this project in March and April 2022.

GENERAL SUBGRADE CONDITIONS

The geotechnical-related recommendations in this report are presented based on the subsurface conditions encountered and Rubino’s understanding of the project. Should changes in the project criteria occur, a review must be made by Rubino to determine if modifications to our recommendations will be necessary.

Undocumented Fill Discussion

Undocumented fill was observed in some of the borings to elevations of approximately 811 ½ to 781 ½ (to depths of approximately 6 feet below existing grade). Undocumented fill was likely placed during original roadway development.



Deleterious materials, such as pieces of glass and asphalt, were noted within the undocumented fill materials in one of the borings. Please see the boring logs in Appendix E for more details.

Although deleterious materials were not encountered in all the undocumented fill materials, this does not eliminate the possibility that deleterious materials could be present within the undocumented fill materials at other locations along the project.

Undocumented fill is defined as fill that has been placed without being documented as to its placed density and moisture content.

Deleterious materials could include, but are not limited to, bricks, asphalt, concrete, metal, wood, or other building debris.

Topsoil Discussion

Rubino recommends budgeting for a topsoil stripping thickness of 6 inches for estimating quantities. The actual need for topsoil removal should be determined in the field.

Prior to construction, the ground surface should be stripped of topsoil, organic matter, including root zone materials, and existing pavement. Rubino recommends that the topsoil meeting the requirements of Section 211 of the IDOT Standard Specifications for Road and Bridge Construction (2022) that is stripped be stockpiled, sorted, and reused for the proposed landscaping improvements. A plan note containing the stockpile information should be included in the contract documents.

Please note that the topsoil thicknesses provided in the report is an estimation. The actual removal depth and the quantity of topsoil removal should be verified in the field.

ANALYSIS AND RECOMMENDATIONS

Embankment Fill Materials

Rubino anticipates that fill will be required in areas where there is proposed widening and new construction. Approximate fill depths are not expected to exceed 5 feet per the cross sections in the site plans provided by HLR. Embankment fill materials are not known at this time. Fill Materials must meet the requirements of Section 204 of IDOT's *Standard Specifications for Road and Bridge Construction (2022)*.

For budget purposes, the IDOT *Illinois Construction Manual (March 2021)* recommends a shrinkage factor of 15 percent be used to determine earthwork quantities.

Expansive and Frost Susceptible Soils Discussion



Rubino completed lab testing to identify soils with expansive properties (LL>50) and frost susceptibility (PI<12 and >65% silt and fine sand).

Based on the lab testing that Rubino completed, Rubino has not identified expansive or frost susceptible soils along the project. Refer to Appendix F for IDH grain size distribution charts and IDH textural classification charts.

Subgrade Support Rating (SSR)

The soil types throughout the length of the project are varied. For design of the proposed roadway, a Subgrade Support Rating (SSR) of Poor is indicated based on the laboratory test results. Five data points from laboratory hydrometer testing are presented below as well as included in Appendix F. It should be noted that the hydrometer testing was performed at depths of 1 to 3 ½ feet below existing grade.

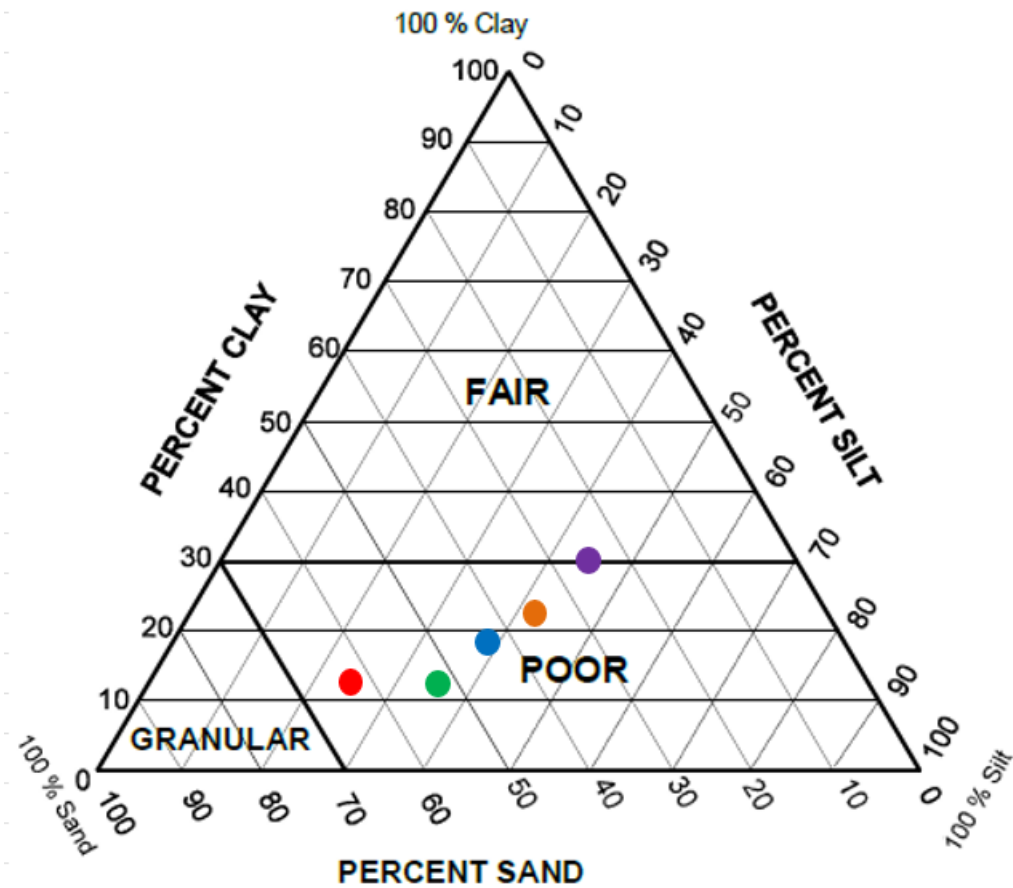







Table 3: Soil Summary

BORING NUMBER	STATION	DEPTH (FT)* / ELEVATION WHERE	SOIL CLASSIFICATION (AASHTO/IDH)	COLOR
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MATERIAL IS OBSERVED				
B-04	20+03.36	1 – 8 ½ 779 ½ – 772	A-4/Clay Loam	
B-07	27+80.90	1 – 3 ½ 791 ½ – 789	Sandy Loam	
B-11	37+94.41	3 ½ - 6 808 – 805 ½	Sandy Loam	
B-16	52+23.35	1 ½ - 3 ½ 808 – 806	A-6/Loam	
B-21	66+99.24	2 – 3 ½ 809 – 807 ½	Clay Loam (FILL)	

* Depth below existing grade

The source of the new embankment material is not known at this time, therefore a SSR of poor is recommended for new embankment materials.

Illinois Bearing Ratio

Illinois Bearing Ratio (IBR) testing was outside the scope of this roadway geotechnical report. However, an IBR of 3 should be used for the pavement design based on the soils encountered at the proposed subgrade level at each location and an AASHTO M 145 Soil Class of A-4, A-5, and A-6 or better. The following table was obtained from the IDOT Geotechnical Manual (2020):

Soil Classification	Assumed IBR
A-1	20
A-2-4, A-2-5	15
A-2-6, A-2-7	12
A-3	10
A-4, A-5, A-6	3
A-7-5, A-7-6	2

Table 6.3.1-1 Estimated IBR Values

Subsurface Drainage

Proper surface grading should be incorporated into design and construction of subgrade and pavement to remove water accumulations and prevent ponding of water.

- There are no longitudinal underdrains detailed in the proposed highway plans along the length of the project. Aggregate subgrade improvement will be utilized for this project; therefore, Rubino recommends longitudinal underdrains along the length of the improvements to prevent the seepage of water into the aggregate subgrade improvement.



- Transverse underdrains are recommended under all proposed full-width pavement areas using a spacing of 300 feet as well as in low areas and at the base of any undercuts. Additionally, transverse underdrains are recommended at sag areas along the roadway profile and in areas where silty soils are encountered near the bottom of the proposed pavement section. Material such as this were not encountered at the time of drilling.

The underdrains should tie into the storm water drainage system or daylighted at sag locations along the roadway profile and should be installed per Article 601 in the IDOT *Standard Specifications for Road and Bridge Construction (Adopted January 1, 2022)* and consist of Type 3 underdrains.

Subgrade Improvement Recommendations

The recommendations located in this report are based on the data obtained at each particular soil boring location. Soil subgrade stability may vary in the field between the borings and could be affected by the weather at the time of construction.

- See IDOT IBV Based Remedial Action chart from the IDOT Subgrade Stability Manual for reference.
- IDOT requires the use of subgrade improvement below proposed pavement.
 - The proposed highway plans state the entire length of the improvements will contain 12 inches of aggregate subgrade improvement (SY).
 - Accordingly, subgrade with an IBV value of less than 3 is a candidate for remediation when incorporating aggregate subgrade improvement.
- If unsuitable soils are encountered in the field during construction, it is recommended that the soil be removed and replaced with material meeting the IDOT *Special Provision for Aggregate Subgrade Improvement*

Unstable soil should be treated in accordance with Article 301.04 of the standard specifications and undercut guidelines in the IDOT Subgrade Stability Manual 2005:



Table 4: Undercut Recommendations

STATIONS		PAVEMENT TREATMENT WIDTH*	SUBGRADE IMPROVEMENT*	REMEDICATION METHOD	REFERENCE BORING AND SUBGRADE DISCUSSION
FROM	TO				
24+00	26+50	Proposed Roadway Widening Area	12 inches	Remove and replace with Agg. Subgrade Improvement (CY) and place geotextile fabric at the base of the undercut	SB-06 Black Silty Clay fill soils, moisture content 28%
42+25	45+00	Southbound Lane Roadway Widening Area	6 inches	Remove and replace with Agg. Subgrade Improvement (CY) and place geotextile fabric at the base of the undercut	SB-13 Brown / Black silty clay fill soils with Qp of 0.5 tsf
47+75	50+75	Southbound Lane Widening Area	6 inches	Remove and replace with Agg. Subgrade Improvement (CY) and place geotextile fabric at the base of the undercut	SB-15 Undocumented fill soils with Qp of 0.75

*The proposed highway plans detail 12-inch Aggregate Subgrade Improvement (SY) for the length of the project where there is new road construction and widening. The undercuts in *Table 4* should be measured from the bottom of the 12-inch Aggregate Subgrade Improvement (SY) detailed in the highway plans for the listed station ranges. Undercuts should be backfilled with material meeting the requirements in the IDOT Bureau of Design and Environment (BDE) Aggregate Subgrade Improvement Special Provision (April 1, 2022). The actual need for removal and replacement and use of geotechnical fabric should be determined in the field at the time of construction by the Geotechnical Engineer or Soils Inspector.

Rubino recommends including an Aggregate Subgrade Improvement (CY) nominal quantity of 25% of the planned full-depth pavement area (in addition to the areas listed in *Table 4*) assuming thickness of 12 inches. The recommendation is included in case of identification of unsuitable soils in areas of reconstruction in the field at the time of testing and construction.

Rubino recommends including a Geotechnical Fabric for Ground Stabilization (SY) nominal quantity of 25% of the planned pavement area. Geotechnical fabric should be placed at the base of undercut areas. Additionally, geotechnical fabric should be used in areas where low strength subgrade soils are encountered and it is determined to be necessary to achieve stability by the Geotechnical Engineer or soils inspector at the time of construction. Fabric should meet the requirements of Article 210, Fabric for Ground Stabilization, of the SSRBC.

Proposed fill section materials shall meet the requirements of the *Embankment Fill Materials* section of this RGR.

Slope Stability

Based on the *IDOT Geotechnical Manual (2020)*, slope stability analyses are not required for embankments less than 15 feet high or cut sections less than 15 feet deep. The embankments for this project are not proposed to exceed 15 feet in height and cut depths are not proposed to exceed 15 feet in depth. Therefore, slope stability analyses are not required for this project.



Settlement

The proposed road elevation is planned to be at or near the existing road elevation in areas of reconstruction or widening. Proposed fill placement is planned to be approximately less than or equal to 5 feet in the existing ditch areas for embankment and roadway widening according to the cross-sections in the *Proposed Highway Plans*. Therefore, Rubino anticipates that settlement is expected to be less than 1 inch for the length of the project where fill is placed.

Please note that any topsoil should be removed, and subgrade stability should be checked in accordance with the IDOT Subgrade Stability Manual 2005 before placement of embankment fill.

Minor Structure – Utility Installation Considerations

Rubino anticipates that the proposed manhole and pipe inverts will be bearing between elevations of approximately 749 and 807 feet. The silty clay and sandy soils were soft/loose in some of the borings within that elevation range and may need additional bedding stone for support and/or consideration during excavation.

Rubino recommends that the utilities be supported by a granular bedding material similar to the gradation of an IDOT CA-07 or CA-06 stone. The thickness of the bedding material should be at least 6 inches. Add additional 6 inches of bedding stone as needed to bridge over softer soils (see table below).

The following geotechnical considerations should be considered for either trenching or trenchless techniques performed as part of this project. Soils presented below are included because they may not be self-supporting during trench excavation:

- Granular soils
- Groundwater
- Cohesive soils with lower shear strengths as noted below

Table 5: Geotechnical Considerations for Utility Installation

LOCATION	DEPTH RANGE (FEET BEG*)	SOIL CONSIDERATIONS FOR OPEN TRENCH EXCAVATION
SB-10 STA: 35+00 to 36+50	8 – 10 (Elev. 800 – 798)	Saturated soft cohesive soils Add additional 6 inches of bedding stone
SB-20 STA: 62+25 to 65+25	8 – 11 (Elev. 800 – 797)	Soft, saturated cohesive soils Add additional 6 inches of bedding stone
SB-21 STA: 65+25 to 68+25	13 ½ – 15 (Elev. 797 ½ – 796)	Saturated loose granular and soft cohesive soils Add additional 6 inches of bedding stone



*BEG = below existing grade

Please note, problematic soils may be encountered at other locations or depths for this project and therefore, trench boxes should be anticipated for the entire project during open trench installation. Lateral earth pressures should be considered when using trench boxes or other shoring methods for the excavations.

CLOSING

The recommendations submitted are based on the available subsurface information obtained by Rubino and design details furnished by HLR for the proposed project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Rubino should be notified immediately to determine if changes in our recommendations are required.

This report has been prepared for the exclusive use of HLR and their consultants for the specific application to the proposed McLean Boulevard Phase II in Kane County, Illinois.



Appendix A – Site Vicinity Map, Boring Location Map



rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

F.A.U. ROUTE 2509
SPRING STREET TO STEARNS ROAD
SECTION 18-00050-00-PV

Improvement
Limits
Plan

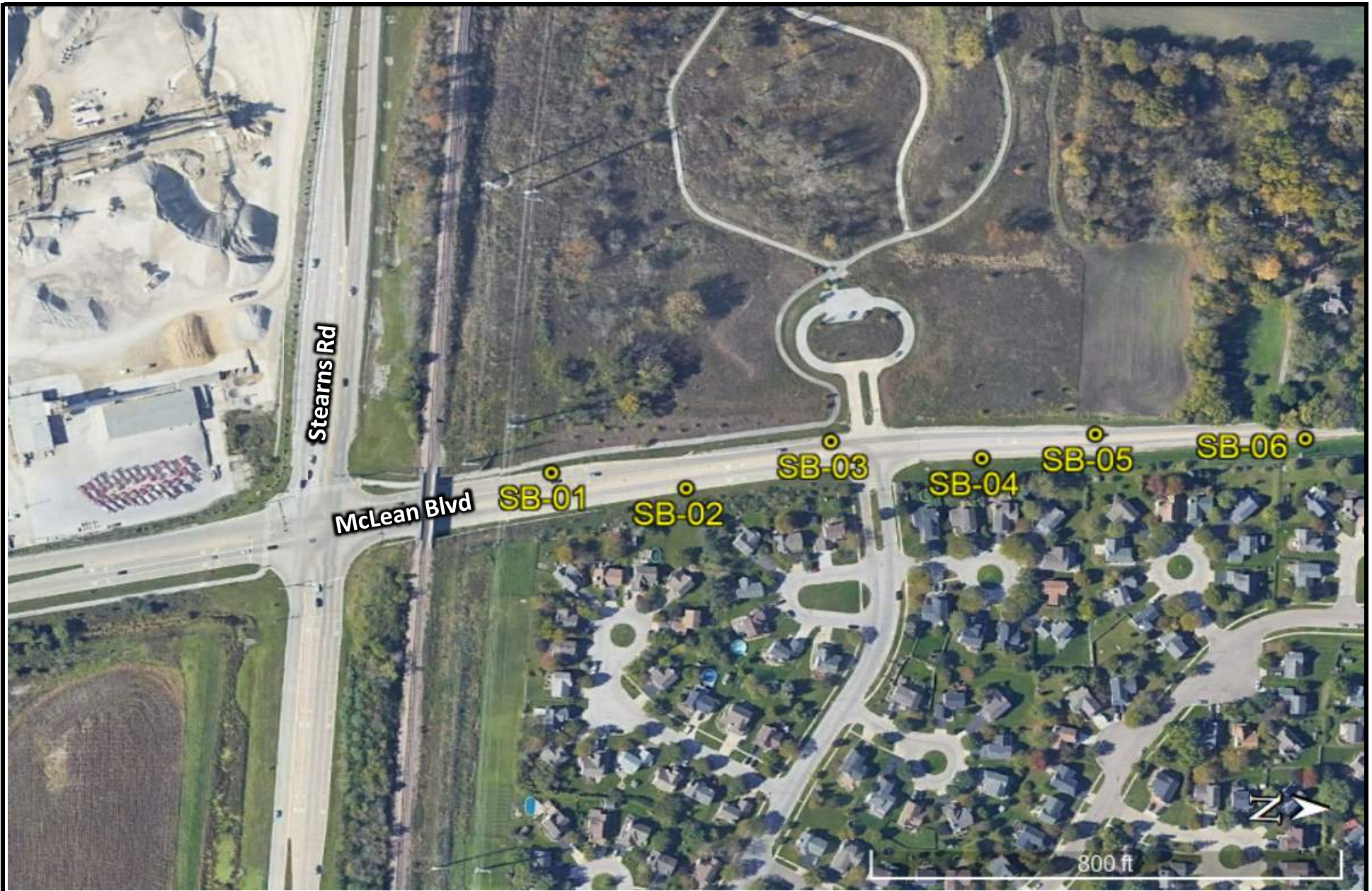


rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name: Illinois Route 59 over Grand Ave. Improvements
Project Location: IL Rte 59 and Grand Avenue
 Fox County, Illinois
Client: Alfred Benesch & Company
Rubino Project # : G21.237

**Site
Vicinity
Map**



rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:
Project Location:

Client:
Rubino Project # :

McLean Blvd Phase II
Stearns Rd to W Spring St
Kane County, IL
Hampton Lenzini and Renwick, Inc.
G21.156

**Boring
Location
Plan 1**



rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:
Project Location:

Client:
Rubino Project # :

McLean Blvd Phase II
Stearns Rd to W Spring St
Kane County, IL
Hampton Lenzini and Renwick, Inc.
G21.156

**Boring
Location
Plan 2**



rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:
Project Location:

Client:
Rubino Project # :

McLean Blvd Phase II
Stearns Rd to W Spring St
Kane County, IL
Hampton Lenzini and Renwick, Inc.
G21.156

**Boring
Location
Plan 3**



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ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:
Project Location:

Client:
Rubino Project # :

McLean Blvd Phase II
Stearns Rd to W Spring St
Kane County, IL
Hampton Lenzini and Renwick, Inc.
G21.156

**Boring
Location
Plan 4**

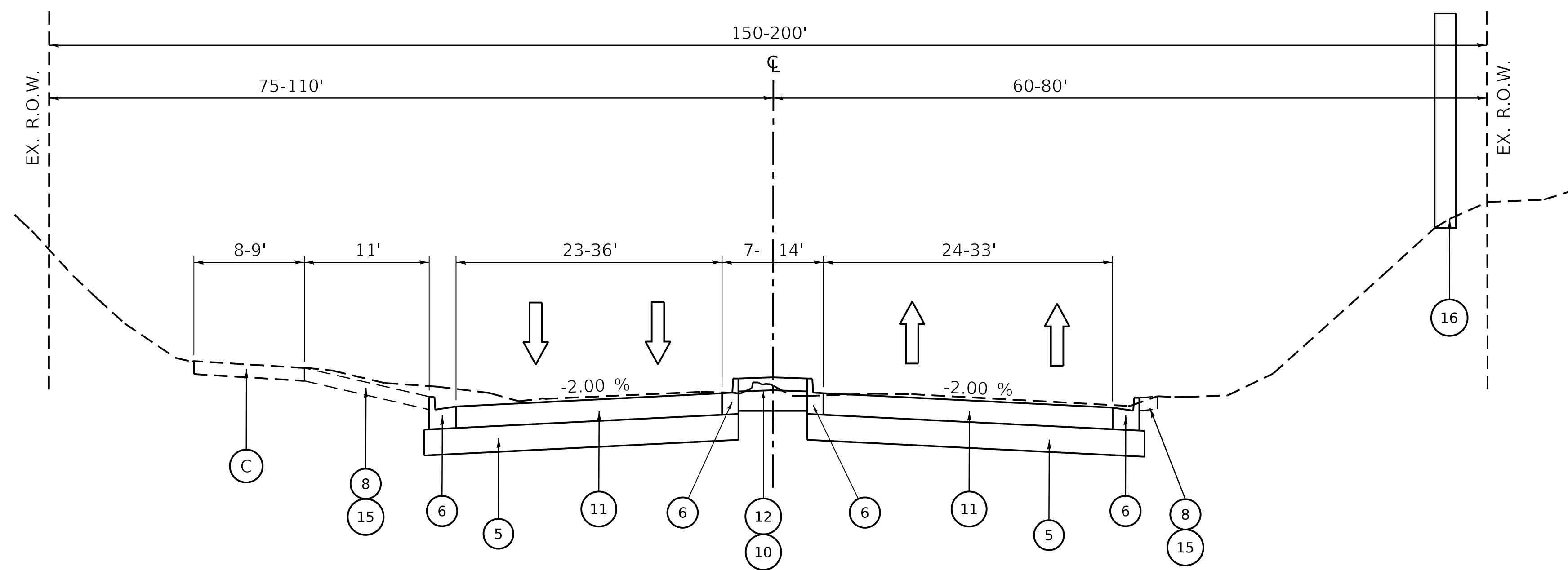
Appendix B – Proposed Typical Sections

PROPOSED LEGEND

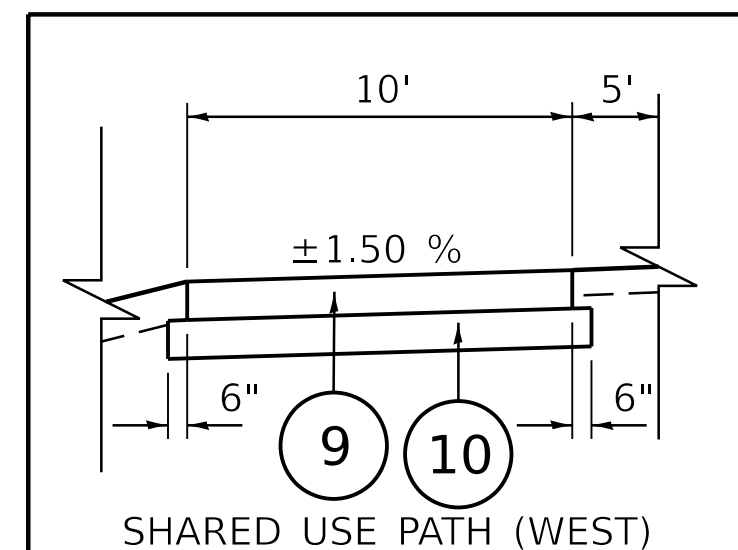
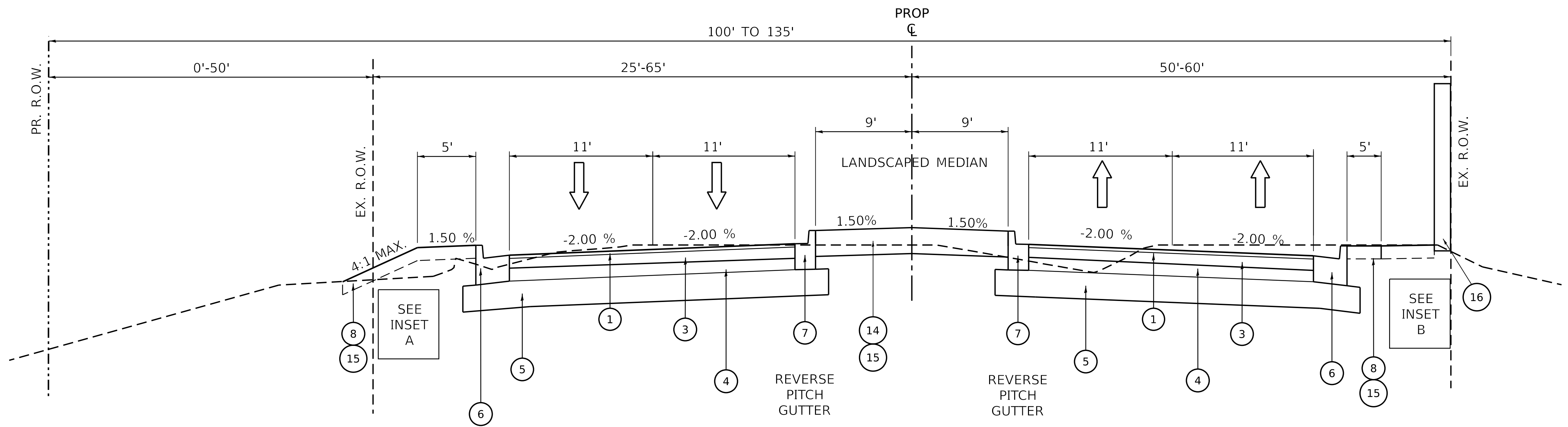
- ① HMA SURFACE COURSE, IL-9.5FG, MIX "E" N70, 2"
- ② POLYMERIZED HMA BINDER COURSE, IL-4.75, N50, 3/4"
- ③ HMA BINDER COURSE, IL-19.0, N70, 3"
- ④ HMA BASE COURSE, 4"
- ⑤ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ⑥ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.24
- ⑦ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.12
- ⑧ TOPSOIL FURNISH AND PLACE, 6"
- ⑨ HMA SURFACE COURSE IL-9.5FG MIX "D" N50, 4"
- ⑩ AGGREGATE BASE COURSE B, 6"
- ⑪ PROPOSED PCC PAVEMENT 10" (JOINTED)
- ⑫ CONCRETE MEDIAN SURFACE, 4"
- ⑬ SB 6.12 MEDIAN
- ⑭ TOPSOIL FURNISH AND PLACE, 12"
- ⑮ EROSION CONTROL BLANKET AND SEEDING CLASS 2A
- ⑯ NOISE WALL (9' IN HEIGHT)
- ⑰ CONCRETE SIDEWALK, 5"
- ⑱ AGGREGATE BASE COURSE B, 4"
- ⑲ RETAINING WALL (VAR. HEIGHT)

* SB - 6.24 MEDIAN FROM STA 15+67 TO 17+71

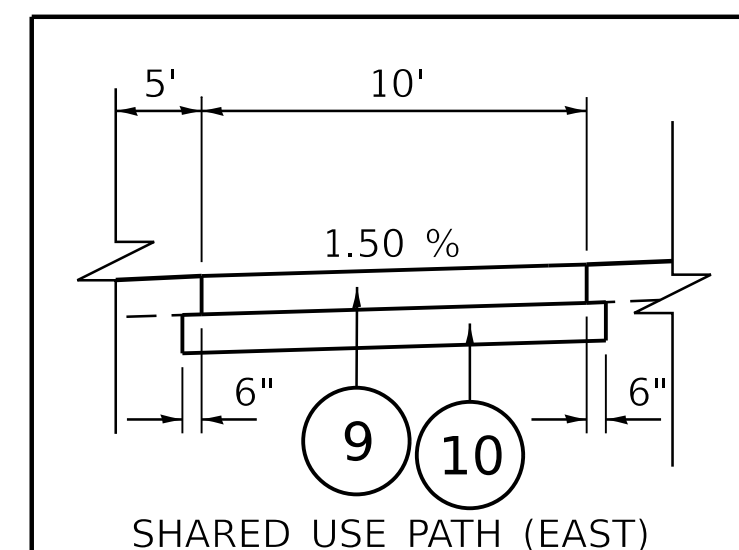
** SEE PLANS FOR DOUBLE TAPERED SECTION



**MCLEAN BLVD
PROPOSED TYPICAL ROADWAY SECTION
LOOKING NORTH
STA 13+40 TO 18+72***



A: Sta. 26+73 TO 37+12



B: Sta. 46+00 TO 56+00

**MCLEAN BLVD
PROPOSED TYPICAL ROADWAY SECTION
LOOKING NORTH
STA 25+84 TO 37+12
STA 46+00 TO 56+00**

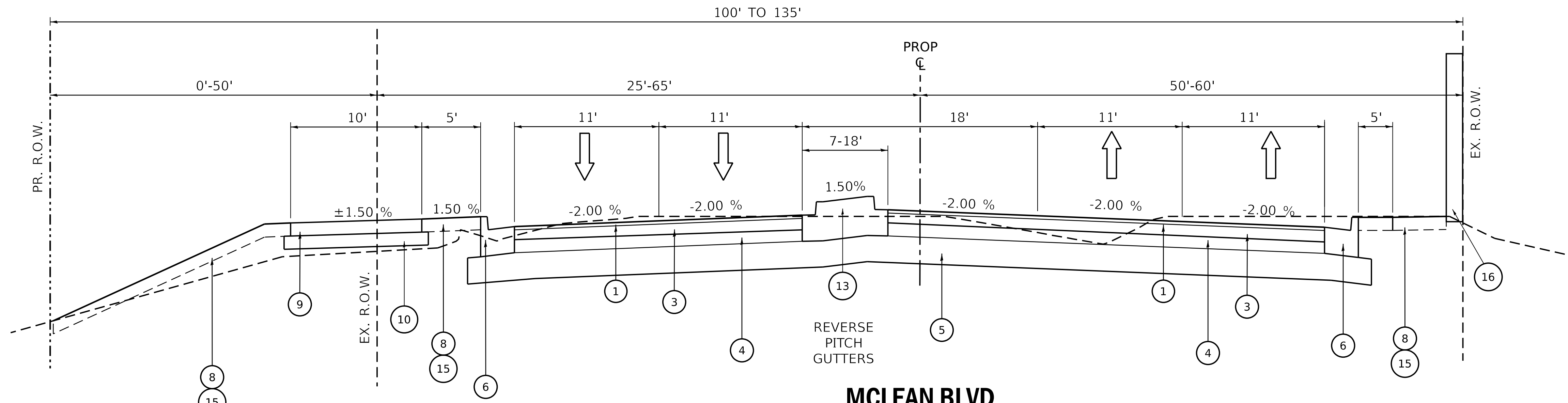
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HAMPTON, LENZINI AND RENWICK, INC. <small>390 SHEPARD DRIVE ELGIN, ILLINOIS 60123 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959</small>	USER NAME = knelms	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST McLEAN BOULEVARD TYPICAL SECTIONS	F.A.U. RTE. = 2509	SECTION = 18-00050-00-PV	COUNTY = KANE	TOTAL SHEETS = 206	SHEET NO. = 6
	PLOT SCALE = 0.0833' / in.	CHECKED -	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.	CONTRACT NO.			ILLINOIS FED. AID PROJECT
	PLOT DATE = 4/15/2022	DATE -	REVISED -							

PROPOSED LEGEND

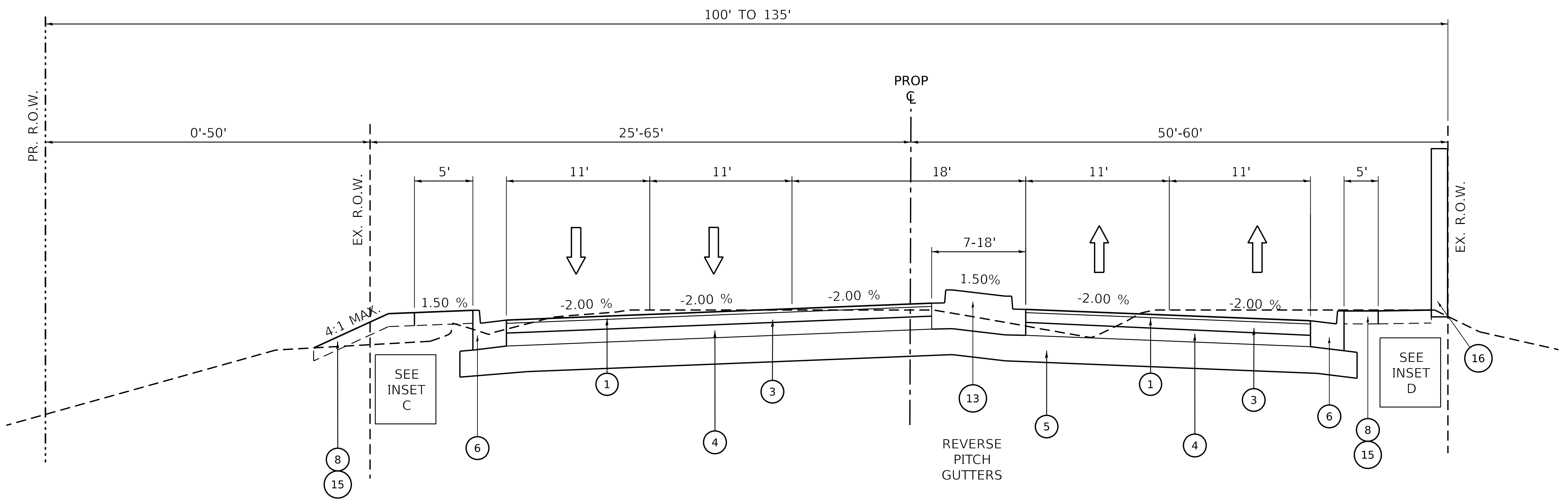
- ① HMA SURFACE COURSE, IL-9.5FG, MIX "E" N70, 2"
- ② POLYMERIZED HMA BINDER COURSE, IL-4.75, N50, 3/4"
- ③ HMA BINDER COURSE, IL-19.0, N70, 3"
- ④ HMA BASE COURSE, 4"
- ⑤ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ⑥ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.24
- ⑦ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.12
- ⑧ TOPSOIL FURNISH AND PLACE, 6"
- ⑨ HMA SURFACE COURSE IL-9.5FG MIX "D" N50, 4"
- ⑩ AGGREGATE BASE COURSE B, 6"
- ⑪ PROPOSED PCC PAVEMENT 10" (JOINTED)
- ⑫ CONCRETE MEDIAN SURFACE, 4"
- ⑬ SB 6.12 MEDIAN
- ⑭ TOPSOIL FURNISH AND PLACE, 12"
- ⑮ EROSION CONTROL BLANKET AND SEEDING CLASS 2A
- ⑯ NOISE WALL (9' IN HEIGHT)
- ⑰ CONCRETE SIDEWALK, 5"
- ⑱ AGGREGATE BASE COURSE B, 4"
- ⑲ RETAINING WALL (VAR. HEIGHT)

* SB - 6.24 MEDIAN FROM STA 15+67 TO 17+71
 ** SEE PLANS FOR DOUBLE TAPERED SECTION



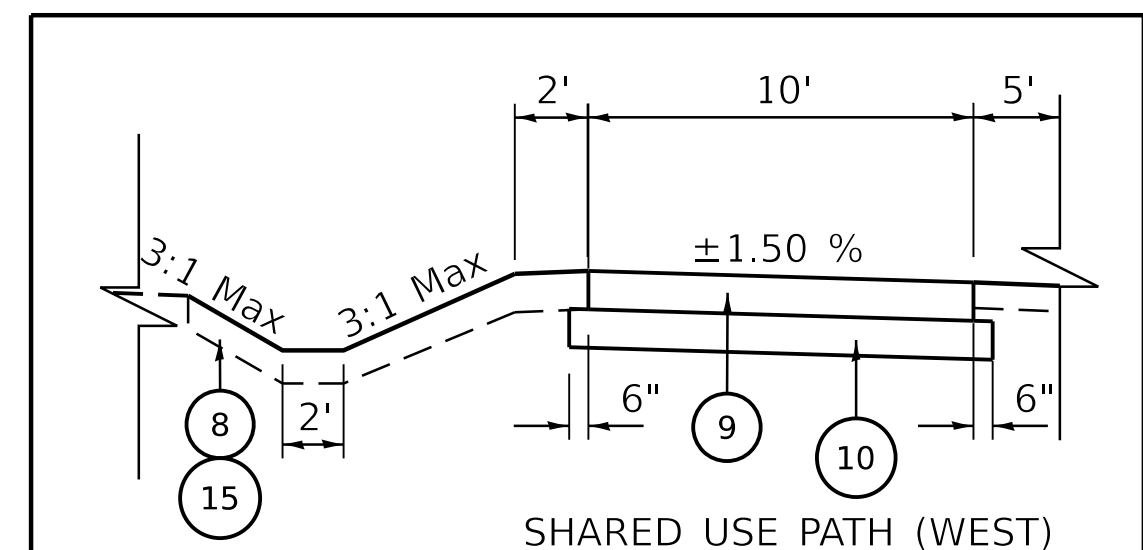
**MCLEAN BLVD
 PROPOSED TYPICAL ROADWAY SECTION
 LOOKING NORTH**

STA 21+99 TO 25+84**
 STA 37+12 TO 41+50

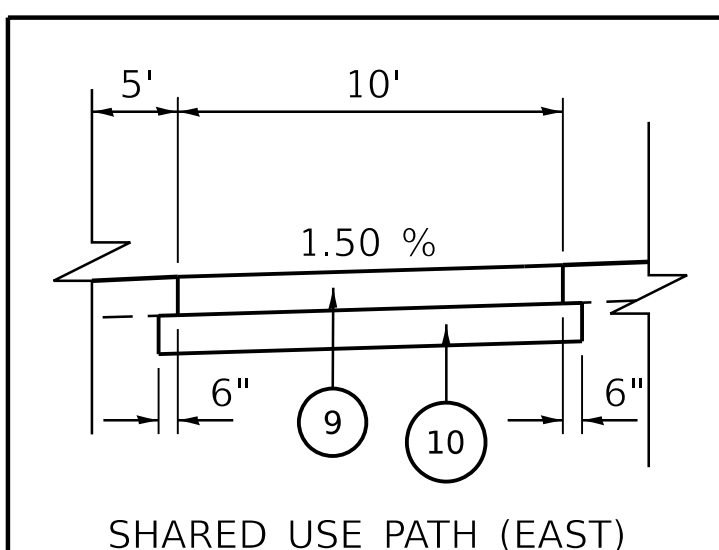


**MCLEAN BLVD
 PROPOSED TYPICAL ROADWAY SECTION
 LOOKING NORTH**

STA 18+72 TO 22+70**
 STA 41+50 TO 46+00



C: Sta. 18+72 TO 22+70



D: Sta. 42+15 TO 46+00

NOTE: SEE PLANS FOR LIMITS BETWEEN LANDSCAPED AND PCC MEDIANS

MODEL: D:\p\h\18089A\cad\plans\2\CAD\Sheet\18089A-ent-typical.dgn

HAMPTON, LENZINI AND RENWICK, INC.
 390 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000959

USER NAME = knetms	DESIGNED -	REVISED -
PLOT SCALE = 0.0833' / in.	DRAWN -	REVISED -
PLOT DATE = 4/15/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 McLEAN BOULEVARD TYPICAL SECTIONS**

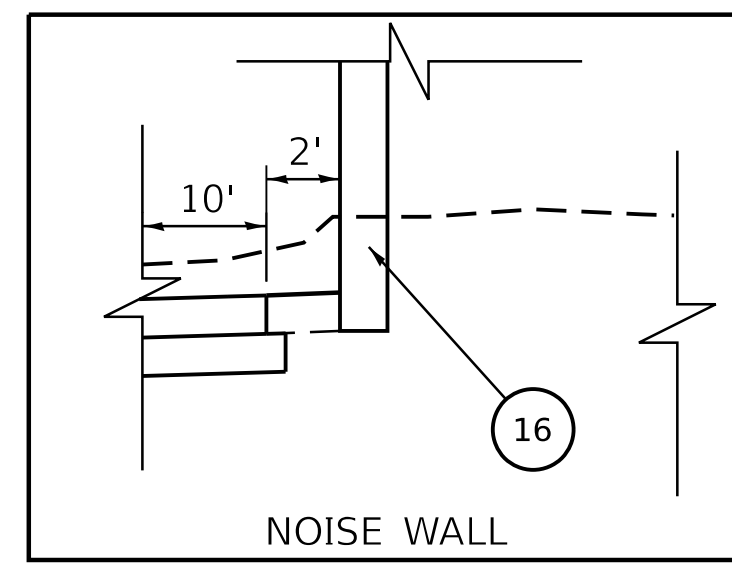
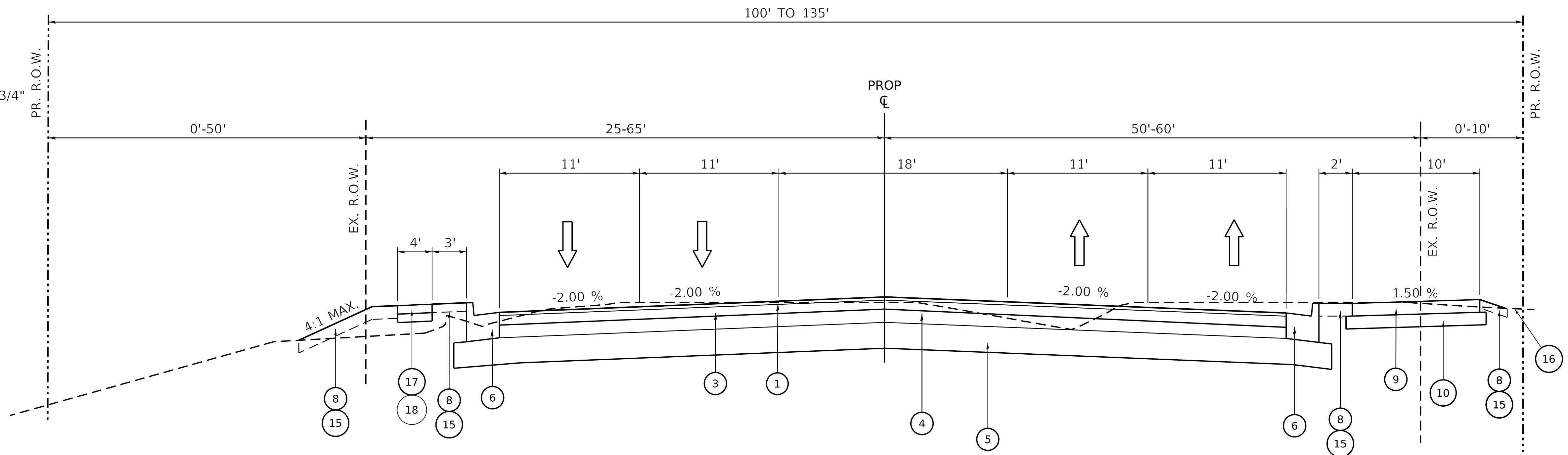
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	7
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

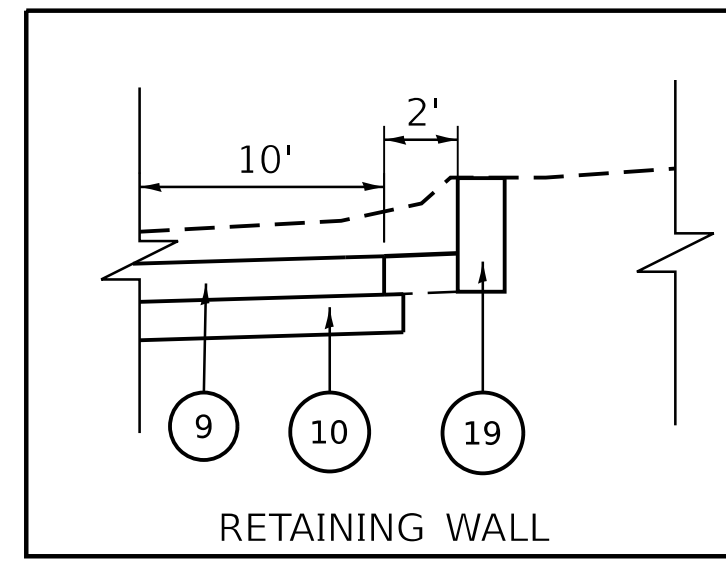
PROPOSED LEGEND

- ① HMA SURFACE COURSE, IL-9.5FG, MIX "E" N70, 2"
- ② POLYMERIZED HMA BINDER COURSE, IL-4.75, N50, 3/4"
- ③ HMA BINDER COURSE, IL-19.0, N70, 3"
- ④ HMA BASE COURSE, 4"
- ⑤ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ⑥ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.24
- ⑦ PROPOSED COMB. CONC. CURB & GUTTER, TYPE B-6.12
- ⑧ TOPSOIL FURNISH AND PLACE, 6"
- ⑨ HMA SURFACE COURSE IL-9.5FG MIX "D" N50, 4"
- ⑩ AGGREGATE BASE COURSE B, 6"
- ⑪ PROPOSED PCC PAVEMENT 10" (JOINTED)
- ⑫ CONCRETE MEDIAN SURFACE, 4"
- ⑬ SB 6.12 MEDIAN
- ⑭ TOPSOIL FURNISH AND PLACE, 12"
- ⑮ EROSION CONTROL BLANKET AND SEEDING CLASS 2A
- ⑯ NOISE WALL (9' IN HEIGHT)
- ⑰ CONCRETE SIDEWALK, 5"
- ⑱ AGGREGATE BASE COURSE B, 4"
- ⑲ RETAINING WALL (VAR. HEIGHT)

* SB - 6.24 MEDIAN FROM STA 15+67 TO 17+71
 ** SEE PLANS FOR DOUBLE TAPERED SECTION



E: Sta. 56+00 TO 62+07



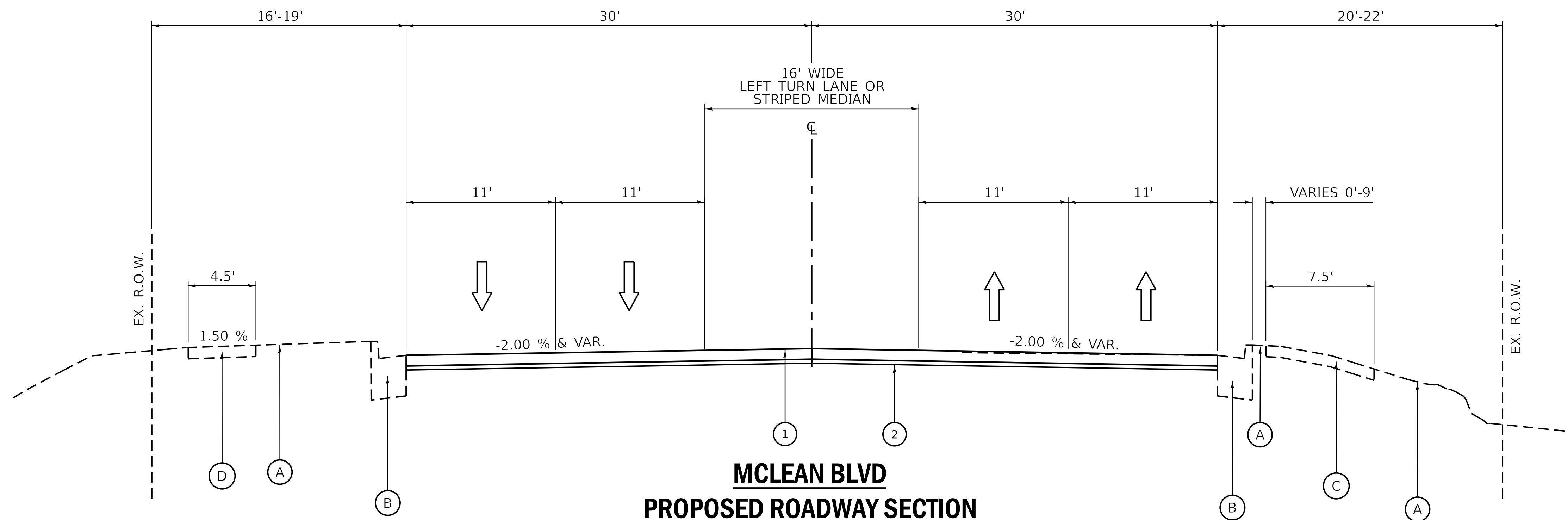
F: Sta. 62+80 TO 64+08

**MCLEAN BLVD
 PROPOSED TYPICAL ROADWAY SECTION
 LOOKING NORTH**

STA 56+00 TO 68+78

SEE
 INSETS
 E & F

NOTE: SIDEWALK BEGINS AT 57+00
 SHARED USE PATH ENDS AT 66+00



**MCLEAN BLVD
 PROPOSED ROADWAY SECTION
 LOOKING NORTH**

STA 68+78 TO 74+05

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HAMPTON, LENZINI AND RENWICK, INC.
 390 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000959

USER NAME = knelms	DESIGNED -	REVISED -
PLOT SCALE = 0.0833' / in.	DRAWN -	REVISED -
PLOT DATE = 4/15/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH MCLEAN BLVD - STEARNS RD TO SPRING ST
 MCLEAN BOULEVARD TYPICAL SECTIONS**

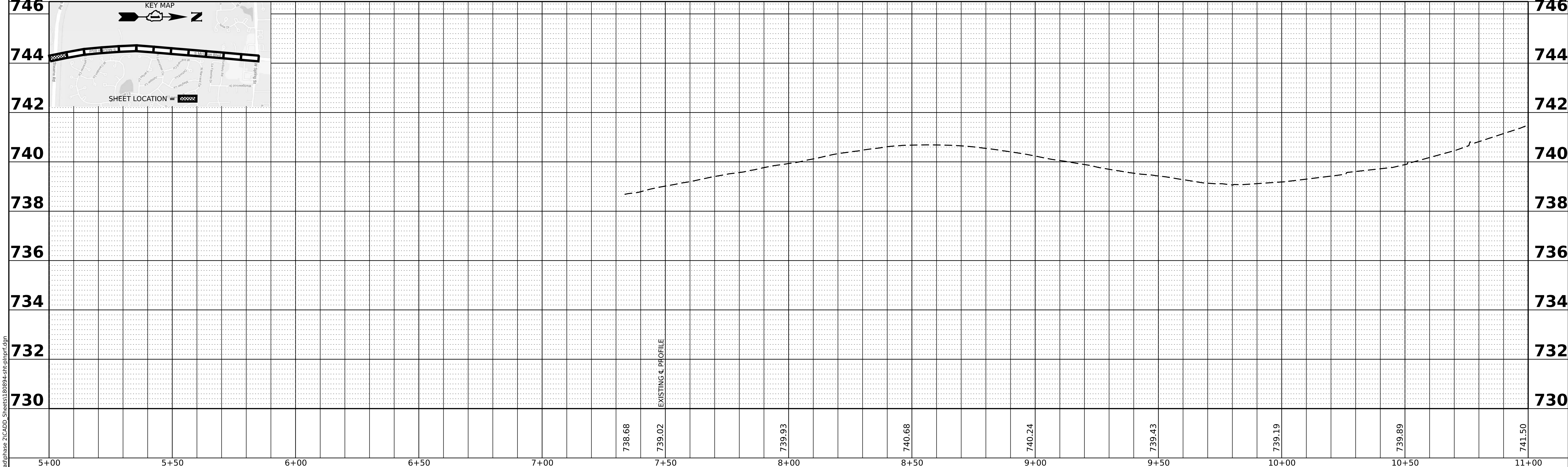
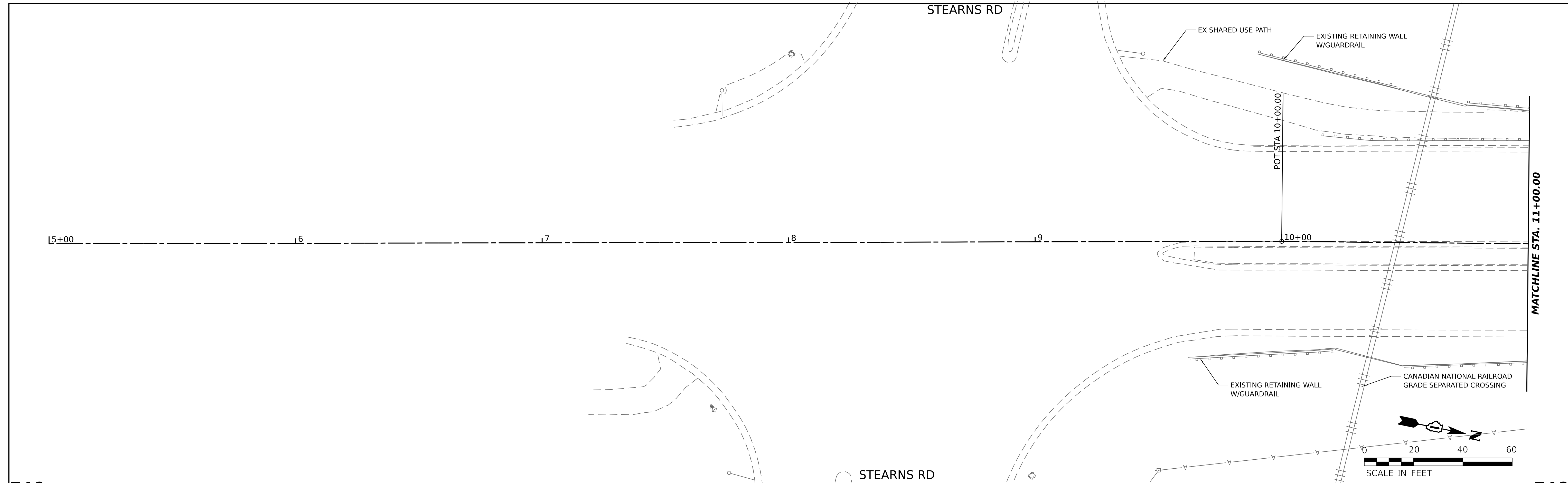
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	8
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Appendix C – Preliminary Plans and Profiles with Soil Profiles

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNMENT CHECKED	
	GRADE CHECKED	
	CADD FILE NAME	
	NO.	

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



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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000559

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		DRAWN -	REVISD -
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PLOT DATE =	4/15/2022	DATE -	REVISD -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

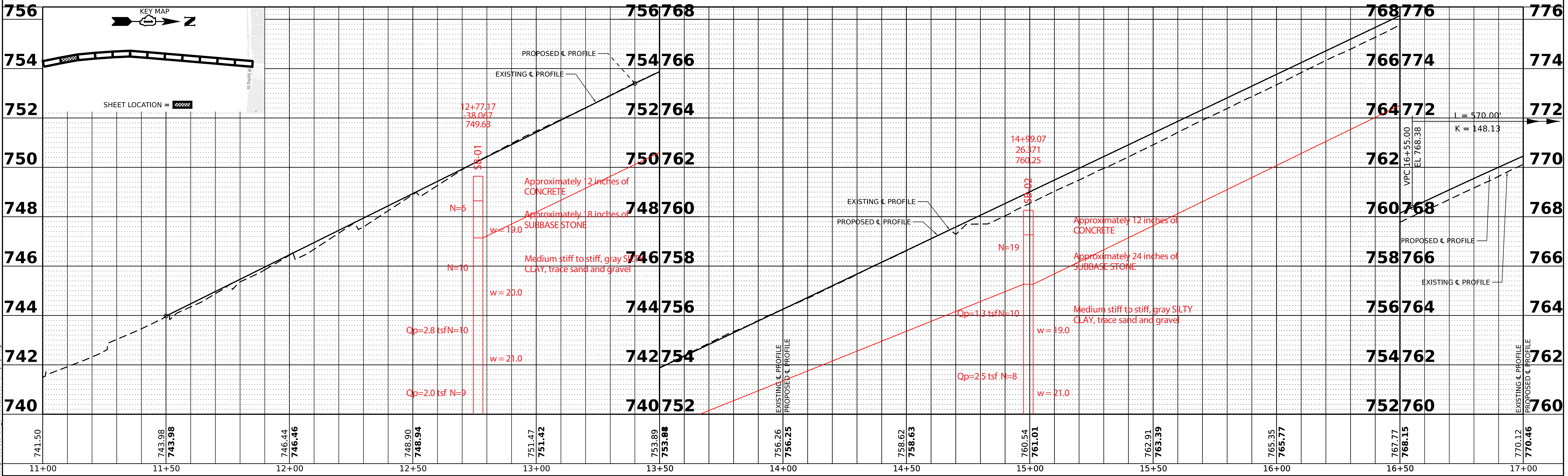
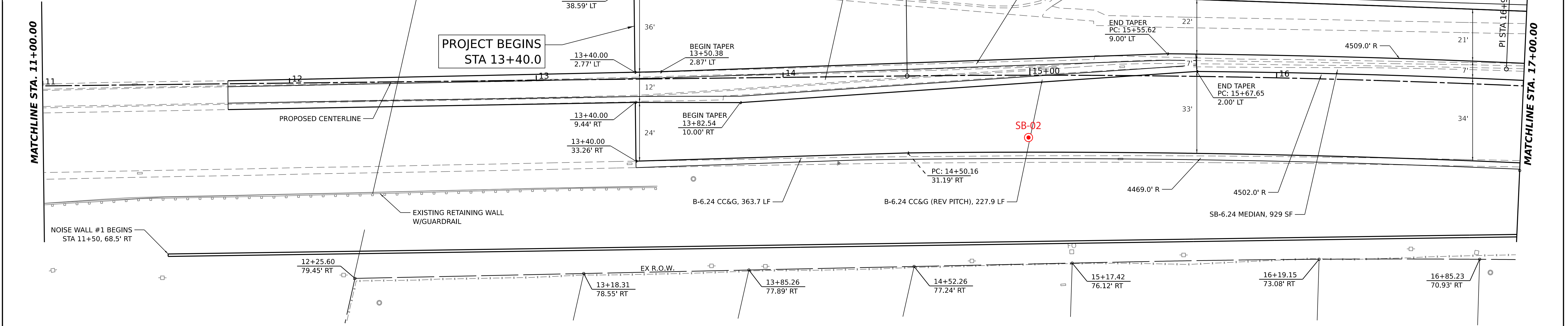
**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE**

SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 5+00 TO STA. 11+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	17
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

LEGEND
 Qp = Bearing Capacity via Pocket Penetrometer in Tons per Square Foot [tsf]
 w = Water Content [%] N = N-Value
 = Lithology Contact
 = Soil Profile / Boring Log
 = Boring Location

DATE	
BY	
PLAN	
NO. _____	
NOTE BOOK	
NO. _____	
DATE	
BY	
PROFILE	
NO. _____	
NOTE BOOK	
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DATE	
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PROFILE	
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NOTE BOOK	
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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000059

USER NAME = knelm	DESIGNED -	REVISED -
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PLOT DATE = 4/15/2022	CHECKED -	REVISED -
	DATE -	REVISED -

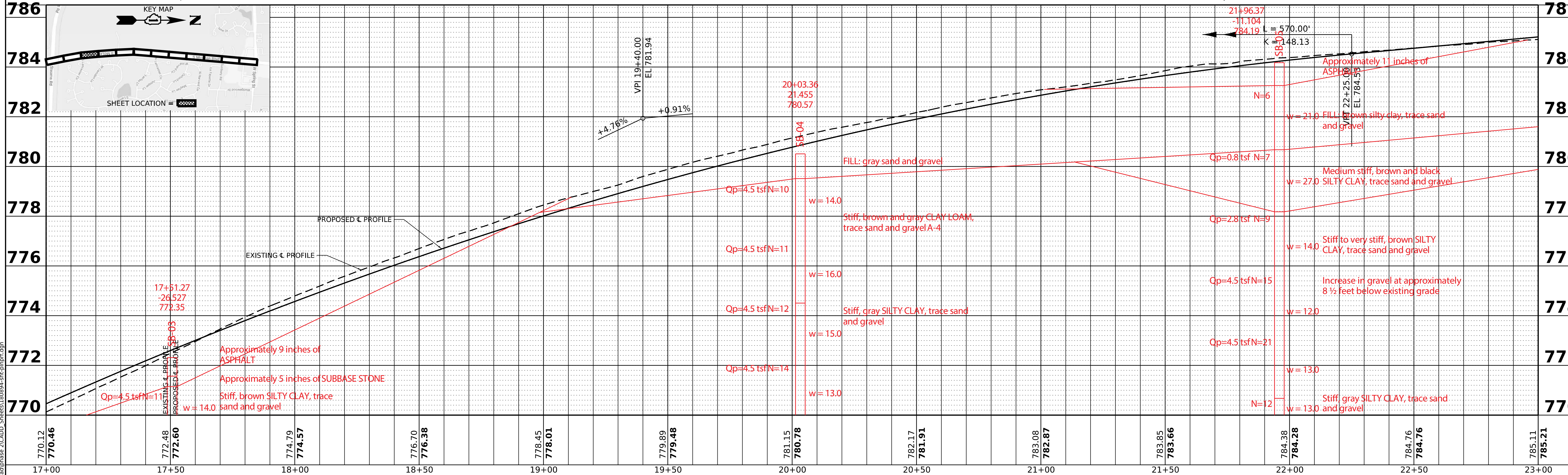
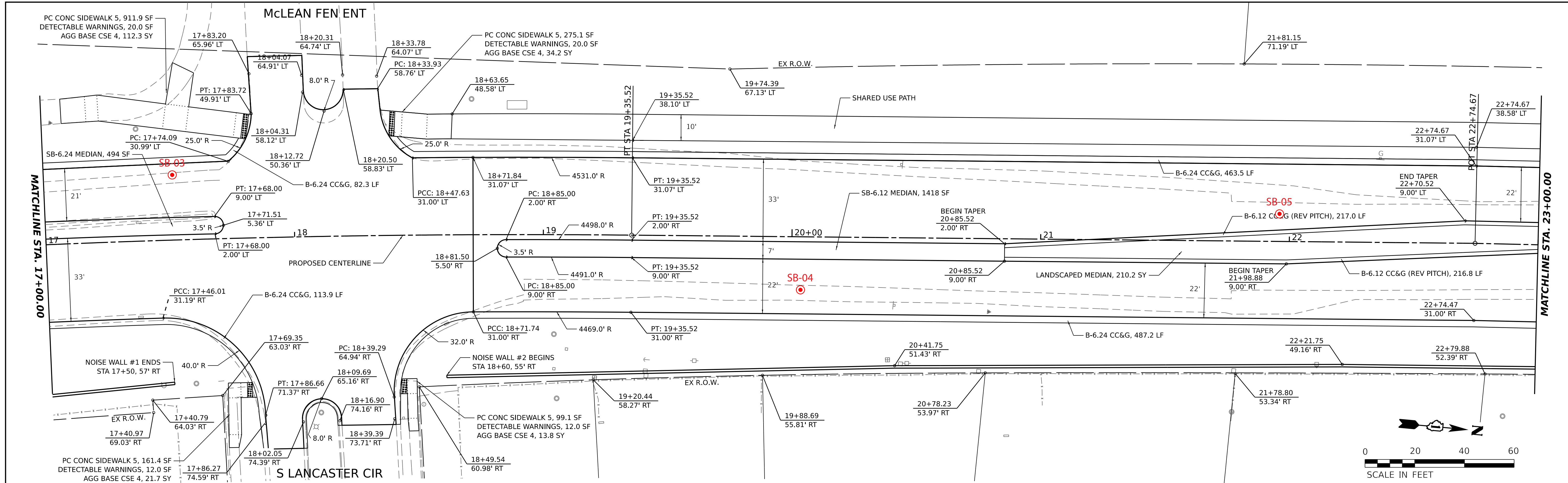
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
PLAN AND PROFILE
 SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 11+00 TO STA. 17+00

F.A.U. RTE. 2509	SECTION 18-00050-00-PV	COUNTY KANE	TOTAL SHEETS 206	SHEET NO. 18
CONTRACT NO. ILLINOIS FED. AID PROJECT				

DATE	
BY	
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PLOTTED	
ALIGNMENT CHECKED	
GRADE CHECKED	
NOTE BOOK NO.	
CADD FILE NAME	

DATE	
BY	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHKD	
NOTE BOOK NO.	
CADD FILE NAME	



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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60120
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000259

USER NAME = knetms
 DESIGNED -
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 DATE -

DESIGNED -
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 DATE -

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

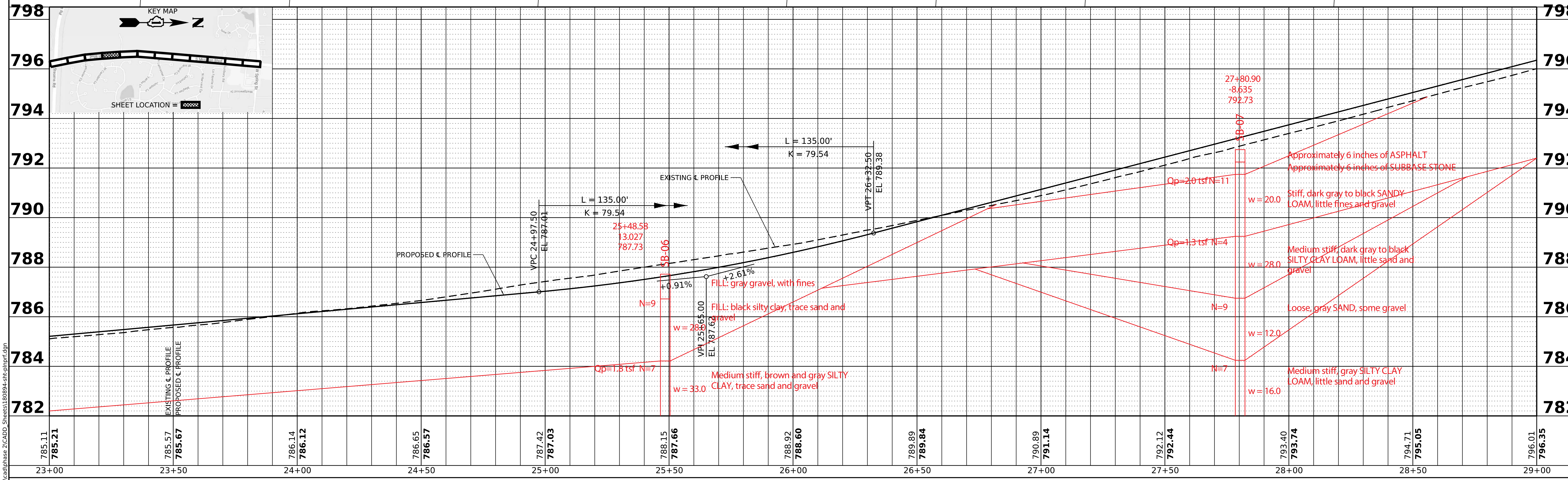
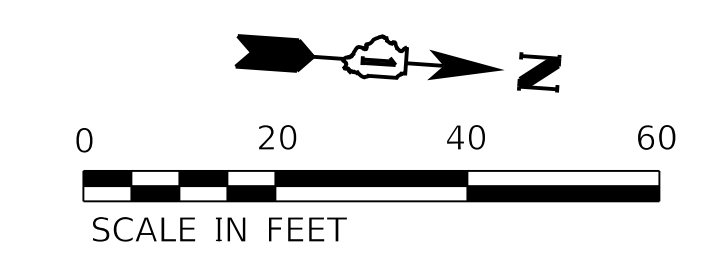
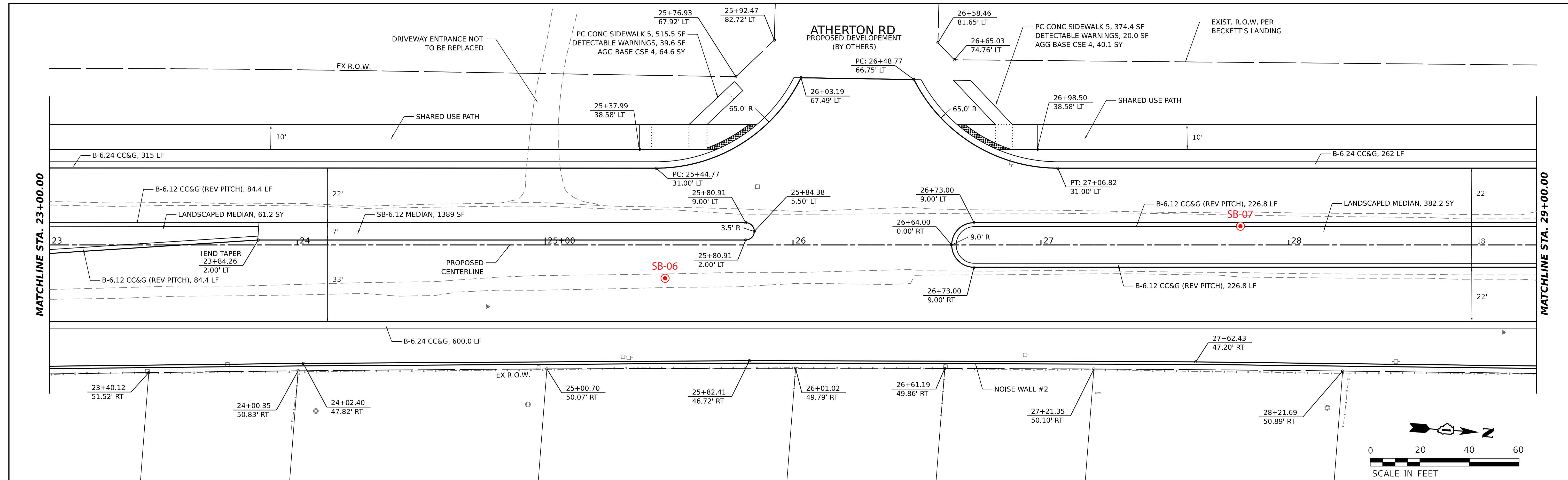
**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE**

SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 17+00 TO STA. 23+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	19
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

DATE	
BY	
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GRADE CHECKED	
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DATE	
BY	
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GRADES CHECKED	
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PROFILE	
NOTE BOOK	
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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LSI / PE / SE CORP. 184-000055

USER NAME =	knelms	DESIGNED -	REVISED -
DRAWN -		REVISED -	
CHECKED -		REVISED -	
DATE -		REVISED -	
PLOT SCALE =	0.08333333' / in.		
PLOT DATE =	4/15/2022		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

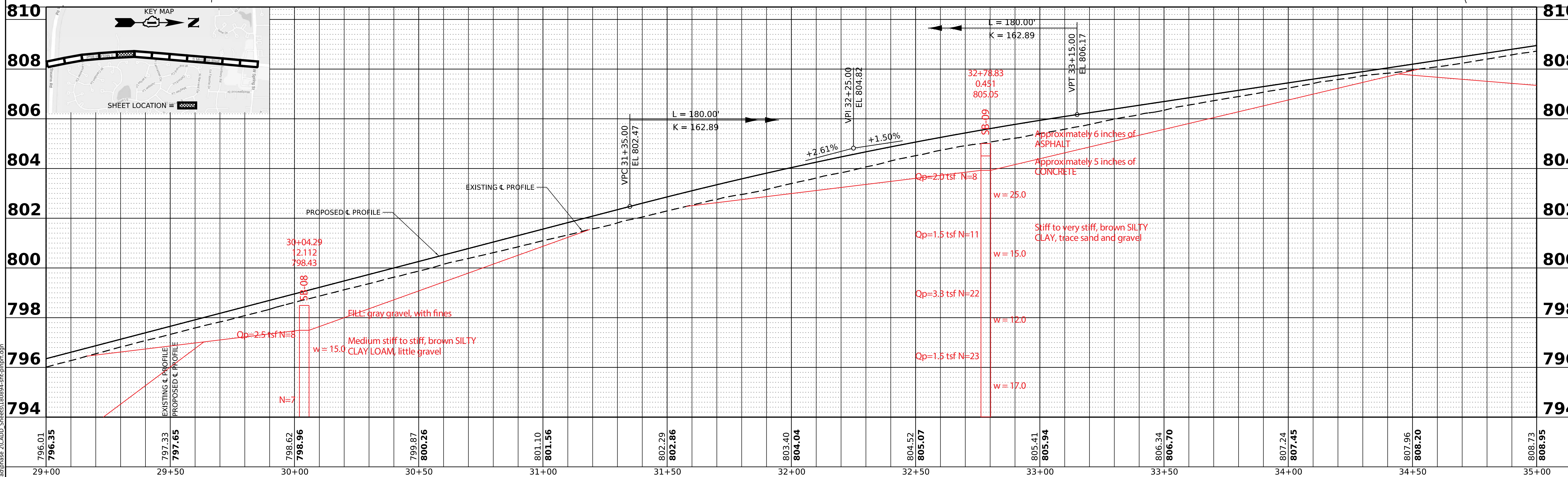
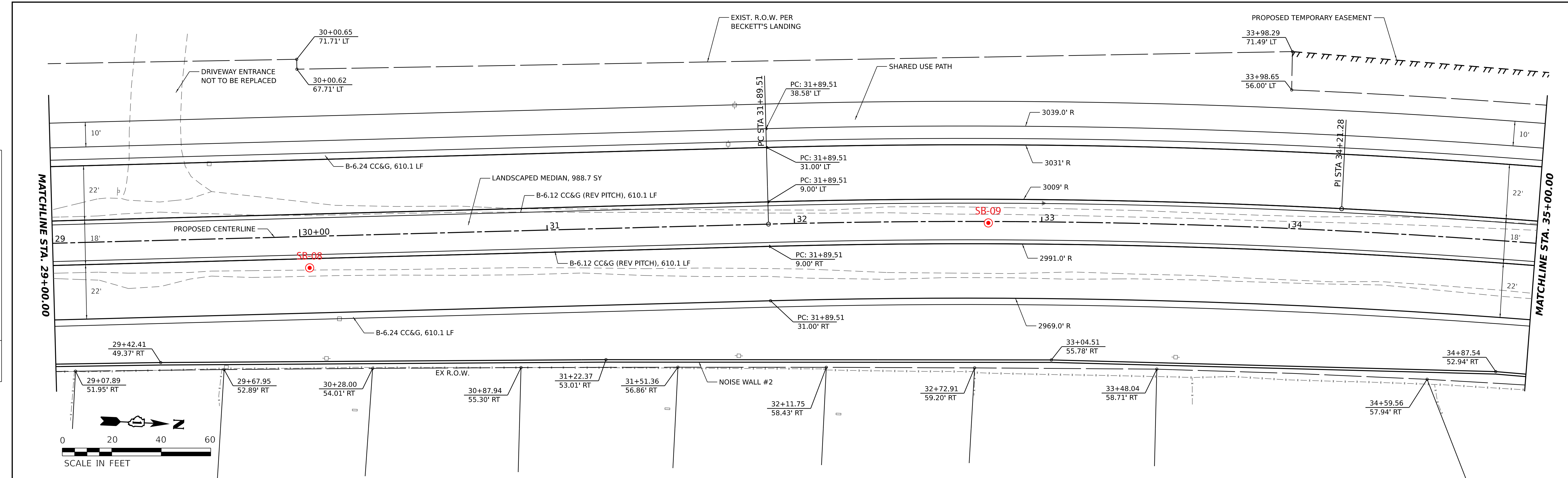
SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
PLAN AND PROFILE

SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 23+00 TO STA. 29+00

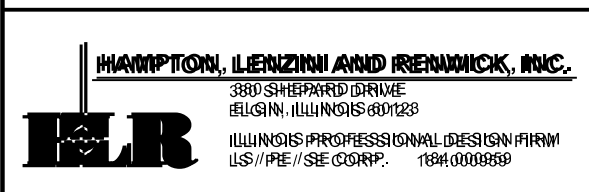
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2509	18-00050-00-PV	KANE	206	20
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

DATE	
BY	
PLAN	SURVEYED
	PLOTTED
	ALIGNMENT CHECKED
	GRADE CHECKED
	CADD FILE NAME
NO.	
NOTE BOOK	

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



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PLOT SCALE	= 0.08333333 ' / in.	CHECKED -	REVISED -
PLOT DATE	= 4/15/2022	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

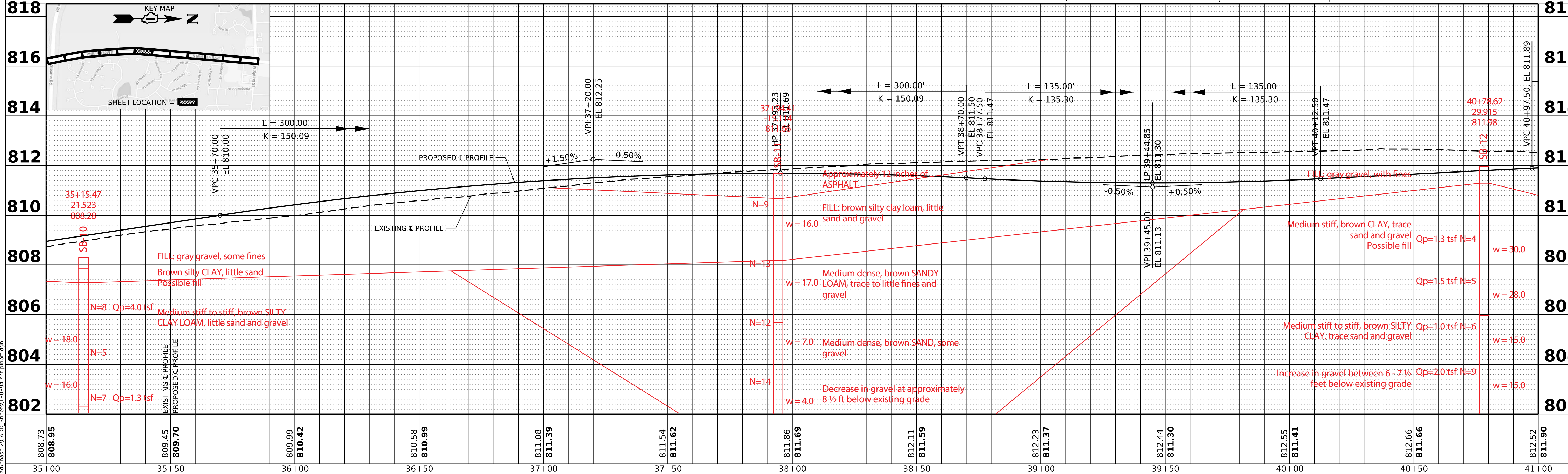
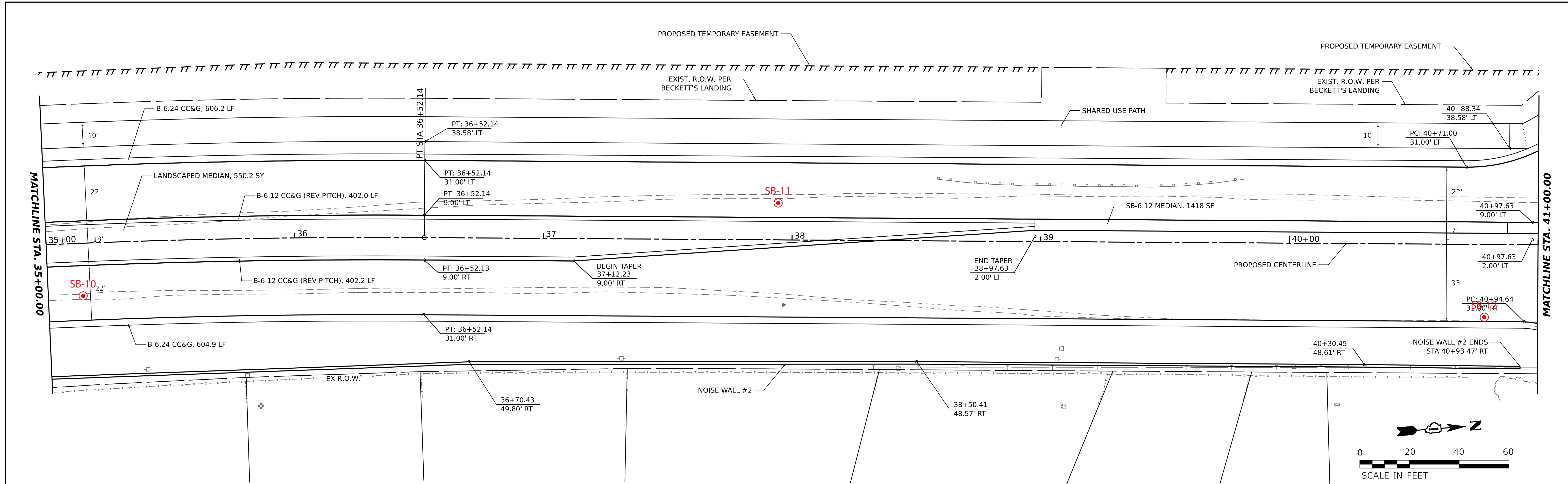
SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	21
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.

DATE	
BY	
PLAN	SURVEYED
	PLOTTED
	ALIGNMENT CHECKED
	GRADE CHECKED
	CADD FILE NAME
	NO.
	NO.

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



MODEL: McLean - McLean-5 (Sheet)
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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000059

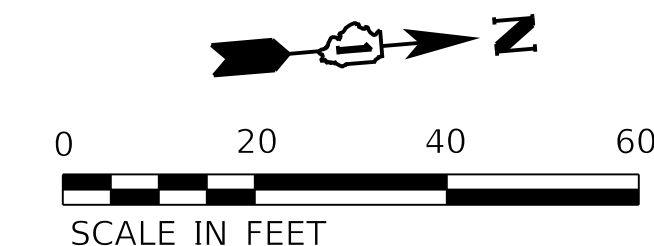
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PLOT DATE =	4/15/2022	DATE -	REVISD -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE**

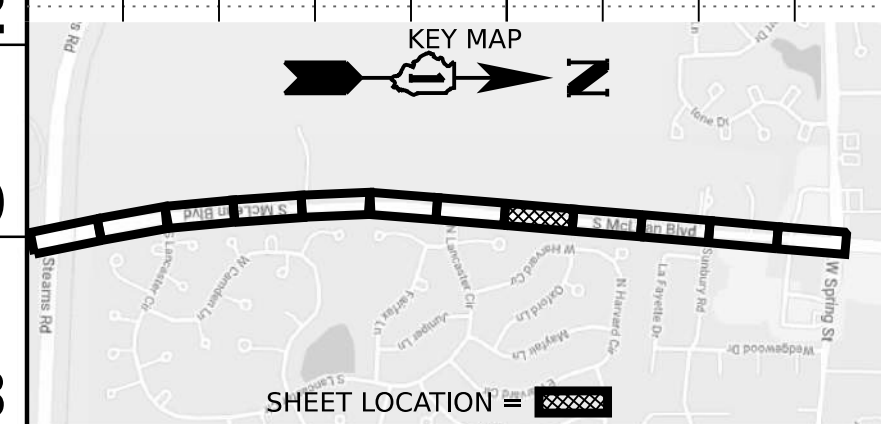
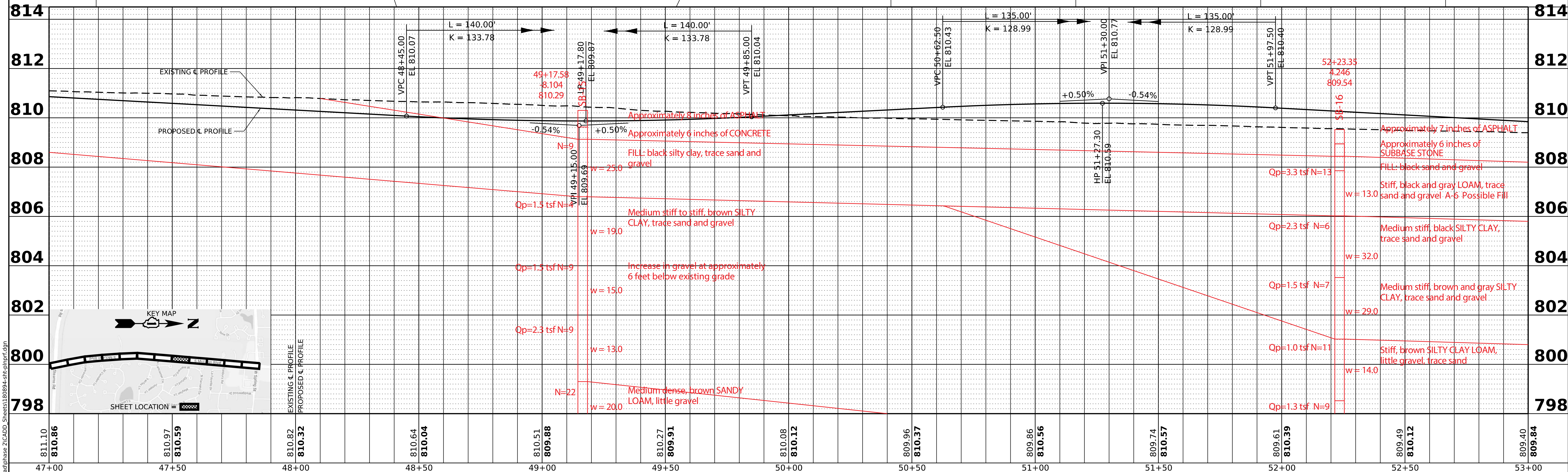
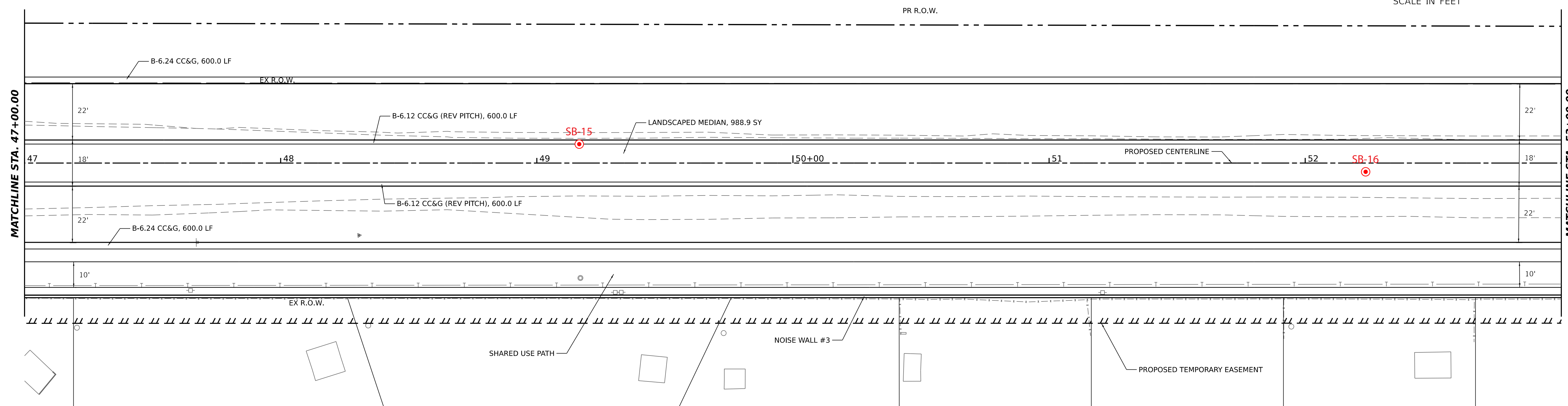
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	22
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



DATE	
BY	
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PLOTTED	
ALIGNMENT CHECKED	
GRADE CHECKED	
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NOTE BOOK	
NO. _____	

DATE	
BY	
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PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHKD	
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PROFILE	
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MODEL: McLean - McLean-7 (Sheet)
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HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60123
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000055

USER NAME =	knelms	DESIGNED -	REVISD -
		DRAWN -	REVISD -
PLOT SCALE =	0.08333333 ' / in.	CHECKED -	REVISD -
PLOT DATE =	4/15/2022	DATE -	REVISD -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

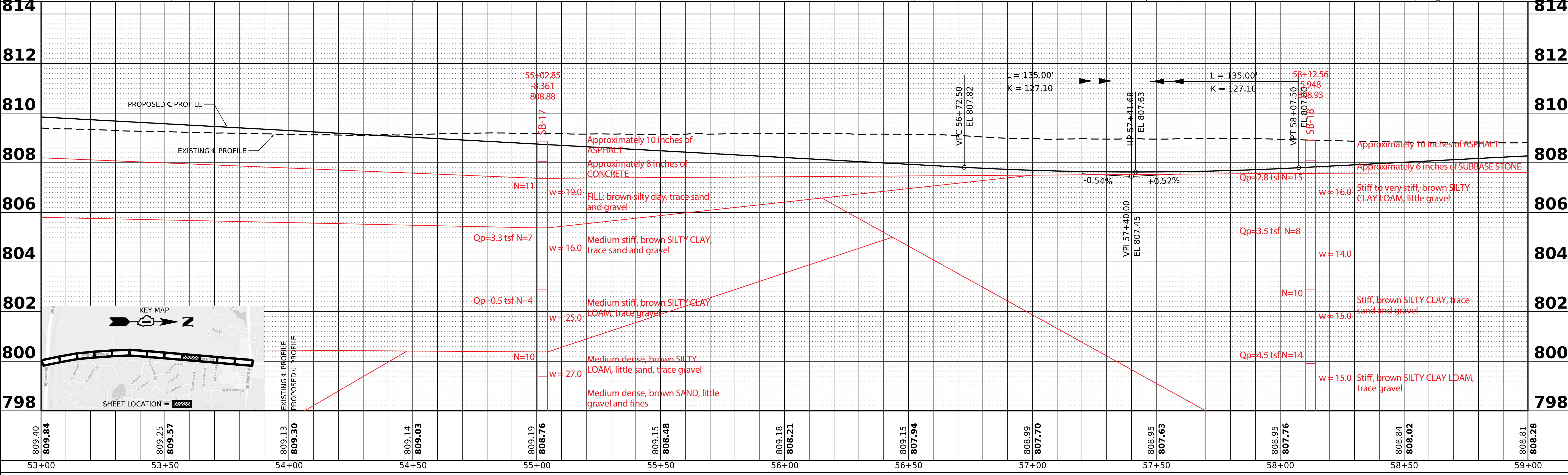
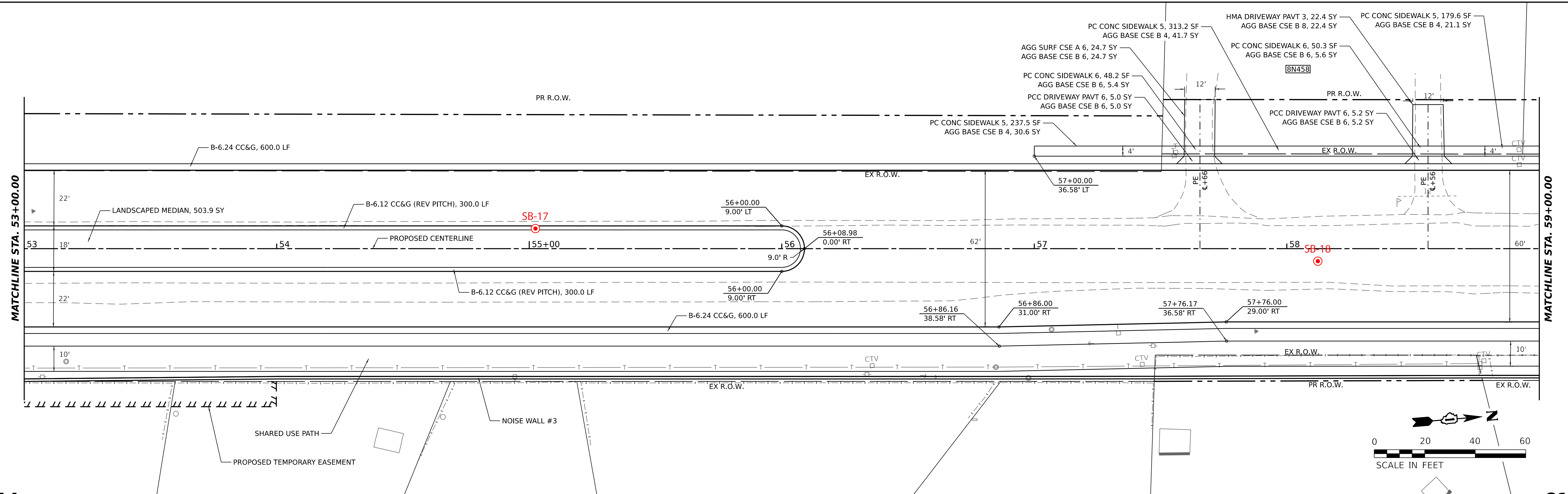
**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE**

SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 47+00 TO STA. 53+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	24
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

DATE	
BY	
PLAN	SURVEYED
	PLOTTED
	ALIGNMENT CHECKED
	GRADE CHECKED
	CADD FILE NAME
	NO.

DATE	
BY	
PROFILE	SURVEYED
	PLOTTED
	GRADES CHECKED
	STRUCTURE NOTATIONS CHK'D
	NO.



HAMPTON, LENZINI AND RENWICK, INC.
 380 SHEPARD DRIVE
 ELGIN, ILLINOIS 60120
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-000055

USER NAME	= knelmis
DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -
PLOT SCALE	= 0.08333333 ' / in.
PLOT DATE	= 4/15/2022

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

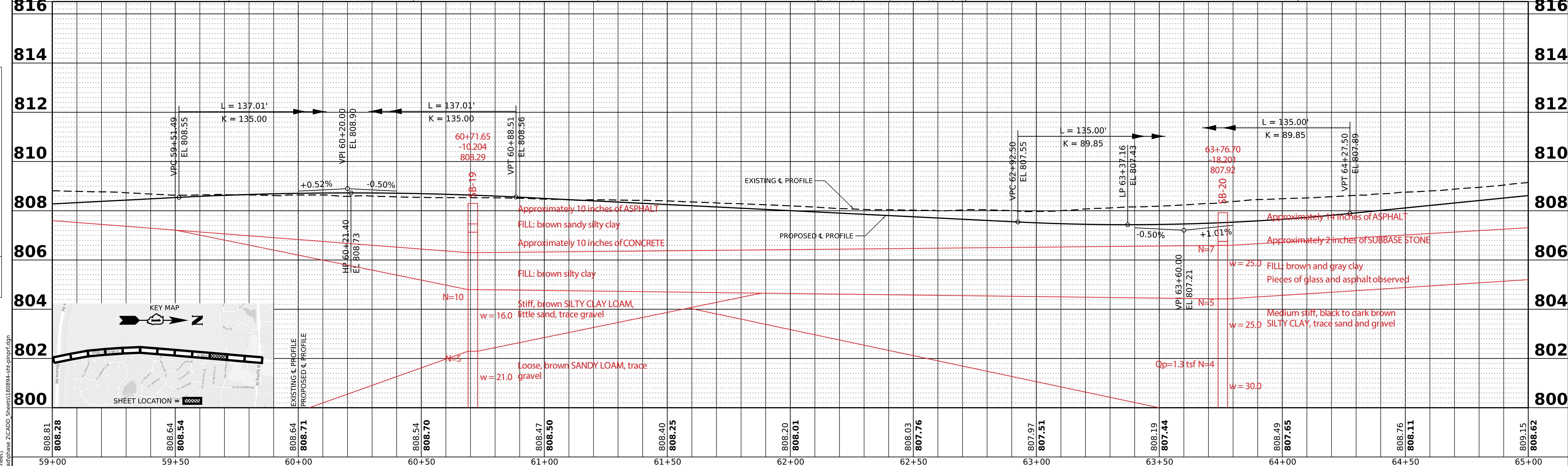
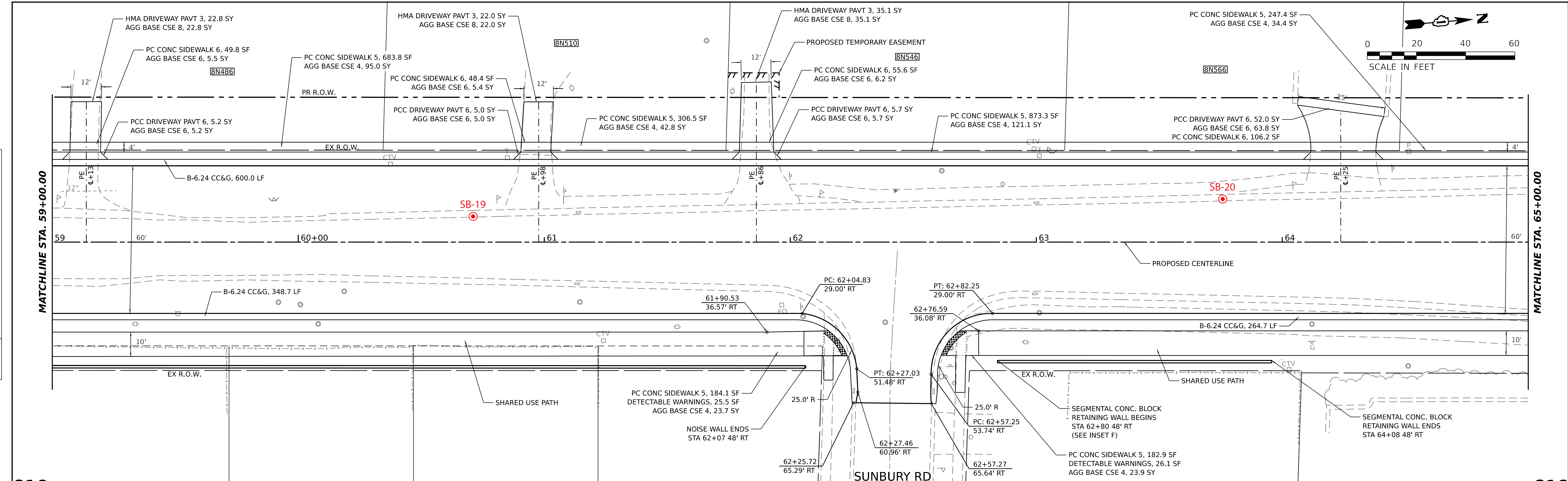
**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE**
 SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 53+00 TO STA. 59+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	25
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

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DATE	
BY	
PLAN	SURVEYED
	PLOTTED
	ALIGNED
	CHECKED
	REVISION
	NO. _____
	DATE _____

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



808.81	808.28	808.64	808.54	808.64	808.71	808.54	808.70	808.47	808.50	808.40	808.25	808.20	808.01	808.03	807.76	807.97	807.51	808.19	807.44	808.49	807.65	808.76	808.11	809.15	808.62	
59+00	59+50	60+00	60+50	61+00	61+50	62+00	62+50	63+00	63+50	64+00	64+50	65+00														

MODEL: McLean - McLean-9 (Sheet)
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DESIGNED	-
DRAWN	-
CHECKED	-
DATE	-
REVISION	-
REVISION	-
REVISION	-
REVISION	-

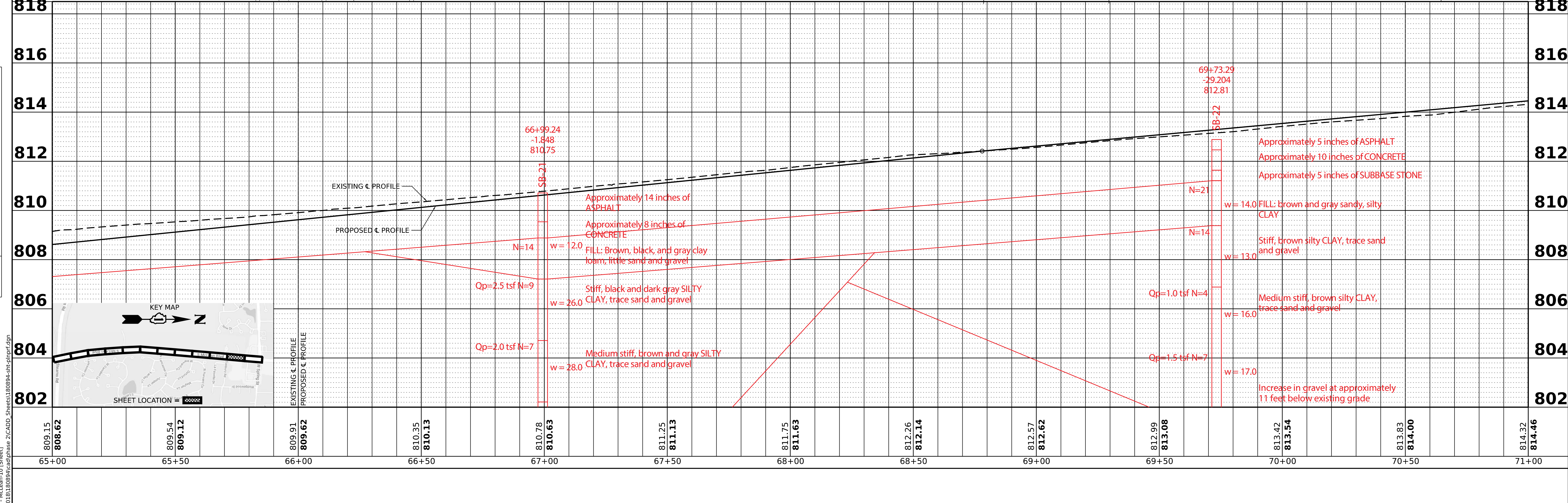
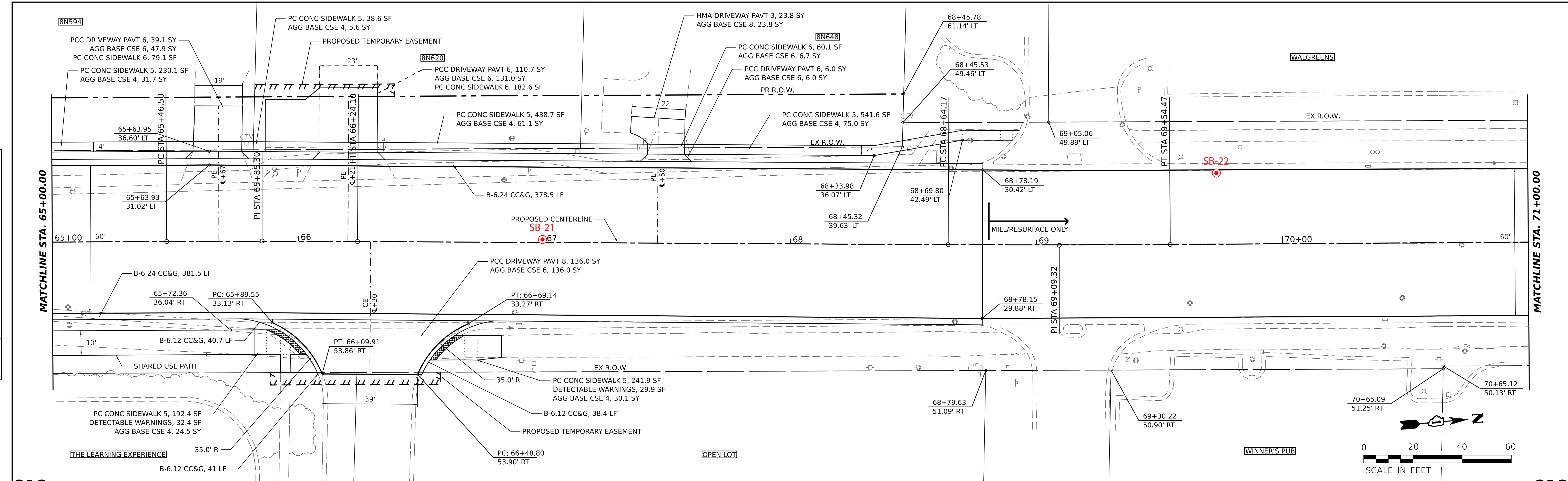
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
 PLAN AND PROFILE
 SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 59+00 TO STA. 65+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	26
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
GRADES CHECKED
CADD FILE NAME
NO.

DATE
BY
SURVEYED
PLOTTED
GRADES CHECKED
STRUCTURE NOTATIONS CHKD
NO.



MODEL: McLean - McLean-1.0 (Sheet)
FILE NAME: P:\2020\1808894\CADD\Drawings\2\CADD_Sheets\1808894-shr-pmprof.dgn

HAMPTON, LENZINI AND RENWICK, INC.
390 SHEPARD DRIVE
ELGIN, ILLINOIS 60120
ILLINOIS PROFESSIONAL DESIGN FIRM
L5 / PE / SE CORP. 184-000659

USER NAME = knelms
DESIGNED -
DRAWN -
CHECKED -
DATE -

PLOT SCALE = 0.08333333 ' / in.
PLOT DATE = 4/15/2022

REVISIONS:
REVISIONS -
REVISIONS -
REVISIONS -
REVISIONS -

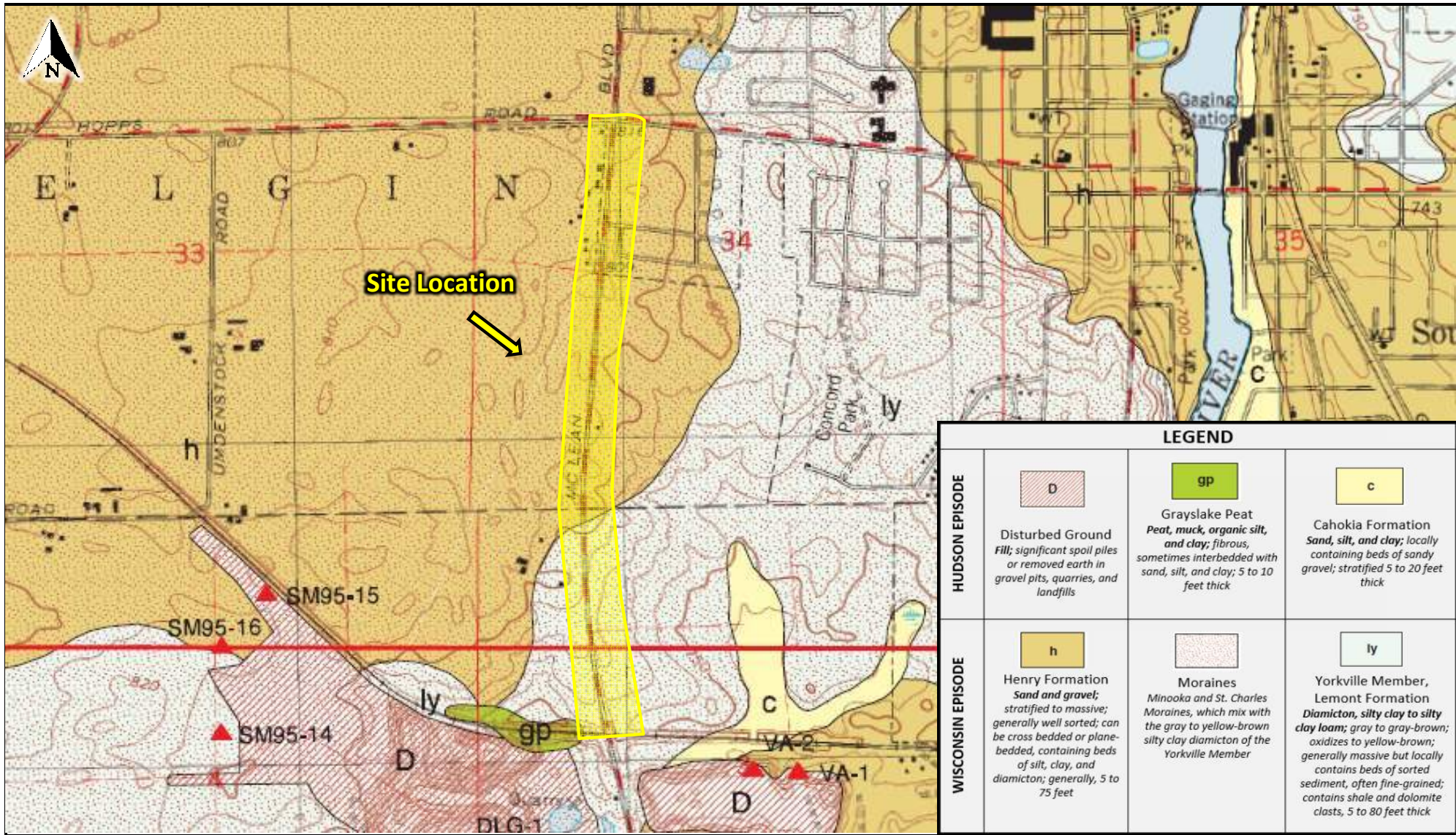
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH McLEAN BLVD - STEARNS RD TO SPRING ST
PLAN AND PROFILE**

SCALE: 1:20H, 1:2V SHEET OF SHEETS STA. 65+00 TO STA. 71+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2509	18-00050-00-PV	KANE	206	27
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Appendix D – Geology and Pedology Maps

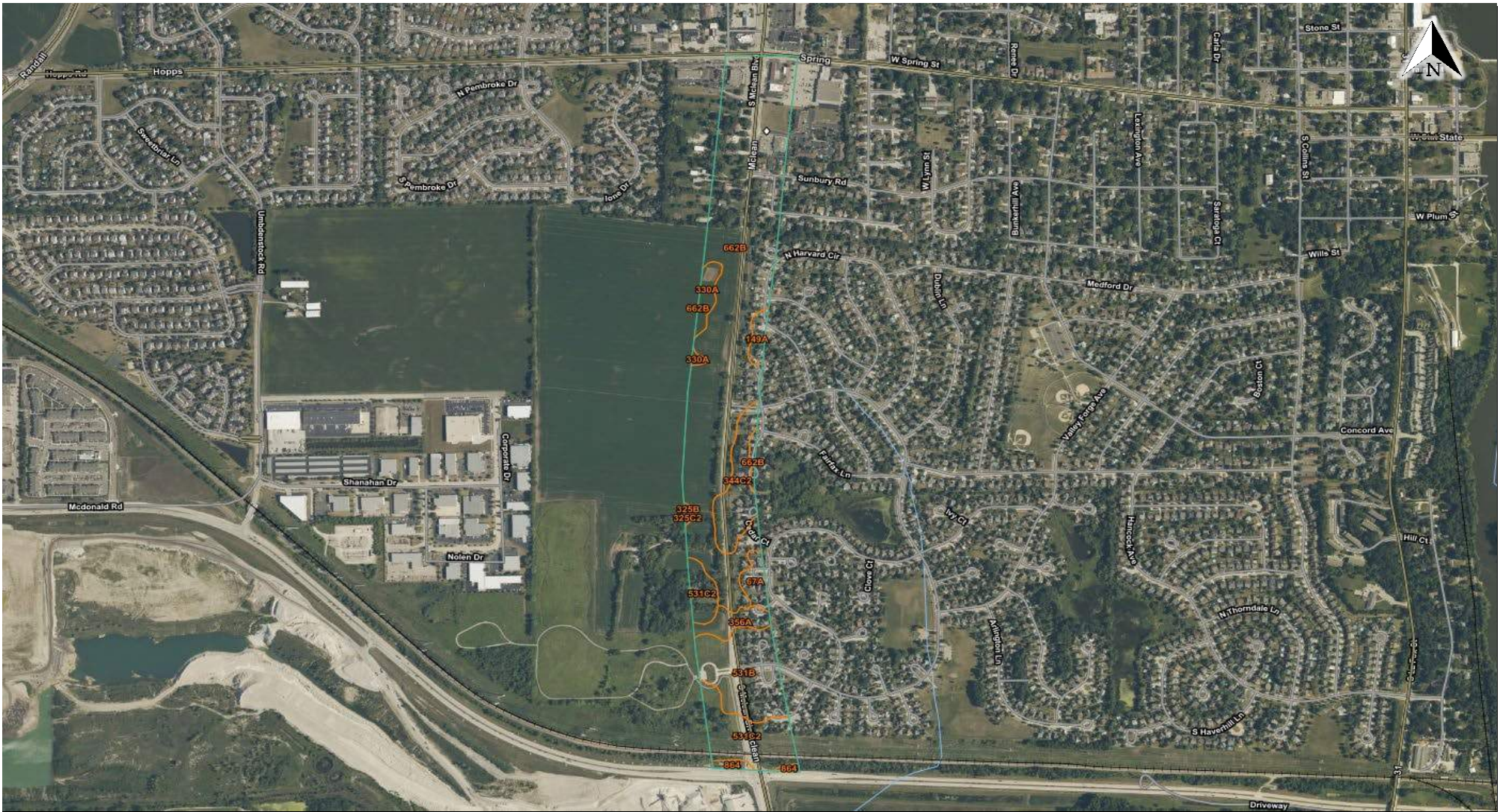


LEGEND			
HUDSON EPISODE			
	Disturbed Ground <i>Fill; significant spoil piles or removed earth in gravel pits, quarries, and landfills</i>	Grayslake Peat <i>Peat, muck, organic silt, and clay; fibrous, sometimes interbedded with sand, silt, and clay; 5 to 10 feet thick</i>	Cahokia Formation <i>Sand, silt, and clay; locally containing beds of sandy gravel; stratified 5 to 20 feet thick</i>
WISCONSIN EPISODE			
	Henry Formation <i>Sand and gravel; stratified to massive; generally well sorted; can be cross bedded or plane-bedded, containing beds of silt, clay, and diamicton; generally, 5 to 75 feet</i>	Moraines <i>Minooka and St. Charles Moraines, which mix with the gray to yellow-brown silty clay diamicton of the Yorkville Member</i>	Yorkville Member, Lemont Formation <i>Diamicton, silty clay to silty clay loam; gray to gray-brown; oxidizes to yellow-brown; generally massive but locally contains beds of sorted sediment, often fine-grained; contains shale and dolomite clasts, 5 to 80 feet thick</i>

425 Shepard Drive
Elgin, Illinois 60123

Project Name: **McLean Blvd. Phase II**
 Project Location: **S McLean Boulevard
South Elgin, Illinois**
 Client: **Hampton, Lenzini and Renwick, Inc.**
 Rubino Project # : **G21.156**

**Surficial
Geology
Map**



425 Shepard Drive
Elgin, Illinois 60123

Project Name:
Project Location:

Client:
Rubino Project # :

McLean Blvd Phase II
S McLean Blvd
South Elgin, Illinois
Hampton Lenzini and Renwick, Inc.
G21.156

USDA / NRCS
Soil Survey
Map

Map symbol and soil name	Depth	USDA texture	Classification		Pct Fragments		Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
			AASHTO		>10 inches	3-10 inches									Kw	Kf	T		
					L-R-H	L-R-H													
67A—Harpster silty clay loam, 0 to 2 percent slopes																			
Harpster, drained	0-18	Silty clay loam	CL, MH, ML	A-7-5, A-7-6	0-0-0	0-0-0	2-8-15	50-60-71	27-32-35	1.10-1.20-1.30	4.23-9.17-14.11	0.17-0.19-0.21	2.9-4.7-6.1	3.0-5.0-6.5	0.24	0.24	5	4L	86
	18-36	Silty clay loam	CL	A-6, A-7-6	0-0-0	0-0-0	2-7-15	50-62-71	27-31-35	1.25-1.40-1.50	4.23-9.17-14.11	0.17-0.19-0.21	3.1-4.0-4.9	0.5-1.0-1.7	0.37	0.37			
	36-41	Silty clay loam, loam, silt loam, clay loam	CL	A-6, A-7-6	0-0-0	0-0-0	2-10-25	43-62-76	22-28-32	1.30-1.45-1.55	4.23-9.17-14.11	0.17-0.19-0.20	2.4-3.5-4.4	0.2-0.5-0.8	0.43	0.43			
	41-60	Loam, silt loam	CL	A-4, A-6	0-0-0	0-0-0	5-20-50	28-62-80	15-18-27	1.40-1.50-1.60	4.23-9.17-14.11	0.17-0.18-0.21	1.0-1.7-3.4	0.0-0.3-0.6	0.49	0.49			
149A—Brenton silt loam, 0 to 2 percent slopes																			
Brenton	0-14	Silt loam	CL, ML	A-6, A-7-5, A-7-6	0-0-0	0-0-0	1-8-15	60-69-79	18-23-27	1.20-1.30-1.45	4.23-9.17-14.11	0.18-0.21-0.23	2.0-3.0-4.0	3.5-4.0-5.0	0.32	0.32	5	6	48
	14-33	Silty clay loam	CL	A-6, A-7-6	0-0-0	0-0-0	1-9-15	52-58-70	27-33-35	1.25-1.35-1.50	4.23-9.17-14.11	0.15-0.17-0.20	3.6-4.8-5.4	0.5-1.2-1.7	0.37	0.37			
	33-54	Fine sandy loam, loam, silt loam, clay loam	CL	A-4, A-6, A-7-6	0-0-0	0-0-0	15-45-60	12-36-68	15-19-30	1.35-1.50-1.60	4.23-9.17-14.11	0.11-0.14-0.17	1.4-1.9-4.2	0.2-0.3-0.7	0.37	0.37			
	54-79	Stratified silt loam to loamy sand	CL-ML, SC-SM, CL, ML, SC, SM	A-4, A-6	0-0-0	0-0-0	15-54-85	2-31-73	10-15-27	1.45-1.55-1.70	4.23-14.11-42.34	0.07-0.10-0.13	0.8-1.4-3.6	0.1-0.2-0.5	0.32	0.32			
325B—Dresden silt loam, 2 to 4 percent slopes																			
Dresden	0-7	Silt loam	CL, ML	A-6, A-7-6	0-0-0	0-0-0	2-18-30	50-60-78	18-23-27	1.29-1.36-1.42	4.23-9.17-14.11	0.20-0.22-0.24	1.4-2.0-2.7	2.0-3.0-4.0	0.32	0.32	3	6	48
	7-19	Silty clay loam	CL	A-6	0-0-0	0-0-0	5-18-20	42-52-65	27-30-38	1.44-1.44-1.45	4.23-9.17-14.11	0.15-0.18-0.20	2.4-3.0-4.4	0.2-0.6-1.0	0.43	0.43			
	19-32	Clay loam, gravelly clay loam, sandy clay loam, very gravelly loam	CL, SC	A-2-6, A-6	0-0-0	0-1-3	30-48-70	0-23-48	20-29-30	1.50-1.58-1.65	4.23-9.17-14.11	0.08-0.13-0.18	0.9-2.7-3.1	0.0-0.3-0.5	0.24	0.24			
	32-79	Stratified gravelly loamy sand to extremely gravelly coarse sand, very gravelly sand	GP-GM	A-1-a, A-1-b	0-0-0	4-23-24	80-91-99	0-6-18	1-3-5	1.56-1.60-1.64	141.14-423.42-705.00	0.02-0.03-0.04	0.0-0.0-0.1	0.0-0.3-0.5	0.02	0.05			
325C2—Dresden silt loam, 4 to 6 percent slopes, eroded																			
Dresden, eroded	0-7	Silt loam	CL, ML	A-6, A-7-6	0-0-0	0-0-0	2-18-30	50-60-78	18-23-27	1.29-1.36-1.42	4.23-9.17-14.11	0.20-0.22-0.24	1.4-2.0-2.7	2.0-3.0-4.0	0.32	0.32	3	6	48
	7-18	Silty clay loam	CL	A-6	0-0-0	0-0-0	5-18-20	42-52-65	27-30-38	1.44-1.44-1.45	4.23-9.17-14.11	0.15-0.18-0.20	2.4-3.0-4.4	0.2-0.6-1.0	0.43	0.43			
	18-31	Clay loam, gravelly clay loam, sandy clay loam, very gravelly loam	CL, SC	A-2-6, A-6	0-0-0	0-1-3	30-48-70	0-23-48	20-29-30	1.50-1.58-1.65	4.23-9.17-14.11	0.08-0.13-0.18	0.9-2.7-3.1	0.0-0.3-0.5	0.24	0.24			
	31-79	Stratified gravelly loamy sand to extremely gravelly coarse sand, very gravelly sand	GP-GM	A-1-a, A-1-b	0-0-0	4-23-24	80-91-99	0-6-18	1-3-5	1.56-1.60-1.64	141.14-423.42-705.00	0.02-0.03-0.04	0.0-0.0-0.1	0.0-0.3-0.5	0.02	0.05			

330A—Peotone silty clay loam, 0 to 2 percent slopes																			
Peotone, drained	0-7	Silty clay loam	MH	A-7-5, A-7-6	0-0-0	0-0-0	1-5-10	50-60-67	32-35-40	1.20-1.30-1.40	1.41-2.82-4.23	0.17-0.18-0.21	3.5-5.2-6.8	4.5-6.2-7.5	0.24	0.24	5	6	48
	7-27	Silty clay loam, silty clay	CH, CL, MH	A-7-5, A-7-6	0-0-0	0-0-0	1-5-10	45-56-64	35-39-45	1.30-1.40-1.55	1.41-2.82-4.23	0.13-0.17-0.20	5.8-7.6-9.7	1.5-3.2-6.0	0.28	0.28			
	27-50	Silty clay loam, silty clay	CH, CL	A-7-6	0-0-0	0-0-1	1-6-12	43-53-66	33-41-45	1.35-1.45-1.60	1.41-2.82-4.23	0.11-0.15-0.18	3.9-7.0-9.1	0.5-1.3-2.7	0.32	0.32			
	50-60	Silty clay loam, silt loam	CH, CL	A-6, A-7-6	0-0-0	0-0-3	1-11-20	40-55-74	25-34-40	1.40-1.53-1.65	1.41-2.82-4.23	0.12-0.17-0.19	2.2-4.0-6.9	0.0-0.5-1.2	0.37	0.37			
344C2—Harvard silt loam, 5 to 10 percent slopes, eroded																			
Harvard	0-7	Silt loam	CL, ML	A-4, A-6	0-0-0	0-0-0	0-8-15	58-69-80	20-24-27	1.15-1.25-1.35	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	2.0-2.5-3.0	0.43	0.43	5	6	48
	7-32	Silty clay loam, silt loam	CL, ML	A-4, A-6, A-7-6	0-0-0	0-0-0	0-8-15	50-63-75	25-30-35	1.25-1.40-1.55	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.43	0.43			
	32-40	Clay loam, silt loam, sandy loam	CL, ML, SC, SM	A-4, A-6, A-7-6	0-0-0	0-1-3	15-43-60	10-30-70	15-28-35	1.30-1.45-1.60	4.23-9.17-14.11	0.12-0.16-0.19	3.0-4.5-5.9	0.0-0.3-0.5	0.32	0.32			
	40-60	Stratified sand to clay loam	CL-ML, SC-SM, CL, SC	A-2-4, A-2-6, A-4, A-6	0-0-0	0-3-4	30-59-87	0-24-65	5-18-30	1.40-1.55-1.70	4.23-23.29-42.34	0.05-0.10-0.15	0.0-1.5-2.9	0.0-0.3-0.5	0.2	0.2			
356A—Elpaso silty clay loam, 0 to 2 percent slopes																			
Elpaso, drained	0-21	Silty clay loam	CL, MH, ML	A-7-5, A-7-6	0-0-0	0-0-0	1-6-10	55-63-72	27-31-35	1.20-1.30-1.40	4.23-9.17-14.11	0.16-0.19-0.24	2.5-3.1-3.8	4.0-5.5-7.0	0.24	0.24	5	6	48
	21-44	Silty clay loam, silt loam	CH, CL	A-6, A-7-6	0-0-0	0-0-0	1-6-10	52-62-74	25-32-38	1.25-1.35-1.45	4.23-9.17-14.11	0.15-0.18-0.21	2.9-4.4-5.8	0.3-1.1-2.0	0.37	0.37			
	44-69	Clay loam, silt loam, silty clay loam, loam	CL	A-6, A-7-6	0-0-0	0-0-0	2-16-30	33-55-78	20-29-37	1.40-1.50-1.60	4.23-7.52-14.11	0.12-0.15-0.18	1.9-3.5-5.1	0.2-0.5-0.8	0.37	0.37			
	69-79	Clay loam, silt loam, silty clay loam, loam	CL	A-6, A-7-6	0-0-0	0-1-3	2-16-30	35-56-80	18-28-35	1.45-1.60-1.65	1.41-2.82-4.23	0.09-0.12-0.15	1.4-3.2-4.7	0.0-0.3-0.6	0.43	0.43			
531B—Markham silt loam, 2 to 4 percent slopes																			
Markham	0-8	Silt loam	CL, ML	A-6, A-7-6	0-0-0	0-0-1	5-10-15	58-66-75	20-24-27	1.30-1.40-1.50	4.23-9.17-14.11	0.18-0.19-0.20	1.8-3.3-4.2	2.0-3.0-4.0	0.37	0.37	3	6	48
	8-21	Clay, silty clay, silty clay loam	CH, CL	A-7-6	0-0-1	0-1-4	5-12-20	30-49-60	35-39-50	1.40-1.50-1.60	0.42-2.33-4.23	0.14-0.15-0.17	2.3-3.8-6.4	0.2-0.6-1.0	0.37	0.37			
	21-32	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1-1	0-3-4	5-12-20	40-52-65	30-36-45	1.55-1.65-1.75	0.42-0.92-1.41	0.11-0.12-0.16	1.3-2.3-3.5	0.1-0.3-0.5	0.37	0.37			
	32-60	Clay loam, silty clay loam	CL	A-6, A-7-6	0-1-1	0-2-4	5-15-25	40-53-68	27-32-38	1.65-1.75-1.85	0.42-0.92-1.41	0.09-0.10-0.17	0.8-1.8-2.6	0.0-0.3-0.5	0.43	0.43			
531C2—Markham silt loam, 4 to 6 percent slopes, eroded																			
Markham, eroded	0-8	Silt loam	CL	A-6, A-7-6	0-0-0	0-0-1	5-10-15	58-66-75	20-24-27	1.30-1.40-1.50	4.23-9.17-14.11	0.18-0.19-0.20	1.8-3.2-4.1	2.0-2.5-3.0	0.37	0.37	3	6	48
	8-21	Silty clay, silty clay loam, clay	CH, CL	A-7-6	0-0-1	0-1-4	5-12-20	30-49-60	35-39-50	1.40-1.50-1.60	0.42-2.33-4.23	0.14-0.15-0.17	2.3-3.8-6.4	0.2-0.6-1.0	0.37	0.37			
	21-32	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1-1	0-3-4	5-12-20	40-52-65	30-36-45	1.55-1.65-1.75	0.42-0.92-1.41	0.11-0.12-0.16	1.3-2.3-3.5	0.1-0.3-0.5	0.37	0.37			
	32-60	Clay loam, silty clay loam	CL	A-6, A-7-6	0-1-1	0-2-4	5-15-25	40-53-68	27-32-38	1.65-1.75-1.85	0.42-0.92-1.41	0.09-0.10-0.17	0.8-1.8-2.6	0.0-0.3-0.5	0.43	0.43			
662B—Barony silt loam, 2 to 5 percent slopes																			
Barony	0-8	Silt loam	CL	A-4, A-6	0-0-0	0-0-0	0-8-15	58-72-85	15-21-27	1.15-1.25-1.35	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	2.0-3.0-4.0	0.37	0.37	5	6	48
	8-34	Silty clay loam, silt loam	CL	A-6, A-7-6	0-0-0	0-0-0	0-8-15	50-63-75	25-30-35	1.25-1.40-1.55	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.43	0.43			
	34-54	Clay loam, silt loam, sandy loam	CL-ML, CL	A-4, A-6, A-7-6	0-0-0	0-1-3	15-38-60	10-35-70	15-28-32	1.30-1.45-1.60	4.23-9.17-14.11	0.12-0.16-0.19	3.0-4.5-5.9	0.0-0.3-0.5	0.32	0.32			
	54-85	Stratified sand to clay loam	CL, ML, SC, SM	A-2-4, A-4, A-6	0-0-0	0-3-4	20-55-90	0-29-75	5/17/2028	1.40-1.55-1.70	4.23-23.29-42.34	0.05-0.10-0.15	0.0-1.5-2.9	0.0-0.3-0.5	0.37	0.37			

Appendix E – Boring Logs

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 1/4 Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SB Turning Lane of McLean Blvd
 5 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 12+77.17 Offset: -38.067	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA				Additional Remarks
											Moisture	PL	LL	Strength	
	0						Surface Elev.: 749.63 ft								
							Approximately 12 inches of CONCRETE								
				1	0		Approximately 18 inches of SUBBASE STONE		5-3-3 N=6	19	⊗	×			
							Medium stiff to stiff, gray SILTY CLAY, trace sand and gravel								
745	5			2	0				4-3-7 N=10	20	⊗	×			
				3	15				2-4-6 N=10	21	⊗	×	*	Qp=2.8 tsf	
								CL							
740	10			4	15				2-3-6 N=9	21	⊗	×	*	Qp=2.0 tsf	
				5	18				3-4-7 N=11	23	⊗	*		Qp=1.8 tsf	
735	15			6	18				3-4-5 N=9	20	⊗	×	*	Qp=2.3 tsf	
							End of boring at approximately 15 feet below existing grade								

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.9798187
Date Boring Started: 4/11/22	Auger Cutting	Longitude: -88.3167677
Date Boring Completed: 4/11/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: H.G.	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156	Drilling Method: 3 1/4 Hollow Stem Auger	WATER LEVELS*** ▽ While Drilling N/A ▽ Upon Completion N/A ▽ Delay N/A
Project: McLean Blvd. Phase II	Sampling Method: Shelby Tube/Split Spoon	
Location: McLean Blvd	Hammer Type: Automatic	
City, State: South Elgin, Illinois	Boring Location: NB Turning Lane of McLean Blvd	
Client: Hampton Lenzini and Renwick, Inc.	5 ft W from edge of pavement	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 14+99.07 Offset: 26.371	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
											Moisture	Strength	
760	0						Surface Elev.: 760.25 ft						
				1	5		Approximately 12 inches of CONCRETE		10-8-11 N=19				
							Approximately 24 inches of SUBBASE STONE						
				2	10		Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	CL	2-4-6 N=10	19	*X		Qp=1.3 tsf
755	5			3	8				2-3-5 N=8	21	X *		Qp=2.5 tsf
				4	6				2-2-4 N=6	21	X *		Qp=3.0 tsf
750	10			5	11				3-4-7 N=11	21	X *		Qp=2.8 tsf
				6	12				3-5-7 N=12	20	X *		Qp=2.5 tsf
	15						End of boring at approximately 15 feet below existing grade						

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.9804495
Date Boring Started: 4/11/22	Auger Cutting	Longitude: -88.3166889
Date Boring Completed: 4/11/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: H.G.	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SB Shoulder of McLean Blvd
 1 ft W from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 17+51.27 Offset: -26.527	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks
										Moisture, %		STRENGTH, tsf		
0						Surface Elev.: 772.35 ft	Approximately 9 inches of ASPHALT							
							Approximately 5 inches of SUBBASE STONE							
770				1	12		Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	CL	2-5-6 N=11	14	⊗	⊗		>> *Qp=4.5 tsf
5				2	9			CL	3-5-8 N=13	15	⊗	⊗		>> *Qp=4.5 tsf
765				3	10		Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	CL	3-4-4 N=8	17	⊗	⊗	*	Qp=2.5 tsf
10				4	14			CL	2-4-5 N=9	19	⊗	⊗	*	Qp=2.5 tsf
760				5	13			CL	3-4-5 N=9	17	⊗	⊗	*	Qp=1.8 tsf
15				6	18			CL	2-4-6 N=10	20	⊗	⊗	*	Qp=2.0 tsf
							End of boring at approximately 15 feet below existing grade							

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.9811115
Date Boring Started: 4/11/22	Auger Cutting	Longitude: -88.3170218
Date Boring Completed: 4/11/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: H.G	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 6 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 20+03.36 Offset: 21.455	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
						Surface Elev.: 780.57 ft						
780	0					FILL: gray sand and gravel						
				1	13		Stiff to very stiff, brown and gray CLAY LOAM, trace sand and gravel A-4	CL	3-5-5 N=10	14	⊗	>> *Qp=4.5 tsf LL = 28 PL = 18
				2	9				3-5-6 N=11	16	⊗	>> *Qp=4.5 tsf
775	5			3	18		Stiff to very stiff, gray SILTY CLAY, trace sand and gravel		3-5-7 N=12	15	⊗	>> *Qp=4.5 tsf
				4	17				3-7-7 N=14	13	⊗	>> *Qp=4.5 tsf
770	10			5	14				1-2-5 N=7	12	⊗	* Qp=3.3 tsf
				6	16				4-7-8 N=15	16	⊗	>> *Qp=4.5 tsf
	15						End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9818138
Date Boring Started: 3/31/22	Auger Cutting	Shelby Tube	Longitude: -88.3169373
Date Boring Completed: 3/31/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 1/4 Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 3 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks	
									Moisture, %	Moisture, %		
						Station: 21+96.37 Offset: -11.104			0	25	50	
						Surface Elev.: 784.19 ft						
						Approximately 11 inches of ASPHALT						
				1	0	FILL: brown silty clay, trace sand and gravel		2-2-4 N=6	21	⊗	×	
780				2	14	Medium stiff, brown and black SILTY CLAY, trace sand and gravel	CL	0-3-4 N=7	27	⊗*	×	Qp=0.8 tsf 3% Organic Content
	5			3	16	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel		4-3-6 N=9	14	⊗	×	* Qp=2.8 tsf
				4	18	Increase in gravel at approximately 8 1/2 feet below existing grade	CL	3-6-9 N=15	12	⊗	×	>>* Qp=4.5 tsf
775				5	14			7-9-12 N=21	13	×	⊗	>>* Qp=4.5 tsf
				6	0	Stiff, gray SILTY CLAY, trace sand and gravel	CL	6-5-7 N=12	13	⊗	×	
770						End of boring at approximately 15 feet below existing grade						
	15											

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9823342
Date Boring Started: 4/11/22	Auger Cutting	Shelby Tube	Longitude: -88.3171157
Date Boring Completed: 4/11/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: H.G.	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 3 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
⚡ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 25+48.58 Offset: 13.027	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA				Additional Remarks
											STRENGTH, tsf				
	0						Surface Elev.: 787.73 ft								
							FILL: gray gravel, with fines								
				1	6		FILL: black silty clay, trace sand and gravel		4-5-4 N=9	28	⊙	×	*	Qp=3.5 tsf 8% Organic Content	
785							Medium stiff, brown and gray SILTY CLAY, trace sand and gravel	CL	2-3-4 N=7	33	⊙	*	×	Qp=1.8 tsf 4% Organic Content	
5				2	8										
							Stiff to very stiff, brown SILTY CLAY, trace sand and gravel		2-4-4 N=8	17	⊙	×	*	Qp=3.0 tsf	
780				3	16										
							1-inch sand lens observed at approximately 8 ½ feet		5-5-7 N=12	15	⊙	×	*	>> Qp=4.5 tsf	
10				4	12										
							Very stiff to hard, gray SILTY CLAY, trace sand and gravel	CL	6-8-8 N=16	12	×	⊙	*	>> Qp=4.5 tsf	
775				5	11										
									6-6-7 N=13	13	⊙	*	*	>> Qp=4.5 tsf	
15				6	18										
							End of boring at approximately 15 feet below existing grade								

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9833032
Date Boring Started: 3/31/22	Auger Cutting	Shelby Tube	Longitude: -88.3171217
Date Boring Completed: 3/31/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156	Drilling Method: 3 ¼ Hollow Stem Auger	WATER LEVELS***
Project: McLean Blvd. Phase II	Sampling Method: Shelby Tube/Split Spoon	▽ While Drilling N/A
Location: McLean Blvd	Hammer Type: Automatic	▼ Upon Completion N/A
City, State: South Elgin, Illinois	Boring Location: SBL of McLean Blvd	▼ Delay N/A
Client: Hampton Lenzini and Renwick, Inc.	4 ft E from edge of pavement	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 27+80.90 Offset: -8.635	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
	0						Surface Elev.: 792.73 ft					
							Approximately 6 inches of ASPHALT					
							Approximately 6 inches of SUBBASE STONE					
790				1	10		Stiff, dark gray to black SANDY LOAM, little fines and gravel	SW	3-5-6 N=11	20	⊗	Qp=2.0 tsf LL = 28 PL = 17
5				2	13		Medium stiff, dark gray to black SILTY CLAY LOAM, little sand and gravel	CL	4-2-2 N=4	28	⊗	Qp=1.3 tsf 5% Organic Content
785				3	8		Loose, gray SAND, some gravel	SW	3-3-6 N=9	12	⊗	
10				4	6		Medium stiff, gray SILTY CLAY LOAM, little sand and gravel	CL	1-3-4 N=7	16	⊗	
780				5	0		Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	CL	5-6-6 N=12	16	⊗	
15				6	5			CL	4-9-12 N=21	12	⊗	Qp=1.3 tsf
							End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.983935
Date Boring Started: 4/1/22	Auger Cutting	Longitude: -88.317261
Date Boring Completed: 4/1/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 2 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	8.5 ft
▼ Upon Completion	10 ft
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks	
									Moisture, %	STRENGTH, tsf		
						Station: 30+04.29 Offset: 12.112			Moisture, %	STRENGTH, tsf		
	0					Surface Elev.: 798.43 ft			0	0		
						FILL: gray gravel, with fines						
				1	16	Medium stiff to stiff, brown SILTY CLAY LOAM, little gravel	CL	5-4-4 N=8	15	⊗	⊛	Qp=2.5 tsf
795				2	0			2-3-4 N=7	20	⊗	⊗	
	5											
				3	5	Medium dense, brown SAND, with gravel		15-12-15 N=27	8	⊗	⊗	
790				4	6	Transitions to gravelly sand at approximately 8 ½ feet below existing grade	SW	8-10-13 N=23	6	⊗	⊗	
	10											
				5	5	Dense, brown SAND AND GRAVEL	SW	8-12-30 N=42	9	⊗	⊗	
785												
	15			6	4			13-20-13 N=33	12	⊗	⊗	
						End of boring at approximately 15 ½ feet below existing grade						

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.9845505
Date Boring Started: 3/31/22	Auger Cutting	Longitude: -88.3172424
Date Boring Completed: 3/31/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: P.P.	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156	Drilling Method: 3 ¼ Hollow Stem Auger	WATER LEVELS*** ▽ While Drilling N/A ▼ Upon Completion N/A ▽ Delay N/A
Project: McLean Blvd. Phase II	Sampling Method: Shelby Tube/Split Spoon	
Location: McLean Blvd	Hammer Type: Automatic	
City, State: South Elgin, Illinois	Boring Location: SBL of McLean Blvd	
Client: Hampton Lenzini and Renwick, Inc.	5 ft E from edge of pavement	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 32+78.83 Offset: 0.451	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	STRENGTH, tsf	
800	0					Surface Elev.: 805.05 ft	Approximately 6 inches of ASPHALT					
							Approximately 5 inches of CONCRETE					
				1	13		Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	CL	3-3-5 N=8	25	⊗ * * *	2% Organic Content Qp=2.0 tsf
	5			2	1			CL	4-5-6 N=11	15	⊗ * * *	Qp=1.5 tsf
				3	8			CL	9-13-9 N=22	12	⊗ * * *	Qp=3.3 tsf
	10			4	3			CL	8-11-12 N=23	17	⊗ * * *	Qp=1.5 tsf
795				5	9		Medium dense, brown SAND, some gravel, trace fines	SW	6-8-8 N=16	7	⊗ * * *	
				6	10			SW	6-12-12 N=24	6	⊗ * * *	
	15						End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.985300
Date Boring Started: 4/1/22	Auger Cutting	Longitude: -88.317351
Date Boring Completed: 4/1/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 5 ft E from edge of pavement

WATER LEVELS***
 ▽ While Drilling 11.67 ft
 ▽ Upon Completion 7.5 ft
 ▽ Delay N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 35+15.47 Offset: 21.523	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks
										Moisture, %		STRENGTH, tsf		
										⊙	×	■	□	
										0	25	50		
										▲	⊛			
										0	2.0	4.0		
	0						Surface Elev.: 808.28 ft							
							FILL: gray gravel, some fines							
							Brown silty CLAY, little sand <i>Possible fill</i>							
				1	12		Stiff to very stiff, brown SILTY CLAY LOAM, little sand and gravel	CL	3-5-3 N=8	18	⊙	×		*Qp=4.0 tsf
805				2	0			CL	3-3-2 N=5	16	⊙	×		
5				3	15		Medium stiff to stiff, dark brown SILTY CLAY, trace sand and gravel	CL	1-3-4 N=7	26	⊙	⊛	×	Qp=1.3 tsf 3% Organic Content
800				4	18			CL	0-1-3 N=4	24	⊙	⊛	×	Qp=0.5 tsf 2% Organic Content
10				5	14		Very stiff, dark brown SILTY CLAY, trace sand and gravel	CL	2-4-7 N=11	17	⊙	×	⊛	Qp=3.0 tsf
795				6	4		Increase in gravel approximately 13 ½ feet below existing grade	CL	4-10-11 N=21	16		×	⊙	
15							End of boring at approximately 15 feet below existing grade							

Completion Depth: 15.0 ft	Sample Types:	▢ Pressuremeter	Latitude: 41.9859469
Date Boring Started: 3/31/22	▣ Auger Cutting	▣ Shelby Tube	Longitude: -88.3172743
Date Boring Completed: 3/31/22	▣ Split-Spoon	▣ Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P.	▣ Rock Core	▣ No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 4 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
⚡ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 37+94.41 Offset: -15.114	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
	0					Surface Elev.: 811.66 ft						
						Approximately 12 inches of ASPHALT						
810				1	12	FILL: brown silty clay loam, little sand and gravel		2-5-4 N=9	16	⊗		* Qp=3.8 tsf
	5			2	11	Medium dense, brown SANDY LOAM, trace to little fines and gravel	SW	9-5-8 N=13	17	⊗		
805				3	8	Medium dense, brown SAND, some gravel		9-5-7 N=12	7	⊗		
	10			4	10	<i>Decrease in gravel at approximately 8 ½ ft below existing grade</i>		5-4-10 N=14	4	⊗		
800				5	5		SW	9-8-15 N=23	4	⊗		
	15			6	10	<i>Increase in gravel at approximately 13 ½ ft below existing grade</i>		8-9-14 N=23	5	⊗		
						End of boring at approximately 15 feet below existing grade						

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.986716
Date Boring Started: 4/1/22	Auger Cutting	Shelby Tube	Longitude: -88.317334
Date Boring Completed: 4/1/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 1 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 40+78.62 Offset: 29.915	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks	
										Moisture, %		STRENGTH, tsf			
	0						Surface Elev.: 811.98 ft								
							FILL: gray gravel, with fines								
	810			1	18		Medium stiff, brown CLAY, trace sand and gravel <i>Possible fill</i>	CL	2-2-2 N=4	30	⊙	*	×		2% Organic Content Qp=1.3 tsf
	5			2	16			CL	1-3-2 N=5	28	⊙	*	×		Qp=1.5 tsf 2% Organic Content
	805			3	14		Medium stiff to stiff, brown SILTY CLAY, trace sand and gravel <i>Increase in gravel between 6 - 7 ½ feet below existing grade</i>	CL	2-3-3 N=6	15	⊙	**			Qp=1.0 tsf
	10			4	13			CL	3-4-5 N=9	15	⊙	×	*		Qp=2.0 tsf
	800			5	14		Very stiff, brown SILTY CLAY, trace sand and gravel	CL	5-10-14 N=24	20		×	⊙	>>>	Qp=4.5 tsf
				6	1		Very dense, brown SAND, with gravel	SW	20-46-21 N=67	7		×		>>>	⊙
	15						End of boring at approximately 15 feet below existing grade								

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.9874828
Date Boring Started: 3/31/22	Auger Cutting	Longitude: -88.3170811
Date Boring Completed: 3/31/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: P.P.	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 4 ft E from edge of pavement

WATER LEVELS***
 ▽ While Drilling N/A
 ▽ Upon Completion N/A
 ▽ Delay N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 43+62.59 Offset: -12.015	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks	
										Moisture, %		STRENGTH, tsf			
0						Surface Elev.: 811.61 ft	Approximately 12 inches of ASPHALT								
810				1	14		FILL: brown to black silty clay, trace sand and gravel		1-2-3 N=5	20	⊗	×			Qp=0.5 tsf 2% Organic Content
5				2	16				1-3-3 N=6	20	⊗	×	*		Qp=2.0 tsf 3% Organic Content
805				3	18		Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel		2-4-4 N=8	28	⊗	*	×		Qp=1.5 tsf 3% Organic Content
10				4	15			CL	3-3-3 N=6	18	⊗	*			Qp=1.5 tsf
800				5	18		Medium stiff, brown SILTY CLAY LOAM, trace gravel		2-2-2 N=4	18	⊗	*			Qp=1.5 tsf
15				6	18			CL	2-2-3 N=5	33	⊗		×		3% Organic Content
							End of boring at approximately 15 feet below existing grade								

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.988269
Date Boring Started: 4/1/22	Auger Cutting	Longitude: -88.317147
Date Boring Completed: 4/1/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 1/4 Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NB Shoulder of McLean Blvd
 4 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	3.5 ft
▽ Upon Completion	14 ft
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 46+32.03 Offset: 18.707	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
						Surface Elev.: 810.93 ft				0 25 50 0 2.0 4.0		
810	0					FILL: gray gravel, little fines						
				1	8		Very stiff, brown SILTY CLAY, little sand and gravel <i>Possible fill</i>	CL	8-15-6 N=21	13	X ⊙	
				2	15		Medium stiff, dark brown to black SILTY CLAY, trace sand and gravel	CL	1-2-3 N=5	28	⊙ * X	Qp=1.5 tsf 6% Organic Content
805				3	15		Stiff to very stiff, brown and gray SILTY CLAY, trace sand and gravel	CL	3-11-6 N=17	14	X ⊙	>> * Qp=4.5 tsf
				4	10			CL	3-3-5 N=8	16	⊙ X *	Qp=3.3 tsf
800				5	5		Loose, brown and gray SILTY LOAM, some sand, trace gravel	SM	2-3-3 N=6	20	⊙ X	
				6	6		Medium dense, brown and gray SILTY LOAM, some sand and gravel	SM	5-6-10 N=16	16	⊙	
	15						End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9889987
Date Boring Started: 3/31/22	Auger Cutting	Shelby Tube	Longitude: -88.3169511
Date Boring Completed: 3/31/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P.	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 5 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	12 ft
▼ Upon Completion	14 ft
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 49+17.58 Offset: -8.104	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
						Surface Elev.: 810.29 ft				0 25 50 0 2.0 4.0 X Moisture PL ▲ Qu * Qp □ LL		
810	0					Approximately 8 inches of ASPHALT						
						Approximately 6 inches of CONCRETE						
						FILL: black silty clay, trace sand and gravel						
				1	8			5-6-3 N=9	25	⊗	⊗	3% Organic Content Qp=0.8 tsf
				2	8		Medium stiff to stiff, brown SILTY CLAY, trace sand and gravel	3-2-2 N=4	19	⊙	⊗	Qp=1.5 tsf
805	5					<i>Increase in gravel at approximately 6 feet below existing grade</i>						
				3	13			2-5-4 N=9	15	⊙	⊗	Qp=1.5 tsf
				4	17			3-3-6 N=9	13	⊙	⊗	Qp=2.3 tsf
800	10											
				5	15		Medium dense, brown SANDY LOAM, little gravel	3-6-16 N=22	20	⊙	⊗	
				6	6		Medium dense, brown SAND AND GRAVEL	3-8-16 N=24	20	⊙	⊗	
							End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9897857
Date Boring Started: 4/1/22	Auger Cutting	Shelby Tube	Longitude: -88.3169611
Date Boring Completed: 4/1/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NBL of McLean Blvd
 4 ft W from edge of pavement

WATER LEVELS***	
▽ While Drilling	N/A
▼ Upon Completion	N/A
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 52+23.35 Offset: 4.246	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA				Additional Remarks	
											STRENGTH, tsf					
	0					Surface Elev.: 809.54 ft	Approximately 7 inches of ASPHALT									
							Approximately 6 inches of SUBBASE STONE									
							FILL: black sand and gravel									
				1	10		Stiff to very stiff, black and gray LOAM, trace sand and gravel A-6 Possible Fill	CL	4-6-7 N=13	13	⊗		*		Qp=3.3 tsf	
				2	12		Medium stiff, black SILTY CLAY, trace sand and gravel	CL	2-2-4 N=6	32	⊙		*⊗		Qp=2.3 tsf 5% Organic Content	
805	5			3	12		Medium stiff, brown and gray SILTY CLAY, trace sand and gravel	CL	2-3-4 N=7	29	⊙	*	⊗		Qp=1.5 tsf 2% Organic Content	
				4	10		Medium stiff to stiff, brown SILTY CLAY LOAM, little gravel, trace sand	CL	5-5-6 N=11	14	⊗	⊗			Qp=1.0 tsf	
800	10			5	11		Stiff, gray SILTY CLAY LOAM, little gravel, trace sand	CL	3-4-5 N=9	13	⊙	⊗			Qp=1.3 tsf	
				6	3				3-5-7 N=12	11	⊙		*		Qp=2.0 tsf	
795	15						End of boring at approximately 15 feet below existing grade									

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9906190
Date Boring Started: 4/11/22	Auger Cutting	Shelby Tube	Longitude: -88.3168213
Date Boring Completed: 4/11/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: H.G.	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 3 ft E from edge of pavement

WATER LEVELS***	
▽ While Drilling	9 ft
▼ Upon Completion	8 ft
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 55+02.85 Offset: -8.361	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks
										Moisture, %		STRENGTH, tsf		
	0						Surface Elev.: 808.88 ft							
							Approximately 10 inches of ASPHALT							
							Approximately 8 inches of CONCRETE							
				1	10		FILL: brown silty clay, trace sand and gravel		3-5-6 N=11	19	⊗			
805	5			2	16		Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	CL	4-3-4 N=7	16	⊗	⊗		Qp=3.3 tsf
				3	14		Soft to medium stiff, brown SILTY CLAY LOAM, trace gravel	CL	1-2-2 N=4	25	⊗	⊗		Qp=0.5 tsf 3% Organic Content
800				4	13		Medium dense, brown SILTY LOAM, little sand, trace gravel	CL	1-4-6 N=10	27	⊗	⊗		2% Organic Content
	10			5	6		Medium dense, brown SAND, little gravel and fines	SW	6-8-6 N=14	14	⊗			
795				6	14		Medium dense, gray SANDY LOAM, little grave	SW	5-5-6 N=11	18	⊗	⊗		
	15						End of boring at approximately 15 feet below existing grade							

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9913862
Date Boring Started: 4/1/22	Auger Cutting	Shelby Tube	Longitude: -88.3167811
Date Boring Completed: 4/1/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: P.P	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: NBL of McLean Blvd
 4 ft W from edge of pavement

WATER LEVELS***	
▽ While Drilling	9.5 ft
▽ Upon Completion	8.5 ft
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 58+12.56 Offset: 5.948	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	STRENGTH, tsf	
	0						Surface Elev.: 808.93 ft					
							Approximately 10 inches of ASPHALT					
							Approximately 6 inches of SUBBASE STONE					
				1	12		Stiff to very stiff, brown SILTY CLAY LOAM, little gravel	CL	10-7-8 N=15	16	⊗	Qp=2.8 tsf
805	5			2	16			CL	6-5-3 N=8	14	⊗	Qp=3.5 tsf
				3	0		Stiff, brown SILTY CLAY, trace sand and gravel	CL	3-4-6 N=10	15	⊗	
800	10			4	14		Very stiff, brown SILTY CLAY LOAM, trace gravel	CL	4-7-7 N=14	15	⊗	>> Qp=4.5 tsf
				5	12		Medium dense, gray SANDY LOAM, little gravel	SM	4-6-6 N=12	17	⊗	
795	15			6	12		Very stiff SILTY CLAY LOAM, trace gravel	CL	5-10-7 N=17	14	⊗	
							End of boring at approximately 15 feet below existing grade					

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.9922298
Date Boring Started: 4/11/22	Auger Cutting	Shelby Tube	Longitude: -88.3166329
Date Boring Completed: 4/11/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: H.G.	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156 Project: McLean Blvd. Phase II Location: McLean Blvd City, State: South Elgin, Illinois Client: Hampton Lenzini and Renwick, Inc.	Drilling Method: 3 ¼ Hollow Stem Auger Sampling Method: Shelby Tube/Split Spoon Hammer Type: Automatic Boring Location: SBL of McLean Blvd 4 ft E from edge of pavement	WATER LEVELS*** ▽ While Drilling 6 ft ▽ Upon Completion 8 ft ▽ Delay N/A
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 60+71.65 Offset: -10.204	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks
										Moisture, %		STRENGTH, tsf		
	0						Surface Elev.: 808.29 ft							
							Approximately 10 inches of ASPHALT							
							FILL: brown sandy silty clay							
							Approximately 10 inches of CONCRETE							
							FILL: brown silty clay		50/3--					
805				1	0		Stiff, brown SILTY CLAY LOAM, little sand, trace gravel	CL	4-5-5 N=10	16				
	5			2	0									
							Loose, brown SANDY LOAM, trace gravel		1-2-3 N=5	21				
				3	12			SM	4-4-5 N=9	23				
800				4	0									
	10						Medium dense, gray SAND, trace gravel	SW	4-6-8 N=14	13				
				5	14									
795							Stiff, gray SILTY CLAY, little sand, trace gravel	CL	4-4-5 N=9	11			*	Qp=3.0 tsf
	15			6	12		End of boring at approximately 15 feet below existing grade							

Completion Depth: 15.0 ft Date Boring Started: 4/12/22 Date Boring Completed: 4/12/22 Logged By: J.W. Drilling Contractor: Rubino Engineering, Inc.	Sample Types: Auger Cutting Split-Spoon Rock Core	Pressuremeter Shelby Tube Hand Auger No Recovery	Latitude: 41.992942 Longitude: -88.316612 Drill Rig: Geoprobe 7822DT Remarks:
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The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156 Project: McLean Blvd. Phase II Location: McLean Blvd City, State: South Elgin, Illinois Client: Hampton Lenzini and Renwick, Inc.	Drilling Method: 3 ¼ Hollow Stem Auger Sampling Method: Shelby Tube/Split Spoon Hammer Type: Automatic Boring Location: SBL of McLean Blvd 4 ft E from edge of pavement	WATER LEVELS***	
		▽ While Drilling: 8.5 ft ▽ Upon Completion: N/A ▽ Delay: N/A	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 63+76.70 Offset: -18.201	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks
										Moisture, %		STRENGTH, tsf		
807.92	0						Surface Elev.: 807.92 ft							
							Approximately 14 inches of ASPHALT							
				1	10		Approximately 2 inches of SUBBASE STONE FILL: brown and gray clay <i>Pieces of glass and asphalt observed</i>		6-2-5 N=7					3% Organic Content Qp=2.0 tsf
805				2	0		Medium stiff, black to dark brown SILTY CLAY, trace sand and gravel	CL	2-3-2 N=5					5% Organic Content
800				3	14				0-1-3 N=4					Qp=1.3 tsf 3% Organic Content
				4	10		Soft, brown and gray SILTY CLAY, little gravel	CL	0-1-2 N=3					
795				5	8		Medium stiff, brown and gray SILTY CLAY LOAM, trace to little gravel	CL	3-3-4 N=7					Qp=1.0 tsf
				6	10				2-3-4 N=7					Qp=1.0 tsf
15							End of boring at approximately 15 feet below existing grade							

Completion Depth: 15.0 ft Date Boring Started: 4/12/22 Date Boring Completed: 4/12/22 Logged By: J.W. Drilling Contractor: Rubino Engineering, Inc.	Sample Types: Auger Cutting Split-Spoon Rock Core	Pressuremeter Shelby Tube Hand Auger No Recovery	Latitude: 41.993778 Longitude: -88.316547 Drill Rig: Geoprobe 7822DT Remarks:
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The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156	Drilling Method: 3 ¼ Hollow Stem Auger	WATER LEVELS*** ▽ While Drilling 12 ft ▽ Upon Completion 11 ft ▽ Delay N/A
Project: McLean Blvd. Phase II	Sampling Method: Shelby Tube/Split Spoon	
Location: McLean Blvd	Hammer Type: Automatic	
City, State: South Elgin, Illinois	Boring Location: NBL of McLean Blvd	
Client: Hampton Lenzini and Renwick, Inc.	Near centerline of road	

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 66+99.24 Offset: -1.848	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA				Additional Remarks	
										Moisture, %	PL	LL	STRENGTH, tsf		
	0						Surface Elev.: 810.75 ft								
							Approximately 14 inches of ASPHALT								
							Approximately 8 inches of CONCRETE								
810				1	14		FILL: Brown, black, and gray clay loam, little sand and gravel		4-6-8 N=14					LL = 35 PL = 21 *Qp=4.0 tsf	
				2	12		Stiff, black and dark gray SILTY CLAY, trace sand and gravel	CL	4-4-5 N=9					Qp=2.5 tsf 4% Organic Content	
805				3	10		Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel	CL	3-3-4 N=7					Qp=2.0 tsf 3% Organic Content	
				4	8		Soft, brown and gray SILTY CLAY, trace sand and gravel	CL	1-1-2 N=3					Qp=0.8 tsf	
800				5	14		Medium stiff, brown and gray SILTY CLAY LOAM <i>sand and silt seams observed</i>	CL	0-1-3 N=4					3% Organic Content	
				6	8		Loose, brown SAND, trace gravel	SW	4-3-6 N=9						
							End of boring at approximately 15 feet below existing grade								

Completion Depth: 15.0 ft	Sample Types:	Latitude: 41.994656
Date Boring Started: 4/12/22	Auger Cutting	Longitude: -88.316383
Date Boring Completed: 4/12/22	Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By: J.W.	Rock Core	Remarks:
Drilling Contractor: Rubino Engineering, Inc.	Pressuremeter	
	Shelby Tube	
	Hand Auger	
	No Recovery	

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Job No.: G21.156
 Project: McLean Blvd. Phase II
 Location: McLean Blvd
 City, State: South Elgin, Illinois
 Client: Hampton Lenzini and Renwick, Inc.

Drilling Method: 3 ¼ Hollow Stem Auger
 Sampling Method: Shelby Tube/Split Spoon
 Hammer Type: Automatic
 Boring Location: SBL of McLean Blvd
 5 ft E from edge of pavement

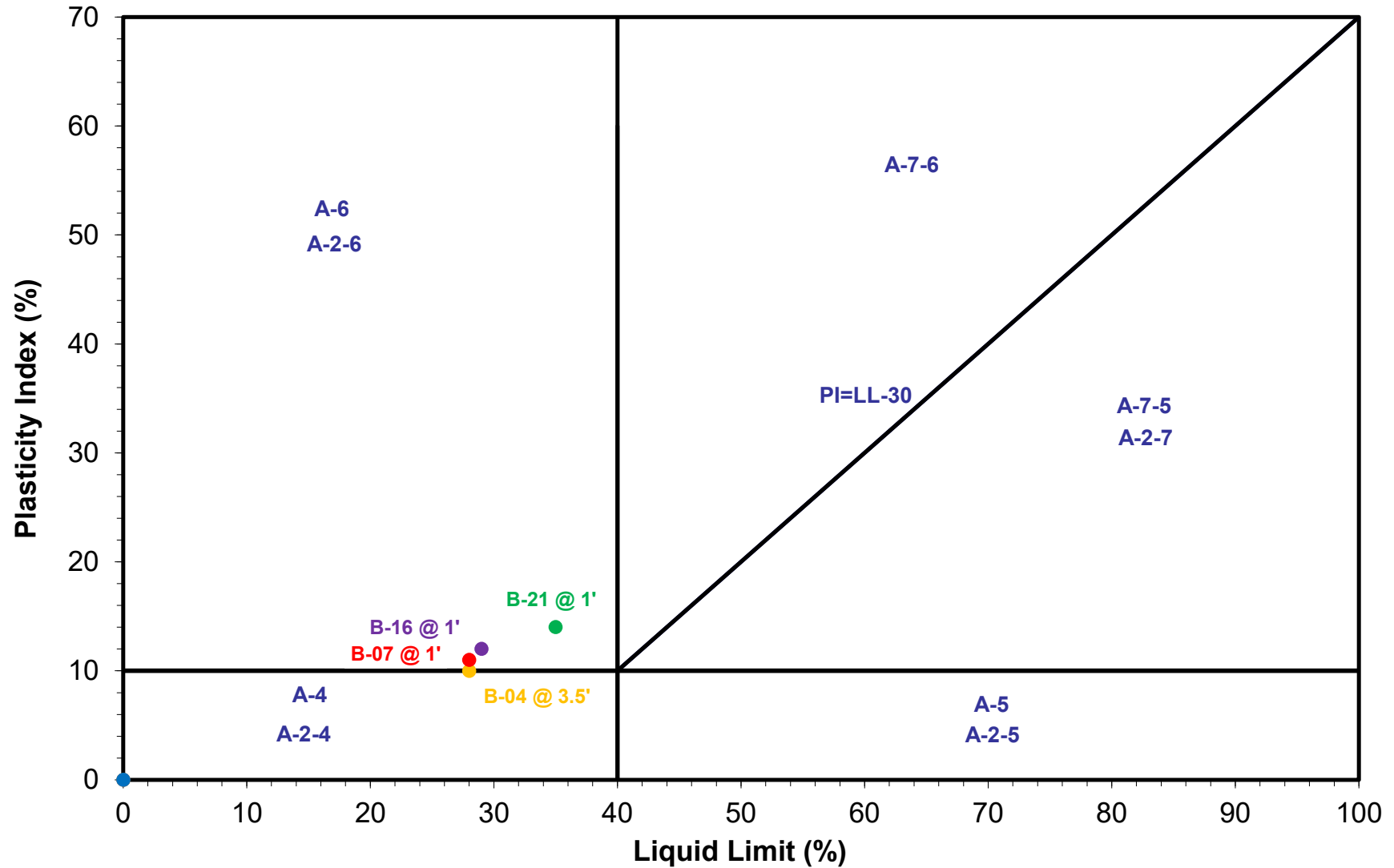
WATER LEVELS***	
▽ While Drilling	13 ft
▽ Upon Completion	10 ft
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: 69+73.29 Offset: -29.204	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
										Moisture, %	Moisture, %	
	0					Surface Elev.: 812.81 ft						
						Approximately 5 inches of ASPHALT						
						Approximately 10 inches of CONCRETE						
						Approximately 5 inches of SUBBASE STONE						
						FILL: brown and gray sandy, silty CLAY						
810				1	14			8-14-7 N=21	14	⊗	⊙	Qp=3.0 tsf
						Stiff, brown silty CLAY, trace sand and gravel	CL	4-3-11 N=14	13	⊗	⊙	
	5					Medium stiff to stiff, brown silty CLAY, trace sand and gravel		0-2-2 N=4	16	⊗	⊙	Qp=1.0 tsf
805				3	5			2-4-3 N=7	17	⊗	⊙	Qp=1.5 tsf
				4	8			1-2-2 N=4	14	⊗	⊙	
						Increase in gravel at approximately 11 feet below existing grade		1-3-3 N=6	14	⊗	⊙	
800						Loose, brown well-graded SAND, trace gravel	SW					
				6	5							
						End of boring at approximately 15 feet below existing grade						

Completion Depth: 15.0 ft	Sample Types:	Pressuremeter	Latitude: 41.995411
Date Boring Started: 4/12/22	Auger Cutting	Shelby Tube	Longitude: -88.316391
Date Boring Completed: 4/12/22	Split-Spoon	Hand Auger	Drill Rig: Geoprobe 7822DT
Logged By: J.W.	Rock Core	No Recovery	Remarks:
Drilling Contractor: Rubino Engineering, Inc.			

The stratification lines represent approximate boundaries. The transition may be gradual.
 ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

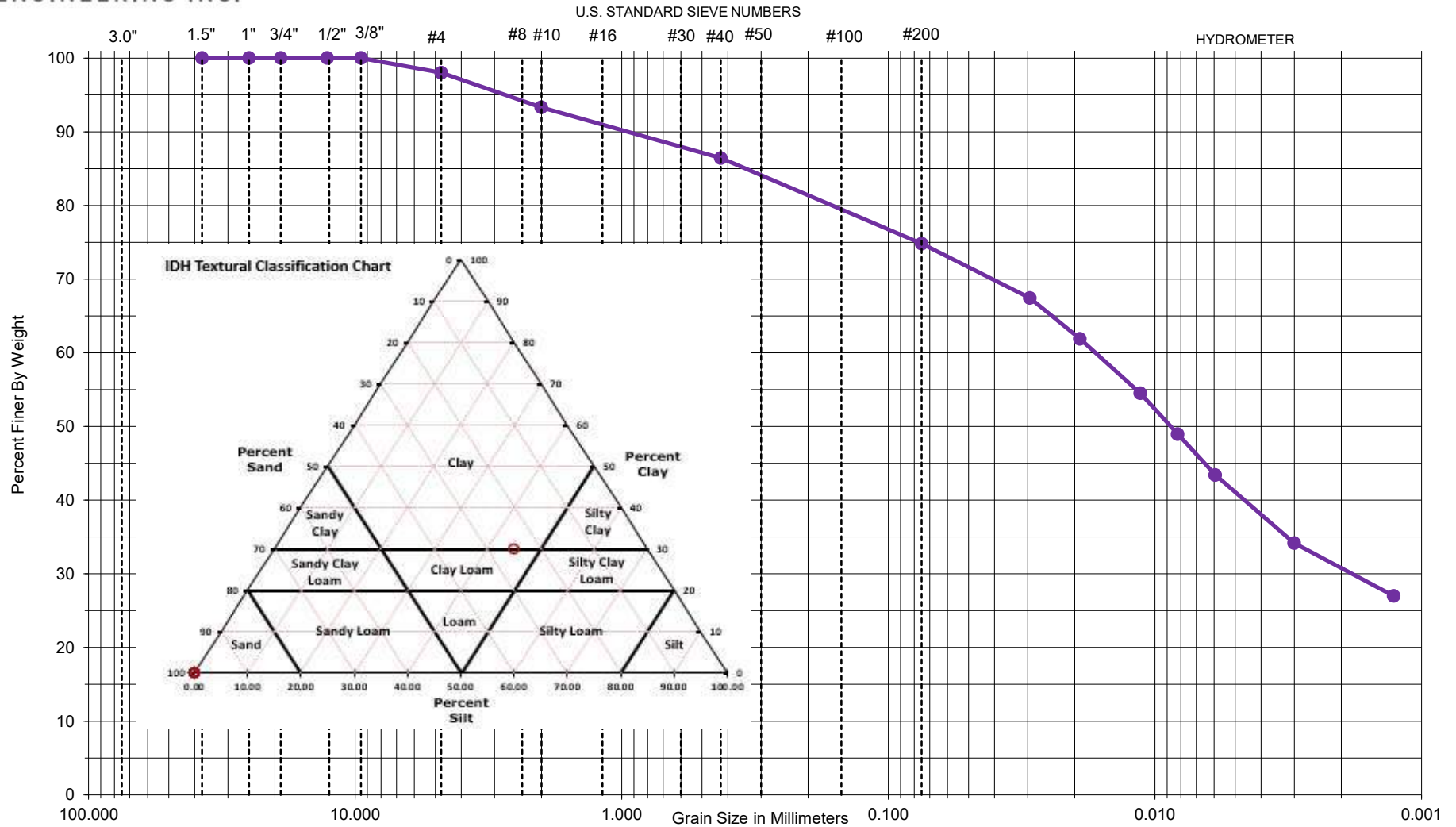
Appendix F – Laboratory Test Results



Boring #	B-04 @ 3.5'	B-07 @ 1'	B-16 @ 1'	B-21 @ 1'		
LL	28	28	29	35		
PL	18	17	17	21		
PI	10	11	12	14		

Project: McLean Boulevard Phase II
Location: South Elgin, Illinois
Client: HLR, Inc.
Project #: G21.156

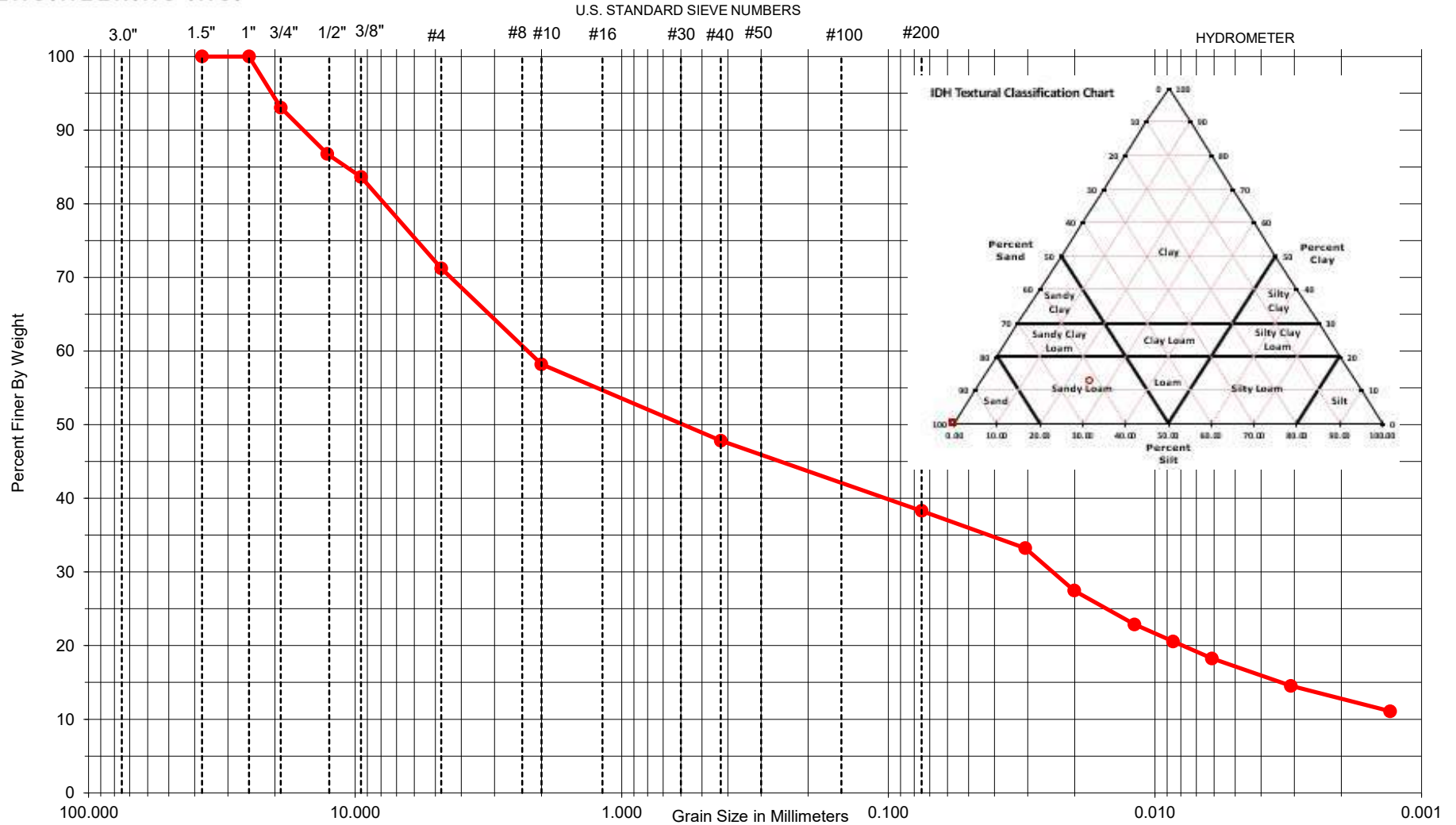
REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL



Key	Boring No.	Depth	IDH Textural Classification	WC%	ORG%	Cc	Cu	%Gravel	%Sand	%Silt	%Clay	D60	D30	D10
●	B-04	3.5'	Clay Loam	16	N/A			6.7	18.7	44.8	29.9			

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL **McLean Boulevard Phase II South Elgin** File No. **G21.156**

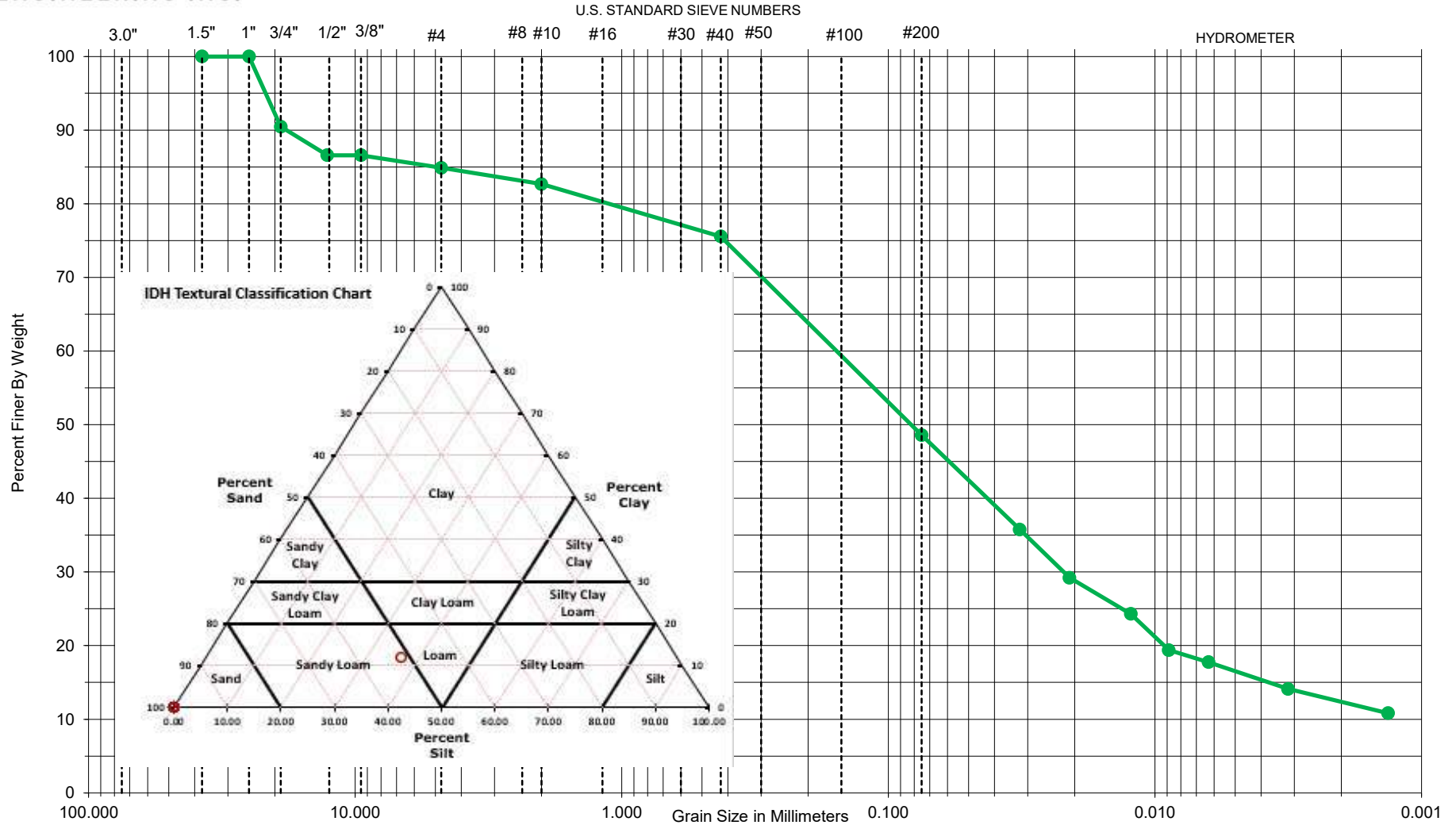
REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL



Key	Boring No.	Depth	IDH Textural Classification	WC%	ORG%	Cc	Cu	%Gravel	%Sand	%Silt	%Clay	D60	D30	D10
●	B-07	1'	Sandy Loam	20	N/A			41.8	20.0	25.9	12.3			

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL **McLean Boulevard Phase II South Elgin** File No. **G21.156**

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL

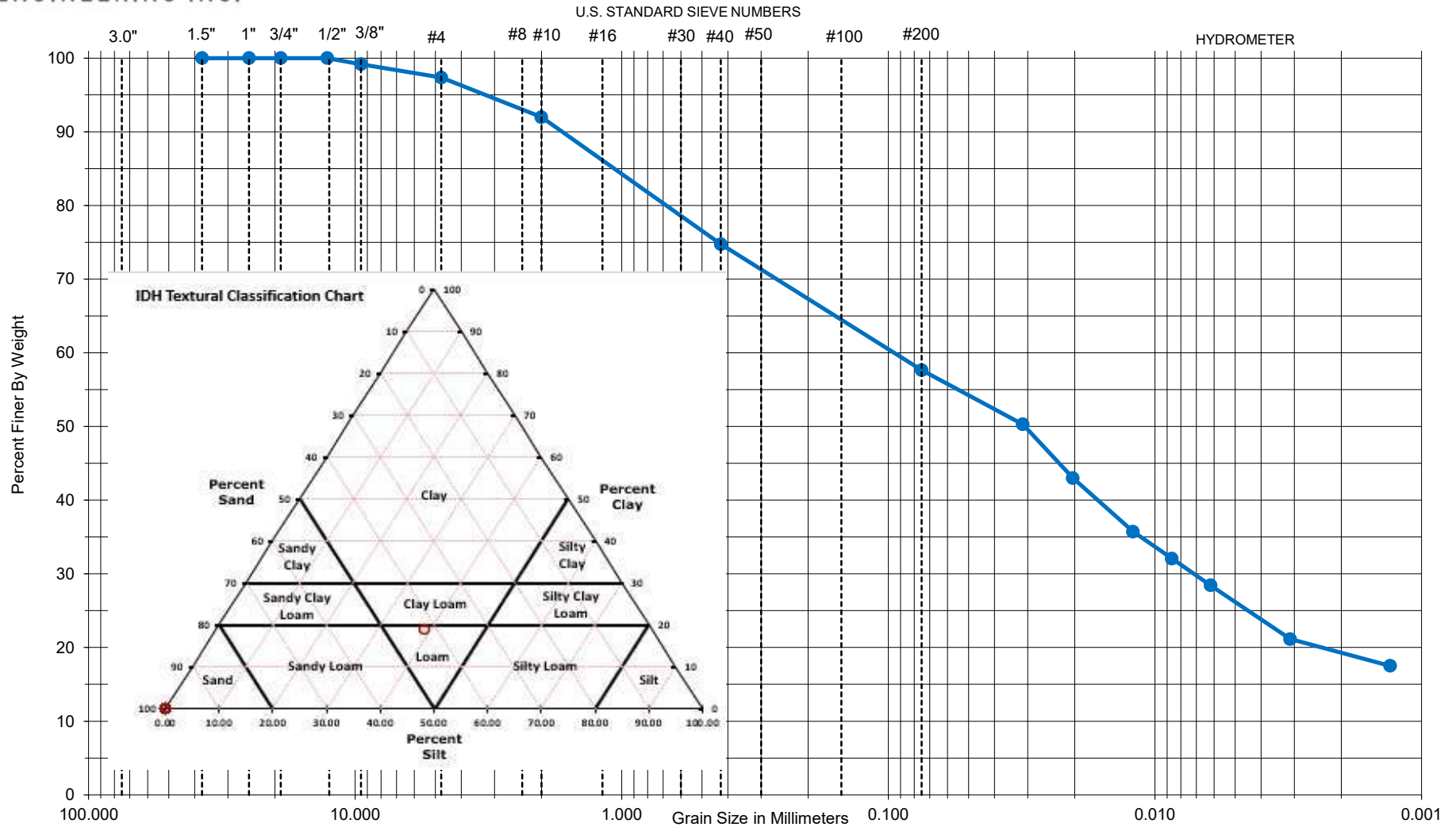


Key	Boring No.	Depth	IDH Textural Classification	WC%	ORG%	Cc	Cu	%Gravel	%Sand	%Silt	%Clay	D60	D30	D10
●	B-11	3.5'	Sandy Loam	17	N/A			17.3	34.4	36.6	11.7			

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL McLean Boulevard Phase II South Elgin File No. G21.156



REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL

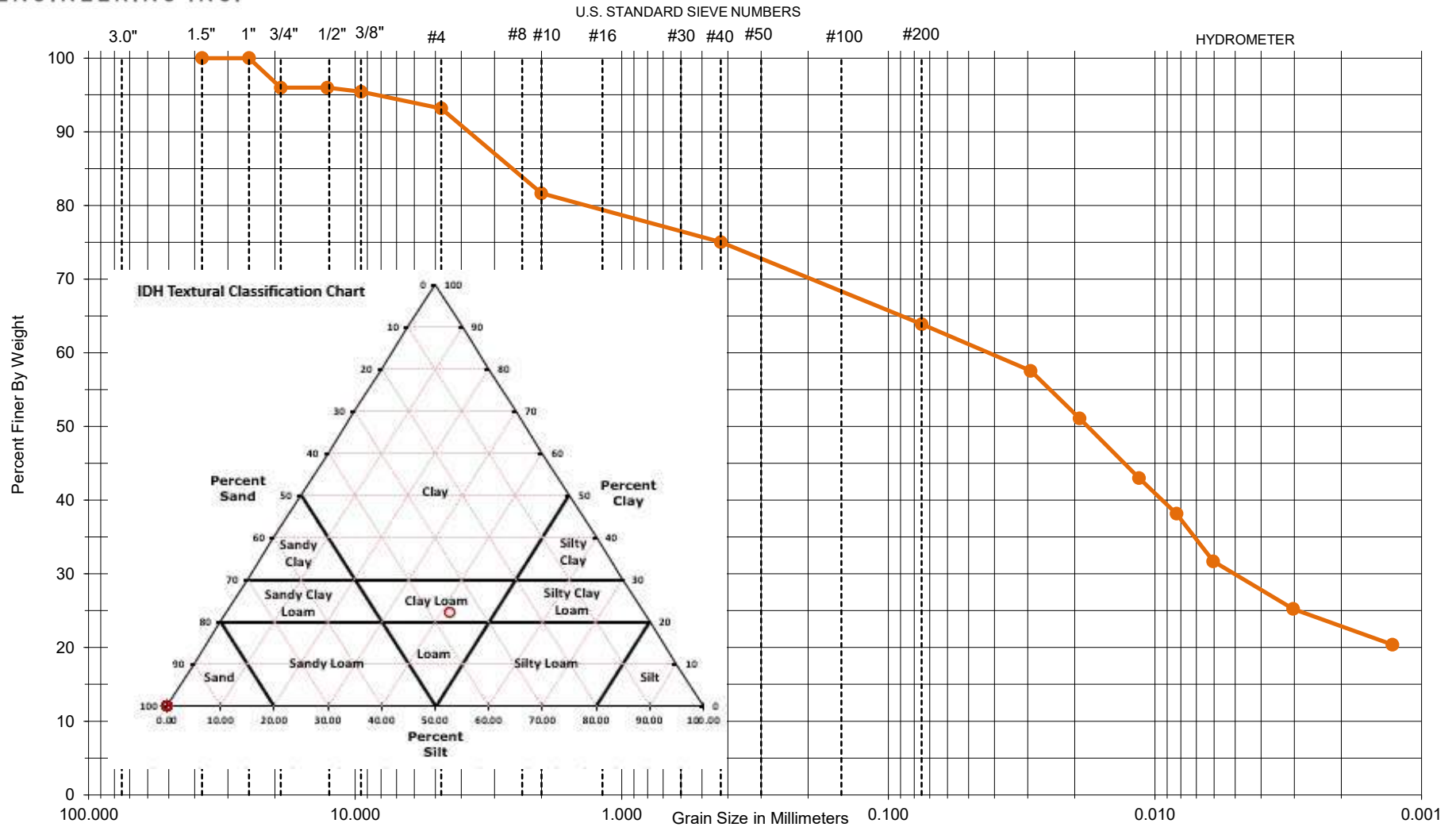


Key	Boring No.	Depth	IDH Textural Classification	WC%	ORG%	Cc	Cu	%Gravel	%Sand	%Silt	%Clay	D60	D30	D10
●	B-16	1'	Loam	13	N/A			8.0	34.5	38.7	18.7			

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL	McLean Boulevard Phase II South Elgin	File No. G21.156
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Rubino Engineering Inc 425 Shepard Drive • Elgin, IL 60123 • 847-931-1555 • 847-931-1560 (Fax)

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL



Key	Boring No.	Depth	IDH Textural Classification	WC%	ORG%	Cc	Cu	%Gravel	%Sand	%Silt	%Clay	D60	D30	D10
●	B-21	2'	Clay Loam	12	N/A			18.4	17.9	41.5	22.2			

REPORT OF PARTICLE-SIZE ANALYSIS OF SOIL McLean Boulevard Phase II South Elgin File No. G21.156

Appendix G – Report Limitations

Subsurface Conditions:

The subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific information at individual boring locations. These records include soil descriptions, stratifications, penetration resistances, locations of the samples and laboratory test data as well as water level information. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition between layers may be gradual.

Geotechnical Risk:

The concept of risk is an important aspect of the geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools that geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical evaluation should not be considered risk-free, and more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned. The engineering recommendations, presented in the preceding section, constitute Rubino's professional estimate of the necessary measures for the proposed structure to perform according to the proposed design based on the information generated and reference during this evaluation, and Rubino's experience in working with these conditions.

Warranty:

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

Federal Excavation Regulations:

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. This federal regulation mandates that all excavations, whether they be utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person," as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. Rubino is providing this information solely as a service to our client. Rubino is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.