Structural Geotechnical Report

Noise Abatement Wall Replacements
West Wall: Stations 700+00 to 765+00
East Wall: Stations 800+00 to 850+00
IL 53 from IL 68 to Lake Cook Road
Cook County, Illinois

Prepared for

Illinois Department of Transportation
Contract Number: IDOT PTB 202-014

Project Design Engineer Team
GSG Consultants, Inc.

Geotechnical Consultant:
GSG Consultants, Inc.

June 12, 2023

GSG CONSULTANTS, INC.
Engineers. Scientists. Construction Managers
735 Remington Road, Schaumburg IL 60173
Tel: 630.994.2600, www.gsg-consultants.com

GSG CONSULTANTS, INC.

735 Remington Road
Schaumburg, IL 60173
Tel: 630.994.2600
www.gsg-consultants.com

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Darpit Shah, P.E.
Consultant Project Engineer
Illinois Department of Transportation | Bureau of Design
201 Center Court
Schaumburg, IL 60196

PTB 202-014
Structural Geotechnical Report
Noise Abatement Wall Replacements
West Wall Sta. 700+00 to Sta. 765+00 & East Wall Sta. 800+00 to Sta. 850+00
IL 53 from IL 68 to Lake Cook Road

Dear Mr. Shah:

Attached is a copy of the Structural Geotechnical Report for the above referenced project. This report provides a brief description of the site investigation, site conditions and foundation recommendations. The site investigation included advancing thirty-four (34) soil borings to depths between 15 to 30 feet for the proposed west side noise wall and twenty-eight (28) soil borings to depths between 20 to 30 feet for the proposed east side noise wall.

Should you have any questions or require additional information, please call us at 630-994-2600, or ddimaggio@gsg-consultants.com.

Sincerely,

Daniel DiMaggio

Daniel DiMaggio, E.I.T.
Project Engineer

Ala E Sassila, Ph.D., P.E.
Principal

GSG

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1.0 INTRODUCTION

GSG Consultants, Inc. (GSG) completed a geotechnical investigation for the replacement of two (2) noise abatement walls located along the east and west sides of IL 53 between IL 68 to Lake Cook Road to mitigate noise for the surrounding residential areas, in Cook County, Illinois. The purpose of this site investigation was to explore the subsurface conditions along the proposed structure locations, to determine engineering properties of the subsurface soil, and to develop final design and construction recommendations for the noise abatement walls.

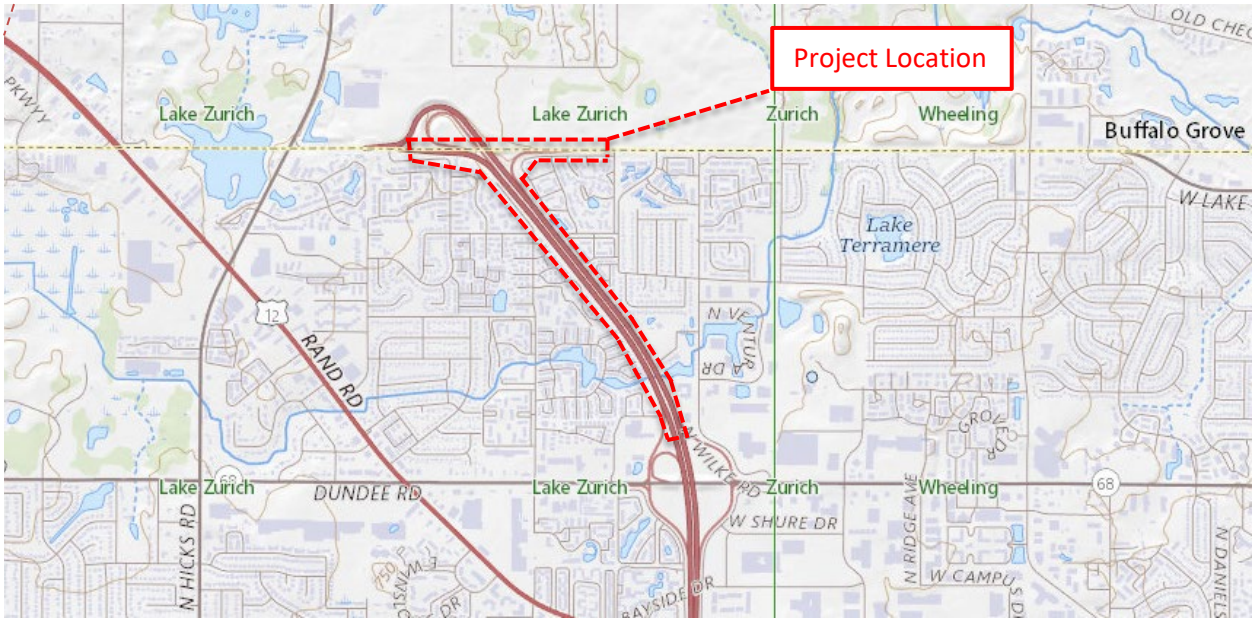


Exhibit 1 – Project Location Map
(Source: USGS Topographic Maps, usgs.gov)

The general scope of the project is the replacement of noise abatement walls along IL 53 between IL 68 and Lake Cook Road. The existing noise abatement walls are constructed with wooden posts and horizontal panels. The proposed improvement is to remove the existing walls and replace them with new noise abatement walls consisting of IDOT standard precast, stamped concrete panels.

1.1 Existing Site Conditions

The area where the proposed noise walls are to be built will be on existing IDOT property right-of-way (ROW) along each side of Illinois Route 53. **Exhibits 2a, 2b, 2c and 2d** generally show the existing conditions where the proposed noise walls will be constructed. The existing walls are constructed with wooden posts and horizontal panels. Many of these panels have been damaged and sections of the wall are in various states of disrepair. There is a storm sewer line located along the west shoulder of southbound IL 53 near the location of the west noise wall extending from Station 700+00 to approximate Station 716+00.

Exhibit 2a – Existing Site Conditions, Looking South along SB IL 53 at the West Wall

Exhibit 2b – Existing Site Conditions, Looking East along EB Lake Cook Road at the West Wall

Exhibit 2c – Existing Site Conditions, Looking North along NB IL 53 at the East Wall

Exhibit 2d – Existing Site Conditions, Looking East along EB Lake Cook Road at the East Wall

1.2 Proposed Noise Wall Information

The proposed project is to remove the existing wooden noise walls and to replace them with a new noise abatement wall consisting of IDOT Standard precast, stamped concrete panels. Based on the Plan and Profile Drawings dated 6/1/2023 (**Appendix A**), the proposed noise walls will be offset 5 feet from the Right of Way lines on either side of Illinois Route 53. **Table 1** presents a summary of the proposed noise walls.

Table 1 – Noise Wall Summary

Wall Name	Wall Stations*	Proposed Wall Type	Approximate Length (ft)	Maximum Anticipated Wall Height (ft)
West Noise Wall	Sta. 700+00 to Sta. 765+00	Ground Mounted	6,500	25.0
East Noise Wall	Sta. 800+00 to Sta. 850+00	Ground Mounted	5,000	24.5

* Based on IL 53 noise wall Stationing

1.3 Regional Geology

GSG reviewed several published documents to determine the regional geological setting in the area. The site is in northwestern Cook County, near Buffalo Grove, Illinois. The surficial geologic deposits in this area are typically glacial drift deposited during the Wisconsin Glacial Age and river sediments deposited by the Des Plaines River. The subsurface profile in the area consists of deposits of silty clay, sand, silt, and gravel extending to depths of approximately 150 to 200 feet below the ground surface, at which point bedrock is generally encountered.

Deposits in the area are primarily from the Tinley Moraine and Valparaiso Ground moraine from the Wadsworth Member of the Wedron Formation deposited during the Wisconsin Period. The Wadsworth Member typically consists of mostly gray clayey and silty clayey till, relatively low in content of pebbles, cobbles, and boulders; contains local lenses of silt; commonly mantled with 1 to 2 feet of leached silt (loess) and soil. Underlying the surficial deposits, the bedrock consists of the Silurian System, Niagaran Series, which consist of dolomite that varies from extremely argillaceous, silty and cherty to exceptionally pure.

2.0 SITE SUBSURFACE EXPLORATION PROGRAM

This section describes the subsurface exploration program and laboratory testing program completed as part of this project. The proposed locations and depths of the soil borings were selected in accordance with IDOT requirements based on available design information at the time of the field activities. The borings were completed in the field based on field conditions and accessibility.

2.1 Subsurface Exploration Program

Soil borings were completed between October 13 and December 2, 2022. The exploration program included advancing thirty-four (34) standard penetration test (SPT) borings along the length of the proposed west wall and twenty-eight (28) SPT borings along the length of the proposed east wall. The as-drilled locations of the soil borings are shown on the Soil Boring Location Plan and Subsurface Profile (**Appendix B**). **Table 2** presents a list of the borings used for the proposed noise wall analysis.

Table 2 – Summary of Subsurface Exploration Borings

Boring ID	Station*	Offset (ft)/ Direction	Depth (ft)	Surface Elevation (ft)
East Noise Wall				
ENAW-01	800+28.69	34.17 / LT	20	725.14
ENAW-02	802+9.44	15.23 / LT	20	724.17
ENAW-03	804+11.43	12.95 / LT	20	726.56
ENAW-04	806+16.58	19.19 / LT	20	728.43
ENAW-05	808+11.39	13.72 / LT	20	728.43
ENAW-06	810+18.57	23.0 / LT	20	729.92
ENAW-07	812+15.98	16.48 / LT	20	729.94
ENAW-08	814+11.30	15.63 / LT	20	731.81
ENAW-09	816+8.53	24.42 / LT	20	732.32
ENAW-10	818+25.16	25.35 / LT	20	733.62
ENAW-11	820+15.66	16.60 / LT	20	733.75
ENAW-12	822+21.02	26.54 / LT	25	734.51
ENAW-13	824+24.92	34.96 / LT	20	735.47
ENAW-14	826+25.53	49.51 / LT	20	736.04
ENAW-15	828+5.96	5.77 / LT	25	737.45
ENAW-16	830+5.70	5.17 / LT	25	737.46
ENAW-17	832+95.27	60.18 / LT	25	741.68
ENAW-18	834+20.55	31.84 / LT	25	742.98
ENAW-19	835+2.55	2.55 / LT	25	743.42
ENAW-20	836+35.19	4.62 / LT	25	743.26

Boring ID	Station*	Offset (ft)/ Direction	Depth (ft)	Surface Elevation (ft)
ENAW-21	837+52.28	6.67 / LT	30	741.55
ENAW-22	839+3.93	19.77 / LT	25	748.08
ENAW-23	841+0.28	3.94 / LT	25	748.71
ENAW-24	843+1.68	1.68 / LT	25	747.56
ENAW-25	844+99.97	2.80 / LT	25	746.30
ENAW-26	847+0.28	4.71 / LT	25	745.75
ENAW-27	849+14.80	12.27 / LT	25	745.45
ENAW-28	850+87.76	13.84 / LT	25	745.56
West Noise Wall				
WNAW-01	700+2.36	8.24 / RT	20	719.43
WNAW-02	701+99.15	9.71 / RT	20	716.60
WNAW-03	703+97.07	9.39 / RT	25	715.57
WNAW-04	706+0.60	36.28 / RT	25	716.35
WNAW-05	707+96.52	10.92 / RT	25	717.59
WNAW-06	709+96.26	10.8 / RT	25	719.91
WNAW-07	711+93.30	10.76 / RT	25	721.85
WNAW-08	713+98.22	6.81 / RT	30	715.54
WNAW-09	715+72.65	36.98 / RT	25	724.44
WNAW-10	717+57.38	20.82 / RT	25	721.84
WNAW-11	719+66.89	19.96 / RT	25	722.79
WNAW-12	721+60.50	23.63 / RT	25	728.21
WNAW-13	723+64.11	17.26 / RT	25	729.78
WNAW-14	725+77.68	23.11 / RT	25	728.35
WNAW-15	727+80.98	15.39 / RT	25	729.53
WNAW-16	729+75.11	21.53 / RT	25	730.34
WNAW-17	731+71.34	27.28 / RT	25	730.59
WNAW-18	733+69.16	25.73 / RT	25	731.78
WNAW-19	735+71.50	27.10 / RT	25	732.43
WNAW-20	737+74.77	24.87 / RT	25	732.51
WNAW-21	739+39.45	27.71 / RT	25	733.90
WNAW-22	741+64.79	24.68 / RT	25	734.12
WNAW-23	743+24.68	30.11 / RT	25	736.67
WNAW-24	745+83.63	26.22 / RT	20	735.83
WNAW-25	747+62.32	19.88 / RT	20	738.25
WNAW-26	749+73.72	32.75 / RT	20	740.53
WNAW-27	751+14.88	57.86 / RT	15	741.47
WNAW-28	754+18.74	41.99 / RT	15	750.48
WNAW-29	755+64.82	92.52 / RT	25	751.22

Boring ID	Station*	Offset (ft)/ Direction	Depth (ft)	Surface Elevation (ft)
WNAW-30	758+1.42	16.25 / RT	25	753.08
WNAW-31	759+99.78	3.24 / RT	25	754.96
WNAW-32	762+0.14	4.61 / RT	25	755.44
WNAW-33	764+38.47	13.73 / RT	25	756.15
WNAW-34	764+84.23	29.02 / RT	15	756.12

* Based on the IL 53 noise wall stationing.

The soil borings were drilled using truck mounted Mobil B-57, truck mounted Diedrich D-50, track mounted Diedrich D-50 ATV and Geoprobe 7822DT all-terrain drill rigs, using 3¼-inch I.D. hollow stem augers and an automatic hammer. Soil sampling was performed according to AASHTO T 206, "Penetration Test and Split Barrel Sampling of Soils." Soil samples were obtained at 2.5-foot intervals to the boring termination depths. Water level measurements were made in each boring when evidence of free groundwater was detected on the drill rods or in the samples. The boreholes were also checked for free water immediately after auger removal, and before filling the open boreholes with soil cuttings and surface patching with asphalt when necessary.

GSG's field representative inspected, visually classified and logged the soil samples during the subsurface exploration activities and performed unconfined compressive strength tests on cohesive soil samples using a calibrated Rimac compression tester and a calibrated hand penetrometer in accordance with IDOT procedures and requirements. Representative soil samples collected from each sample interval were placed in jars and were returned to the laboratory for further testing and evaluation.

2.2 Laboratory Testing Program

All samples were inspected in the laboratory to verify the field classifications. A laboratory testing program was undertaken to characterize and determine engineering properties of the subsurface soils encountered in the area of the proposed walls.

The following laboratory tests were performed on representative soil samples:

- Moisture content ASTM D2216 / AASHTO T-265
- Atterberg Limits ASTM D 4318 / AASHTO T-89 / AASHTO T-90

- Particle Size Analysis ASTM D422 / AASHTO T-88
- Organic Content ASTM D2974 / AASHTO T-267

The laboratory tests were performed in accordance with test procedures outlined in the IDOT Geotechnical Manual (2020), and per ASTM and AASHTO requirements. Based on the laboratory test results, the soils encountered were classified according to the Illinois Division of Highways (IDH) classification systems. The results of the laboratory testing program are included in the Laboratory Test Results **(Appendix D)** and are also shown along with the field test results in the Soil Boring Logs **(Appendix C)**.

2.3 Subsurface Soil Conditions

This section provides a brief description of the soils encountered in the borings performed in the vicinity of the proposed noise walls. Variations in the general subsurface soil profile were noted during the drilling activities. Detailed descriptions of the subsurface soils are provided in the Soil Boring Logs (**Appendix C**). The soil boring logs provide specific conditions encountered at each boring location, including soil descriptions, stratifications, penetration resistance, elevations, location of the samples, water levels (when encountered), and laboratory test data. Variations in the general subsurface soil profile were noted during the drilling activities. The stratifications shown on the boring logs represent the conditions only at the actual boring locations and represent the approximate boundary between subsurface materials; however, the actual transition may be gradual.

East Noise Wall

ENAW-01 thru ENAW-10

Borings ENAW-01 thru ENAW-05, ENAW-07, and ENAW-08 were drilled through the landscape along the shoulder of Northbound IL 53. These borings initially encountered 3 inches of topsoil. Borings ENAW-06, ENAW-09, and ENAW-10 were drilled in the asphalt shoulder along Northbound IL 53. These borings initially encountered 12 inches of asphalt. The surface elevations of the borings ranged between 733.6 and 724.2 feet.

Underlying the surficial layers, borings ENAW-01, ENAW-04 and ENAW-07 encountered silty clay fill soils to depths of up to 5 feet below the ground surface. Borings ENAW-06, ENAW-09 and

ENAW-10 encountered gravel fill soils to depths of 3.5 to 6 feet below the ground surface. Borings ENAW-02, ENAW-03, ENAW-05 and ENAW-08 did not encounter fill materials.

Beneath the existing fill soils, stiff to hard brown and gray silty clay / silty clay loam soils were encountered to depths of 4.5 to 18.5 feet below the existing grade (approx. elevations between 726.4 and 706.7 feet). Very loose to medium dense brown and gray sandy loam soils were encountered in borings ENAW-01 thru ENAW-03 at depths between 1 and 18.5 feet below grade (approx. elevations between 724.7 and 706.7 feet). Medium dense gray silty loam soils were encountered in borings ENAW-01 and ENAW-03 at depths between 6 and 16 feet (approx. elevations between 720.6 and 710.6 feet). Beneath these layers, stiff to hard gray silty clay / silty clay loam was encountered to the boring termination depths of 20 feet. Borings ENAW-02, ENAW-03, and ENAW-05 thru ENAW-07 noted cobbles at various depths.

The unconfined compressive strength of the stiff to hard brown and gray silty clay / silty clay loam soils ranged between 1.0 and 5.2 tons per square foot (tsf), with an average strength of 2.3 tsf. The unconfined compressive strength of the stiff to hard gray silty clay / silty clay loam soils ranged between 1.5 and 4.5 tsf, with an average strength of 2.8 tsf. The gravel fill soils had SPT blow count 'N' values ranging from 4 to 50 blows per foot (bpf), with an average of 26 bpf. The loose to medium dense brown and gray sandy loam soils had SPT blow count 'N' values ranging from 9 to 15 bpf, with an average of 10 bpf. The medium dense gray silty loam soils had SPT blow count 'N' values ranging from 13 to 23 bpf, with an average of 19 bpf.

ENAW-11 thru ENAW-19

Borings ENAW-11, ENAW-15, and ENAW-16 were drilled through the landscape along Northbound IL 53. Borings ENAW-17 thru ENAW-19 were drilled through the landscape along the Eastbound Lake Cook Road exit ramp. These borings initially encountered 3 to 4 inches of topsoil. Borings ENAW-12 thru ENAW-14 were drilled in the asphalt shoulder along Northbound IL 53. These borings initially encountered 6 to 12 inches of asphalt, with 6 inches of subbase. The surface elevations of the borings ranged between 743.4 and 733.8 feet.

Underlying the surficial layers, borings ENAW-12, ENAW-13, ENAW-15 and ENAW-17 thru ENAW-19 encountered silty clay fill soils to depths of 1 to 8.5 feet below the ground surface. Borings

ENAW-12 thru ENAW-14 encountered gravel fill soils to depths of 3.5 to 6 feet below the ground surface. Borings ENAW-11 and ENAW-16 did not encounter fill materials.

Beneath the existing fill soils, stiff to hard brown and gray silty clay / silty clay loam soils were encountered to depths of 7 to 16.5 feet below the existing grade (approx. elevations 734.9 to 718.5 feet), followed by stiff to hard gray silty clay / silty clay loam to the boring termination depths of 20 to 25 feet. A layer of soft brown silty clay was encountered in boring ENAW-14 between depths of 6 to 8.5 feet below grade (approx. elevations between 730.0 and 727.5 feet). Borings ENAW-11, ENAW-12 and ENAW-15 thru ENAW-19 noted cobbles at various depths. Borings ENAW-14 and ENAW-15 noted sand seams at depths of 7 and 8.5 feet, respectively.

The unconfined compressive strength of the stiff to hard brown and gray silty clay / silty clay loam soils ranged between 1.3 and 5.4 tsf, with an average strength of 2.9 tsf. The unconfined compressive strength of the stiff to hard gray silty clay / silty clay loam soils ranged between 1.0 and 4.6 tsf, with an average strength of 2.3 tsf. The gravel fill soils had SPT blow count 'N' values ranging from 8 to 50 bpf, with an average of 19 bpf. The soft brown silty clay had an unconfined compressive strength of 0.5 tsf.

ENAW-20 thru ENAW-28

Borings ENAW-20 and ENAW-21 were drilled in the landscape along the Eastbound Lake Cook Road exit ramp. ENAW-22 thru ENAW-28 were drilled through the landscape along Eastbound Lake Cook Road. These borings initially encountered 2 to 5 inches of topsoil. The surface elevations of the borings ranged between 748.7 and 741.6 feet.

Underlying the surficial layers, the majority of the borings encountered silty clay fill soils to depths of up to 11.5 feet below the ground surface. Boring ENAW-24 did not encounter fill materials.

Beneath the existing fill soils, medium stiff to hard brown and gray silty clay / silty clay loam soils were encountered to depths of 11 to 16 feet below the existing grade (approx. elevations 735.3 to 730.6 feet), followed by stiff to hard gray silty clay / silty clay loam to the boring termination depths of 20 to 30 feet. Borings ENAW-21, ENAW-23, ENAW-27 and ENAW-28 noted cobbles at

various depths. Borings ENAW-21 and ENAW-27 noted sand seams at depths of 29 and 11.5 feet, respectively.

The unconfined compressive strength of the medium stiff to hard brown and gray silty clay / silty clay loam soils ranged between 0.8 and 5.8 tsf, with an average strength of 2.9 tsf. The unconfined compressive strength of the stiff to hard gray silty clay / silty clay loam soils ranged between 1.0 and 5.8 tsf, with an average strength of 2.5 tsf.

West Noise Wall

WNAW-01 thru WNAW-11

Borings WNAW-01 thru WNAW-03 were drilled through the shoulder of the Southbound IL 53 to IL 68 exit ramp. These borings encountered 6 to 7 inches of concrete, followed by 5 inches of aggregate subbase. Borings WNAW-04 thru WNAW-07 were drilled through the shoulder along southbound IL 53. These borings encountered 3 to 6 inches of asphalt, followed by 6 to 7 inches of concrete in borings WNAW-05 thru WNAW-07. Borings WNAW-08 thru WNAW-11 were drilled in the landscape along the shoulder of Southbound IL 53; these borings encountered 6 inches of topsoil. Boring WNAW-08 had 6 inches of concrete beneath the topsoil, which appeared to be part of a buried culvert. The surface elevations of the borings ranged between 724.4 and 715.5 feet.

Underlying the surficial layers, the majority of the borings encountered silty clay fill materials to depths of 1.5 to 9 feet below grade. Borings WNAW-02 thru WNAW-06 encountered sand with gravel fill between depths of 1 to 11 feet.

Borings WNAW-08, WNAW-10 and WNAW-11 did not encounter fill materials; these borings encountered loose brown silty loam soils to depths of 8.5 to 11 feet below grade (approx. elevations 715.9 to 706.5 feet).

Beneath these layers, the borings generally encountered stiff to very stiff brown and gray silty clay / silty clay loam soils to depths of 8.5 to 13.5 feet (approx. elevations 715.9 to 702.8 feet), followed by gray stiff to hard silty clay / silty clay loam to the boring termination depths of 20 to 30 feet below the ground surface level. Borings WNAW-01, WNAW-05 and WNAW-09

encountered a layer of loose to very dense gray silty loam between depths of 11 and 16.5 feet (approx. elevations between 710.9 and 702.9 feet). Borings WNAW-06, WNAW-07 and WNAW-09 encountered loose to medium dense sandy loam at depths between 8.5 and 16 feet (approx. elevations between 715.9 and 703.9 feet). Cobbles were noted in borings WNAW-04, WNAW-08 and WNAW-09 at various depths. Sand seams were noted in boring WNAW-01 at depths of 11.5, 12 and 16.5 feet.

The unconfined compressive strength of the stiff to very stiff brown and gray silty clay / silty clay loam soils ranged between 1.0 and 5.2 tsf, with an average strength of 2.8 tsf. The unconfined compressive strength of the medium stiff to hard gray silty clay / silty clay loam soils ranged between 0.8 and 5.6 tsf, with an average strength of 2.6 tsf. The sand with gravel fill soils had SPT blow count 'N' values ranging from 30 to 34 bpf, with an average of 32 bpf. The brown loose silty loam soils had SPT blow count 'N' values ranging from 4 to 10 bpf, with an average of 6 bpf. The loose to very dense gray silty loam soils had SPT blow count 'N' values ranging from 10 to 50 bpf, with an average of 26 bpf. The loose to medium dense gray sandy loam soils had SPT blow count 'N' values ranging from 4 to 14 bpf, with an average of 10 bpf.

WNAW-12 thru WNAW-23

Borings WNAW-12 thru WNAW-23 were drilled through the landscape along the Southbound IL 53 right of way. These borings encountered 6 inches of topsoil. The surface elevations of the borings ranged between 736.7 and 723.2 feet.

Underlying the surficial layers, borings WNAW-13, WNAW-15 and WNAW-16 encountered brown silty clay fill materials to depths of 2.5 to 7.5 feet below grade. The borings then encountered native brown and gray stiff to very stiff silty clay / silty clay loam soils to depths of 6 to 11 feet below grade (approx. elevations 730.6 to 712.2), followed by gray medium stiff to hard silty clay / silty clay loam soils to the boring termination depths of 25 feet below grade. In boring WNAW-15, brown very loose silty loam was encountered from a depth of 2.5 to 5 feet (approx. elevations between 724.5 and 722.0 feet). Cobbles were noted in borings WNAW-12, WNAW-14, WNAW-16, WNAW-17, WNAW-20, WNAW-22 and WNAW-23 at various depths. A sand seam was noted in boring WNAW-17 at a depth of 17 feet below grade.

The unconfined compressive strength of the stiff to very stiff brown and gray silty clay / silty clay loam soils ranged between 1.0 and 3.8 tsf, with an average strength of 2.2 tsf. The unconfined compressive strength of the medium stiff to hard gray silty clay / silty clay loam soils ranged between 0.6 and 6.3 tsf, with most values greater than 1.0 tsf, and an average strength of 2.4 tsf. The brown loose silty loam had an average SPT blow count 'N' value of 4 bpf.

WNAW-24 thru WNAW-34

Borings WNAW-24 thru WNAW-26 were drilled through the landscape along the Southbound IL 53 right of way. Borings WNAW-27 thru WNAW-30 were drilled through the landscape along the side of the Lake Cook Road to Southbound IL 53 ramp. Borings WNAW-31 thru WNAW-34 were drilled through the landscape along Eastbound Lake Cook Road. The above borings initially encountered 6 inches of topsoil. The surface elevations of the borings ranged between 756.1 and 735.8 feet.

Underlying the surficial layers, boring WNAW-27 encountered brown gravel with sand fill to a depth of 2.5 feet below grade; borings WNAW-26, WNAW-30 and WNAW-31 encountered brown silty clay fill to depths of up to 6 feet below grade. The remaining borings did not encounter fill materials.

The majority of the borings then encountered native brown and gray stiff to hard silty clay / silty clay loam soils to depths of 6 to 11 feet below grade (approx. elevations 747.1 to 729.8 feet). Borings WNAW-28, WNAW-29 and WNAW-34 encountered brown loose to medium dense silty loam to depths of 6 to 13.5 feet (approx. elevations 745.2 to 737.0 feet). Beneath the upper layers, the borings generally encountered gray medium stiff to hard silty clay / silty clay loam to the boring termination depths of 15 to 25 feet below the ground surface. Boring WNAW-29 encountered a layer of gray medium dense sand at depths of 8.5 to 11 feet (approx. elevations between 742.7 and 740.2 feet), along with a layer of gray loose silty loam at depths of 13.5 to 16 feet (approx. elevations between 737.7 and 735.2 feet). Borings WNAW-30, WNAW-33 and WNAW-34 encountered gray loose to medium dense sandy loam / sandy clay loam soils at depths of 6 to 15 feet (approx. elevations between 747.1 and 741.1 feet). Cobbles were noted in borings WNAW-26 and WNAW-32 at various depths. Sand seams were noted in borings WNAW-29, WNAW-31 and WNAW-34 at various depths.

The unconfined compressive strength of the stiff to hard brown and gray silty clay / silty clay loam soils ranged between 1.7 and 5.2 tsf, with an average strength of 2.9 tsf. The unconfined compressive strength of the medium stiff to hard gray silty clay / silty clay loam soils ranged between 0.6 and 5.4 tsf, with most values greater than 1.5 tsf, and an average strength of 2.8 tsf. The brown loose to medium dense silty loam soils had an average SPT blow count 'N' value of 12 bpf. The gray medium dense sand had an SPT blow count 'N' value of 20 bpf. The gray loose silty loam had an SPT blow count 'N' value of 9 bpf. The gray loose to medium dense sandy loam / sandy clay loam soils encountered in borings WNAW-30, WNAW-33 and WNAW-34 had SPT blow count 'N' values ranging between 9 and 12 bpf, with an average value of 9 bpf.

2.4 Groundwater Conditions

Water levels were checked in each boring to determine the general groundwater conditions present at the site and were measured while drilling and after each boring was completed. For the east noise wall, groundwater was only encountered in borings ENAW-01 thru ENAW-03 during drilling at elevations between 718.2 and 720.6 feet, within the granular layers; groundwater was not encountered upon completion or after drilling was completed in the remaining borings completed for the east wall. For the west noise wall, groundwater was encountered in eleven (11) borings (WNAW-01 thru WNAW-03, WNAW-05, WNAW-07 thru WNAW-09, WNAW-17, WNAW-25, WNAW-29 and WNAW-30) during drilling at elevations between 746.6 and 695.6 feet; groundwater was not encountered during drilling or after drilling was completed in the remaining borings on the west side of IL 53.

Due to safety reasons along the active roadway, the borings were not left open after completion, and no 24-hour readings were collected. The borings were immediately backfilled with soil cuttings and bentonite, and surface patched with asphalt where necessary.

Based on the color change from brown to gray, it is anticipated that the long-term groundwater level could range between elevations of 706.7 to 735.3 feet for the east noise wall and between elevations of 702.8 feet to 747.7 for the west noise wall. The groundwater levels for both the east and west walls appeared to slope upward in the north direction, similar to the existing surface grades. Water level readings were made in the boreholes at times and under conditions shown on the boring logs and stated in the text of this report. Long term observations in cased

borings or piezometers would be necessary to more accurately evaluate the long-term groundwater conditions at the site. However, it should be noted that fluctuations in groundwater level may occur due to variations in rainfall, other climatic conditions, or other factors not evident at the time measurements were made and reported herein.

3.0 GEOTECHNICAL ANALYSES

This section provides GSG's geotechnical analysis and recommendations for the design of the proposed noise walls based on the results of the field exploration, laboratory testing, and geotechnical analysis. Subsurface conditions in unexplored locations may vary from those encountered at the boring locations. If structure locations, loadings, or elevations are changed, we request that GSG be contacted so that we may re-evaluate our recommendations.

3.1 Derivation of Soil Parameters for Design

GSG determined the geotechnical parameters to be used for the project design based on the results of field and laboratory test data on the borings completed, as well as our experience. Unit weights, friction angles and shear strength parameters for cohesionless soils were estimated using the corrected standard penetration test (SPT) using published correlations for N values results for the cohesionless soils and in-situ and laboratory test results for cohesive soils. The SPT values were corrected for hammer efficiency. The hammer efficiency correction factor considers the use of a safety hammer/rope/cat-head system, generally estimated to be 60% efficient. Thus, correlations should be based upon what is currently termed as N_{60} data. The efficiency of the automatic hammers used for this exploration were estimated to be approximately 99.5% for the Diedrich D-50 truck-mounted drill rig, 89% for the Mobile B-57 truck-mounted drill rig, 91.5% for the Diedrich D-50 track-mounted drill rig, and 101.6% for the GeoProbe 7822DT all-terrain drill rig based on the most recent efficiency testing of the drill rigs used for this project. The correction for hammer efficiency is a direct ratio of relative efficiencies as follows:

$N_{60} = N_{field} * (99.5/60)$ Diedrich D-50

$N_{60} = N_{field} * (89/60)$ Mobil B-57

$N_{60} = N_{field} * (91.5/60)$ Diedrich D-50 ATV

$N_{60} = N_{field} * (101.6/60)$ GeoProbe 7822DT

* Where the N_{field} value is the field recorded blow counts during drilling.

Recommended geotechnical parameters for the subsurface soils within the boring area to be used for the design of the noise abatement walls are presented in **Appendix E**. It should be noted that because of the variable nature of soil stratigraphy, soil types and properties along the project alignment or at locations away from the borings may vary substantially.

3.2 Seismic Parameters

The seismic hazard for the site was analyzed per the IDOT Geotechnical Manual, IDOT Bridge Design Manual, and AASHTO LRFD Bridge Design Specifications.

The Seismic Soil Site Class was determined per the requirements of "All Geotechnical Manual Users" (AGMU) Memo 9.1, Design Guide for Seismic Site Class Determination, and the "Seismic Site Class Determination" Excel spreadsheet provided by IDOT. A global Site Class Definition was determined for this project, and was found to be Soil Site Class C. The Seismic Performance Zone (SPZ) was determined using Figure 2.3.10-3 in the IDOT Bridge Manual and was found to be Seismic Performance Zone 1.

The AASHTO Seismic Design Parameters program was used to determine the peak ground acceleration coefficient (PGA), and the short (S_{DS}) and long (S_{D1}) period design spectral acceleration coefficients for each of the proposed structures. For this section of the project, the S_{DS} and the S_{D1} were determined using 2020 AASHTO Guide Specifications as shown in **Table 3**. Given the site location and materials encountered, the potential for liquefaction is minimal.

Table 3 – Seismic Parameters

Code Reference	PGA	S_{DS}	S_{D1}
2020 AASHTO Guide for LRFD Seismic Bridge Design	0.041g	0.104g	0.057g

4.0 GEOTECHNICAL RECOMMENDATIONS

This section provides GSG's preliminary geotechnical recommendations for the design of the proposed noise walls based on the results of the field exploration, laboratory testing, and geotechnical analyses, and information provided by the designer. If there are any significant changes to the project characteristics or if significantly different subsurface conditions are encountered during construction, GSG should be consulted so that the recommendations of this report can be reviewed. The foundation design recommendations were completed for the AASHTO LRFD Bridge Design Specifications, 9th Edition (2020).

4.1 Noise Wall Design Recommendations

The engineering analyses performed for the evaluation of the wall options followed the current AASHTO Load and Resistance Factor Design (LRFD) Methodology. LRFD methodology incorporates the use of load factors and resistance factors to account for uncertainty in applied loads and load resistance of structure elements separately. The AASHTO LRFD Bridge Design Specifications outline load factors and combinations for various strength, extreme event, service, and fatigue limit states. Section 15 of the AASHTO Specifications outlines geotechnical criteria for sound barrier wall evaluations. In general, the wall should be investigated for vertical and lateral displacement and for overall stability at the Service I limit state and should be investigated at the strength limit states for bearing resistance failure, overall stability, and structural failure. The noise wall foundations shall be also evaluated at the extreme event limit states using applicable load combinations and load factors specified in AASHTO Table 3.4.1-1. The foundation type should be selected based on structural analysis of vertical and horizontal loads based on the AASHTO design criteria. Based on the height of the noise walls, GSG recommends utilizing a deep foundation system to support the noise walls.

4.1.1 Drilled Shaft Foundations

The noise walls may be supported on a system of drilled shafts. Soil parameters to be used in design of the drilled shafts are provided in **Appendix E – Soil Parameter Tables**. The actual depth of drilled shafts should be based on structural analyses of the vertical and horizontal loads.

Drilled shaft construction should be performed as described in **Section 5.5 Drilled Shaft Construction** in this report.

5.0 CONSTRUCTION CONSIDERATIONS

All work performed for the proposed project should conform to the requirements in the IDOT Standard Specifications for Road and Bridge Construction (2022). Any deviation from the requirements in the manuals above should be approved by the design engineer.

5.1 Existing Utilities

Where there are existing utilities that will remain in place, the final locations of the foundations should be determined relative to the location of the utilities to determine any impact of influence the new structure may have on the utilities. There may also be existing utilities that may be relocated or abandoned prior to wall construction. Before proceeding with construction, any existing utility lines that are to be abandoned and will interfere with construction should be completely relocated from beneath the proposed construction areas. Where possible, existing utility lines that are to be abandoned in place should be removed and/or plugged with cement grout. All excavations resulting from underground utility removal activities should be cleaned of loose and disturbed materials, including all previously placed backfill, and backfilled with suitable fill materials in accordance with the requirements of this section. During the clearing and stripping operations, positive surface drainage should be maintained to prevent the accumulation of water.

5.2 Site Excavation

Site excavations are expected to encounter various types of soils as described in the Subsurface Exploration section of this report. The contractor will be responsible to provide a safe excavation during the construction activities of the project. All excavations should be conducted in accordance with applicable federal, state, and local safety regulations, including, but not limited to the Occupational Safety and Health Administration (OSHA) excavation safety standards. Excavation stability and soil pressures on temporary shoring are dependent on soil conditions, depth of excavations, installation procedures, and the magnitude of any surcharge loads on the ground surface adjacent to the excavation. Excavation near existing structures and underground utilities should be performed with extreme care to avoid undermining existing structures. Excavations should not extend below the level of adjacent existing foundations or utilities unless underpinning or other support is installed. It is the responsibility of the contractor for field determinations of applicable conditions and providing adequate shoring (if needed) for all

excavation activities.

5.3 Borrow Material and Compaction Requirements

If borrow material is to be used for onsite construction, it should conform to Section 204 "Borrow and Furnish Excavations" of the IDOT Construction Manual (2021). Earth-moving operations should be avoided during excessively cold or wet weather to avoid freezing of softening subgrade soils.

Suitable structural fill materials shall be of a nature that will compact and develop stability satisfactory to the geotechnical engineer. Structural fill shall consist of crushed limestone or recycled concrete consistent with IDOT CA-6 gradation or medium plasticity silty clays in accordance with the IDOT standards specifications.

Structural fill should be placed in lifts not to exceed 8 inches in loose thickness and compacted to a minimum of 95% of the material's standard proctor maximum dry density obtained according to the ASTM D698/AASHTO T 99 method. Should fill be placed during cool, wet seasons, the use of granular fill may be necessary since weather conditions will make compaction of cohesive soils more difficult. If water seepage while excavating and backfilling procedures, or where wet conditions are encountered such that the water cannot be removed with conventional sump and pump procedures, GSG recommends placing open-grade stone similar to IDOT CA-7 to stabilize the bottom of the excavation. The CA-7 stone should be placed 12 inches above the water level, in 12-inch lifts, and should be compacted with the use of a heavy smooth drum roller or heavy vibratory plate compactor until stable. The remaining portion of the excavation should be backfilled using approved engineered fill.

GSG recommends that foundation excavations, subgrade preparation, and structural fill placement and compaction be inspected by a GSG geotechnical engineer to verify the type and strength of soil materials present at the site and their conformance with the geotechnical recommendations in this report.

5.4 Groundwater Management

Based on the color change from brown to gray, it is anticipated that the long-term groundwater

level could range between elevations of 702.8 to 747.7 feet, sloping upward in the north direction. GSG does not anticipate groundwater related issues during construction activity; however, water may become perched in the near-surface fill material. If rainwater run-off or perched water is accumulated at the base of excavation, the contractor should remove accumulated water using conventional sump pit and pump procedures and maintain a dry and stable excavation. The location of the sump should be determined by the contractor based on field conditions. During earthmoving activities at the site, grading should be performed to ensure that drainage is maintained throughout the construction period. Water should not be allowed to accumulate in the foundation area either during or after construction. Undercut and excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater or surface run-off. Grades should be sloped away from the excavations to minimize runoff from entering.

If water seepage occurs during excavations or where wet conditions are encountered such that the water cannot be removed with conventional sumping, we recommend placing open grade stone similar to IDOT CA-7 to stabilize the bottom of the excavation below the water table. The CA-7 stone should be placed to 12 inches above the water table, in 12-inch lifts, and should be compacted with the use of a heavy smooth drum roller or heavy vibratory plate compactor until stable.

5.5 Drilled Shaft Construction

Drilled shaft construction should be completed in accordance according to Section 516, Drilled Shafts, in the IDOT Standard Specification for Road and Bridge Construction. Wet method drilling, temporary casing, or a combination may be required due to the granular layers encountered in some of the soil borings which may be susceptible to caving. Additionally, cobbles were encountered at various depths throughout the borings, which may be encountered during drilled shaft construction. The contractor shall review the attached boring logs, evaluate the soil conditions and depths, and determine the means and methods necessary for construction. Should the soils encountered during the foundation excavation fail to meet the requirements of the standard detail, the designer should be contacted to determine if a revised foundation design may be required.

During dry construction of a drilled shaft, water should be removed from the base of the drilled shaft prior to placing any concrete. The placement method of concrete for the drilled shaft foundation should be based on the amount of water present at the base of the shaft just prior to placing the concrete. Concrete may be placed using the free fall method, provided less than 2 inches of water is present at the base of the shaft at the time the concrete is being placed. If more than 2 inches of water is present, a tremie should be used in an effort to displace the water to the surface for removal. GSG recommends that the caisson concrete be ready on site as drilled shaft excavation is completed so that the concrete can be placed immediately after completing the drilled shaft excavation. This will reduce the potential of water accumulation in the bottom of the shaft. Bottom cleanliness of the drilled shaft excavation should be observed from the ground surface with the use of floodlight or down-hole camera. Workers should not enter the shaft to manually clean the base of the shaft due to safety reasons.

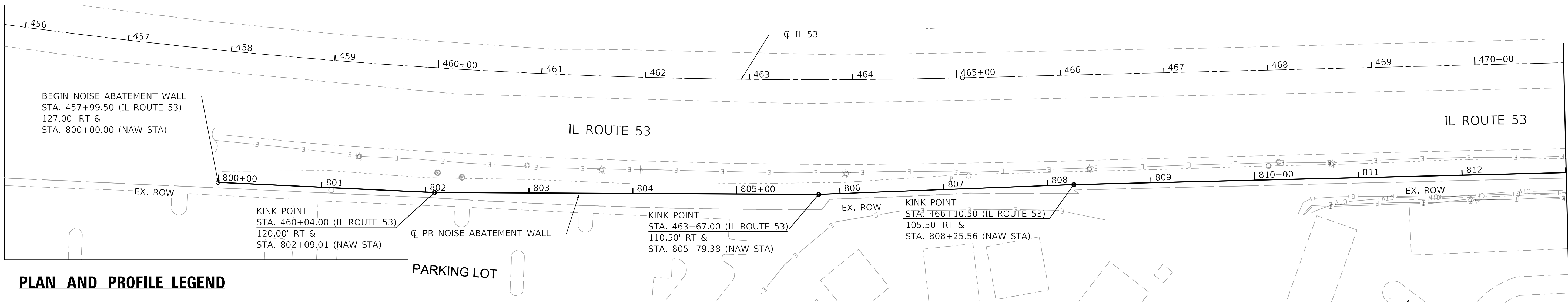
6.0 LIMITATIONS

This report has been prepared for the exclusive use of the Illinois Department of Transportation (IDOT) and its Design Section Engineer consultant. The recommendations provided in the report are specific to the project described herein and are based on the information obtained at the soil boring locations within the proposed noise wall area. The analyses have been performed and the recommendations have been provided in this report are based on subsurface conditions determined at the location of the borings. This report may not reflect all variations that may occur between boring locations or at some other time, the nature and extent of which may not become evident until during the time of construction. If variations in subsurface conditions become evident after the submission of this report, it will be necessary to evaluate their nature and review the recommendations presented herein.

APPENDIX A

Proposed Noise Abatement Wall

Plan and Profile



PLAN AND PROFILE LEGEND

W	: UNDERGROUND WATER	Ⓙ	: JUNCTION BOX
E	: UNDERGROUND ELECTRIC	□	: SPLICE BOX
CTV	: UNDERGROUND CABLE TV	☒	: LIGHT POLE
G	: UNDERGROUND GAS	◎	: MANHOLE
T	: UNDERGROUND TELEPHONE	Ⓦ	: WATER VALVE
FO	: UNDERGROUND FIBER OPTIC		

NOTES:
1. STATIONS AND OFFSETS OF THE NOISE WALL ARE TAKEN FROM THE EXISTING ℄ IL 53.
2. OFFSETS ARE TO THE CENTER OF THE NOISE WALL POSTS AND FOUNDATION.
3. FOR AESTHETICS AND NAME PLATE DETAILS, SEE THE AESTHETIC DETAILS SHEET.

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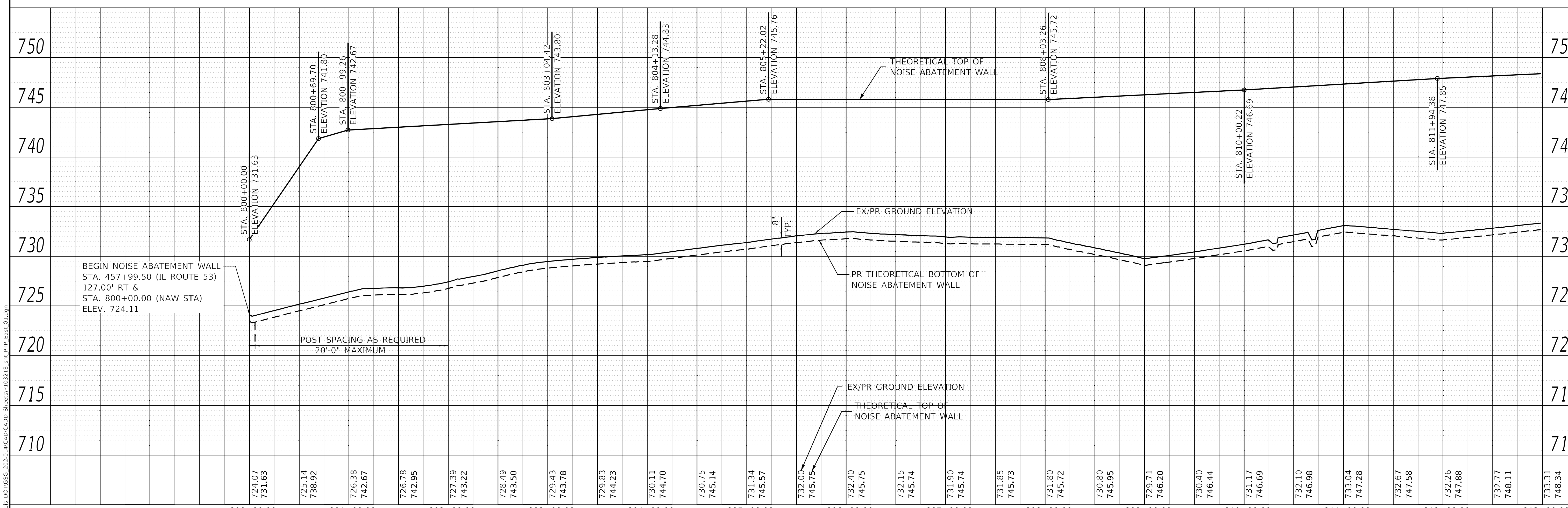

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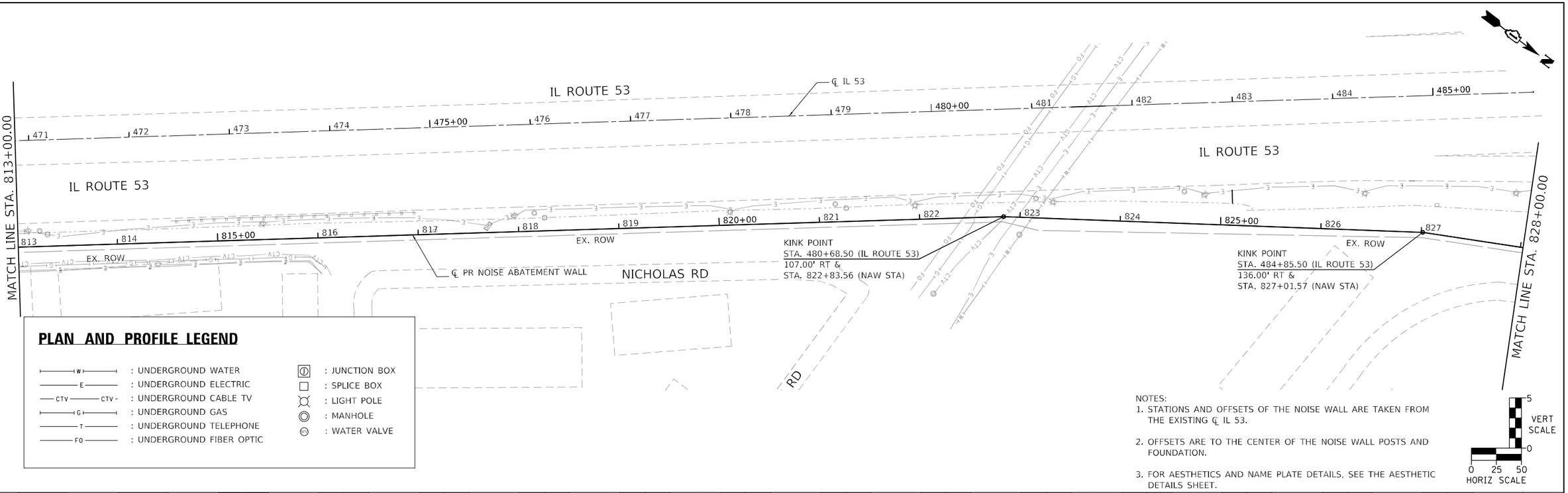

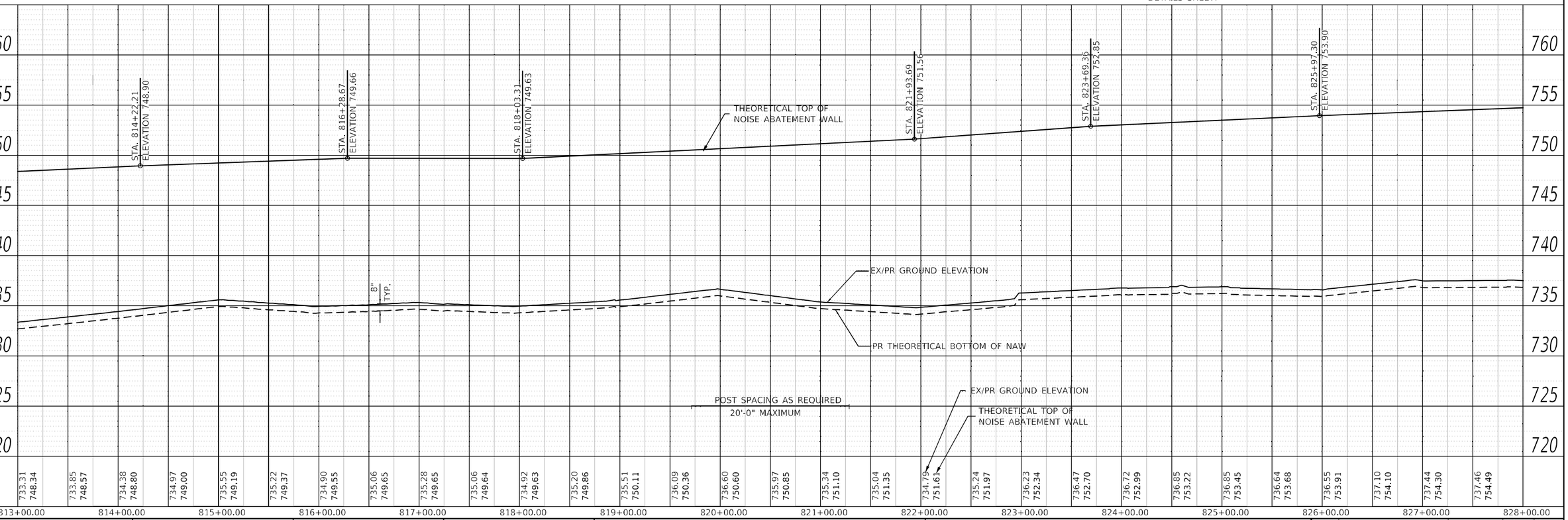

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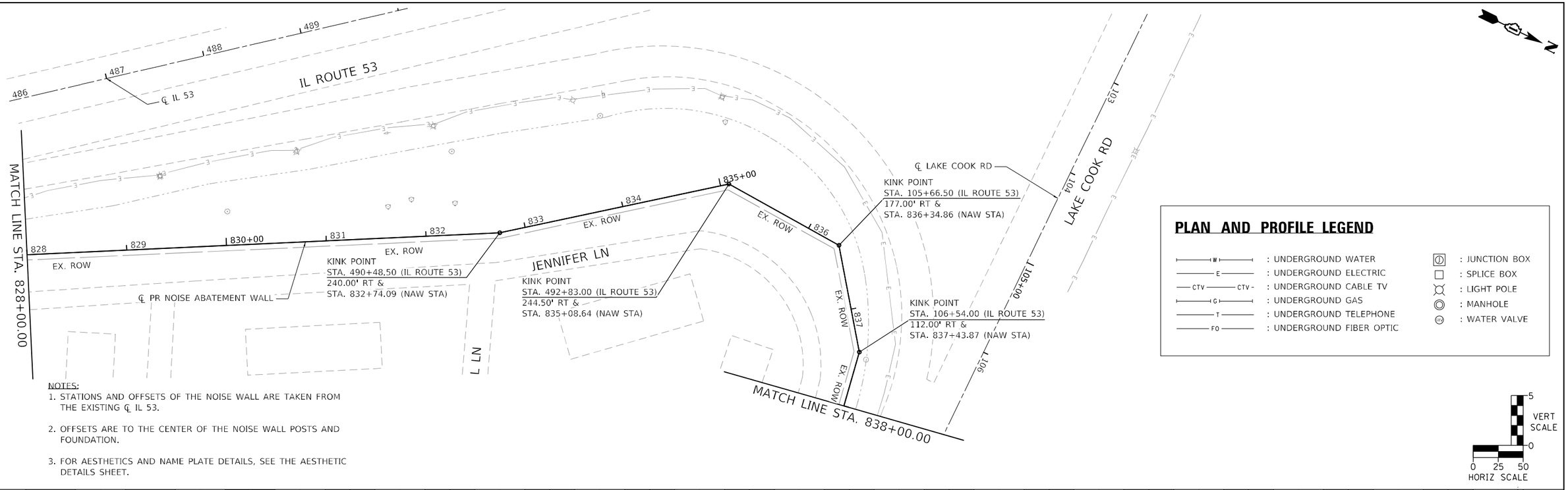

NOTES:

1. STATIONS AND OFFSETS OF THE NOISE WALL ARE TAKEN FROM THE EXISTING ℄ IL 53.
2. OFFSETS ARE TO THE CENTER OF THE NOISE WALL POSTS AND FOUNDATION.
3. FOR AESTHETICS AND NAME PLATE DETAILS, SEE THE AESTHETIC DETAILS SHEET.

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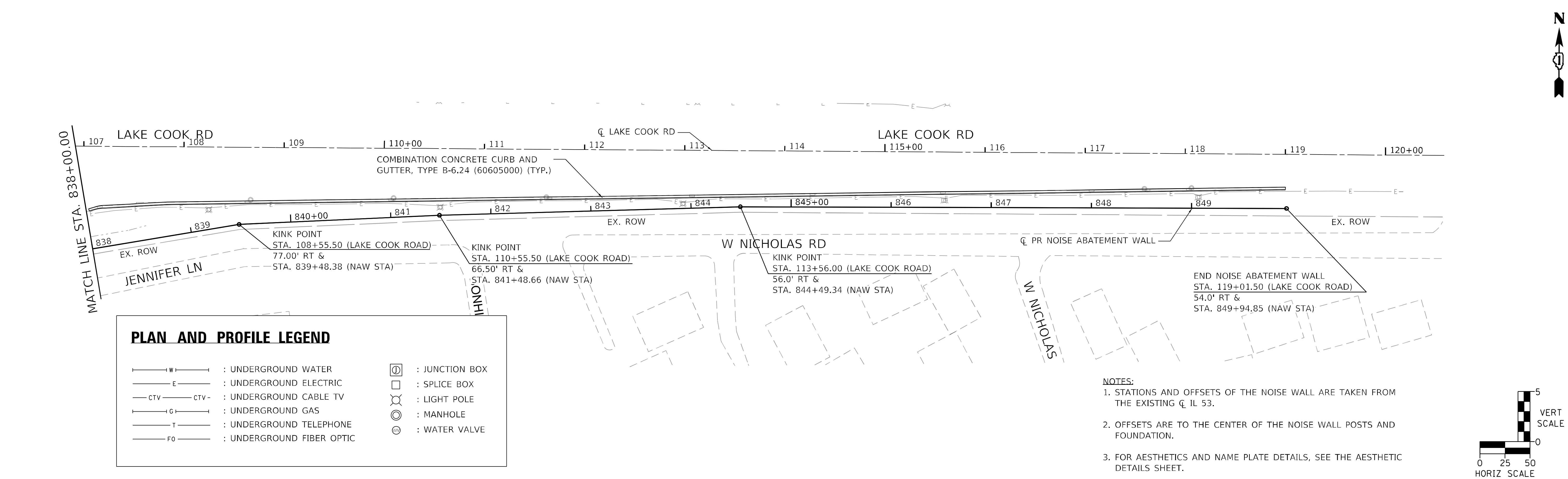

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- T : UNDERGROUND TELEPHONE
- FO : UNDERGROUND FIBER OPTIC
- : JUNCTION BOX
- : SPLICE BOX
- : LIGHT POLE
- : MANHOLE
- : WATER VALVE

NOTES:

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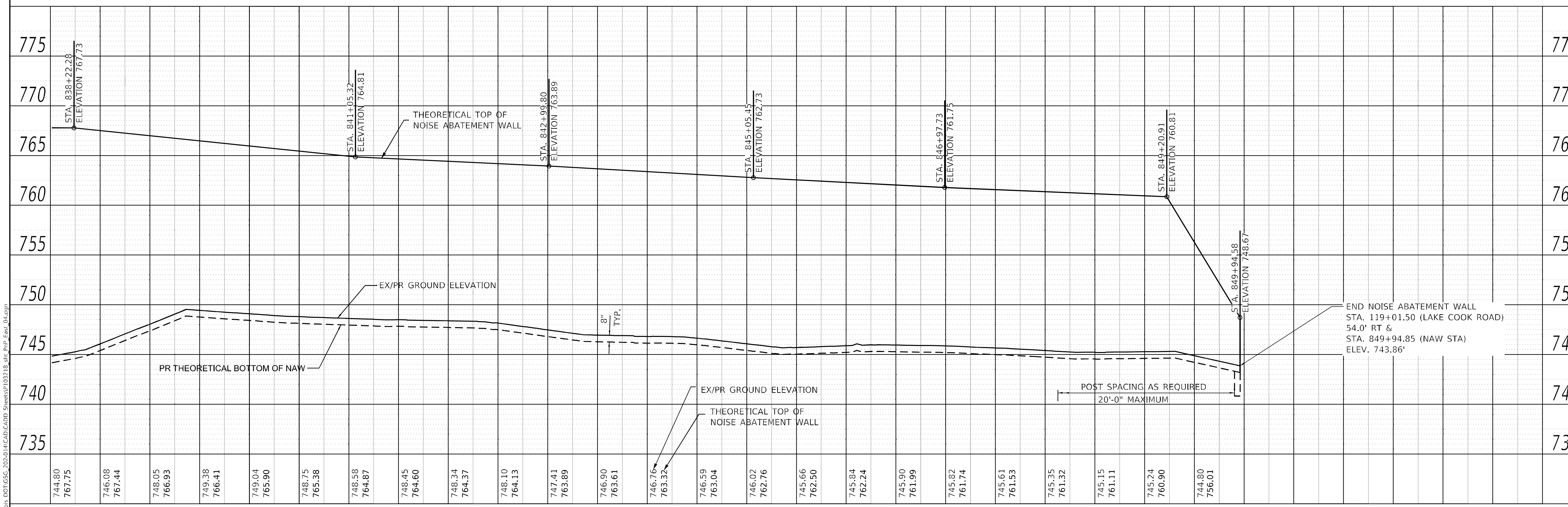

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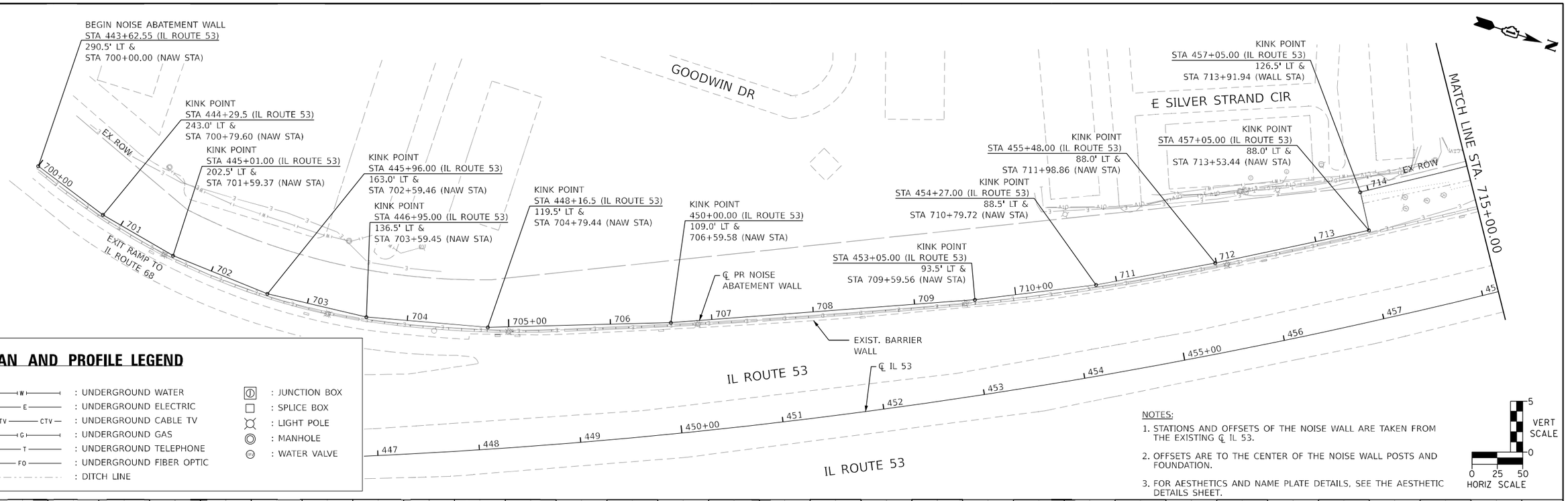

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- : DITCH LINE
- : JUNCTION BOX
- : SPLICE BOX
- : LIGHT POLE
- : MANHOLE
- WV : WATER VALVE

NOTES:

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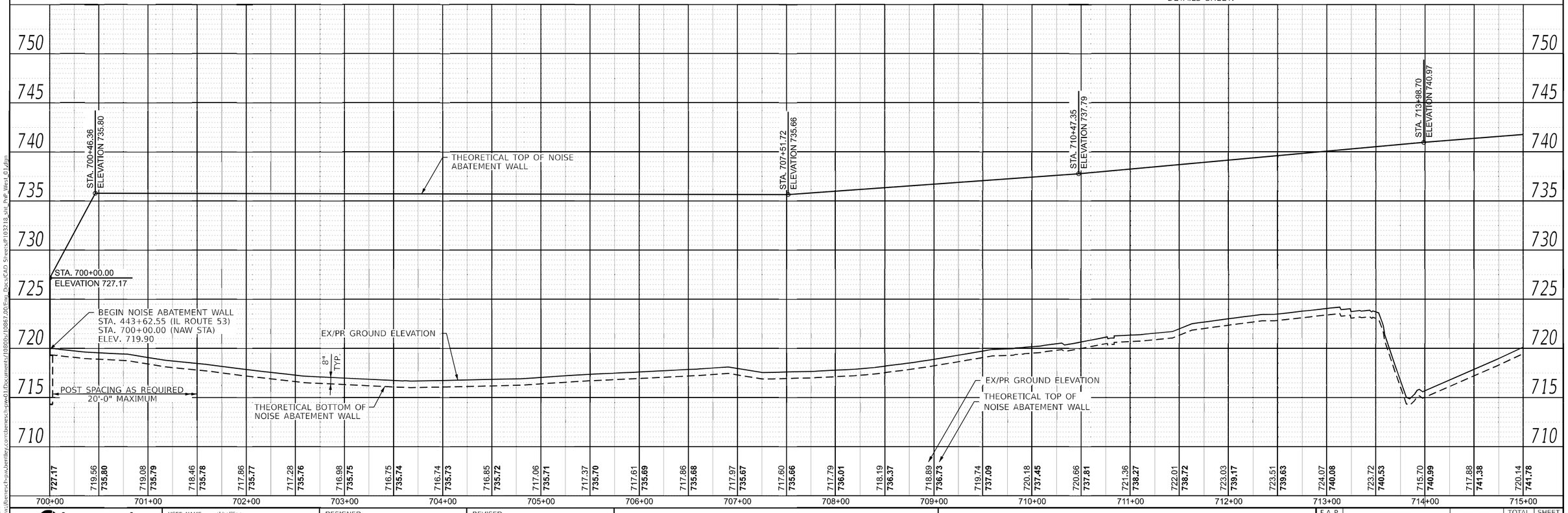

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benesch
Alfred Benesch & Company
35 W Wacker Drive, Suite 3300
Chicago, Illinois 60601
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STATE OF ILLINOIS
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PLAN AND PROFILE – SN 016–N1000 (1 OF 5)

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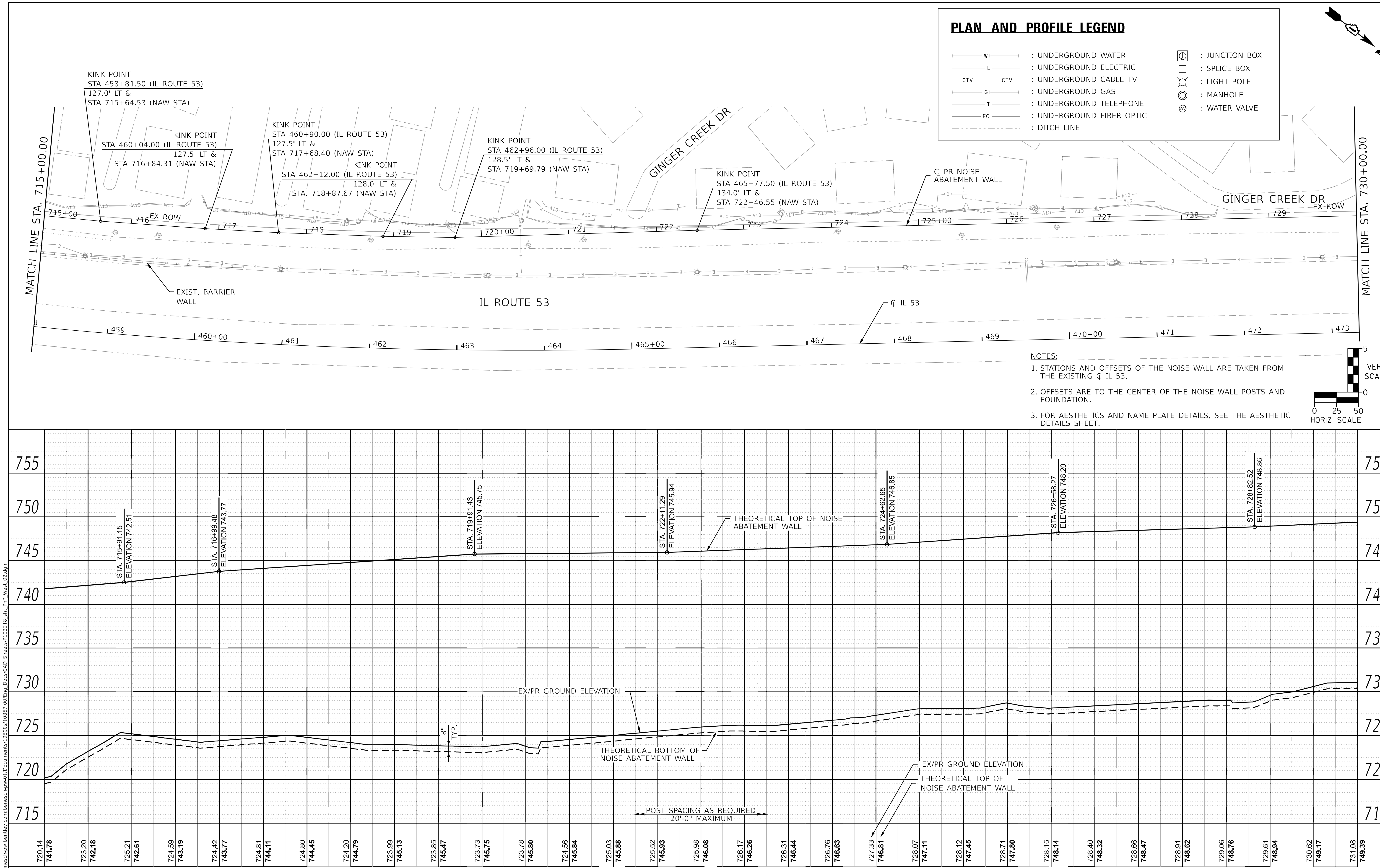

STA.	Ground	Top of wall
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	723.20	742.18
716+00	725.21	742.61
	724.59	743.19
717+00	724.42	743.77
	724.81	744.11
718+00	724.80	744.45
	724.20	744.79
719+00	723.99	745.13
	723.85	745.47
720+00	723.73	745.75
	723.78	745.80
721+00	724.56	745.84
	725.03	745.88
722+00	725.52	745.93
	725.98	746.08
723+00	726.17	746.26
	726.31	746.44
724+00	726.76	746.63
	727.33	746.81
725+00	728.07	747.11
	728.12	747.45
726+00	728.71	747.80
	728.15	748.14
727+00	728.40	748.32
	728.66	748.47
728+00	728.91	748.62
	729.06	748.76
729+00	729.61	748.94
	730.62	749.17
730+00	731.08	749.39

benesch
Alfred Benesch & Company, 35 W Wacker Drive, Suite 3300, Chicago, Illinois 60601, 312-565-0450, Job No. 10867

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IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
PLAN AND PROFILE – SN 016–N1000 (2 OF 5)

SCALE: | SHEET 6 OF 9 SHEETS | STA. 715+00.00 TO STA. 730+00.00

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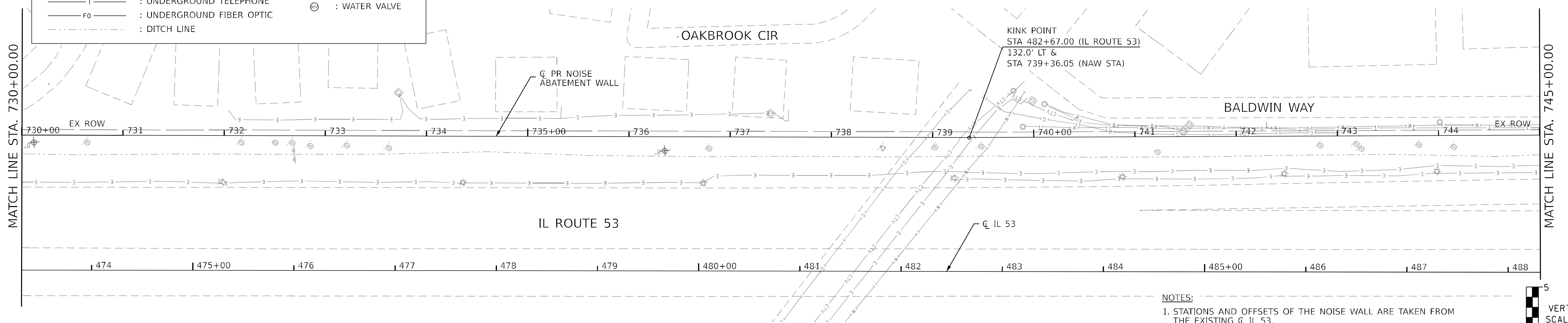
CONTRACT NO.
ILLINOIS FED. AID PROJECT

PLAN AND PROFILE LEGEND

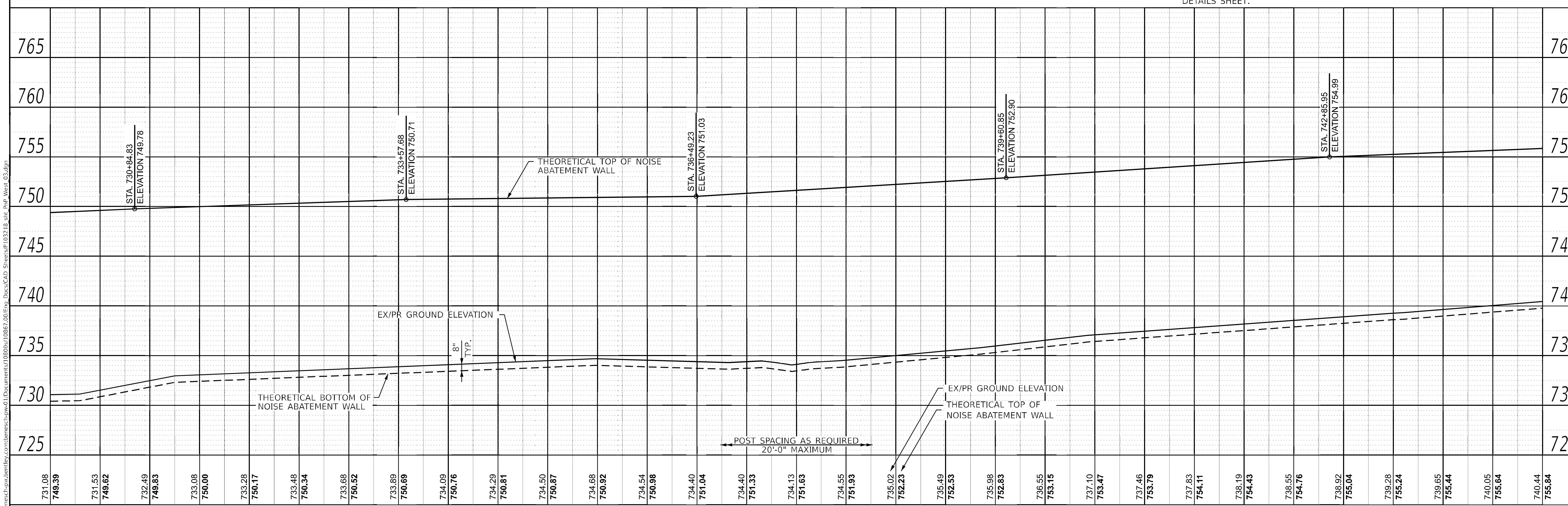
- W : UNDERGROUND WATER
- E : UNDERGROUND ELECTRIC
- CTV : UNDERGROUND CABLE TV
- G : UNDERGROUND GAS
- T : UNDERGROUND TELEPHONE
- FO : UNDERGROUND FIBER OPTIC
- : DITCH LINE
- : JUNCTION BOX
- : SPLICE BOX
- : LIGHT POLE
- : MANHOLE
- : WATER VALVE



NOTES:

1. STATIONS AND OFFSETS OF THE NOISE WALL ARE TAKEN FROM THE EXISTING ℄ IL 53.
2. OFFSETS ARE TO THE CENTER OF THE NOISE WALL POSTS AND FOUNDATION.
3. FOR AESTHETICS AND NAME PLATE DETAILS, SEE THE AESTHETIC DETAILS SHEET.

VERT SCALE 0 5
HORIZ SCALE 0 25 50



PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, R.E. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK NO.

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK NO.

benesch
Alfred Benesch & Company, 35 W Wacker Drive, Suite 3300, Chicago, Illinois 60601, 312-565-0450, Job No. 10867

USER NAME = skhalilian	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 6/1/2023	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
PLAN AND PROFILE – SN 016–N1000 (3 OF 5)

SCALE: SHEET 7 OF 9 SHEETS STA. 730+00.00 TO STA. 745+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	68	21

CONTRACT NO.
ILLINOIS FED. AID PROJECT

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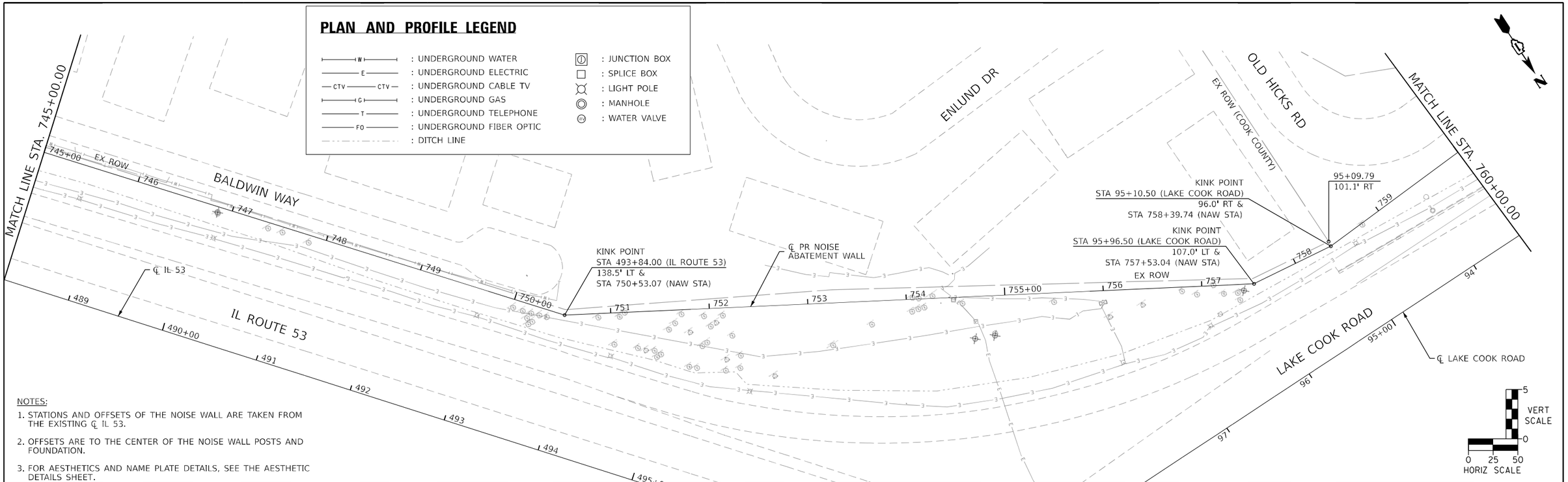
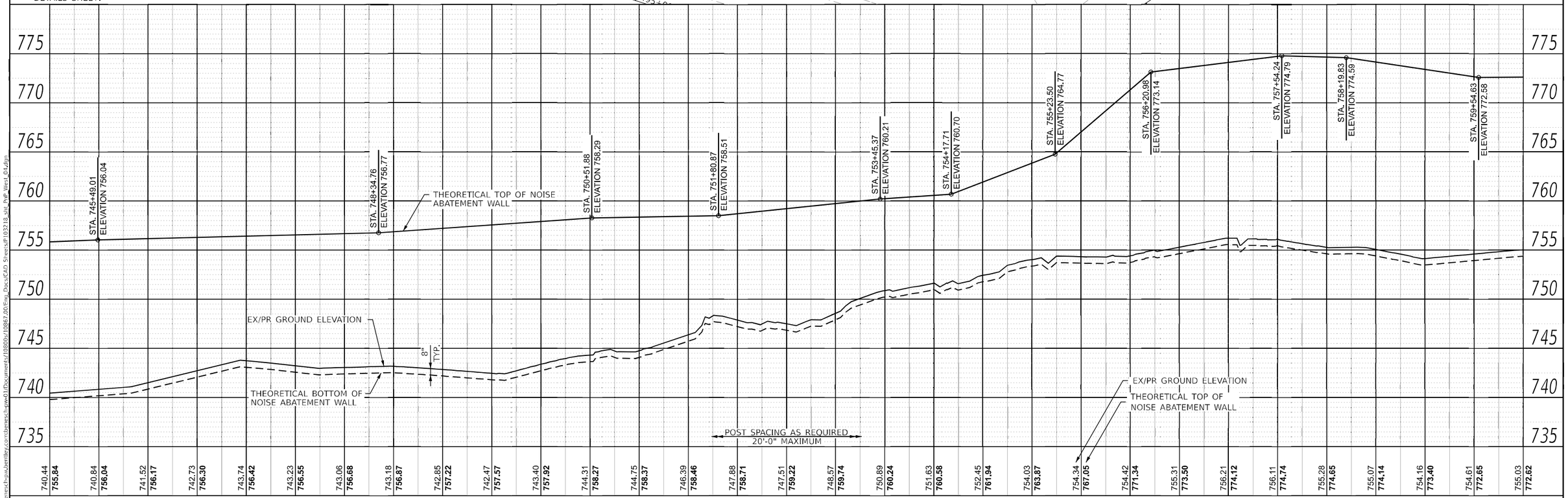
PLAN AND PROFILE LEGEND

- : UNDERGROUND WATER
- : UNDERGROUND ELECTRIC
- : UNDERGROUND CABLE TV
- : UNDERGROUND GAS
- : UNDERGROUND TELEPHONE
- : UNDERGROUND FIBER OPTIC
- : DITCH LINE
- : JUNCTION BOX
- : SPLICE BOX
- : LIGHT POLE
- : MANHOLE
- : WATER VALVE



NOTES:

1. STATIONS AND OFFSETS OF THE NOISE WALL ARE TAKEN FROM THE EXISTING ℄ IL 53.
2. OFFSETS ARE TO THE CENTER OF THE NOISE WALL POSTS AND FOUNDATION.
3. FOR AESTHETICS AND NAME PLATE DETAILS, SEE THE AESTHETIC DETAILS SHEET.



USER NAME = skhalilian	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100:0.0000 ':" / in.	CHECKED -	REVISED -	
PLOT DATE = 6/1/2023	DATE -	REVISED -	

benesch
Alfred Benesch & Company
35 W Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10867

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
PLAN AND PROFILE – SN 016–N1000 (4 OF 5)

SCALE: | SHEET 8 OF 9 SHEETS | STA. 745+00.00 TO STA. 760+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	68	22
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN — SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK | NO. | BY | DATE

PROFILE — SURVEYED | PLOTTED | GRADES CHECKED | BM. NOTED | STRUCTURE NO/STNS CHKD | NOTE BOOK | NO. | BY | DATE

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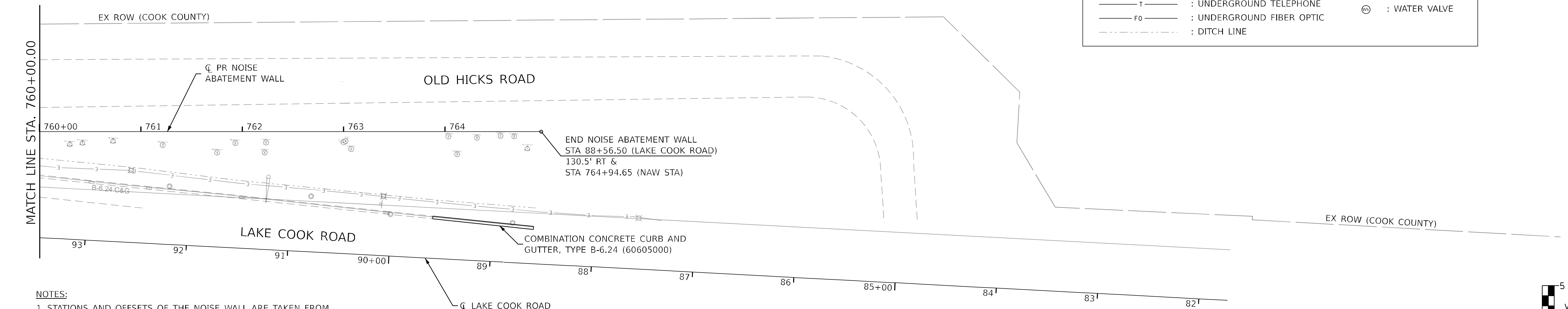
FILE NAME: pw:\benesch-pw.bentley.com:benesch-pw01\Documents\10800s\10867.00\Eng_Docs\CAD Sheets\P103218_sht_PnP_West_01.dgn

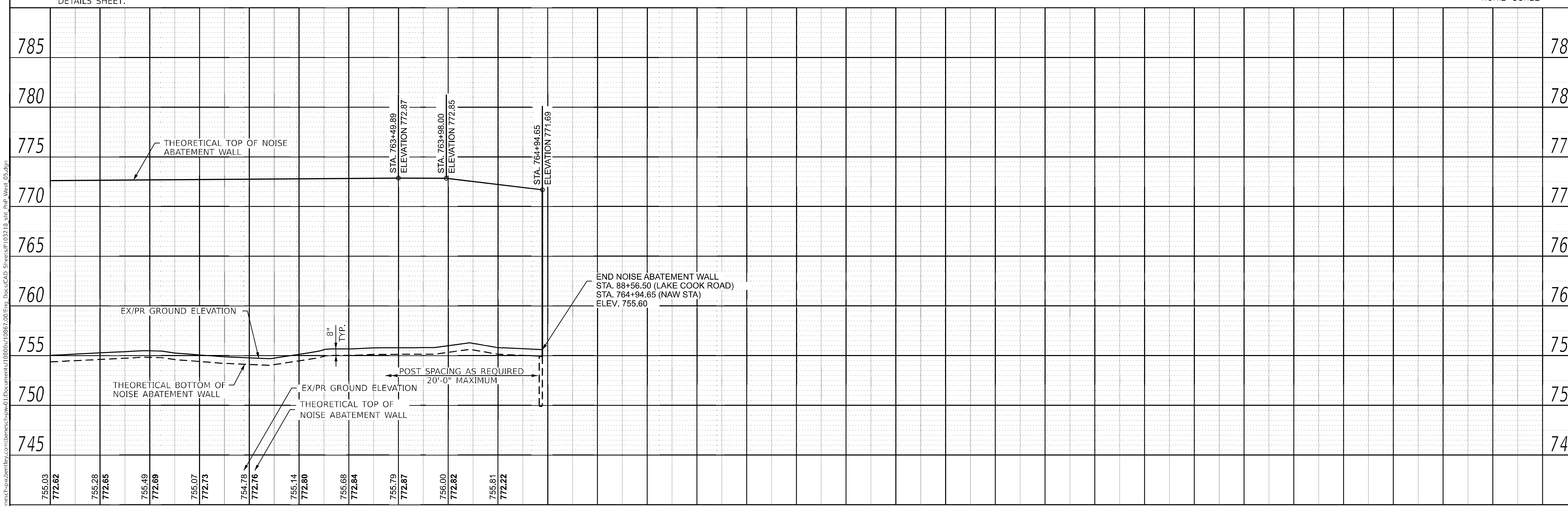
PLAN AND PROFILE LEGEND

- W : UNDERGROUND WATER
- E : UNDERGROUND ELECTRIC
- CTV : UNDERGROUND CABLE TV
- G : UNDERGROUND GAS
- T : UNDERGROUND TELEPHONE
- FO : UNDERGROUND FIBER OPTIC
- : DITCH LINE
- : JUNCTION BOX
- : SPLICE BOX
- : LIGHT POLE
- : MANHOLE
- : WATER VALVE



NOTES:

1. STATIONS AND OFFSETS OF THE NOISE WALL ARE TAKEN FROM THE EXISTING ℄ IL 53.
2. OFFSETS ARE TO THE CENTER OF THE NOISE WALL POSTS AND FOUNDATION.
3. FOR AESTHETICS AND NAME PLATE DETAILS, SEE THE AESTHETIC DETAILS SHEET.



benesch Alfred Benesch & Company 35 W Wacker Drive, Suite 3300 Chicago, Illinois 60601 312-565-0450 Job No. 10867	USER NAME = skhalilian PLOT SCALE = 100.0000 ' / in. PLOT DATE = 6/1/2023	DESIGNED - DRAWN - CHECKED - DATE -	REVISED - REVISED - REVISED - REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
PLAN AND PROFILE – SN 016–N1000 (5 OF 5)

SCALE: SHEET 9 OF 9 SHEETS STA. 760+00.00 TO STA. 764+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	68	23

CONTRACT NO.

ILLINOIS FED. AID PROJECT

PLAN NOTE BOOK NO. SURVEYED PLOTTED ALIGNMENT CHECKED R.E. OF WAY CHECKED CADD FILE NAME BY DATE

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

MODEL: Default
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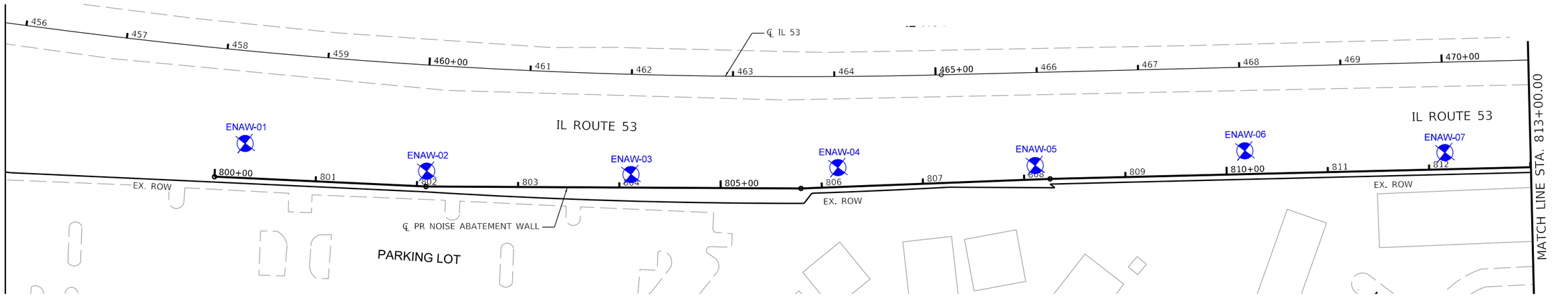
APPENDIX B

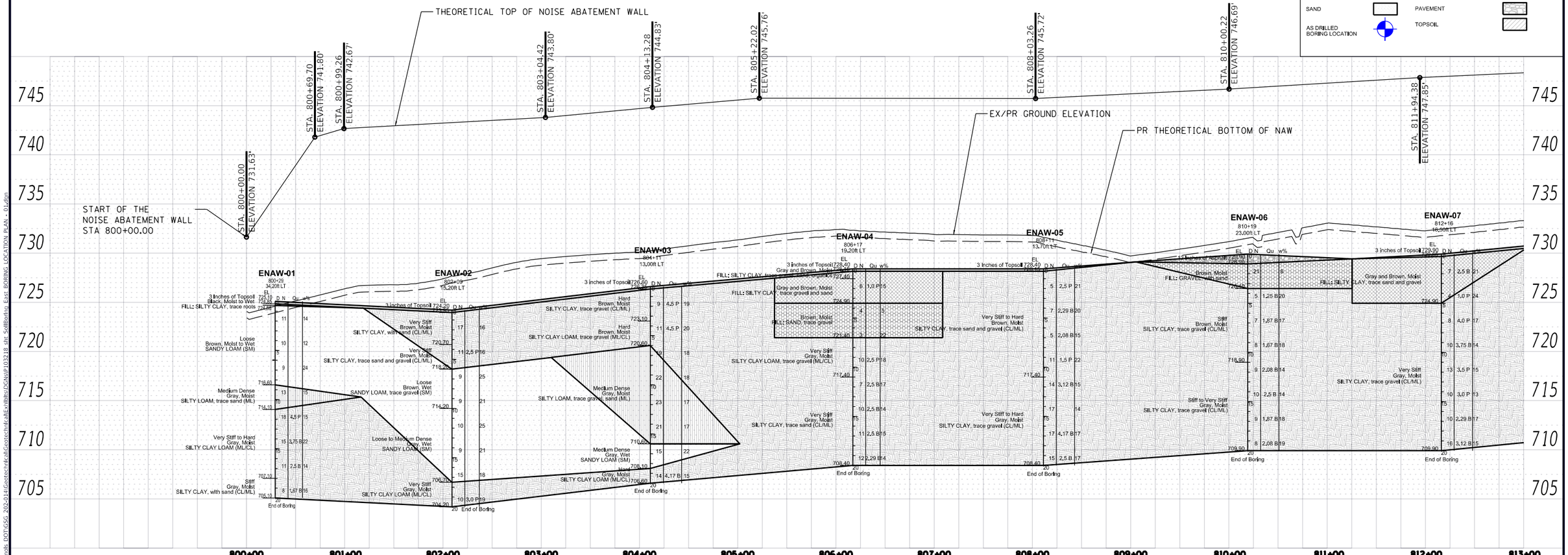
SOIL BORING LOCATION PLAN AND

SUBSURFACE PROFILE



LEGEND

FILL: SAND / GRAVEL		SILT	
SILTY CLAY		FILL: CLAY / SILTY CLAY	
SAND		PAVEMENT	
AS DRILLED BORING LOCATION		TOPSOIL	



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	DRAWN - NN	REVISED -	
PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -	
PLOT DATE = 5/18/2023	DATE - 01/09/2023	REVISED -	

GSG CONSULTANTS, INC.
735 E. REMINGTON RD. SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1001 NAW

SCALE: 1:50 | SHEET 1 OF 9 SHEETS | STA. 800+00.00 TO STA. 813+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	1
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
R/W, NOTED
CADD FILE NAME
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
B.M., NOTED
STRUCTURE NO/PATHS CHKD
BY
DATE

MODEL: Default
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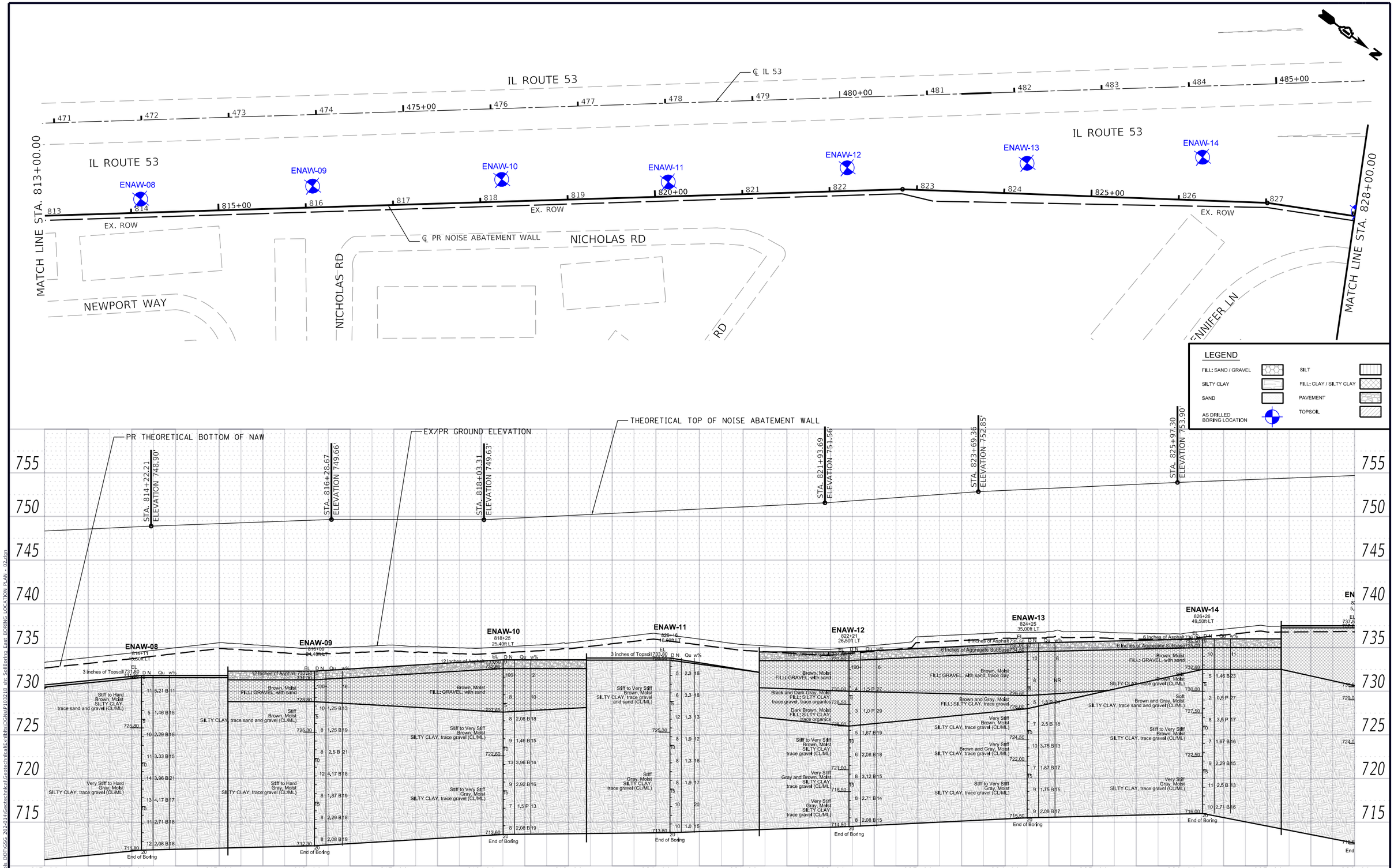

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, ALIGNMENT CHECKED, R.O.W. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE

MODEL: Default
FILE NAME: T:\Illinois DOT\GSG 202-014\Geotechnical\Geotechnical\Exhibits\DGN\sP103218 sht SoilBoring East BORING LOCATION PLAN - 02.dgn

GSG CONSULTANTS, INC.
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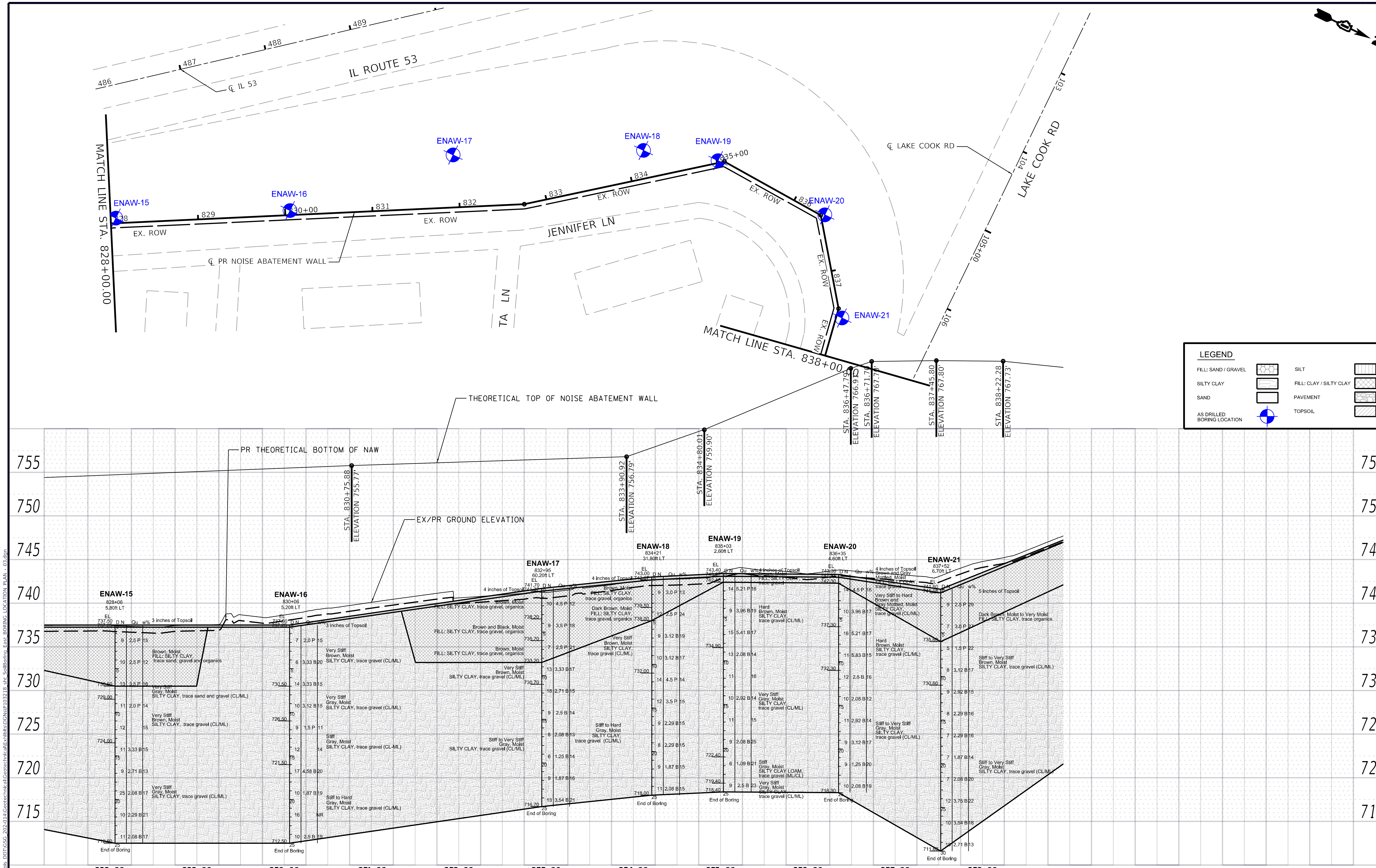
USER NAME = nnano	DESIGNED - MZ	REVISED -	
	DRAWN - NN	REVISED -	
PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -	
PLOT DATE = 5/18/2023	DATE - 01/09/2023	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1001 NAW

SCALE: 1:50 | SHEET 2 OF 9 SHEETS | STA. 813+00.00 TO STA. 828+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	2
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



GSG CONSULTANTS, INC.

USER NAME = nnano	DESIGNED - MZ	REVISED -
	DRAWN - NN	REVISED -
PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -
PLOT DATE = 5/18/2023	DATE - 01/09/2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

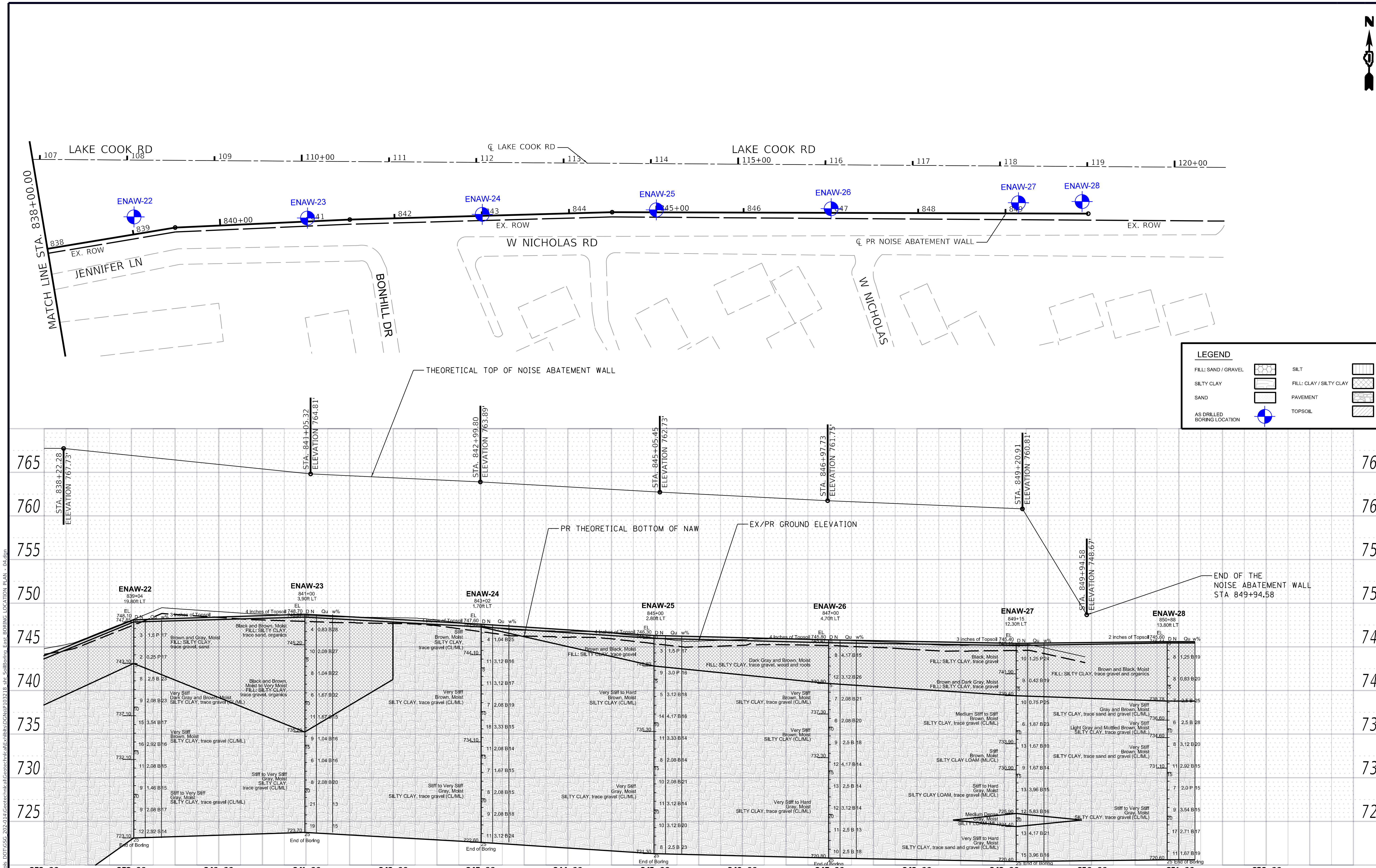
IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1001 NAW

SCALE: 1:50 | SHEET 3 OF 9 SHEETS | STA. 828+00.00 TO STA. 838+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	3

CONTRACT NO.

ILLINOIS FED. AID PROJECT



GSG CONSULTANTS, INC. 735 E. REMINGTON RD, SCHAUMBURG, IL 60173 TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM	USER NAME = nnano	DESIGNED - MZ	REVISED -
		DRAWN - NN	REVISED -
	PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -
	PLOT DATE = 5/18/2023	DATE - 01/09/2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1001 NAW

SCALE: 1:50 | SHEET 4 OF 9 SHEETS | STA. 838+00.00 TO STA. 849+95.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	4

CONTRACT NO.

ILLINOIS | FED. AID PROJECT

MODEL: Default
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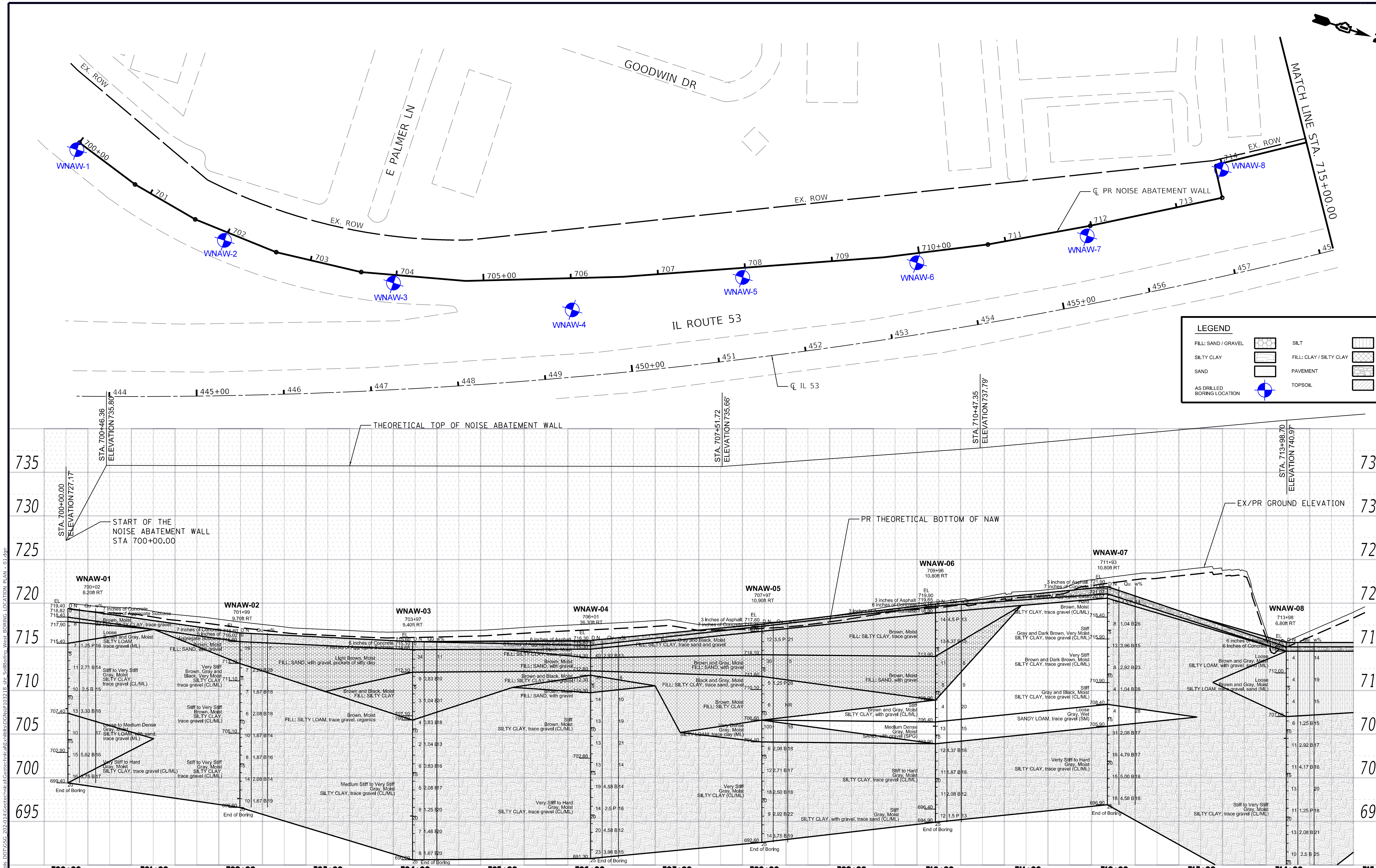


GSG CONSULTANTS, INC. 735 E. REMINGTON RD, SCHAUMBURG, IL 60173 TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM	USER NAME = nnano	DESIGNED - MZ	REVISED -
		DRAWN - NN	REVISED -
	PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -
	PLOT DATE = 5/22/2023	DATE - 01/09/2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

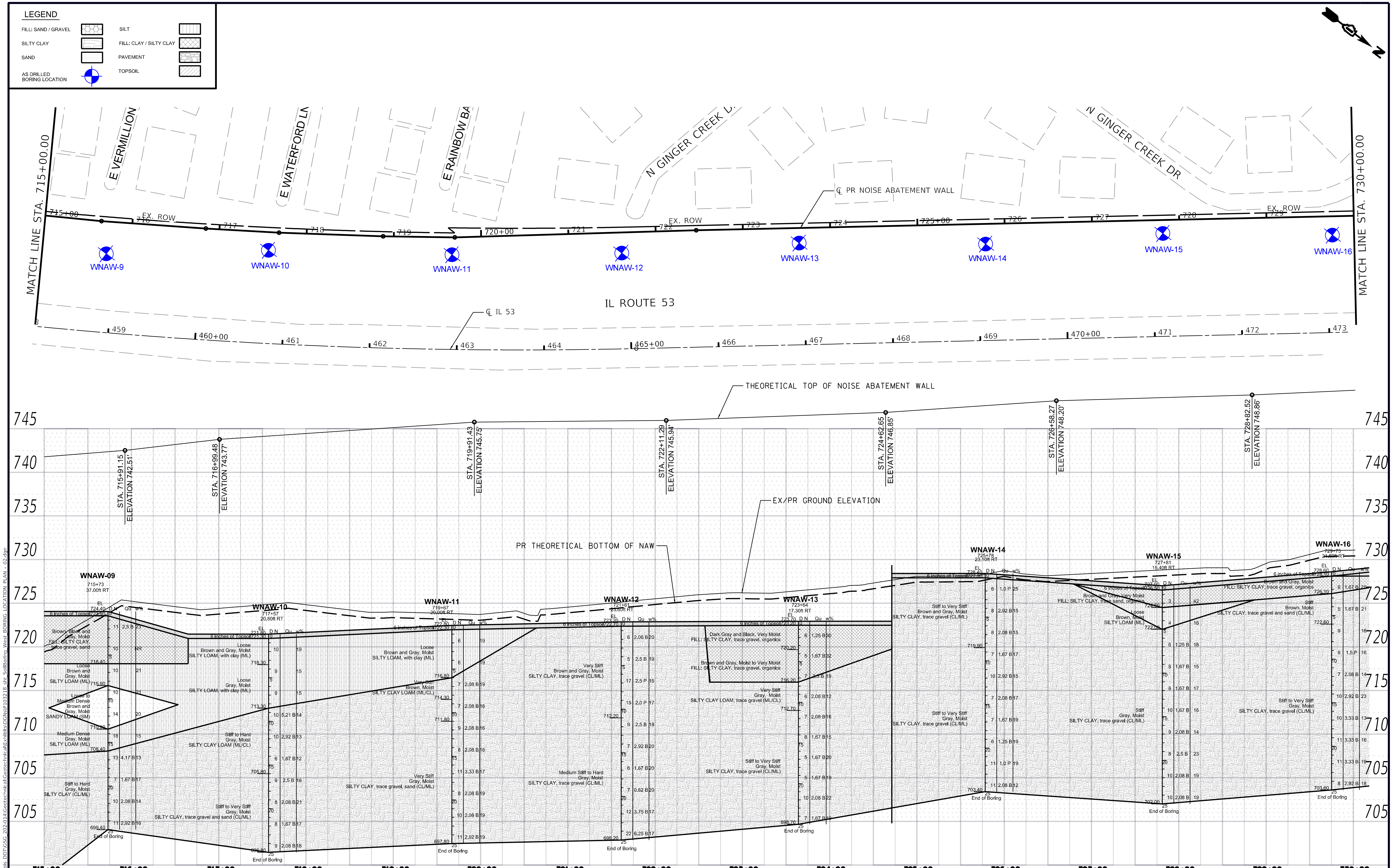
IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1000 NAW

SCALE: 1:50 | SHEET 5 OF 9 SHEETS | STA. 700+00.00 TO STA. 715+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	5

CONTRACT NO.

ILLINOIS FED. AID PROJECT



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	DRAWN - NN	REVISED -	
PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -	
PLOT DATE = 5/22/2023	DATE - 01/09/2023	REVISED -	

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1000 NAW

SCALE: 1:50 | SHEET 6 OF 9 SHEETS | STA. 715+00.00 TO STA. 730+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	6

CONTRACT NO.
ILLINOIS | FED. AID PROJECT

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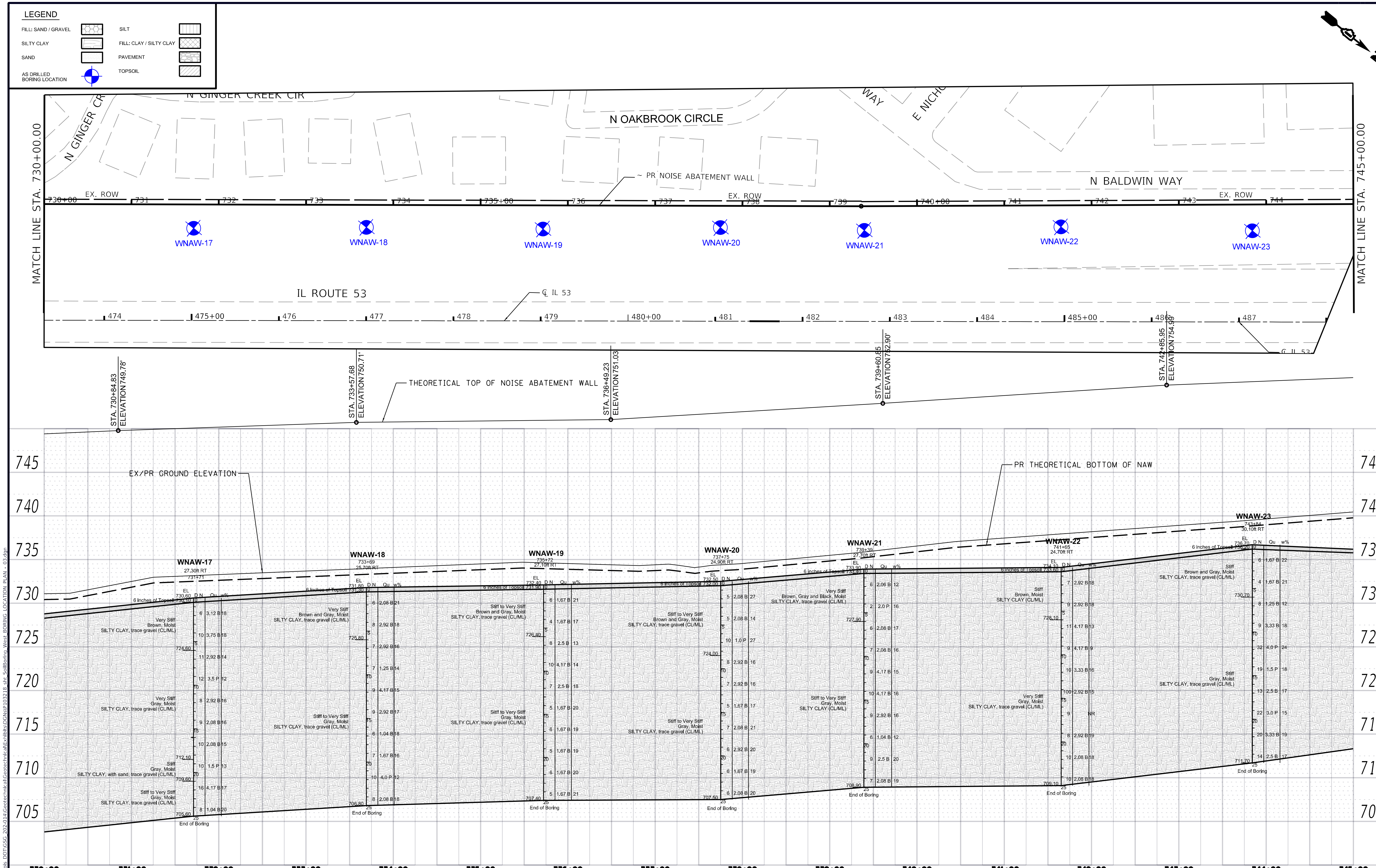


GSG CONSULTANTS, INC.	USER NAME = nnano	DESIGNED - MZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS SOIL BORING PLAN AND PROFILE – SN 016–N1000 NAW
		DRAWN - NN	REVISED -		
	PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -		
	PLOT DATE = 5/22/2023	DATE - 01/09/2023	REVISED -		SCALE: 1:50 SHEET 7 OF 9 SHEETS STA. 730+00.00 TO STA. 745+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	7

CONTRACT NO.

ILLINOIS FED. AID PROJECT

MATCH LINE STA. 745+00.00

745+08

EX. ROW

746

747

N BALDWIN WAY

EX. ROW

748

749

750+00

EX. ROW

751

752

753

754

755+00

756

EX. ROW

757

EX. ROW

758

759

MATCH LINE STA. 759+00.00

LD HICKS RD

EX. ROW

ENLUND DR

~ PR NOISE ABATEMENT WALL

II ROUTE 53

℄ IL 53

WNAW-24

WNAW-25

WNAW-26

WNAW-27

WNAW-28

WNAW-29

WNAW-30

℄ LAKE COOK RD

STA. 756+20.98
ELEVATION 773.14'

STA. 757+54.24
ELEVATION 774.79'

STA. 758+19.83
ELEVATION 774.59'

N

PLAN

SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME

NOTE BOOK
NO.

BY
DATE

LEGEND

FILL: SAND / GRAVEL		SILT	
SILTY CLAY		FILL: CLAY / SILTY CLAY	
SAND		PAVEMENT	
AS DRILLED BORING LOCATION		TOPSOIL	

PROFILE

SURVEYED
PLOTTED
ALIGNMENT CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD

NOTE BOOK
NO.

BY
DATE

THEORETICAL TOP OF NOISE ABATEMENT WALL

PR THEORETICAL BOTTOM OF NAW

EX/PR GROUND ELEVATION

STA. 745+49.01
ELEVATION 756.04'

STA. 748+34.76
ELEVATION 756.77'

STA. 750+51.88
ELEVATION 758.29'

STA. 751+80.87
ELEVATION 758.51'

STA. 753+45.37
ELEVATION 760.21'

STA. 754+17.71
ELEVATION 760.70'

STA. 755+23.50
ELEVATION 764.77'

760
755
750
745
740
735
730
725
720

WNAW-24
745+84
26.20ft RT
EL 735.80 D N Qu w%
4 Inches of Concrete 735.80
6 2.08 B 18
11 2.5 B 18
8 1.67 B 13
8 2.92 B 15
10 1.5 P 20
6 2.08 B 19
7 1.67 B 19
7 2.08 B 17
20 End of Boring 715.80
Very Stiff Brown and Gray, Moist SILTY CLAY (CL/ML) 729.80
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)

WNAW-25
747+62
19.90ft RT
EL 738.30 D N Qu w%
6 Inches of Topsoil 738.00
10 4.17 B 18
14 5.21 B 19
13 4.17 B 16
13 2.08 B 14
10 2.92 B 15
12 2.92 B 16
8 2.08 B 17
12 4.17 B 14
20 End of Boring 718.30
Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML) 732.30
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)

WNAW-26
749+74
33.60ft RT
EL 740.50 D N Qu w%
6 Inches of Topsoil 740.00
9 4.17 B 18
15 12
8 2.08 B 15
9 2.92 B 14
8 2.92 B 17
14 4.17 B 18
25 17
16 4.17 B 13
20 End of Boring 720.50
Brown, Moist FILL: SILTY CLAY, trace gravel, asphalt 734.50
Very Stiff to Hard Gray, Moist SILTY CLAY, trace sand and gravel

WNAW-27
751+15
57.90ft RT
EL 741.50 D N Qu w%
15 Inches of Aggregate Base 741.25
Brown, Moist FILL: GRAVEL, with sand 740.00
9 17
6 2.92 B 19
11 5.41 B 15
13 5.41 B 18
6 2.08 B 16
8 2.50 B 17
15 End of Boring 726.50
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML) 735.50
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
Very Stiff 726.00 Brown, Moist SILTY CLAY, trace gravel (CL/ML)

WNAW-28
754+19
42.00ft RT
EL 751.20 D N Qu w%
2 Inches of Topsoil 751.00
9 18
13 15
5 744.50
14 3.0 P 16
14 2.92 B 16
10 2.08 B 18
13 2.04 B 13
End of Boring 737.00
Loose to Medium Dense Brown and Gray, Moist SILTY LOAM, with sand, trace gravel (ML)
Medium Dense Brown and Gray, Moist SILTY LOAM, with sand (ML)
Medium Dense Gray, Moist SILTY LOAM, trace gravel (ML) 745.20
Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (CL/CL) 742.20
Medium Dense Gray, Moist SAND, trace gravel (SP) 740.20
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) 737.20
Medium Dense Gray, Moist SILTY LOAM, trace gravel (ML) 735.20
Medium Dense Gray, Moist SILTY LOAM, with sand, trace gravel (ML)
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) 735.50

WNAW-29
754+86
92.50ft RT
EL 751.20 D N Qu w%
2 Inches of Topsoil 751.00
12 21
12 14
5
7 1.7 B 12
20 12
10 3.12 B 16
9
11 2.29 B 26
12 2.92 B 25
20
8 2.71 B 19
10 2.08 B 20
25 End of Boring 726.20
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)

WNAW-30
758+01
16.30ft RT
EL 753.10 D N Qu w%
11 Inches of Topsoil 752.60
Brown, Moist FILL: SILTY CLAY, trace gravel, organics 749.10
17 2.5 B 28
Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML) 747.10
8 3.12 B 21
5
5 22
Loose Brown, Moist to Wet SANDY LOAM, trace gravel (SM) 743.60
12 12
Medium Dense Gray, Moist SANDY CLAY LOAM, trace gravel (SC/SM) 742.10
23 5.41 B 16
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
14 3.33 B 16
15
14 3.33 B 15
25
Medium Dense Gray, Moist SANDY LOAM, trace gravel (SM) 734.10
13
20
Medium Dense Gray, Moist SAND, trace gravel (SP) 732.10
18 21
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) 728.10
13 3.54 B 15
25 End of Boring

745+00 746+00 747+00 748+00 749+00 750+00 751+00 752+00 753+00 754+00 755+00 756+00 757+00 758+00 759+00 760+00

MODEL: Default
FILE NAME: ?:\Illinois DOT\GSG 202-014\Geotechnical\Geotechnical\Exhibits\DGN\sP103218 sht SoilBoring West BORING LOCATION PLAN - 04.dgn

GSG CONSULTANTS, INC.
735 E. REMINGTON RD. SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

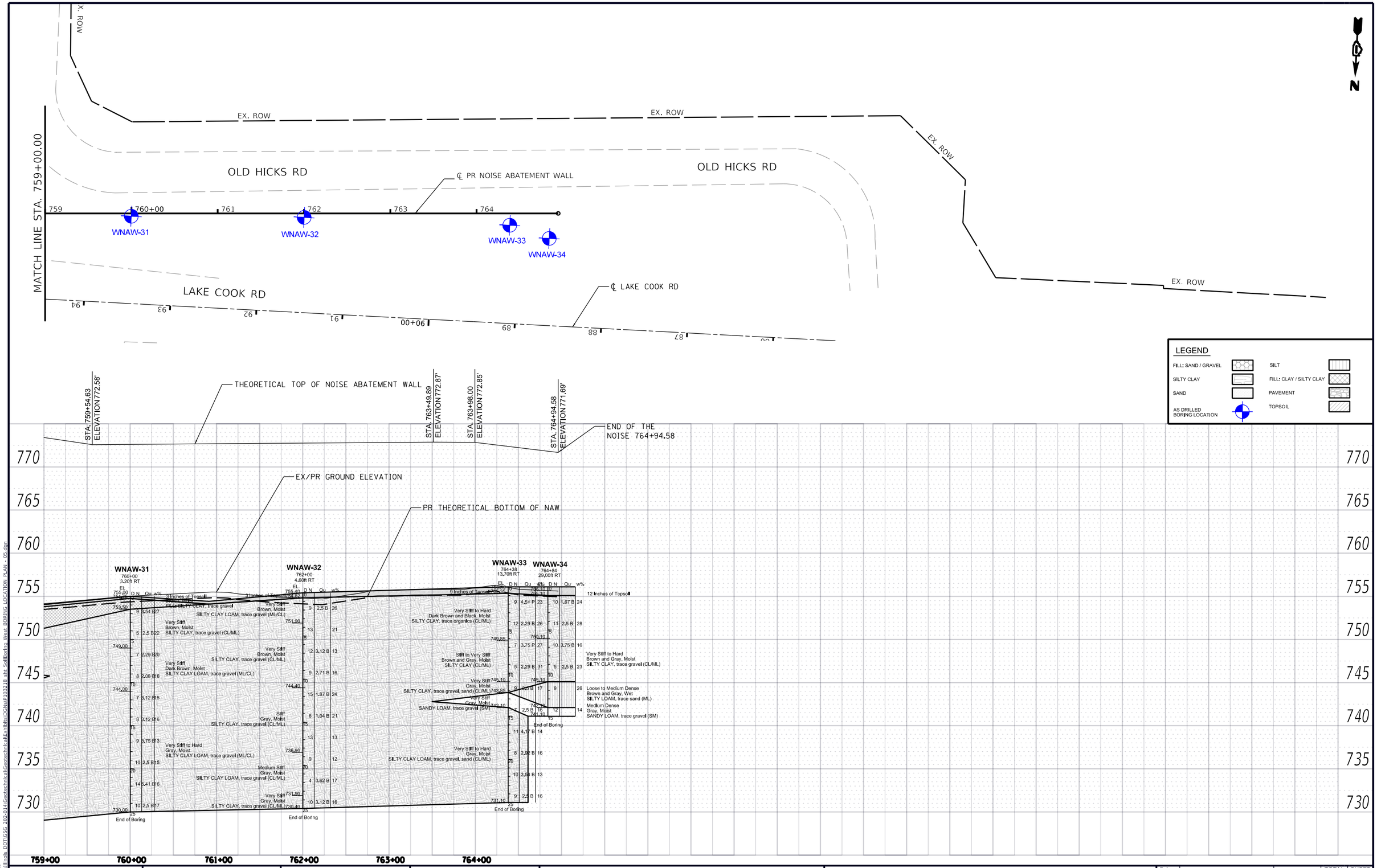
USER NAME	= nnano	DESIGNED	- MZ	REVISED	-
		DRAWN	- NN	REVISED	-
PLOT SCALE	= 1200.0000 ' / ft.	CHECKED	- DE	REVISED	-
PLOT DATE	= 5/22/2023	DATE	- 01/09/2023	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1000 NAW

SCALE: 1:50 | SHEET 8 OF 9 SHEETS | STA. 745+00.00 TO STA. 760+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	8
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



PLAN
SURVEYED
PLOTTED
ADDED TEXT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
ADDED TEXT CHECKED
B.M. NOTED
STRUCTURE NO/TAPE'S CHKD
NOTE BOOK
NO.
BY
DATE

MODEL: Default
FILE NAME: T:\Illinois DOT\GSG 202-0141\Geotechnical\Geotechnical Exhibits\DGN\sP103218 sht SoilBoring West BORING LOCATION PLAN - 05.dgn

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
TEL: 1630.994.2600 | WWW.GSG-CONSULTANTS.COM

USER NAME = nnano	DESIGNED - MZ	REVISED -	
	DRAWN - NN	REVISED -	
PLOT SCALE = 1200.0000 ' / ft.	CHECKED - DE	REVISED -	
PLOT DATE = 5/22/2023	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL ROUTE 53 NOISE ABATEMENT WALL IMPROVEMENTS
SOIL BORING PLAN AND PROFILE – SN 016–N1000 NAW

SCALE: 1:50 | SHEET 9 OF 9 SHEETS | STA. 760+00.00 TO STA. 764+94.65

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
342	2021-189-NW	COOK	9	9
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

APPENDIX C

SOIL BORING LOGS

East Noise Wall Boring Logs

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.1450942, **Longitude** -88.00769882

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-01
Station 800+29
Offset 34.20ft LT
Ground Surface Elev. 725.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 719.1 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 724.85 / 724.68 Black, Moist to Wet FILL: SILTY CLAY, trace roots		4		
Loose Brown, Moist to Wet SANDY LOAM (SM)		6 5		14
		5		
	-5	3 7		12
▼		4		
		4 5		24
716.60		5		
Medium Dense Gray, Moist SILTY LOAM, trace sand (ML)	-10	6 7		15
714.10		5		
Very Stiff to Hard Gray, Moist SILTY CLAY LOAM (ML/CL)		7 11	4.5 P	15
		6		
	-15	7 8	3.8 B	22
		4		
		4 7	2.5 B	14
707.10				
Stiff Gray, Moist SILTY CLAY, with sand (CL/ML)		3		
705.10	-20	3 5	1.7 B	16

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14553134, **Longitude** -88.00801821

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-02
Station 802+09
Offset 15.20ft LT
Ground Surface Elev. 724.20 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 718.2 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 723.95				
Very Stiff Brown, Moist SILTY CLAY, with sand (CL/ML)		3		
		7 10		16
720.70		4		
Very Stiff Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML) Cobbles at 3.5 feet	-5	5 6	2.5 P	16
718.20 ▼		4		
Loose Brown, Wet SANDY LOAM, trace gravel (SM)		4 5		25
		3		
714.20	-10	4 5		21
Loose to Medium Dense Gray, Wet SANDY LOAM (SM)		6		
		5 5		25
		5		
	-15	4 5		21
		5		
706.70		6 9		18
Very Stiff Gray, Moist SILTY CLAY LOAM (ML/CL)		3		
704.20	-20	4 6	3.0 P	19

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14597775, **Longitude** -88.00845841

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-03
Station 804+11
Offset 13.00ft LT
Ground Surface Elev. 726.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 720.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 726.35				
Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)		4		
		5 6	4.5 P	20
723.10				
Hard Brown, Moist SILTY CLAY LOAM, trace gravel (ML/CL)		5		
		4 5	4.5 P	19
720.60 ▼	-5			
Medium Dense Gray, Moist SILTY LOAM, trace gravel, sand (ML) Cobbles at 6.5 feet		5		
		9 10		18
		6		
		10 12		18
	-10			
		9		
		11 12		17
		7		
		10 11		17
	-15			
710.60				
Medium Dense Gray, Wet SANDY LOAM (SM)		7		
		7 8		22
708.10				
Hard Gray, Moist SILTY CLAY LOAM (ML/CL)		6		
		7 7	4.2 B	15
706.60	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14642385, **Longitude** -88.00890486

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-04
Station 806+17
Offset 19.20ft LT
Ground Surface Elev. 728.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 728.15				
Gray and Brown, Moist FILL: SILTY CLAY, trace gravel, sand, organics 727.40		4		
		3 3	1.0 P	15
Gray and Brown, Moist FILL: SILTY CLAY, trace gravel and sand 724.90		3		
Brown, Moist FILL: SAND, trace gravel		2 2		5
	-5	2		
721.40		1 2		22
Very Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL)		3		
		4 6	2.5 P	18
	-10			
717.40		2		
Very Stiff Gray, Moist SILTY CLAY, trace sand (CL/ML)		3 4	2.5 B	17
		2		
		5 5	2.5 B	14
	-15			
		3		
		4 7	2.5 B	15
		3		
		5 7	2.3 B	14
708.40	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14683552, **Longitude** -88.00937453

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-05
Station 808+11
Offset 13.70ft LT
Ground Surface Elev. 728.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil ~~728.15~~				
Very Stiff to Hard Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML)		3		
		2 3	2.5 P	21
		2		
	-5	3 4	2.3 B	20
		3		
		2 3	2.1 B	15
		2		
	-10	5 6	1.5 P	22
717.40				
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		3		
		5 9	3.1 B	15
Cobbles at 13.5 feet		6		
	-15	8 9		14
		5		
		7 10	4.2 B	17
		5		
708.40	-20	6 9	2.5 B	17

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14726747, **Longitude** -88.00987227

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-06
Station 810+19
Offset 23.00ft LT
Ground Surface Elev. 729.90 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12 inches of Asphalt				
728.90				
Brown, Moist		11		
FILL: GRAVEL, with sand		14 7		8
726.40				
Stiff		3		
Brown, Moist		2	1.3	20
SILTY CLAY, trace gravel	-5	3	B	
(CL/ML)		2		
		2 5	1.9 B	17
		3		
		4	1.7	18
	-10	4	B	
718.90				
Stiff to Very Stiff		3		
Gray, Moist		3	2.1	14
SILTY CLAY, trace gravel		6	B	
(CL/ML)				
Cobbles at 12 feet		4		
		4	2.5	14
	-15	6	B	
		2		
		4	1.9	18
		5	B	
		2		
		3	2.1	19
709.90	-20	5	B	

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14769862, **Longitude** -88.01031417

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-07
Station 812+16
Offset 16.50ft LT
Ground Surface Elev. 729.90 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 729.65				
Gray and Brown, Moist FILL: CLAY, trace sand and gravel		3		
		4 3	2.5 B	21
		1		
		2 2	1.0 P	24
724.90	-5			
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		3 5	4.0 P	17
		3		
		5 5	3.8 B	14
	-10			
		4		
		5 8	3.5 P	15
		4		
Cobbles at 14 feet		5 5	3.0 P	13
	-15			
		3		
		4 6	2.3 B	17
		4		
		7 9	3.1 B	15
709.90	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14812261, **Longitude** -88.01074163

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO. _____
Station _____

BORING NO. ENAW-08
Station 814+11
Offset 15.60ft LT
Ground Surface Elev. 731.80 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter None **ft**
Upon Completion N/A **ft**
After N/A **Hrs.** N/A **ft**

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
731.55			
3 inches of Topsoil			
Stiff to Hard Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML)	4		
	5 6	5.2 B	11
	3		
-5	2 3	1.5 B	15
725.80			
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)	3		
	5 5	2.3 B	15
	4		
-10	5 6	3.3 B	15
	4		
	6 8	4.0 B	21
	3		
-15	5 8	4.2 B	17
	3		
	5 6	2.7 B	18
	4		
711.80 -20	5 7	2.1 B	18

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.1485406, **Longitude** -88.0112246

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-09
Station 816+09
Offset 24.40ft LT
Ground Surface Elev. 732.30 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12 inches of Asphalt				
731.30				
Brown, Moist FILL: GRAVEL, with sand		8		
		50/5"		16
728.80				
Stiff Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML)		4		
		4	1.3	13
	-5	6	B	
		4		
725.30		4	1.3	19
Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		4	B	
		2		
		3	2.5	21
	-10	5	B	
		3		
		5	4.2	18
		7	B	
		2		
		4	1.9	19
	-15	4	B	
		3		
		3	2.3	18
		5	B	
		3		
		4	2.1	19
712.30	-20	4	B	

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14897522, **Longitude** -88.01170781

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-10
Station 818+25
Offset 25.40ft LT
Ground Surface Elev. 733.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				12 inches of Asphalt
732.60				
	10			Brown, Moist
	50/2"		2	FILL: GRAVEL, with sand
	2			
	3		10	
-5	5			
727.60				
	2			Stiff to Very Stiff
	4	2.1	18	Brown, Moist
	4	B		SILTY CLAY, trace gravel
				(CL/ML)
	2			
	4	1.5	15	
-10	5	B		
722.60				
	2			Stiff to Very Stiff
	6	4.0	14	Gray, Moist
	7	B		SILTY CLAY, trace gravel
				(CL/ML)
	3			
	4	2.9	16	
-15	5	B		
	4			Push Cobble at 16 feet
	3	1.5	13	
	4	P		
	3			
	3	2.1	19	
713.60 -20	5	B		

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14941357, **Longitude** -88.01215397

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-11
Station 820+16
Offset 16.60ft LT
Ground Surface Elev. 733.80 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter None **ft**
Upon Completion N/A **ft**
After N/A **Hrs.** N/A **ft**

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 733.55				
Stiff to Very Stiff Brown, Moist SILTY CLAY, trace gravel and sand (CL/ML)		3		
		2 3	2.3	18
		3		
		3 3	3.3	18
	-5			
		4		
		6 6	1.3	13
725.30				
		4		
Stiff Gray, Moist CLAY, trace gravel (CL)		4 4	1.9	12
	-10			
		3		
		3 5	1.3	16
		2		
		4 4	1.9	17
	-15			
		5		
Cobbles at 16 feet Not enough sample for Pocket Penetrometer Test		4 6		20
		2		
		4 6	1.0	15
713.80	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14982944, **Longitude** -88.01260629

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-12
Station 822+21
Offset 26.50ft LT
Ground Surface Elev. 734.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12 inches of Asphalt				
733.50				
Brown, Moist		26		
FILL: GRAVEL, with sand		50/4"		6
Cobbles at 2 feet				
4 inch clay seam at 2 feet				
		7		
730.00		2	1.5	27
Black and Dark Gray, Moist	-5	2	P	
FILL: SILTY CLAY, trace gravel, trace organics				
728.50				
Dark Brown, Moist		1		
FILL: SILTY CLAY, trace organics		1	1.0	29
		2	P	
726.00				
Stiff to Very Stiff		1		
Brown, Moist		2	1.7	19
SILTY CLAY, trace gravel	-10	3	B	
(CL/ML)				
		2		
		2	2.1	18
		4	B	
721.00				
Very Stiff		2		
Gray and Brown, Moist		3	3.1	15
SILTY CLAY, trace gravel	-15	5	B	
(CL/ML)				
718.50				
Very Stiff		3		
Gray, Moist		4	2.7	14
SILTY CLAY, trace gravel		4	B	
(CL/ML)				
		3		
		3	2.1	15
714.50	-20	5	B	

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15029539, **Longitude** -88.01306402

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-13
Station 824+25
Offset 35.00ft LT
Ground Surface Elev. 735.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Asphalt	735.00				
6 inches of Aggregate Subbase	734.50				
Brown, Moist FILL: GRAVEL, with sand, trace clay			12		
			7 3		6
			7		
		-5	4 4		NR
	729.50				
Brown and Gray, Moist FILL: SILTY CLAY, trace gravel			1		
			3 2	1.5 P	24
	728.00				
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)			2		
		-10	3 4	2.5 B	18
	724.50				
Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)			3		
			4 6	3.8 B	13
	722.00				
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)			2		
		-15	3 4	1.9 B	17
			2		
			4 5	1.8 B	15
			2		
			4 5	2.1 B	17
	715.50	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/18/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15072778, **Longitude** -88.01354934

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-14
Station 826+26
Offset 49.50ft LT
Ground Surface Elev. 736.00 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Asphalt 735.50 6 inches of Aggregate Subbase 735.00				
Brown, Moist FILL: GRAVEL, with sand		12		
		6 4		11
732.50				
Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		2 3	1.5 B	23
730.00	-5			
Soft Brown and Gray, Moist SILTY CLAY, trace sand and gravel (CL/ML) Sand seam at 7 feet		2		
		1 1	0.5 P	27
727.50				
Stiff to Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)		3		
		4 4	3.5 P	17
	-10			
		2		
		3 4	1.7 B	16
722.50				
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		4 5	2.3 B	15
	-15			
		3		
		4 7	2.5 B	13
		3		
		5 5	2.7 B	16
716.00	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15120489, **Longitude** -88.01379999

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-15
Station 828+06
Offset 5.80ft LT
Ground Surface Elev. 737.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				3 inches of Topsoil 737.25
	5			Brown, Moist FILL: SILTY CLAY, trace sand, gravel and organics
	5 4	2.5 P	15	
	3			
-5	5 5	2.5 P	12	
	5			
	6 7	3.5 P	16	730.50
	5			Very Stiff Gray, Moist SILTY CLAY, trace sand and gravel (CL/ML) 729.00
-10	6 5	2.0 P	14	Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	4			Cobbles at 8.5 feet Cobbles at 11 feet
	7 5		15	Not enough sample for Pocket Penetrometer Test
	4			724.00
-15	5 6	3.3 B	15	Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4			
	4 5	2.7 B	13	
	3			
-20	4 21	2.1 B	17	Sand seam at 19 feet

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	4			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4 6	2.3 B	21	
	3			
-25	5 6	2.1 B	17	712.50
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.1516888, **Longitude** -88.01414597

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-16
Station 830+06
Offset 5.20ft LT
Ground Surface Elev. 737.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				3 inches of Topsoil 737.25
	3			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	4 3	2.0 P	15	
	2			
-5	3 3	3.3 B	20	
	4			
	6 8	3.3 B	15	730.50
	2			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-10	5 5	3.1 B	15	Cobbles at 9 feet
	3			726.50
	4 5	1.5 P	11	Stiff Gray, Moist SILTY CLAY, trace gravel (CL-ML)
	5			Cobbles at 13.5 feet
-15	5 7		14	Not enough sample for Pocket Penetrometer Test
	4			721.50
	7 10	4.6 B	20	Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	3			
-20	4 6	1.9 B	19	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	6			Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	7 9		NR	Cobbles at 21 feet
	3			
-25	4 6	2.5 B	19	712.50
-30				End of Boring
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.15214594, **Longitude** -88.01446733

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-17
Station 832+95
Offset 60.20ft LT
Ground Surface Elev. 741.70 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
741.37				4 inches of Topsoil
	5			Brown, Moist FILL: SILTY CLAY, trace gravel, organics
	5 5	4.5 P	12	
738.20				
	4			Brown and Black, Moist FILL: SILTY CLAY, trace gravel, organics
-5	4 5	3.5 P	18	
735.70				
	4			Brown, Moist FILL: SILTY CLAY, trace gravel, organics Cobbles at 6.5 feet
	3 4	2.5 P	21	
733.20				
	4			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
-10	5 8	3.3 B	17	
730.70				
	4			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 12 feet
	6 12	2.7 B	15	
	3			
-15	4 5	2.5 B	14	
	2			
	3 5	2.1 B	13	
	1			
-20	3 3	1.3 B	14	
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4 5	1.9 B	16	
	3			
716.70 -25	6 7	3.5 B	21	
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15260739, **Longitude** -88.01499856

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-18
Station 834+21
Offset 31.80ft LT
Ground Surface Elev. 743.00 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				4 inches of Topsoil 742.67
	2			Brown, Moist FILL: SILTY CLAY, trace gravel, organics
	3 6	3.0 P	13	
				739.50
	3			Dark Brown, Moist FILL: SILTY CLAY, trace gravel, organics
	5 7	2.5 P	24	738.00
-5				Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	3			
	3 6	3.1 B	19	
	4			Cobbles at 9 feet
	4 6	3.1 B	17	
-10				732.00
	6			Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	6 8	4.5 P	14	Cobbles at 11 feet
	4			
	5 7	3.5 P	15	
-15				
	2			
	4 5	2.3 B	15	
	2			
	4 4	2.3 B	15	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	2			
	4 5	1.9 B	15	
	4			
	5 6	2.1 B	15	Cobbles at 24 feet
-25				718.00
-30				End of Boring
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15283536, **Longitude** -88.01511561

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-19
Station 835+03
Offset 2.60ft LT
Ground Surface Elev. 743.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
0				4 inches of Topsoil 743.07
				Brown, Moist FILL: SILTY CLAY, trace gravel 742.40
	5			
	7 7	5.2 P	16	Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	4			
-5	4 5	4.0 B	19	
	5			
	6 9	5.4 B	17	
				734.90
	4			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-10	6 7	2.1 B	14	
	5			Cobbles at 11 feet
	5 6		16	Not enough sample for Pocket Penetrometer Test
	2			
-15	4 6	2.9 B	14	
	5			Cobbles at 16 feet
	5 6		15	Not enough sample for Pocket Penetrometer Test
	3			
-20	3 6	2.1 B	25	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				722.40
	3			Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL)
	3 3	1.1 B	21	
	3			719.40
-25	3 6	2.5 B	23	Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) 718.40
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15321162, **Longitude** -88.01510337

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-20
Station 836+35
Offset 4.60ft LT
Ground Surface Elev. 743.30 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				4 inches of Topsoil 742.97
				Brown and Gray Mottled, Moist FILL: SILTY CLAY, trace gravel 742.30
	5			
	7 7	4.5 P	16	Very Stiff to Hard Brown and Gray Mottled, Moist SILTY CLAY, trace gravel (CL/ML)
	4			
-5	4 6	4.0 B	17	
				737.30
	4			Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	7 9	5.2 B	17	
	4			
-10	6 5	5.8 B	15	
				732.30
	4			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	5 7	2.5 B	16	
	3			
-15	5 5	2.1 B	12	
	2			
	5 6	2.9 B	14	
	2			
-20	4 5	3.1 B	17	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4 5	1.3 B	20	
	3			
-25	4 6	2.1 B	19	
				718.30
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15340002, **Longitude** -88.01474139

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. ENAW-21
Station 837+52
Offset 6.70ft LT
Ground Surface Elev. 741.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				5 inches of Topsoil 741.18
	3			Dark Brown, Moist to Very Moist FILL: SILTY CLAY, trace organics
	4 5	2.5 P	29	
	2			
-5	3 4	3.0 P	27	
				735.60
	1			Stiff to Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	2 3	1.5 P	22	
	3			
-10	3 5	3.1 B	17	
				730.60
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4 5	2.9 B	15	
	3			
-15	3 5	2.3 B	16	
	3			
	3 4	2.3 B	16	
	2			
-20	3 4	1.9 B	14	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	4			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	3 4	2.1 B	20	
	3			
-25	5 7	3.8 B	22	Sand Seam at 24 feet
	2			
	5 5	3.5 B	18	
	3			
-30	6 12	2.7 B	13	Cobbles at 29 feet
				711.60
-35				End of Boring
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15350424, **Longitude** -88.01420091

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-22
Station 839+04
Offset 19.80ft LT
Ground Surface Elev. 748.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				3 inches of Topsoil 747.85
	2			Brown and Gray, Moist FILL: SILTY CLAY, trace gravel, sand
	1 2	1.5 P	17	
	2			
	1 1	0.3 P	17	
-5				743.10
				Very Stiff Dark Gray and Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	3			
	4 4	2.5 B	23	
	3			
	4 5	2.1 B	23	
-10				737.10
	3			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	6 9	3.5 B	17	
	4			
	7 9	2.9 B	16	
-15				732.10
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	5 6	2.1 B	15	
	2			
	4 5	1.5 B	15	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	2			
	4 5	2.1 B	17	
	4			
	5 7	2.9 S	14	
-25				723.10
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15350156, **Longitude** -88.0134683

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-23
Station 841+00
Offset 3.90ft LT
Ground Surface Elev. 748.70 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
0				4 inches of Topsoil 748.37
	1			Black and Brown, Moist FILL: SILTY CLAY, trace sand, organics
	2 2	0.8 B	28	
				745.20
	3			Black and Brown, Moist to Very Moist FILL: CLAY, trace gravel, organics
-5	4 6	2.1 B	27	
	2			
	3 5	1.0 B	22	
	2			
	2 4	1.7 B	32	
-10				
	4			
	6 5	1.7 B	15	
				735.20
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	5 4	1.0 B	16	
-15				
	2			
	3 3	1.0 B	16	
	2			
	3 5	2.1 B	20	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4			
	9 12		13	Cobbles at 21 feet Not enough sample for Pocket Penetrometer Test
	9			Cobbles at 23.5 feet
	9 10		15	Not enough sample for Pocket Penetrometer Test
-25				723.70
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.1535141, **Longitude** -88.01272966

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-24
Station 843+02
Offset 1.70ft LT
Ground Surface Elev. 747.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				4 inches of Topsoil 747.27
	2			Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	2 2	1.0 B	25	
				744.10
	3			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
-5	4 7	3.1 B	16	
	3			
	5 6	3.1 B	17	
	3			
-10	3 4	2.1 B	19	
	5			
	8 10	3.3 B	15	
				734.10
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-15	4 7	2.1 B	14	
	2			
	3 4	1.7 B	15	
	2			
-20	3 5	2.1 B	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	2			
	4 5	2.1 B	18	
	4			
-25	4 7	3.1 B	24	
				722.60 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15352917, **Longitude** -88.01199422

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-25
Station 845+00
Offset 2.80ft LT
Ground Surface Elev. 746.30 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
745.97 4 inches of Topsoil			
Brown and Black, Moist FILL: SILTY CLAY, trace gravel	1		
	1 2	1.5 P	17
742.80	3		
Very Stiff to Hard Brown, Moist SILTY CLAY (CL/ML)	4 5	3.0 P	16
-5	2		
	2 3	3.1 B	18
	2		
	5 9	4.2 B	16
-10			
735.30	5		
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)	5 6	3.3 B	14
	3		
	3 5	2.1 B	14
-15	2		
	4 6	2.1 B	21
	3		
	5 6	3.1 B	14
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*	3		
	4 6	3.1 B	20
	3		
	3 5	2.5 B	23
721.30 -25			
End of Boring			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.15353365, **Longitude** -88.01125555

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. ENAW-26
Station 847+00
Offset 4.70ft LT
Ground Surface Elev. 745.80 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				4 inches of Topsoil 745.47
	2			Dark Gray and Brown, Moist FILL: SILTY CLAY, trace gravel, wood and roots
	3 5	4.2 B	15	
	5			
	6 6	3.1 B	26	
-5				740.80
	2			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	3 4	2.1 B	21	
	3			737.30
	3 3	2.1 B	20	Very Stiff Brown, Moist SILTY CLAY (CL/ML)
-10				
	2			
	4 5	2.5 B	18	
	3			732.30
	6 6	4.2 B	14	Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-15				
	3			
	4 9	2.5 B	14	
	6			
	5 7	3.1 B	14	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	5			Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	5 6	2.5 B	13	
	3			
	4 6	2.5 B	18	
-25				720.80
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15355356, **Longitude** -88.0104644

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. ENAW-27
Station 849+15
Offset 12.30ft LT
Ground Surface Elev. 745.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 745.15				
Black, Moist FILL: SILTY CLAY, trace gravel		5		
		5 5	1.3 P	24
741.90		2		
Brown and Dark Gray, Moist FILL: SILTY CLAY, trace gravel		3 6	0.4 B	19
739.40	-5	3		
Medium Stiff to Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 6 feet		4 6	0.8 P	25
		2		
		3 3	1.9 B	23
733.90	-10	4		
Stiff Brown, Moist SILTY CLAY LOAM (ML/CL) Sand seams at 11.5 feet		5 8	1.7 B	10
		4		
730.90		4 5	1.7 B	14
Stiff to Hard Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL)	-15	3		
		5 8	4.0 B	15
		4		
725.90		6 6	5.8 B	16
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Dense Gray, Moist SILTY LOAM (ML) *(continued)* 724.40		3		
Very Stiff to Hard Gray, Moist SILTY CLAY, trace sand and gravel (CL/ML)		5 8	4.2 B	21
		4		
720.40	-25	6 9	4.0 B	16
End of Boring	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.1535576, **Longitude** -88.01019531

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. ENAW-28
Station 850+88
Offset 13.80ft LT
Ground Surface Elev. 745.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				2 inches of Topsoil 745.44
	2			Brown and Black, Moist FILL: SILTY CLAY, trace gravel and organics
	4 4	1.3 B	19	
	4			
-5	4 4	0.8 B	20	
	2			
	3 4	2.5 B	25	738.78
	2			Very Stiff Gray and Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML) 736.60
-10	2 4	2.5 B	28	Very Stiff Light Gray and Mottled Brown, Moist SILTY CLAY, trace gravel (CL/ML) 734.60
	2			
	4 4	3.1 B	20	Very Stiff Brown, Moist SILTY CLAY, trace sand and gravel (CL/ML)
	2			
-15	4 7	2.9 B	15	731.10 Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 16 feet
	2			
	3 4	2.0 P	15	
	3			
-20	4 5	3.5 B	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	4			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	5 12	2.7 B	17	Silt Seams of less than 1 inch at 22 feet Cobbles at 22.5 feet
	3			
-25	5 6	1.7 B	19	720.60
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

West Noise Wall Boring Logs

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/7/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14108112, **Longitude** -88.0067422

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-01
Station 700+02
Offset 8.20ft RT
Ground Surface Elev. 719.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 707.9 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
7 inches of Concrete	718.82				
5 inches of Aggregate Subbase	718.40				
Brown, Moist	717.90		3		
FILL: SILTY CLAY, trace gravel			4		22
Loose			4		
Brown and Gray, Moist					
SILTY LOAM, trace gravel (ML)					
	715.40		2		
Stiff to Very Stiff			3	1.3	16
Gray, Moist		-5	4	P	
SILTY CLAY, trace gravel					
(CL/ML)			2		
			5	2.7	14
			6	B	
			3		
			4	2.5	15
		-10	6	B	
		▼	4		
Sand seam at 11.5 feet	707.40		6	3.3	16
Sand seam at 12 feet			7	B	
Loose to Medium Dense					
Gray, Moist					
SILTY LOAM, with sand, trace gravel (ML)			3		
			5		17
		-15	5		
			4		
	702.90				
Sand seam at 16.5 feet			5	5.6	16
Very Stiff to Hard			10	B	
Gray, Moist					
SILTY CLAY, trace gravel					
(CL/ML)			4		
			6	3.8	17
	699.40	-20	10	B	

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/7/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.1416103, **Longitude** -88.00656888

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-02
Station 701+99
Offset 9.70ft RT
Ground Surface Elev. 716.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 697.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
7 inches of Concrete 5 inches of Aggregate Subbase	716.02 715.60				
Brown, Moist FILL: SAND, with gravel			12 12 7		7
	713.10		1		
Very Stiff Brown, Gray and Black, Very Moist SILTY CLAY, trace gravel (CL/ML)	711.10	-5	3 4	2.3 B	28
Stiff to Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)			2 3 4	1.7 B	18
			1		
		-10	2 4	2.1 B	18
	705.10		2		
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)			4 6	1.7 B	14
			1		
		-15	3 5	1.9 B	16
			4		
			5 9	2.1 B	14
		▼	3		
	696.60	-20	3 7	1.7 B	19

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/7/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14215714, **Longitude** -88.00661626

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-03
Station 703+97
Offset 9.40ft RT
Ground Surface Elev. 715.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 695.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Concrete 715.10 7 inches of Aggregate Subbase 714.68				
Light Brown, Moist FILL: SAND, with gravel, pockets of silty clay		17		
		14 20		11
712.10				
Brown and Black, Moist FILL: SILTY CLAY		3		
		4 5	0.8 B	10
	-5			
		2		
		1 2	1.0 B	31
707.10				
Brown, Moist 706.60 FILL: SILTY LOAM, trace gravel, organics		2		
		2 2	0.8 B	18
	-10			
Medium Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		WH		
		WH 2	1.0 B	13
		WH		
		3 3	0.8 B	16
	-15			
		2		
		2 3	2.1 B	17
		2		
		3 5	1.3 B	20
	▼-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*		1		
		3 4	1.5 B	20
		3		
		3 5	1.7 B	20
690.60	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/7/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.14268201, **Longitude** -88.00682254

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-04
Station 706+01
Offset 36.30ft RT
Ground Surface Elev. 716.30 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Asphalt 715.80 6 inches of Aggregate Subbase 715.30				
Brown and Black, Moist FILL: SILTY CLAY, trace gravel 714.30		5		
		6 34	2.9 B	13
Brown, Moist FILL: SAND, with gravel 712.80				
Brown and Black, Moist FILL: SILTY CLAY, trace gravel 712.30		5		
		20 16		8
Brown, Moist FILL: SAND, with gravel 710.30	-5			
Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 6 feet		6		
		6 8		10
Cobbles at 8.5 feet		4		
Not enough sample for Pocket Penetrometer Test		5 8		19
	-10			
Not enough sample for Pocket Penetrometer Test		3		
		6 7		21
702.80				
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 13.5 feet		4		
		5 8		14
	-15			
		4		
		9 10	4.6 B	14
Cobbles at 18.5 feet		1		
		5 9	2.5 P	16
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*		7		
		8 12	4.6 B	12
		4		
		8 15	4.0 B	15
691.30	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/13/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** KA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.14319671, **Longitude** -88.00709119

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. WNAW-05
Station 707+97
Offset 10.90ft RT
Ground Surface Elev. 717.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 711.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Asphalt 717.35 7 inches of Concrete 716.78				
Brown, Gray and Black, Moist FILL: SILTY CLAY, trace sand and gravel		4		
		6 6	3.5 P	21
714.10				
Brown and Gray, Moist FILL: SAND, with gravel		7		
		21 9		5
	-5			
711.60 ▼				
Black and Gray, Moist FILL: SILTY CLAY, trace sand, gravel		2		
		2 3	1.3 P	26
710.10				
Brown, Moist FILL: SILTY CLAY				
		1		
		1 5		NR
	-10			
706.60				
Very Dense Gray, Moist SILTY LOAM, trace clay (ML) Cobbles at 11 feet		4		
		7 50/5"		16
704.10				
Very Stiff Gray, Moist SILTY CLAY (CL/ML)		3		
		2 4	2.1 B	18
	-15			
		2		
		4 8	2.7 B	17
		5		
		8 10	2.5 B	18
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff Gray, Moist SILTY CLAY (CL/ML) *(continued)*		2		
		4 5	2.9 B	22
		4		
		6 8	3.8 B	19
692.60	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 12/2/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** AA

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** , **TWP.** 42N, **RNG.** 10E,
Latitude 42.14370373, **Longitude** -88.00737589

COUNTY Cook **DRILLING RIG** D50 Truck-Mount **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 99.5

STRUCT. NO.
Station

BORING NO. WNAW-06
Station 709+96
Offset 10.80ft RT
Ground Surface Elev. 719.90 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 705.9 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Asphalt 719.65 6 inches of Concrete 719.15 3 inches of Aggregate Subbase 718.90		3		
Brown, Moist FILL: SILTY CLAY, trace gravel		8 6	4.5 P	13
		5		
	-5	7 6	4.4 B	15
713.90 Brown, Moist FILL: SAND, with gravel Cobbles at 6.5 feet		8 6 5		8
		5		
	-10	4 4		9
708.90 Stiff Brown and Gray, Moist SILTY CLAY, with gravel (CL/ML) Not enough sample for Pocket Penetrometer Test		2 2 2		20
706.40 Medium Dense ▼ Gray, Moist SAND, with gravel (SPG)		3 7 6		15
	-15			
703.90 Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		4 5 7	4.4 B	18
		4		
Cobbles at 19 feet	-20	5 6	1.9 B	18

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*		3		
		5 6	2.1 B	12
696.40 Stiff Gray, Moist SILTY CLAY, with gravel, trace sand (CL/ML)		3		
694.90 Push Cobble at 24 feet End of Boring	-25	5 7	1.5 P	13
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14418753, **Longitude** -88.00770463

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. WNAW-07
Station 711+93
Offset 10.80ft RT
Ground Surface Elev. 721.90 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 708.4 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Asphalt 721.65 7 inches of Concrete 721.07 6 inches of Aggregate Subbase 720.57		3		
Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)		7 8	4.5 P	14
718.40 Stiff Gray and Dark Brown, Very Moist SILTY CLAY, trace gravel (CL/ML)	-5	2 3 5	1.0 B	26
715.90 Very Stiff Brown and Dark Brown, Moist SILTY CLAY, trace gravel (CL/ML)		4 5 8	4.0 B	15
	-10	4 4 4	2.9 B	23
710.90 Stiff Gray and Black, Moist SILTY CLAY, trace gravel (CL/ML)		2 2 2	1.0 B	28
708.40 ▼ Loose Gray, Wet SANDY LOAM, trace gravel (SM)	-15	WH 2 2		28
705.90 Verty Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		3 14 17 7	2.1 B	17
	-20	9 10	4.8 B	17
Verty Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*		4 6 9 4	5.0 B	18
696.90	-25	7 11	4.6 B	18
End of Boring	-30 -35 -40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/22/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14452553, **Longitude** -88.00814599

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-08
Station 713+98
Offset 6.80ft RT
Ground Surface Elev. 715.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 704.5 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 715.00 6 inches of Concrete 714.50				
Loose Brown and Gray, Moist SILTY LOAM, with gravel, sand (ML)		4		
		2 2		14
712.00				
Loose Brown and Gray, Moist SILTY LOAM, trace gravel, sand (ML)		1		
	-5	2 2		19
		2		
		2 2		15
707.00				
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		1		
	-10	3 3	1.3 B	15
▼		2		
		5 6	2.9 B	17
		3		
		4 7	4.2 B	16
	-15			
		5		
		6 7		20
Push Cobble at 17 feet Not enough sample for Pocket Penetrometer Test				
		4		
Push Cobble at 19 feet		5 6	1.3 P	18
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*		3		
		4 9	2.1 B	21
		2		
	-25	3 7	2.5 B	25
		3		
		5 10	2.1 B	23
		7		
685.50	-30	7 8	2.9 B	15
End of Boring				
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.1449783, **Longitude** -88.00839193

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-09
Station 715+73
Offset 37.00ft RT
Ground Surface Elev. 724.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 718.4 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 723.90				
Brown, Black and Gray, Moist FILL: SILTY CLAY, trace gravel, sand		2		
		5 6	2.5 B	23
Cobbles at 3.5 feet		6		
		6 4		NR
	-5			
718.40 ▼				
Loose Brown and Gray, Moist SILTY LOAM (ML)		3		
		4 6		21
715.90				
Loose to Medium Dense Brown and Gray, Moist SANDY LOAM (SM)		3		
		4 6		21
	-10			
		4		
		5 9		20
710.90				
Medium Dense Gray, Moist SILTY LOAM (ML)		5		
		9 9		15
	-15			
708.40				
Stiff to Hard Gray, Moist SILTY CLAY (CL/ML)		5		
		6 7	4.2 B	13
		2		
		3 4	1.7 B	17
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to Hard Gray, Moist SILTY CLAY (CL/ML) *(continued)*		2		
		4 6	2.1 B	14
		3		
699.40		4 7	2.9 B	16
	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14537699, **Longitude** -88.00881906

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-10
Station 717+57
Offset 20.80ft RT
Ground Surface Elev. 721.80 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 721.30
	4			Loose Brown and Gray, Moist SILTY LOAM, with clay (ML)
	4 6		19	
				718.30
	3			Loose Gray, Moist SILTY LOAM, with clay (ML)
	5 4		15	
-5				
	4			
	5 4		15	
				713.30
	3			Stiff to Hard Gray, Moist SILTY CLAY LOAM (ML/CL)
	4 6	5.2 B	14	
-10				
	4			
	4 6	2.9 B	13	
	2			
	2 4	1.7 B	12	
-15				
				705.80
	2			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel and sand (CL/ML)
	4 5	2.5 B	16	
	2			
	4 4	2.1 B	21	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	2			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel and sand (CL/ML) *(continued)*
	4 4	1.7 B	17	
	2			
	4 5	2.1 B	18	
-25				696.80
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14584435, **Longitude** -88.00927437

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-11
Station 719+67
Offset 20.00ft RT
Ground Surface Elev. 722.80 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 722.30				
Loose Brown and Gray, Moist SILTY LOAM, with clay (ML)		2		
		3 3		19
		3		
	-5	2 4		19
716.80		3		
Very Stiff Brown, Moist SILTY CLAY LOAM (ML/CL)		3 4	2.1 B	19
714.30		2		
Very Stiff Brown, Moist SILTY CLAY LOAM (ML/CL)	-10	3 4	2.1 B	16
711.80		2		
Very Stiff Gray, Moist SILTY CLAY, trace gravel, sand (CL/ML)		4 5	2.1 B	16
		3		
	-15	4 4	2.1 B	16
		3		
		5 6	3.3 B	17
		2		
	-20	4 4	2.1 B	19
Very Stiff Gray, Moist SILTY CLAY, trace gravel, sand (CL/ML) *(continued)*		3		
		4 6	2.1 B	19
		3		
697.80	-25	4 7	2.9 B	19
End of Boring	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14626564, **Longitude** -88.00971486

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-12
Station 721+61
Offset 23.60ft RT
Ground Surface Elev. 723.20 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 722.70
	3			Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	3 3	2.1 B	20	
	2			
-5	2 3	2.5 B	19	
	5			
	7 10	2.5 P	15	Cobbles at 7 feet
	6			
	6 9	2.0 P	17	Cobbles at 9 feet
-10				
				712.20
	3			Medium Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4 5	2.5 B	18	
	3			
-15	3 4	2.9 B	20	
	2			
	3 3	1.7 B	20	
	2			
-20	2 5	0.6 B	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Medium Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	5 7	3.8 B	17	
	5			
-25	8 14	6.3 B	17	
				698.20 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14668998, **Longitude** -88.01020291

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-13
Station 723+64
Offset 17.30ft RT
Ground Surface Elev. 723.70 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 723.20
	2			Dark Gray and Black, Very Moist FILL: SILTY CLAY, trace gravel, organics
	2 4	1.3 B	30	
				720.20
	1			Brown and Gray, Moist to Very Moist FILL: SILTY CLAY, trace gravel, organics
-5	2 3	1.7 B	32	
	2			
	3 4	2.5 B	19	
				716.20
	3			Very Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL)
-10	2 4	2.1 B	12	
				712.70
	4			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	3 4	2.1 B	16	
	2			
-15	3 5	1.7 B	15	
	2			
	2 3	1.7 B	20	
	2			
-20	2 3	1.7 B	19	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4 6	2.1 B	22	
	2			
-25	3 4	1.7 B	19	
				698.70
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14715813, **Longitude** -88.0106772

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-14
Station 725+78
Offset 23.10ft RT
Ground Surface Elev. 728.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 727.90
	1			Stiff to Very Sitff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	2 4	1.0 P	25	
	3			
-5	3 5	2.9 B	15	
	3			
	3 5	2.1 B	15	
	2			719.90
	3 4	1.7 B	17	Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-10				
	3			
	4 6	2.9 B	15	
	3			
	3 4	2.1 B	17	
-15				
	2			
	2 5	1.7 B	19	
	2			
	3 3	1.3 B	19	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	2			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)* Cobbles at 21 feet
	5 6	1.0 P	19	
	4			
	4 7	2.1 B	12	
-25				703.40
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/14/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.147581, **Longitude** -88.01116697

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-15
Station 727+81
Offset 15.40ft RT
Ground Surface Elev. 727.00 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 726.50
	1			Brown and Gray, Very Moist FILL: SILTY CLAY, trace sand, organics
	1 2		42	
				724.50 Loose Brown, Moist SILTY LOAM (ML)
	4			
	2 2		16	
				722.00 Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
-5	2			
	2 4	1.3 B	18	
	2			
	3 5	1.7 B	15	
-10	2			
	3 5	1.7 B	17	
	3			
	4 6	1.7 B	16	
-15	3			
	3 6	2.1 B	14	
	2			
	4 4	2.5 B	23	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	2			
	4 6	2.1 B	19	
	3			
	4 6	2.1 B	19	
-25				702.00 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/11/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14800793, **Longitude** -88.01159574

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-16
Station 729+75
Offset 21.50ft RT
Ground Surface Elev. 728.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 728.10
	2			Brown and Gray, Moist FILL: SILTY CLAY, trace gravel, organics
	3 3	1.7 B	25	
				726.10 Stiff Brown, Moist SILTY CLAY, trace gravel and sand (CL/ML)
	2			
-5	2 3	1.7 B	21	
				722.60 Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) Cobbles at 6 feet Cobbles at 8.5 feet
	2			
	4 5		16	
	4			
-10	3 3	1.5 P	16	
	2			
	3 4	2.1 B	14	
	2			
-15	4 6	2.9 B	23	
	4			
	4 6	3.3 B	13	
	3			
-20	4 7	3.3 B	16	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	5 6	3.3 B	19	
	2			
-25	4 4	2.9 B	18	
				703.60 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/11/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14843869, **Longitude** -88.01203046

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-17
Station 731+71
Offset 27.30ft RT
Ground Surface Elev. 730.60 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 714.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 730.10
	3			Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	3 3	3.1 B	18	
	2			
-5	4 6	3.8 B	18	
				724.60
	4			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	5 6	2.9 B	14	
	3			Cobbles at 8.5 feet
-10	6 6	3.5 P	12	
	3			
	3 5	2.9 B	16	
	2			
-15	4 5	2.1 B	16	
▼	3			
	5 5	2.1 B	15	Sand Seam at 17 feet
				712.10
	3			
-20	5 5	1.5 P	13	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff Gray, Moist SILTY CLAY, with sand, trace gravel (CL/ML) *(continued)* 709.60
	4			
	6 10	4.2 B	17	Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	1			
-25	3 5	1.0 B	20	
				705.60 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/11/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14886035, **Longitude** -88.0124899

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-18
Station 733+69
Offset 25.70ft RT
Ground Surface Elev. 731.80 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
731.30			
6 inches of Topsoil			
Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)	2		
	3 3	2.1 B	21
	2		
-5	3 5	2.9 B	18
725.80			
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)	2		
	3 4	2.9 B	16
	2		
-10	3 4	1.3 B	14
	3		
	4 5	4.2 B	15
	3		
-15	4 5	2.9 B	17
Silt Seam at 16 feet	2		
	2 4	1.0 B	18
	2		
-20	2 5	1.7 B	16

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*	4		
	4 6	4.0 P	12
	3		
706.80 -25	3 5	2.1 B	18
End of Boring -30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 11/11/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14929675, **Longitude** -88.01295132

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-19
Station 735+72
Offset 27.10ft RT
Ground Surface Elev. 732.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material Description
				6 inches of Topsoil 731.90
	2			Stiff to Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	3 3	1.7 B	21	
	2			
-5	2 2	1.7 B	17	
				726.40
	3			Sitff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4 4	2.5 B	13	
	3			
-10	4 6	4.2 B	14	
	2			
	3 4	2.5 B	18	
	2			
-15	2 3	1.7 B	20	
	2			
	3 3	1.7 B	19	
	2			
-20	2 3	1.7 B	19	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material Description
	2			Sitff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	2 4	1.7 B	20	
	1			
-25	2 3	1.7 B	21	
				707.40
-30				End of Boring
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 11/11/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.14972894, **Longitude** -88.01342526

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-20
Station 737+75
Offset 24.90ft RT
Ground Surface Elev. 732.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
0			
6 inches of Topsoil 732.00			
Stiff to Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)	2		
	2 3	2.1 B	27
	2		
-5	2 3	2.1 B	14
Cobbles at 6 feet	5		
	5 5	1.0 P	27
724.00			
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)	2		
-10	3 5	2.9 B	16
	2		
	3 4	2.9 B	16
	2		
-15	2 3	1.7 B	17
	1		
	3 4	2.1 B	21
	2		
-20	2 4	2.9 B	20

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*	2		
	2 4	1.7 B	19
	2		
707.50 -25	2 4	2.1 B	20
End of Boring			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/10/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.1500874, **Longitude** -88.01379632

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-21
Station 739+39
Offset 27.70ft RT
Ground Surface Elev. 733.90 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
0			
6 inches of Topsoil 733.40			
Very Stiff Brown, Gray and Black, Moist SILTY CLAY, trace gravel (CL/ML)	6		
	3 3	2.1 B	12
	2		
-5	1 1	2.0 P	16
727.90			
Stiff to Very Stiff Gray, Moist SILTY CLAY (CL/ML)	2		
	2 4	2.1 B	17
	2		
-10	3 4	2.1 B	16
	3		
	4 5	4.2 B	15
	2		
-15	4 6	4.2 B	16
	3		
	4 5	2.9 B	16
	2		
-20	2 4	1.0 B	12
Stiff to Very Stiff Gray, Moist SILTY CLAY (CL/ML) *(continued)*	3		
	4 5	2.5 B	20
	2		
708.90 -25	3 4	2.1 B	19
End of Boring			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 11/10/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15056282, **Longitude** -88.01432783

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-22
Station 741+65
Offset 24.70ft RT
Ground Surface Elev. 734.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 733.60
	3			Stiff Brown, Moist SILTY CLAY (CL/ML)
	3 4	2.9 B	18	
	2			
-5	4 5	2.9 B	18	
				728.10
	3			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	5 6	4.2 B	13	
	4			
-10	4 5	4.2 B	9	
	2			
	4 6	3.3 B	16	
	2			
-15	18 50/2	2.9 B	15	Cobbles at 14 feet
	3			Cobbles at 16 feet
	4 5		NR	
	3			
-20	3 5	2.9 B	19	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	4 6	2.1 B	18	
	3			
-25	4 6	2.1 B	18	709.10
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15103986, **Longitude** -88.01482095

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-23
Station 743+84
Offset 30.10ft RT
Ground Surface Elev. 736.70 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6 inches of Topsoil 736.20
	2			Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	2 4	1.7 B	22	
	1			
-5	1 3	1.7 B	21	
				730.70
	3			Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4 4	1.3 B	12	
	3			
-10	3 6	3.3 B	18	
	7			
	24 8	4.0 P	24	Cobbles at 12 feet
	8			
-15	8 11	1.5 P	18	Cobbles at 14 feet
	6			
	6 7	2.5 B	17	
	13			
-20	13 9	3.0 P	15	Cobbles at 19 feet
				Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) *(continued)*
	5			
	10 10	3.3 B	19	Cobbles at 22 feet
	5			
-25	6 8	2.5 B	17	
				711.70 End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
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SOIL BORING LOG

Date 11/10/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15145883, **Longitude** -88.01529517

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-24
Station 745+84
Offset 26.20ft RT
Ground Surface Elev. 735.80 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
4 inches of Topsoil 735.47				
Very Stiff Brown and Gray, Moist SILTY CLAY (CL/ML)		2		
		2 4	2.1 B	18
		3		
	-5	5 6	2.5 B	18
729.80				
Stiff to Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		4		
		4 4	1.7 B	13
		2		
	-10	4 4	2.9 B	15
		4		
		5 5	1.5 P	20
		2		
	-15	3 3	2.1 B	19
		2		
		3 4	1.7 B	19
		2		
715.80	-20	3 4	2.1 B	17

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/22/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15182902, **Longitude** -88.01572795

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-25
Station 747+62
Offset 19.90ft RT
Ground Surface Elev. 738.30 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 727.3 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 737.80				
Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)		3		
		4 6	4.2 B	18
		3		
	-5	5 9	5.2 B	19
732.30		6		
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		6 7	4.2 B	16
		3		
	-10	5 8	2.1 B	14
▼		3		
		4 6	2.9 B	15
		3		
	-15	5 7	2.9 B	16
		3		
		3 5	2.1 B	17
		3		
		4 8	4.2 B	14
718.30	-20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/22/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15230214, **Longitude** -88.01618154

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-26
Station 749+74
Offset 32.80ft RT
Ground Surface Elev. 740.50 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter None **ft**
Upon Completion N/A **ft**
After N/A **Hrs.** N/A **ft**

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 740.00			
Brown, Moist FILL: SILTY CLAY, trace gravel, asphalt	8		
	4 5	4.2 B	18
	11		
Cobbles at 4 feet Not enough sample for Pocket Penetrometer Test	9 6		12
-5			
734.50	3		
Very Stiff to Hard Gray, Moist SILTY CLAY, trace sand and gravel	3 5	2.1 B	15
	2		
	4 5	2.9 B	14
-10			
	3		
	3 5	2.9 B	17
	4		
	5 9	4.2 B	18
-15			
	9		
	10 15		17
Cobbles at 17 feet Not enough sample for Pocket Penetrometer Test	7		
	7 9	4.2 B	13
720.50 -20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/21/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15263835, **Longitude** -88.01654469

COUNTY Cook **DRILLING RIG** B57 Mobil **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 89.0

STRUCT. NO.
Station

BORING NO. WNAW-27
Station 751+15
Offset 57.90ft RT
Ground Surface Elev. 741.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
15 inches of Aggregate Base				
740.25		5		
Brown, Moist FILL: GRAVEL, with sand		5 4		17
739.00				
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		3 3	2.9 B	19
	-5			
735.50		3		
Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)		5 6	5.4 B	15
		4		
		6 7	5.4 B	18
	-10			
		2		
		3 3	2.1 B	16
728.00				
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		3 5	2.5 B	17
726.50	-15			
End of Boring				
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

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SOIL BORING LOG

Date 11/22/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** EH

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15303135, **Longitude** -88.01753474

COUNTY Cook **DRILLING RIG** D50 ATV **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 91.5

STRUCT. NO.
Station

BORING NO. WNAW-28
Station 754+19
Offset 42.00ft RT
Ground Surface Elev. 750.50 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil	750.00				
Loose to Medium Dense Brown and Gray, Moist SILTY LOAM, with sand, trace gravel (ML)			3		
			4 5		18
			3		
		-5	5 8		15
	744.50				
Medium Dense Gray, Moist SILTY LOAM, trace gravel (ML)			5		
			7 7	3.0 P	16
			6		
		-10	6 8	2.9 B	16
			4		
			5 6	2.1 B	18
	737.00				
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)	735.50	-15	3 7 6	2.0 B	13
End of Boring		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/20/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15335696, **Longitude** -88.01790003

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-29
Station 755+65
Offset 92.50ft RT
Ground Surface Elev. 751.20 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 741.2 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
2 inches of Topsoil 751.04				
Medium Dense Brown and Gray, Moist SILTY LOAM, with sand (ML)		5		
		7 5		21
747.70				
Medium Dense Gray, Moist SILTY LOAM, trace gravel (ML)		3		
		5 7		14
Sand Seam at 5 feet	-5			
745.20				
Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL)		3		
		2 5	1.7 B	12
742.70				
Medium Dense Gray, Moist SAND, trace gravel (SP)		1		
	▼-10	9 11		12
740.20				
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		2		
		4 6	3.1 B	16
737.70				
Medium Dense Gray, Moist SILTY LOAM, trace gravel (ML)		1		
		5 4		17
Sand Seam at 15 feet	-15			
735.20				
Very Stiff Gray, Moist CLAY, trace gravel (CL)		4		
		5 6	2.3 B	26
		4		
		6 6	2.9 B	25
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff Gray, Moist CLAY, trace gravel (CL) *(continued)*		2		
		2 6	2.7 B	19
		1		
		4 6	2.1 B	20
726.20	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/20/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15346771, **Longitude** -88.01883964

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-30
Station 758+01
Offset 16.30ft RT
Ground Surface Elev. 753.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 746.6 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				3 inches of Topsoil 752.85
	7			Brown, Moist FILL: SILTY CLAY, trace gravel, organics
	8 9	2.5 B	28	
	2			749.10
-5	3 5	3.1 B	21	Very Stiff Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)
				747.10
	1			Loose Brown, Moist to Wet SANDY LOAM, trace gravel (SM) ▼
	1 4		22	
	4			
	6 6		12	743.60
-10				Medium Dense Gray, Moist SANDY CLAY LOAM, trace gravel (SC/SM) 742.10
	3			
	11 12	5.4 B	16	Very Stiff to Hard Gray, Moist SILTY CLAY, trace gravel (CL/ML)
	4			
-15	6 8	3.3 B	16	
	2			
	6 8	3.3 B	15	
	7			734.10
-20	12 10		13	
	10			Medium Dense Gray, Moist SANDY LOAM, trace gravel (SM) 732.10 *(continued)*
	8 10		21	Medium Dense Gray, Moist SAND, trace gravel (SP)
	1			729.60
-25	5 8	3.5 B	15	Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML) 728.10
-30				End of Boring
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/20/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15342529, **Longitude** -88.01957775

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-31
Station 760+00
Offset 3.20ft RT
Ground Surface Elev. 755.00 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				3 inches of Topsoil 754.75
	3			Brown, Moist FILL: SILTY CLAY, trace gravel 753.50
	3 6	3.5 B	27	Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)
	1			
-5	2 3	2.5 B	22	
				749.00
	2			Very Stiff Dark Brown, Moist SILTY CLAY LOAM, trace gravel (ML/CL)
	2 5	2.3 B	20	
	2			
-10	4 4	2.1 B	16	
				744.00
	2			Very Stiff to Hard Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL) Sand Seam at 16.5 feet
	3 4	3.1 B	15	
	3			
-15	4 4	3.1 B	16	
	3			
	4 5	3.8 B	13	
	2			
-20	5 5	2.5 B	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	5			Very Stiff to Hard Gray, Moist SILTY CLAY LOAM, trace gravel (ML/CL) *(continued)*
	6 8	5.4 B	16	
	2			
-25	4 6	2.5 B	17	
				730.00
-30				End of Boring
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 10/20/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.1534028, **Longitude** -88.02031603

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-32
Station 762+00
Offset 4.60ft RT
Ground Surface Elev. 755.40 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 754.82				
Very Stiff Brown, Moist SILTY CLAY LOAM, trace gravel (ML/CL)		3		
		4 5	2.5 B	26
751.90		3		
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)	-5	6 7		21
		3		
		6 6	3.1 B	13
		2		
	-10	4 5	2.7 B	16
744.40		2		
Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)		4 11	1.9 B	24
		3		
	-15	3 3	1.0 B	21
Cobbles at 16 feet		8		
		6 7		13
736.90		4		
Cobbles at 18.5 feet	-20	4 5		12

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Stiff Gray, Moist SILTY CLAY LOAM, trace gravel (CL/ML) *(continued)*		1		
		1 3	0.6 B	17
731.90		2		
Very Stiff Gray, Moist SILTY CLAY, trace gravel (CL/ML)	-25	4 6	3.1 B	16
730.40 Sand Seam at 24.5 feet				
End of Boring	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
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SOIL BORING LOG

Date 10/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,

Latitude 42.1533966, **Longitude** -88.02119554

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO

DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-33
Station 764+38
Offset 13.70ft RT
Ground Surface Elev. 756.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
9 inches of Topsoil				
755.35				
Very Stiff to Hard Dark Brown and Black, Moist SILTY CLAY, trace organics (CL/ML)		4		
		4 5	4.5 P	23
		3		
	-5	5 7	2.3 B	26
749.85		3		
Stiff to Very Stiff Brown and Gray, Moist SILTY CLAY (CL/ML)		3 4	3.8 P	27
		2		
	-10	2 3	2.3 B	31
745.10		3		
Very Stiff Gray, Moist SILTY CLAY, trace gravel, sand (CL/ML)		4 5	2.5 B	17
743.85				
Very Stiff Gray, Moist SANDY LOAM, trace gravel (SM)		2		
742.10				
Silt Seam of 1 inch at 13.5 feet		3 4	2.5 B	16
Very Stiff to Hard Gray, Moist SILTY CLAY LOAM, trace gravel, sand (CL/ML)	-15			
		3		
		5 6	4.2 B	14
		3		
	-20	4 4	2.9 B	16

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff to Hard Gray, Moist SILTY CLAY LOAM, trace gravel, sand (CL/ML) *(continued)*		3		
		4 6	3.5 B	13
		3		
		4 5	2.5 B	16
731.10	-25			
End of Boring				
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG

SOIL BORING LOG

Date 11/17/22

ROUTE IL 53 **DESCRIPTION** Noise Wall **LOGGED BY** DF

SECTION IL 53 from IL 68 to Lake Cook Road **LOCATION** , **SEC.** 1, **TWP.** 42N, **RNG.** 10E,
Latitude 42.15343252, **Longitude** -88.02136683

COUNTY Cook **DRILLING RIG** GEOPROBE **HAMMER TYPE** AUTO
DRILLING METHOD HSA **HAMMER EFF (%)** 101.6

STRUCT. NO.
Station

BORING NO. WNAW-34
Station 764+84
Offset 29.00ft RT
Ground Surface Elev. 756.10 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter None ft
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

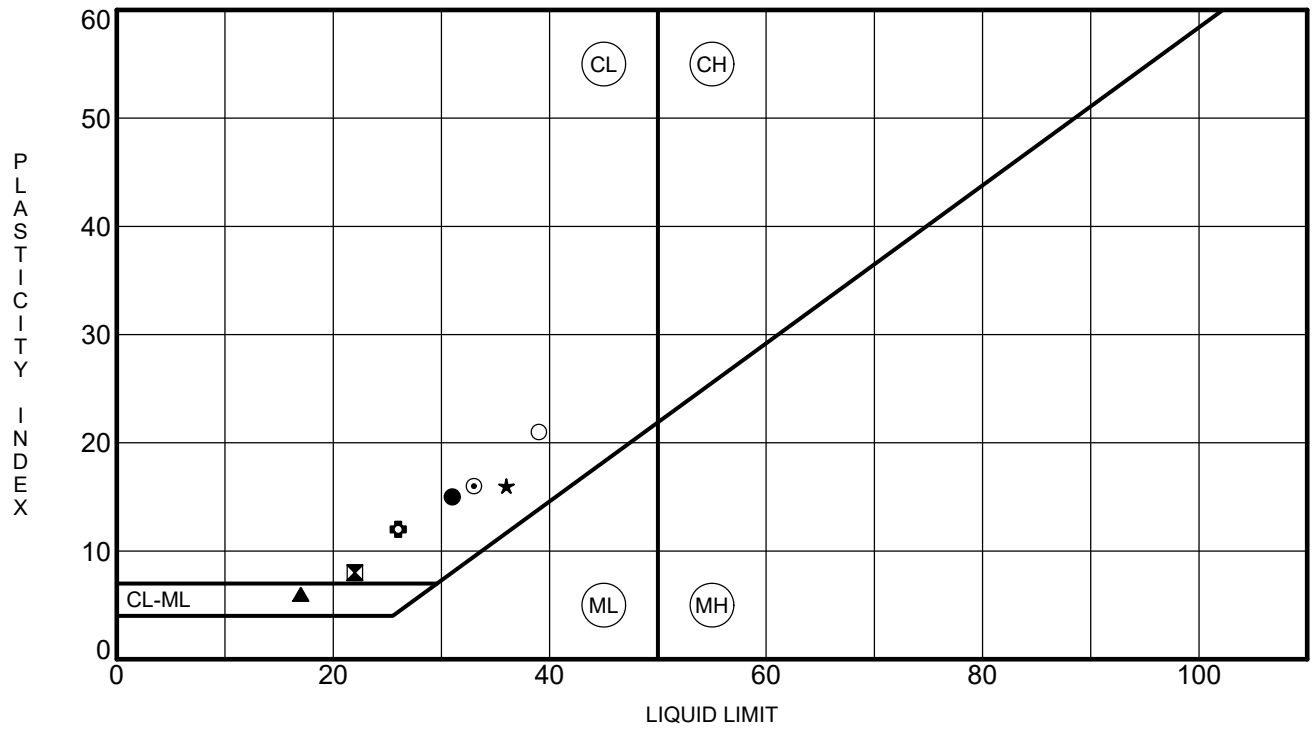
	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12 inches of Topsoil				
755.10				
Stiff to Very Stiff Dark Brown and Black, Moist SILTY CLAY, trace gravel, organics (CL/ML)		3 4 6	1.7 B	24
		2		
	-5	5 6	2.5 B	28
750.10				
Very Stiff to Hard Brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)		3 4 6	3.8 B	16
		2		
	-10	2 3	2.5 B	23
745.10				
Loose to Medium Dense Brown and Gray, Wet SILTY LOAM, trace sand (ML) Interbedded fine Sand Seams at 11 feet		2 4 5		26
742.10		12		
Medium Dense Gray, Moist		8 4		14
741.10 SANDY LOAM, trace gravel (SM)	-15			
End of Boring				
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

APPENDIX D

LABORATORY TEST

RESULTS



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**ENAW-07**	**3.50**	**31.0**	**16.0**	**15.0**		
⊠	**ENAW-11**	**18.50**	**22.0**	**14.0**	**8.0**		
▲	**ENAW-16**	**11.00**	**17.0**	**11.0**	**6.0**		
★	**ENAW-23**	**6.00**	**36.0**	**20.0**	**16.0**		
⊙	**WNAW-03**	**6.00**	**33.0**	**17.0**	**16.0**		
✿	**WNAW-03**	**13.50**	**26.0**	**14.0**	**12.0**		
○	**WNAW-29**	**18.50**	**39.0**	**18.0**	**21.0**		

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

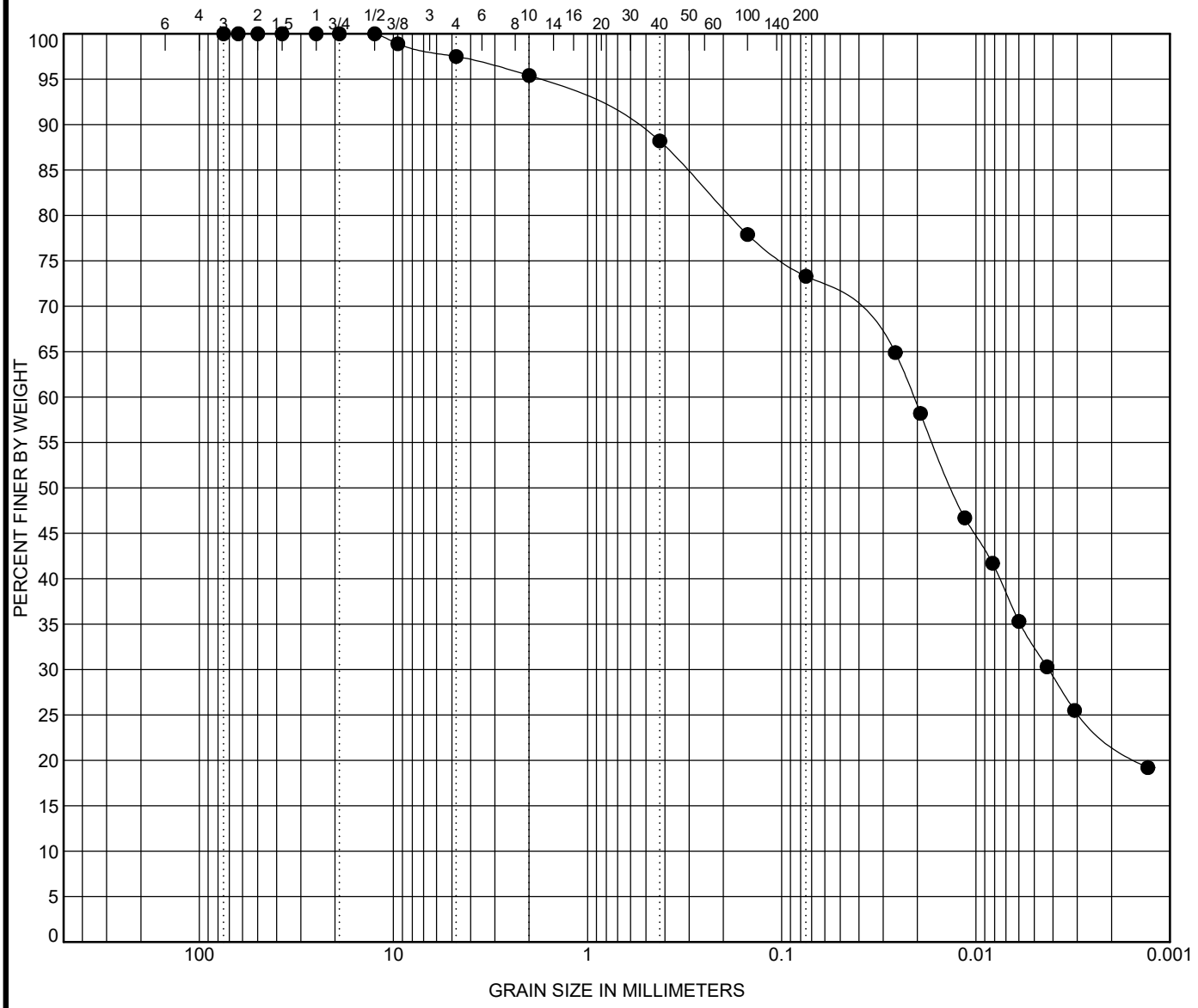
ATTERBERG LIMITS' RESULTS

Route: IL 53

Section: IL 53 from IL 68 to Lake Cook Road

County: Cook

ATTERBERG_LIMITS_IL 53 NOISE WALL.GPJ IL_DOT.GDT 1/27/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**WNAW-31**	**18.50**	**SILTY CLAY LOAM**					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**WNAW-31**	**18.50**		**0.021**	**0.004**					**22.3**

Illinois Department of Transportation
Division of Highways
GSG

GRAIN SIZE DISTRIBUTION

Route: IL 53

Section: IL 53 from IL 68 to Lake Cook Road

County: Cook

GRAIN SIZE IL 53 NOISE WALL.GPJ IL_DOT.GDT 1/12/23

GSG CONSULTANTS, INC.

735 Remington Road
Schaumburg, IL 60173
Tel: 630.994.2600
www.gsg-consultants.com

Table D-1

Organic Content

Boring ID	Sample Depth (ft)	Organic Content %
ENAW-23	1.0-2.5	5.8
ENAW-24	1.0-2.5	4.5
WNAW-3	3.5-5.0	2.6
WNAW-13	1.0-2.5	3.9
WNAW-30	1.0-2.5	3.9

APPENDIX E

SOIL PARAMETER TABLES

Table E-1: Summary of Soil Parameters for (Borings ENAW-01 to ENAW-10)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
727-719.5	Brown and Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,300	0	230	28
719.5-708	Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,800	0	280	28
727-724.5 [1]	Brown and Gray Silty Clay Fill	134	1,500	0	150	25
727-722 [2]	Brown Gravel with sand Fill	131	0	42	0	42
727-709.5 [3]	Brown and Gray Loose to Medium Dense Sandy Loam	118	0	32	0	32
722-712 [4]	Gray Medium Dense Silty Loam	125	0	37	0	37

[1]Soil Parameters only for ENAW-01, 04, 07
[2]Soil Parameters only for ENAW-04, 06, 09, 10
[3]Soil Parameters only for ENAW-01, 02, 03
[4]Soil Parameters only for ENAW-01, 03

Table E-2: Summary of Soil Parameters for (Borings ENAW-11 to ENAW-19)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
735-732.5	Brown Silty Clay Fill	138	2,500	0	250	28
735-727.5	Brown and Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,900	0	290	28
727.5-711	Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,300	0	230	28
735-730[1]	Brown Gravel with sand Fill	129	0	40	0	40
730-727.5[2]	Brown Soft Silty Clay	121	500	0	50	25

[1]Soil Parameters only for ENAW-12, 13, 14

[2]Soil Parameters only for ENAW-14

Table E-3: Summary of Soil Parameters for (Borings ENAW-20 to ENAW-28)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
743-740.5	Brown, Gray and Black Silty Clay Fill	136	1,700	0	170	28
740.5-733	Brown and Gray Medium Stiff to Hard Silty Clay / Silty Clay Loam	138	2,900	0	290	28
733-714	Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,500	0	250	28

Table E-4: Summary of Soil Parameters for (Borings WNAW-01 to WNAW-11)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
718-713	Brown Silty Clay Fill	138	2,600	0	260	28
713-710.5	Brown and Gray Stiff to Very Stiff Silty Clay / Silty Clay Loam	138	2,400	0	240	28
710.5-689	Gray Medium Stiff to Hard Silty Clay / Silty Clay Loam	138	2,600	0	260	28
713.9-708.9[1]	Brown Sand with gravel Fill	130	0	41	0	41
715.9-706.5[2]	Brown Loose Silty Loam	112	0	28	0	28
710.9-702.9[3]	Gray Loose to Very Dense Silty Loam	129	0	39	0	39
715.9-703.9[4]	Gray Loose to Medium Dense Sandy Loam	118	0	31	0	31

[1]Soil Parameters only for WNAW-02 through 06
[2]Soil Parameters only for WNAW-08, 10, 11
[3]Soil Parameters only for WNAW-01, 05, 09
[4]Soil Parameters only for WNAW-06, 07, 09

Table E-5: Summary of Soil Parameters for (Borings WNAW-12 to WNAW-23)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
729-724	Brown and Gray Stiff to Very Stiff Silty Clay / Silty Clay Loam	138	2,200	0	220	28
724-705	Gray Medium Stiff to Hard Silty Clay / Silty Clay Loam	138	2,400	0	240	28
728.1-716.2[1]	Brown Silty Clay Fill	115	1,800	0	180	28
724.5-722[2]	Brown Loose Silty Loam	137	0	28	0	28

[1]Soil Parameters only for WNAW-13, 15, 16
[2]Soil Parameters only for WNAW-15

Table E-6: Summary of Soil Parameters for (Borings WNAW-24 to WNAW-34)

Elevation (feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion C' (psf)	Friction Angle ϕ (°)	Cohesion C' (psf)	Friction Angle ϕ (°)
	New Engineered Clay Fill	125	2,000	0	200	28
	New Engineered Granular Fill	125	0	32	0	32
744-739	Brown and Gray Stiff to Hard Silty Clay / Silty Clay Loam	138	2,900	0	290	28
739-720	Gray Medium Stiff to Hard Silty Clay / Silty Clay Loam	138	2,800	0	280	28
754.7-734.5[1]	Brown Silty Clay Fill	138	3,300	0	330	28
740.2-738.9[2]	Brown Gravel with sand Fill	122	0	33	0	33
750-737[3]	Brown Loose to Medium Dense Silty Loam	124	0	33	0	33
742.7-740.2[4]	Gray Medium Dense Sand	126	0	37	0	37
737.7-735.2[5]	Gray Loose Silty Loam	117	0	31	0	31
747.1-741.1[6]	Gray Loose to Medium Dense Sandy Loam / Sandy Clay Loam	117	0	37	0	37

[1]Soil Parameters only for WNAW-26, 30, 31
[2]Soil Parameters only for WNAW-27
[3]Soil Parameters only for WNAW-28, 29, 34
[4]Soil Parameters only for WNAW-29
[5]Soil Parameters only for WNAW-29
[6]Soil Parameters only for WNAW-30, 33