

APPROVED

JB 8-16-21

Roadway

Geotechnical

Report

*Drilling
Laboratory Testing
Geotechnical Analysis*

IL 71 RGR

KENDALL COUNTY, ILLINOIS

F.A.P. 311 (IL 71)

SECTION (1-1)R, BR1

CONTRACT 66D26

P-93-016-04

D-93-018-14

STATION 585+00 TO STATION 792+00

RUBINO PROJECT No. G21.028 REV4

Authors:

Matthew Kurz, EI
matthew@rubinoeng.com

Jonathan Ignarski
jonathan@rubinoeng.com

rubino
ENGINEERING INC.

425 Shepard Dr, Elgin, IL 60123
(847) 931-1555

Reviewed By:

Michelle A. Lipinski, PE
President

michelle.lipinski@rubinoeng.com
IL No. 062-061241, Exp. 11/30/21

PREPARED FOR:

IDOT REGION 2 DISTRICT 3

700 EAST NORRIS DRIVE

OTTAWA, ILLINOIS 61350-1628

AUGUST 16, 2021

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PROJECT DESCRIPTION, LOCATION AND SCOPE

Rubino Engineering, Inc. (Rubino) understands that IDOT Region 2 District 3 is planning roadway reconstruction and widening of IL 71 0.5 miles East of IL 126 to West of Orchard Road between stations 585+00 and 792+00. Please refer to the Site Vicinity Map located in Appendix A. The project includes roadway improvements and sidewalk/shared-use path installation along IL 71 between IL 126 and Orchard Road in Kendall County, Illinois. The Fox River is located north of the project site. Its distance from the project site ranges from approximately 0.2 miles to 1.6 miles. The length of the improvements is approximately 3.842 miles long. IL 71 currently has 2 lanes with no medians. Turn lanes on IL 71 are located at the intersections of IL 126, the driveway of 8250 IL 71, Shadow Creek Lane, Van Emmon Road, and Orchard/Minkler Road. The proposed improvement will result in a four-lane typical section with a concrete curb and gutter median. The proposed pavement consists of 9½ inches of PCC and 12 inches of aggregate subgrade improvement. Please refer to Appendix B for proposed typical sections and Appendix C for preliminary plans and profiles with soil profiles.

Rubino's discussion of the soils at this site are based off the soil boring logs provided by IDOT. For this phase of design, Rubino was retained to provide roadway geotechnical evaluations.

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

An Abbreviated Structure Geotechnical Report, 047-2528 dated 12/14/2020, was prepared by Jeremy Brown (IDOT District 3) and was provided to Rubino by IDOT.

Rubino understands that the following SGR's are available upon request to IDOT: Structure numbers 047-2528, 047-2529, 047-2569, 047-2050, and Box Culverts at STA 625+16 and 730+47.

GEOLOGY AND PEDOLOGY

The ground elevation along IL-71 in the area of exploration increases gradually from approximately 645 feet near Orchard Road to approximately 750 feet near Schoolhouse Road. This increase in elevation from north to south is most likely attributed to water-based erosion into the Fox River Valley north to northwest of IL-71.

A review of the of the Illinois state geological survey: Surficial Geology of Yorkville Quadrangle (2011) reveals that the surficial geology of the project area is dominated by two formations (refer to appendix D).

IL-71 is generally oriented north-south on top of the two primary sediment bodies. The north half of the project site lies on top of the Henry Formation from Orchard Road to approximately 2.8 miles south of Orchard Road. The south half of the project site lies on top of the Yorkville Member of the Lemont Formation.



The Henry Formation and Lemont Formation were formed during the Wisconsin glaciation episode (~29,000 – 14,600 years before present). The Henry Formation is outwash deposited in glacial meltwater channels, outwash plains, alluvial fans and bars (Curry, 2011). It is made up of sand and gravel with lenses of silt and diamicton up to 60 feet thick in some areas. The Yorkville Member of the Lemont Formation consists of mostly, gray to yellowish-brown silty clay to silty clay loam or silt loam, with few lenses of sand and gravel or silt. This member can be as much as 70 feet thick.

Bedrock in Kendall County consists of Ordovician-age (~490 – 440 million years before present) dolomite and shale which unconformably underlies surficial glacial and alluvial deposits. The Ordovician system is sectioned into several group including the topmost Maquoketa Group which consists of brown, gray, and greenish-gray shale, shaley dolomite, and dolomite. The dolomite is vuggy and fossiliferous (Curry, 2011).

FIELD EXPLORATION BY IDOT

Drilling, Field, and Laboratory Tests

The soil borings were performed by IDOT drillers and logged by IDOT personnel between 11/1/13 and 5/22/14. The borings conducted in 2013 were advanced by IDOT using a CME automatic hammer. The borings conducted in 2014 were advanced by IDOT using direct push sampling. Soil samples were obtained during the drilling process. Rubino is preparing this RGR based on the following soil borings performed by IDOT:

Table 1: Borings Performed by IDOT

BORING NO.	DATE	STATION	OFFSET	SURFACE ELEVATION (FEET)	DRILLING DEPTH (FEET BEG*)
401	5/7/14	585+17.20	20.0 ft Lt.	704.97	6
402	5/7/14	588+16.98	19.9 ft Rt.	703.17	6
403	5/7/14	591+17.16	20.0 ft Lt.	701.18	6
404	5/7/14	594+17.22	20.1 ft Rt.	699.79	6
405	5/7/14	597+17.17	20.0 ft Lt.	698.04	6
406	5/14/14	600+17.49	6.1 ft Rt.	697.47	7 ½
407	5/7/14	603+17.19	19.9 ft Lt.	693.56	6
408	5/7/14	606+17.16	12.1 ft Rt.	688.84	6
409	5/7/14	609+17.36	30.0 ft Lt.	682.17	6
410	5/7/14	612+17.16	10.0 ft Rt.	672.83	6
01	11/1/13	614+60.44	24.5 ft Lt.	670.67	41 ½
02	11/1/13	615+07.74	56.5 ft Lt.	669.90	41 ½
413	5/7/14	621+17.47	50.1 ft Lt.	677.24	6
414	5/14/14	624+22.15	29.6 ft Lt.	679.16	6



BORING NO.	DATE	STATION	OFFSET	SURFACE ELEVATION (FEET)	DRILLING DEPTH (FEET BEG*)
01	11/5/13	625+08.69	17.0 ft Lt.	679.32	36 ½
02	11/5/13	625+32.75	43.8 ft Lt.	678.68	36 ½
501	5/7/14	627+17.77	34.7 ft Lt.	677.56	6
502	5/8/14	630+17.10	19.9 ft Rt.	674.38	6
503	5/8/14	633+17.07	20.3 ft Rt.	671.75	6
504	5/8/14	636+17.23	29.8 ft Lt.	668.62	6
505	5/8/14	639+17.15	20.0 ft Rt.	665.47	6
01 (S.E. Quad.)	11/5/13	640+93.78	11.4 ft Rt.	664.67	36 ½
02 (S.W. Quad.)	11/8/13	640+93.06	18.8 ft Lt.	664.71	36 ½
506	5/8/14	642+16.91	20.4 ft Lt.	663.76	6
507	5/8/14	645+17.23	19.8 ft Rt.	660.43	6
508	5/8/14	648+17.61	19.8 ft Lt.	659.02	6
509	5/14/14	651+17.36	6.0 ft Rt.	658.04	7 ½
510	5/8/14	654+17.55	19.7 ft Lt.	653.35	5
511	5/8/14	657+17.16	19.6 ft Rt.	648.22	6
512	5/8/14	660+17.43	19.9 ft Lt.	643.64	6
513	5/8/14	663+17.34	19.7 ft Rt.	638.89	6
514	5/8/14	666+17.48	30.0 ft Lt.	633.42	6
01	11/8/13	667+78.41	11.7 ft Rt.	635.15	31 ½
02	11/8/13	668+13.55	17.7 ft Lt.	635.14	31 ½
601	5/19/14	675+17.19	24.8 ft Rt.	642.95	6
602	5/19/14	678+17.31	24.9 ft Lt.	644.83	6
603	5/22/14	681+17.24	5.7 ft Rt.	640.69	7 ½
604	5/19/14	684+17.12	40.3 ft Lt.	636.33	6
607	5/19/14	693+17.30	19.9 ft Rt.	624.29	6
608	5/19/14	696+16.89	45.2 ft Rt.	635.36	6
701	5/22/14	699+15.68	13.2 ft Lt.	639.02	7
702	5/19/14	702+17.19	20.3 ft Rt.	640.52	6
703	5/19/14	705+17.16	20.0 ft Lt.	643.21	6
704	5/19/14	708+17.60	19.9 ft Rt.	645.15	5 ½
705	5/19/14	711+17.12	20.4 ft Lt.	642.93	6
706	5/19/14	714+17.25	20.0 ft Rt.	642.20	6
707	5/20/14	717+17.75	20.0 ft Lt.	638.60	6
708	5/20/14	720+17.64	20.1 ft Rt.	636.89	5
709	5/20/14	723+17.08	15.3 ft Lt.	634.20	5
710	5/22/14	726+17.83	6.0 ft Rt.	631.99	6
711	5/20/14	729+17.29	20.1 ft Lt.	628.75	6
01 (S.E. Quad.)	11/8/13	730+66.59	11.1 ft Rt.	629.69	31 ½
02 (S.W. Quad.)	11/8/13	730+63.33	22.2 ft Lt.	629.28	31 ½
712	5/20/14	732+17.13	14.7 ft Rt.	630.08	6
713	5/20/14	735+13.09	19.9 ft Lt.	632.49	5
714	5/20/14	738+17.03	19.8 ft Rt.	635.28	6
715	5/20/14	741+17.83	19.4 ft Lt.	638.48	6
716	5/21/14	744+17.15	19.6 ft Rt.	640.83	9



BORING NO.	DATE	STATION	OFFSET	SURFACE ELEVATION (FEET)	DRILLING DEPTH (FEET BEG*)
717	5/21/14	747+16.89	15.3 ft Lt.	642.32	9
718	5/21/14	750+17.24	19.5 ft Rt.	642.51	9
719	5/22/14	753+20.35	4.5 ft Rt.	644.36	7 ½
720	5/21/14	756+17.46	15.1 ft Rt.	644.84	6
721	5/21/14	759+17.38	14.6 ft Lt.	645.78	6
722	5/21/14	762+17.08	14.8 ft Rt.	646.61	6
723	5/21/14	765+17.08	19.6 ft Lt.	647.51	6
724	5/21/14	768+17.35	14.7 ft Rt.	647.63	6
725	5/21/14	771+17.44	15.0 ft Lt.	647.25	6
726	5/22/14	774+17.56	5.8 ft Rt.	645.71	7 ½
727	5/21/14	777+17.504	14.9 ft Lt.	645.36	6
728	5/21/14	780+16.83	14.8 ft Rt.	644.00	6
729	5/21/14	783+17.44	20.0 ft Lt.	644.28	6
730	5/21/14	786+17.62	19.5 ft Rt.	644.04	6
731	5/21/14	789+16.85	19.9 ft Lt.	645.93	6

*BEG = Below existing grade

The boring logs showed data from the following test procedures:

- *Field Penetration Test*
- *Field Water Level Measurements*
- *Rimac Unconfined Compressive Strength Test*
- *Laboratory Determination of Water (Moisture) Content of Soil by Mass*

The results of these tests can be found on the accompanying boring logs located in Appendix E.

Subsurface Conditions

Soils generally consisted of man-made ground containing cohesive and granular soils (fill), silty clay loam till, silty clay loam, silty clay loam topsoil, sandy clay loam, clay loam, sandy loam, silty loam, silty clay, till with silt and large rocks, silty clay loess, sand and gravel in a loam matrix or very loamy, silt and fine sand, loamy sand and gravel, sand and gravel, fine to medium sand, fine to coarse sand, and fine sand to coarse gravel. Detailed descriptions of the soils encountered in the soil borings completed by IDOT are presented in the attached Boring Logs in Appendix E.

Groundwater Conditions

Groundwater was encountered in some of the borings along IL 71 during drilling operations in 2013. In a majority of the borings, groundwater was not encountered due to the shallow termination depths of the borings (generally 6 to 7 ½ feet below existing grade). Table 2 summarizes groundwater observations where groundwater was encountered during drilling operations:



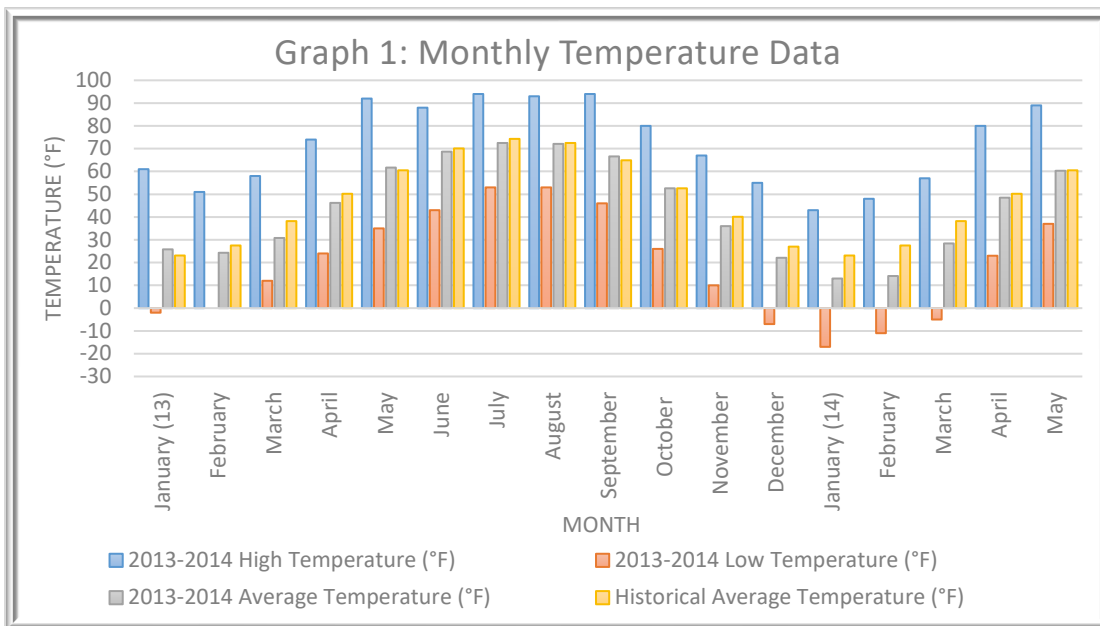
Table 2: Groundwater Observation Summary

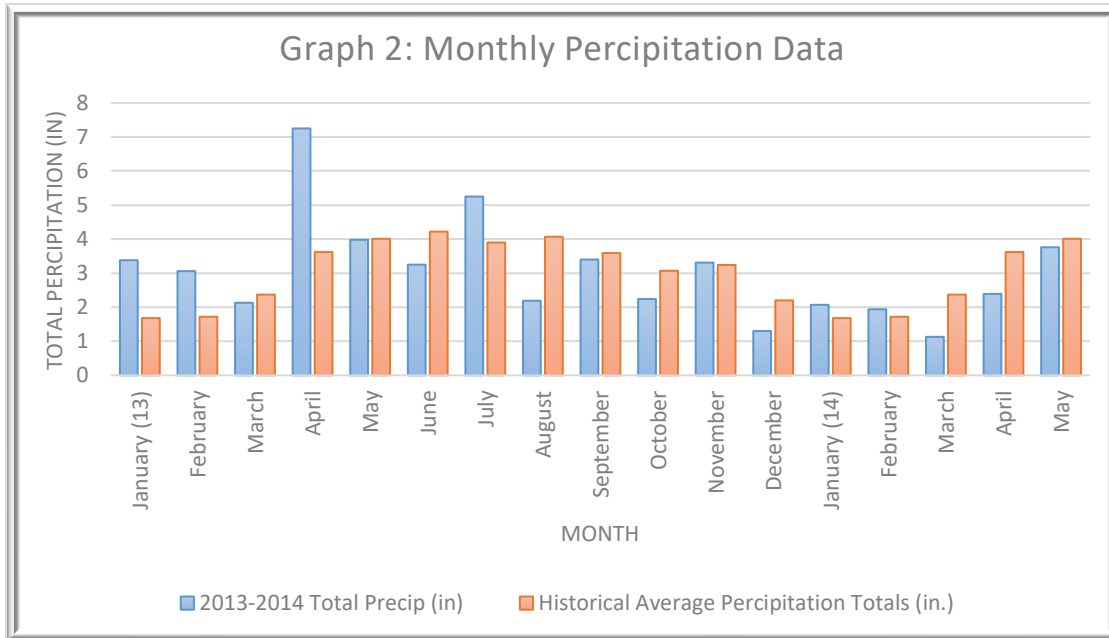
BORING NUMBER	STATION	BORING SURFACE ELEVATION (FEET)	GROUNDWATER ELEVATION DURING DRILLING (FEET)	GROUNDWATER ELEVATION UPON AUGER REMOVAL (FEET)
01	614+60.44	670.67	638.7	648.7
02	615+07.74	669.90	644.9	648.9
01	625+08.69	679.32	649.3	651.3
02	625+32.75	678.68	658.7	658.7
01	667+78.41	635.15	615.2	617.2
02	668+13.55	635.14	615.1	617.1
01 (S.E. Quad.)	730+66.59	629.69	609.7	609.7
02 (S.W. Quad.)	730+63.33	629.28	614.3	615.3

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

The subsurface investigation for the proposed IL 71 improvements in Kendall County, Illinois was performed during the months of November 2013 and May 2014. To assess the possible effects of temperature and precipitation on groundwater level and soil moisture during the investigation, the climatic conditions for the entire year of 2013 to May of 2014 are summarized graphically, below.

The precipitation and temperature data for the investigation period are compared against thirty-year monthly data (1981 to 2010) to illustrate deviations from “normal” climate conditions during the investigation in 2013 and 2014. Local climatologic data were obtained from the NOAA Aurora, IL station.





Higher than average precipitation measurements were recorded for the months of January, February, April, July, and November in 2013 and January and February in 2014. Higher than average temperatures were recorded for the months of January, May, August, September in 2013.

Higher than average precipitation may have affected the moisture contents in the upper soils sampled for this project in November 2013.

GENERAL SUBGRADE CONDITIONS

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

Undocumented Fill Discussion

Undocumented fill was observed in borings 401, 403 – 410, 413, 414, 501 – 513, 601, 602, 604, 608, 701 – 704, 706 – 709, 711 – 721, and 723 – 731 to depths ranging from about ½ to 6 feet below existing grade.

Deleterious materials were not noted within the undocumented fill materials on the boring logs provided by IDOT. Although deleterious materials

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

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



were not noted in the undocumented fill materials, there is a possibility that deleterious materials could be present within the undocumented fill materials in other areas along the project.

Topsoil Discussion

Prior to construction, the ground surface should be stripped of topsoil, organic matter, including root zone materials, and existing pavement. Rubino recommends that the topsoil meeting the requirements of Section 211 of the IDOT Standard Specifications for Road and Bridge Construction that is stripped be stockpiled, sorted, and reused for the proposed landscaping improvements. The pay item "Topsoil Excavation and Placement" should be included in the contract documents along with the following schedule:

Table 3: Estimated Topsoil Thickness Schedule

BORING	STATION		ESTIMATED TOPSOIL THICKNESS (IN)
	FROM	TO	
401	585+00	586+67	30
404	592+67	595+67	No surficial topsoil noted (18 inches of buried topsoil noted)
406	598+67	601+67	36 (below existing pavement)
409	607+67	610+67	No surficial topsoil noted (18 inches of buried topsoil noted)
414	622+67	625+67	18 (below existing pavement)
502	628+67	631+67	36
503	631+67	634+67	No surficial topsoil noted (24 inches of buried topsoil noted)
504 – 506	634+67	643+67	12
507	643+67	646+67	36
508 – 509	646+67	652+67	No surficial topsoil noted (12-24 inches of buried topsoil noted)
511 – 512	655+67	661+67	12
513	661+67	664+67	No surficial topsoil noted (24 inches of buried topsoil noted)
608	694+67	697+67	12
702	700+67	703+67	6
714	736+67	739+67	12
716 – 717	742+67	748+67	6
718	748+67	751+67	12
720	754+67	757+67	12
721	757+67	760+67	6
731	787+67	792+00	No surficial topsoil noted (18 inches of buried topsoil noted)



ANALYSIS AND RECOMMENDATIONS

Embankment Fill Materials

Rubino anticipates that some fill will be required in the widening areas. Embankment fill materials are not known at this time. Fill Materials must meet the requirements of Section 204 of IDOT's Standard Specifications for Road and Bridge Construction and the following restrictions from IDOT District 3's Borrow and Furnished Excavation Special Provision:

1. The moisture content of the material as it is incorporated into the embankment shall be between 80% to 110% of AASHTO T99 optimum.
2. A 3 ft. (1 m) minimum cover of other suitable material shall be maintained outside of and on top of the embankment.
3. If the liquid limit of the material is greater than or equal to 50, the material shall not be used for capping, shall not be placed within 20 feet of any structure, and shall not be placed in locations where it may come into contact with water.
4. Embankment capping material (as outlined in #2) shall meet non-frost susceptibility criteria as outlined in the statewide Geotechnical Manual. Materials are considered frost susceptible when the soil contains at least 65% silt and fine sand content, according to AASHTO T88 and the Plasticity Index is less than 12.

For budget purposes, the IDOT Illinois Construction Manual (March 2021) recommends a shrinkage factor of 25 percent be used to determine earthwork quantities.

Expansive and Frost Susceptible Soils Discussion

Soils with expansive properties (LL>50) were observed in two of the borings (503 and 716). Frost susceptible soils (PI<12 and >65% silt and fine sand) were observed in multiple borings.

IDOT outlines the following criteria as possible identifiers for frost susceptible soils as well as the expected maximum depths of frost penetration as stated in section 6.3.2 of the IDOT Geotechnical Manual (December 2020).

- The level of capillary rise must be within the depth of frost penetration. This depends on the soils type and water table elevation.
- The soil contains at least 65% silt and fine sand, according to AASHTO T 88
- The PI is less than 12
- The expected maximum depth of frost penetration is 45 inches

From lab testing completed by IDOT, Rubino has identified soils along IL 71 that have a PI less than 12 and soils containing at least 65% silt and fine sand. These soils have the potential to be susceptible to frost heave. Table 4 summarizes the expansive (LL>50) and frost susceptible soils



(PI<12 and >65% silt and fine sand) along the project site. Refer to Appendix F for IDH grain size distribution charts and IDH textural classification charts by IDOT.

Table 4: Expansive and Frost Susceptible Soils by Location

BORING	STATION	SOIL CLASSIFICATION	ELEVATION RANGE (FEET)	PLASTICITY INDEX (PI)	SILT AND FINE SAND CONTENT (%)	LIQUID LIMIT (LL)	EXPANSIVE OR FROST SUSCEPTIBLE
408	606+17.16	Brown silt & fine sand with some silty clay bedded	685.84 – 682.84	8.1	78.5	25.2	Frost Susceptible
503	633+17.07	Brown/gray silty clay loess	670.75 – 669.75	33.3	67.4	51.0	Expansive
508	648+17.61	Brown sand & gravel – very loamy	656.02 – 654.02	0.5	67.9	17.4	Frost Susceptible
514	666+17.48	Brown till with silt layers	633.42 – 628.42	9.0	67.6	23.8	Frost Susceptible
603	681+17.24	Brown clay loam / sand layers	639.19 – 637.19	1.1	73.3	17.1	Frost Susceptible
608	696+16.89	Dark brown topsoil fill	635.36 – 634.36	10.2	65.7	25.0	Frost Susceptible
701	699+15.68	Brown silty clay loam	635.52 – 632.02	11.7	76.5	27.3	Frost Susceptible
703	705+17.163	Black / brown silty clay loam / clay loam fill	643.21 – 641.21	8.5	72.4	22.4	Frost Susceptible
704	708+17.60	Brown clay loam	643.15 – 640.65	11.9	75.9	25.6	Frost Susceptible
716	744+17.15	Brown silty clay	640.33 – 638.83	29.9	65.1	51.2	Expansive
716	744+17.15	Brown clay loam / sandy clay loam	638.83 – 635.83	8.9	81.6	23.5	Frost Susceptible
716	744+17.15	Brown fine to coarse sand	635.83 – 633.83	1.0	77.9	16.1	Frost Susceptible
719	753+20.35	Black/brown silty clay loam/silty clay fill	642.86 – 640.86	11.1	81.1	32.8	Frost Susceptible
723	765+17.08	Black silty clay loam fill	647.51 – 646.51	9.4	74.6	29.3	Frost Susceptible
724	768+17.35	Brown sandy clay loam / sandy loam	647.13 – 644.63	7.3	83.5	20.7	Frost Susceptible
725	771+17.44	Black silty clay loam fill with gravel pieces	647.25 – 644.25	9.0	71.2	27.6	Frost Susceptible
726	774+17.56	Black / brown silty clay loam fill	644.21 – 642.71	8.4	70.0	27.1	Frost Susceptible
731	789+16.85	Black / brown silty clay loam fill with gravel	645.93 – 643.43	9.6	65.3	25.6	Frost Susceptible



BORING	STATION	SOIL CLASSIFICATION	ELEVATION RANGE (FEET)	PLASTICITY INDEX (PI)	SILT AND FINE SAND CONTENT (%)	LIQUID LIMIT (LL)	EXPANSIVE OR FROST SUSCEPTIBLE
731	789+16.85	Brown silty clay/silty clay loam	643.43 – 641.93	11.5	79.3	33.8	Frost Susceptible

Subgrade Support Rating (SSR)

For design purposes, a Subgrade Support Rating (SSR) of poor is recommended for existing subgrade soils. SSR charts provided by IDOT are located in Appendix G.

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

Subsurface Drainage

Proper surface grading should be incorporated into design and construction of subgrade and pavement to remove water accumulations and prevent ponding of water. Aggregate subgrade improvement will be utilized for this project; therefore, underdrains are required per the IDOT Geotechnical Manual (2020).

- The proposed highway plans detail longitudinal underdrains along the length of the project.

The underdrains should tie into the storm water drainage system and should be installed per Article 601 in the IDOT Standard Specifications for Road and Bridge Construction (Adopted January 1, 2016) and consist of Type 3 underdrains.

Subgrade Improvement Recommendations

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

- See IDOT IBV Based Remedial Action chart from the IDOT Subgrade Stability Manual for reference.
- IDOT requires the use of subgrade improvement below proposed pavement.
 - The proposed highway plans state the entire length of the improvements will contain 12 inches of aggregate subgrade improvement (SY).



- Accordingly, subgrade with an IBV value of less than 3 is a candidate for remediation when incorporating aggregate subgrade improvement.
- Subgrade with a moisture content exceeding 25% and/or an organic content exceeding 10% may result in a lower IBV which may be a candidate for remedial action.
- If unsuitable soils are encountered in the field during construction, it is recommended that the soil be removed and replaced with material meeting the IDOT Aggregate Subgrade Improvement Special Provision.
- Geotextile fabric should be placed at the base of undercut areas listed in Table 5 below. Fabric should meet the requirements of IDOT's Special Provision for Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric.
- Frost susceptible soils have the potential to heave during freeze-thaw cycles and require remediation. Please see the *Expansive and Frost Susceptible Soils Discussion* section for further details

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

Table 5: Undercut Recommendations

STATIONS		PAVEMENT TREATMENT WIDTH*	SUBGRADE IMPROVEMENT BELOW BOTTOM OF PCC PAVEMENT	REMEDICATION METHOD	REFERENCE BORING SUBGRADE CONCERNS (BORING NUMBER)
FROM	TO				
664+67	667+67	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(514): Frost susceptible soils to 5 feet below the proposed pavement surface elevation.
679+67	682+67	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(603): Frost susceptible soils with a Qp of 0.5 tsf to 3 ½ feet below the proposed pavement surface elevation.
697+50	700+50	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(701): Qp of 0.8 tsf to 3 ½ feet below the proposed pavement surface elevation and frost susceptible soils to 7 feet below the proposed pavement surface elevation.
703+67	706+67	Equal to the width of the existing embankment	18 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(703): Frost susceptible soils to 2 ½ feet below the proposed pavement surface elevation.
706+67	709+67	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(704): Frost susceptible soils to 5 ½ feet below the proposed pavement surface elevation.



STATIONS FROM TO		PAVEMENT TREATMENT WIDTH*	SUBGRADE IMPROVEMENT BELOW BOTTOM OF PCC PAVEMENT	REMEDICATION METHOD	REFERENCE BORING SUBGRADE CONCERNS (BORING NUMBER)
742+67	745+67	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(716): Frost susceptible soils to 3 feet below the proposed pavement surface elevation.
751+50	754+50	Equal to the width of the existing embankment	24 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(719): Frost susceptible soils to 2 ½ feet below the proposed pavement surface elevation.
766+67	775+67	Equal to the width of the existing embankment	36 inches	Remove and replace with Agg. Subgrade Improvement (CY)	(724): Frost susceptible soils with a Qp of 0.8 tsf to approximately 4 feet below the proposed pavement surface elevation. (725) Frost susceptible soils to 4 feet below the proposed pavement surface elevation. (726): Qp of 0.5 tsf to 6 ½ feet below the proposed pavement surface elevation.

*Pavement treatment width does not include proposed fill sections. Proposed fill section materials shall meet the requirements of the Embankment Fill Materials section of this RGR.

**The proposed highway plans detail 12-inch Aggregate Subgrade Improvement (SY) for the length of the project. The subgrade improvement depths detailed in *Table 5* replaces the 12-inch Aggregate Subgrade Improvement (SY) detailed in the highway plans for the listed station ranges. The actual need for removal and replacement with Aggregate Subgrade Improvement should be determined in the field at the time of construction by the Geotechnical Engineer or Soils Inspector.

Settlement

The proposed road elevation is planned to be at or near the existing road elevation. There are locations along the project where fill greater than 5 feet is planned to be placed in the existing ditch areas for embankment and roadway widening. Rubino recommends that fill materials exceeding 5 feet in depth be anticipated to experience 1% settlement. Rubino conducted a settlement analysis at station 614+83.50 and station 667+50 where 22 feet and 11 feet of fill are anticipated, respectively.



Table 6: Anticipated Settlement

Location	Anticipated Fill Height	Settlement of Subgrade Resulting from Fill Placement
Station 614+83.50	22 feet	1 ½ inches
Station 667+50	11 feet	<1 inch

The IDOT Embankment settlement spreadsheet was utilized for the above settlement estimate. Rubino recommends allowing at least 3 months for the fill soils and native soils to consolidate and stabilize under the new loading of fill soils prior to placing structures in areas of greater than 10 feet of fill placement.

Slope Stability

Rubino has performed a preliminary slope stability analysis for the profile for STA 614+83 and soil boring profile (B-02) included in the Abbreviated SGR provided by Jeremy Brown of IDOT.

The computer program, Stedwin Version 2.88, was used to calculate the factor of safety (FOS) against a global stability failure using the Bishop's method of slices. Circular shear surfaces were evaluated. A search routine was employed to evaluate several circular shear surfaces to identify the most critical shear surfaces within constraints defined by the program user. The analysis is only applicable to the profile presented and the soil conditions from the referenced borings.

Both drained and undrained shear strength parameters were used in the analysis. The shear strength properties as well as the unit weights for each soil type used in the stability model were estimated based on the properties obtained from the field and laboratory testing provided by IDOT and are consistent with the soil properties used by IDOT in the initial stability analyses which resulted in a FOS of 1.58. Below is a summary of the results of the slope stability analysis.

Table 7: Summary of Preliminary Slope Stability Analysis Results

SOIL PROPERTIES USED							ESTIMATED FOS BY RUBINO	LOADING CASE
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.		
Hard CL	1	125.0	125.0	1500.0	0.0	W1	1.94	Undrained
VS CL	2	125.0	125.0	1000.0	0.0	W1		
S CL	3	120.0	120.0	500.0	0.0	W1		
Coarse G	4	124.0	124.0	0.0	35.0	W1		
FS to CG	5	124.0	124.0	0.0	34.0	W1		
New	6	120.0	120.0	1000.0	0.0	W1		
Hard CL	7	124.0	124.0	1500.0	0.0	W1		



SOIL PROPERTIES USED							ESTIMATED FOS BY RUBINO	LOADING CASE
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.		
Hard CL	1	125.0	125.0	125.0	32.0	W1	1.5	Drained, consistent with original IDOT analysis
VS CL	2	125.0	125.0	125.0	32.0	W1		
S CL	3	120.0	120.0	100.0	30.0	W1		
Coarse G	4	124.0	124.0	0.0	35.0	W1		
FS to CG	5	124.0	124.0	0.0	34.0	W1		
New	6	120.0	120.0	100.0	30.0	W1		
Hard CL	7	124.0	124.0	100.0	31.0	W1		
Hard CL	1	125.0	125.0	125.0	32.0	W1	1.35	Drained, S CL Soil Type No. 3, Black Alluvial Soil Properties lowered
VS CL	2	125.0	125.0	125.0	32.0	W1		
S CL	3	120.0	120.0	75.0	28.0	W1		
Coarse G	4	124.0	124.0	0.0	35.0	W1		
FS to CG	5	124.0	124.0	0.0	34.0	W1		
New	6	120.0	120.0	100.0	30.0	W1		
Hard CL	7	124.0	124.0	100.0	31.0	W1		

The slope stability analysis soil properties provided in the referenced SGR are based on N-values and moisture contents. Rubino recommends that further lab testing, such as Unconfined Compression Testing, be performed on the soils to attain more reliable strength values for the purpose of estimating soil properties. This is particularly important to define the drained soil properties. Once further lab testing is conducted, Rubino should perform a final slope stability analysis. In lieu of more advanced geotechnical testing, the designer could try altering the profile to lessen the steepness of the slope to increase the FOS.

The slope stability analysis performed for this project is anticipated to be the steepest embankment profile, and therefore Rubino does not anticipate additional slope stability analysis needed along the length of the project.

Slope stability models can be found in Appendix H.

CLOSING

The recommendations submitted are based on the available subsurface information and design details furnished by IDOT Region 2 District 3 for the proposed project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Rubino should be notified immediately to determine if changes in our recommendations are required.

This report has been prepared for the exclusive use of IDOT Region 2 District 3 and their consultants for the specific application to the proposed IL71 Reconstruction in Kendall County, Illinois.



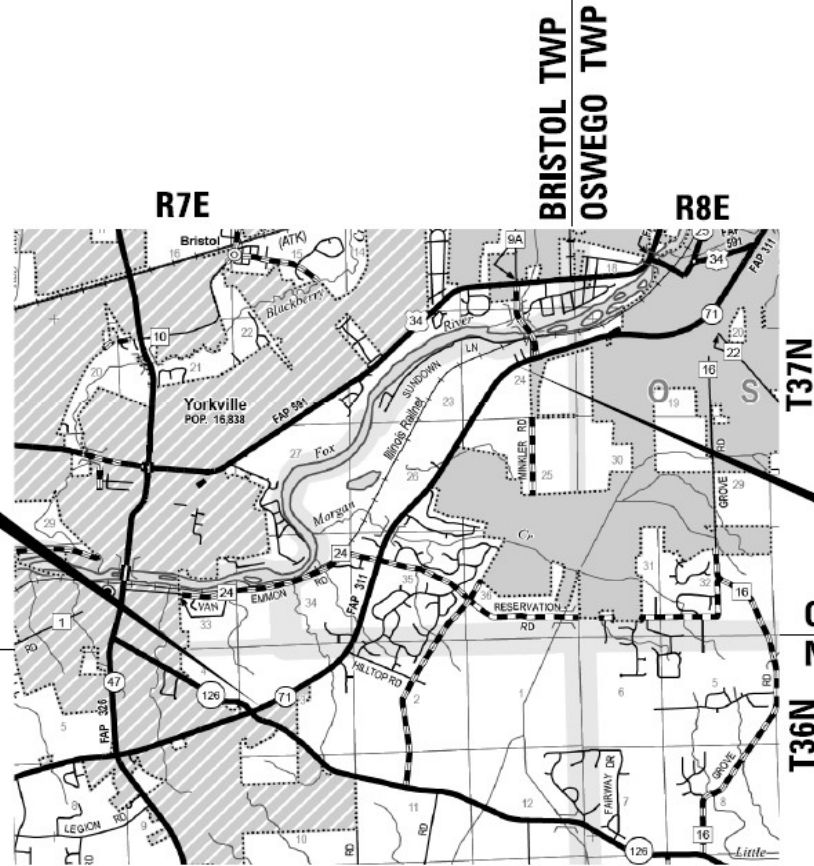
Appendix A – Site Vicinity Map

**F.A.P 311 (IL 71)
SECTION (101)R,BR1
CONTRACT 66D26**

**BEGIN PROJECT
STA. 580 + 52**

**BEGIN IMPROVEMENT
STA. 585 + 00**

**BRISTOL TWP
KENDALL TWP**



**END PROJECT
STA. 787 + 85**

**END IMPROVEMENT
STA. 792 + 00
OSWEGO TWP
NA-AU-SAY TWP**

LOCATION MAP



GROSS LENGTH = 20285 FT. = 3.842 MILE

NET LENGTH = 20285 FT. = 3.842 MILE

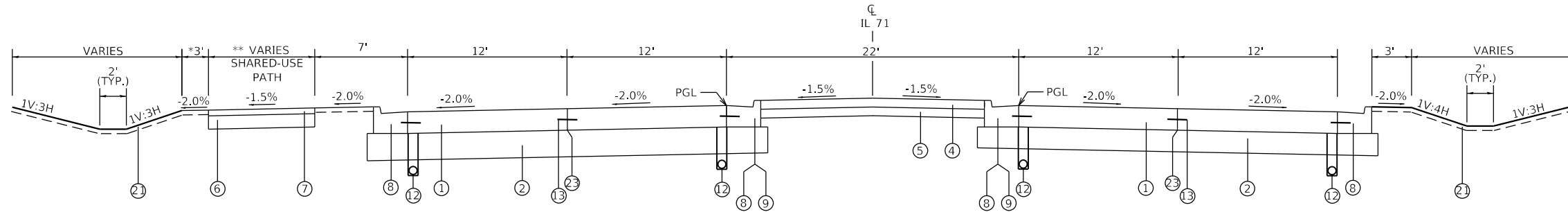


425 Shepard Drive
Elgin, Illinois 60123

Project Name: IL 71 Between IL 126 and Orchard Road
Project Location: Yorkville and Oswego, Illinois
Kendall County
Client: IDOT Region 2 District 3
Rubino Project # : G21.028

**Site
Vicinity
Map**

Appendix B – Proposed Typical Sections



PROPOSED TYPICAL SECTION – IL ROUTE 71

STA. 584+29.95 TO 591+21.65
 STA. 600+36.65 TO 606+69.18

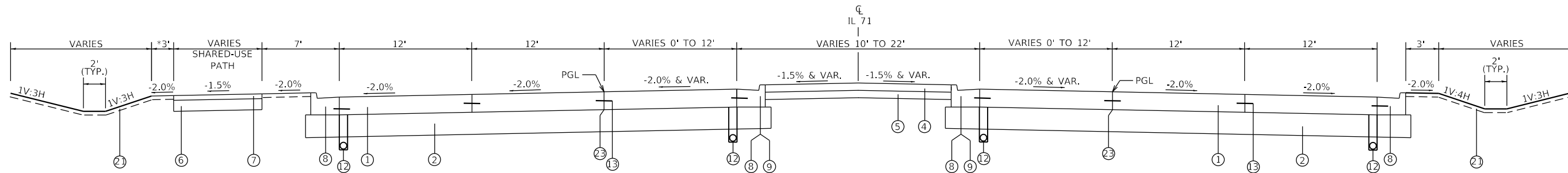
* WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH
 ** TRANSITION SHARED USE PATH FROM 8' TO 10'
 STA. 603+04.59 TO STA. 604+04.59

MIXTURES TABLE

	HMA BINDER SIDE ROADS	HMA SURFACE SIDE ROADS	HMA INCIDENTAL	POLY HMA BINDER NB & SB WIDENING	POLY HMA SURFACE NB & SB WIDENING	POLY IL 126 HMA SURFACE INTERSECTION	POLY IL 126 HMA BINDER INTERSECTION	HMA SHOULDRERS BOTTOM LIFT	HMA SHOULDRERS TOP LIFT
	PG 64-22	PG 64-22	PG 64-22	SBS PG 70-28	SBS PG 70-28	SBS PG 70-28	SBS PG 70-28	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ N70	4.0% @ N70	4.0% @ N50	4.0% @ N90	4.0% @ N90	4.0% @ N90	4.0% @ N90	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 9.5	IL 9.5	IL 19.0	IL 9.5	IL 9.5	IL 19.0	IL 19.0	IL 9.5
FRICITION AGGREGATE		MIXTURE C	MIXTURE C		MIXTURE D	MIXTURE D			MIXTURE C
DENSITY TEST METHOD	CORES	CORES	CORES	CORES	CORES	CORES	CORES	CORES	CORES
MIXTURE WEIGHT	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.	112#/Sq. Yd./In.
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA
SUBLOT SIZE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LOCATION(S)	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT

PAVEMENT STRUCTURE DESIGN

STRUCTURAL DESIGN TRAFFIC:	YEAR <u>2026</u>
PV = <u>89.0%</u>	SU = <u>6.0%</u> MU = <u>5.0%</u>
ROAD/STREET CLASSIFICATION:	CLASS <u>1</u>
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:	
P = <u>32%</u>	S = <u>45%</u> M = <u>45%</u>
TRAFFIC FACTOR:	ACTUAL TF = <u>5.72</u> MINIMUM TF = <u>3.56</u>
PG GRADE:	TOP BINDER = <u>SBS PG 70-28</u>
	SURFACE = <u>SBS PG 70-28</u>
SUBGRADE SUPPORT RATING:	SSR = <u>POOR</u>



PROPOSED TYPICAL SECTION – IL ROUTE 71

STA. 571+00.88 TO 584+29.95
 STA. 592+21.65 TO 600+36.65
 STA. 606+69.18 TO 613+78.25
 STA. 620+17.21 TO 629+91.50

* WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH

- | | | | |
|--|---|---|---|
| ① PORTLAND CEMENT CONCRETE PAVEMENT, 9 1/2" (JOINTED) | ⑧ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 | ⑭ POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (11 1/4") | ⑳ TOPSOIL PLACEMENT, 4" |
| ② AGGREGATE SUBGRADE IMPROVEMENT, 12" | ⑨ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 | ⑮ HOT-MIX ASPHALT SHOULDERS, 6" | ㉑ AGGREGATE SHOULDERS, TYPE B 6" |
| ③ CONCRETE MEDIAN, TYPE SB (SPECIAL) | ⑩ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.06 | ⑯ POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (2") | ㉒ PAVEMENT JOINT (TYP.) |
| ④ CONCRETE MEDIAN SURFACE, 4" (RAISED MEDIAN) | ⑪ PORTLAND CEMENT CONCRETE SIDEWALK, 4" | ⑰ POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (9") | ㉓ POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (1 1/2") |
| ⑤ AGGREGATE BASE COURSE TYPE B, 4" | ⑫ PIPE UNDERDRAINS, TYPE 3 | ⑱ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 (2") | ㉔ POLYMERIZED LEVELING BINDER (MACHINE METHOD), N90 (3/4") |
| ⑥ AGGREGATE BASE COURSE TYPE A, 6" (WITH COMPACTED SUBGRADE) | ⑬ TIE BAR | ⑲ HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 (5 1/4") | ㉕ HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4" |
| ⑦ INCIDENTAL HOT-MIX ASPHALT SURFACING, 2" | | | |

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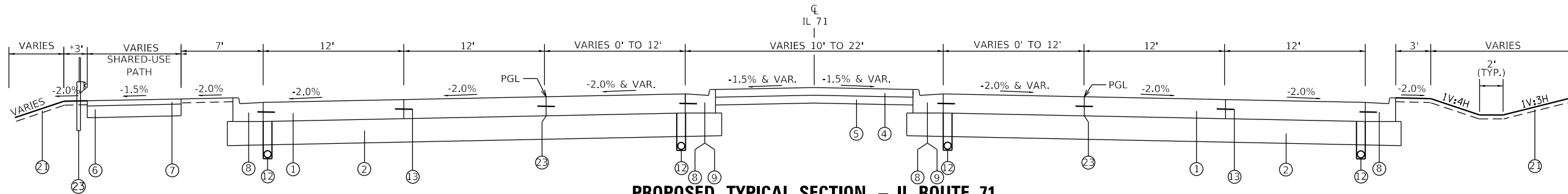
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**IL 71
 PROPOSED TYPICAL SECTION**

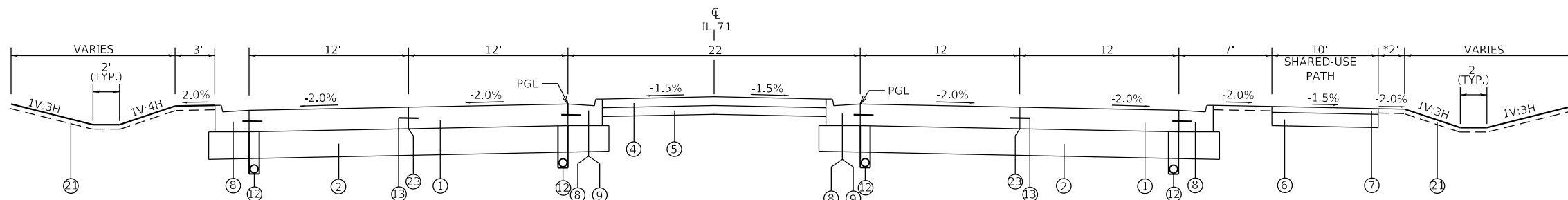
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CONTRACT NO. 66D26				
ILLINOIS FED. AID PROJECT				



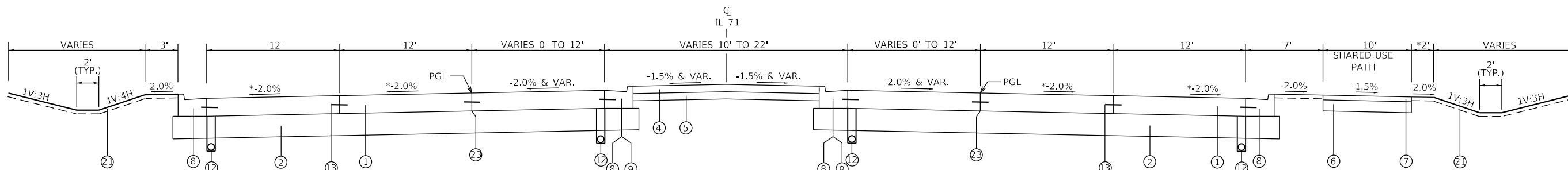
PROPOSED TYPICAL SECTION - IL ROUTE 71

STA. 613+78.25 TO 620+17.21
 * WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH;
 AT LOCATIONS WITH GUARDRAIL USE 4' WIDTH MINIMUM



PROPOSED TYPICAL SECTION - IL ROUTE 71

STA. 650+80.85 TO 655+16.94
 STA. 666+15.76 TO 667+32.80
 STA. 683+04.77 TO 689+31.01
 STA. 709+12.43 TO 710+60.15
 STA. 718+75.13 TO 730+83.93
 STA. 734+58.99 TO 741+91.21
 STA. 754+07.17 TO 761+28.74
 STA. 769+53.43 TO 770+90.28
 * WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH;
 AT LOCATIONS WITH GUARDRAIL USE 4' WIDTH MINIMUM



PROPOSED TYPICAL SECTION - IL ROUTE 71

STA. 629+91.50 TO 650+80.85
 STA. 655+16.94 TO 666+15.76
 STA. 671+32.78 TO 683+04.77 *PAVEMENT SLOPES VARIES 2% TO 1% 671+35.40 TO 673+88.86
 STA. 689+31.01 TO 709+12.43
 STA. 710+60.15 TO 718+75.13
 STA. 730+83.93 TO 734+58.99
 STA. 741+91.21 TO 754+07.17
 STA. 761+28.74 TO 769+53.43
 STA. 770+90.28 TO 786+13.70
 * WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH

- 1 PORTLAND CEMENT CONCRETE PAVEMENT, 9 1/2" (JOINTED)
- 2 AGGREGATE SUBGRADE IMPROVEMENT, 12"
- 3 CONCRETE MEDIAN, TYPE SB (SPECIAL)
- 4 CONCRETE MEDIAN SURFACE, 4" (RAISED MEDIAN)
- 5 AGGREGATE BASE COURSE TYPE B, 4"
- 6 AGGREGATE BASE COURSE TYPE A, 6" (WITH COMPACTED SUBGRADE)
- 7 INCIDENTAL HOT-MIX ASPHALT SURFACING, 2"

- 8 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
- 9 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- 10 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.06
- 11 PORTLAND CEMENT CONCRETE SIDEWALK, 4"
- 12 PIPE UNDERDRAINS, TYPE 3

- 14 POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (11 1/4")
- 15 HOT-MIX ASPHALT SHOULDERS, 6"
- 16 POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (2")
- 17 POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (9")
- 18 HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 (2")
- 19 HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 (5 1/4")

- 21 TOPSOIL PLACEMENT, 4"
- 22 AGGREGATE SHOULDERS, TYPE B 6"
- 23 PAVEMENT JOINT (TYP.)
- 24 POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (1 1/2")
- 25 POLYMERIZED LEVELING BINDER (MACHINE METHOD), N90 (3/4")
- 26 HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"

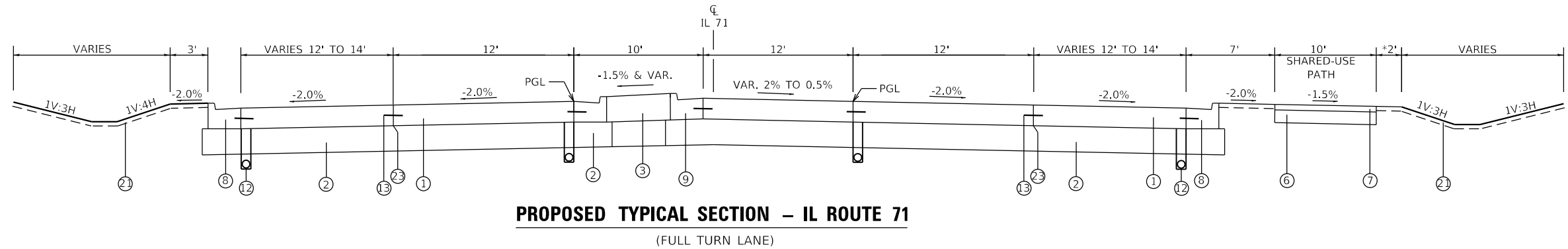
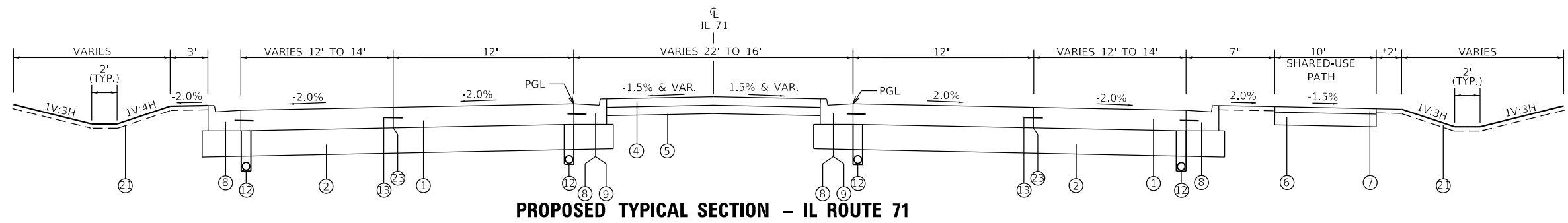
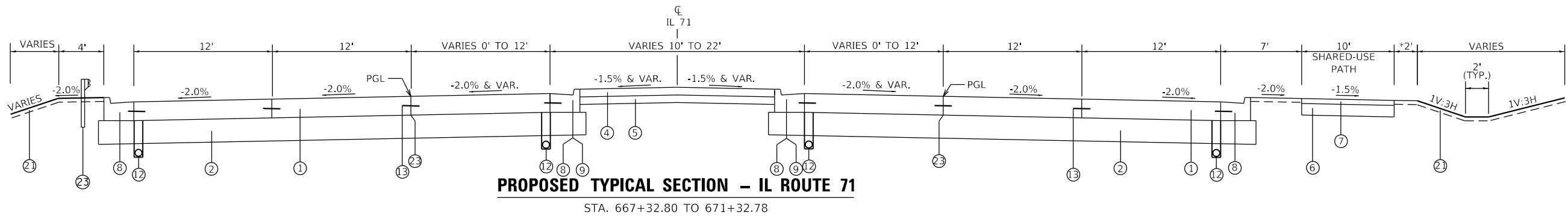
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

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STA.	TO STA.

F.A.P. RTE. 311	SECTION (1-1)R,BR1	COUNTY KENDALL	TOTAL SHEETS 755	SHEET NO. 31
CONTRACT NO. 66D26				
ILLINOIS FED. AID PROJECT				



- ① PORTLAND CEMENT CONCRETE PAVEMENT, 9 1/2" (JOINTED)
- ② AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ③ CONCRETE MEDIAN, TYPE SB (SPECIAL)
- ④ CONCRETE MEDIAN SURFACE, 4" (RAISED MEDIAN)
- ⑤ AGGREGATE BASE COURSE TYPE B, 4"
- ⑥ AGGREGATE BASE COURSE TYPE A, 6" (WITH COMPACTED SUBGRADE)
- ⑦ INCIDENTAL HOT-MIX ASPHALT SURFACING, 2"

- ⑧ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
- ⑨ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- ⑩ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.06
- ⑪ PORTLAND CEMENT CONCRETE SIDEWALK, 4"
- ⑫ PIPE UNDERDRAINS, TYPE 3

- ⑭ POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (11 1/4")
- ⑮ HOT-MIX ASPHALT SHOULDERS, 6"
- ⑯ POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (2")
- ⑰ POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (9")
- ⑱ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 (2")
- ⑲ HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 (5 1/4")

- ⑳ TOPSOIL PLACEMENT, 4"
- ㉑ AGGREGATE SHOULDERS, TYPE B 6"
- ㉒ PAVEMENT JOINT (TYP.)
- ㉓ POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (1 1/2")
- ㉔ POLYMERIZED LEVELING BINDER (MACHINE METHOD), N90 (3/4")
- ㉕ HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**IL 71
 PROPOSED TYPICAL SECTION**

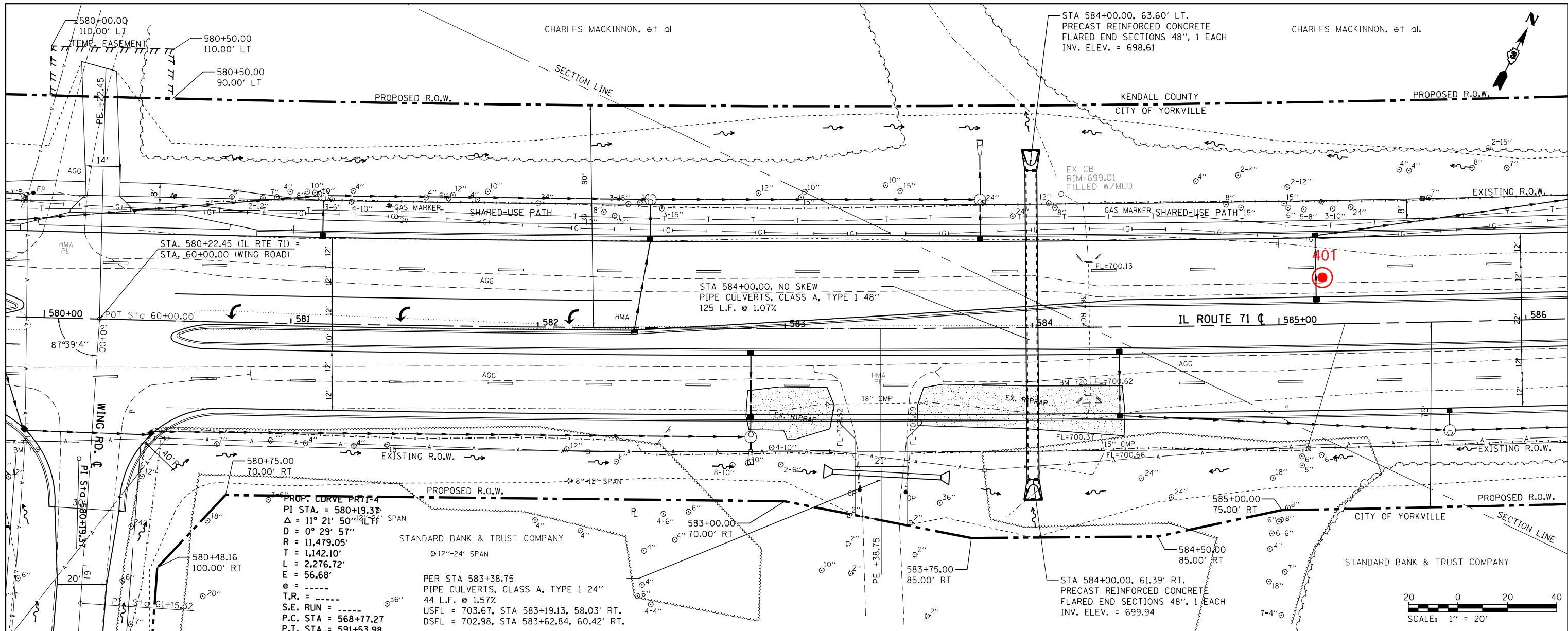
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 66D26				
ILLINOIS FED. AID PROJECT				

Appendix C – Preliminary Plans and Profiles with Soil Profiles

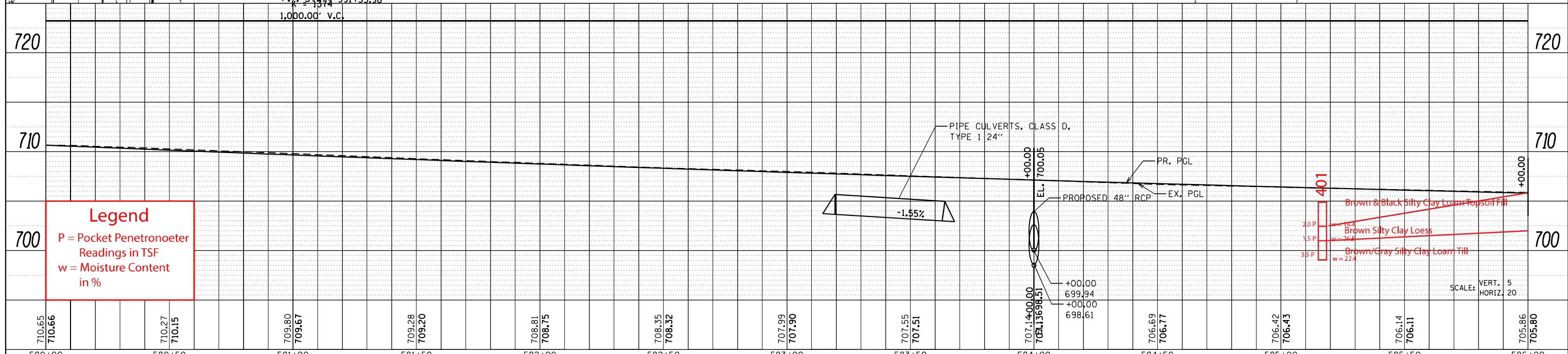
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CHECKED	
STRUCTURE	
NOTATIONS	
CHPND	
NO.	



PROP. CURVE PRT 1-4
 PI STA. = 580+19.30
 $\Delta = 11^\circ 21' 50''$ (LT)
 $D = 0^\circ 29' 57''$
 $R = 11,479.05'$
 $T = 1,142.10'$
 $L = 2,276.72'$
 $E = 56.68'$
 $\theta = \dots$
 $T.R. = \dots$
 $S.E. RUN = \dots$
 $P.C. STA = 568+77.27$
 $P.T. STA = 591+53.98$
 $1,000.00'$ V.C.

STANDARD BANK & TRUST COMPANY
 $\phi 12''-24''$ SPAN
 PER STA 583+38.75
 PIPE CULVERTS, CLASS A, TYPE 1 24"
 44 L.F. @ 1.57%
 USFL = 703.67, STA 583+19.13, 58.03' RT.
 DSFL = 702.98, STA 583+62.84, 60.42' RT.



Legend

P = Pocket Penetrometer Readings in TSF

w = Moisture Content in %

Brown & Black Silty Clay Loam Topsoil Fill
 20 P
 15 P
 3.5 P
 Brown Silty Clay Loess
 20 P
 15 P
 3.5 P
 Brown/Gray Silty Clay Loam Till
 w = 22.4

FILE NAME =	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = 40.0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 66883				
PLOT DATE = 12/31/2014		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

CHARLES MACKINNON, et al

CHARLES MACKINNON, et al

STA 591+65.00, 71.74' LT.
PRECAST REINFORCED CONCRETE
FLARED END SECTIONS 36", 1 EACH
INV. ELEV. = 692.25

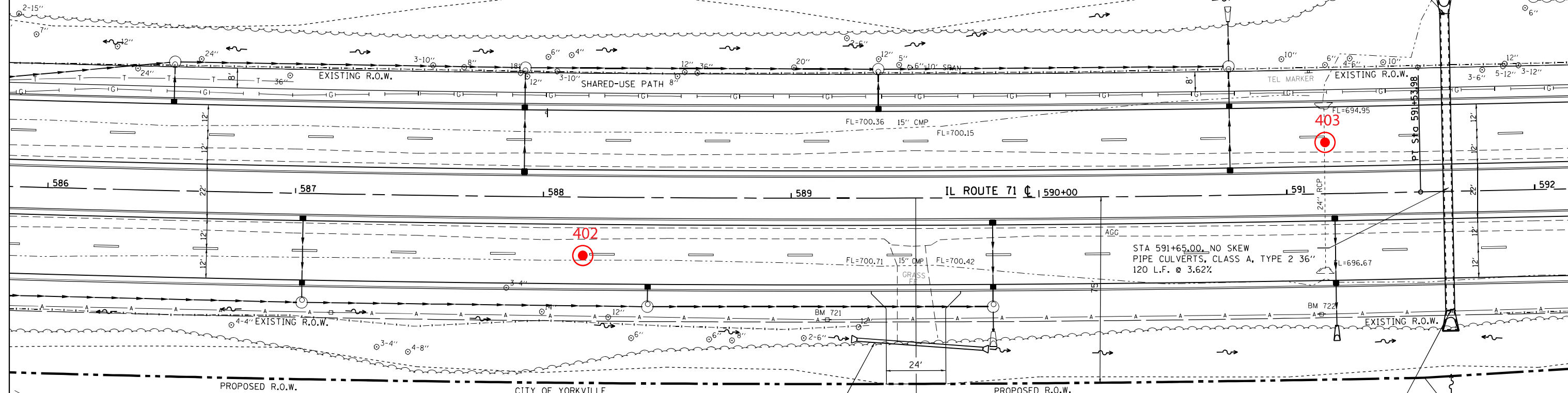
591+25.00
95.00' LT

590+00.00
90.00' LT

PROPOSED R.O.W.

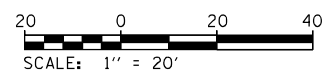
KENDALL COUNTY
CITY OF YORKVILLE

PROPOSED R.O.W.

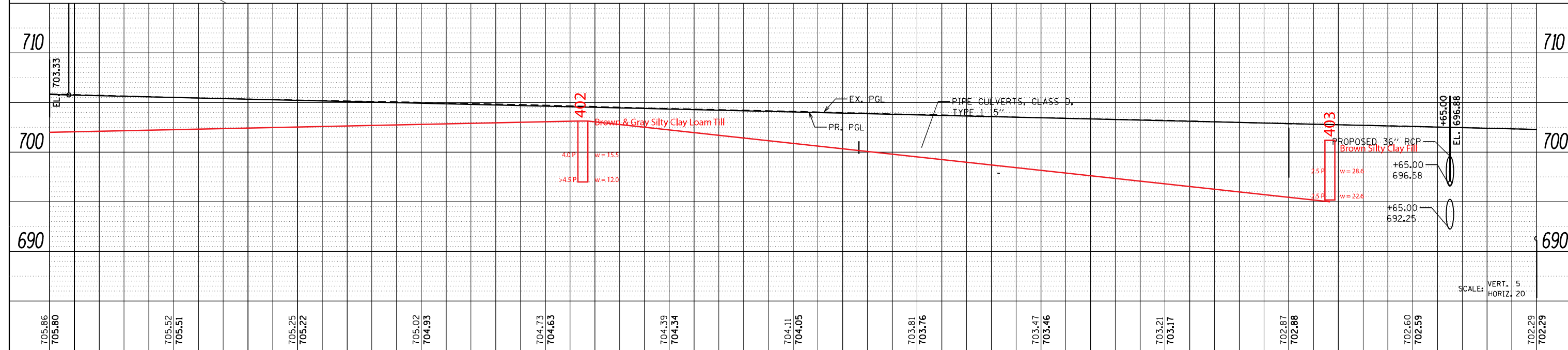


FER STA 589+50.19
PIPE CULVERTS, CLASS D, TYPE 1 15"
51 L.F. @ 3.61%
USFL = 701.00, STA 589+26.51, 56.46' RT.
DSFL = 699.16, STA 589+77.01, 60.34' RT.

STA 591+65.00, 47.95' RT.
PRECAST REINFORCED CONCRETE
FLARED END SECTIONS 36", 1 EACH
INV. ELEV. = 696.58



SECTION LINE



SCALE: VERT. 5
HORIZ. 20

DATE	
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PLAN	SURVEYED
	PLOTTED
	NOTE BOOK
	NO.
	CADD FILE NAME

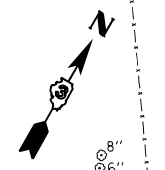
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BY	
PROFILE	SURVEYED
	PLOTTED
	GRADES CHECKED
	STRUCTURE
	NOTATIONS CHECKED

FILE NAME = 0366883-sht-plnpr-f-IL71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71			F.A.P. R.T.E. 311	SECTION (L, I-IR)	COUNTY KENDALL	TOTAL SHEETS 18	SHEET NO. 18
		DRAWN -	REVISED -		SCALE: 1" = 20'	SHEET NO. 18 OF 52 SHEETS	STA. 586+00 TO STA. 592+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT		
		CHECKED -	REVISED -									
		DATE - 12/15/2014	REVISED -									

PROP. CURVE PR71-10
 PI STA. = 604+17.22
 $\Delta = 1^\circ 28' 01''$ (RT)
 $D = 0^\circ 57' 58''$
 $R = 5,931.00'$
 $T = 75.92'$
 $L = 151.84'$
 $E = 0.49'$
 $e = \dots$
 $T.R. = \dots$

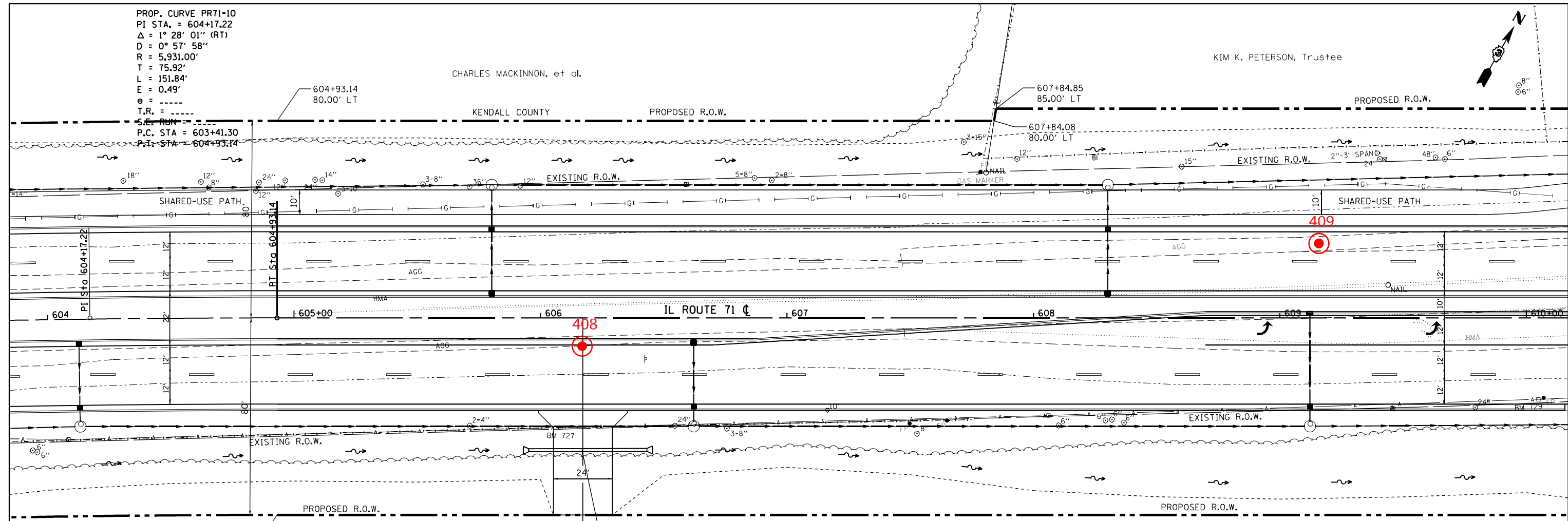
CHARLES MACKINNON, et al.

KIM K. PETERSON, Trustee

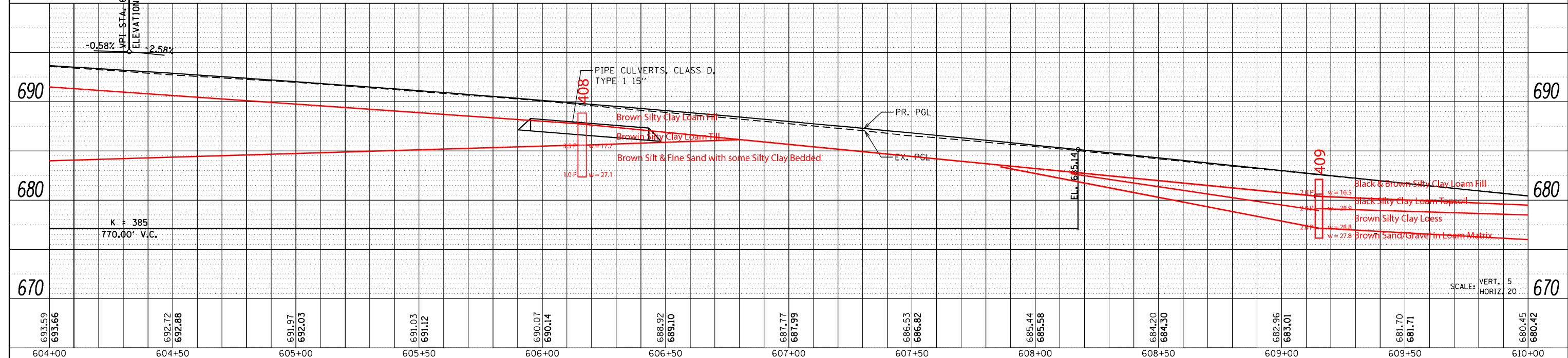


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DATE	
BY	
PROFILE	
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604+93.14 80.00' LT
 607+84.85 85.00' LT
 607+84.08 80.00' LT
 604+93.14 80.00' RT
 FER STA 606+17.21
 PIPE CULVERTS, CLASS D, TYPE 1 15"
 48 L.F. @ 2.02%
 USFL = 687.05, STA 605+95.21, 53.11' RT.
 DSFL = 686.08, STA 606+43.21, 52.98' RT.



693.59	693.66	692.72	692.88	691.97	692.03	691.03	691.12	690.07	690.14	688.92	689.10	687.77	687.99	686.53	686.82	685.44	685.58	684.20	684.30	682.96	683.01	681.70	681.71	680.45	680.42
604+00	604+50	605+00	605+50	606+00	606+50	607+00	607+50	608+00	608+50	609+00	609+50	610+00													

FILE NAME = 0366883-shr-plnpr-f-IL71.dgn

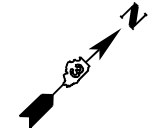
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	DRAWN -	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 12/15/2014	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
 IL 71
 SCALE: 1" = 20'
 SHEET NO. 21 OF 52 SHEETS
 STA. 604+00 TO STA. 610+00

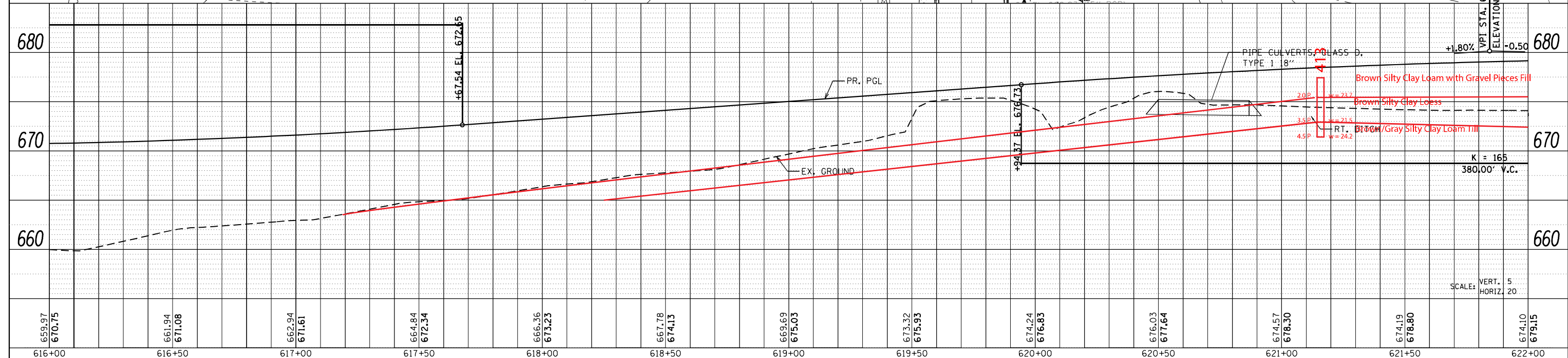
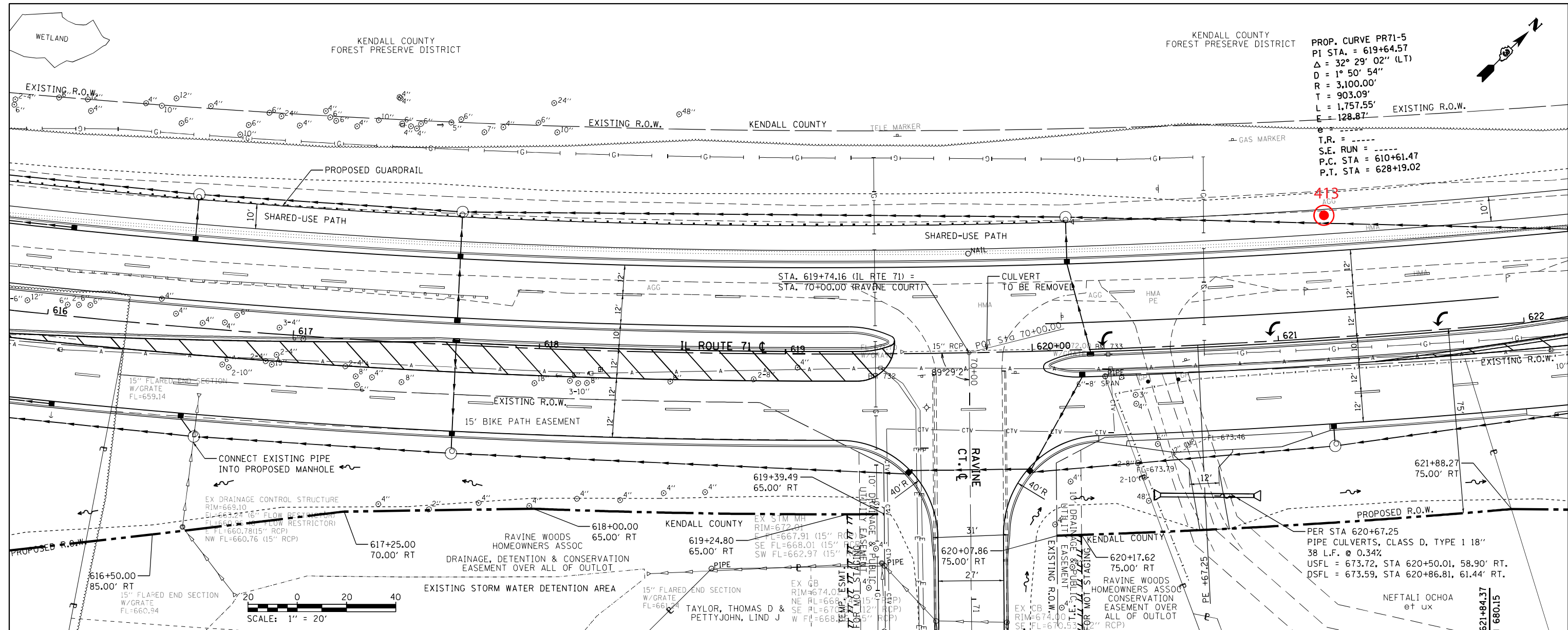
F.A.P. RTE. 311	SECTION (I, I-IR)	COUNTY KENDALL	TOTAL SHEETS 21
CONTRACT NO. 66883			ILLINOIS FED. AID PROJECT

PROP. CURVE PR71-5
 PI STA. = 619+64.57
 $\Delta = 32^\circ 29' 02''$ (LT)
 $D = 1^\circ 50' 54''$
 $R = 3,100.00'$
 $T = 903.09'$
 $L = 1,757.55'$
 $E = 128.87'$
 T.R. = -----
 S.E. RUN = -----
 P.C. STA = 610+61.47
 P.T. STA = 628+19.02



DATE	BY

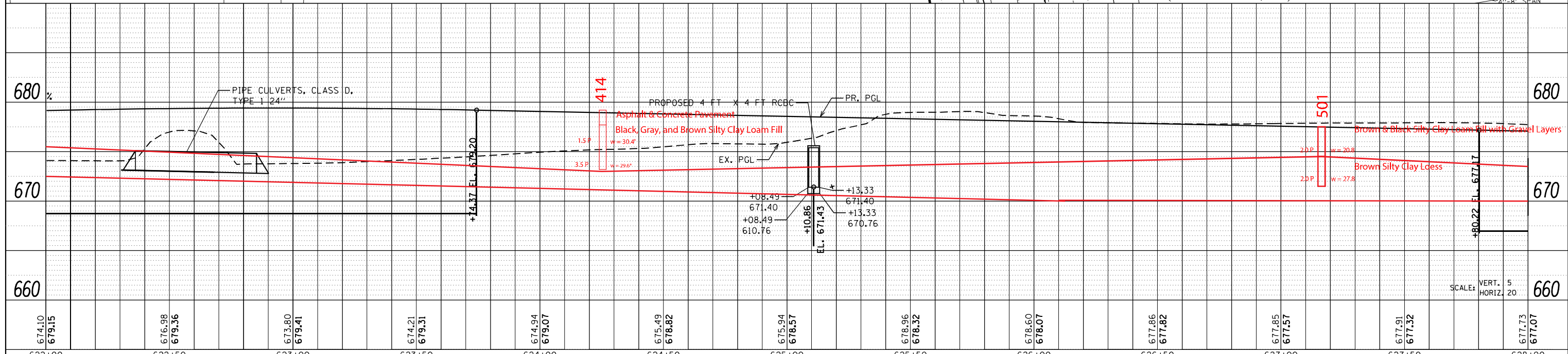
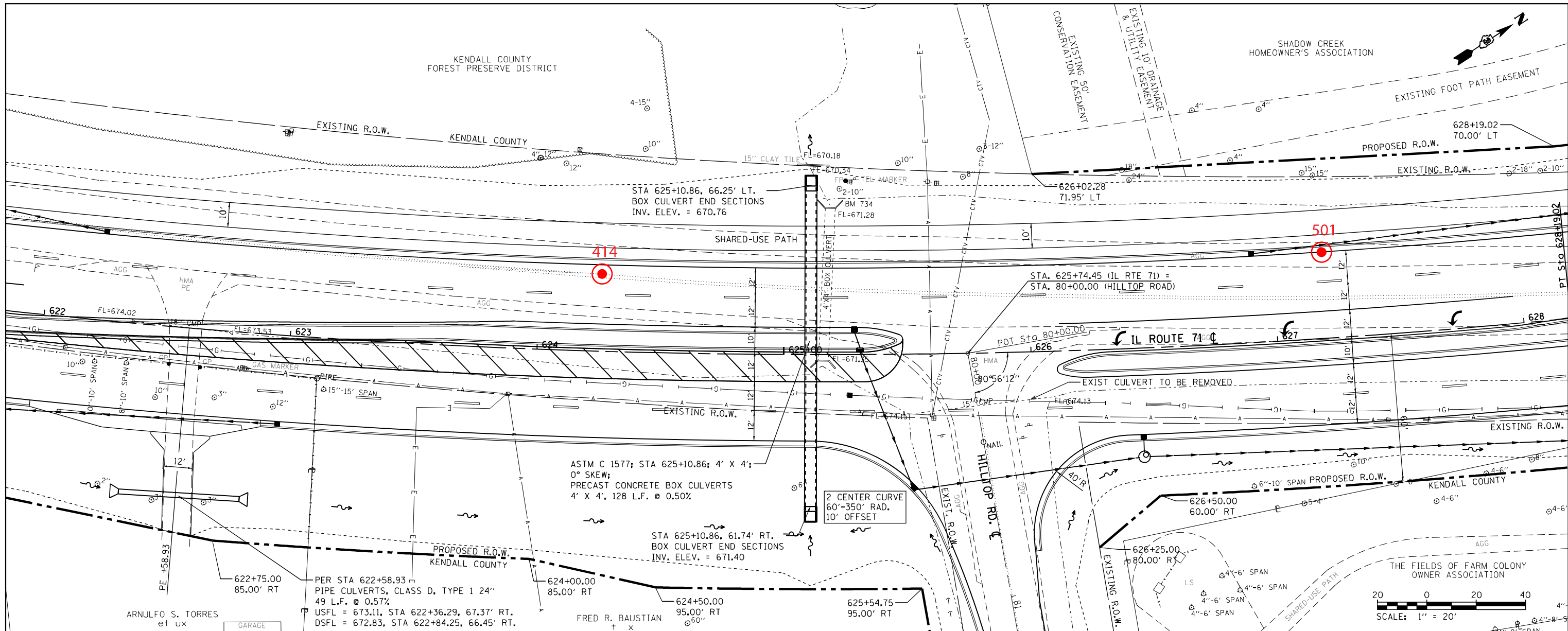
DATE	BY



FILE NAME = 0366883-shr-plnpr-f-IL71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. = 311	SECTION = (L, I-IR)	COUNTY = KENDALL	TOTAL SHEETS = 23	SHEET NO. = 23		
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 23 OF 52 SHEETS	STA. 616+00 TO STA. 622+00	CONTRACT NO. 66883			
	PLOT DATE = 12/15/2014	DATE -	REVISED -			ILLINOIS FED. AID PROJECT						

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	PLOTTED
	ALIGNED
	CHECKED
	DESIGNED
	NO. _____
	FILE NAME

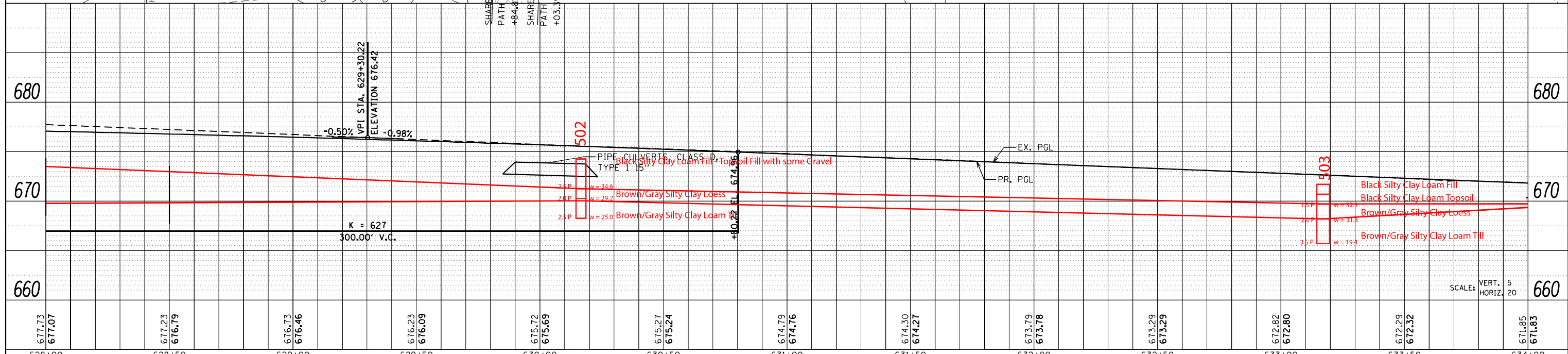
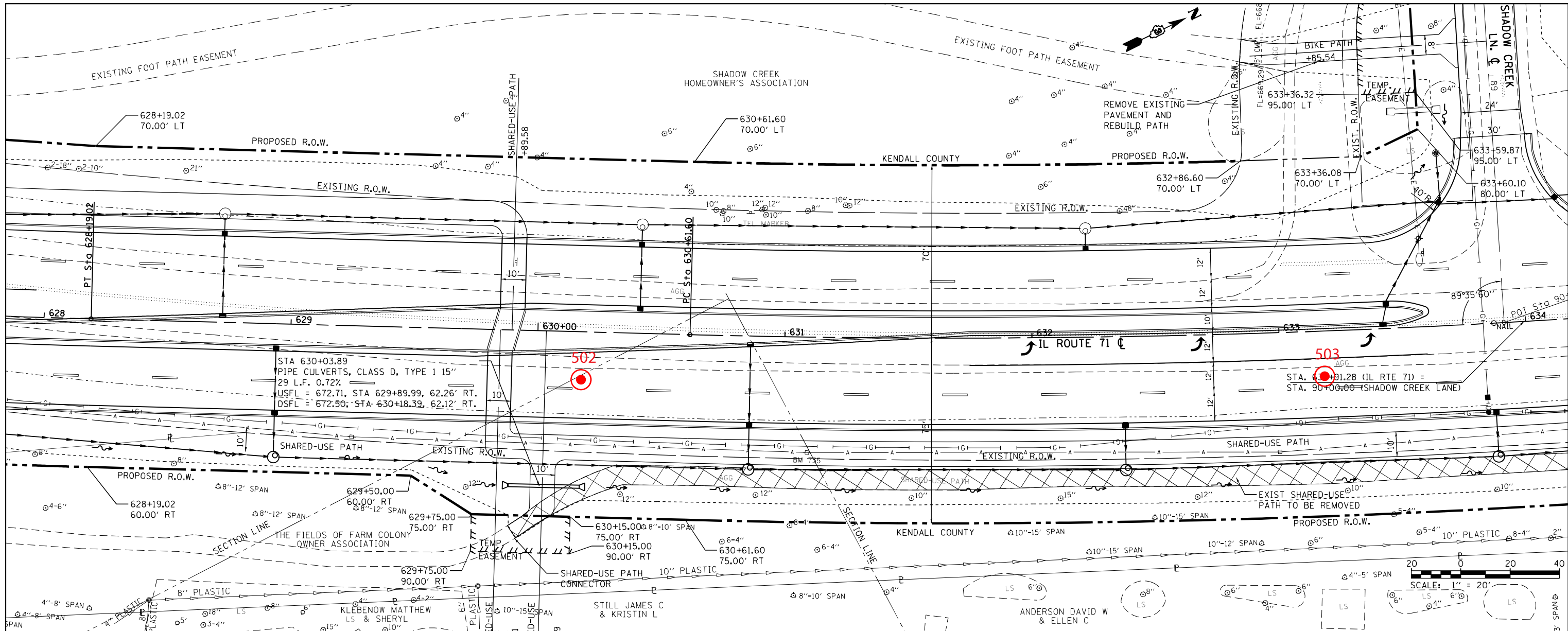
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PROFILE	SURVEYED
	PLOTTED
	GRADES CHECKED
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FILE NAME = 0366883-shr-plnpr-f-l-71.dgn	USER NAME = bemery	DESIGNED -	REVISIED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. 311	SECTION (L, I-IR)	COUNTY KENDALL	TOTAL SHEETS 24	SHEET NO. 24	
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISIED -	SCALE: 1" = 20'			SHEET NO. 24 OF 52 SHEETS	STA. 622+00 TO STA. 628+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT	
PLOT DATE = 12/15/2014	DATE -	REVISIED -									

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	PLOTTED
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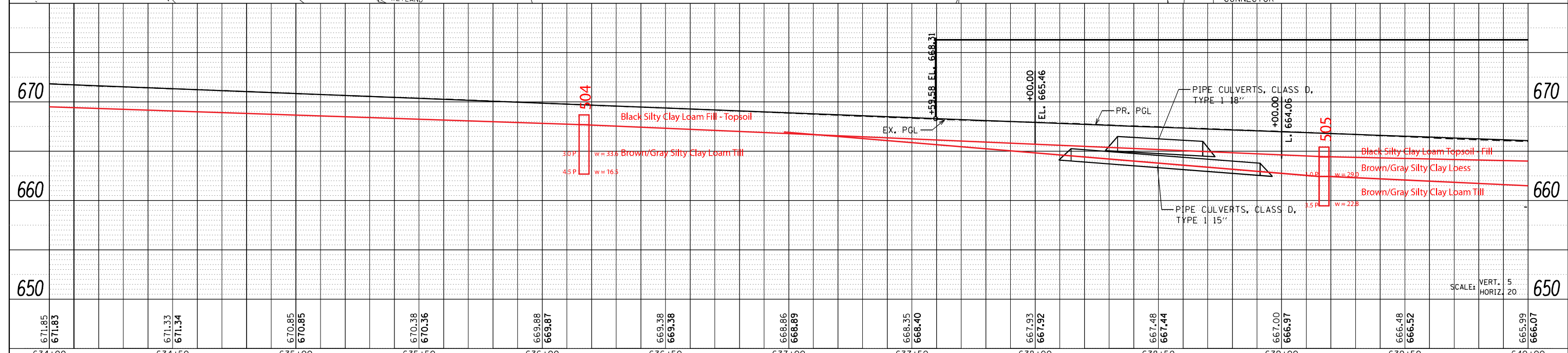
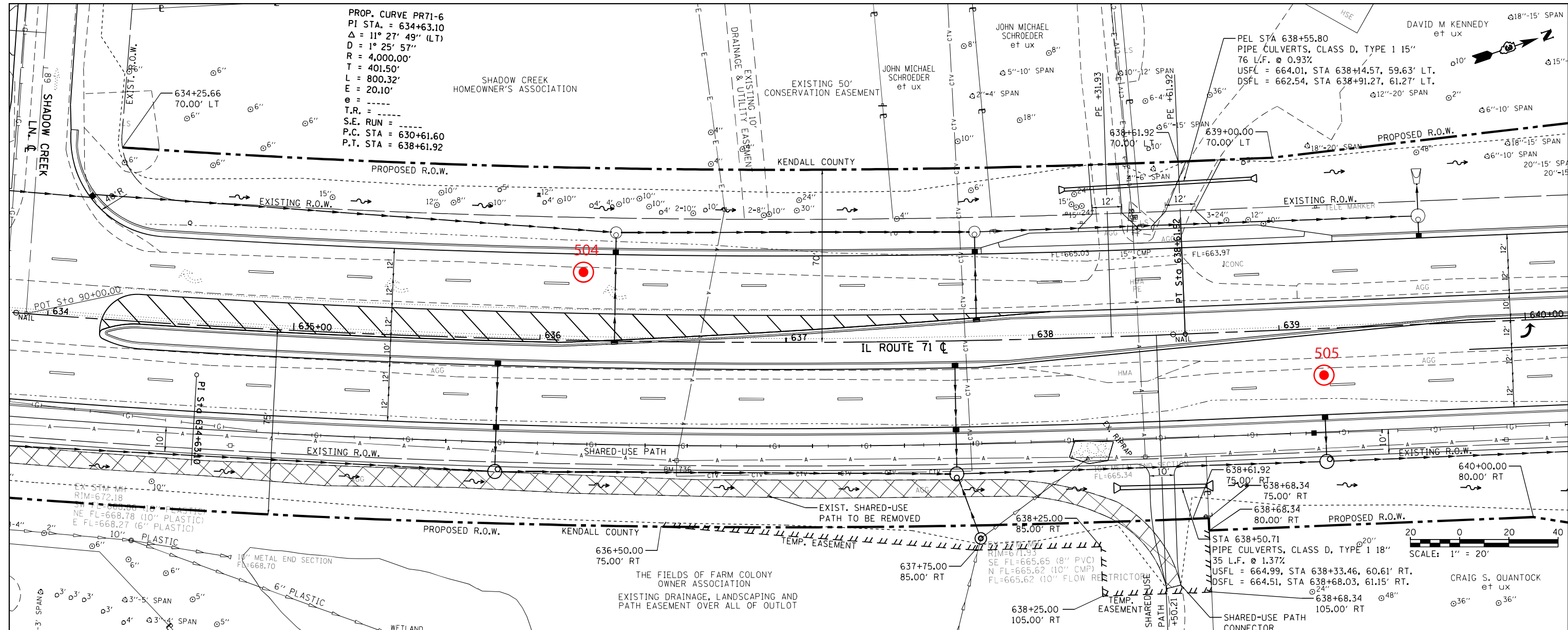
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	CHECKED
	GRADES
	STRUCTURE
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FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0366883-shr-plnpr-f-l-71.dgn	bemery	DRAWN -	REVISED -			311	(L, I-IR)	KENDALL	25	25
		CHECKED -	REVISED -			CONTRACT NO. 66883				
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

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	PLOTTED
	NOTE BOOK
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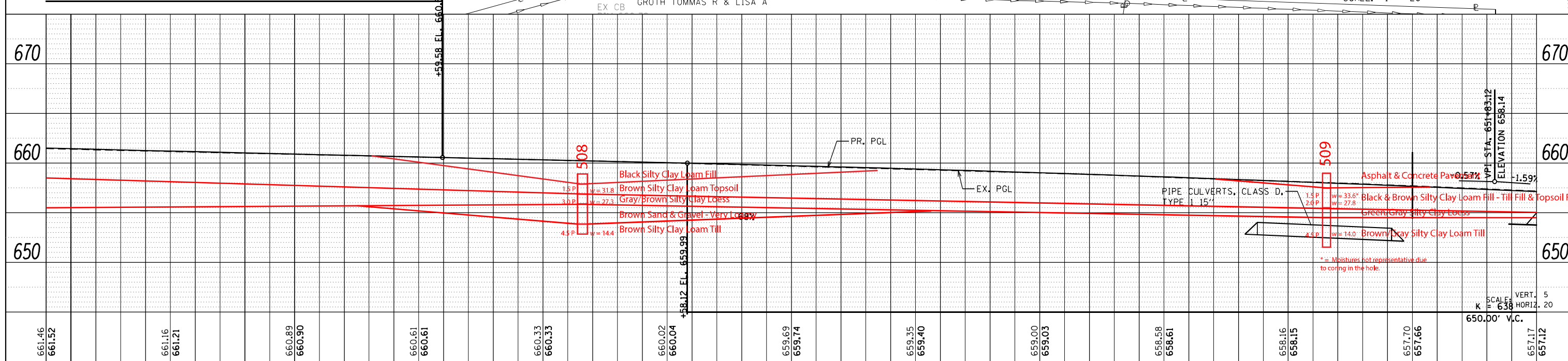
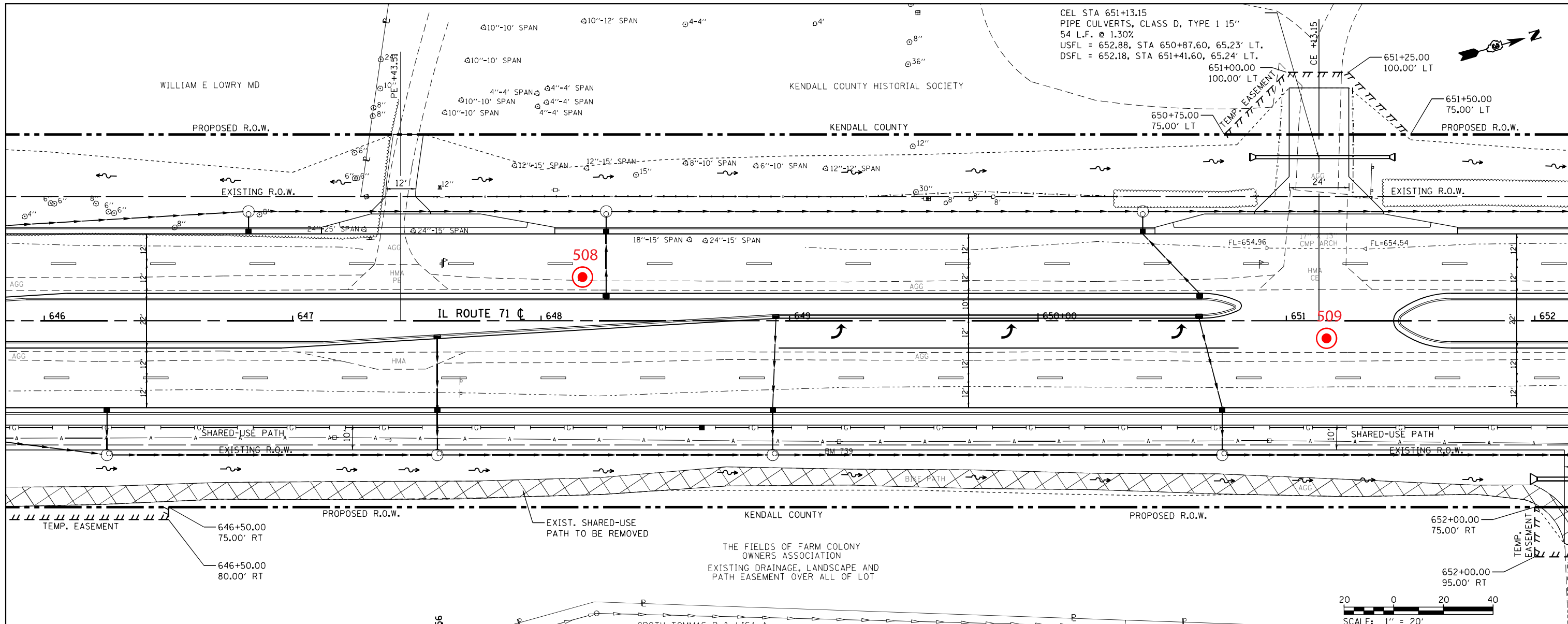
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PROFILE	SURVEYED
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	GRADES CHECKED
	STRUCTURE
	NOTATIONS
	CHPND
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FILE NAME =	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D366883-sh1-plnpr-f-IL71.dgn		DRAWN -	REVISED -			311	(L, I-IR)	KENDALL	26	26
		CHECKED -	REVISED -			CONTRACT NO. 66883				
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

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	DATE _____	

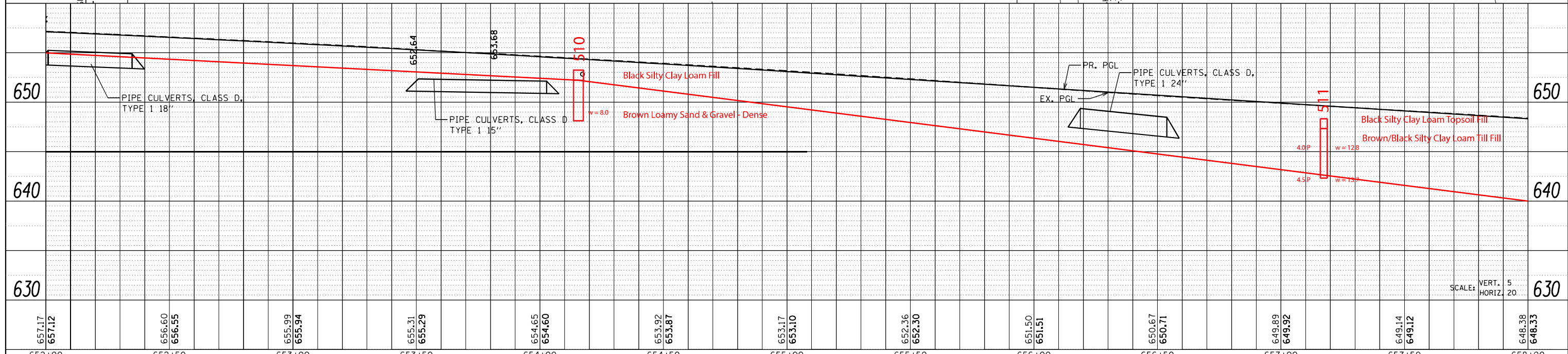
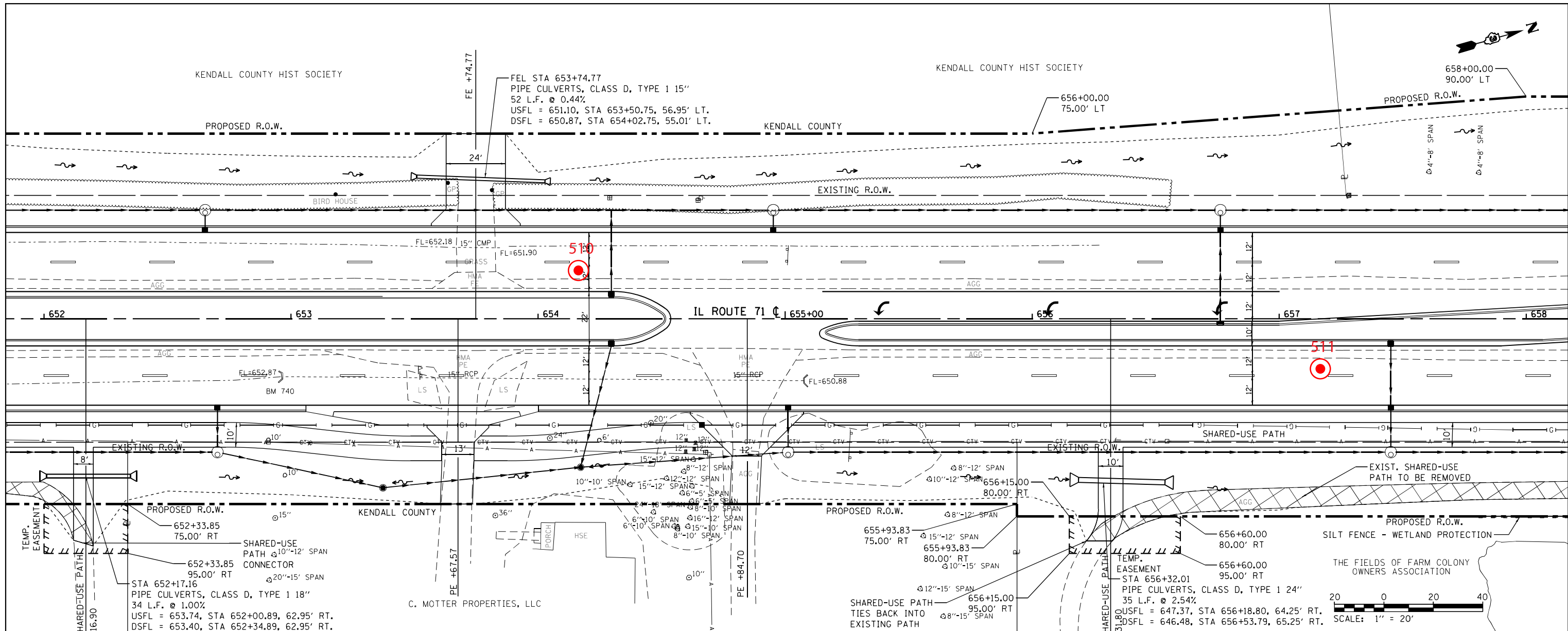
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	PLOTTED	
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	DATE _____	



FILE NAME = 0366883-sht-plnprf-IL 71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. 311	SECTION (L, I-IR)	COUNTY KENDALL	TOTAL SHEETS 28	SHEET NO. 28	
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 28 OF 52 SHEETS	STA. 646+00 TO STA. 652+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT
	PLOT DATE = 12/15/2014	DATE -	REVISED -								

PLAN	SURVEYED	DATE
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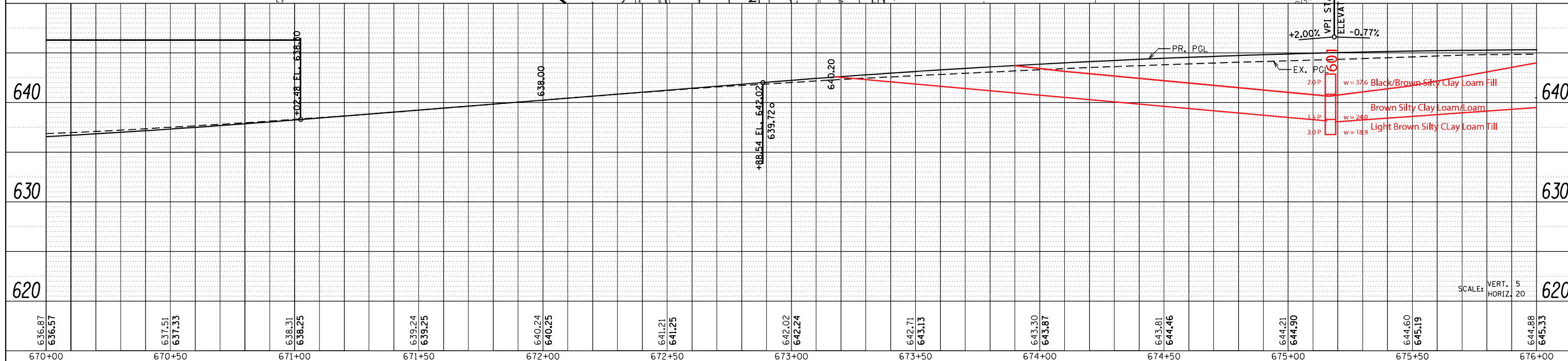
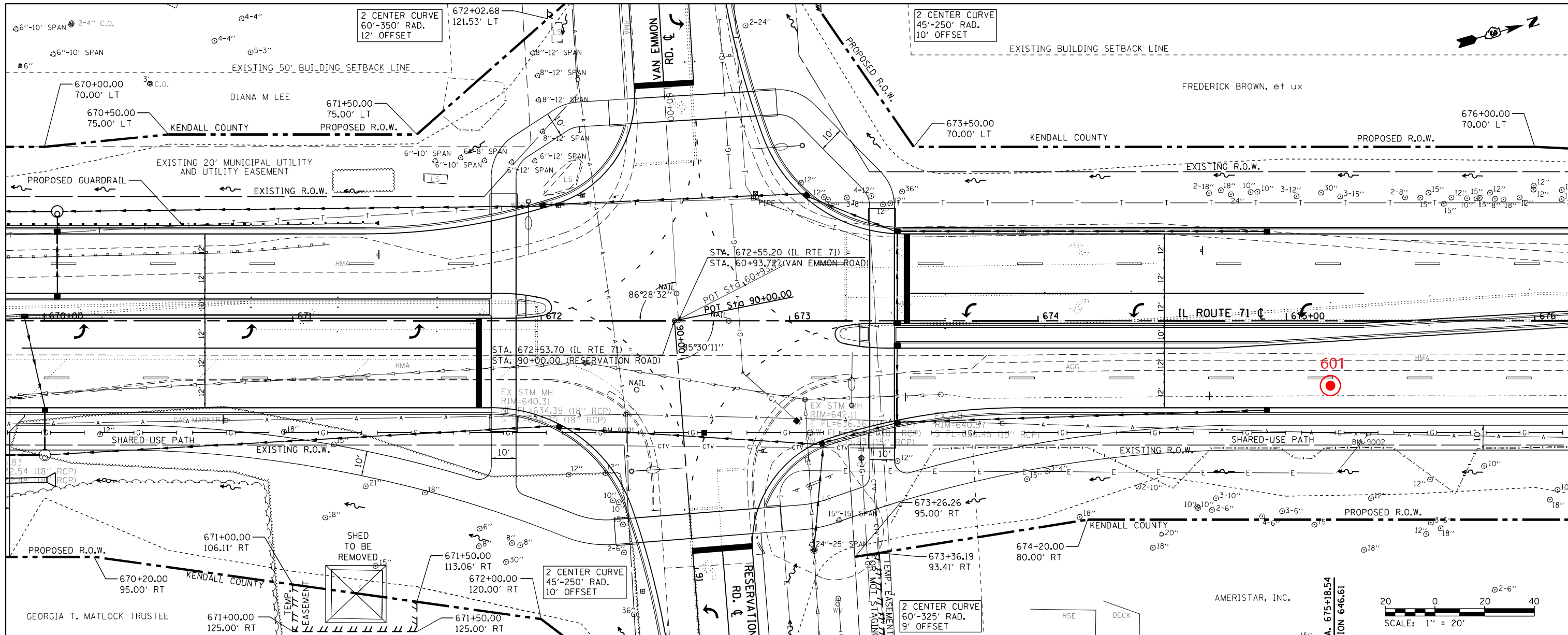
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	BY	
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FILE NAME = 0366883-sht-plnprf-IL 71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. = 311	SECTION = (L, I-1R)	COUNTY = KENDALL	TOTAL SHEETS = 29	SCALE: 1" = 20' SHEET NO. 29 OF 52 SHEETS STA. 652+00 TO STA. 658+00	CONTRACT NO. 66883
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			SCALE: VERT. 5' HORIZ. 20'	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 12/15/2014	DATE -	REVISED -								

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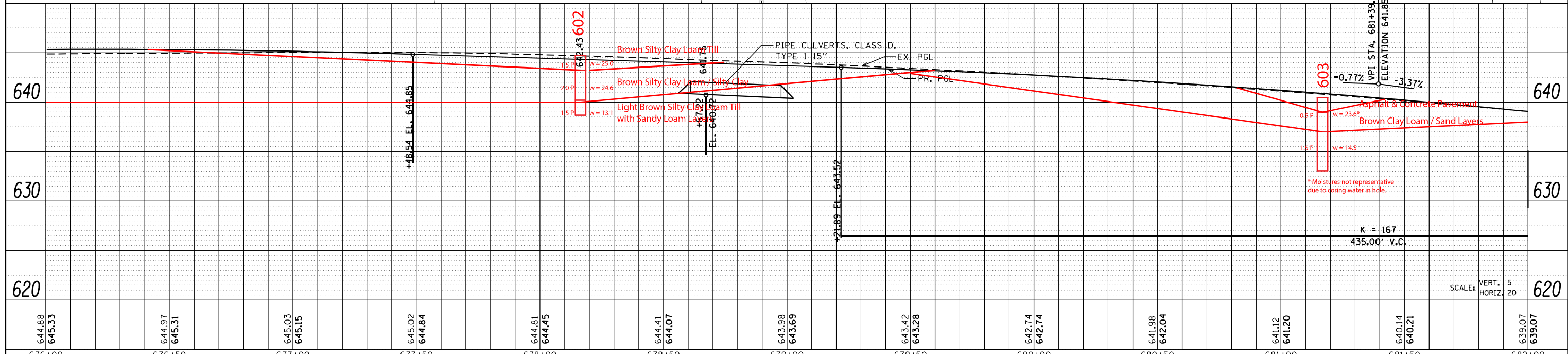
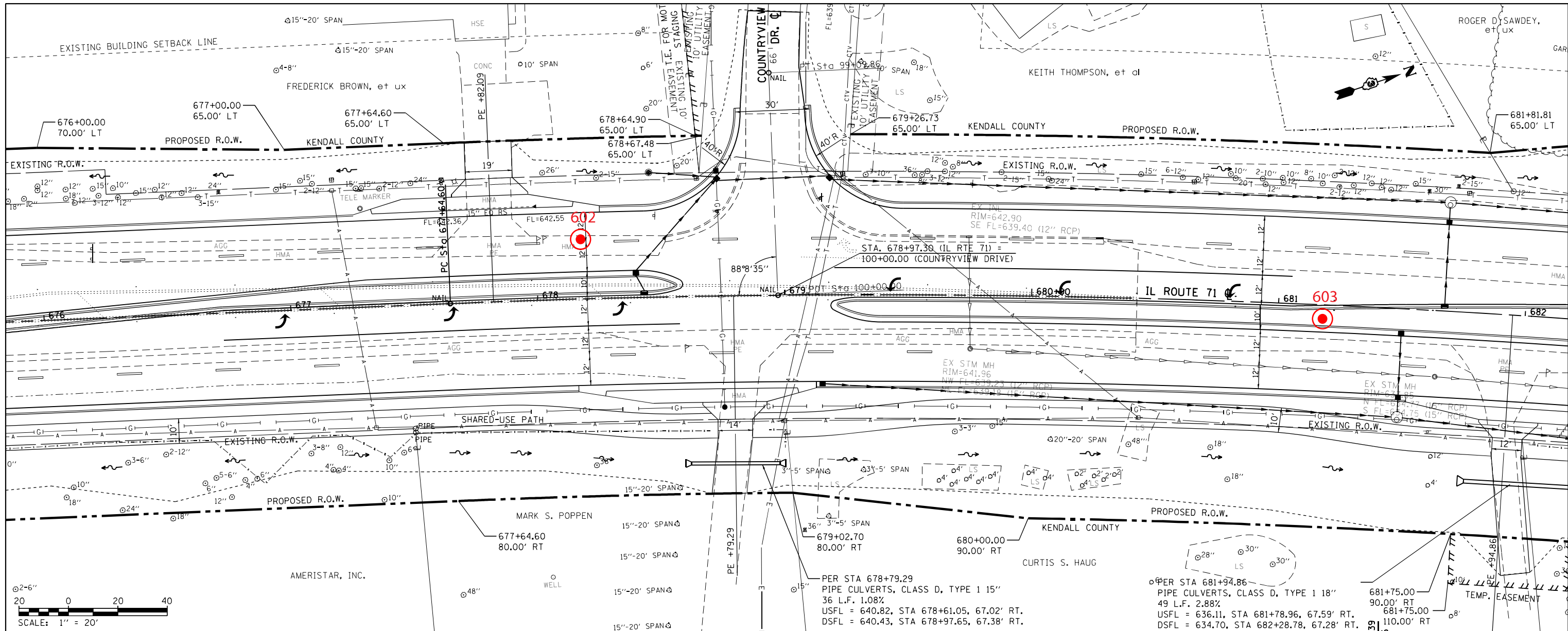
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STRUCTURE	
NOTATIONS	
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NOTE BOOK	
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FILE NAME	



FILE NAME = 0366883-sht-plnpr-f-IL71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71			F.A.P. RTE. 311	SECTION (I, I-1R)	COUNTY KENDALL	TOTAL SHEETS 32	SHEET NO. 32
		DRAWN -	REVISED -		SCALE: 1" = 20'	SHEET NO. 32 OF 52 SHEETS	STA. 670+00 TO STA. 676+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT		
		CHECKED -	REVISED -									
		DATE - 12/15/2014	REVISED -									

PLAN	SURVEYED	DATE
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NO.	FILE NAME	

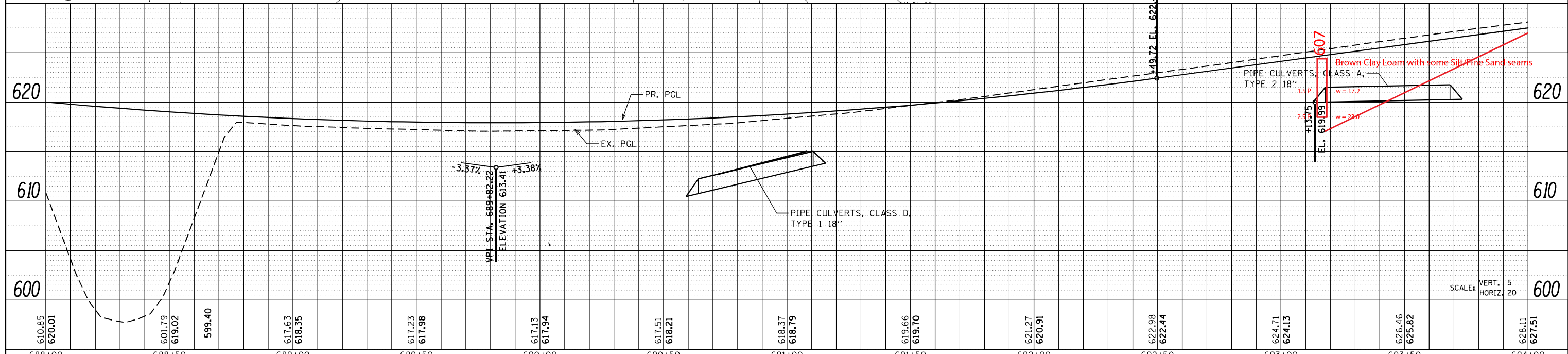
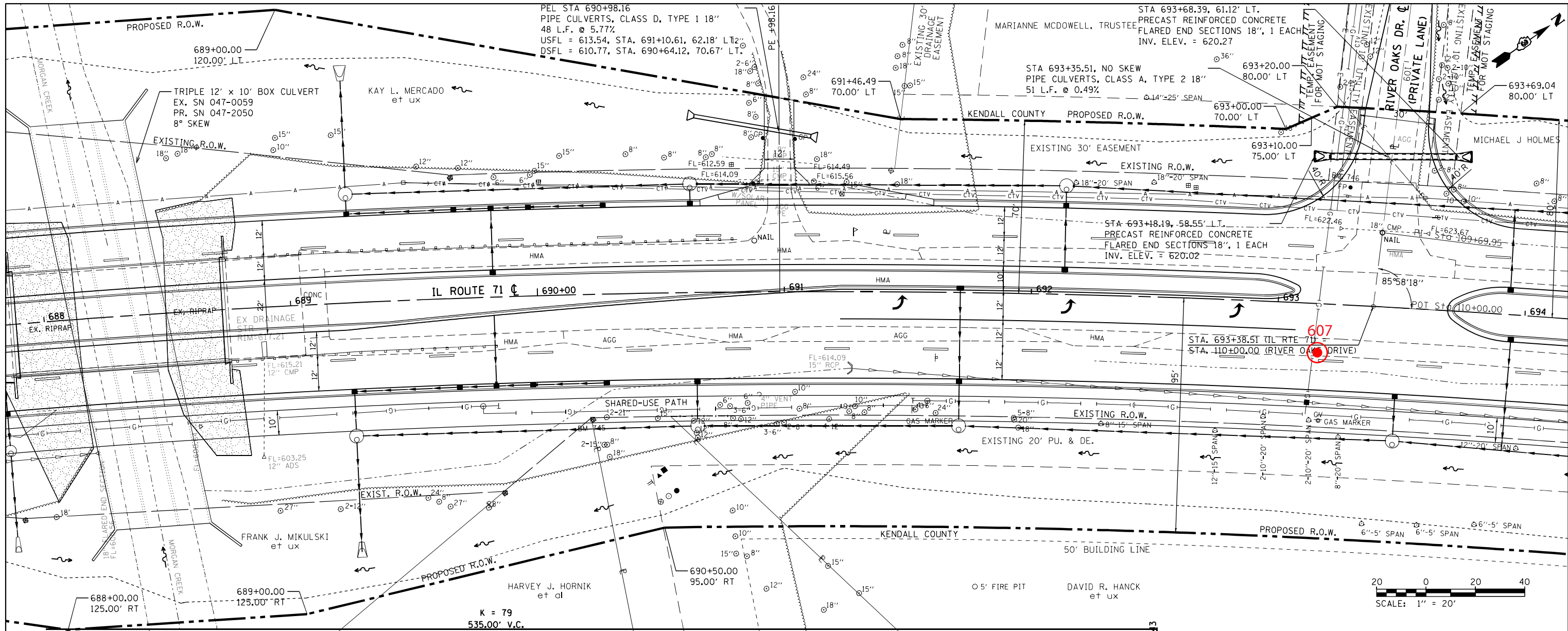
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	NOTATIONS	
NO.	DATE	



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	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 33 OF 52 SHEETS	STA. 676+00 TO STA. 682+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 12/15/2014	DATE -	REVISED -									

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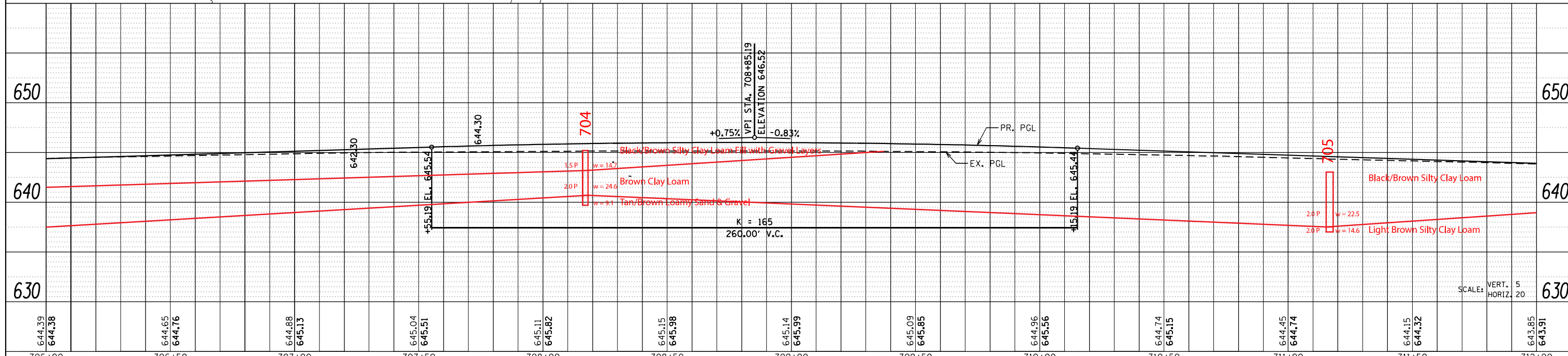
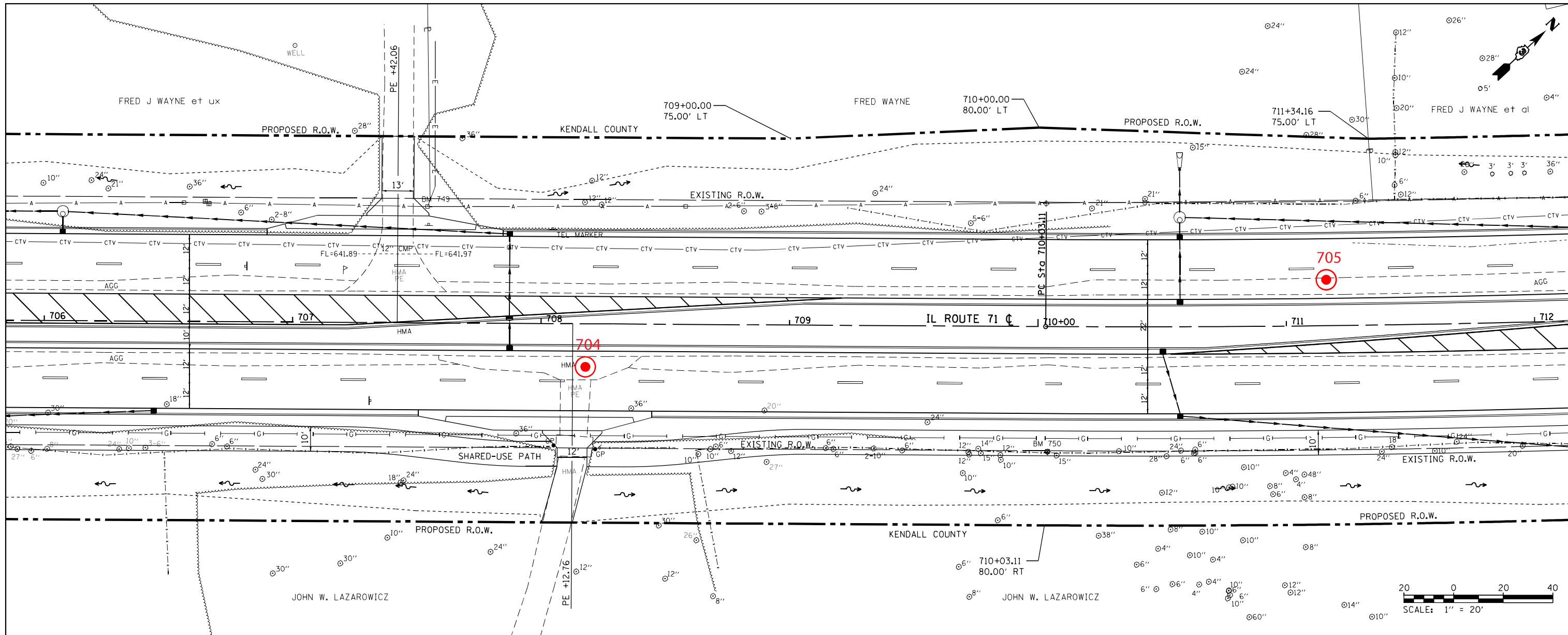
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	FILE NAME



FILE NAME = 0366883-shr-p\Inpr-f-IL 71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71			F.A.P. R.T.E. = 311	SECTION = (L, I-1R)	COUNTY = KENDALL	TOTAL SHEETS = 35	SHEET NO. = 35
		DRAWN -	REVISED -		SCALE: 1" = 20'	SHEET NO. 35 OF 52 SHEETS	STA. 688+00 TO STA. 694+00	CONTRACT NO. 66883				
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE = 12/15/2014	REVISED -									

DATE	
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PLAN	SURVEYED
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NOTE BOOK NO.	
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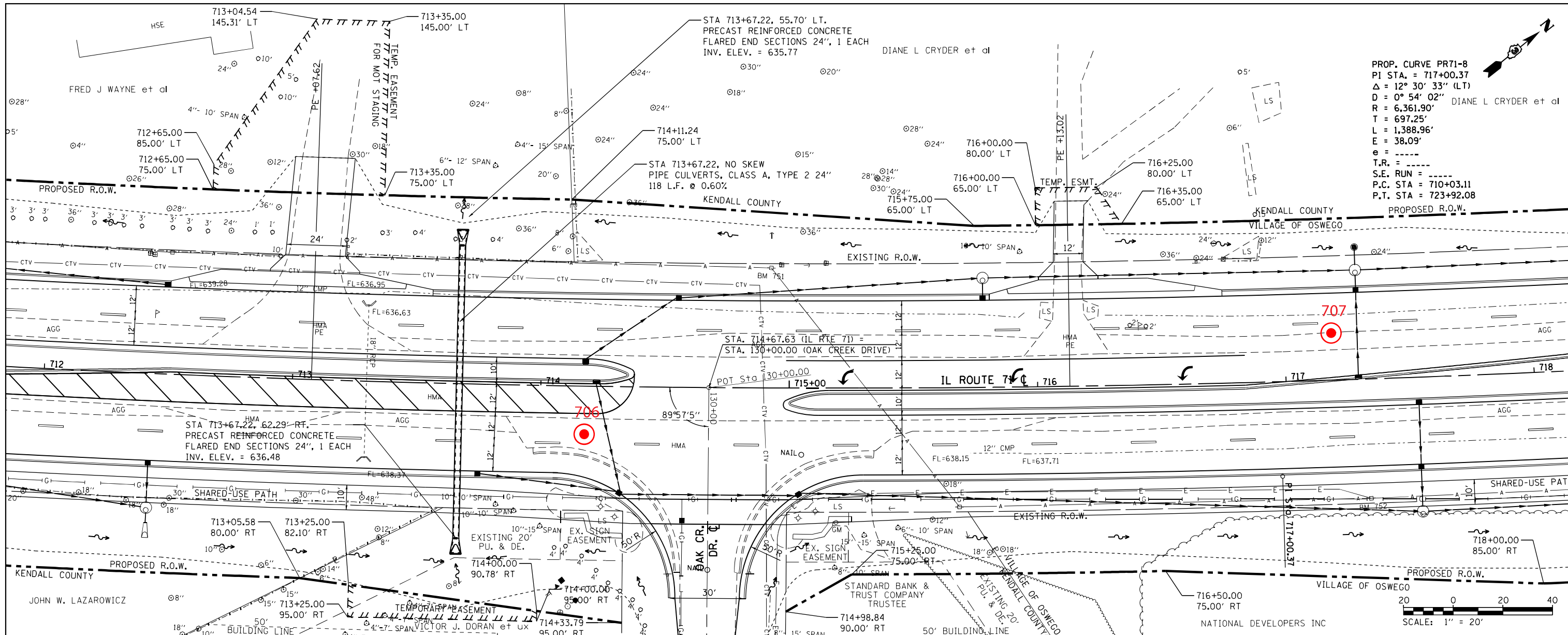
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NOTE BOOK NO.	
CADD FILE NAME	



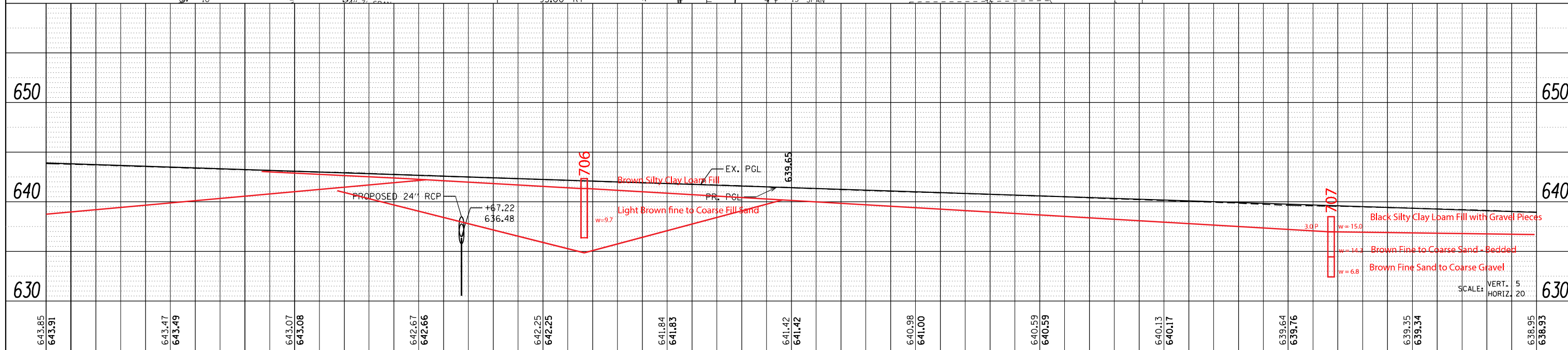
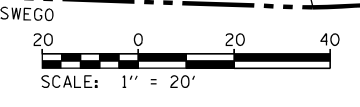
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		DRAWN -	REVISED -		SCALE: 1" = 20'	SHEET NO. 38 OF 52 SHEETS	STA. 706+00 TO STA. 712+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT		
		CHECKED -	REVISED -									
		DATE = 12/15/2014	REVISED -									

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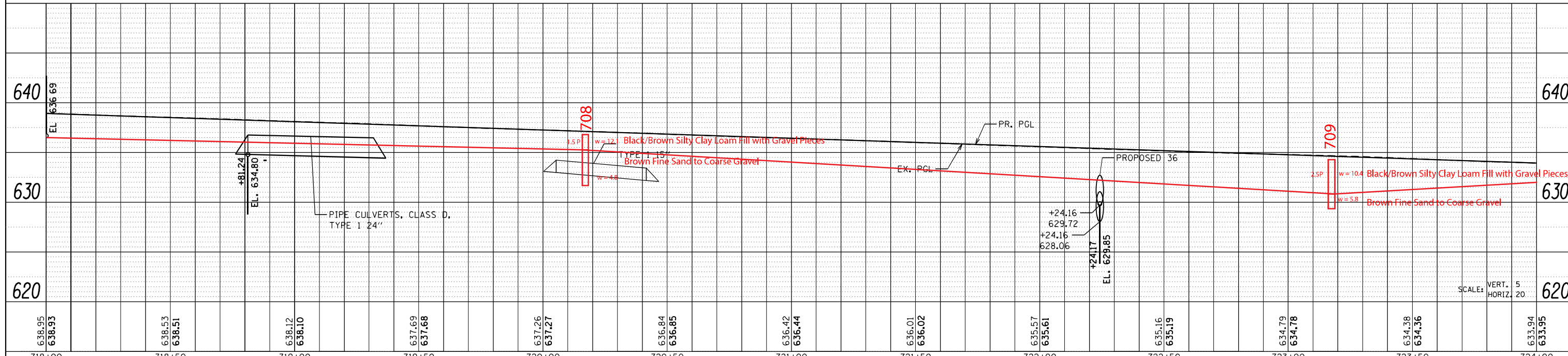
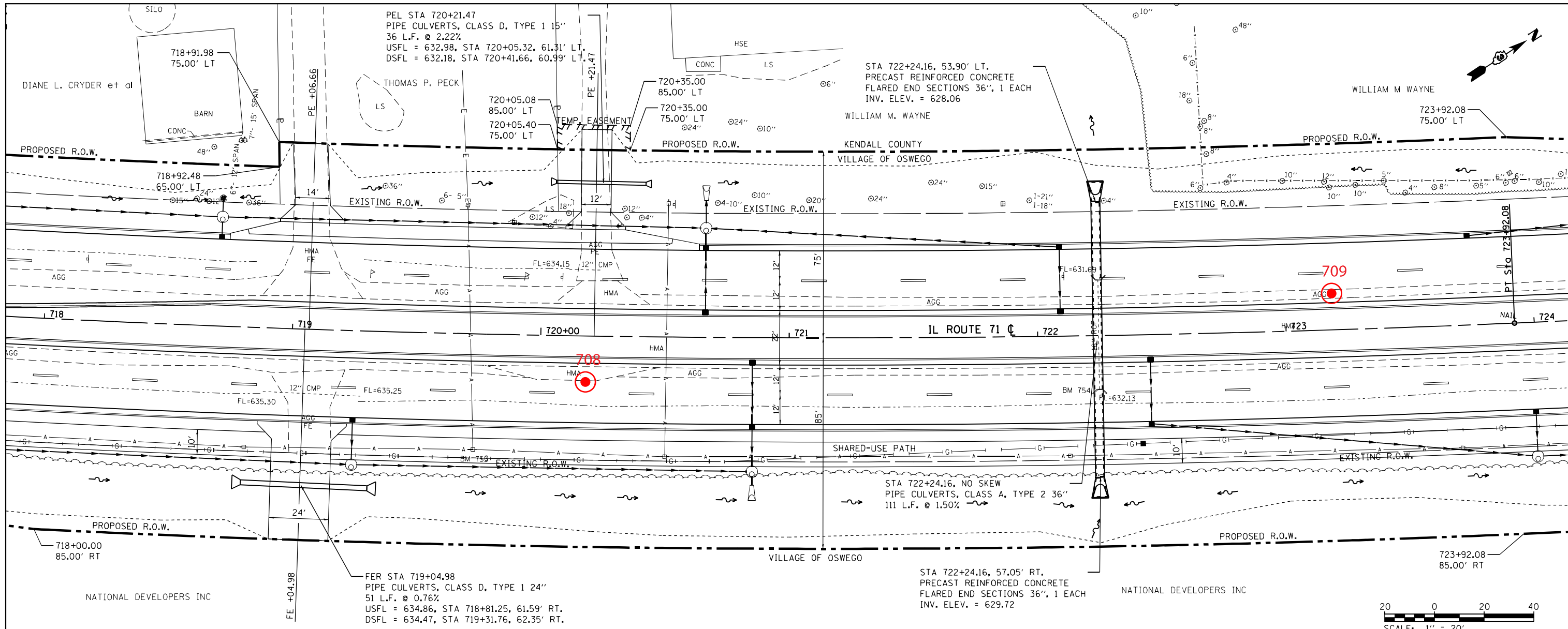
PROP. CURVE PR71-8
 PI STA. = 717+00.37
 $\Delta = 12^\circ 30' 33''$ (LT)
 $D = 0^\circ 54' 02''$ DIANE L CRYDER et al
 $R = 6,361.90'$
 $T = 697.25'$
 $L = 1,388.96'$
 $E = 38.09'$
 $e =$
 $T.R. =$
 $S.E. RUN =$
 $P.C. STA = 710+03.11$
 $P.T. STA = 723+92.08$



FILE NAME = 0366883-sht-p\Inpr-f-IL71.dgn	USER NAME = bemery	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. 311	SECTION (L, I-IR)	COUNTY KENDALL	TOTAL SHEETS 39	CONTRACT NO. 66883
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISD -	SCALE: 1" = 20'			SHEET NO. 39 OF 52 SHEETS	STA. 712+00 TO STA. 718+00	ILLINOIS FED. AID PROJECT		
PLOT DATE = 12/15/2014	DATE -	REVISD -								

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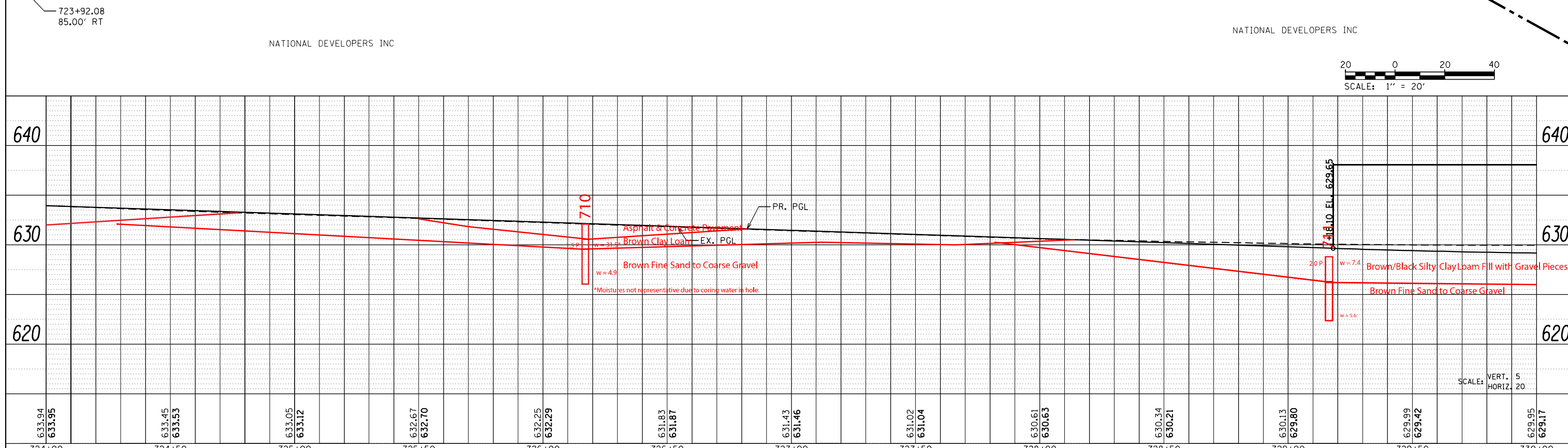
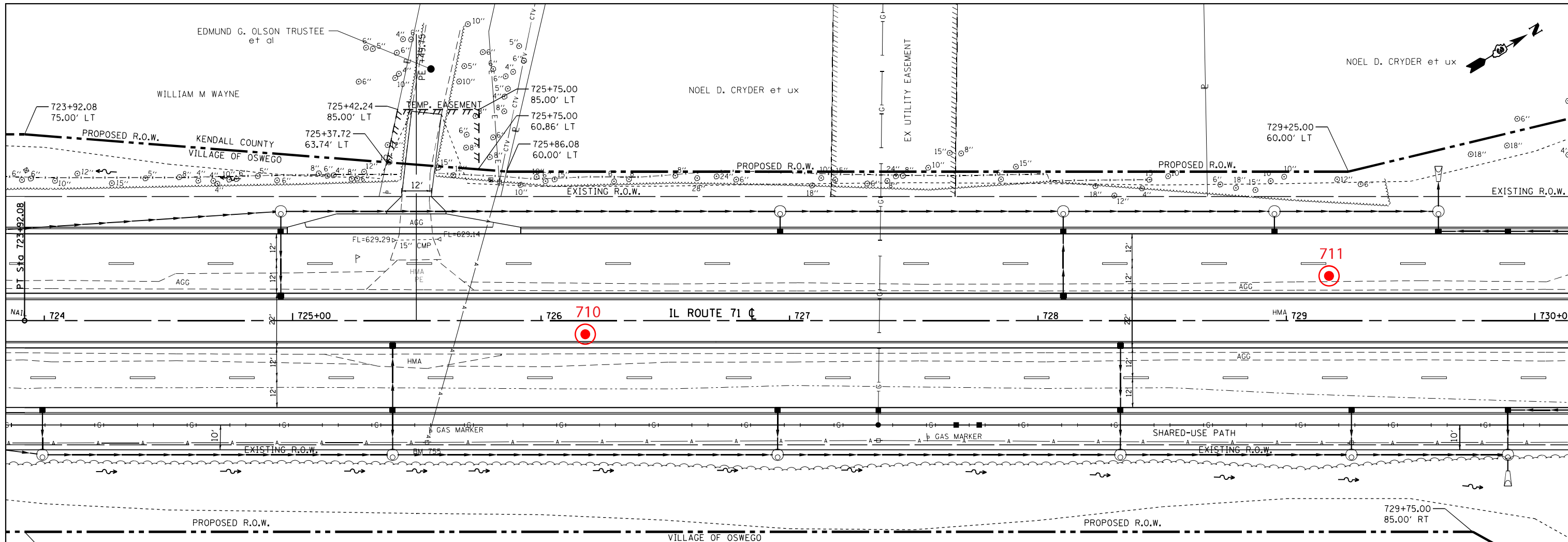
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PROFILE	SURVEYED
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	CHECKED
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	NOTATIONS
	CHPND
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	NO.



FILE NAME = 0366883-sht-plnprf-IL71.dgn	USER NAME = bemery	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. R.E. = 311	SECTION = (L, I-IR)	COUNTY = KENDALL	TOTAL SHEETS = 40	SHEET NO. = 40	
		DRAWN -	REVISD -			SCALE: 1" = 20'	SHEET NO. 40 OF 52 SHEETS	STA. 718+00 TO STA. 724+00	CONTRACT NO. 66883		
		CHECKED -	REVISD -			ILLINOIS FED. AID PROJECT					
		DATE -	REVISD -								

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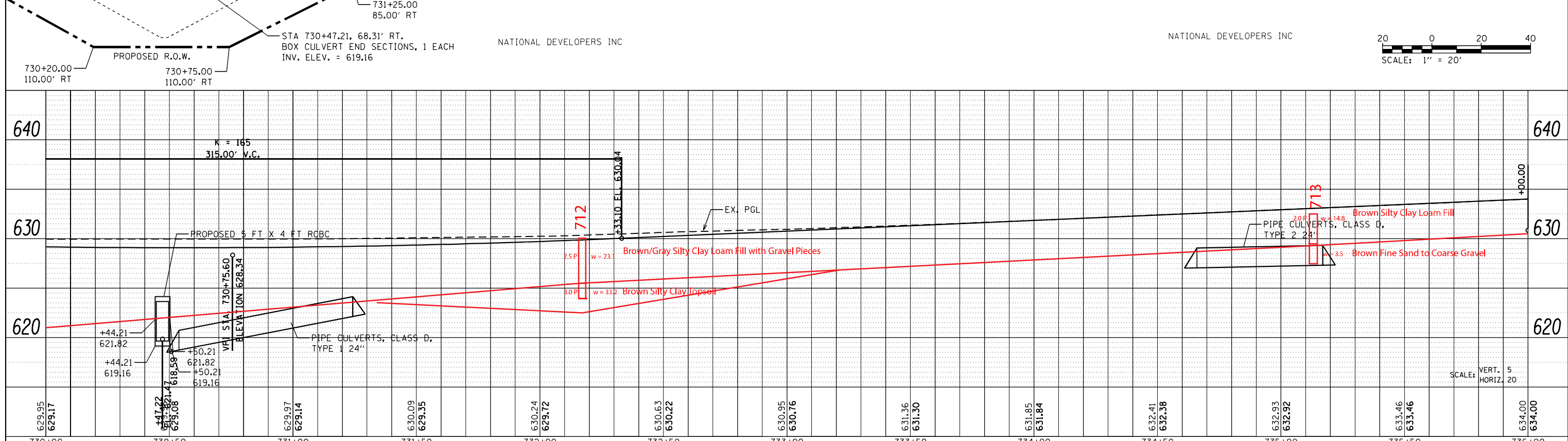
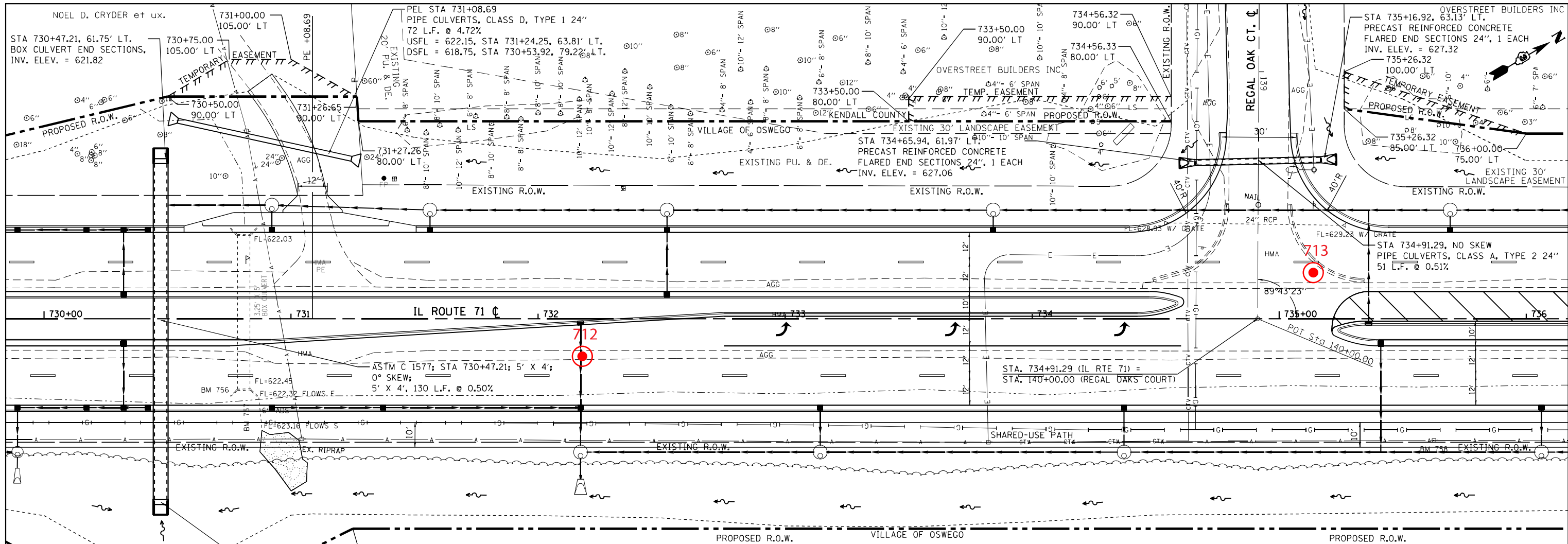
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FILE NAME =	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P	SECTION	COUNTY	TOTAL	SHEET
D366883-sht-plnpr-f-IL71.dgn		DRAWN -	REVISED -			311	(L, I-1R)	KENDALL	SHEETS	NO.
		CHECKED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 41 OF 52 SHEETS	STA. 724+00 TO STA. 730+00	CONTRACT NO. 66883	41
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	NO. 1	
	NO. 2	
	NO. 3	
	NO. 4	
	NO. 5	
	NO. 6	
	NO. 7	
	NO. 8	
	NO. 9	
	NO. 10	

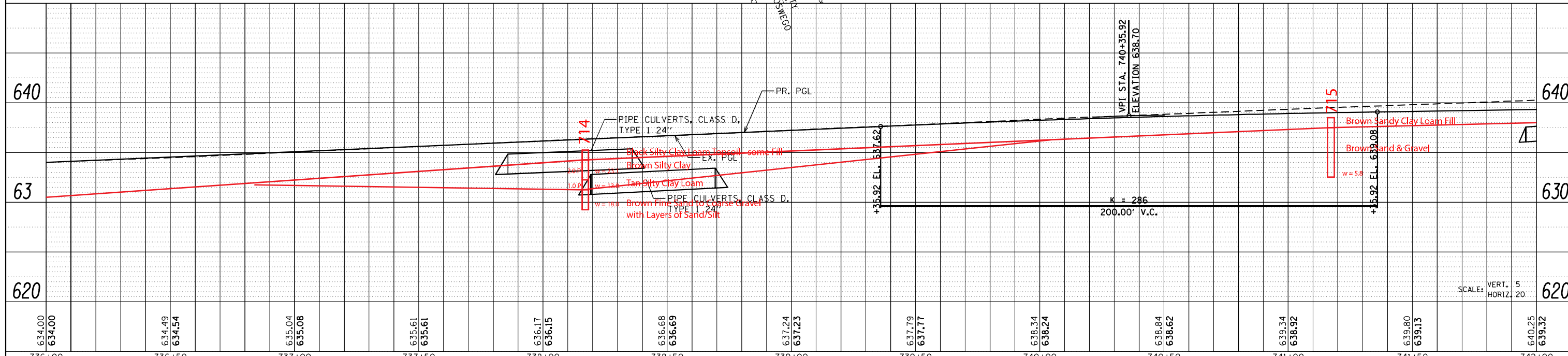
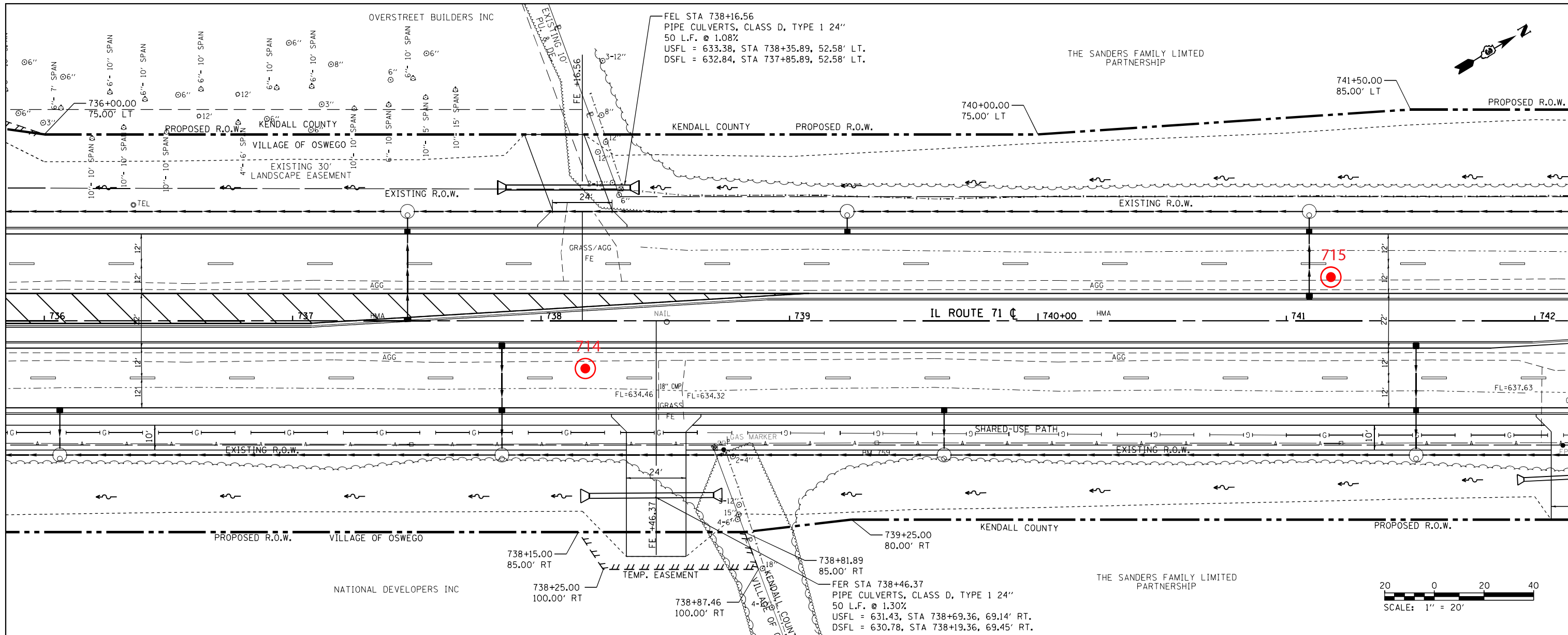
PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	CPAD	
	NO. 1	
	NO. 2	
	NO. 3	
	NO. 4	
	NO. 5	
	NO. 6	
	NO. 7	
	NO. 8	
	NO. 9	
	NO. 10	



FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D366883-shr-plnpr-f-IL71.dgn	bemery	DRAWN -	REVISED -			311	(L, I-IR)	KENDALL	42	42
PLOT SCALE = 40.0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 66883				
PLOT DATE = 12/15/2014		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILED	
	NO.	
	BY	
	DATE	

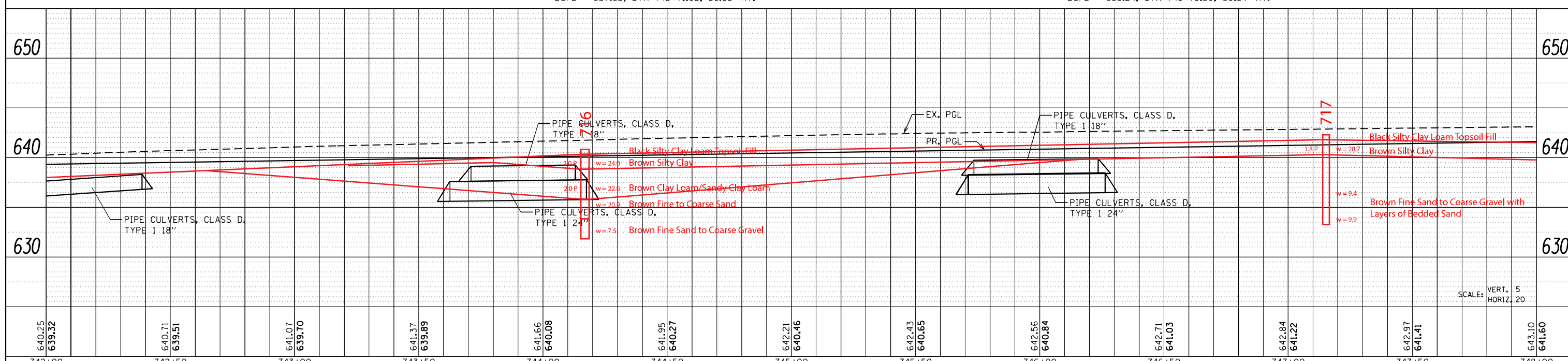
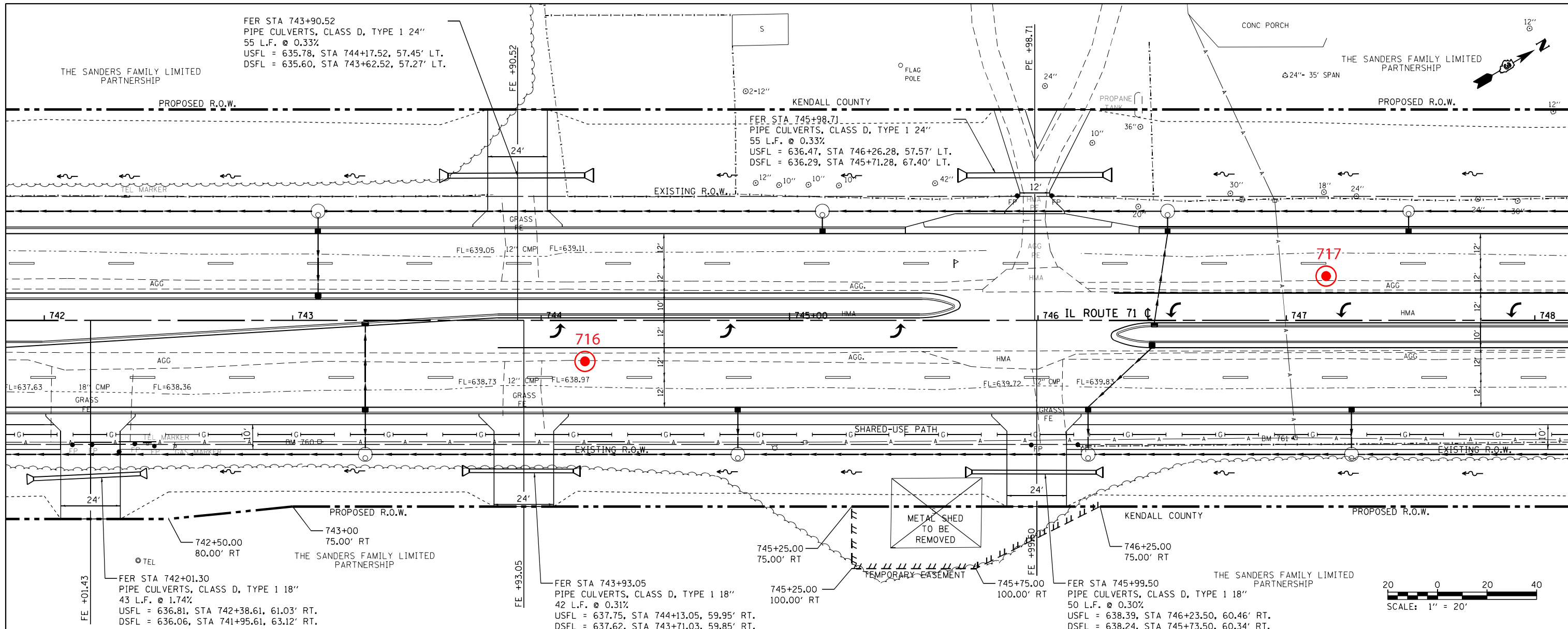
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	PLOTTED	
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	CHKD	
	NO.	
	BY	
	DATE	



FILE NAME = D366883-sht-p\Inpr-f-IL 71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. 311	SECTION (L, I-1R)	COUNTY KENDALL	TOTAL SHEETS 43	
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	SCALE: 1" = 20'			SHEET NO. 43 OF 52 SHEETS	STA. 736+00 TO STA. 742+00	CONTRACT NO. 66883		
PLOT DATE = 12/15/2014	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							

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	FILE NAME
	NO. _____

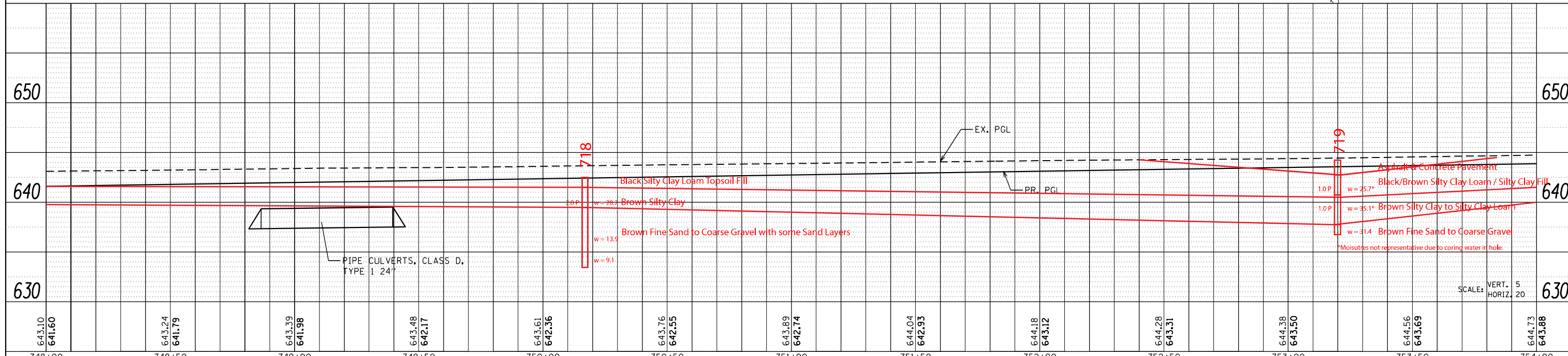
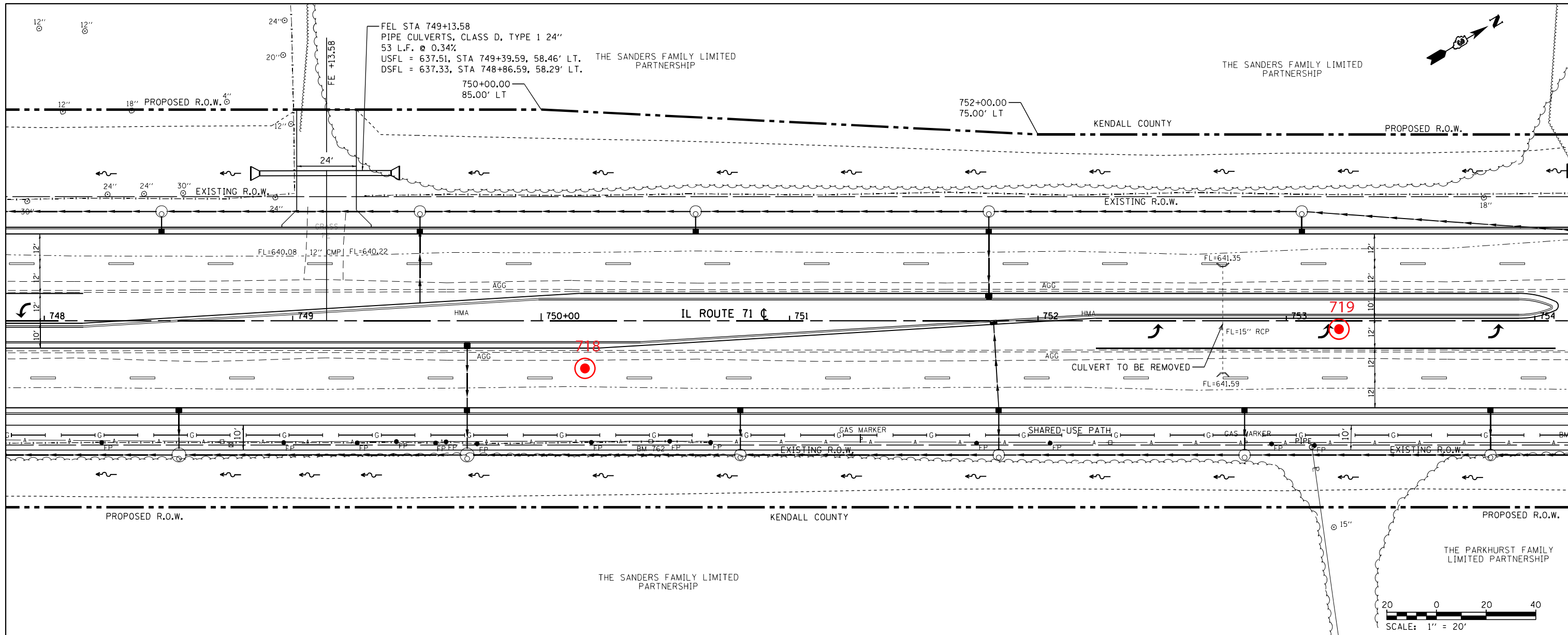
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	NOTATIONS
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	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISD -			SCALE: 1" = 20'	SHEET NO. 44 OF 52 SHEETS	STA. 742+00 TO STA. 748+00	CONTRACT NO. 66883		
	PLOT DATE = 12/15/2014	DATE -	REVISD -			ILLINOIS FED. AID PROJECT					

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	GRADES CHECKED	
	STRUCTURE	
	NOTATIONS	
	CPAD	

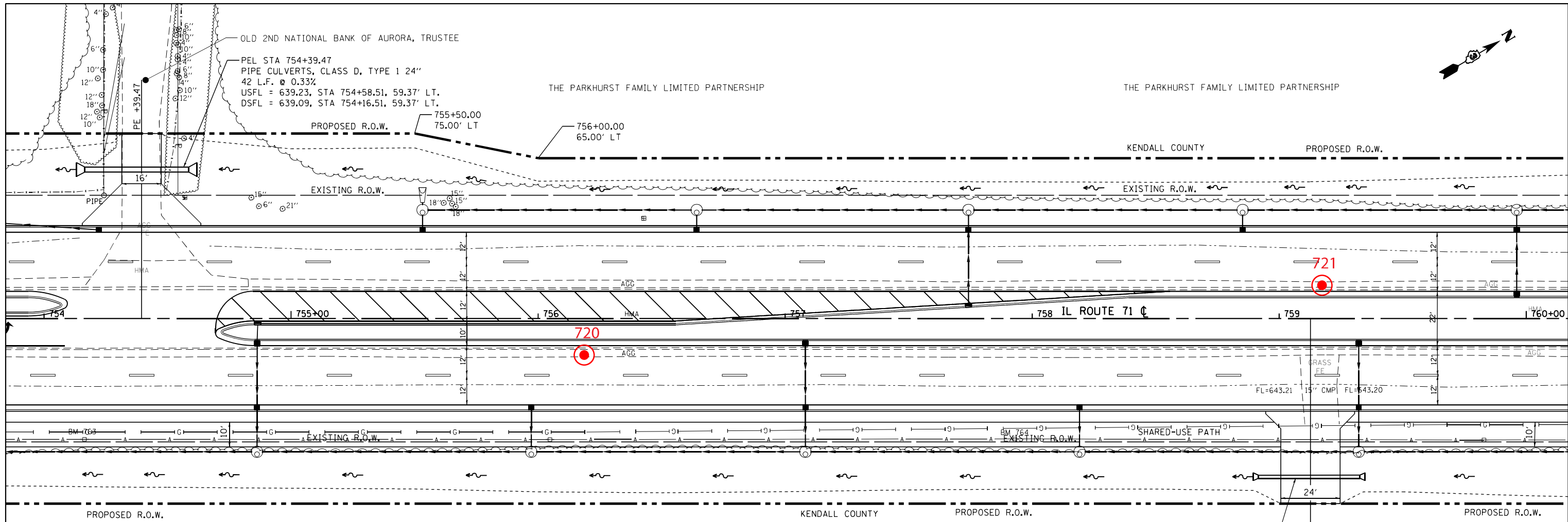
PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	GRADES CHECKED	
	STRUCTURE	
	NOTATIONS	
	CPAD	



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PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	SCALE: 1" = 20'			SHEET NO. 45 OF 52 SHEETS	STA. 748+00 TO STA. 754+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT	
PLOT DATE = 12/15/2014	DATE -	REVISED -									

PLAN SURVEYED PLOTTED
NOTE BOOK NO. _____
ALIGNMENT CHECKED _____
CADD FILE NAME _____

PROFILE SURVEYED PLOTTED
NOTE BOOK NO. _____
GRADES CHECKED _____
STRUCTURE NOTATIONS OK'D _____



644.73 643.88	644.89 644.07	645.04 644.26	645.16 644.45	645.29 644.64	645.45 644.83	645.60 645.02	645.73 645.21	645.87 645.40	646.02 645.59	646.10 645.78	646.23 645.97	646.39 646.16
754+00	754+50	755+00	755+50	756+00	756+50	757+00	757+50	758+00	758+50	759+00	759+50	760+00

FILE NAME = 0366883-sh1-plnpr-f-il71.dgn

USER NAME = bemery	DESIGNED -	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 12/15/2014	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

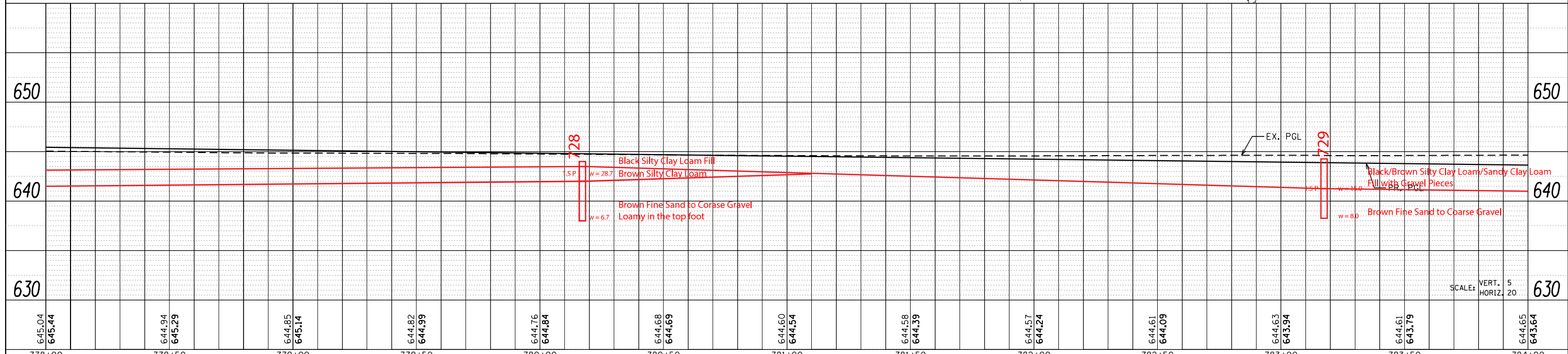
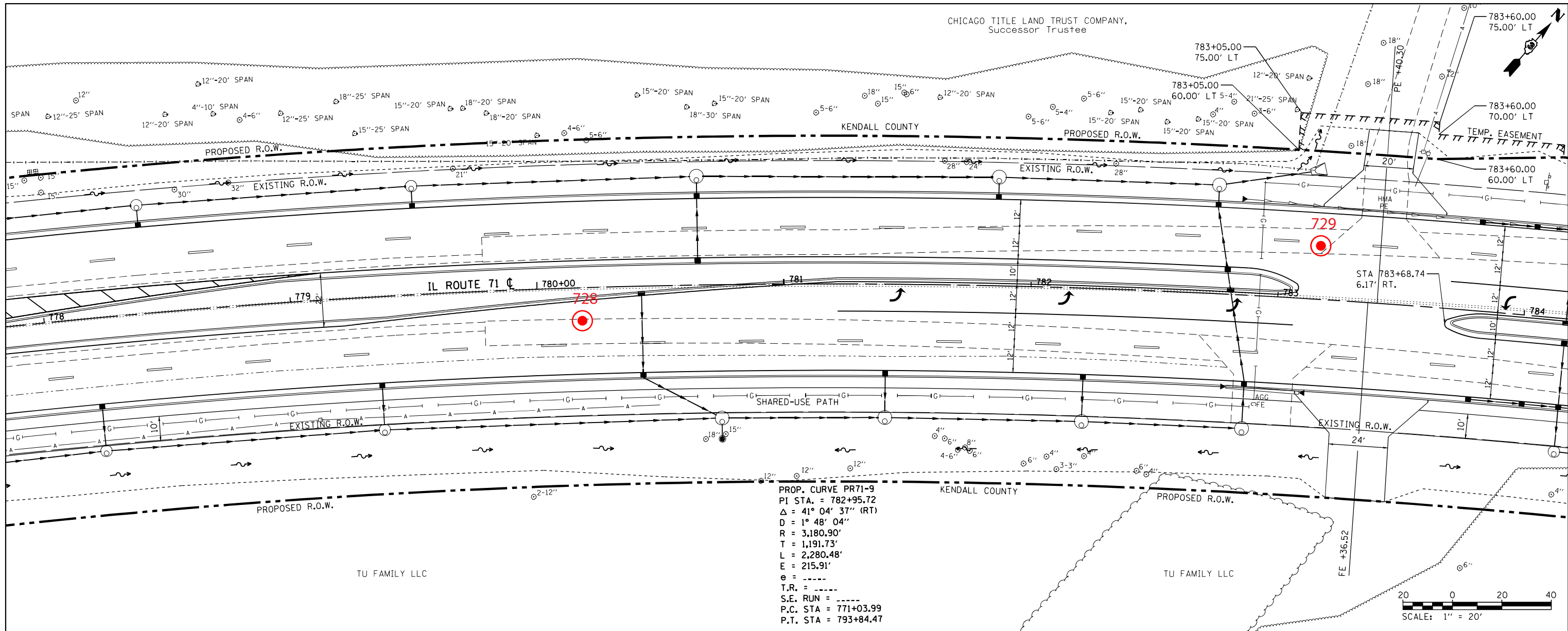
**PLAN & PROFILE
IL 71**

SCALE: 1" = 20' SHEET NO. 46 OF 52 SHEETS STA. 754+00 TO STA. 760+00

F.A.P R.T.E. 311	SECTION (L, I-1R)	COUNTY KENDALL	TOTAL SHEETS 46
CONTRACT NO. 66883			ILLINOIS FED. AID PROJECT

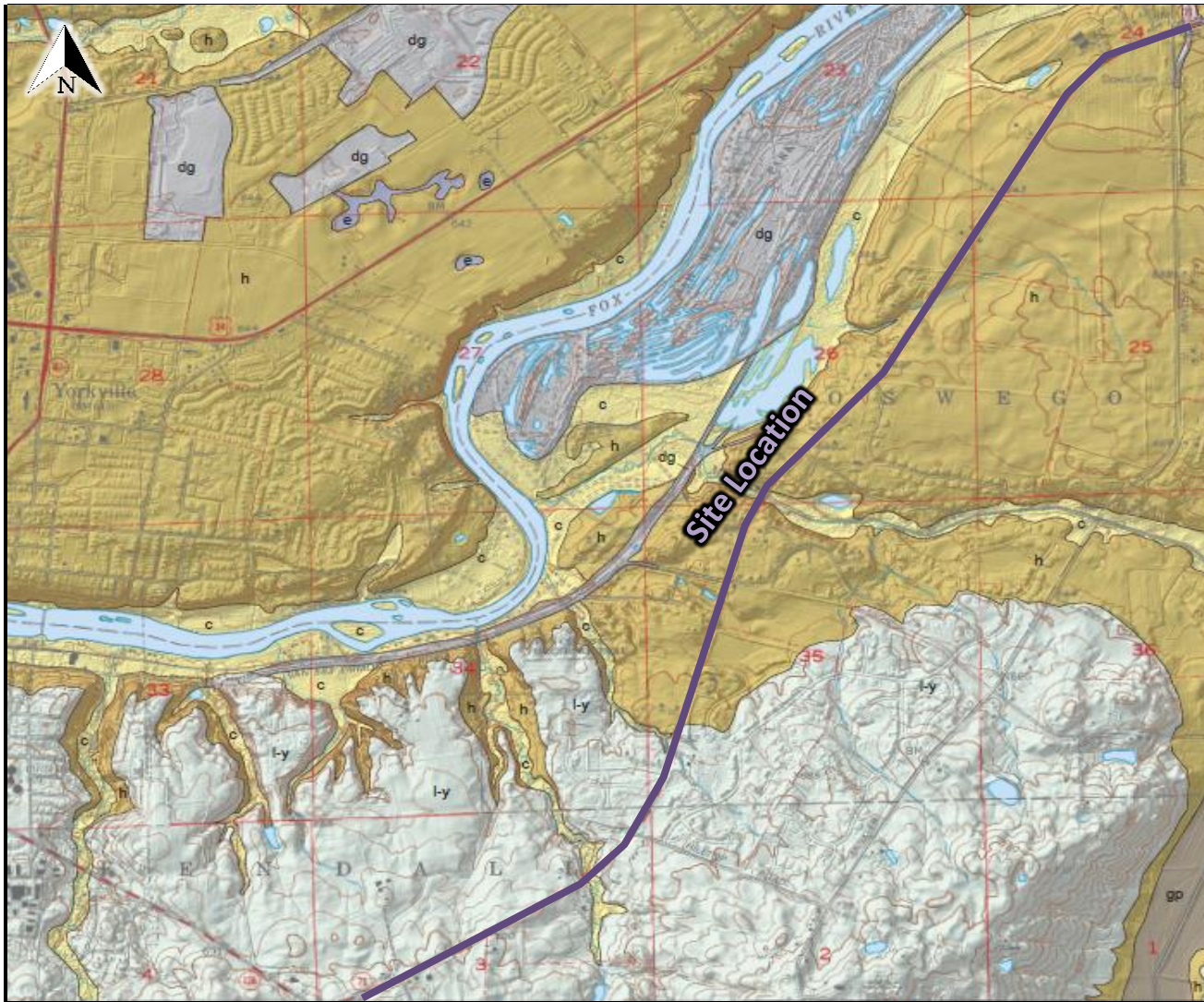
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	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	NO.	
	FILE NAME	

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



FILE NAME = 0366883-sht-p\Inprf-IL 71.dgn	USER NAME = bemery	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE IL 71	F.A.P. RTE. 311	SECTION (I, I-1R)	COUNTY KENDALL	TOTAL SHEETS 50	SHEET NO. 50		
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 50 OF 52 SHEETS	STA. 778+00 TO STA. 784+00	CONTRACT NO. 66883		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 12/15/2014	DATE -	REVISED -									

Appendix D – Geology and Pedology Maps



LEGEND

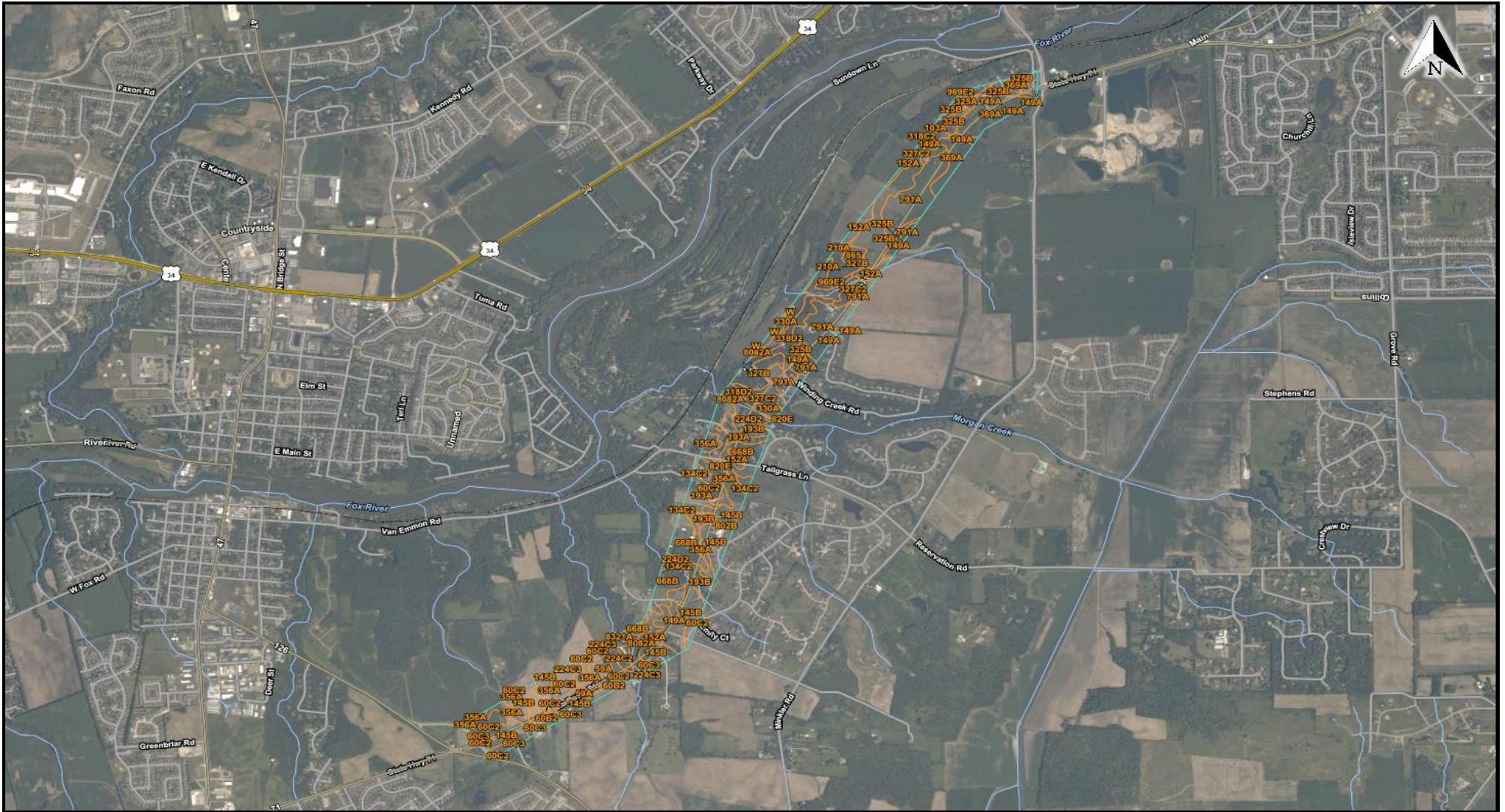
WISCONSIN	<div style="background-color: #f0e68c; width: 40px; height: 20px; margin: 0 auto;"></div> <p>h</p> <p>Henry Formation Sand and Gravel, with lenses of silt and <u>diamicton</u> as much as 60 feet thick</p>	<div style="background-color: #d9ead3; width: 40px; height: 20px; margin: 0 auto;"></div> <p>l-y</p> <p>Yorkville Member, Lemont Formation <u>Diamicton</u>, pebbly clay, silty clay loam and silt loam; gray to yellow brown; with few lenses of sand and gravel or silt; as much as 70 feet thick</p>	<div style="background-color: #d9d2e9; width: 40px; height: 20px; margin: 0 auto;"></div> <p>dg</p> <p>Disturbed Ground <u>Diamicton</u>, sand, gravel, silt, marl and peat; as much as 20 feet thick</p>
	ORDOVICIAN BEDROCK	<div style="background-color: #e74c3c; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Om</p> <p>Maquoketa Group Shale, Shaly dolomite; dolomite; brown, gray and greenish gray; dolomite is vuggy and fossiliferous; about 100 to 210 feet thick</p>	<div style="background-color: #e91e63; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Og</p> <p>Galena Group Microcrystalline; cherty and shaly in places; white light yellowish brown, light gray, and greenish gray; about 160 to 200 feet thick (Grease et al. 1988)</p>



425 Shepard Drive
Elgin, Illinois 60123

Project Name: PTB 197-022 WO5 IL-71 RGR
Project Location: IL-71 from Orchard Road to Schoolhouse Road
 Kendall County, Illinois
Client: IDOT
Rubino Project # : G21.028

**Surficial
Geology
Map**



rubino
ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name: PTB 197-022 W05 IL-71 RGR
Project Location: IL-71 from Orchard Road to Schoolhouse Road
 Kendall County, Illinois
Client: IDOT
Rubino Project # : G21.028

**USDA / NRCS
Soil Survey
Map**

Map symbol and soil name	Depth	USDA texture	Classification	Pct Fragments		Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index	Lawns and landscaping	Local roads and streets	Shallow excavations
				>10 inches	3-10 inches									Kw	Kf	T					
			AASHTO	L-R-H	L-R-H	Pct	Pct	Pct	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
59A—Lisbon silt loam, 0 to 2 percent slopes																					
Lisbon	0-11	Silt loam	A-7-6, A-7-5, A-6	0-0-0	0-0-0	0-8-15	58-69-80	20-24-27	1.10-1.20-1.30	4.23-9.17-14.11	0.17-0.18-0.20	2.4-3.2-4.1	3.0-4.0-5.0	0.28	0.28	5	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, Frost Action, Low Strength, depth to saturated zone, shrink-swell	Very limited, depth to saturated zone, dense layer, dusty, unstable excavation walls
	11-36	Silty clay loam, silt loam	A-7-6, A-6	0-0-0	0-0-0	0-7-15	50-63-75	25-30-35	1.15-1.25-1.35	4.23-9.17-14.11	0.15-0.18-0.20	3.3-4.5-5.8	0.5-1.3-2.0	0.43	0.43						
	36-39	Loam, clay loam	A-6, A-7-6	0-0-0	0-1-1	20-32-45	21-40-53	20-28-34	1.45-1.50-1.55	4.23-9.17-14.11	0.18-0.19-0.21	1.9-3.8-5.4	0.2-0.3-0.5	0.37	0.37						
	39-60	Loam, sandy loam	A-6, A-4	0-0-0	0-1-2	25-40-55	25-40-50	15-20-25	1.70-1.80-1.90	1.41-2.82-4.23	0.14-0.14-0.18	1.2-2.0-3.3	0.0-0.3-0.5	0.43	0.43						
60B2—La Rose silt loam, 2 to 5 percent slopes, eroded																					
La rose	0-8	Silt loam, silty clay loam	A-7-6, A-6	0-0-0	0-1-3	15-17-33	50-57-67	18-26-32	1.40-1.50-1.60	4.23-9.17-14.11	0.20-0.21-0.22	0.0-1.5-2.9	1.5-2.0-3.5	0.37	0.37	5	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, low strength, frost action, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls
	8-19	Clay loam, silty clay loam	A-6, A-7-6	0-0-0	0-1-3	15-22-40	30-45-58	27-33-35	1.50-1.60-1.70	4.23-9.17-14.11	0.12-0.14-0.16	3.0-4.5-5.9	0.1-0.4-0.5	0.37	0.37						
	19-60	Loam, silt loam, silty clay loam	A-7-6, A-6	0-0-1	0-1-2	15-28-40	33-46-65	20-26-32	1.65-1.75-1.85	0.42-1.41-4.23	0.06-0.09-0.12	0.0-1.5-2.9	0.0-0.3-0.5	0.43	0.43						
60C2—La Rose silt loam, 5 to 10 percent slopes, eroded																					
La rose	0-7	Silt loam, silty clay loam	A-6, A-7-6	0-0-0	0-1-3	15-17-33	50-57-67	18-26-32	1.40-1.50-1.60	4.23-9.17-14.11	0.20-0.21-0.22	0.0-1.5-2.9	1.5-2.0-3.5	0.32	0.32	5	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, low strength, frost action, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls
	7-19	Clay loam, silty clay loam	A-6, A-7-6	0-0-0	0-1-3	15-22-40	30-45-58	27-33-35	1.50-1.60-1.70	4.23-9.17-14.11	0.12-0.14-0.16	3.0-4.5-5.9	0.1-0.4-0.5	0.37	0.37						
	19-60	Loam, silt loam, silty clay loam	A-6, A-7-6	0-0-1	0-1-2	15-28-40	33-46-65	20-26-32	1.65-1.75-1.85	0.42-1.41-4.23	0.06-0.09-0.12	0.0-1.5-2.9	0.0-0.3-0.5	0.43	0.43						
60C3—La Rose clay loam, 5 to 10 percent slopes, severely eroded																					
La rose	0-8	Silty clay loam, clay loam	A-6, A-7-6	0-0-0	0-1-3	15-22-40	30-46-58	27-32-35	1.40-1.50-1.60	4.23-9.17-14.11	0.17-0.18-0.19	3.0-4.5-5.9	0.5-1.3-2.0	0.32	0.32	4	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, low strength, frost action, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls
	8-22	Silty clay loam, clay loam	A-7-6, A-6	0-0-0	0-1-3	15-24-40	30-43-58	27-33-35	1.50-1.60-1.70	4.23-9.17-14.11	0.12-0.14-0.16	3.0-4.5-5.9	0.1-0.4-0.5	0.32	0.32						
	22-60	Silt loam, silty clay loam, loam	A-6, A-7-6	0-0-1	0-1-2	15-28-40	33-46-65	20-26-32	1.65-1.75-1.85	0.42-1.41-4.23	0.06-0.09-0.12	0.0-1.5-2.9	0.0-0.3-0.5	0.43	0.43						
103A—Houghton muck, 0 to 2 percent slopes																					
Houghton	0-11	Muck	A-8	—	—	—	—	—	0.20-0.28-0.35	1.41-21.88-42.34	0.35-0.40-0.45	—	70.0-84.5-99.0			2	2	134	Not Rated	Not Rated	Not Rated
	11-60	Muck	A-8	—	—	—	—	—	0.15-0.20-0.25	1.41-21.88-42.34	0.35-0.40-0.45	—	70.0-84.5-99.0								
134C2—Camden silt loam, 5 to 10 percent slopes, eroded																					
Camden	0-7	Silt loam	A-4, A-6, A-7-6	0-0-0	0-0-0	2-5-7	66-73-83	15-22-27	1.35-1.45-1.55	4.23-9.17-14.11	0.19-0.23-0.24	1.5-2.8-3.7	0.5-1.5-2.0	0.43	0.43	5	6	48	Somewhat limited, Dusty	Very limited, Frost Action, Low Strength, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	7-34	Silt loam, silty clay loam	A-7-6, A-6	0-0-0	0-0-0	2-5-7	58-62-71	25-33-35	1.35-1.45-1.55	4.23-9.17-14.11	0.18-0.18-0.21	3.0-4.6-5.1	0.1-0.3-0.5	0.43	0.43						
	34-43	Loam, clay loam	A-6, A-7-6	0-0-0	0-3-4	30-40-50	28-35-48	22-25-30	1.45-1.55-1.65	4.23-9.17-14.11	0.11-0.14-0.14	1.7-2.2-3.1	0.0-0.3-0.5	0.32	0.32						
	43-80	Stratified loamy sand to sandy clay loam	A-2-4, A-4, A-1-b, A-6, A-2-6	0-0-0	0-3-4	65-72-80	5-15-25	5-14-25	1.45-1.55-1.65	14.11-23.23-42.34	0.06-0.10-0.10	0.3-1.0-2.4	0.0-0.3-0.3	0.17	0.17						
145B—Saybrook silt loam, 2 to 5 percent slopes																					
Saybrook	0-15	Silt loam	A-4, A-6	0-0-0	0-0-0	3-8-15	58-70-83	15-22-27	1.30-1.40-1.50	4.23-9.17-14.11	0.19-0.21-0.23	0.0-1.5-2.9	2.5-3.5-4.0	0.32	0.32	5	6	48	Somewhat limited, Dusty	Very limited, Frost Action, Low Strength, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	15-32	Silty clay loam	A-6, A-7-6	0-0-0	0-0-0	3-8-15	50-60-71	27-32-35	1.35-1.45-1.55	4.23-9.17-14.11	0.18-0.19-0.21	3.0-4.5-5.9	0.5-0.8-1.5	0.37	0.37						
	32-36	Clay loam, silty clay loam	A-6	0-0-0	0-0-0	15-22-40	25-49-58	27-29-35	1.50-1.60-1.70	4.23-9.17-14.11	0.12-0.14-0.16	3.0-4.5-5.9	0.1-0.3-0.5	0.43	0.43						
	36-60	Loam, silty clay loam, silt loam	A-6	0-0-1	0-1-2	15-30-45	28-49-67	18-21-32	1.65-1.75-1.85	0.42-1.41-4.23	0.06-0.09-0.12	0.0-1.5-2.9	0.0-0.1-0.5	0.49	0.49						
149A—Brenton silt loam, 0 to 2 percent slopes																					
Brenton	0-14	Silt loam	A-7-5, A-7-6, A-6	0-0-0	0-0-0	1-8-15	60-69-79	18-23-27	1.20-1.30-1.45	4.23-9.17-14.11	0.18-0.21-0.23	2.0-3.0-4.0	3.5-4.0-5.0	0.32	0.32	5	6	48	Somewhat limited, Dusty, depth to saturated zone	Very limited, Frost Action, Low Strength, depth to saturated zone, shrink-swell	very limited, depth to saturated zone, dusty, unstable excavation walls
	14-33	Silty clay loam	A-6, A-7-6	0-0-0	0-0-0	1-9-15	52-58-70	27-33-35	1.25-1.35-1.50	4.23-9.17-14.11	0.15-0.17-0.20	3.6-4.8-5.4	0.5-1.2-1.7	0.37	0.37						
	33-54	Fine sandy loam, loam, silt loam, clay loam	A-4, A-6, A-7-6	0-0-0	0-0-0	15-45-60	12-36-68	15-19-30	1.35-1.50-1.60	4.23-9.17-14.11	0.11-0.14-0.17	1.4-1.9-4.2	0.2-0.3-0.7	0.37	0.37						
	54-79	Stratified silt loam to loamy sand	A-4, A-6	0-0-0	0-0-0	15-54-85	2-31-73	10-15-27	1.45-1.55-1.70	4.23-14.11-42.34	0.07-0.10-0.13	0.8-1.4-3.6	0.1-0.2-0.5	0.32	0.32						

152A—Drummer silty clay loam, 0 to 2 percent slopes																						
Drummer, drained	0-14	Silty clay loam	A-7-6, A-7-5	0-0-0	0-0-0	0-8-15	50-61-73	27-31-35	1.20-1.30-1.42	4.23-9.17-14.11	0.15-0.18-0.21	2.4-3.1-3.9	3.5-5.5-7.0	0.24	0.24	5	6	48	Very limited, ponding, depth to saturated zone, dusty	very limited, ponding, depth to saturated zone, frost action, low strength, shrink-swell	Very limited, ponding, depth to saturated zone, dusty, unstable excavation walls	
	14-41	Silty clay loam, silt loam	A-6, A-7-6	0-0-0	0-0-0	0-8-15	50-61-78	22-31-35	1.20-1.33-1.50	4.23-9.17-14.11	0.14-0.17-0.20	2.7-4.5-5.5	0.5-1.2-2.7	0.37	0.37							
	41-47	Loam, sandy loam, clay loam, silt loam	A-7-6, A-6, A-4	0-0-0	0-0-1	15-35-55	12-41-70	15-24-33	1.30-1.43-1.59	4.23-9.17-14.11	0.11-0.14-0.17	1.2-3.0-4.7	0.2-0.3-0.5	0.37	0.37							
	47-60	Stratified sandy loam to clay loam	A-4, A-6, A-7-6	0-0-0	0-1-4	20-48-65	3-31-15	12-21-32	1.45-1.55-1.65	4.23-11.64-14.11	0.10-0.13-0.16	0.8-2.2-4.2	0.0-0.1-0.4	0.32	0.32							
193A—Mayville silt loam, 0 to 2 percent slopes																						
Mayville	0-8	Silt loam	A-6, A-4	0-0-0	0-0-0	2-9-15	60-74-88	10-18-25	1.35-1.45-1.55	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.37	0.37	5	5	56	Somewhat limited, dusty, depth to saturated zone	very limited, frost action, low strength, shrink-swell, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls	
	8-12	Silt loam	A-6, A-4	0-0-0	0-0-0	2-9-15	60-74-88	10-18-25	1.45-1.53-1.60	4.23-9.17-14.11	0.19-0.21-0.23	0.0-1.5-2.9	0.5-0.8-1.0	0.55	0.55							
	12-24	Silt loam, silty clay loam	A-6, A-7-6	0-0-0	0-0-0	2-9-15	50-62-73	25-30-35	1.55-1.60-1.65	4.23-9.17-14.11	0.18-0.20-0.22	3.0-4.5-5.9	0.2-0.3-0.5	0.43	0.43							
	24-31	Clay loam, silt loam, loam, silty clay loam, gravelly sandy loam, loam, gravelly loam, silt loam, silty clay loam	A-6, A-7-6	0-0-1	0-1-1	15-30-52	28-42-65	20-28-35	1.55-1.60-1.65	4.23-9.17-14.11	0.15-0.17-0.19	3.0-4.5-5.9	0.0-0.3-0.5	0.37	0.37							
	31-60		A-4, A-6, A-7-6	0-0-1	0-2-4	15-34-55	25-42-70	15-24-33	1.65-1.75-1.85	0.42-1.41-4.23	0.05-0.08-0.10	0.0-1.5-2.9	0.0-0.3-0.5	0.37	0.37							
193B—Mayville silt loam, 2 to 5 percent slopes																						
Mayville	0-6	Silt loam	A-4, A-6	0-0-0	0-0-0	2-9-15	60-74-88	10-18-25	1.35-1.45-1.55	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.43	0.43	5	5	56	Somewhat limited, dusty, depth to saturated zone	very limited, frost action, low strength, shrink-swell, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls	
	6-8	Silt loam	A-6, A-4	0-0-0	0-0-0	2-9-15	60-74-88	10-18-25	1.45-1.50-1.60	4.23-9.17-14.11	0.19-0.21-0.23	0.0-1.5-2.9	0.5-0.8-1.0	0.55	0.55							
	8-28	Silt loam, silty clay loam	A-6, A-7-6	0-0-0	0-0-0	2-9-15	50-62-73	25-30-35	1.55-1.60-1.65	4.23-9.17-14.11	0.18-0.20-0.22	3.0-4.5-5.9	0.2-0.3-0.5	0.43	0.43							
	28-32	Clay loam, loam, silt loam, silty clay loam	A-6, A-7-6	0-1-1	0-1-1	15-30-52	28-42-65	20-28-35	1.55-1.60-1.65	4.23-9.17-14.11	0.15-0.17-0.19	3.0-4.5-5.9	0.0-0.3-0.5	0.37	0.37							
	32-60	Gravelly sandy loam, loam, gravelly loam, silt loam, silty clay loam	A-2-4, A-4, A-6, A-2-6	0-0-1	0-2-4	15-53-60	25-29-70	15-18-33	1.65-1.75-1.85	0.42-1.41-4.23	0.05-0.08-0.10	0.0-1.5-2.9	0.0-0.3-0.5	0.28	0.43							
210A—Lena muck, 0 to 2 percent slopes																						
Lena	0-10	Muck	A-8	0	0	—	—	—	0.15-0.30-0.45	1.41-21.88-42.34	0.35-0.40-0.45	—	60.0-79.5-99.0				2	2	134	Not Rated	Not Rated	Not Rated
	10-68	Muck	A-8	0	0	—	—	—	0.15-0.30-0.45	1.41-21.88-42.34	0.35-0.40-0.45	—	60.0-79.5-99.0									
	68-80	Muck	A-8	0	0	—	—	—	0.15-0.30-0.45	1.41-21.88-42.34	0.35-0.40-0.45	—	60.0-79.5-99.0									
224C2—Strawn silt loam, 5 to 10 percent slopes, eroded																						
Strawn	0-8	Silt loam	A-7-6, A-6	0-0-0	0-3-5	5-18-30	50-59-77	18-23-27	1.35-1.45-1.55	4.23-9.17-14.11	0.20-0.22-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.32	0.32	5	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, low strength, frost action, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls	
	8-23	Loam, silty clay loam, clay loam, silt loam	A-6, A-7-6	0-0-1	0-3-4	10-22-35	30-47-65	25-31-35	1.50-1.60-1.70	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.37	0.37							
	23-60	Loam, silt loam, clay loam, silty clay loam	A-6	0-1-1	0-2-4	15-28-45	25-46-65	20-26-30	1.65-1.75-1.85	0.42-1.41-4.23	0.08-0.10-0.12	0.0-0.5-2.9	0.2-0.3-0.5	0.43	0.43							
224C3—Strawn clay loam, 5 to 10 percent slopes, severely eroded																						
Strawn	0-8	Clay loam, silty clay loam	A-6, A-7-6	0-0-0	0-3-5	10-22-30	35-48-63	27-30-35	1.40-1.50-1.60	4.23-9.17-14.11	0.16-0.18-0.20	3.0-4.5-5.9	0.5-1.3-2.0	0.32	0.32	4	6	48	Somewhat Limited, Depth to Saturated zone, Dusty	Very limited, low strength, frost action, depth to saturated zone	very limited, depth to saturated zone, dusty, unstable excavation walls	
	8-24	Loam, silty clay loam, clay loam, silt loam	A-6, A-7-6	0-0-1	0-3-4	10-21-35	30-48-65	25-31-35	1.50-1.60-1.70	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.37	0.37							
	24-60	Loam, silt loam, clay loam, silty clay loam	A-6	0-1-1	0-2-4	15-28-45	25-46-65	20-26-30	1.65-1.75-1.85	0.42-1.41-4.23	0.08-0.10-0.12	0.0-0.5-2.9	0.2-0.3-0.5	0.37	0.37							
224D2—Strawn silt loam, 10 to 18 percent slopes, eroded																						
Strawn	0-9	Silt loam	A-6, A-7-6	0-0-0	0-3-5	5-18-30	50-59-77	18-23-27	1.35-1.45-1.55	4.23-9.17-14.11	0.20-0.22-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.32	0.32	5	6	48	Somewhat Limited, Depth to Saturated zone, Dusty, slope	Very limited, low strength, frost action, depth to saturated zone, slope	very limited, depth to saturated zone, dusty, unstable excavation walls, slope	
	9-21	Loam, silty clay loam, clay loam, silt loam	A-6, A-7-6	0-0-1	0-3-4	10-22-35	30-47-65	25-31-35	1.50-1.60-1.70	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.37	0.37							
	21-60	Loam, silt loam, clay loam, silty clay loam	A-6	0-1-1	0-2-4	15-28-45	25-46-65	20-26-30	1.65-1.75-1.85	0.42-1.41-4.23	0.08-0.10-0.12	0.0-0.5-2.9	0.2-0.3-0.5	0.43	0.43							
318C2—Lorenzo loam, 4 to 6 percent slopes, eroded																						
Lorenzo, eroded	0-7	Loam	A-6, A-7-6	0-0-0	0-3-5	25-32-40	33-45-50	18-23-27	1.25-1.33-1.40	4.23-9.17-14.11	0.17-0.19-0.21	0.0-1.5-2.9	2.0-2.5-3.0	0.28	0.28	2	6	48	Somewhat limited, droughty, slope, dusty	Somewhat limited, frost action, slope	very limited, dusty, unstable excavation walls, slope	
	7-16	Loam, clay loam, gravelly sandy clay loam	A-2-6, A-6, A-7-6, A-2-7	0-0-0	1-2-9	30-42-75	5-28-50	20-30-35	1.60-1.65-1.70	14.11-28.23-42.34	0.10-0.13-0.17	3.0-4.5-5.9	0.0-0.5-1.0	0.2	0.2							
	16-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	A-1-b, A-1-a	0-0-0	4-10-13	85-92-99	0-5-14	1-3-5	1.60-1.70-1.80	141.14-423.42-705.00	0.01-0.03-0.05	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
318D2—Lorenzo loam, 6 to 12 percent slopes, eroded																						
Lorenzo	0-5	Loam	A-4, A-6	0-0-0	0-3-5	25-32-40	33-45-50	18-23-27	1.25-1.33-1.40	4.23-9.17-14.11	0.20-0.21-0.22	0.0-1.5-2.9	2.0-2.5-3.0	0.28	0.28	2	6	48	Somewhat limited, droughty, slope, dusty	Somewhat limited, frost action, slope	very limited, dusty, unstable excavation walls, slope	
	5-15	Loam, clay loam, gravelly sandy clay loam	A-2-4, A-6, A-7-6	0-0-0	1-2-8	30-42-75	5-28-50	20-30-35	1.60-1.65-1.70	14.11-28.23-42.34	0.10-0.15-0.19	3.0-4.5-5.9	0.0-0.5-1.0	0.2	0.2							
	15-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	A-1-a, A-1-b	0-0-0	4-9-13	85-92-99	0-5-14	1-3-5	1.60-1.70-1.80	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
325A—Dresden silt loam, 0 to 2 percent slopes																						
Dresden	0-9	Silt loam	A-4, A-6	0-0-0	0-0-0	2-18-30	50-60-80	18-23-27	1.25-1.33-1.40	4.23-9.17-14.11	0.20-0.22-0.24	0.0-1.5-2.9	2.0-3.0-4.0	0.32	0.32	3	6	48				
	9-29	Silty clay loam, clay loam, loam, silt loam	A-4, A-6, A-7-6	0-0-0	0-0-0	5-22-50	25-48-70	25-30-35	1.35-1.45-1.55	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.32	0.32							

	29-33	Clay loam, gravelly clay loam, sandy clay loam, very gravelly loam	A-2-4, A-6, A-7-6	0-1-1	0-1-3	30-42-70	5-29-50	20-29-30	1.45-1.58-1.70	4.23-9.17-14.11	0.08-0.13-0.18	3.0-4.5-5.9	0.0-0.3-0.5	0.24	0.24					Somewhat limited, dusty	Somewhat limited, Low Strength, frost action, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	33-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	A-1-a, A-1-b	0-1-2	0-4-23	75-91-99	0-6-24	1-3-5	1.60-1.65-1.70	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
325B--Dresden silt loam, 2 to 4 percent slopes																						
	Dresden	Silt loam	A-4, A-6	0-0-0	0-0-0	2-18-30	50-60-80	18-23-27	1.25-1.33-1.40	4.23-9.17-14.11	0.20-0.22-0.24	0.0-1.5-2.9	2.0-3.0-4.0	0.37	0.37	3	6	48				
	7-16	Silt loam, silty clay loam, clay loam, loam	A-6, A-7-6, A-4	0-0-0	0-0-0	5-18-50	25-56-70	25-26-35	1.35-1.45-1.55	4.23-9.17-14.11	0.15-0.18-0.20	3.0-4.5-5.9	0.2-0.6-1.0	0.43	0.43							
	16-30	Clay loam, gravelly clay loam, sandy clay loam, very gravelly loam	A-2-4, A-6, A-7-6	0-1-1	0-1-3	30-42-70	5-29-50	20-29-30	1.45-1.58-1.70	4.23-9.17-14.11	0.08-0.13-0.18	3.0-4.5-5.9	0.0-0.3-0.5	0.24	0.24					Somewhat limited, dusty	Somewhat limited, frost action, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	30-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	A-1-a, A-1-b	0-1-2	0-4-23	75-91-99	0-6-24	1-3-05	1.60-1.65-1.70	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
327B--Fox silt loam, 2 to 4 percent slopes																						
	Fox	Silt loam	A-4, A-6	0-0-0	0-0-0	5-18-30	50-62-80	15-20-25	1.30-1.40-1.50	4.23-9.17-14.11	0.16-0.20-0.23	0.0-1.5-2.9	1.0-2.0-3.0	0.37	0.37	3	6	48				
	4-7	Silt loam	A-4, A-6	0-0-0	0-0-0	5-18-30	50-63-80	15-19-25	1.35-1.45-1.55	4.23-9.17-14.11	0.16-0.20-0.23	0.0-1.5-2.9	0.2-0.6-1.0	0.49	0.49							
	7-13	Silty clay loam, silt loam	A-6, A-7-6	0-0-0	0-1-1	5-18-30	50-50-77	18-32-35	1.50-1.57-1.65	4.23-9.17-14.11	0.10-0.16-0.22	3.0-4.5-5.9	0.2-0.3-0.5	0.37	0.37					Somewhat limited, dusty	Somewhat limited, frost action, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	13-28	Clay loam, sandy clay loam, gravelly loam	A-2-6, A-6, A-7-6, A-2-7	0-1-1	0-1-4	20-42-75	5-26-50	18-32-35	1.55-1.60-1.65	4.23-9.17-14.11	0.10-0.14-0.17	3.0-4.5-5.9	0.0-0.3-0.5	0.24	0.24							
	28-60	Stratified gravelly sand to extremely gravelly coarse sand	A-1-a, A-1-b, A-3	0-1-2	0-4-7	90-92-98	0-7-10	0-1-2	1.45-1.58-1.70	141.14-423.42-705.00	0.02-0.05-0.07	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
327C2--Fox silt loam, 4 to 6 percent slopes, eroded																						
	Fox, eroded	Silt loam	A-6, A-4	0-0-0	0-0-0	5-18-30	50-62-80	15-20-25	1.30-1.40-1.50	4.23-9.17-14.11	0.16-0.20-0.23	0.0-1.5-2.9	1.0-1.5-2.0	0.43	0.43	3	6	48				
	4-12	Silty clay loam, silt loam	A-7-6, A-6	0-0-0	0-1-1	5-18-30	50-50-77	18-32-35	1.50-1.57-1.65	4.23-9.17-14.11	0.10-0.16-0.22	3.0-4.5-5.9	0.2-0.3-0.5	0.37	0.37							
	12-24	Clay loam, sandy clay loam, gravelly loam	A-7-6, A-6, A-2-7, A-2-6	0-1-1	0-1-4	20-42-75	5-26-50	18-32-35	1.55-1.60-1.65	4.23-9.17-14.11	0.10-0.13-0.17	3.0-4.5-5.9	0.0-0.3-0.5	0.24	0.24					Somewhat limited, dusty	Somewhat limited, frost action	Somewhat limited, dusty, unstable excavation walls
	24-60	Stratified gravelly sand to extremely gravelly coarse sand	A-1-a, A-1-b, A-3	0-1-2	0-4-7	90-92-98	0-7-10	0-1-2	1.45-1.58-1.70	141.14-423.42-705.00	0.02-0.05-0.07	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02							
330A--Peotone silty clay loam, 0 to 2 percent slopes																						
	Peotone, drained	Silty clay loam	A-7-6, A-7-5	0-0-0	0-0-0	1-5-10	50-60-67	32-35-40	1.20-1.30-1.40	1.41-2.82-4.23	0.17-0.18-0.21	3.5-5.2-6.8	4.5-6.2-7.5	0.24	0.24	5	6	48				
	7-27	Silty clay loam, silty clay	A-7-6, A-7-5	0-0-0	0-0-0	1-5-10	45-56-64	35-39-45	1.30-1.40-1.55	1.41-2.82-4.23	0.13-0.17-0.20	5.8-7.6-9.7	1.5-3.2-6.0	0.28	0.28					Very limited, ponding, Depth to saturated zone, dusty	Very limited, ponding, depth to saturated zone, shrink-swell, frost action, low strength	Very limited, ponding, depth to saturated zone, unstable excavation walls, dusty, too clayey
	27-50	Silty clay loam, silty clay	A-7-6	0-0-0	0-0-1	1-6-12	43-53-66	33-41-45	1.35-1.45-1.60	1.41-2.82-4.23	0.11-0.15-0.18	3.9-7.0-9.1	0.5-1.3-2.7	0.32	0.32							
	50-60	Silty clay loam, silt loam	A-6, A-7-6	0-0-0	0-0-3	1-11-20	40-55-74	25-34-40	1.40-1.53-1.65	1.41-2.82-4.23	0.12-0.17-0.19	2.2-4.0-6.9	0.0-0.5-1.2	0.37	0.37							
356A--Elpaso silty clay loam, 0 to 2 percent slopes																						
	Elpaso, drained	Silty clay loam	A-7-6, A-7-5	0-0-0	0-0-0	1-6-10	55-63-72	27-31-35	1.20-1.30-1.40	4.23-9.17-14.11	0.16-0.19-0.22	2.5-3.1-3.8	4.0-5.5-7.0	0.24	0.24	5	6	48				
	21-44	Silty clay loam, silt loam	A-6, A-7-6	0-0-0	0-0-0	1-6-10	52-62-74	25-32-38	1.25-1.35-1.45	4.23-9.17-14.11	0.15-0.18-0.21	2.9-4.4-5.8	0.3-1.1-2.0	0.37	0.37					Very limited, ponding, Depth to saturated zone, dusty	Very limited, ponding, depth to saturated zone, shrink-swell, frost action, low strength	Very limited, ponding, depth to saturated zone, unstable excavation walls, dusty
	44-69	Clay loam, silt loam, silty clay loam, loam	A-7-6, A-6	0-0-0	0-0-0	2-16-30	33-55-78	20-29-37	1.40-1.50-1.60	4.23-7.52-14.11	0.12-0.15-0.18	1.9-3.5-5.1	0.2-0.5-0.8	0.37	0.37							
	69-79	Clay loam, silt loam, silty clay loam, loam	A-7-6, A-6	0-0-0	0-1-3	2-16-30	35-56-80	18-28-35	1.45-1.60-1.65	1.41-2.82-4.23	0.09-0.12-0.15	1.4-3.2-4.7	0.0-0.3-0.6	0.43	0.43							
369A--Waupecan silt loam, 0 to 2 percent slopes																						
	Waupecan	Silt loam	A-7-6, A-4, A-6	0-0-0	0-0-0	5-10-15	68-69-80	15-21-27	1.15-1.23-1.30	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	3.0-4.0-5.0	0.32	0.32	4	6	48				
	13-38	Silty clay loam, silt loam	A-6, A-7-6	0-0-0	0-0-0	5-10-15	50-60-70	25-30-35	1.30-1.40-1.50	4.23-9.17-14.11	0.18-0.20-0.22	3.0-4.5-5.9	0.5-0.8-1.0	0.43	0.43							
	38-55	Stratified gravelly sandy loam to clay loam	A-2-6, A-6, A-2-4, A-1-b, A-4	0-0-0	0-0-2	35-55-75	5-26-50	10-19-30	1.55-1.65-1.75	14.11-28.23-42.34	0.08-0.13-0.18	0.0-1.5-2.9	0.2-0.3-0.5	0.24	0.24					Somewhat limited, dusty	Very limited, frost action, low strength, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	55-70	Stratified gravelly loamy sand to extremely gravelly coarse sand	A-3, A-2-4, A-1-a, A-1-b	0-1-3	4-9-36	80-92-99	0-3-20	0-5-10	1.60-1.70-1.80	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.2-0.3-0.5	0.02	0.02							
668B--Somonauk silt loam, 2 to 5 percent slopes																						
	Somonauk	Silt loam	A-4, A-6	0-0-0	0-0-0	0-5-10	63-75-86	14-20-27	1.25-1.35-1.45	4.23-9.17-14.11	0.21-0.23-0.25	0.0-1.5-2.9	1.0-2.0-3.0	0.43	0.43	5	6	48				
	9-26	Silty clay loam, silt loam	A-6	0-0-0	0-0-0	0-5-10	55-67-78	22-29-35	1.35-1.45-1.55	4.23-9.17-14.11	0.14-0.19-0.24	3.0-4.5-5.9	0.2-0.6-1.0	0.43	0.43					Somewhat limited, dusty	Very limited, frost action, low strength, shrink-swell	Somewhat limited, dusty, depth to saturated zone, unstable excavation walls
	26-55	Sandy loam, clay loam, loam	A-2-4, A-4, A-6	0-0-0	0-1-3	15-43-70	5-34-70	15-24-32	1.45-1.55-1.65	4.23-9.17-14.11	0.12-0.15-0.19	3.0-4.5-5.9	0.0-0.2-0.5	0.37	0.37							
	55-60	Stratified silt loam to gravelly sand	A-2-4, A-4, A-1-b	0-0-0	0-3-4	30-55-90	0-33-65	5-13-20	1.55-1.62-1.70	4.23-23.29-42.34	0.07-0.12-0.17	0.0-1.5-2.9	0.0-0.2-0.5	0.37	0.37							

791A—Rush silt loam, 0 to 2 percent slopes

Rush	0-4	Silt loam	A-7-6, A-4, A-6	0-0-0	0-0-0	0-9-15	58-72-88	12-20-27	1.20-1.27-1.35	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.37	0.37	4	5	56	Somewhat limited, dusty	Very limited, frost action, low strength, shrink-swell	Somewhat limited, dusty, unstable excavation walls
	4-11	Silt loam	A-6, A-4	0-0-0	0-0-0	0-9-15	58-72-88	12-20-27	1.25-1.32-1.40	4.23-9.17-14.11	0.21-0.22-0.23	0.0-1.4-2.9	0.5-0.8-1.0	0.49	0.49						
	11-38	Silty clay loam, silt loam	A-7-6, A-6	0-0-0	0-0-0	0-9-15	51-61-78	22-30-34	1.35-1.43-1.50	4.23-9.17-14.11	0.18-0.19-0.20	3.0-4.5-5.9	0.5-0.8-1.0	0.43	0.43						
	38-45	Clay loam, sandy clay loam, gravelly loam	A-2-7, A-7-6, A-2-6, A-6	0-0-0	1-1-4	25-35-75	5-36-50	18-29-30	1.40-1.48-1.55	4.23-9.17-14.11	0.15-0.17-0.19	3.0-4.5-5.9	0.2-0.6-1.0	0.28	0.28						
	45-60	Stratified extremely gravelly coarse sand to gravelly loamy sand	A-1-a, A-1-b	0-1-1	1-2-3	85-92-98	0-5-13	2-4-6	1.60-1.70-1.80	141.14-423.42-705.00	0.02-0.03-0.04	0.0-0.5-2.9	0.0-0.3-0.5	0.02	0.02						

802B—Orthents, loamy, undulating

Orthents, loamy, undulating	0-7	Loam	A-6, A-7-6	0-0-0	0-2-4	23-35-50	28-40-50	22-25-27	1.70-1.73-1.75	1.41-2.82-4.23	0.13-0.16-0.19	0.0-1.5-2.9	0.5-1.3-2.0	0.37	0.37	5	6	48	Very limited, Too dense, low exchange capacity, dusty	Very limited, low strength, frost action, shrink-swell	Somewhat limited, depth to saturated zone, dusty, unstable excavation walls
	7-60	Loam, silt loam, clay loam	A-6, A-7-6	0-1-1	0-2-4	20-38-50	25-35-58	22-28-30	1.70-1.75-1.80	1.41-2.82-4.23	0.09-0.13-0.17	3.0-4.5-5.9	0.2-0.6-1.0	0.32	0.32						

820E—Hennepin-Casco complex, 12 to 30 percent slopes

Hennepin	0-5	Loam	A-4, A-6, A-7-6	0-0-1	0-1-3	15-38-55	18-40-70	15-22-27	1.20-1.30-1.40	4.23-9.17-14.11	0.18-0.21-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.32	0.32	5	6	48	Very limited, too dense, low exchange capacity	Very limited, low strength, frost action, slope	Somewhat limited, depth to saturated zone, dusty, unstable excavation zone
	5-18	Loam, clay loam, silt loam	A-6	0-1-1	0-3-4	15-38-55	20-38-67	18-24-30	1.30-1.45-1.60	4.23-9.17-14.11	0.14-0.18-0.22	0.0-1.5-2.9	0.0-0.3-0.5	0.37	0.37						
	18-60	Loam, clay loam, silt loam, gravelly loam	A-4, A-6	0-1-1	0-2-4	15-38-55	20-38-70	15-24-30	1.70-1.78-1.85	1.41-2.82-4.23	0.10-0.13-0.15	0.0-1.5-2.9	0.0-0.3-0.5	0.37	0.37						
Casco	0-6	Silt loam	A-4, A-6, A-7-6	0-0-0	0-0-0	15-23-30	50-56-70	15-21-27	1.35-1.45-1.55	4.23-9.17-14.11	0.19-0.22-0.24	0.0-1.5-2.9	1.0-2.0-3.0	0.37	0.37	3	6	48	Very limited, slope, dusty, droughty	Very limited, slope, frost action	Very limited, slope, unstable excavation walls, dusty
	6-20	Loam, gravelly sandy clay loam, gravelly clay loam	A-6, A-7-6, A-2-6, A-2-7	0-1-1	0-4-7	23-40-65	2-30-50	18-30-35	1.55-1.60-1.65	4.23-9.17-14.11	0.09-0.14-0.19	3.0-4.5-5.9	0.2-0.6-1.0	0.15	0.28						
	20-60	Stratified sand to extremely gravelly coarse sand	A-3, A-2-4, A-1-b, A-1-a	0-1-2	0-4-7	87-93-98	1-4-13	0-3-10	1.30-1.50-1.70	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02						

865—Pits, gravel

Pits, gravel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Not Rated	Not Rated	Not Rated
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969E2—Casco-Rodman complex, 12 to 20 percent slopes, eroded

Casco	0-5	Loam	A-6, A-4	0-0-0	0-1-4	25-37-50	28-44-50	12-19-25	1.35-1.45-1.55	4.23-9.17-14.11	0.19-0.22-0.24	0.0-1.5-2.9	1.0-1.5-2.0	0.32	0.32	2	5	56	Very limited, slope, droughty, dusty	Very limited, slope, frost action	Very limited, slope, unstable excavation walls, dusty
	5-19	Clay loam, sandy clay loam, gravelly loam	A-2-7, A-2-6, A-6, A-7-6	0-0-1	0-1-3	20-40-60	10-32-50	18-28-35	1.55-1.60-1.65	4.23-9.17-14.11	0.09-0.14-0.19	3.0-4.5-5.9	0.2-0.6-1.0	0.28	0.28						
	19-60	Stratified sand to extremely gravelly coarse sand	A-1-a, A-1-b, A-3	0-1-2	0-7-20	87-92-98	0-6-13	0-2-5	1.45-1.57-1.70	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.3-0.5	0.02	0.02						
Rodman	0-6	Gravelly loam	A-6, A-4	0-0-0	0-1-1	30-41-52	23-43-55	8-16-25	1.20-1.35-1.50	14.11-28.23-42.34	0.10-0.11-0.12	0.0-1.5-2.9	2.0-2.5-3.0	0.2	0.32	5	6	48	Very limited, slope, dusty, droughty, low exchange capacity, gravel content	Very limited, slope	Very limited, slope, unstable excavation walls, dusty
	6-10	Gravelly loam, sandy loam, loam	A-2-6, A-6, A-1-b, A-2-4, A-4	0-0-0	0-1-1	40-50-80	0-35-55	5-15-25	1.10-1.30-1.50	14.11-28.23-42.34	0.09-0.11-0.12	0.0-1.5-2.9	0.0-1.0-2.0	0.2	0.37						
	10-60	Stratified very gravelly loamy sand to extremely gravelly coarse sand	A-1-a	0-1-1	1-2-3	85-92-98	0-4-15	0-5-10	1.60-1.65-1.70	141.14-423.42-705.00	0.02-0.03-0.04	0.0-1.5-2.9	0.0-0.5-1.0	0.02	0.02						

8082A—Millington silt loam, 0 to 2 percent slopes, occasionally flooded

Millington	0-26	Silt loam	A-7-6, A-7-5, A-6	0-0-0	0-0-0	5-18-30	50-58-75	20-24-27	1.35-1.45-1.55	4.23-9.17-14.11	0.20-0.22-0.24	0.0-1.5-2.9	4.0-5.0-6.0	0.32	0.32	5	4L	86	Very limited, ponding, depth to saturated zone, flooding, dusty	Very limited, ponding, depth to saturated zone, frost action, flooding, low strength	Very limited, ponding, depth to saturated zone, flooding, dusty, unstable excavation walls
	26-36	Loam, silt loam, clay loam	A-6, A-7-6	0-0-0	0-0-0	10-30-40	25-45-70	20-25-35	1.40-1.50-1.60	4.23-9.17-14.11	0.17-0.19-0.20	3.0-4.5-5.9	1.0-2.0-3.0	0.32	0.32						
	36-62	Stratified sandy loam to silty clay loam	A-6, A-7-6	0-0-0	0-0-0	15-40-60	5-36-67	18-24-35	1.50-1.60-1.70	4.23-9.17-14.11	0.14-0.17-0.20	0.0-1.5-2.9	0.1-1.0-2.0	0.32	0.32						

8321A—Du Page silt loam, 0 to 2 percent slopes, occasionally flooded

Du page	0-30	Silt loam	A-7-6, A-6	0-0-0	0-0-0	5-18-39	50-60-77	18-23-27	1.35-1.45-1.55	4.23-9.17-14.11	0.22-0.23-0.24	0.0-1.5-2.9	3.0-4.0-5.0	0.32	0.32	5	4L	86	Somewhat limited, flooding, dusty	Very limited, flooding, low strength, frost action	Somewhat limited, flooding, depth to saturated zone, dusty, unstable excavation walls
	30-35	Silt loam, sandy loam, loam, gravelly sandy clay loam	A-4, A-6, A-7-6	0-0-0	0-0-0	15-38-60	20-40-65	18-23-27	1.45-1.55-1.65	4.23-9.17-14.11	0.10-0.15-0.20	0.0-1.5-2.9	0.5-1.8-3.0	0.32	0.32						
	35-60	Stratified silt loam to gravelly sandy clay loam	A-4, A-6	0-0-0	0-0-0	15-40-65	11-45-75	6-15-24	1.50-1.60-1.70	4.23-9.17-14.11	0.08-0.14-0.20	0.0-1.5-2.9	0.2-0.6-1.0	0.43	0.43						

Appendix E – Boring Logs by IDOT



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 37, 38 & 39) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
 Latitude 41.626757, Longitude -88.4208

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H S Qu	B L O W S	U C S Qu	M O I S T S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>401 (IL 71)</u> Station <u>585+17.20</u> Offset <u>20.0 ft Lt.</u> Ground Surface Elev. <u>704.97</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
	After _____ Hrs. _____ ft				

Brown & Black Silty Clay Loam Topsoil Fill					
	702.47		2.0	14	
Brown Silty Clay Loess			P		
	700.97		1.5	27	
Brown / Gray Silty Clay Loam Till			P		
	-5				
	698.97		3.5	22	
End of Boring			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 40) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.627061, Longitude -88.419771

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____	D E P T H	(ft)	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
Station _____						Stream Bed Elev. _____ ft
BORING NO. <u>402 (IL 71)</u>						Groundwater Elev.: _____
Station <u>588+16.98</u>						First Encounter <u>Dry</u> ft
Offset <u>19.9 ft Rt.</u>						Upon Completion _____ ft
Ground Surface Elev. <u>703.17</u> ft	After _____ Hrs. _____ ft					

Brown & Gray Silty Clay Loam Till					
				4.0	16
				P	
	-5				
	697.17				
End of Boring				>4.5	12
				P	
	-10				
	-15				
	-20				

SOIL BORING - IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 41) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.627574, Longitude -88.4189

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>403 (IL 71)</u> Station <u>591+17.16</u> Offset <u>20.0 ft Lt.</u>					Groundwater Elev.: First Encounter <u>Dry</u> ft
Ground Surface Elev. <u>701.18</u> ft					Upon Completion _____ ft After _____ Hrs. _____ ft

Brown Silty Clay Loam Fill	-				
			2.5	29	
			P		
	-5				
695.18					
End of Boring			2.5	23	
			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 42, 43 & 44) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.627911, Longitude -88.417888

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter _____ Dry _____ ft Upon Completion _____ ft After _____ Hrs. _____ ft
BORING NO. <u>404 (IL 71)</u> Station <u>594+17.22</u> Offset <u>20.1 ft Rt.</u> Ground Surface Elev. <u>699.79</u> ft	(ft)	(/6")	(tsf)	(%)	
Brown & Black Silty Clay Loam Fill	697.29				
Black Silty Clay Loam Topsoil	695.79		2.5 P	24	
Brown & Gray Silty Clay Loess	-5 693.79		1.5 P	31	
End of Boring	-10 -15 -20		1.5 P	28	

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 45, 46 & 47) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.628435, Longitude -88.417029

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>405 (IL 71)</u> Station <u>597+17.17</u> Offset <u>20.0 ft Lt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>698.04</u> ft					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
					After _____ Hrs. _____ ft

Black / Brown Silty Clay Loam Fill					
697.04					
Brown Silty Clay Loess					
695.54					
Brown Sand / Gravel in Loam Matrix			2.0	28	
694.54			P		
Brown / Gray Silty Clay Loam Till					
-5					
692.04					
End of Boring			>4.5	15	
			P		
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 87, 88 & 89) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.628804, Longitude -88.416042

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO.	D E P T H	B L O W S	U C S	M O I S T	Surface Water Elev.
Station	(ft)	(/6")	(tsf)	(%)	ft
Asphalt & Concrete Pavement	695.97				Stream Bed Elev. _____ ft
Black Silty Clay Loam Topsoil Fill			1.5	28.9*	Groundwater Elev.: _____ ft
*Moistures not representative due to coring water in hole.	694.47		P		First Encounter <u>Dry</u> ft
Black Silty Clay Loam Topsoil	692.97		1.5	31	Upon Completion _____ ft
Greenish Gray Silty Clay Loess	692.47	-5	P		After _____ Hrs. _____ ft
Brown / Gray Silty Clay Loam Till			1.0	29	
			P		
	689.97		>4.5	13	
End of Boring			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 48) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.629295, Longitude -88.415157

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____
Station _____

BORING NO. 407 (IL 71)
Station 603+17.19
Offset 19.9 ft Lt.
Ground Surface Elev. 693.56 ft

D
E
P
T
H (ft)

B
L
O
W
S (/6")

U
C
S

Qu (tsf)

M
O
I
S
T
R
E (%)

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion _____ ft
After _____ Hrs. _____ ft

Black Silty Clay Loam Fill	692.56			
Brown / Gray Silty Clay Loam Till				
			4.0	14
			P	
	-5			
	687.56			
End of Boring			4.0	17
			P	
	-10			
	-15			
	-20			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 49 & 50) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.629637, Longitude -88.414152

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev.
					ft
					Stream Bed Elev.
					ft
BORING NO. <u>408 (IL 71)</u> Station <u>606+17.16</u> Offset <u>12.1 ft Rt.</u> Ground Surface Elev. <u>688.84</u> ft					Groundwater Elev.:
					First Encounter <u>Dry</u> ft
					Upon Completion <u> </u> ft
					After <u> </u> Hrs. <u> </u> ft
Brown Silty Clay Loam Fill	687.84				
Brown Silty Clay Loam Till	685.84				
Brown Silt & Fine Sand with some Silty Clay Bedded	682.84		3.5 P	18	
End of Boring			1.0 P	27	

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 51, 52 & 53) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.63015, Longitude -88.413278

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____	DEPTH	BLOWS	UCS	MOIST	Surface Water Elev. _____ ft
Station _____					Stream Bed Elev. _____ ft
BORING NO. <u>409 (IL 71)</u>	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: _____
Station <u>609+17.36</u>					First Encounter <u>Dry</u> ft
Offset <u>30.0 ft Lt.</u>					Upon Completion _____ ft
Ground Surface Elev. <u>682.17</u> ft					After _____ Hrs. _____ ft

Soil Description	DEPTH (ft)	BLOWS (/6")	UCS (tsf)	MOIST (%)
Black & Brown Silty Clay Loam Fill	680.67			
Black Silty Clay Loam Topsoil	679.17	P	2.0	17
Brown Silty Clay Loess	677.17	P	2.0	29
Brown Sand / Gravel in Loam Matrix	676.17	P	2.0	29
End of Boring				28

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 54) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.630476, Longitude -88.412261

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S S	U C S Qu	M O I S T T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>410 (IL 71)</u> Station <u>612+17.16</u> Offset <u>10.0 ft Rt.</u> Ground Surface Elev. <u>672.83</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Dark Brown Silty Clay Loam Fill 671.83					
Brown Fine Sand & Silt (Grading to Fine Sand)				12	
	-5				
666.83					
End of Boring				13	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 55, 56 & 57) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.632211, Longitude -88.409952

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>413 (IL 71)</u> Station <u>621+17.47</u> Offset <u>50.1 ft Lt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>677.24</u> ft					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
					After _____ Hrs. _____ ft

Brown Silty Clay Loam with Gravel Pieces - Fill	675.24				
Brown Silty Clay Loess			2.0 P	24	
	672.74		3.5 P	22	
Brown / Gray Silty Clay Loam Till	-5				
	671.24		4.5 P	24	
End of Boring					
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 90) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,

Latitude 41.63283, Longitude -88.409221

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
BORING NO. <u>414 (IL 71)</u> Station <u>624+22.15</u> Offset <u>29.6 ft Lt.</u> Ground Surface Elev. <u>679.16</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Asphalt & Concrete Pavement					
*Moistures not representative due to coring water in hole. <u>677.66</u>					
Black, Gray, Brown Silty Clay Loam / Silty Clay (mainly Topsoil & Loess Fill)		1.5 P	30.4*		
	-5				
<u>673.16</u>					
End of Boring		3.5 P	29.6*		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 6/4/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 58) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.633517, Longitude -88.408668

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>501 (IL 71)</u> Station <u>627+17.77</u> Offset <u>34.7 ft Lt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>677.56</u> ft					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Brown & Black Silty Clay Loam Fill with Gravel Layers					
674.56					
Brown Silty Clay Loess			2.0 P	21	
-5					
671.56			2.0 P	28	
End of Boring					
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 59 & 60) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,

Latitude 41.634172, Longitude -88.407982

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>502 (IL 71)</u> Station <u>630+17.10</u> Offset <u>19.9 ft Rt.</u> Ground Surface Elev. <u>674.38</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Black Silty Clay Loam Fill - Topsoil Fill with some Gravel					
671.38					
Brown / Gray Silty Clay Loess			2.5	35	
670.38			P		
Brown / Gray Silty Clay Loam Till			2.0	29	
-5			P		
668.38					
End of Boring			2.5	25	
			P		
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 61 & 62) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.634915, Longitude -88.4075

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
BORING NO. <u>503 (IL 71)</u> Station <u>633+17.07</u> Offset <u>20.3 ft Rt.</u> Ground Surface Elev. <u>671.75</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black Silty Clay Loam Fill 670.75					
Black Silty Clay Loam Topsoil 669.75					
Brown / Gray Silty Clay Loess 668.25		1.5 P	32		
Brown / Gray Silty Clay Loam Till 665.75		2.0 P	31		
End of Boring		3.5 P	19		
	-5				
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 63) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.63573, Longitude -88.407265

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black Silty Clay Loam Fill - Topsoil	667.62				
Brown / Gray Silty Clay Loam Till					
			3.0 P	34	
	-5				
	662.62				
End of Boring			4.5 P	17	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 64 & 65) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.636473, Longitude -88.406762

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
BORING NO. <u>505 (IL 71)</u> Station <u>639+17.15</u> Offset <u>20.0 ft Rt.</u> Ground Surface Elev. <u>665.47</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black Silty Clay Loam Topsoil - Fill	664.47				
Brown / Gray Silty Clay Loess	662.47				
Brown / Gray Silty Clay Loam Till			1.0 P	29	
	-5				
	659.47				
End of Boring			3.5 P	23	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 66 & 67) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.637294, Longitude -88.406602

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H S Qu S	B L O W S	U C S Qu	M O I S T S T	Surface Water Elev. _____ ft
BORING NO. <u>506 (IL 71)</u> Station <u>642+16.91</u> Offset <u>20.4 ft Lt.</u> Ground Surface Elev. <u>663.76</u> ft					Stream Bed Elev. _____ ft
					Groundwater Elev.: _____ ft
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft After _____ Hrs. _____ ft

Black Silty Clay Loam Topsoil Fill 662.76					
Brown Silty Clay Loess 660.76					
Brown / Gray Silty Clay Loam Till with Loamy Gravel in top few inches -5 657.76			2.0 P	18	
End of Boring -10 -15 -20			4.5 P	18	

SOIL BORING - IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 68 & 69) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.638056, Longitude -88.406157

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>507 (IL 71)</u> Station <u>645+17.23</u> Offset <u>19.8 ft Rt.</u> Ground Surface Elev. <u>660.43</u> ft					Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Black Silty Clay Loam Topsoil Fill					
657.43					
Dark Gray Silty Clay (Graded Dark Gray to Light Gray) Loess?			2.0 P	26	
-5					
654.43			2.5 P	29	
End of Boring					
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 91 & 92) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.639649, Longitude -88.405599

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>509 (IL 71)</u> Station <u>651+17.36</u> Offset <u>6.0 ft Rt.</u> Ground Surface Elev. <u>658.04</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
					After _____ Hrs. _____ ft

Asphalt & Concrete Pavement					
656.54					
Black & Brown Silty Clay Loam Fill - Till Fill & Topsoil Fill			1.5	33.6*	
			P		
*Moistures not representative due to coring water in hole.	654.54		2.0	28	
			P		
Green / Gray Silty Clay Loess	653.54				
Brown / Gray Silty Clay Loam Till	-5				
			4.5	14	
			P		
650.54					
End of Boring					
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 71) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.64046, Longitude -88.405386

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
BORING NO. <u>510 (IL 71)</u> Station <u>654+17.55</u> Offset <u>19.7 ft Lt.</u> Ground Surface Elev. <u>653.35</u> ft	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. _____ ft
					Groundwater Elev.:
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
					After _____ Hrs. _____ ft

Brown Silty Clay Loam Fill					
652.35					
Brown Loamy Sand & Gravel - Dense					
648.35	-5			8	
End of Boring					
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 72) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.641221, Longitude -88.404945

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>511 (IL 71)</u> Station <u>657+17.16</u> Offset <u>19.6 ft Rt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>648.22</u> ft					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Soil Description	Depth (ft)	Blow Count (/6")	UCS (tsf)	Moisture (%)
Black Silty Clay Loam Topsoil Fill	647.22			
Brown / Black Silty Clay Loam Till Fill			4.0 P	13
End of Boring	642.22		4.5 P	14

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 73 & 74) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.642043, Longitude -88.404781

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
Station _____					Stream Bed Elev. _____ ft
BORING NO. <u>512 (IL 71)</u>	ft (ft)	(/6")	(tsf)	(%)	Groundwater Elev.: _____
Station <u>660+17.43</u>					First Encounter <u>Dry</u> ft
Offset <u>19.9 ft Lt.</u>					Upon Completion _____ ft
Ground Surface Elev. <u>643.64</u>					After _____ Hrs. _____ ft

Black Silty Clay Loam Topsoil Fill	642.64				
Brown Silty Clay Loam Till Fill					
			4.0	16	
	639.64		P		
Gray / Black Silty Clay Loam / Silty Clay Fill	-5				
	637.64		4.0	23	
End of Boring			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 75 & 76) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.642804, Longitude -88.40439

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
BORING NO. <u>513 (IL 71)</u> Station <u>663+17.34</u> Offset <u>19.7 ft Rt.</u> Ground Surface Elev. <u>638.89</u> ft	(ft)	(/6")	(tsf)	(%)	
Black Silty Clay Loam Fill	636.89				
Black / Dark Brown Silty Clay Loam Topsoil	634.89	2.0 P	16		
Brown Silty Clay Loam Till	632.89	1.5 P	32		
End of Boring		2.0 P	16		
	-5				
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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 IDOT

SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 93, 94 & 95) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.645965, Longitude -88.403108

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

Table with columns: STRUCT. NO., BORING NO., Station, Offset, Ground Surface Elev., D E P T H (ft), B L O W S (/6"), U C S (tsf), M O I S T (%), Surface Water Elev., Stream Bed Elev., Groundwater Elev., First Encounter, Upon Completion, After Hrs.

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 96 & 97) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.646795, Longitude -88.402978

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>602 (IL 71)</u> Station <u>678+17.31</u> Offset <u>24.9 ft Lt.</u> Ground Surface Elev. <u>644.83</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
	After _____ Hrs. _____ ft				

Black Silty Clay Loam Fill					
643.33					
Brown Silty Clay Loam / Silty Clay			1.5	25	
			P		
			2.0	25	
			P		
640.33					
Light Brown Silty Clay Loam Till with Sandy Loam Layers	-5				
638.83					
End of Boring			1.5	13	
			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 151 & 152) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.647548, Longitude -88.402517

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>603 (IL 71)</u> Station <u>681+17.24</u> Offset <u>5.7 ft Rt.</u> Ground Surface Elev. <u>640.69</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
	After _____ Hrs. _____ ft				

Asphalt & Concrete Pavement					
639.19					
Brown Clay Loam / Sand Layers					
Moistures not representative due to coring water in hole.			0.5	23.6	
637.19			P		
Brown Silty Clay Loam Till					
-5					
			1.5	15	
633.19			P		
End of Boring					
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 98) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 35, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.648358, Longitude -88.40224

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

Table with 5 columns: DEPTH (ft), BLOW S (1/6"), UCS (tsf), MOIST (%), and Elevation (ft). Includes rows for Surface Water Elev., Stream Bed Elev., Groundwater Elev., First Encounter, Upon Completion, and After Hrs.

Main data table with 5 columns: DEPTH (ft), BLOW S (1/6"), UCS (tsf), MOIST (%), and Elevation (ft). Contains soil descriptions like 'Brown Silty Clay Loam Fill' and 'Brown Silty Clay Loam Till' with corresponding depth and blow count data.

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 99) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.65038, Longitude -88.400333

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>607 (IL 71)</u> Station <u>693+17.30</u> Offset <u>19.9 ft Rt.</u> Ground Surface Elev. <u>624.29</u> ft					Groundwater Elev.: _____ ft
					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Brown Clay Loam with some Silt / Fine Sand seams	-				
	-5				
618.29					
End of Boring			2.5 P	23	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 100 & 101) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.650962, Longitude -88.399565

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>608 (IL 71)</u> Station <u>696+16.89</u> Offset <u>45.2 ft Rt.</u> Ground Surface Elev. <u>635.36</u> ft					Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Dark Brown Topsoil Fill	634.36				
Brown Silty Clay Loam Till - Silty at top 1'	632.36				
Tan / Brown Loamy Sand & Gravel - Very Loamy	-5		3.0 P	22	
End of Boring	629.36			26	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 160 & 161) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.651669, Longitude -88.398978

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH (ft)	BLOWS (/6")	UCS (tsf)	MOIST (%)	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft
BORING NO. <u>701 (IL 71)</u> Station <u>699+15.68</u> Offset <u>13.2 ft Lt.</u> Ground Surface Elev. <u>639.02</u> ft					Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft	
Asphalt & Concrete Pavement	637.52					
Black & Brown Silty Clay Loam Fill						
Moistures not representative due to coring water in hole.	635.52		0.8 P	27.8		
Brown Silty Clay Loam						
	-5					
	632.02		2.5 P	25.2*		
End of Boring						
	-10					
	-15					
	-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 102 & 103) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.652209, Longitude -88.398134

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH (ft)	BLOWS (/6")	UCS (tsf)	MOIST (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black Silty Clay Loam Topsoil Fill	640.02				
Brown Sandy Clay Loam / Clay Loam			2.0 P	18	
	637.52				
Tan / Brown Loamy Sand & Gravel					
	-5				
	634.52				
End of Boring				17	
	-10				
	-15				
	-20				

SOIL BORING - IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 104 & 105) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.652885, Longitude -88.39749

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr><td>D</td><td>B</td><td>U</td><td>M</td></tr> <tr><td>E</td><td>L</td><td>C</td><td>O</td></tr> <tr><td>P</td><td>O</td><td>S</td><td>I</td></tr> <tr><td>T</td><td>W</td><td>Qu</td><td>S</td></tr> <tr><td>H</td><td>S</td><td></td><td>T</td></tr> </table>	D	B	U	M	E	L	C	O	P	O	S	I	T	W	Qu	S	H	S		T	Surface Water Elev. _____ ft
D		B	U	M																		
E		L	C	O																		
P		O	S	I																		
T		W	Qu	S																		
H	S		T																			
BORING NO. <u>703 (IL 71)</u> Station <u>705+17.163</u> Offset <u>20.0 ft Lt.</u> Ground Surface Elev. <u>643.21</u> ft		Stream Bed Elev. _____ ft																				
		Groundwater Elev.: _____																				
		First Encounter <u>Dry</u> ft																				
		Upon Completion _____ ft																				
		After _____ Hrs. _____ ft																				

Soil Description	Depth (ft)	UCS (tsf)	MOIST (%)
Black / Brown Silty Clay Loam / Clay Loam Fill	641.21		
Brown Clay Loam		1.5 P	16
	637.71	2.0 P	27
Tan / Brown Loamy Sand & Gravel	637.21		
End of Boring			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 106) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.653412, Longitude -88.396631

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black / Brown Silty Clay Loam Fill with Gravel Layers 643.15					
Brown Clay Loam 640.65		1.5 P	15		
Tan / Brown Loamy Sand & Gravel 639.65	-5	2.0 P	25		
End of Boring			9		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 107) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.654088, Longitude -88.395992

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H ft	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>705 (IL 71)</u> Station <u>711+17.12</u> Offset <u>20.4 ft Lt.</u> Ground Surface Elev. <u>642.93</u> ft					Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Black / Brown Silty Clay Loam					
			2.0	23	
			P		
	-5				
	637.43				
Light Brown Silty Clay Loam	636.93		2.0	15	
End of Boring			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 108) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.654639, Longitude -88.395163

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
BORING NO. <u>706 (IL 71)</u> Station <u>714+17.25</u> Offset <u>20.0 ft Rt.</u> Ground Surface Elev. <u>642.20</u> ft	(ft)	(/6")	(tsf)	(%)	
Brown Silty Clay Loam Fill 641.20					
Light Brown Fine to Coarse Fill Sand					
				10	
	-5				
636.20					
End of Boring					
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 109 & 110) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.655356, Longitude -88.3946

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
Station _____					Stream Bed Elev. _____ ft
BORING NO. <u>707 (IL 71)</u>	ft (ft)	(/6")	(tsf)	(%)	Groundwater Elev.: _____
Station <u>717+17.75</u>					First Encounter <u>Dry</u> ft
Offset <u>20.0 ft Lt.</u>					Upon Completion _____ ft
Ground Surface Elev. <u>638.60</u>					After _____ Hrs. _____ ft

Black Silty Clay Loam Fill with Gravel Pieces	637.10				
Brown Fine to Coarse Sand - Bedded			3.0 P	15	
	634.60				14
Brown Fine Sand to Coarse Gravel	-5				
	632.60				
End of Boring				7	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 111 & 112) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,

Latitude 41.655963, Longitude -88.393845

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

Table with columns for STRUCT. NO., BORING NO., and elevation data. Includes fields for Station, Offset, and Ground Surface Elev.

Main soil boring log table with columns for Description, Depth (ft), Blows (B), Penetration (P), UCS (tsf), and Moisture (SPT %). Includes soil descriptions like 'Black / Brown Silty Clay Loam Fill with Gravel Pieces' and 'Brown Fine Sand to Coarse Gravel'.

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 113) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.656707, Longitude -88.393362

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
BORING NO. <u>709 (IL 71)</u> Station <u>723+17.08</u> Offset <u>15.3 ft Lt.</u> Ground Surface Elev. <u>634.20</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black / Brown Silty Clay Loam Fill with Gravel Pieces	630.70		2.5 P	10	
Brown Fine Sand to Coarse Gravel	629.20	-5			
End of Boring				6	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 153 & 154) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.657386, Longitude -88.392732

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr><td>D</td><td>B</td><td>U</td><td>M</td></tr> <tr><td>E</td><td>L</td><td>C</td><td>O</td></tr> <tr><td>P</td><td>O</td><td>S</td><td>I</td></tr> <tr><td>T</td><td>W</td><td>Qu</td><td>S</td></tr> <tr><td>H</td><td>S</td><td></td><td>T</td></tr> </table>	D	B	U	M	E	L	C	O	P	O	S	I	T	W	Qu	S	H	S		T	Surface Water Elev. _____ ft
D		B	U	M																		
E		L	C	O																		
P		O	S	I																		
T		W	Qu	S																		
H	S		T																			
BORING NO. <u>710 (IL 71)</u> Station <u>726+17.83</u> Offset <u>6.0 ft Rt.</u> Ground Surface Elev. <u>631.99</u> ft		Stream Bed Elev. _____ ft																				
		Groundwater Elev.: _____																				
		First Encounter <u>Dry</u> ft																				
		Upon Completion _____ ft																				
		After _____ Hrs. _____ ft																				

Soil Description	Depth (ft)	Blow Count (/6")	UCS (tsf)	Moisture (%)
Asphalt & Concrete Pavement	630.49			
Brown Clay Loam	629.49		1.5	31.5*
Brown Fine Sand to Coarse Gravel			P	
*Moistures not representative due to coring water in hole.	-5			
	625.99			5
End of Boring	-20			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 114 & 115) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.658129, Longitude -88.392255

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft	Stream Bed Elev. _____ ft
BORING NO. <u>711 (IL 71)</u> Station <u>729+17.29</u> Offset <u>20.1 ft Lt.</u> Ground Surface Elev. <u>628.75</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft	Upon Completion _____ ft
					After _____ Hrs. _____ ft	
Black / Brown Silty Clay Loam Fill with Gravel Pieces						
	624.75		2.0 P	7		
Brown Fine Sand to Coarse Gravel	-5					
	622.75					
End of Boring				6		
	-10					
	-15					
	-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 116 & 117) LOGGED BY Larry Myers
 SECTION (1,1-1)R LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.658788, Longitude -88.391586
 COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr> <td>D E P T H</td> <td>B L O W S</td> <td>U C S</td> <td>M O I S T</td> </tr> <tr> <td>(ft)</td> <td>(/6")</td> <td>(tsf)</td> <td>(%)</td> </tr> </table>	D E P T H	B L O W S	U C S	M O I S T	(ft)	(/6")	(tsf)	(%)	Surface Water Elev. _____ ft
D E P T H		B L O W S	U C S	M O I S T						
(ft)		(/6")	(tsf)	(%)						
BORING NO. <u>712 (IL 71)</u> Station <u>732+17.13</u> Offset <u>14.7 ft Rt.</u> Ground Surface Elev. <u>630.08</u> ft			Stream Bed Elev. _____ ft							
			Groundwater Elev.: _____							
		First Encounter <u>Dry</u> ft								
		Upon Completion _____ ft								
		After _____ Hrs. _____ ft								

Brown / Gray Silty Clay Loam Fill with Gravel Pieces				
625.58		2.5	23	
		P		
Black Silty Clay Loam Topsoil	-5			
624.08				
End of Boring		3.0	33	
		P		
	-10			
	-15			
	-20			

SOIL BORING - IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 119) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.660197, Longitude -88.39045

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr><td>D</td><td>B</td><td>U</td><td>M</td></tr> <tr><td>E</td><td>L</td><td>C</td><td>O</td></tr> <tr><td>P</td><td>O</td><td>S</td><td>I</td></tr> <tr><td>T</td><td>W</td><td>Qu</td><td>S</td></tr> <tr><td>H</td><td>S</td><td></td><td>T</td></tr> </table>	D	B	U	M	E	L	C	O	P	O	S	I	T	W	Qu	S	H	S		T	Surface Water Elev. _____ ft
D		B	U	M																		
E		L	C	O																		
P		O	S	I																		
T		W	Qu	S																		
H	S		T																			
BORING NO. <u>714 (IL 71)</u> Station <u>738+17.03</u> Offset <u>19.8 ft Rt.</u> Ground Surface Elev. <u>635.28</u> ft	Groundwater Elev.: _____ ft																					
	First Encounter <u>Dry</u> ft																					
	Upon Completion _____ ft																					
	After _____ Hrs. _____ ft																					

Soil Description	(ft)	(/6")	(tsf)	(%)
Black Silty Clay Loam Topsoil - some Fill	634.28			
Brown Silty Clay	632.28			
Tan Silty Clay Loam	631.28		2.0	23
			P	14
Brown Fine Sand to Coarse Gravel with Layers of Sand / Silt	-5		1.0	
			P	
End of Boring	629.28			18
	-10			
	-15			
	-20			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 124 & 125) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 25, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66237, Longitude -88.38888

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H S Q u S P e r c e n t	B L O W S	U C S Qu	M O I S T S	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>717 (IL 71)</u> Station <u>747+16.89</u> Offset <u>15.3 ft Lt.</u>					Groundwater Elev.: First Encounter <u>Dry</u> ft
Ground Surface Elev. <u>642.32</u> ft (ft)					Upon Completion _____ ft After _____ Hrs. _____ ft

Soil Description	Elev. (ft)	Penetration (inches)	UCS (tsf)	Moisture (%)
Black Silty Clay Loam Topsoil Fill	641.82			
Brown Silty Clay	640.32			
Brown Fine Sand to Coarse Gravel with Layers of Bedded Sand		1.8 P	29	
				9
End of Boring	633.32			10
	-10			
	-15			
	-20			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 126 & 127) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 25, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.663031, Longitude -88.38821

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>718 (IL 71)</u> Station <u>750+17.24</u> Offset <u>19.5 ft Rt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>642.51</u> ft (ft)					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Black Silty Clay Loam Topsoil Fill	641.51				
Brown Silty Clay	639.51				
Brown Fine Sand to Coarse Gravel with some Sand Layers			2.0 P	29	
					14
End of Boring	633.51				9

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 155 & 156) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NW 1/4, SEC. 25, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.663767, Longitude -88.387691

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>719 (IL 71)</u> Station <u>753+20.35</u> Offset <u>4.5 ft Rt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>644.36</u> ft					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
					After _____ Hrs. _____ ft

Asphalt & Concrete Pavement					
642.86					
Black / Brown Silty Clay Loam / Silty Clay Fill					
Moistures not representative due to coring water in hole.			1.0	25.7	
640.86			P		
Brown Silty Clay to Silty Clay Loam			1.0	35.1*	
-5			P		
637.86					
Brown Fine Sand to Coarse Gravel				31	
636.86					
End of Boring					
-10					
-15					
-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 128 & 129) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,

Latitude 41.664453, Longitude -88.387103

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

Table with 4 columns: STRUCT. NO., BORING NO., DEPTH, and Moisture. Includes fields for Surface Water Elev., Stream Bed Elev., Groundwater Elev., First Encounter, Upon Completion, and After Hrs.

Main soil log table with columns: Description, Elevation (ft), Depth (ft), Blows (blows/6"), UCS (tsf), and Moisture (%). Rows include: Black Silty Clay Loam Topsoil Fill, Brown Silty Loam, Brown Fine Sand to Coarse Gravel, and End of Boring.

SOIL BORING - IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 130) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.665203, Longitude -88.386636

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr><td>D</td><td>B</td><td>U</td><td>M</td></tr> <tr><td>E</td><td>L</td><td>C</td><td>O</td></tr> <tr><td>P</td><td>O</td><td>S</td><td>I</td></tr> <tr><td>T</td><td>W</td><td>S</td><td>S</td></tr> <tr><td>H</td><td>S</td><td>Qu</td><td>T</td></tr> </table>	D	B	U	M	E	L	C	O	P	O	S	I	T	W	S	S	H	S	Qu	T	Surface Water Elev. _____ ft
D		B	U	M																		
E		L	C	O																		
P		O	S	I																		
T		W	S	S																		
H	S	Qu	T																			
BORING NO. <u>721 (IL 71)</u> Station <u>759+17.38</u> Offset <u>14.6 ft Lt.</u>	Groundwater Elev.: First Encounter <u>Dry</u> ft																					
Ground Surface Elev. <u>645.78</u> ft	Upon Completion _____ ft																					
	After _____ Hrs. _____ ft																					

Description	(ft)	(/6")	(tsf)	(%)
Black Silty Clay Loam Topsoil Fill	645.28			
Brown Silty Clay	643.78			
Brown Fine Sand to Coarse Gravel			1.5 P	20
End of Boring	639.78			8

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 131) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.665869, Longitude -88.385984

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>722 (IL 71)</u> Station <u>762+17.08</u> Offset <u>14.8 ft Rt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>646.61</u> ft (ft)					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Soil Description	Depth (ft)	Blow Count (/6")	UCS (tsf)	Moisture (%)
Black Silty Clay Loam	645.61			
Brown Silty Clay	643.61			
Brown Fine Sand to Coarse Gravel	640.61	1.5 P	29	
End of Boring				16

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 132, 133 & 134) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.666625, Longitude -88.385532

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T P	Surface Water Elev. _____ ft
BORING NO. <u>723 (IL 71)</u> Station <u>765+17.08</u> Offset <u>19.6 ft Lt.</u> Ground Surface Elev. <u>647.51</u> ft					Stream Bed Elev. _____ ft
					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
	After _____ Hrs. _____ ft				

Soil Description	(ft)	(/6")	(tsf)	(%)
Black Silty Clay Loam Fill	646.51			
Brown Silty Clay				15
	645.01			
Brown Clay Loam			1.5 P	19
	643.51			
Brown Sand and Gravel				25
	-5			
	641.51			
End of Boring				9
	-10			
	-15			
	-20			

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 135, 136 & 137) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.667286, Longitude -88.384863

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	<table border="1"> <tr><td>D</td><td>B</td><td>U</td><td>M</td></tr> <tr><td>E</td><td>L</td><td>C</td><td>O</td></tr> <tr><td>P</td><td>O</td><td>S</td><td>I</td></tr> <tr><td>T</td><td>W</td><td>S</td><td>S</td></tr> <tr><td>H</td><td>S</td><td>Qu</td><td>T</td></tr> </table>	D	B	U	M	E	L	C	O	P	O	S	I	T	W	S	S	H	S	Qu	T	Surface Water Elev. _____ ft
D		B	U	M																		
E		L	C	O																		
P		O	S	I																		
T		W	S	S																		
H	S	Qu	T																			
BORING NO. <u>724 (IL 71)</u> Station <u>768+17.35</u> Offset <u>14.7 ft Rt.</u> Ground Surface Elev. <u>647.63</u> ft	Stream Bed Elev. _____ ft																					
	Groundwater Elev.: _____ ft																					
	First Encounter <u>Dry</u> ft																					
	Upon Completion _____ ft																					
	After _____ Hrs. _____ ft																					

Soil Description	Depth (ft)	Penetration (1/6")	UCS (tsf)	SPT (blows)
Black Silty Clay Loam Fill	647.13			
Brown Sandy Clay Loam / Sandy Loam	644.63			
Brown Silty Clay	643.63		0.8 P	21
Brown Fine to Coarse Sand with some Fine to Coarse Gravel	641.63	-5	1.0 P	21
End of Boring				9

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 138 & 139) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.668036, Longitude -88.384396

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>725 (IL 71)</u> Station <u>771+17.44</u> Offset <u>15.0 ft Lt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>647.25</u> ft					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
		After _____ Hrs. _____ ft			

Soil Description	Depth (ft)	Blow Count (/6")	UCS (tsf)	Moisture (%)
Black Silty Clay Loam Fill with Gravel Pieces	644.25			
Brown Silty Clay / Silty Clay Loam	642.25	1.5 P	22	
Brown Sand and Gravel	641.25	2.0 P	15	
End of Boring				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 157, 158 & 159) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.668691, Longitude -88.383724

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev.	ft
					Stream Bed Elev.	ft
BORING NO. Station Offset Ground Surface Elev.	ft	(ft)	(/6")	(tsf)	(%)	
Asphalt & Concrete Pavement						
	644.21					
Black / Brown Silty Clay Loam Fill						
Moistures not representative due to coring water in hole.	642.71		0.5 P	23.9		
Brown Silty Clay Loam			0.5 P	29.7*		
	-5					
	639.71					
Brown Fine Sand to Coarse Gravel						
	638.21			35.1*		
End of Boring						
	-10					
	-15					
	-20					

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 140 & 141) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
 Latitude 41.669367, Longitude -88.383091

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter <u>Dry</u> _____ ft Upon Completion _____ ft After _____ Hrs. _____ ft
BORING NO. <u>727 (IL 71)</u> Station <u>777+17.504</u> Offset <u>14.9 ft Lt.</u> Ground Surface Elev. <u>645.36</u> ft	(ft)	(/6")	(tsf)	(%)	
Black Silty Clay Loam Fill 643.36					
Brown Silty Clay / Silty Clay Loam 641.36		1.5 P	23		
Brown Fine Sand to Coarse Gravel 639.36		1.5 P	25		
End of Boring				6	
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Sample 142) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.669896, Longitude -88.382247

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H	BLOWS S	UCS Qu	MOIST T	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
BORING NO. <u>728 (IL 71)</u> Station <u>780+16.83</u> Offset <u>14.8 ft Rt.</u> Ground Surface Elev. <u>644.00</u> ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft
Black Silty Clay Loam Fill	643.50				
Brown Silty Clay Loam	642.00				
Brown Fine Sand to Coarse Gravel - Loamy in the top 1'			1.5 P	29	
	-5				
	638.00			7	
End of Boring					
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 143 & 144) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.670502, Longitude -88.381487

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>729 (IL 71)</u> Station <u>783+17.44</u> Offset <u>20.0 ft Lt.</u>					Groundwater Elev.: _____
Ground Surface Elev. <u>644.28</u> ft					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Soil Description	DEPTH (ft)	BLOW S	UCS (tsf)	MOIST (%)
Black / Brown Silty Clay Loam / Sandy Clay Loam Fill with Gravel Pieces	641.28			
Brown Fine Sand to Coarse Gravel	638.28	1.5 P		15
End of Boring				8

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 145, 146 & 147) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION SW 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.670882, Longitude -88.380503

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>730 (IL 71)</u> Station <u>786+17.62</u> Offset <u>19.5 ft Rt.</u> Ground Surface Elev. <u>644.04</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft Upon Completion _____ ft After _____ Hrs. _____ ft

Soil Description	Depth (ft)	Blow Count (/6")	UCS (tsf)	Moisture (%)
Black & Brown Sandy Clay Loam / Silty Clay Loam Fill	641.04			
Brown Clay Loam	639.54	2.5 P	25	
Brown Fine Sand to Coarse Gravel	638.04	2.0 P	20	
End of Boring				11

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



SOIL BORING LOG

ROUTE IL 71 (FAP 311) DESCRIPTION (Samples 148, 149 & 150) LOGGED BY Larry Myers

SECTION (1,1-1)R LOCATION NE 1/4, SEC. 24, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.671379, Longitude -88.379619

COUNTY Kendall DRILLING METHOD Push HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ ft
					Stream Bed Elev. _____ ft
BORING NO. <u>731 (IL 71)</u> Station <u>789+16.85</u> Offset <u>19.9 ft Lt.</u> Ground Surface Elev. <u>645.93</u> ft					Groundwater Elev.: _____
					First Encounter <u>Dry</u> ft
					Upon Completion _____ ft
	After _____ Hrs. _____ ft				

Black / Brown Silty Clay Loam Fill with Gravel					
	643.43		1.5	6	
Black Silty Clay Topsoil			P		
	641.93		1.0	21	
			P		
Brown Silty Clay / Silty Clay Loam					
	-5				
	639.93		1.5	27	
End of Boring			P		
	-10				
	-15				
	-20				

SOIL BORING IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (F.A.P. 311) DESCRIPTION IL 71 over a Stream, 2.0 miles Northeast of IL 47 LOGGED BY Larry Myers

SECTION (1-1)R, BR1 LOCATION NE 1/4, SEC. 3, TWP. 36N, RNG. 7E, 3rd PM,
Latitude 41.630937, Longitude -88.411608

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-2528
Station 614+83 (Prop.)

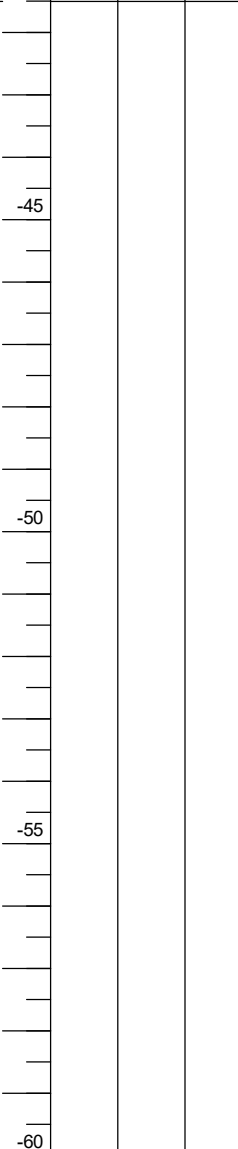
BORING NO. 01
Station 614+60.44
Offset 24.5 ft Lt.
Ground Surface Elev. 670.67 ft

DEPTH H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev. 652.08 ft
Stream Bed Elev. 650.39 ft
Groundwater Elev.:
First Encounter 638.7 ft ▼
Upon Completion 648.7 ft ▼
After Hrs. ft

Hard Gray Silty Clay Loam Till with Minor Layers of Fine Sand to Coarse Gravel (<i>continued</i>)	5		
	9	5.4	17
629.17	14	S	

End of Boring



SOIL BORING 047-2528.GPJ IL_DOT.GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (F.A.P. 311) DESCRIPTION IL 71 over a Stream, 2.6 miles Northeast of IL 47 LOGGED BY Larry Myers

SECTION (1-1)R, BR1 LOCATION SW 1/4, SEC. 35, TWP. 37N, RNG. 7E,

Latitude 41.636945, Longitude -88.406614

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-2529
Station 641+06 (Prop.)

BORING NO. 01 (S.E. Quad.)
Station 640+93.78
Offset 11.4 ft Rt.
Ground Surface Elev. 664.67 ft

D E P T H (ft)
B L O W S (/6")
U C S (tsf)
M O I S T (%)

Surface Water Elev. 654.80 ft
Stream Bed Elev. 654.27 ft
Groundwater Elev.:
First Encounter Dry ft
Upon Completion Dry ft
After Hrs. ft

D E P T H (ft)
B L O W S (/6")
U C S (tsf)
M O I S T (%)

Augered Shoulder Stone, Black & Brown Silty Clay Loam Fill					Hard to Very Stiff Gray Silty Clay with Layers of Gray Clay & Silt Layers at 35' (continued)				
							4		
							5	4.0	27
							6	B	
662.17									
Very Stiff Black & Brown Silty Clay Loam Fill		3					4		
		4	3.0	28			5	3.9	27
		3	P				5	B	
-5									
		2					3		
		3	2.0	28			4	3.4	28
		7	P				5	B	
657.67									
Hard Gray & Brown Clay Loam Till		5					4		
		7	4.4	16			4	3.4	27
		9	S				4	B	
654.67 -10									
Hard Brown Silty Clay Loam Till		5							
		9	6.4	14			3		
		14	S				4	3.1	22
							5	B	
650.67									
Hard Gray Silty Clay Loam Till		6							
		8	6.1	13					
		9	S						
647.67									
Hard Gray Silty Clay Loam Till		6							
		8	5.9	23			4		
		9	S				5	3.0	22
							5	B	
628.17									
End of Boring									
		5							
		6	4.2	29					
		6	B						
-20									

SOIL BORING 047-2529.GPJ IL_DOT_GDT 1/20/21

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)



SOIL BORING LOG

ROUTE IL 71 (F.A.P. 311) DESCRIPTION Box Culvert at Station 730+47, approximately 3.0 miles Northeast of IL 126 LOGGED BY Larry Myers

SECTION (1-1)R, BR1 LOCATION NE 1/4, SEC. 26, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.658477, Longitude -88.391989

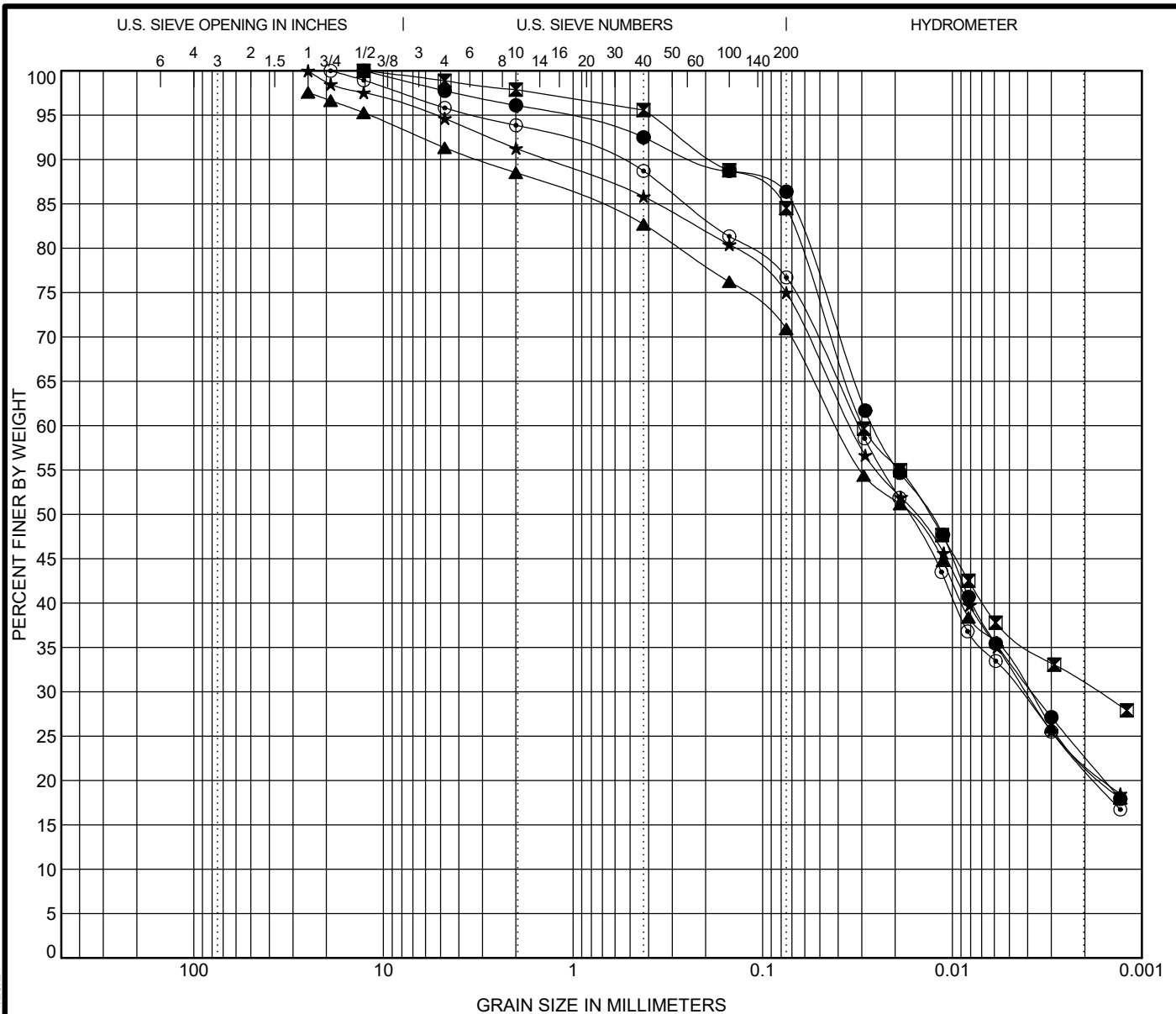
COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H ft	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	D E P T H ft	B L O W S (/6")	U C S (tsf)	M O I S T (%)
<u>730+47 (Prop.)</u>									
BORING NO. <u>02 (S.W. Quad.)</u> Station <u>730+63.33</u> Offset <u>22.2 ft Lt.</u> Ground Surface Elev. <u>629.28</u> ft					Groundwater Elev.: First Encounter <u>614.3</u> ft ▽ Upon Completion <u>615.3</u> ft ▽ After _____ Hrs. _____ ft				
Augered Shoulder Stone, Sand & Gravel Fill, Black Silty Clay Loam Fill	626.78				Medium Pinkish Gray Sand, Silt, Gravel, Clay Loam Till Interbedded (continued) 607.28	4 4 4			11
Hard to Very Stiff Brown & Black Silty Clay Loam Fill with some Gravel Layers	624.78	5 7 9	4.0 P	11	Hard Pinkish Gray Silty Clay Loam Till with Sand and Silt Layers	9 11 14		5.9 S	11
Very Stiff Black Silty Clay Loam Topsoil	-5	3 2 2	2.5 P	18		-25 8 14 21		8.8 S	12
Very Stiff Gray Clay Loam	622.28	2 2 2	2.0 P	33		9 21 24		10.9 S*	12
Medium to Loose Gray and Brown Fine Sand to Coarse Gravel - Loamy with some Consolidated Loam Layers	619.78	5 7 8		12	* Max Rimac at 10%	-30 10 18 28		10.9 S*	11
		3 2 3		13	End of Boring	597.78			
		3 13 9		19		-35			
Medium Pinkish Gray Sand, Silt, Gravel, Clay Loam Till Interbedded	612.28	7 9 10		14					
	-20					-40			

SOIL BORING BOX CULVERT AT STA 730+47.GPJ IL_DOT.GDT 11/12/20

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 F – IDH Grain Size Distribution Charts and IDH Textural Classification Charts by IDOT



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 401 0.00	A-6 (14) SILTY CLAY LOAM	37.9	21.9	16.0		
☒ 401 2.50	A-7-6 (19) SILTY CLAY	43.9	22.6	21.3		
▲ 401 4.00	A-4 (4) CLAY LOAM	26.0	16.7	9.3		
★ 402 0.00	A-4 (5) SILTY CLAY LOAM	23.0	12.8	10.2		
◎ 403 0.00	A-6 (9) SILTY CLAY LOAM	32.1	17.6	14.5		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 401 0.00	12.7	0.026	0.004		3.9	9.7	63.7	22.7
☒ 401 2.50	12.7	0.03	0.002		2.1	13.4	53.6	30.9
▲ 401 4.00	25	0.04	0.004		9.1	17.6	48.8	22.1
★ 402 0.00	25	0.034	0.004		8.7	16.3	52.8	22.1
◎ 403 0.00	19	0.031	0.004		6.1	17.1	55.5	21.3



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 Division of Highways
 IDOT

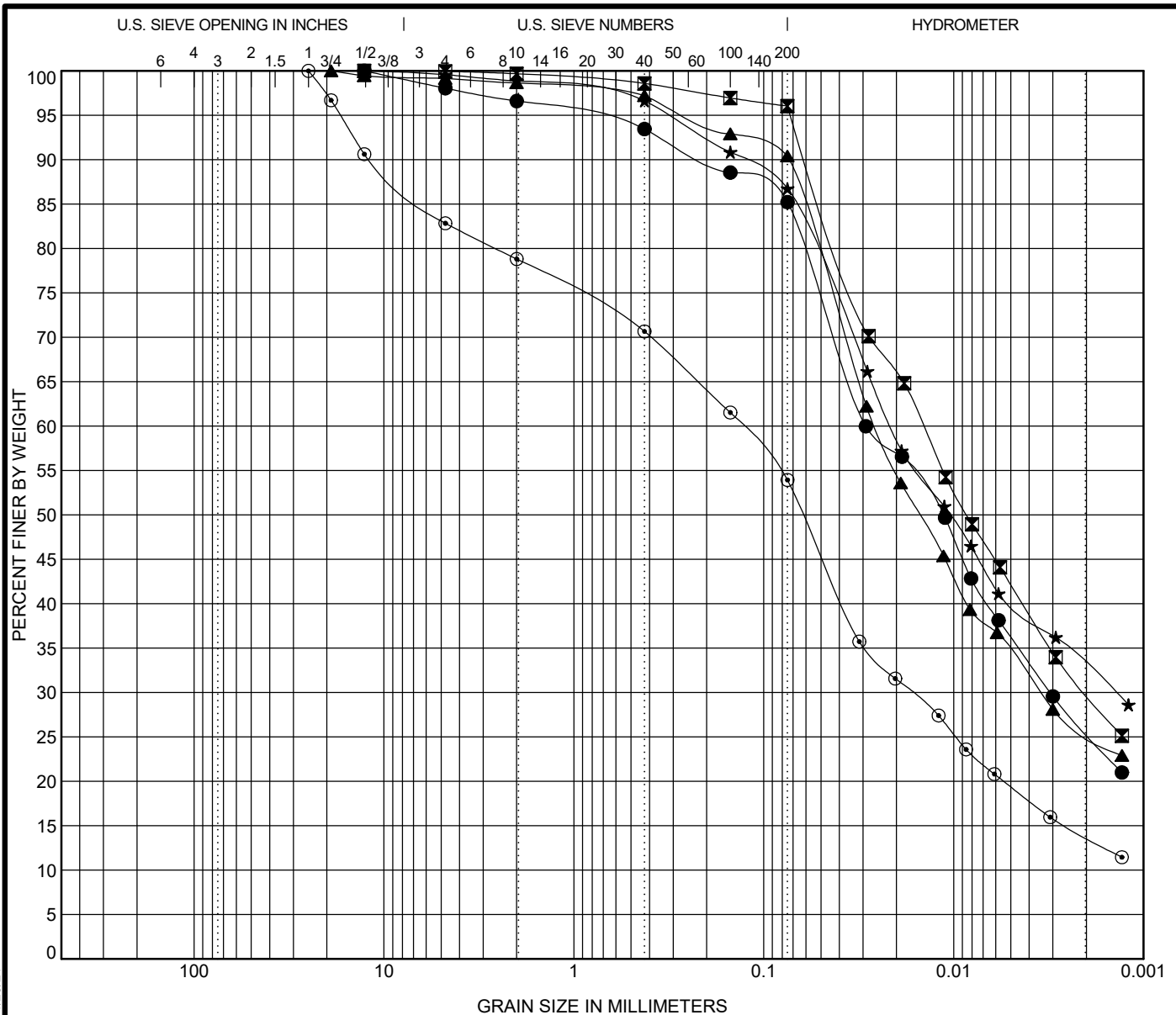
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 404 0.00	A-6 (14) SILTY CLAY LOAM	37.1	20.5	16.6		
■ 404 2.50	A-7-6 (20) SILTY CLAY LOAM	43.5	23.8	19.7		
▲ 404 4.00	A-6 (16) SILTY CLAY LOAM	37.3	19.2	18.1		
★ 405 1.00	A-7-6 (21) SILTY CLAY	44.9	21.5	23.4		
⊙ 405 2.50	A-4 (3) LOAM	26.6	17.1	9.5		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 404 0.00	12.7	0.029	0.003		3.4	11.4	59.8	25.4
■ 404 2.50	12.7	0.014	0.002		0.3	3.6	66.2	29.9
▲ 404 4.00	19	0.026	0.003		1.3	8.2	64.8	25.6
★ 405 1.00	12.7	0.021	0.001		1.1	12.1	53.7	33.0
⊙ 405 2.50	25	0.131	0.017		21.2	24.9	40.2	13.7



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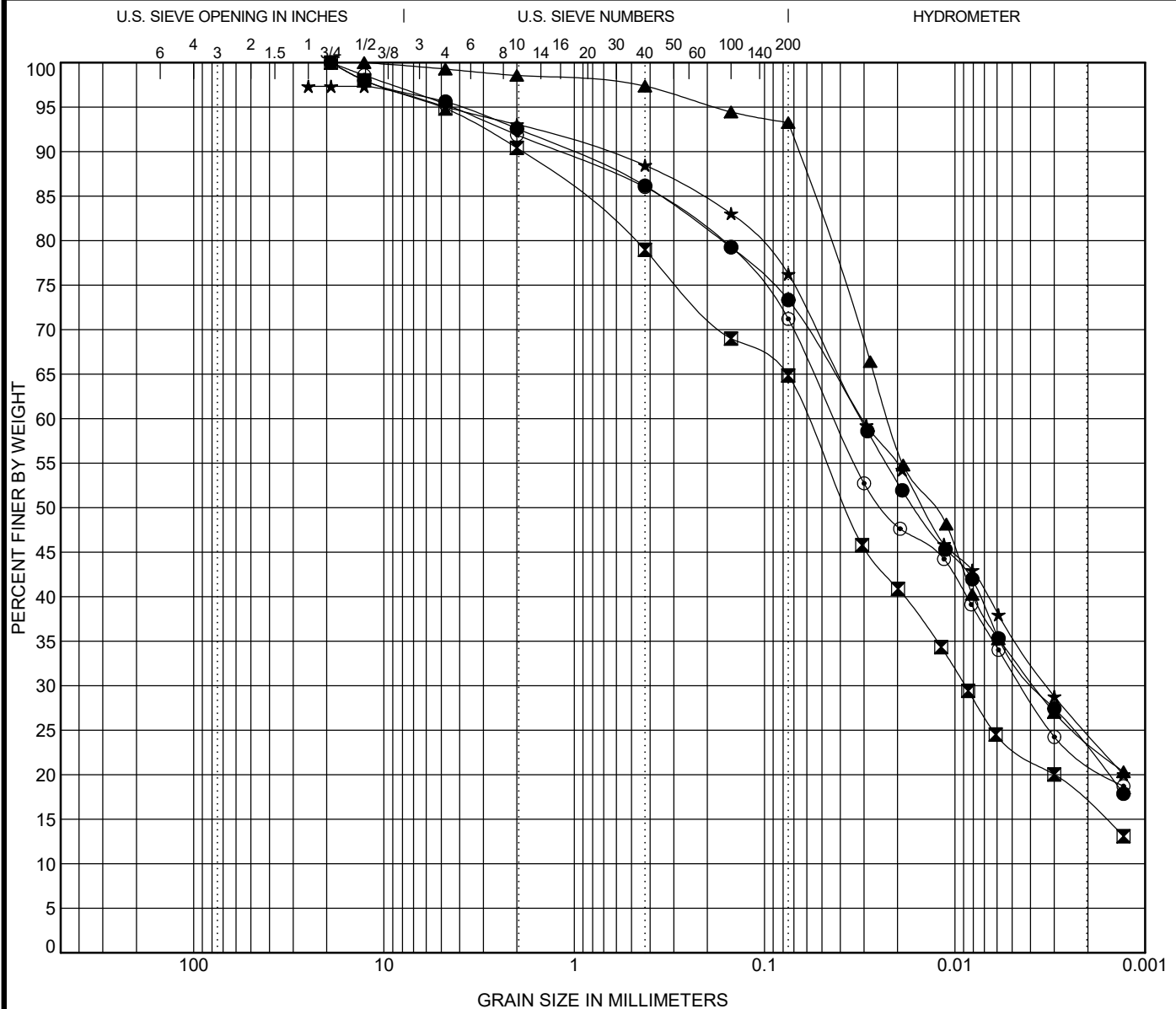
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 405	3.50	A-4 (4) SILTY CLAY LOAM		24.1	15.3	8.8
■ 406	1.50	A-4 (4) LOAM		27.4	16.5	10.9
▲ 406	3.00	A-6 (13) SILTY CLAY LOAM		35.0	20.5	14.5
★ 406	5.00	A-4 (3) SILTY CLAY LOAM		22.4	14.1	8.3
⊙ 407	1.00	A-4 (4) CLAY LOAM		23.4	14.2	9.2

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 405	3.50	19	0.032	0.004	7.4	19.3	50.5	22.8
■ 406	1.50	19	0.06	0.009	9.6	25.6	48.2	16.7
▲ 406	3.00	12.7	0.022	0.004	1.4	5.3	69.5	23.8
★ 406	5.00	25	0.03	0.003	4.3	16.8	51.7	24.5
⊙ 407	1.00	19	0.043	0.004	8.1	20.7	49.6	21.6

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



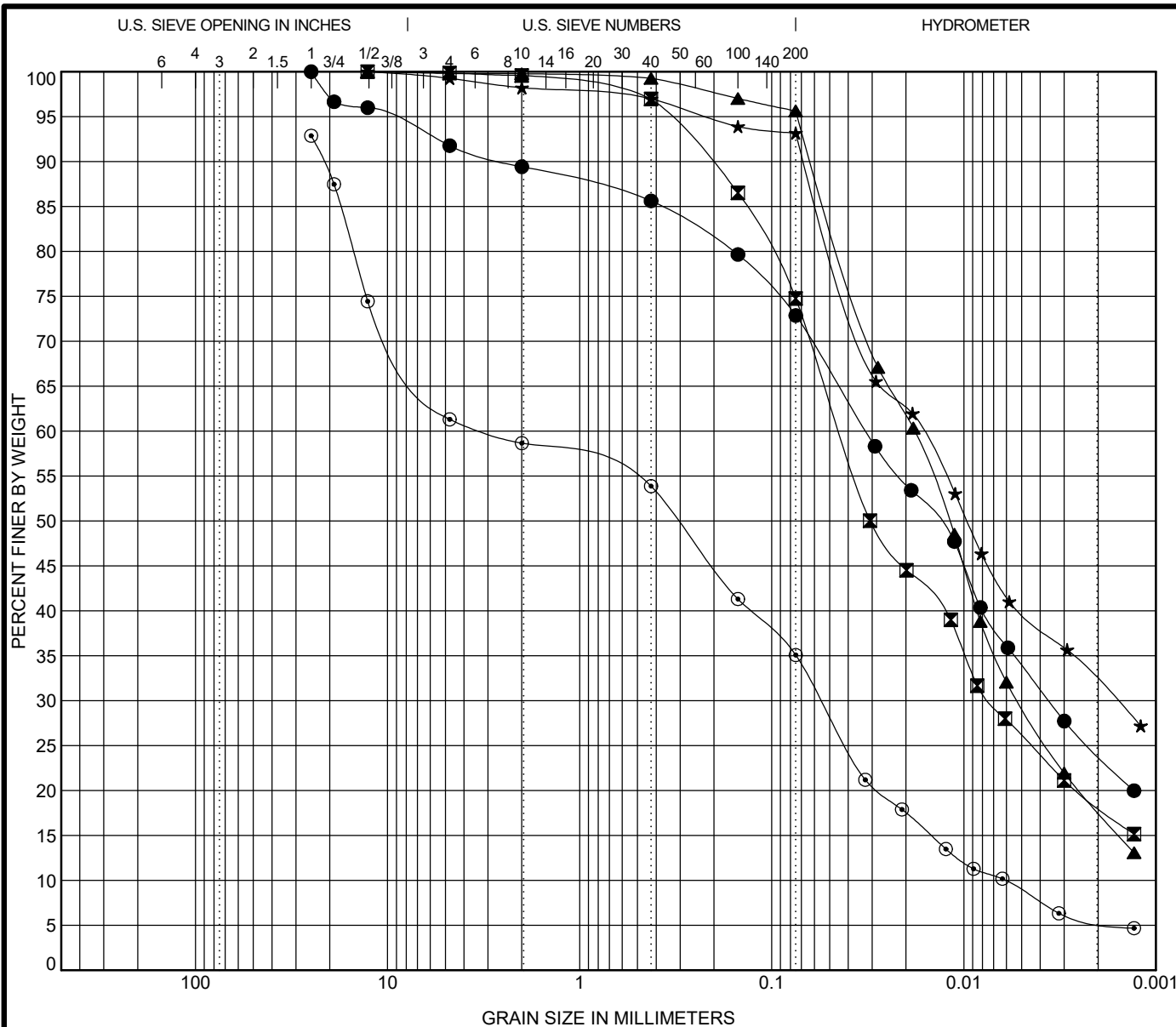
Illinois Department of Transportation
Division of Highways
IDOT

IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification					LL	PL	PI	Cc	Cu
●	408 1.00	A-4 (5) CLAY LOAM					27.2	17.1	10.1		
☒	408 3.00	A-4 (4) SILTY LOAM					25.2	17.1	8.1		
▲	409 1.50	A-6 (12) SILTY LOAM					35.3	22.9	12.4		
★	409 3.00	A-7-6 (22) SILTY CLAY					43.9	21.8	22.1		
⊙	409 5.00	A-2-4 (0) SANDY LOAM					18.2	17.1	1.1	0.16	508.18

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	408 1.00	25	0.032	0.004		10.6	16.6	48.9	24.0
☒	408 3.00	12.7	0.044	0.007		0.4	24.8	56.5	18.2
▲	409 1.50	12.7	0.018	0.005		0.2	4.1	78.0	17.6
★	409 3.00	12.7	0.017	0.002		1.8	5.0	61.1	32.1
⊙	409 5.00	25	3.1	0.055	0.006	34.2	23.6	29.6	5.5



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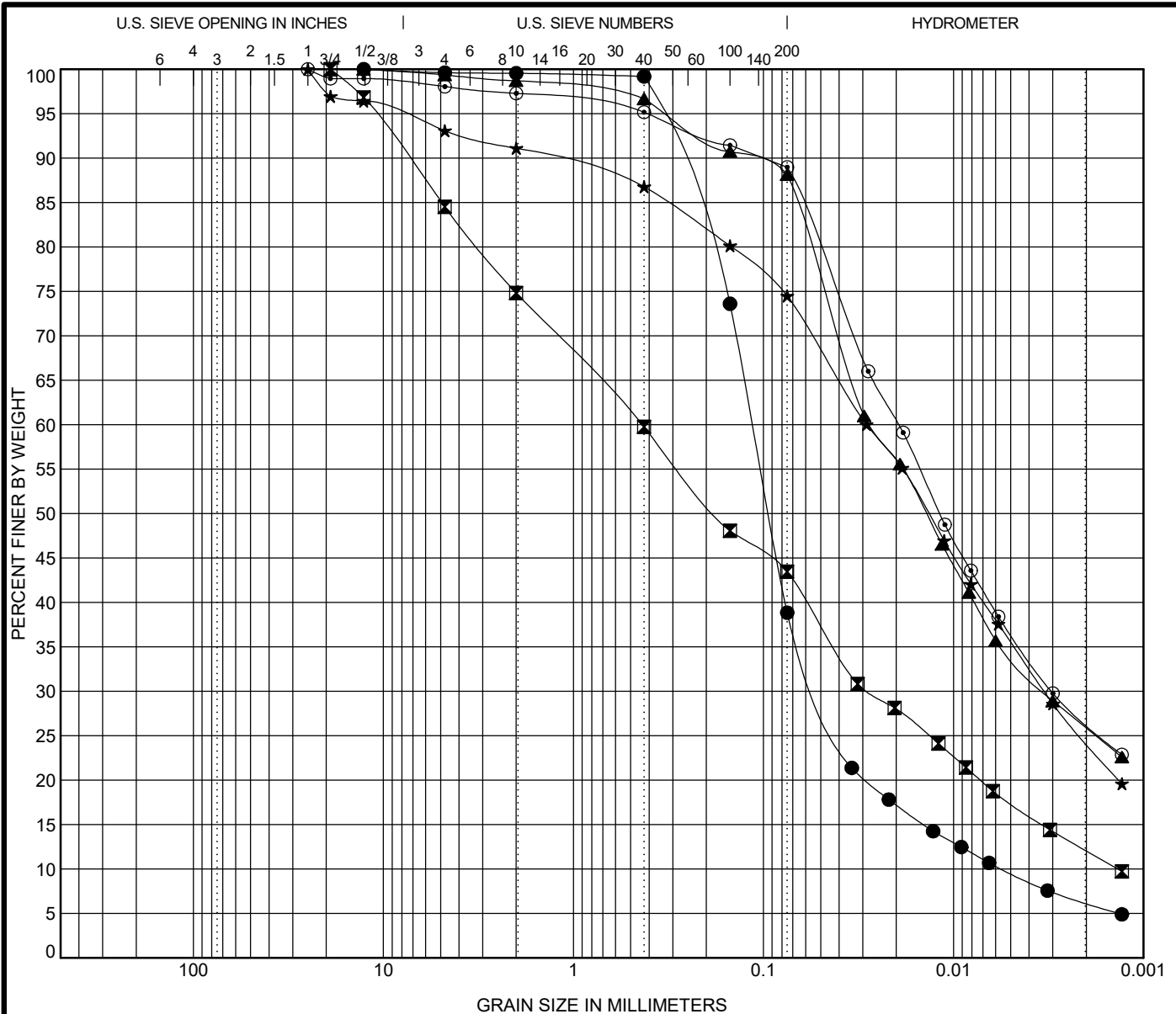
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

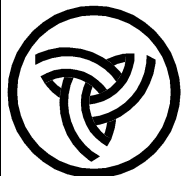
County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu		
● 410 1.00	SANDY LOAM				4.01	20.57		
☒ 413 0.00	A-4 (1) SANDY LOAM	27.2	17.7	9.5	1.30	318.03		
▲ 413 2.00	A-6 (11) SILTY CLAY LOAM	30.1	16.0	14.1				
★ 413 4.50	A-4 (5) SILTY CLAY LOAM	27.2	16.7	10.5				
⊙ 414 1.50	A-6 (12) SILTY CLAY LOAM	32.2	18.5	13.7				
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 410 1.00	12.7	0.114	0.05	0.006	0.5	60.7	32.7	6.2
☒ 413 0.00	19	0.436	0.028	0.001	25.2	31.4	31.4	12.0
▲ 413 2.00	12.7	0.027	0.003		1.3	10.6	62.3	25.8
★ 413 4.50	25	0.029	0.003		8.9	16.6	50.3	24.2
⊙ 414 1.50	25	0.019	0.003		2.7	8.3	62.6	26.4



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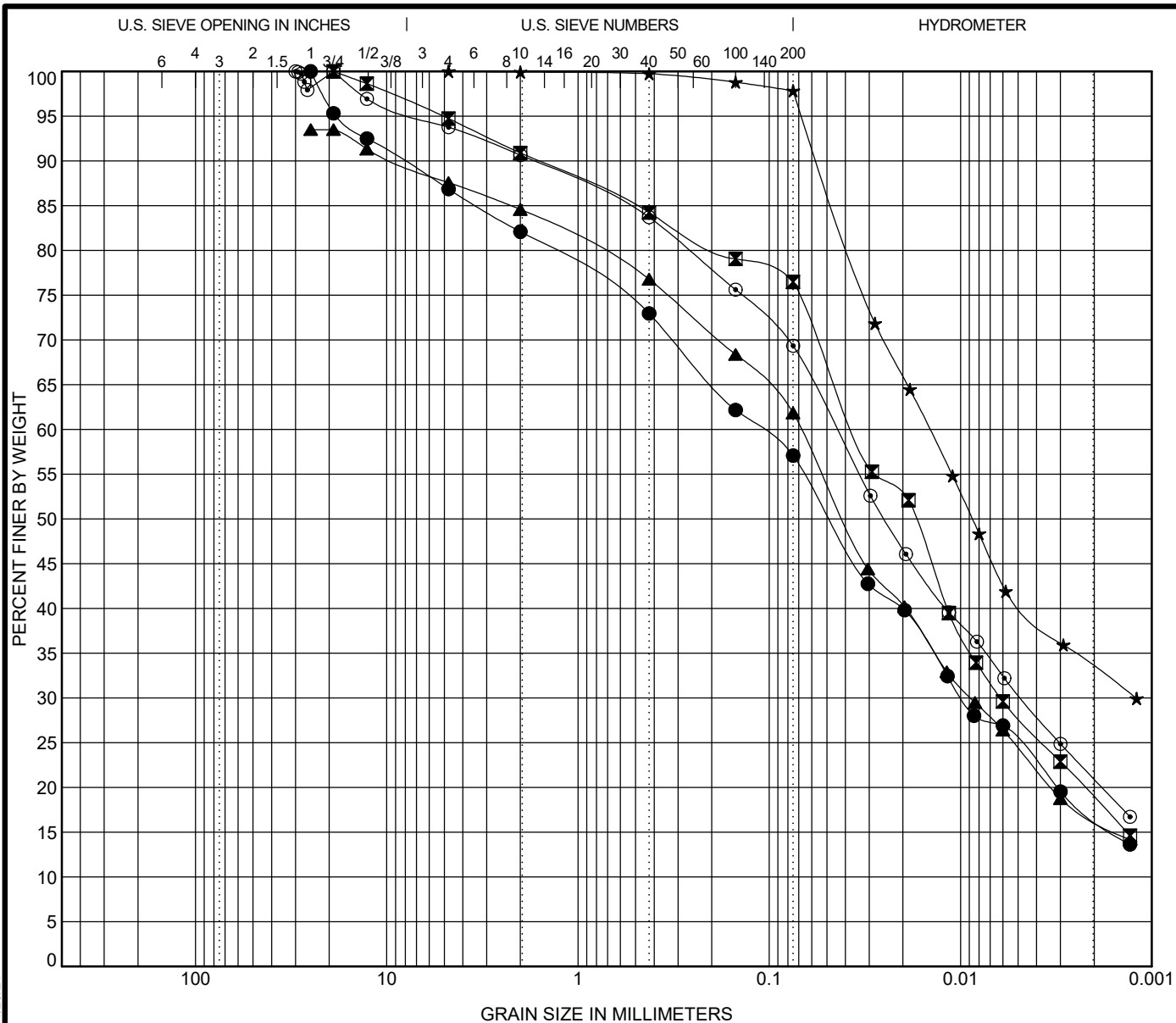
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 501	A-6 (4) LOAM	27.7	16.7	11.0		
■ 502	A-6 (12) SILTY LOAM	40.0	23.1	16.9		
▲ 502	A-4 (2) LOAM	23.1	15.5	7.6		
★ 503	A-7-6 (35) SILTY CLAY	51.0	17.7	33.3		
⊙ 503	A-4 (4) CLAY LOAM	24.9	16.2	8.7		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 501	0.00	25	0.112	0.01	17.9	25.0	40.4	16.7
■ 502	0.00	19	0.036	0.006	9.1	14.4	57.6	18.9
▲ 502	4.00	25	0.068	0.009	8.9	22.7	45.3	16.5
★ 503	2.00	4.75	0.015	0.001	0.1	2.1	64.4	33.4
⊙ 503	3.50	30	0.045	0.005	9.4	21.3	48.4	20.9



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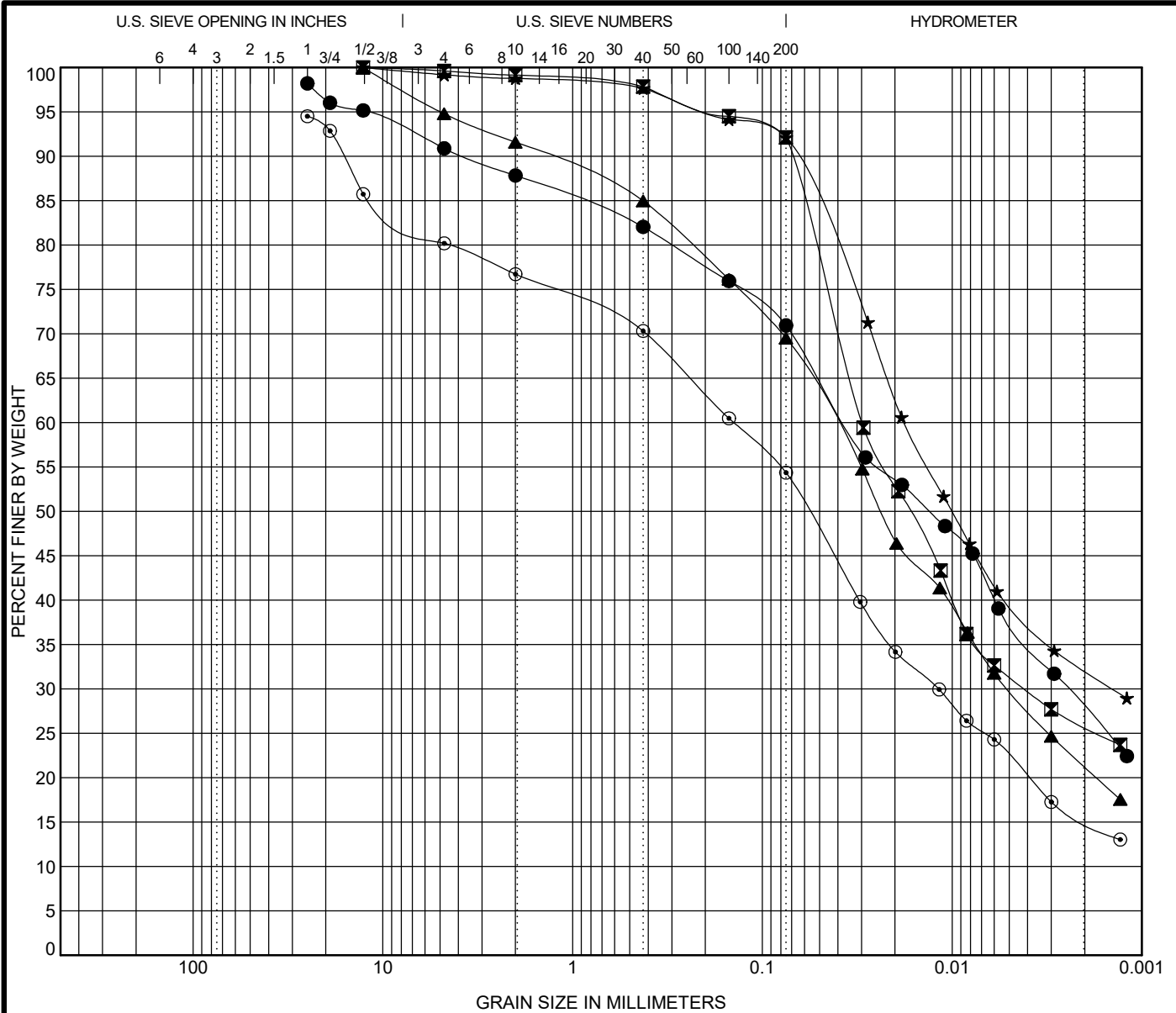
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification					LL	PL	PI	Cc	Cu
●	504 1.00	A-4 (5) CLAY LOAM					26.0	15.9	10.1		
■	505 1.00	A-6 (18) SILTY CLAY LOAM					38.6	19.7	18.9		
▲	505 3.00	A-4 (3) CLAY LOAM					24.3	15.6	8.7		
★	506 1.00	A-7-6 (23) SILTY CLAY					44.0	21.1	22.9		
⊙	506 3.00	A-4 (2) LOAM					24.4	14.3	10.1		
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
●	504 1.00	25	0.037	0.002		10.4	16.9	43.1	27.8		
■	505 1.00	12.7	0.03	0.004		0.8	7.0	66.4	25.8		
▲	505 3.00	12.7	0.041	0.005		8.4	22.1	48.3	21.2		
★	506 1.00	12.7	0.018	0.001		1.2	6.7	60.1	32.1		
⊙	506 3.00	25	0.142	0.012		17.8	22.4	39.1	15.2		

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



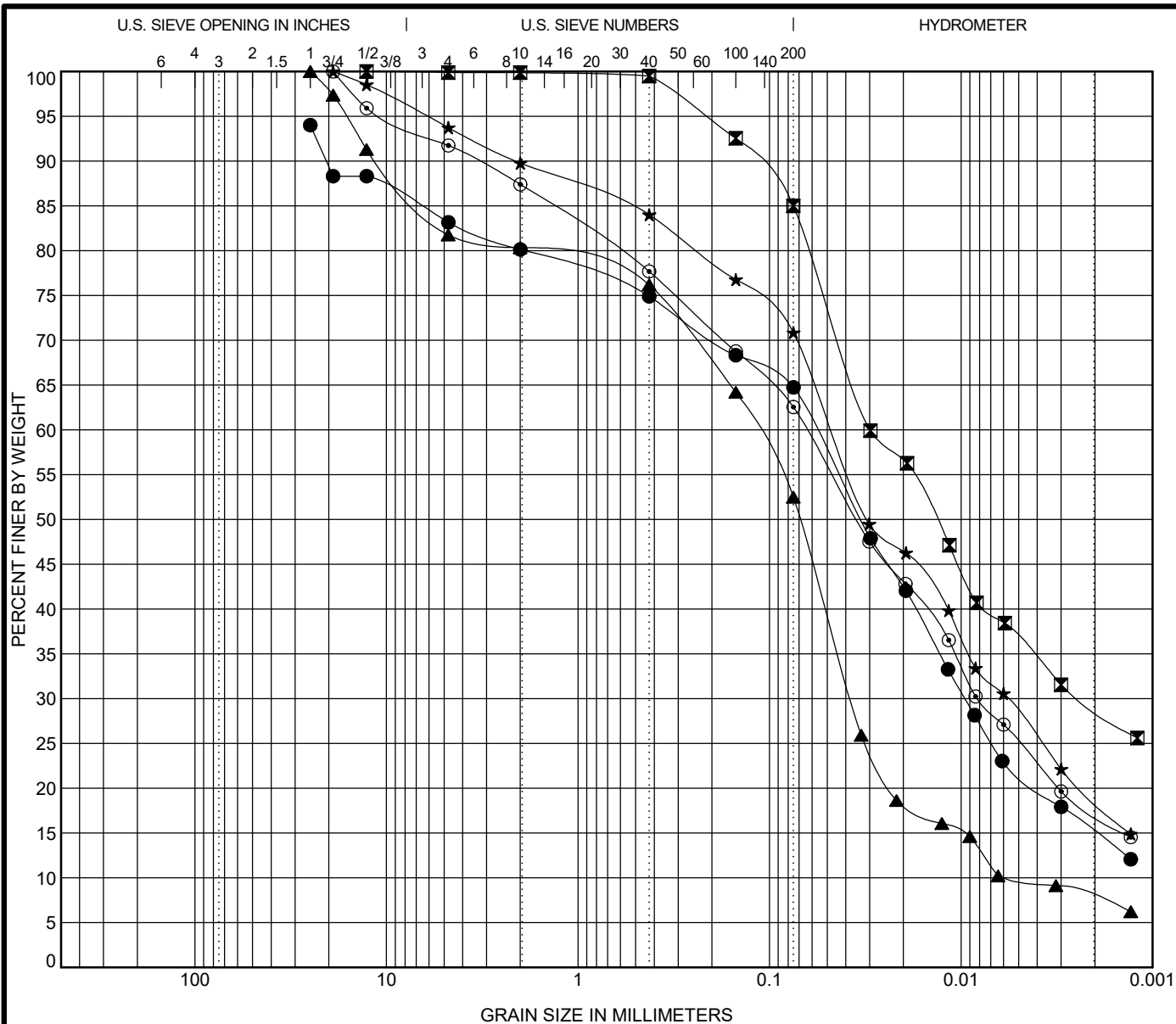
Illinois Department of Transportation
Division of Highways
IDOT

IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification					LL	PL	PI	Cc	Cu	
●	507	0.00	A-6 (9) LOAM					38.6	22.7	15.9		
☒	507	3.00	A-7-6 (22) SILTY CLAY LOAM					44.8	18.8	26.0		
▲	508	3.00	A-4 (0) LOAM					17.4	16.9	0.5	2.17	21.02
★	509	1.50	A-6 (7) SILTY LOAM					28.8	16.5	12.3		
⊙	509	4.50	A-4 (3) LOAM					21.9	12.7	9.2		
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay			
●	507	0.00	25	0.058	0.01	13.9	15.4	49.7	15.1			
☒	507	3.00	12.7	0.03	0.002	0.1	14.9	56.1	28.9			
▲	508	3.00	25	0.117	0.038	0.006	19.7	27.8	44.9			
★	509	1.50	19	0.047	0.006		10.2	18.9	52.2			
⊙	509	4.50	19	0.064	0.008		12.6	24.9	45.4			



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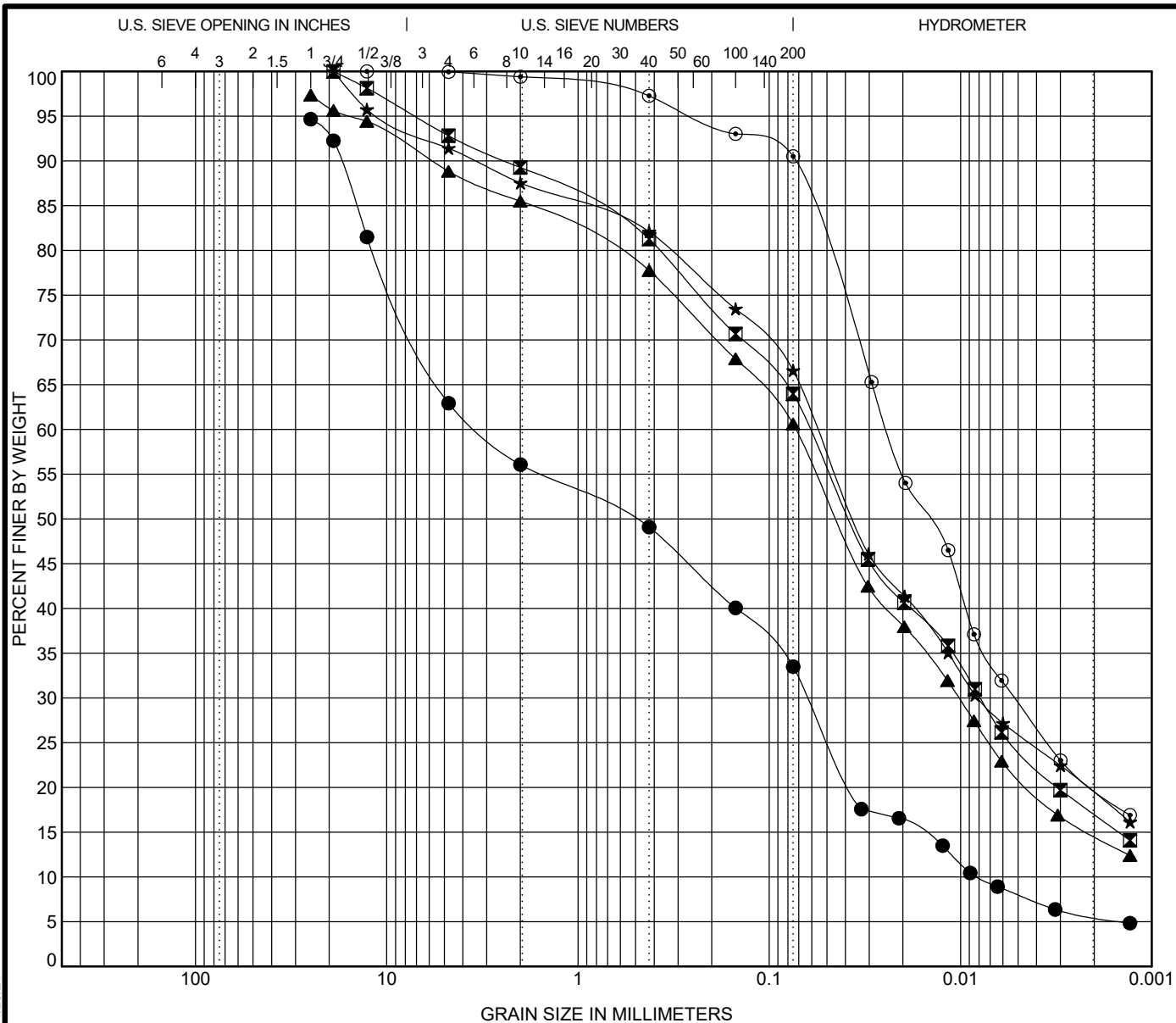
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 510	A-2-4 (0) SANDY LOAM	20.2	17.9	2.3	0.15	405.82
☒ 511	A-6 (5) LOAM	27.9	16.1	11.8		
▲ 512	A-4 (2) LOAM	23.7	15.8	7.9		
★ 512	A-6 (7) LOAM	29.8	16.2	13.6		
◎ 513	A-6 (14) SILTY CLAY LOAM	34.5	20.4	14.1		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
● 510	1.00	25	3.283	0.063	0.008	38.6	22.6	27.9	5.6
☒ 511	1.00	19	0.062	0.008		10.7	25.3	47.0	17.0
▲ 512	1.00	25	0.073	0.01		11.9	24.9	46.0	14.6
★ 512	4.00	19	0.056	0.008		12.5	20.9	47.2	19.4
◎ 513	2.00	12.7	0.024	0.005		0.6	8.9	70.5	20.1



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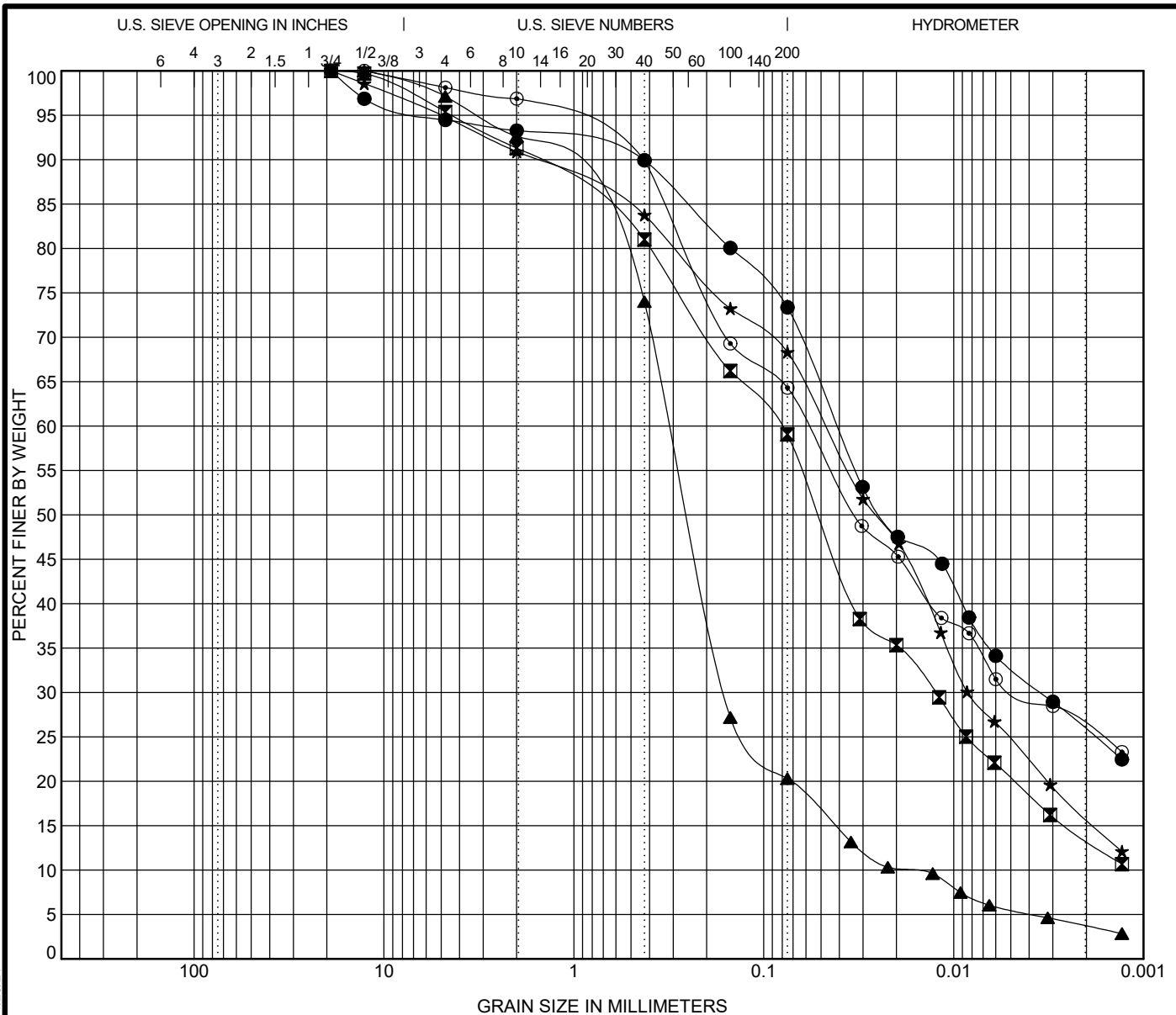
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu		
● 513 4.00	A-7-6 (14) CLAY LOAM	40.8	20.2	20.6				
■ 514 0.10	A-4 (2) LOAM	23.8	14.8	9.0				
▲ 514 5.00	SANDY LOAM				4.71	17.87		
★ 601 0.00	A-6 (7) SILTY LOAM	32.6	19.5	13.1				
⊙ 601 2.00	A-7-6 (13) CLAY LOAM	41.4	17.5	23.9				
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 513 4.00	19	0.041	0.003		6.7	19.9	47.6	25.8
■ 514 0.10	19	0.082	0.012		8.7	32.3	45.6	13.4
▲ 514 5.00	12.7	0.311	0.16	0.017	7.4	72.3	16.6	3.7
★ 601 0.00	19	0.047	0.008		9.1	22.6	52.5	15.8
⊙ 601 2.00	12.7	0.058	0.004		3.1	32.6	38.4	26.0



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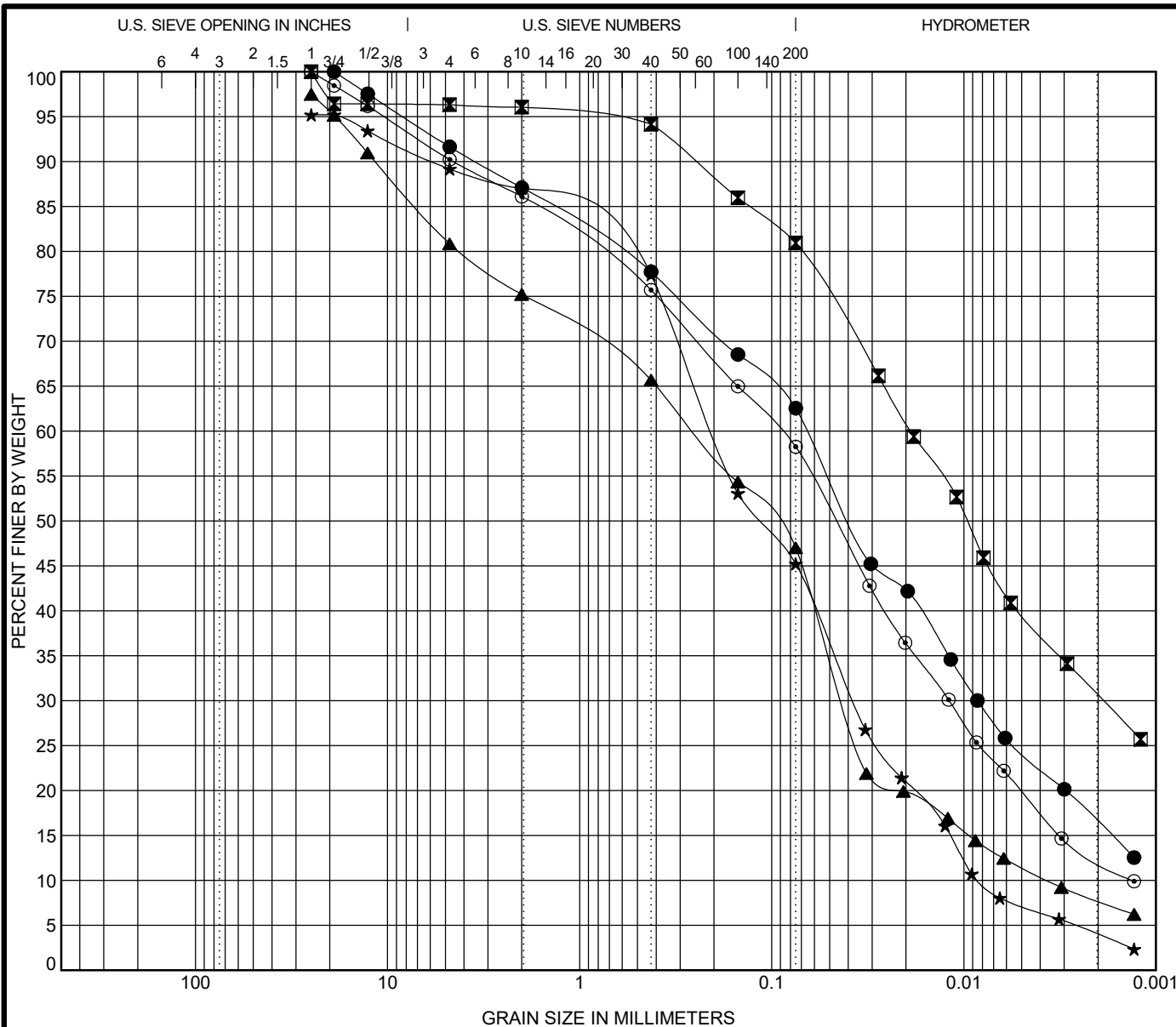
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 601 4.50	A-6 (7) LOAM	23.0	6.5	16.5		
☒ 602 1.50	A-6 (15) SILTY CLAY	38.4	19.3	19.1		
▲ 602 4.50	A-4 (0) SANDY LOAM	21.6	15.8	5.8	1.92	68.62
★ 603 1.50	A-4 (0) SANDY LOAM	17.1	16.0	1.1	0.85	24.25
⊙ 603 3.50	A-4 (1) LOAM	19.5	14.3	5.2	1.19	67.85

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 601 4.50	19	0.066	0.008		12.9	24.5	46.1	16.5
☒ 602 1.50	25	0.019	0.002		3.9	15.1	50.4	30.6
▲ 602 4.50	25	0.252	0.042	0.004	22.3	28.2	39.3	7.7
★ 603 1.50	25	0.202	0.038	0.008	8.2	41.8	41.3	3.9
⊙ 603 3.50	25	0.09	0.012	0.001	13.9	27.9	46.0	12.3



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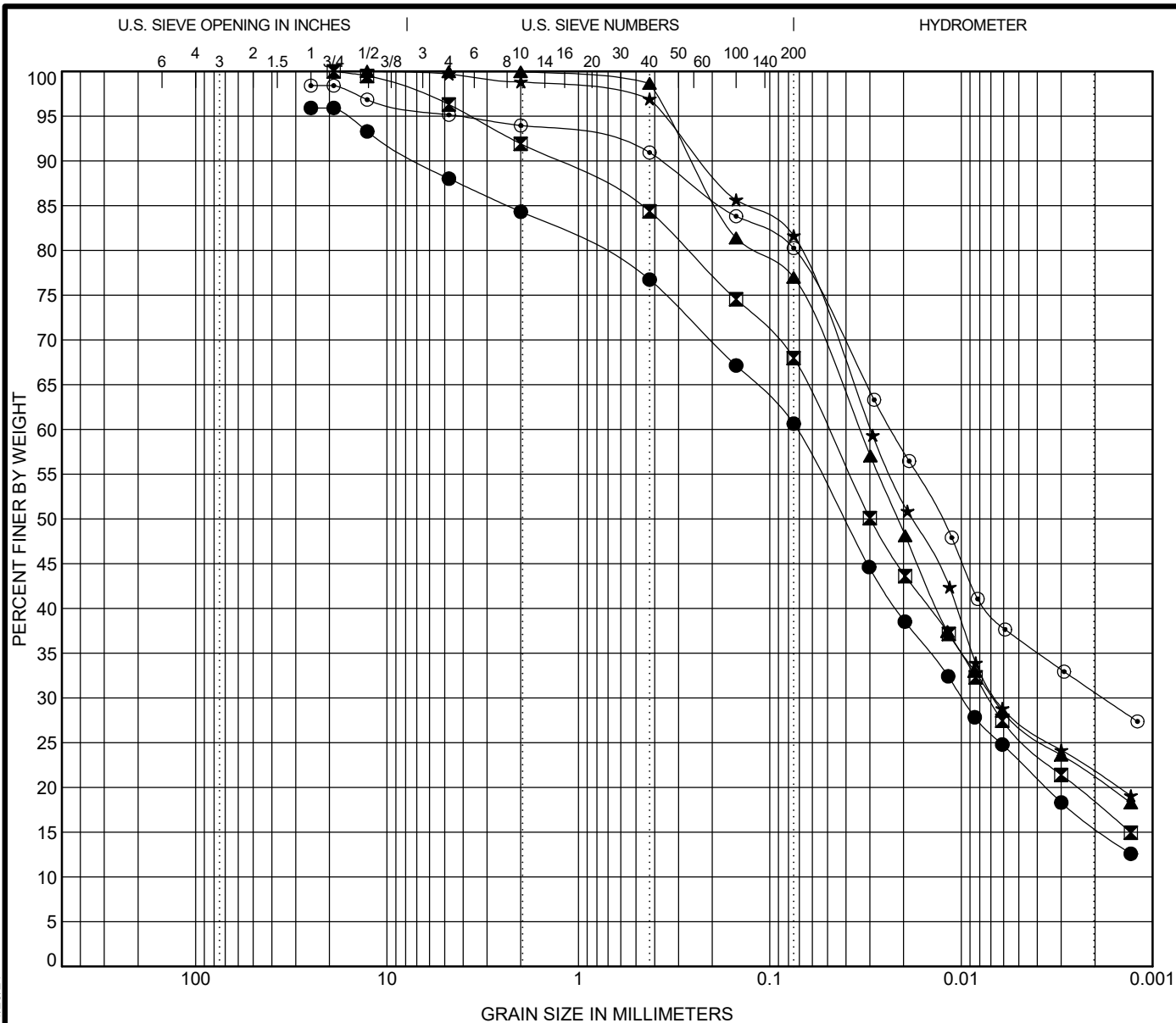
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 604	A-4 (2) LOAM	24.2	15.6	8.6		
■ 604	A-4 (4) LOAM	25.0	14.8	10.2		
▲ 607	A-6 (9) SILTY CLAY LOAM	30.2	15.9	14.3		
★ 608	A-6 (9) SILTY CLAY LOAM	30.8	17.8	13.0		
⊙ 608	A-6 (15) CLAY	39.2	19.8	19.4		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 604	25	0.072	0.01		11.6	23.7	45.1	15.5
■ 604	19	0.05	0.007		8.1	23.9	49.7	18.3
▲ 607	12.7	0.034	0.007		0.0	23.0	56.0	21.0
★ 608	12.7	0.03	0.007		1.2	17.2	60.0	21.7
⊙ 608	25	0.023	0.002		4.5	13.7	49.7	30.6



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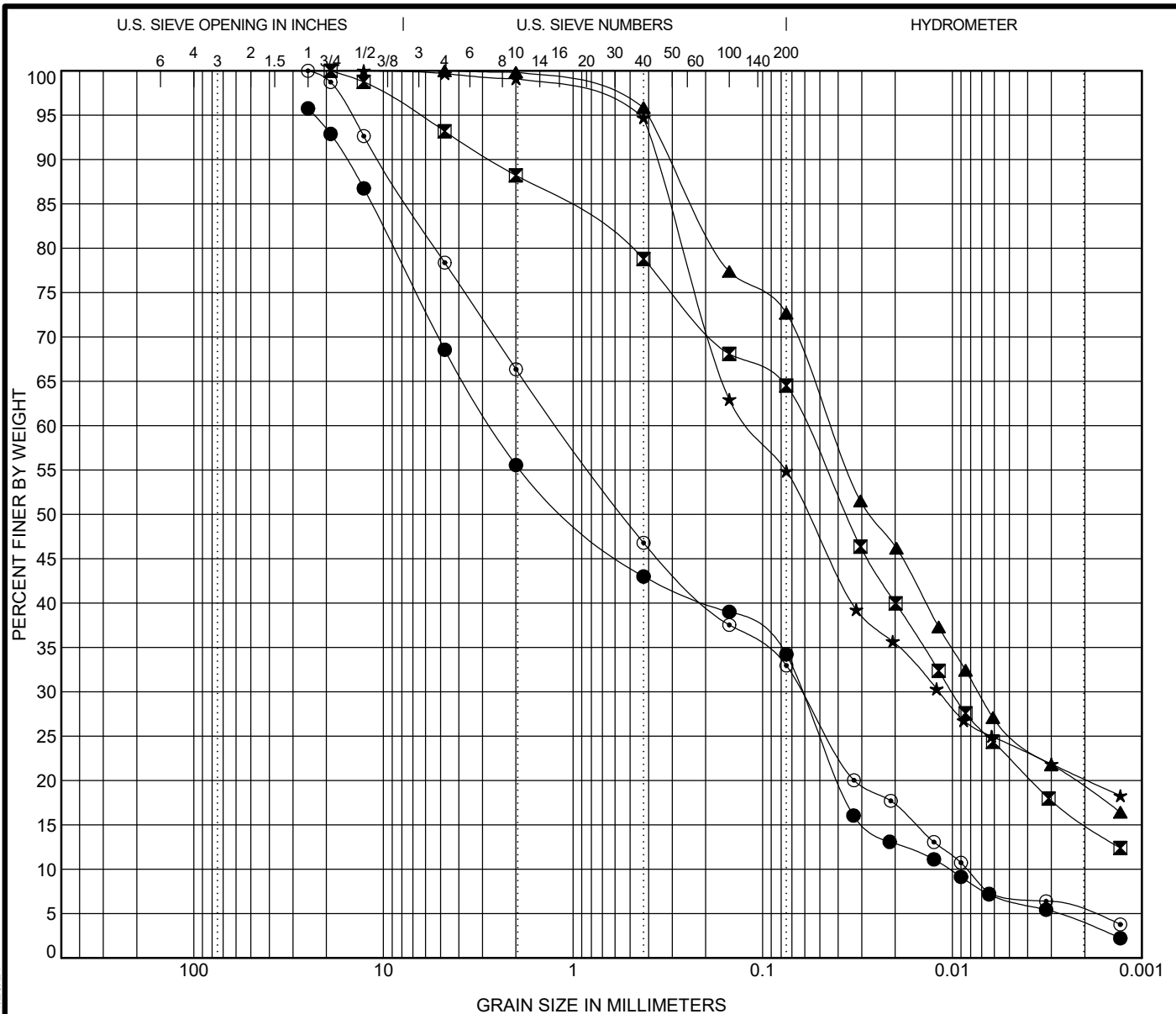
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

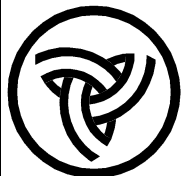
GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 608 3.00	A-2-4 (0) SANDY LOAM	18.9	18.1	0.8	0.14	258.83
☒ 701 1.50	A-6 (6) LOAM	28.8	16.1	12.7		
▲ 701 3.50	A-6 (6) SILTY LOAM	27.3	15.6	11.7		
★ 702 0.50	A-6 (5) CLAY LOAM	30.2	14.0	16.2		
◎ 702 3.00	A-2-4 (0) SANDY LOAM	19.8	17.8	2.0	0.38	144.44

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 608 3.00	25	2.688	0.062	0.01	40.2	21.3	30.5	3.8
☒ 701 1.50	19	0.06	0.01		11.8	23.7	49.4	15.2
▲ 701 3.50	4.75	0.044	0.007		0.2	27.2	53.5	19.2
★ 702 0.50	12.7	0.116	0.012		0.9	44.2	34.8	20.1
◎ 702 3.00	25	1.209	0.062	0.008	33.6	33.4	27.9	5.0



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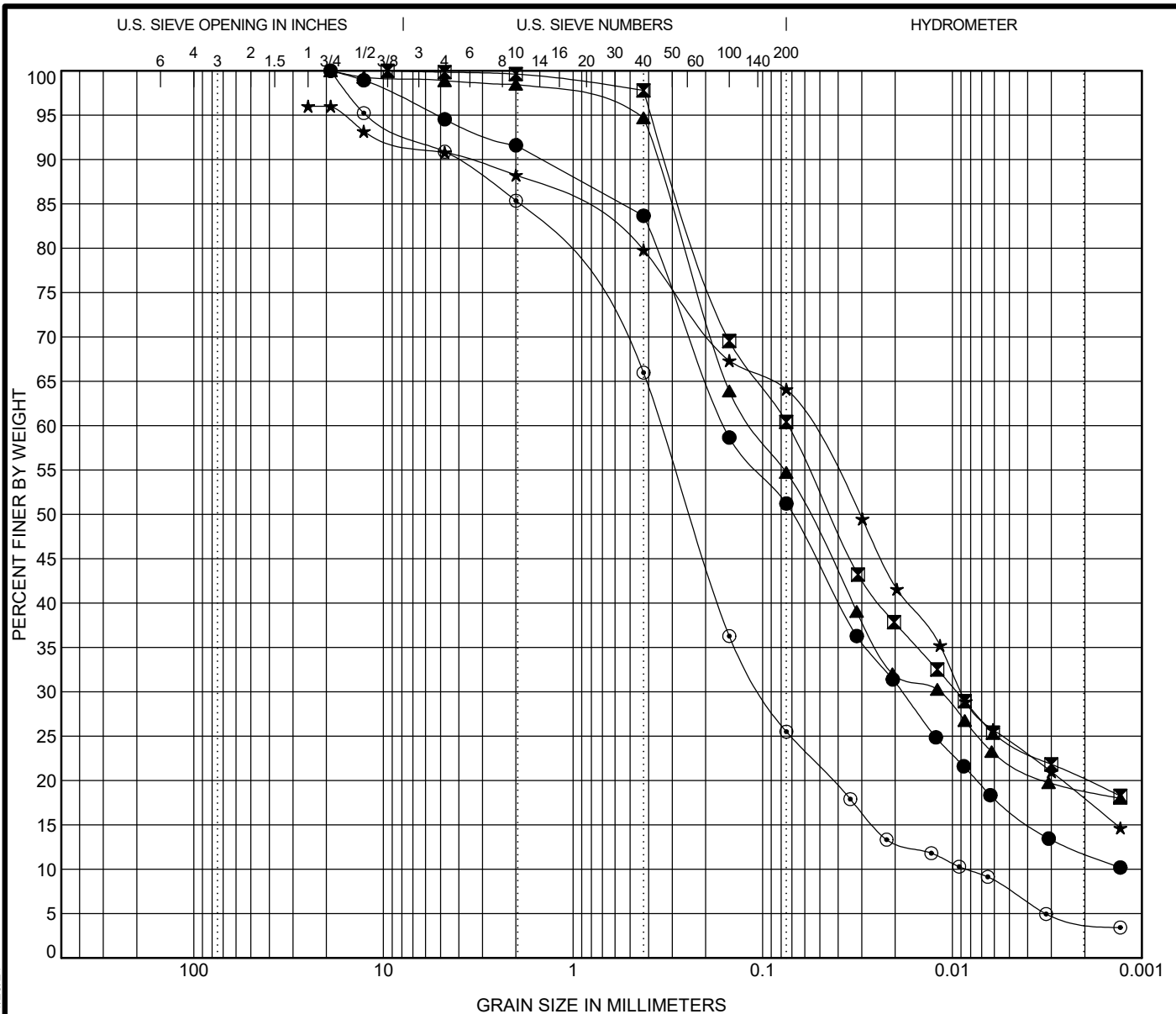
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 703 0.00	A-4 (1) LOAM	22.4	13.9	8.5		
☒ 703 2.00	A-6 (4) CLAY LOAM	25.5	13.2	12.3		
▲ 704 2.00	A-6 (3) LOAM	25.6	13.7	11.9		
★ 705 0.00	A-6 (8) LOAM	32.4	14.8	17.6		
◎ 706 1.00	SANDY LOAM				3.45	40.85

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 703 0.00	19	0.159	0.018		8.4	40.4	39.4	11.8
☒ 703 2.00	9.5	0.073	0.009		0.4	39.2	40.3	20.1
▲ 704 2.00	19	0.112	0.012		1.5	43.7	35.9	18.9
★ 705 0.00	25	0.058	0.009		7.8	24.1	46.2	17.9
◎ 706 1.00	19	0.345	0.1	0.008	14.6	59.8	21.4	4.2



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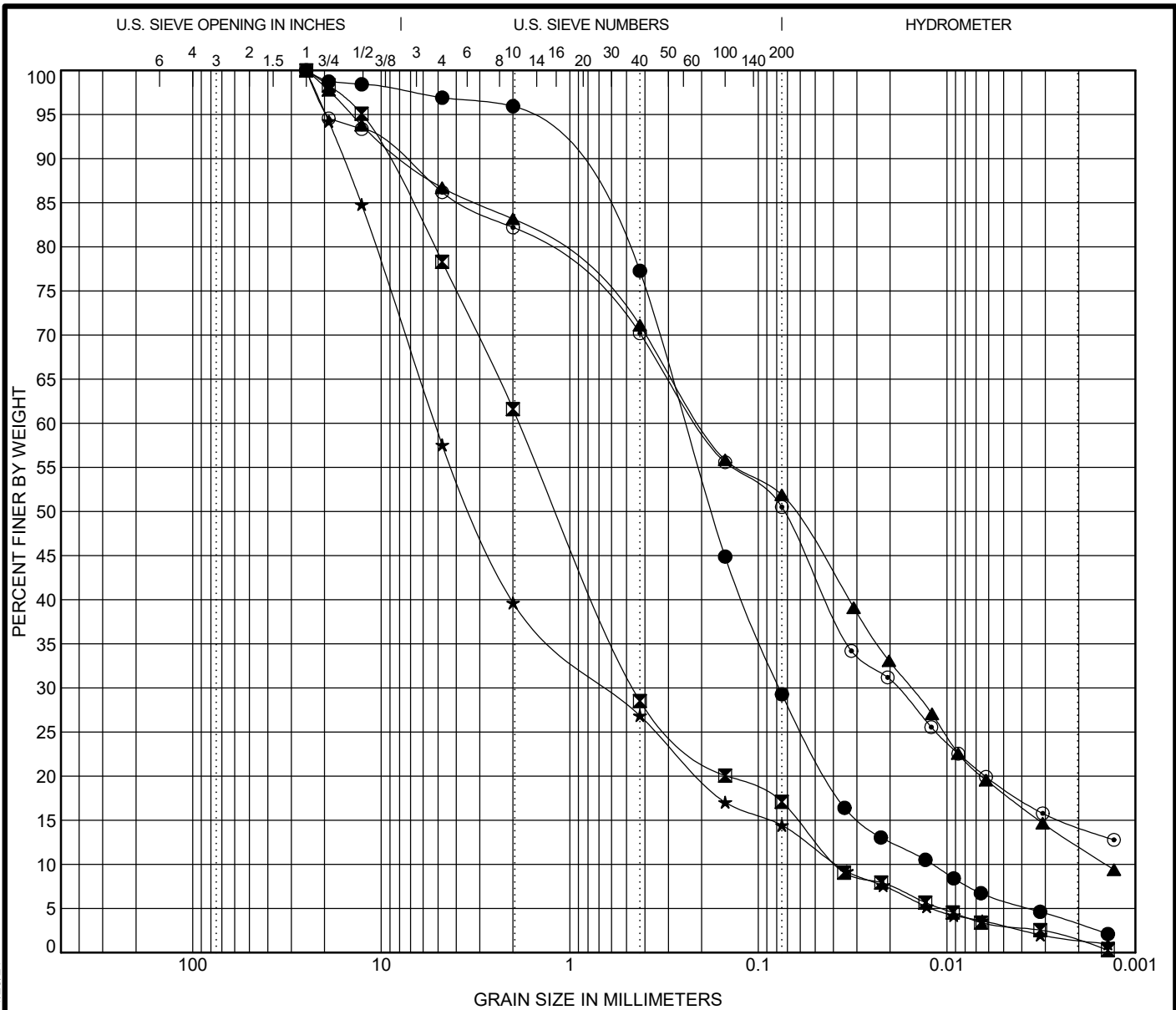
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

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County: Kendall

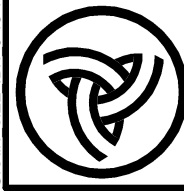
GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 707 1.50	SANDY LOAM				2.06	20.42
☒ 707 4.00	SAND				2.92	48.43
▲ 708 0.00	A-4 (2) LOAM	27.4	17.0	10.4	0.84	138.58
★ 708 1.50	SAND				1.94	135.22
◎ 709 0.00	A-6 (5) LOAM	33.0	16.7	16.3		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 707 1.50	25	0.244	0.077	0.012	4.1	66.7	26.1	3.2
☒ 707 4.00	25	1.856	0.456	0.038	38.4	44.5	15.8	1.3
▲ 708 0.00	25	0.199	0.016	0.001	16.8	31.3	39.9	12.0
★ 708 1.50	25	5.191	0.622	0.038	60.4	25.2	13.0	1.4
◎ 709 0.00	25	0.205	0.018		17.8	31.7	36.2	14.3

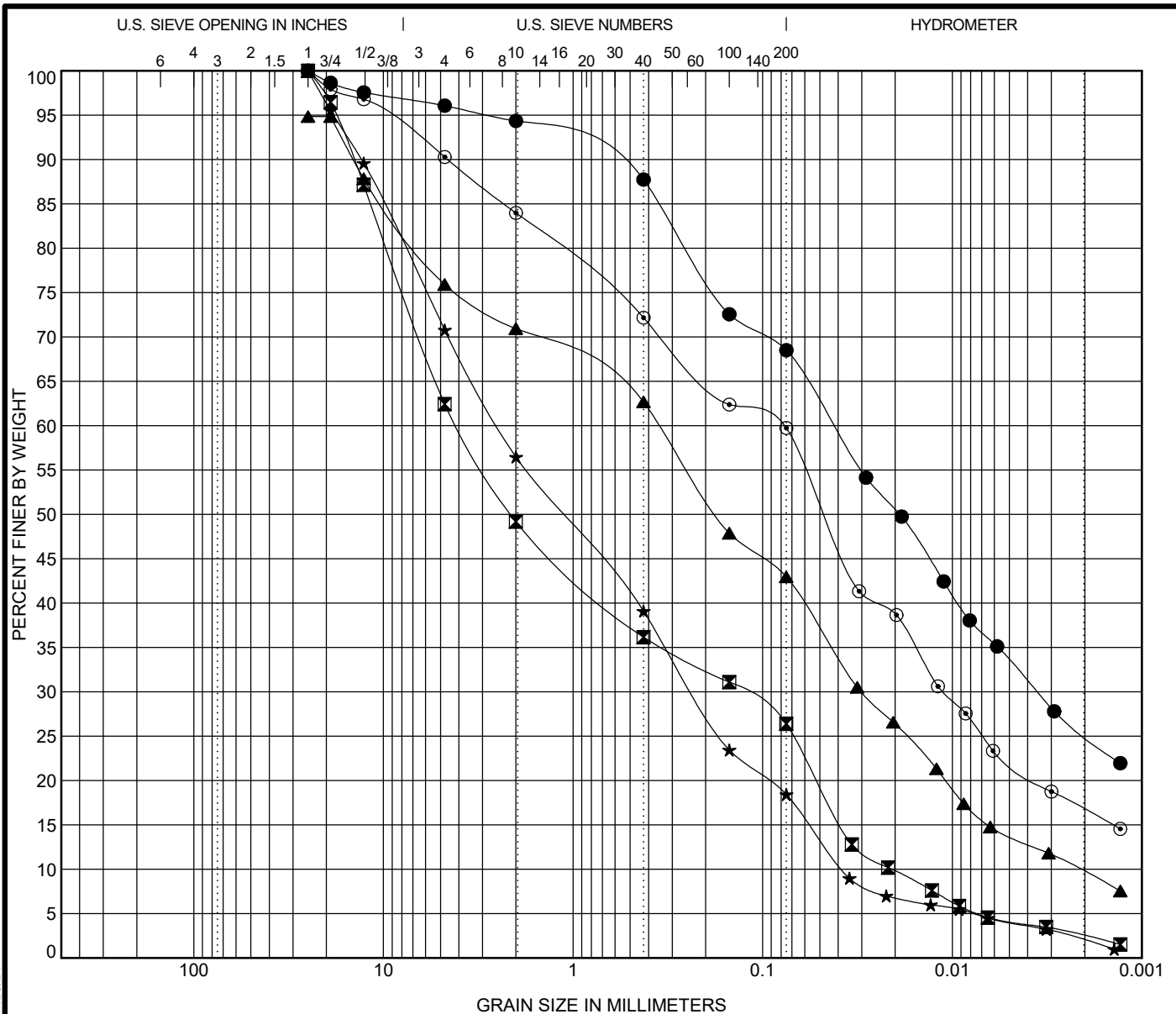


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IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)
 Section: (1,1-1)R
 County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification				LL	PL	PI	Cc	Cu
●	710 1.50	A-6 (11) CLAY LOAM				39.0	20.1	18.9		
☒	710 2.50	A-2-4 (0) SANDY LOAM				17.9	17.5	0.4	0.19	193.53
▲	711 0.00	A-6 (2) SANDY LOAM				29.8	17.1	12.7	1.19	164.04
★	711 4.00	SAND							0.57	65.33
◎	712 0.00	A-6 (4) LOAM				29.6	18.6	11.0		
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
● 710 1.50	25	0.042	0.004		5.7	25.8	43.4	25.1		
☒ 710 2.50	25	4.053	0.128	0.021	50.8	22.8	23.9	2.5		
▲ 711 0.00	25	0.352	0.03	0.002	23.9	28.0	33.3	9.7		
★ 711 4.00	25	2.477	0.232	0.038	43.5	38.0	16.5	2.0		
◎ 712 0.00	25	0.08	0.011		16.0	24.2	43.0	16.7		



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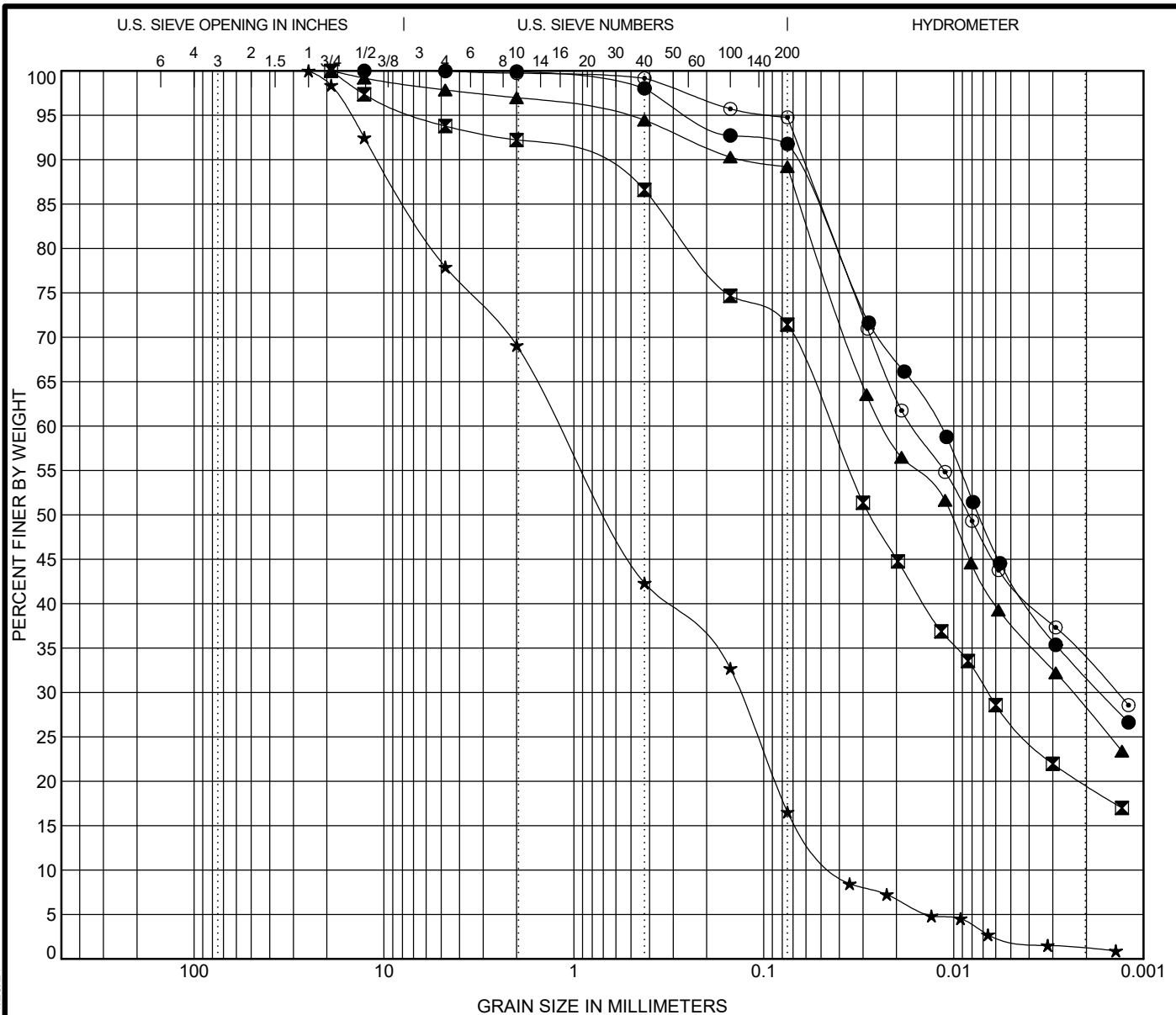
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 712 4.50	A-7-6 (21) SILTY CLAY	45.2	24.4	20.8		
■ 713 0.00	A-6 (10) SILTY LOAM	36.1	19.0	17.1		
▲ 714 1.00	A-7-6 (18) SILTY CLAY LOAM	40.6	21.4	19.2		
★ 715 1.00	SAND				0.37	29.02
○ 716 0.50	A-7-6 (31) SILTY CLAY	51.2	21.3	29.9		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 712 4.50	12.7	0.012	0.002		0.1	8.2	60.1	31.7
■ 713 0.00	19	0.044	0.007		7.8	20.8	51.9	19.5
▲ 714 1.00	19	0.023	0.002		3.0	7.8	61.1	28.1
★ 715 1.00	25	1.183	0.134	0.041	30.9	52.5	15.4	1.2
○ 716 0.50	4.75	0.016	0.001		0.3	5.0	61.1	33.6



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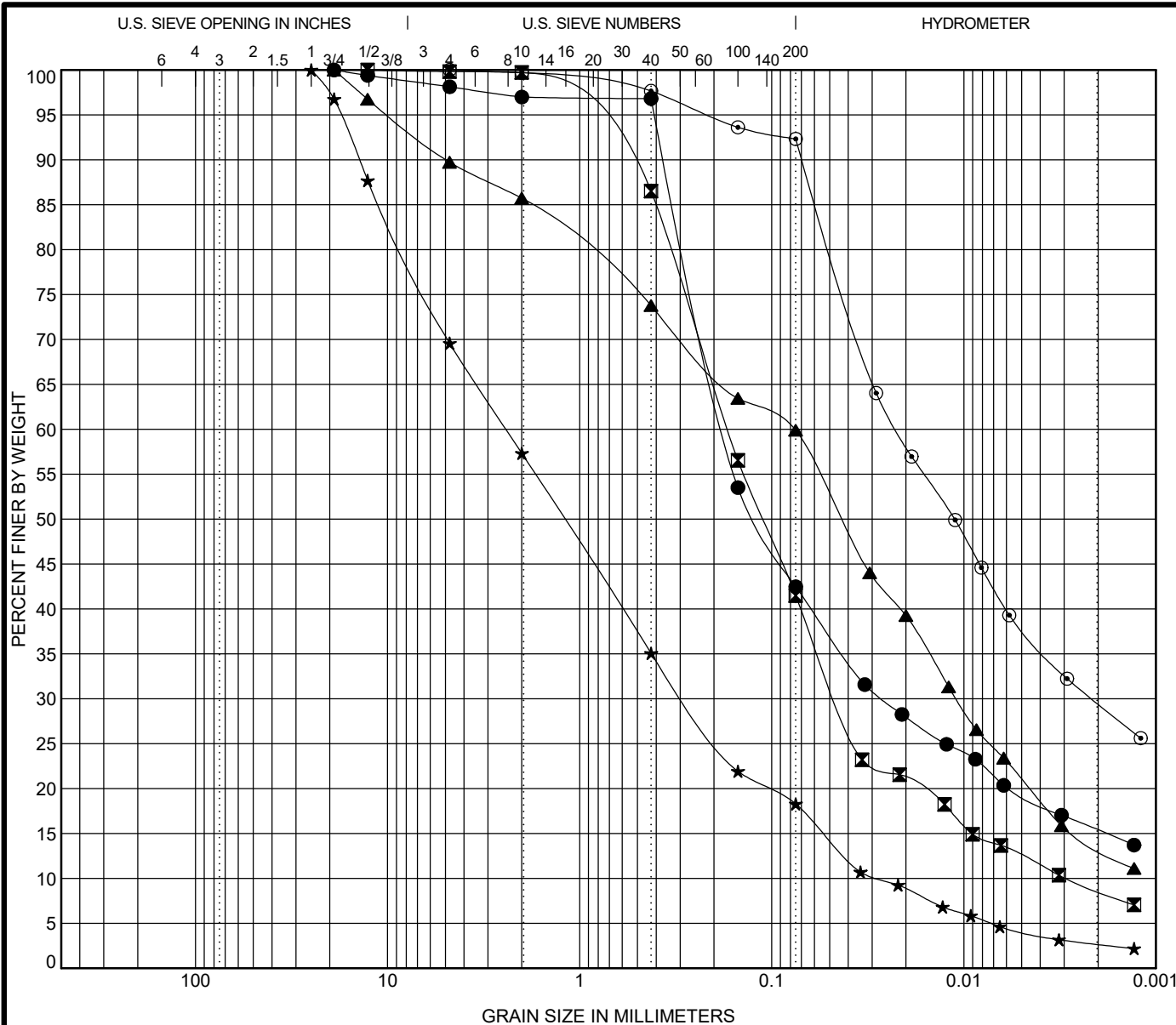
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu		
● 716 2.00	A-4 (0) SANDY LOAM	23.5	14.6	8.9				
☒ 716 5.00	A-4 (0) SANDY LOAM	16.1	15.1	1.0	4.23	58.29		
▲ 717 0.00	A-6 (7) LOAM	33.9	18.9	15.0				
★ 717 2.00	SAND				1.21	87.40		
⊙ 718 1.00	A-7-6 (24) SILTY CLAY LOAM	44.6	20.6	24.0				
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 716 2.00	19	0.175	0.027		3.0	54.5	27.1	15.4
☒ 716 5.00	12.7	0.169	0.046	0.003	0.3	58.2	32.9	8.6
▲ 717 0.00	19	0.077	0.011		14.3	25.8	46.4	13.5
★ 717 2.00	25	2.417	0.285	0.028	42.7	39.0	15.6	2.7
⊙ 718 1.00	4.75	0.022	0.002		0.3	7.4	62.9	29.4



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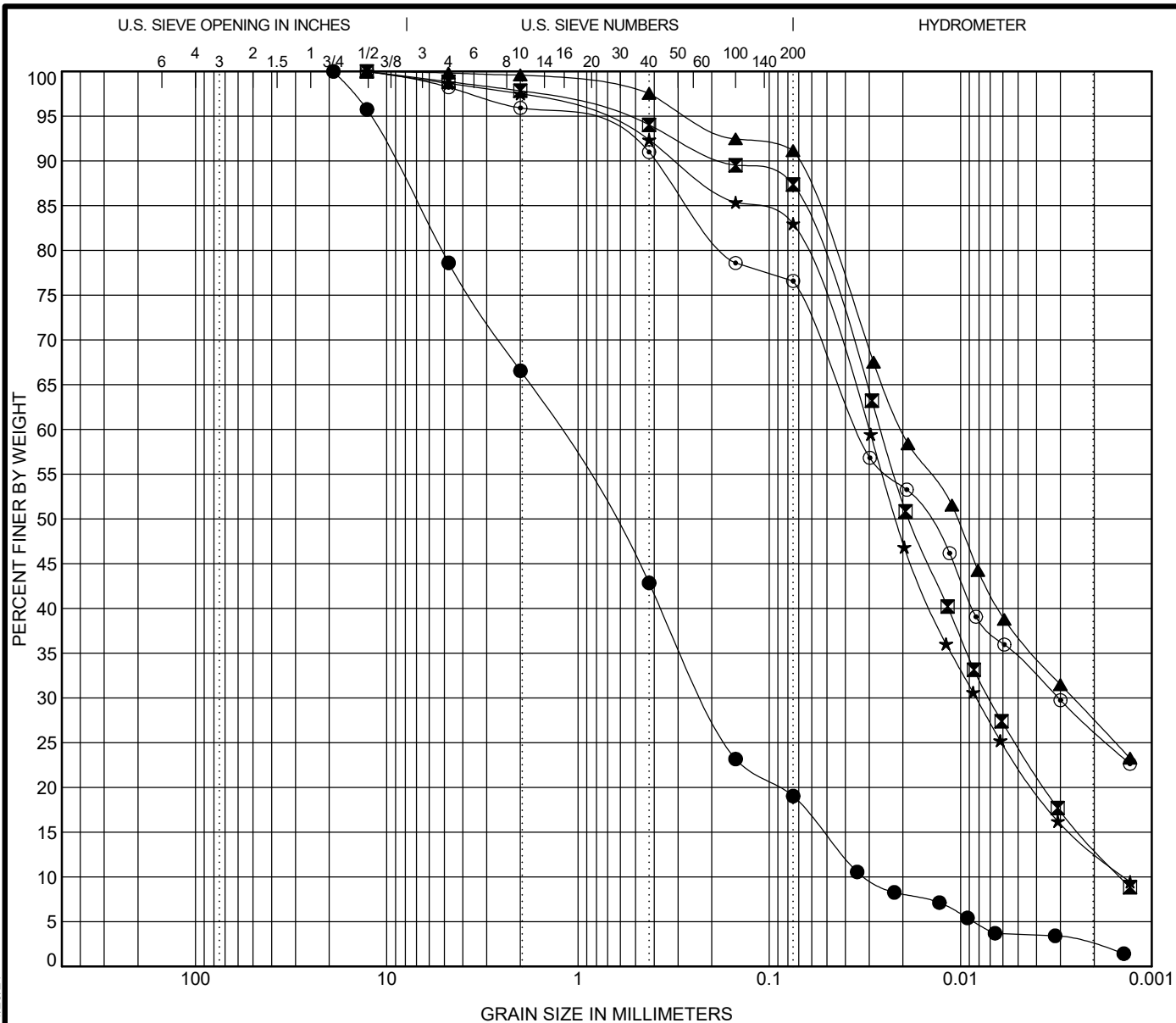
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

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GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification				LL	PL	PI	Cc	Cu
●	718 3.00	SAND							1.14	41.88
■	719 1.50	A-6 (9) SILTY LOAM				32.8	21.7	11.1	1.32	17.93
▲	719 3.50	A-6 (15) SILTY CLAY LOAM				37.8	22.1	15.7		
★	720 0.00	A-6 (13) SILTY LOAM				36.8	21.3	15.5	1.63	21.63
⊙	720 1.00	A-6 (12) SILTY CLAY LOAM				38.1	21.7	16.4		
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
●	718 3.00	19	1.303	0.215	0.031	33.4	47.5	16.7	2.3	
■	719 1.50	12.7	0.026	0.007	0.001	2.2	10.5	74.1	13.2	
▲	719 3.50	12.7	0.02	0.003		0.4	8.4	63.7	27.5	
★	720 0.00	12.7	0.03	0.008	0.001	2.5	14.5	70.2	12.8	
⊙	720 1.00	12.7	0.035	0.003		4.1	19.3	50.3	26.3	



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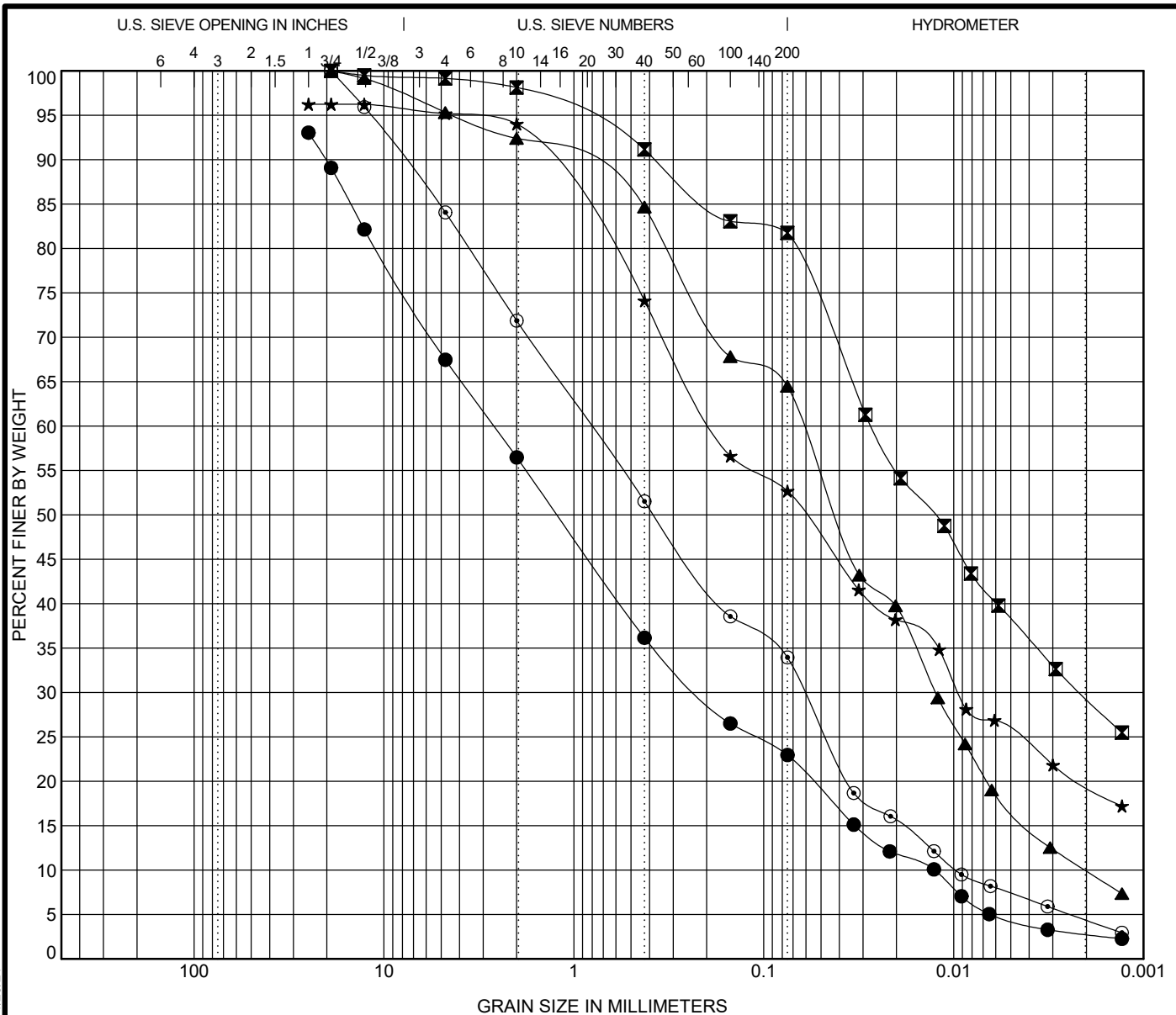
IDH GRAIN SIZE DISTRIBUTION

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GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu		
● 721 2.00	A-1-b (0) SANDY LOAM	17.1	16.7	0.4	1.44	209.69		
☒ 722 1.00	A-7-6 (17) SILTY CLAY LOAM	41.7	22.4	19.3				
▲ 723 0.00	A-4 (4) SILTY LOAM	29.3	19.9	9.4	1.23	30.78		
★ 723 2.50	A-6 (8) LOAM	38.8	18.3	20.5				
⊙ 723 4.00	A-2-4 (0) SANDY LOAM	18.1	17.1	1.0	0.47	83.62		
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 721 2.00	25	2.64	0.219	0.013	36.6	33.5	20.2	2.8
☒ 722 1.00	19	0.027	0.002		1.9	16.4	52.4	29.3
▲ 723 0.00	19	0.062	0.012	0.002	7.6	27.9	54.6	9.9
★ 723 2.50	25	0.183	0.009		2.2	41.3	33.1	19.6
⊙ 723 4.00	19	0.81	0.061	0.01	28.1	37.9	29.6	4.4



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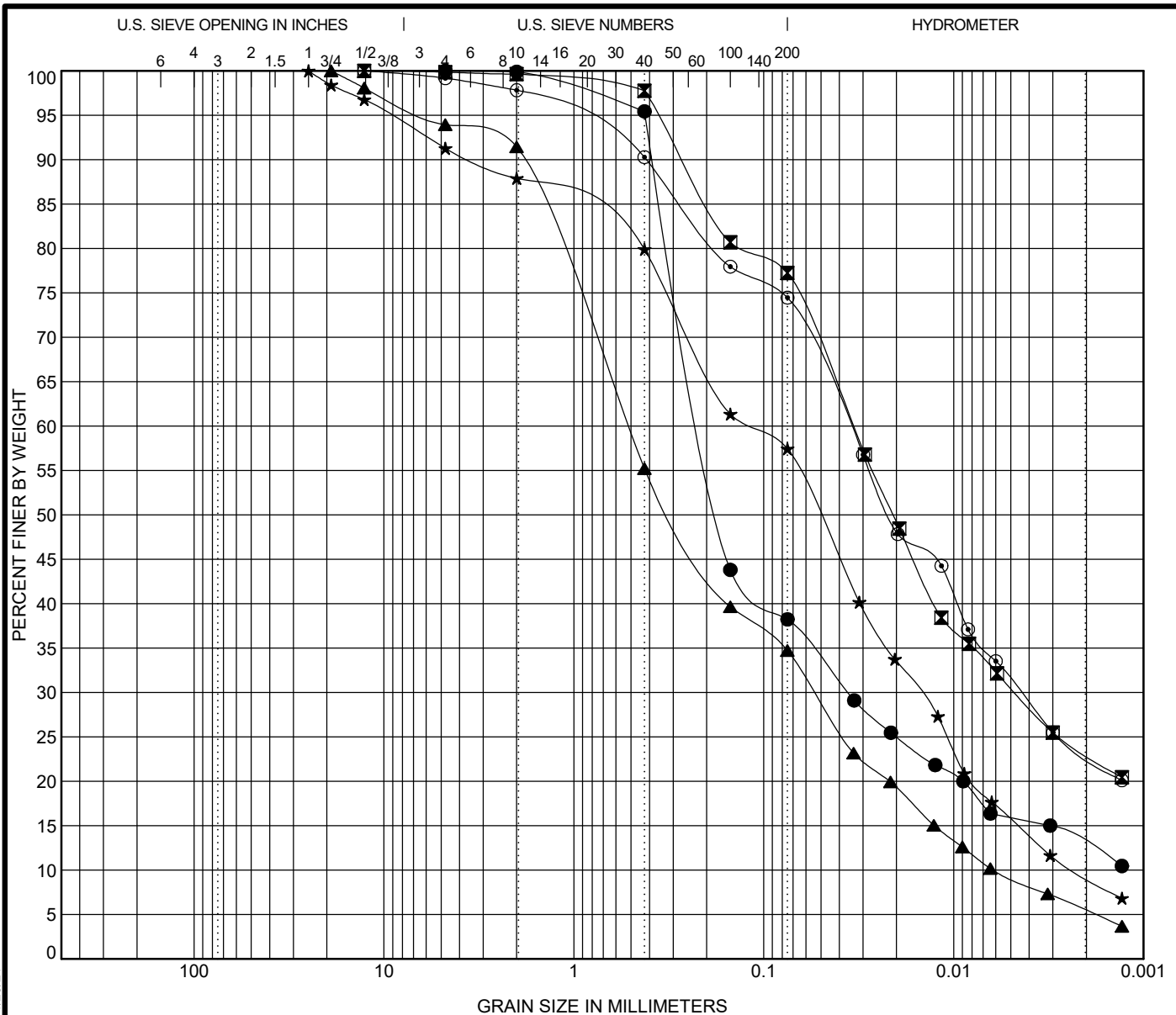
IDH GRAIN SIZE DISTRIBUTION

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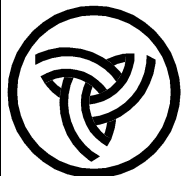
County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu		
● 724 0.50	A-4 (0) SANDY LOAM	20.7	13.4	7.3				
■ 724 3.00	A-6 (10) SILTY CLAY LOAM	32.4	17.0	15.4				
▲ 724 4.00	A-2-4 (0) SANDY LOAM	19.6	18.0	1.6	0.91	84.78		
★ 725 0.00	A-4 (3) LOAM	27.6	18.6	9.0	0.83	51.26		
⊙ 725 3.00	A-6 (12) SILTY CLAY LOAM	37.4	18.8	18.6				
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 724 0.50	4.75	0.208	0.036		0.1	61.7	25.5	12.7
■ 724 3.00	12.7	0.034	0.005		0.4	22.4	54.2	23.0
▲ 724 4.00	19	0.521	0.054	0.006	8.6	56.7	29.3	5.4
★ 725 0.00	25	0.118	0.015	0.002	12.1	30.4	48.2	9.2
⊙ 725 3.00	12.7	0.035	0.004		2.2	23.4	51.6	22.9



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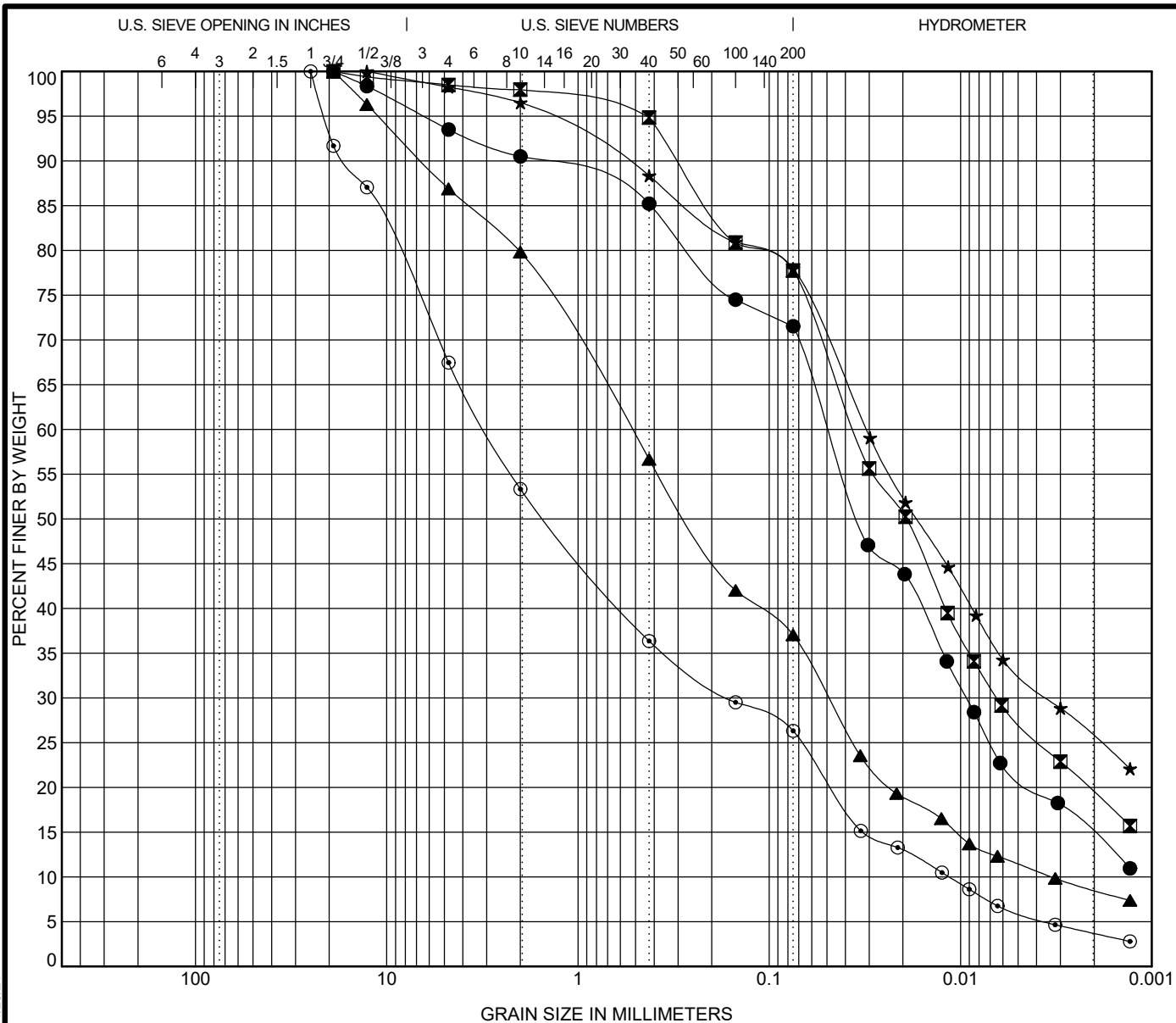
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification		Classification				LL	PL	PI	Cc	Cu
●	726 1.50	A-4 (4) SILTY LOAM				27.1	18.7	8.4		
■	726 3.00	A-6 (8) SILTY LOAM				32.1	19.6	12.5		
▲	726 6.00	A-4 (0) SANDY LOAM				24.0	17.3	6.7	1.36	158.64
★	727 2.00	A-6 (12) SILTY CLAY LOAM				36.9	20.9	16.0		
⊙	727 4.00	A-2-4 (0) SANDY LOAM				19.3	18.6	0.7	0.76	262.15
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
● 726 1.50	19	0.049	0.009		9.5	19.0	57.0	14.6		
■ 726 3.00	19	0.036	0.006		2.0	20.2	58.4	19.4		
▲ 726 6.00	19	0.531	0.049	0.003	20.2	42.8	28.5	8.6		
★ 727 2.00	12.7	0.031	0.003		3.5	18.5	52.4	25.6		
⊙ 727 4.00	25	3.007	0.162	0.011	46.7	27.0	22.6	3.7		



Illinois Department of Transportation
 Division of Highways
 IDOT

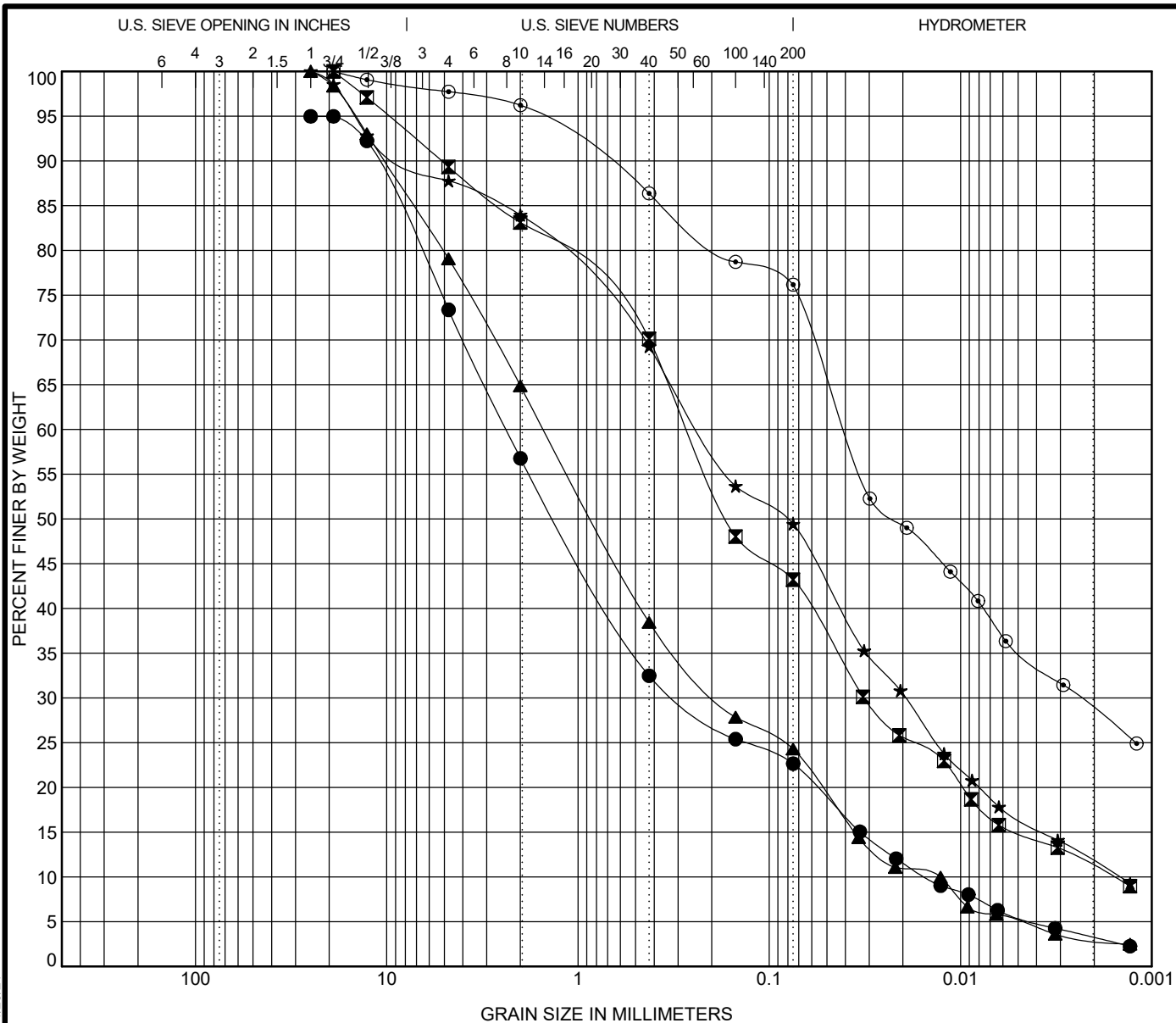
IDH GRAIN SIZE DISTRIBUTION

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

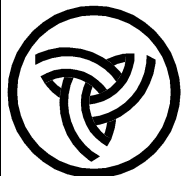
GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 728 2.00	A-1-b (0) SANDY LOAM	20.5	18.6	1.9	2.44	156.87
☒ 729 0.00	A-4 (1) SANDY LOAM	25.4	15.5	9.9	2.40	164.73
▲ 729 3.00	A-1-b (0) SANDY LOAM	16.5	15.7	0.8	1.76	116.25
★ 730 0.00	A-4 (2) SANDY LOAM	28.1	17.7	10.4	1.11	154.76
⊙ 730 3.00	A-7-6 (20) CLAY LOAM	48.0	22.3	25.7		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 728 2.00	25	2.367	0.295	0.015	38.2	34.1	19.4	3.2
☒ 729 0.00	19	0.264	0.032	0.002	16.9	39.9	32.1	11.1
▲ 729 3.00	25	1.504	0.185	0.013	35.1	40.6	21.3	3.0
★ 730 0.00	25	0.229	0.019	0.001	16.0	34.5	37.8	11.7
⊙ 730 3.00	19	0.04	0.002		3.8	20.1	47.5	28.7



Illinois Department of Transportation
 Division of Highways
 IDOT

IDH GRAIN SIZE DISTRIBUTION

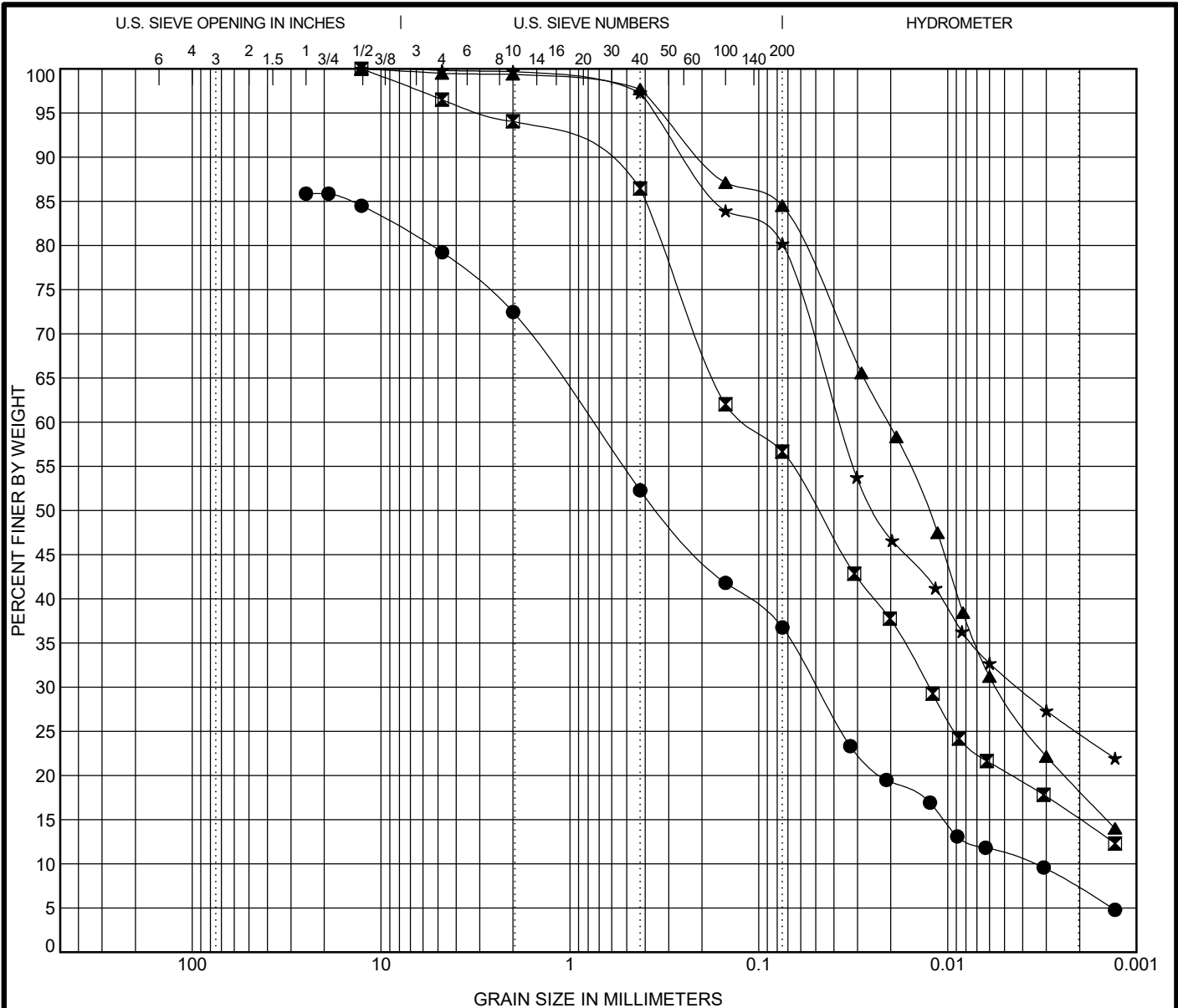
Route: IL 71 (FAP 311)

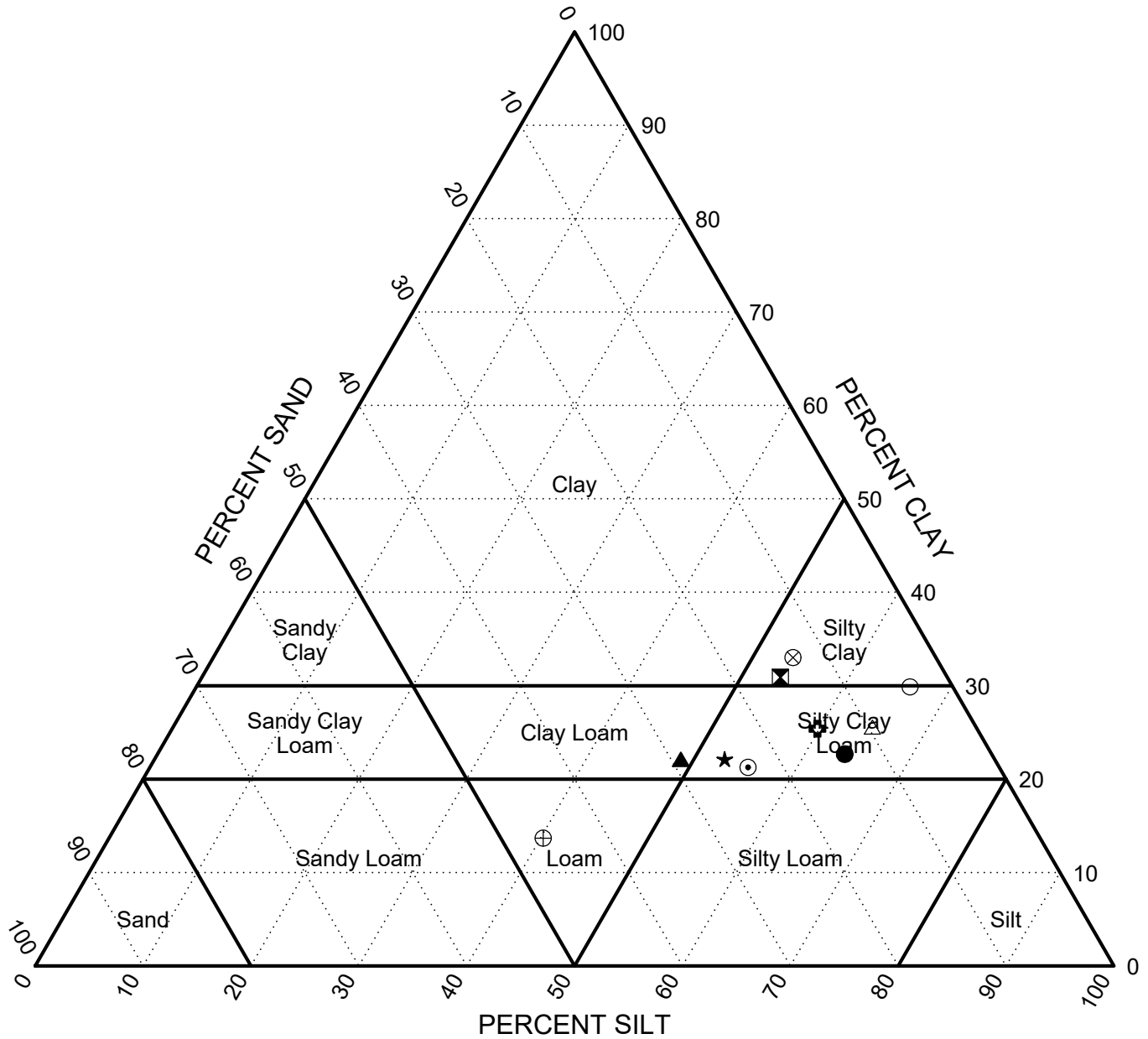
Section: (1,1-1)R

County: Kendall

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL DOT.GDT 1/20/21

GRAIN SIZE IDH 3-18-11 IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL DOT.GDT 1/20/21





	Borehole	Station	Offset	Depth (ft)	Classification
●	401	585+17.20	19.99 ft Lt.	0.00	A-6 (14) SILTY CLAY LOAM
⊗	401	585+17.20	19.99 ft Lt.	2.50	A-7-6 (19) SILTY CLAY
▲	401	585+17.20	19.99 ft Lt.	4.00	A-4 (4) CLAY LOAM
★	402	588+16.98	19.92 ft Rt.	0.00	A-4 (5) SILTY CLAY LOAM
⊙	403	591+17.16	19.96 ft Lt.	0.00	A-6 (9) SILTY CLAY LOAM
⊕	404	594+17.22	20.07 ft Rt.	0.00	A-6 (14) SILTY CLAY LOAM
○	404	594+17.22	20.07 ft Rt.	2.50	A-7-6 (20) SILTY CLAY LOAM
△	404	594+17.22	20.07 ft Rt.	4.00	A-6 (16) SILTY CLAY LOAM
⊗	405	597+17.17	19.99 ft Lt.	1.00	A-7-6 (21) SILTY CLAY
⊕	405	597+17.17	19.99 ft Lt.	2.50	A-4 (3) LOAM



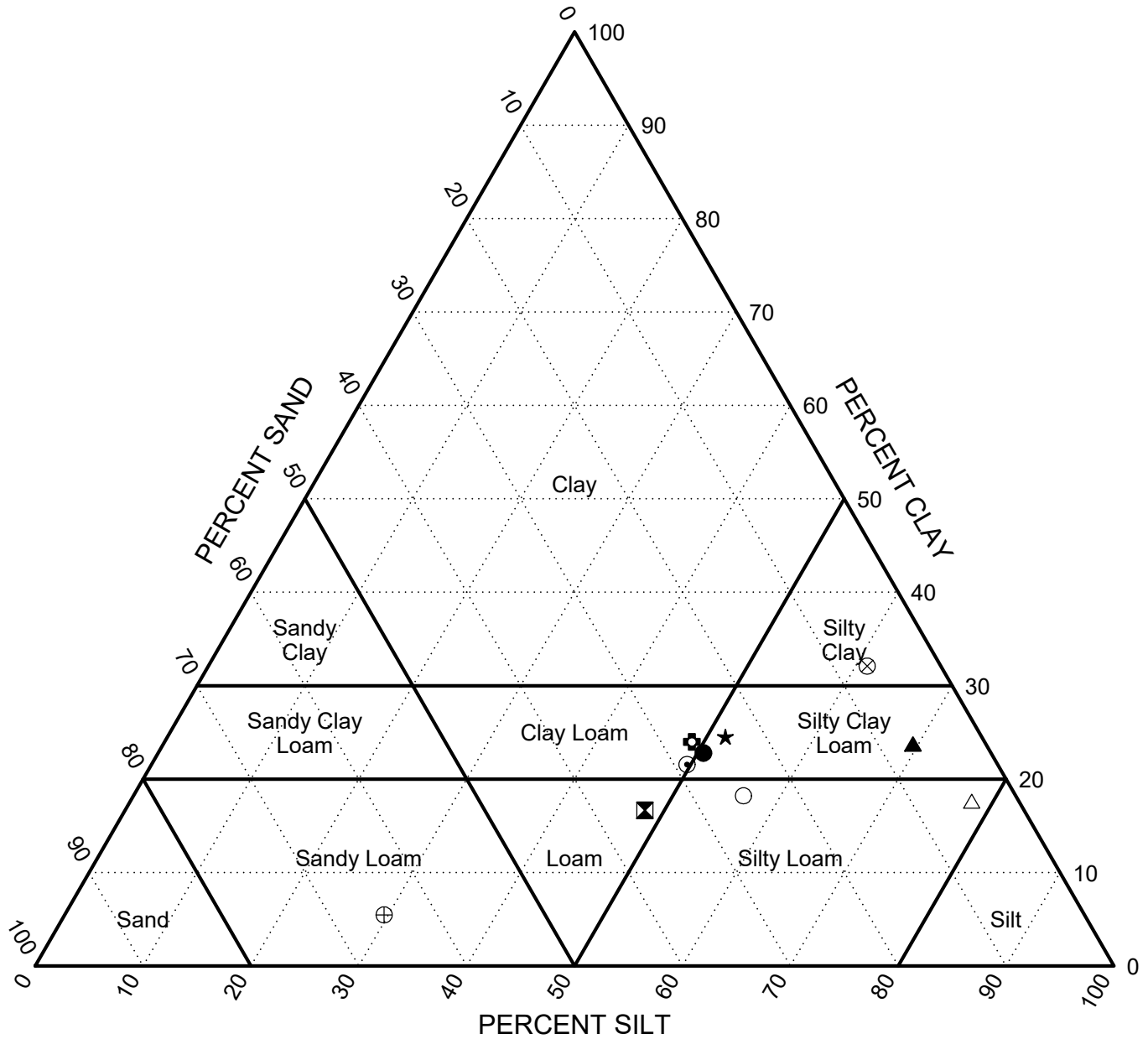
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	405	597+17.17	19.99 ft Lt.	3.50	A-4 (4) SILTY CLAY LOAM
⊠	406	600+17.49	6.12 ft Rt.	1.50	A-4 (4) LOAM
▲	406	600+17.49	6.12 ft Rt.	3.00	A-6 (13) SILTY CLAY LOAM
★	406	600+17.49	6.12 ft Rt.	5.00	A-4 (3) SILTY CLAY LOAM
⊙	407	603+17.19	19.94 ft Lt.	1.00	A-4 (4) CLAY LOAM
⊕	408	606+17.16	12.06 ft Rt.	1.00	A-4 (5) CLAY LOAM
○	408	606+17.16	12.06 ft Rt.	3.00	A-4 (4) SILTY LOAM
△	409	609+17.36	29.99 ft Lt.	1.50	A-6 (12) SILTY LOAM
⊗	409	609+17.36	29.99 ft Lt.	3.00	A-7-6 (22) SILTY CLAY
⊕	409	609+17.36	29.99 ft Lt.	5.00	A-2-4 (0) SANDY LOAM



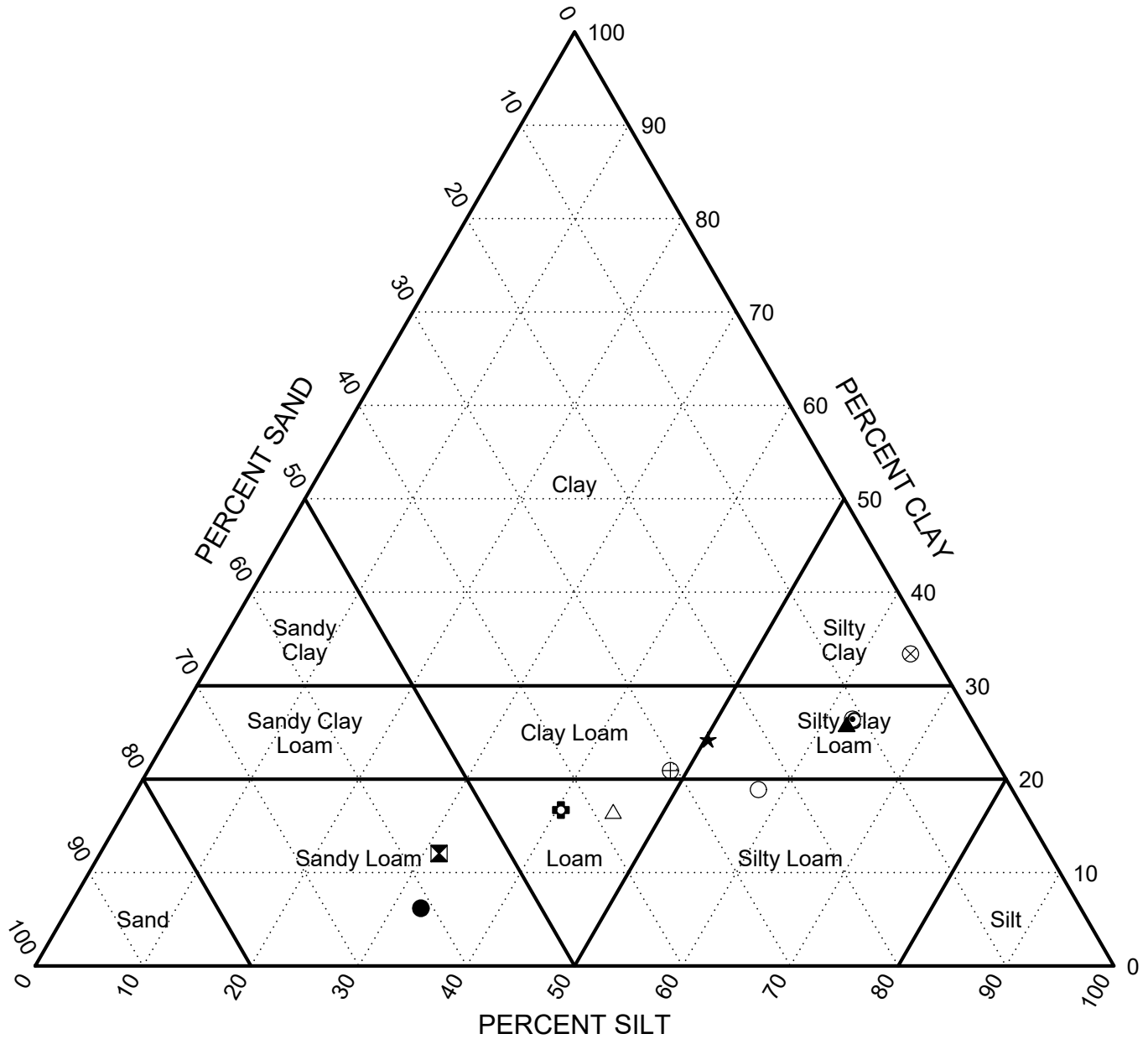
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	410	612+17.16	9.96 ft Rt.	1.00	SANDY LOAM
⊠	413	621+17.47	50.06 ft Lt.	0.00	A-4 (1) SANDY LOAM
▲	413	621+17.47	50.06 ft Lt.	2.00	A-6 (11) SILTY CLAY LOAM
★	413	621+17.47	50.06 ft Lt.	4.50	A-4 (5) SILTY CLAY LOAM
⊙	414	624+22.15	29.56 ft Lt.	1.50	A-6 (12) SILTY CLAY LOAM
⊕	501	627+17.77	34.68 ft Lt.	0.00	A-6 (4) LOAM
○	502	630+17.10	19.91 ft Rt.	0.00	A-6 (12) SILTY LOAM
△	502	630+17.10	19.91 ft Rt.	4.00	A-4 (2) LOAM
⊗	503	633+17.07	20.25 ft Rt.	2.00	A-7-6 (35) SILTY CLAY
⊕	503	633+17.07	20.25 ft Rt.	3.50	A-4 (4) CLAY LOAM



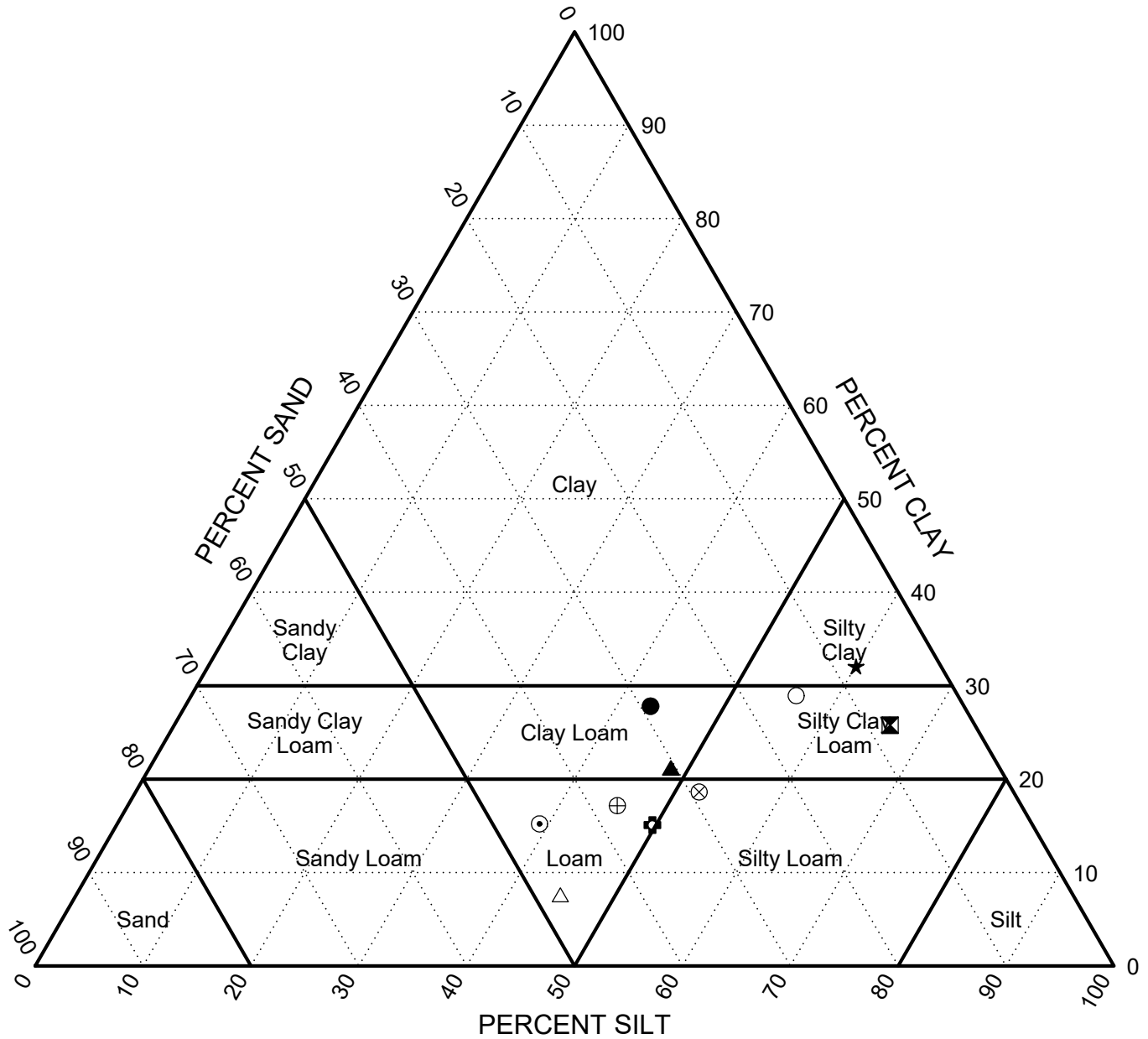
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	504	636+17.23	29.82 ft Lt.	1.00	A-4 (5) CLAY LOAM
⊠	505	639+17.15	20.03 ft Rt.	1.00	A-6 (18) SILTY CLAY LOAM
▲	505	639+17.15	20.03 ft Rt.	3.00	A-4 (3) CLAY LOAM
★	506	642+16.91	20.43 ft Lt.	1.00	A-7-6 (23) SILTY CLAY
⊙	506	642+16.91	20.43 ft Lt.	3.00	A-4 (2) LOAM
⊕	507	645+17.23	19.78 ft Rt.	0.00	A-6 (9) LOAM
○	507	645+17.23	19.78 ft Rt.	3.00	A-7-6 (22) SILTY CLAY LOAM
△	508	648+17.61	19.84 ft Lt.	3.00	A-4 (0) LOAM
⊗	509	651+17.36	6.04 ft Rt.	1.50	A-6 (7) SILTY LOAM
⊕	509	651+17.36	6.04 ft Rt.	4.50	A-4 (3) LOAM



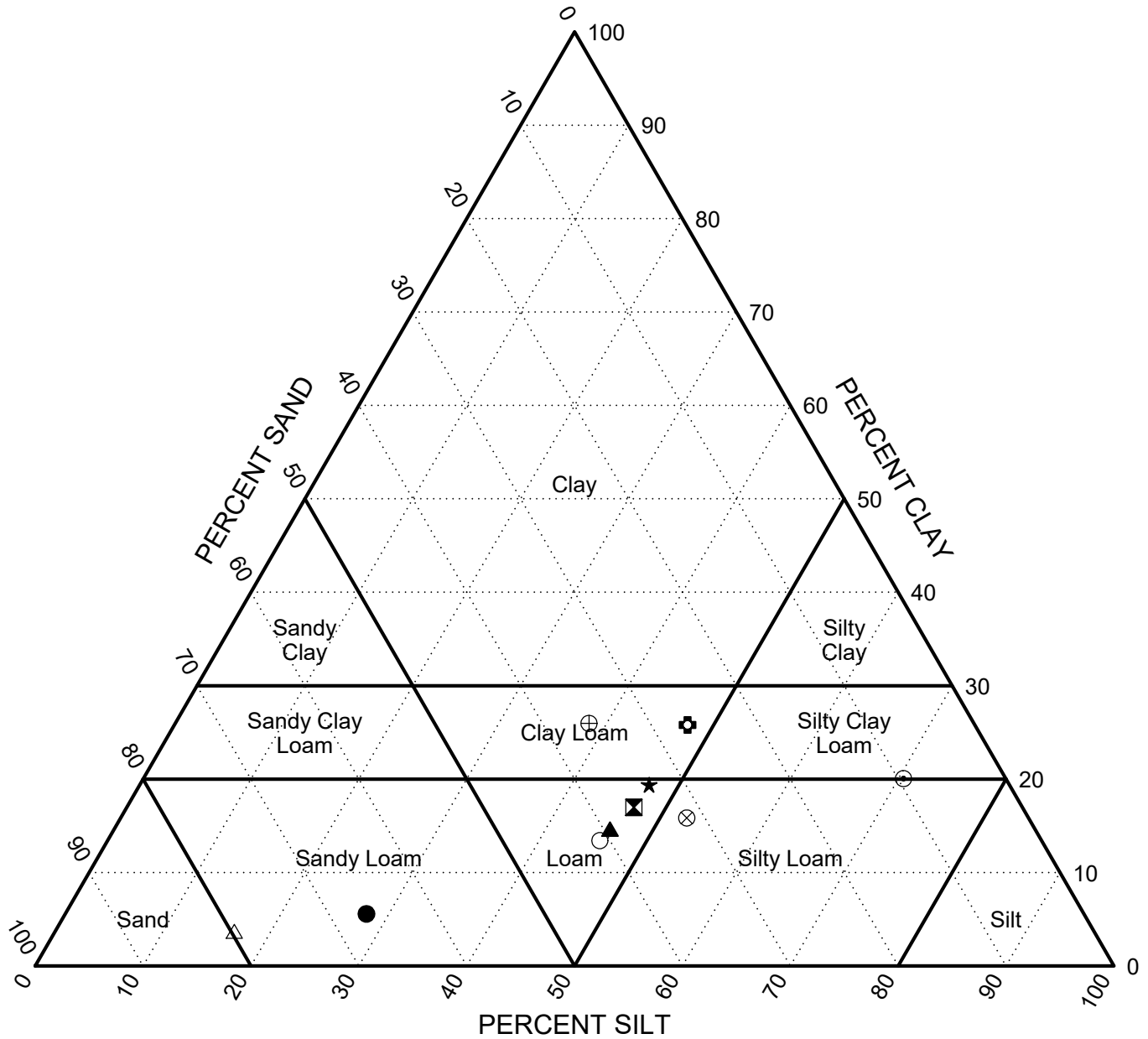
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	510	654+17.55	19.69 ft Lt.	1.00	A-2-4 (0) SANDY LOAM
⊠	511	657+17.16	19.58 ft Rt.	1.00	A-6 (5) LOAM
▲	512	660+17.43	19.92 ft Lt.	1.00	A-4 (2) LOAM
★	512	660+17.43	19.92 ft Lt.	4.00	A-6 (7) LOAM
⊙	513	663+17.34	19.69 ft Rt.	2.00	A-6 (14) SILTY CLAY LOAM
⊕	513	663+17.34	19.69 ft Rt.	4.00	A-7-6 (14) CLAY LOAM
○	514	666+17.48	29.95 ft Lt.	0.10	A-4 (2) LOAM
△	514	666+17.48	29.95 ft Lt.	5.00	SANDY LOAM
⊗	601	675+17.19	24.84 ft Rt.	0.00	A-6 (7) SILTY LOAM
⊕	601	675+17.19	24.84 ft Rt.	2.00	A-7-6 (13) CLAY LOAM



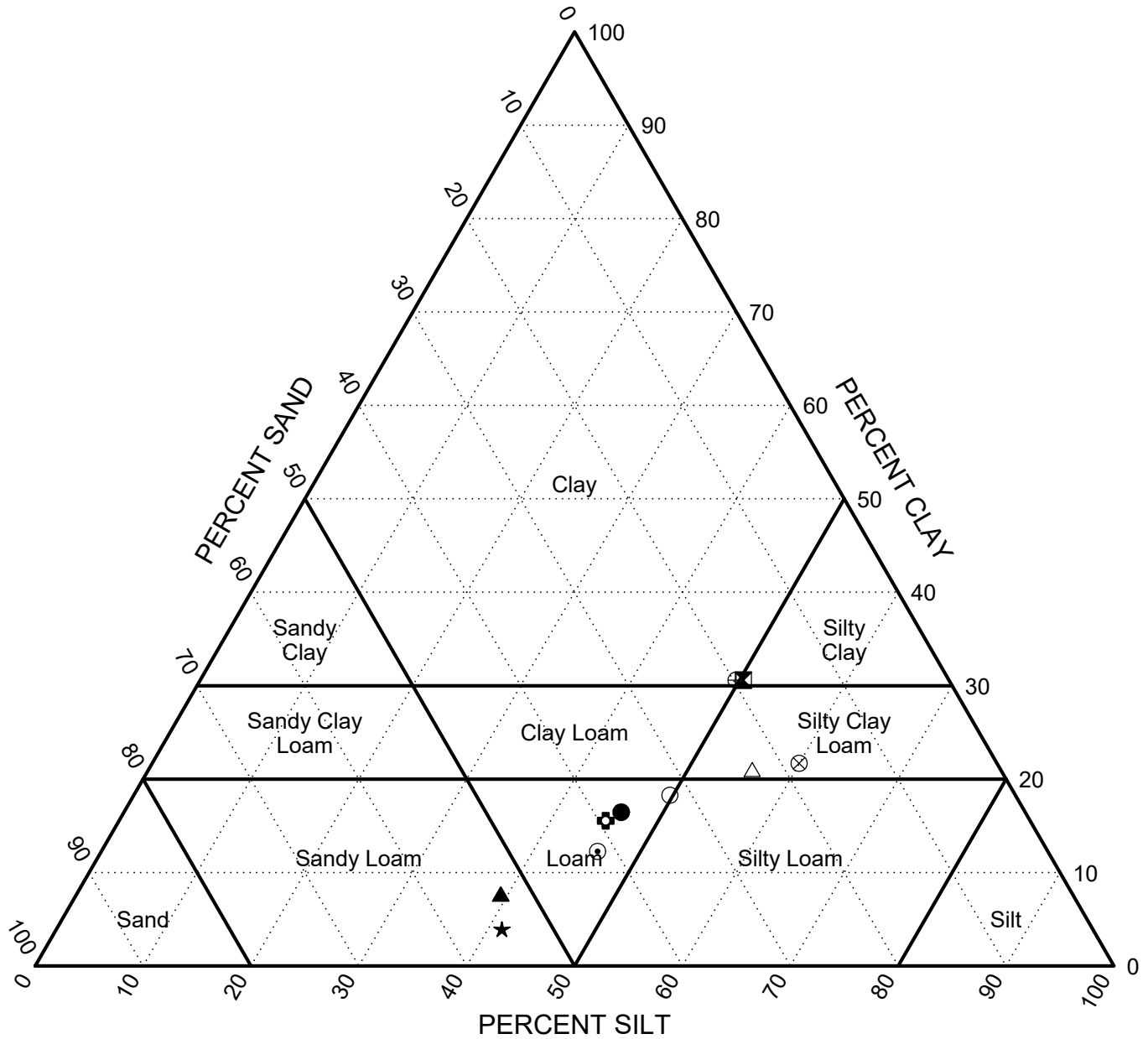
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	601	675+17.19	24.84 ft Rt.	4.50	A-6 (7) LOAM
⊠	602	678+17.31	24.85 ft Lt.	1.50	A-6 (15) SILTY CLAY
▲	602	678+17.31	24.85 ft Lt.	4.50	A-4 (0) SANDY LOAM
★	603	681+17.24	5.69 ft Rt.	1.50	A-4 (0) SANDY LOAM
⊙	603	681+17.24	5.69 ft Rt.	3.50	A-4 (1) LOAM
⊕	604	684+17.12	40.29 ft Lt.	0.00	A-4 (2) LOAM
○	604	684+17.12	40.29 ft Lt.	0.10	A-4 (4) LOAM
△	607	693+17.30	19.92 ft Rt.	0.00	A-6 (9) SILTY CLAY LOAM
⊗	608	696+16.89	45.23 ft Rt.	0.10	A-6 (9) SILTY CLAY LOAM
⊕	608	696+16.89	45.23 ft Rt.	1.00	A-6 (15) CLAY



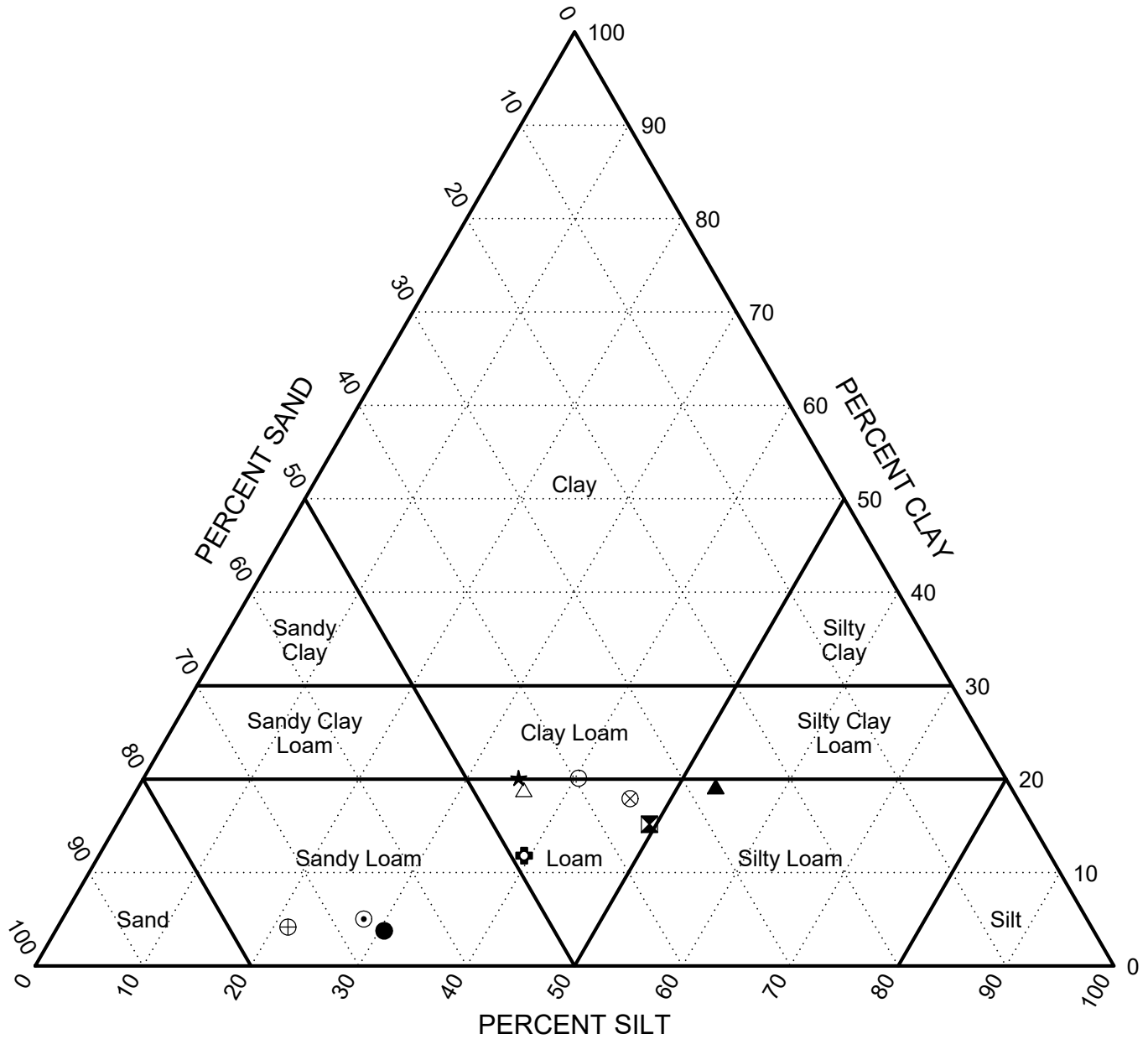
Illinois Department of Transportation
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 IDOT

IDH Textural Classification Chart

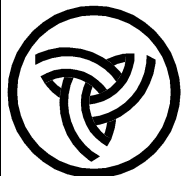
Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	608	696+16.89	45.23 ft Rt.	3.00	A-2-4 (0) SANDY LOAM
⊠	701	699+15.68	13.22 ft Lt.	1.50	A-6 (6) LOAM
▲	701	699+15.68	13.22 ft Lt.	3.50	A-6 (6) SILTY LOAM
★	702	702+17.19	20.32 ft Rt.	0.50	A-6 (5) CLAY LOAM
⊙	702	702+17.19	20.32 ft Rt.	3.00	A-2-4 (0) SANDY LOAM
⊕	703	705+17.163	20.00 ft Lt.	0.00	A-4 (1) LOAM
○	703	705+17.163	20.00 ft Lt.	2.00	A-6 (4) CLAY LOAM
△	704	708+17.60	19.94 ft Rt.	2.00	A-6 (3) LOAM
⊗	705	711+17.12	20.37 ft Lt.	0.00	A-6 (8) LOAM
⊕	706	714+17.25	19.99 ft Rt.	1.00	SANDY LOAM



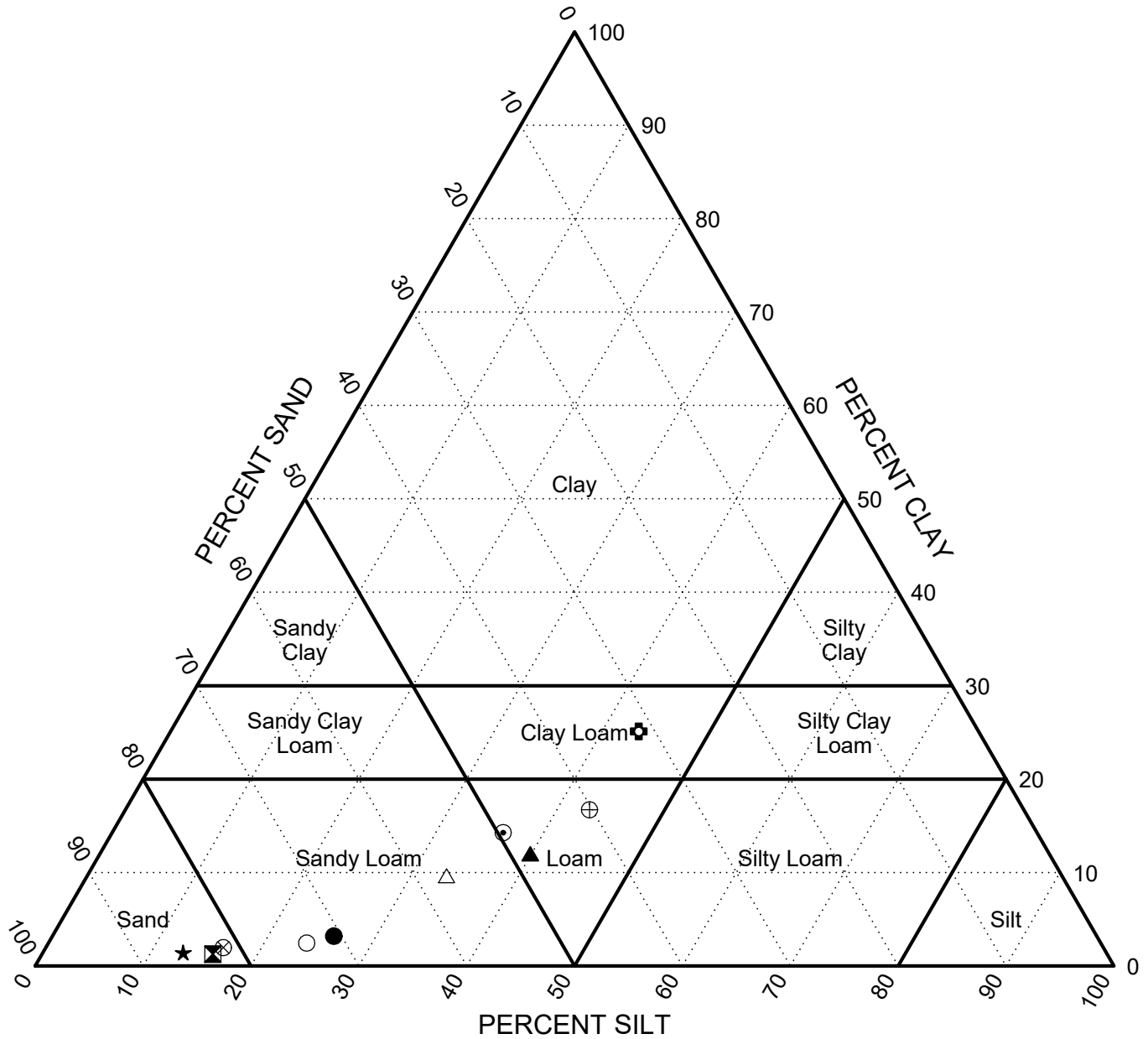
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	707	717+17.75	19.97 ft Lt.	1.50	SANDY LOAM
⊠	707	717+17.75	19.97 ft Lt.	4.00	SAND
▲	708	720+17.64	20.07 ft Rt.	0.00	A-4 (2) LOAM
★	708	720+17.64	20.07 ft Rt.	1.50	SAND
⊙	709	723+17.08	15.33 ft Lt.	0.00	A-6 (5) LOAM
⊕	710	726+17.83	5.97 ft Rt.	1.50	A-6 (11) CLAY LOAM
○	710	726+17.83	5.97 ft Rt.	2.50	A-2-4 (0) SANDY LOAM
△	711	729+17.29	20.09 ft Lt.	0.00	A-6 (2) SANDY LOAM
⊗	711	729+17.29	20.09 ft Lt.	4.00	SAND
⊕	712	732+17.13	14.70 ft Rt.	0.00	A-6 (4) LOAM



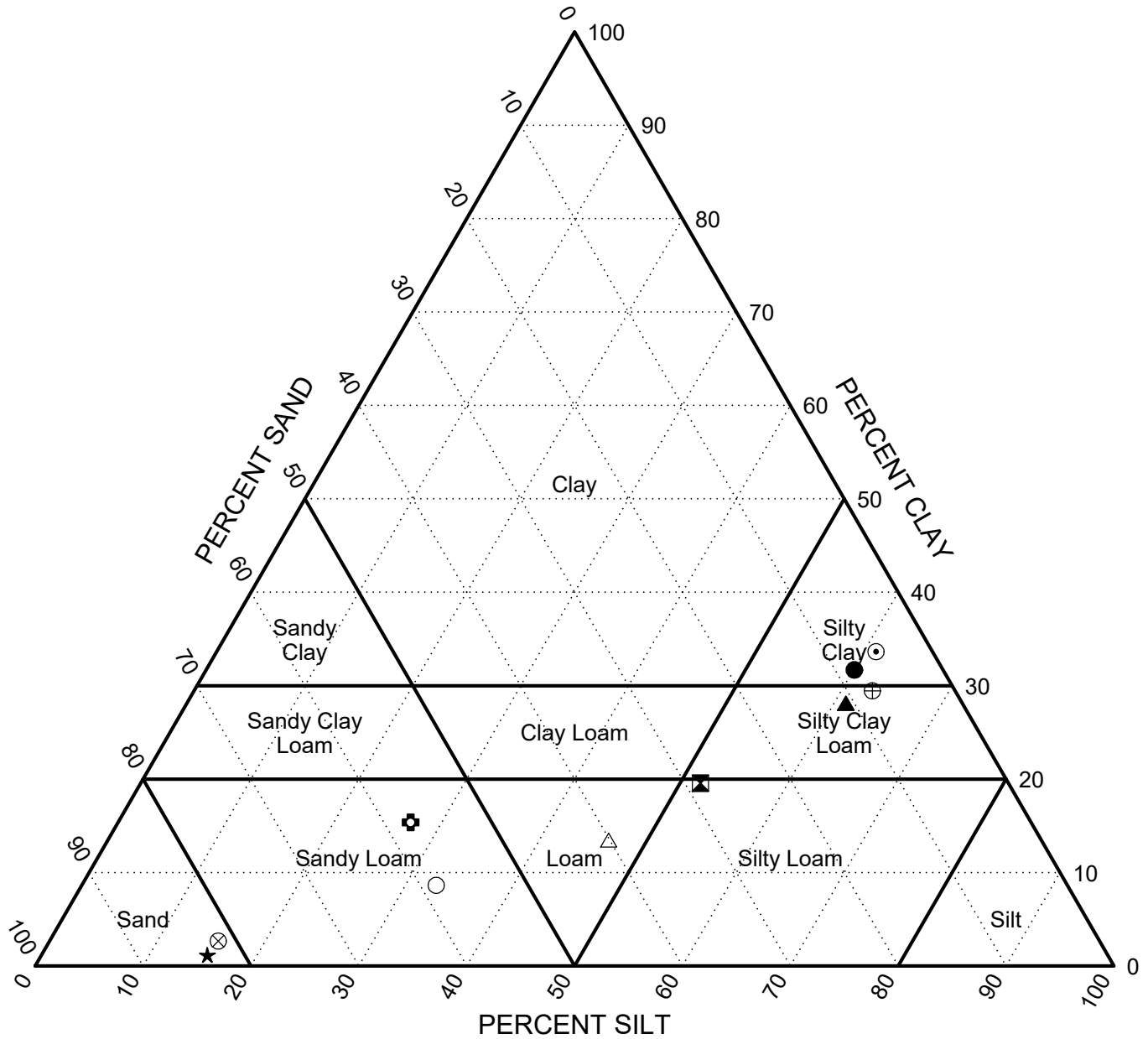
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	712	732+17.13	14.70 ft Rt.	4.50	A-7-6 (21) SILTY CLAY
⊠	713	735+13.09	19.92 ft Lt.	0.00	A-6 (10) SILTY LOAM
▲	714	738+17.03	19.82 ft Rt.	1.00	A-7-6 (18) SILTY CLAY LOAM
★	715	741+17.83	19.38 ft Lt.	1.00	SAND
⊙	716	744+17.15	19.55 ft Rt.	0.50	A-7-6 (31) SILTY CLAY
⊕	716	744+17.15	19.55 ft Rt.	2.00	A-4 (0) SANDY LOAM
○	716	744+17.15	19.55 ft Rt.	5.00	A-4 (0) SANDY LOAM
△	717	747+16.89	15.25 ft Lt.	0.00	A-6 (7) LOAM
⊗	717	747+16.89	15.25 ft Lt.	2.00	SAND
⊕	718	750+17.24	19.49 ft Rt.	1.00	A-7-6 (24) SILTY CLAY LOAM



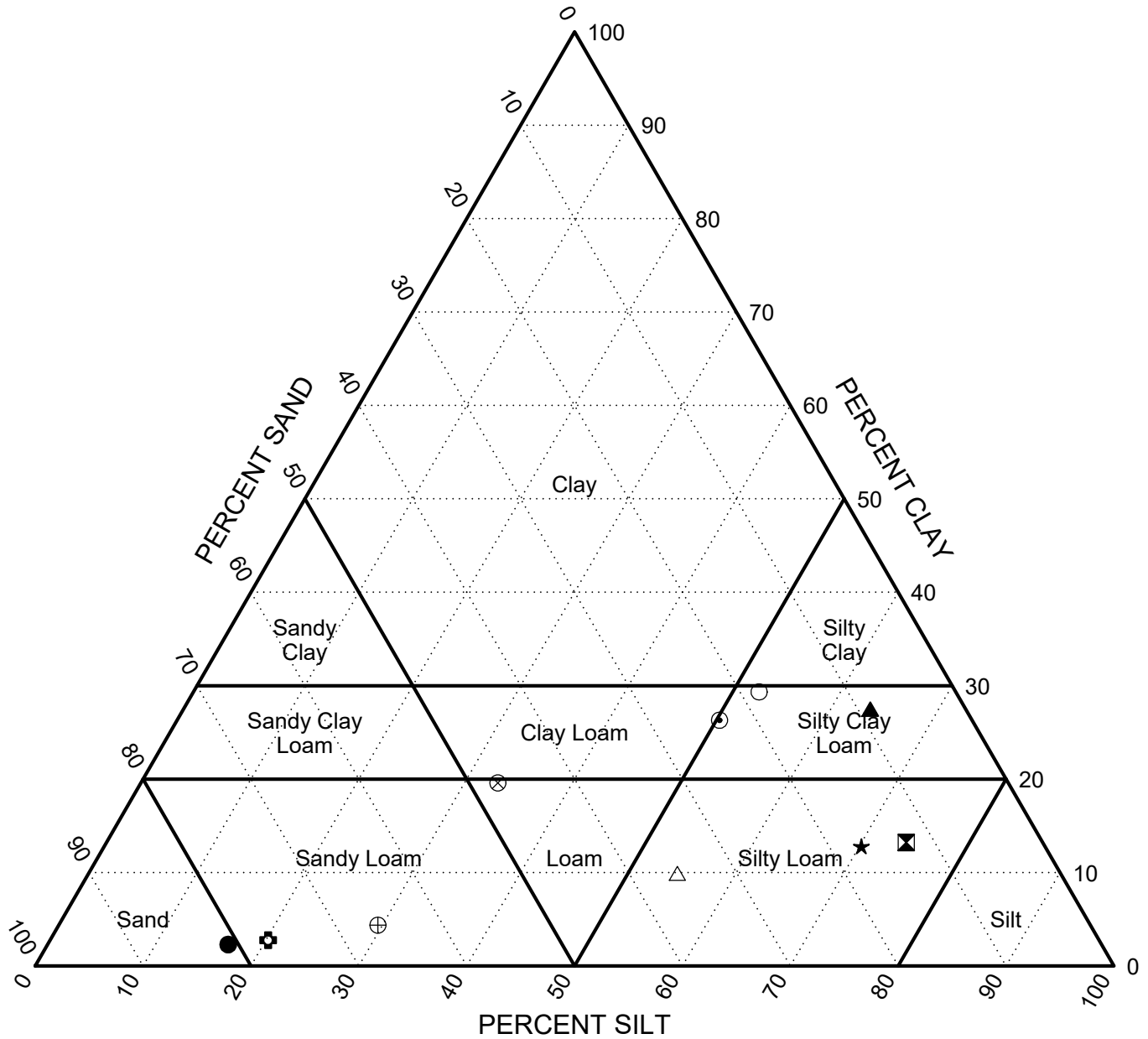
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	718	750+17.24	19.49 ft Rt.	3.00	SAND
⊠	719	753+20.35	4.46 ft Rt.	1.50	A-6 (9) SILTY LOAM
▲	719	753+20.35	4.46 ft Rt.	3.50	A-6 (15) SILTY CLAY LOAM
★	720	756+17.46	15.14 ft Rt.	0.00	A-6 (13) SILTY LOAM
⊙	720	756+17.46	15.14 ft Rt.	1.00	A-6 (12) SILTY CLAY LOAM
⊕	721	759+17.38	14.64 ft Lt.	2.00	A-1-b (0) SANDY LOAM
○	722	762+17.08	14.83 ft Rt.	1.00	A-7-6 (17) SILTY CLAY LOAM
△	723	765+17.08	19.64 ft Lt.	0.00	A-4 (4) SILTY LOAM
⊗	723	765+17.08	19.64 ft Lt.	2.50	A-6 (8) LOAM
⊕	723	765+17.08	19.64 ft Lt.	4.00	A-2-4 (0) SANDY LOAM



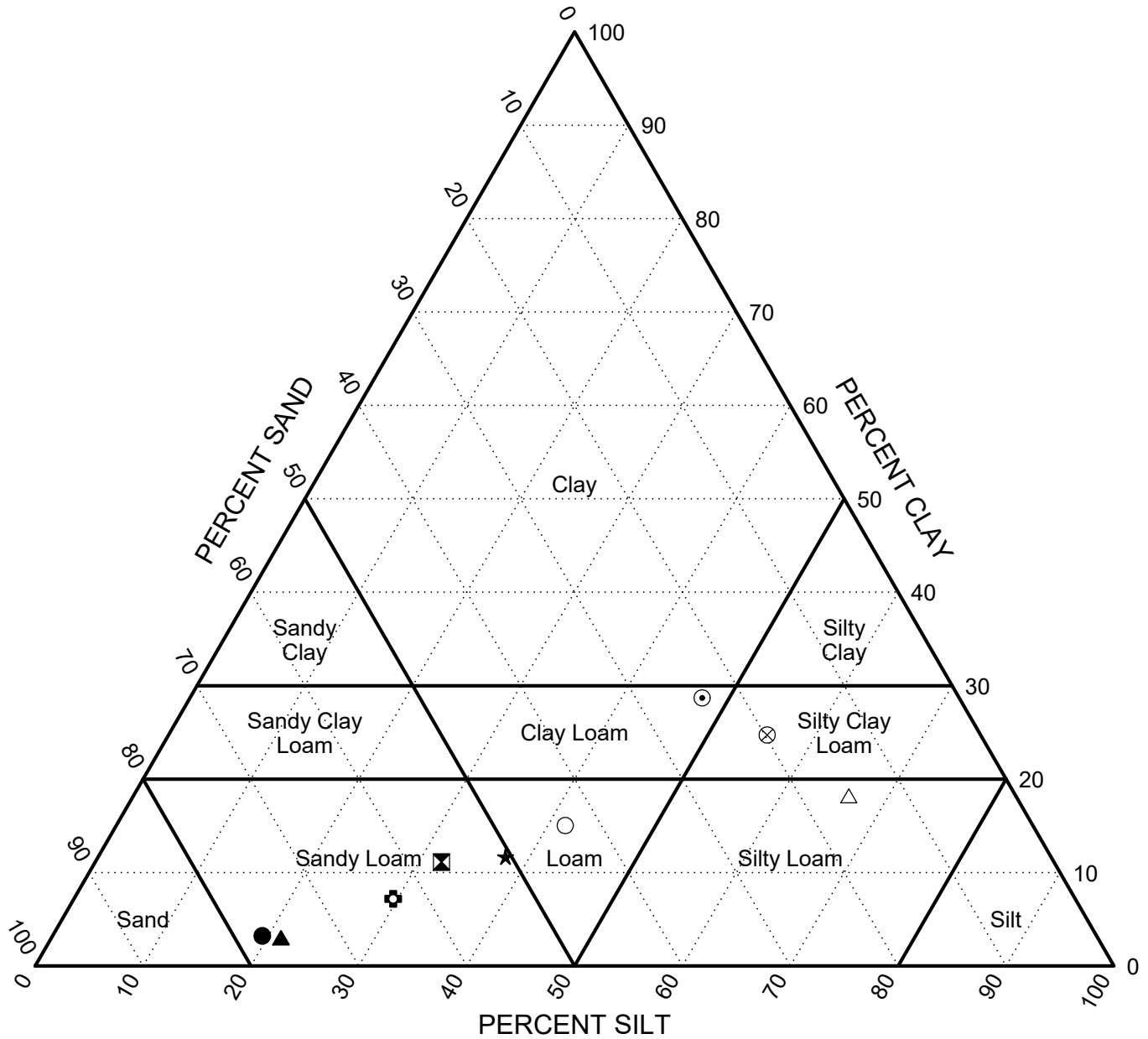
Illinois Department of Transportation
 Division of Highways
 IDOT

IDH Textural Classification Chart

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	728	780+16.83	14.76 ft Rt.	2.00	A-1-b (0) SANDY LOAM
⊠	729	783+17.44	20.02 ft Lt.	0.00	A-4 (1) SANDY LOAM
▲	729	783+17.44	20.02 ft Lt.	3.00	A-1-b (0) SANDY LOAM
★	730	786+17.62	19.49 ft Rt.	0.00	A-4 (2) SANDY LOAM
⊙	730	786+17.62	19.49 ft Rt.	3.00	A-7-6 (20) CLAY LOAM
⊕	730	786+17.62	19.49 ft Rt.	4.50	A-4 (0) SANDY LOAM
○	731	789+16.85	19.86 ft Lt.	0.00	A-4 (3) LOAM
△	731	789+16.85	19.86 ft Lt.	2.50	A-6 (10) SILTY LOAM
⊗	731	789+16.85	19.86 ft Lt.	4.00	A-6 (14) SILTY CLAY LOAM



Illinois Department of Transportation
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IDH Textural Classification Chart

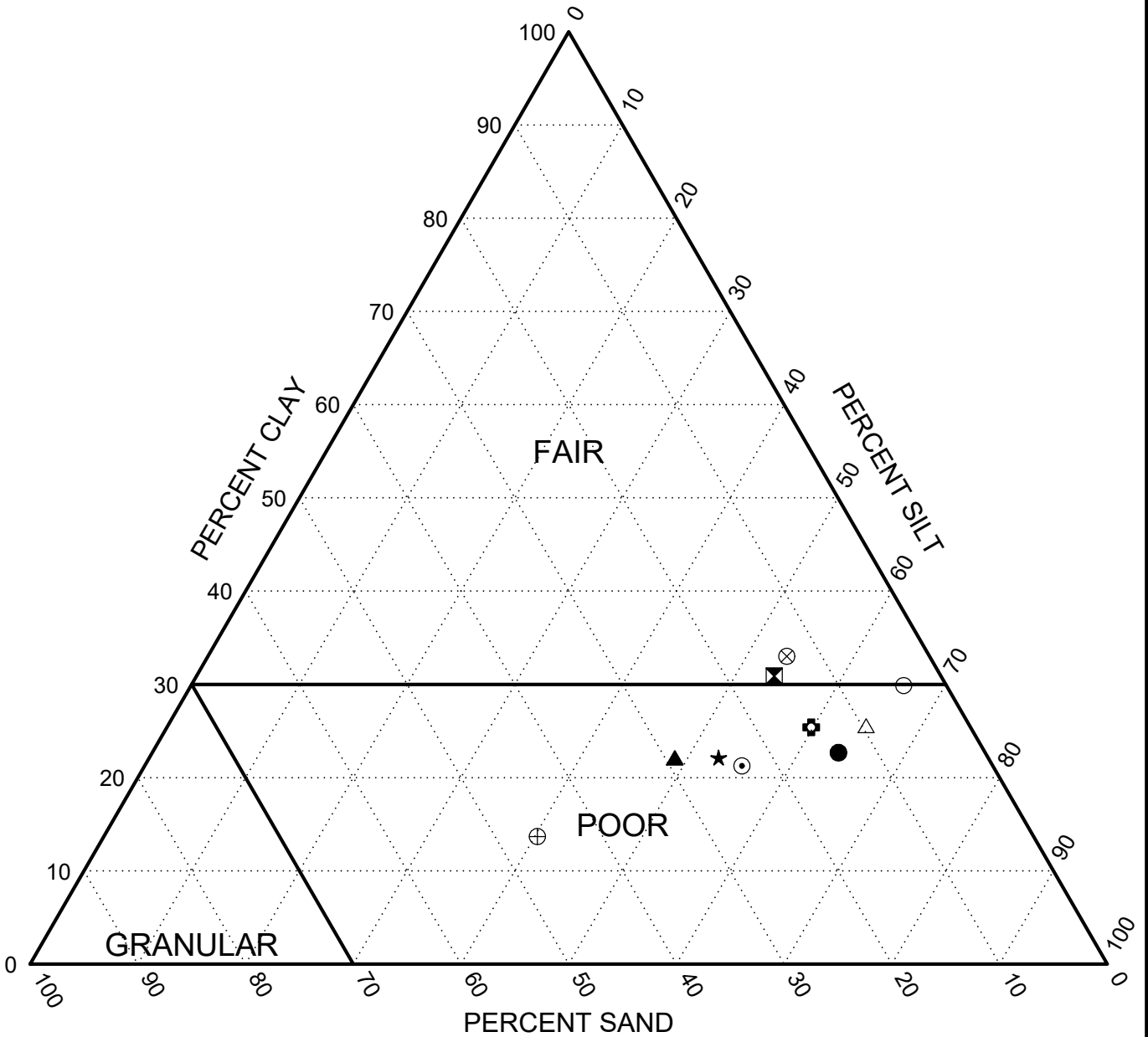
Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

Appendix G – Subgrade Support Rating Charts by IDOT

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	401	585+17.20	19.99 ft Lt.	0.00	A-6 (14) SILTY CLAY LOAM
⊠	401	585+17.20	19.99 ft Lt.	2.50	A-7-6 (19) SILTY CLAY
▲	401	585+17.20	19.99 ft Lt.	4.00	A-4 (4) CLAY LOAM
★	402	588+16.98	19.92 ft Rt.	0.00	A-4 (5) SILTY CLAY LOAM
⊙	403	591+17.16	19.96 ft Lt.	0.00	A-6 (9) SILTY CLAY LOAM
⊕	404	594+17.22	20.07 ft Rt.	0.00	A-6 (14) SILTY CLAY LOAM
○	404	594+17.22	20.07 ft Rt.	2.50	A-7-6 (20) SILTY CLAY LOAM
△	404	594+17.22	20.07 ft Rt.	4.00	A-6 (16) SILTY CLAY LOAM
⊗	405	597+17.17	19.99 ft Lt.	1.00	A-7-6 (21) SILTY CLAY
⊕	405	597+17.17	19.99 ft Lt.	2.50	A-4 (3) LOAM



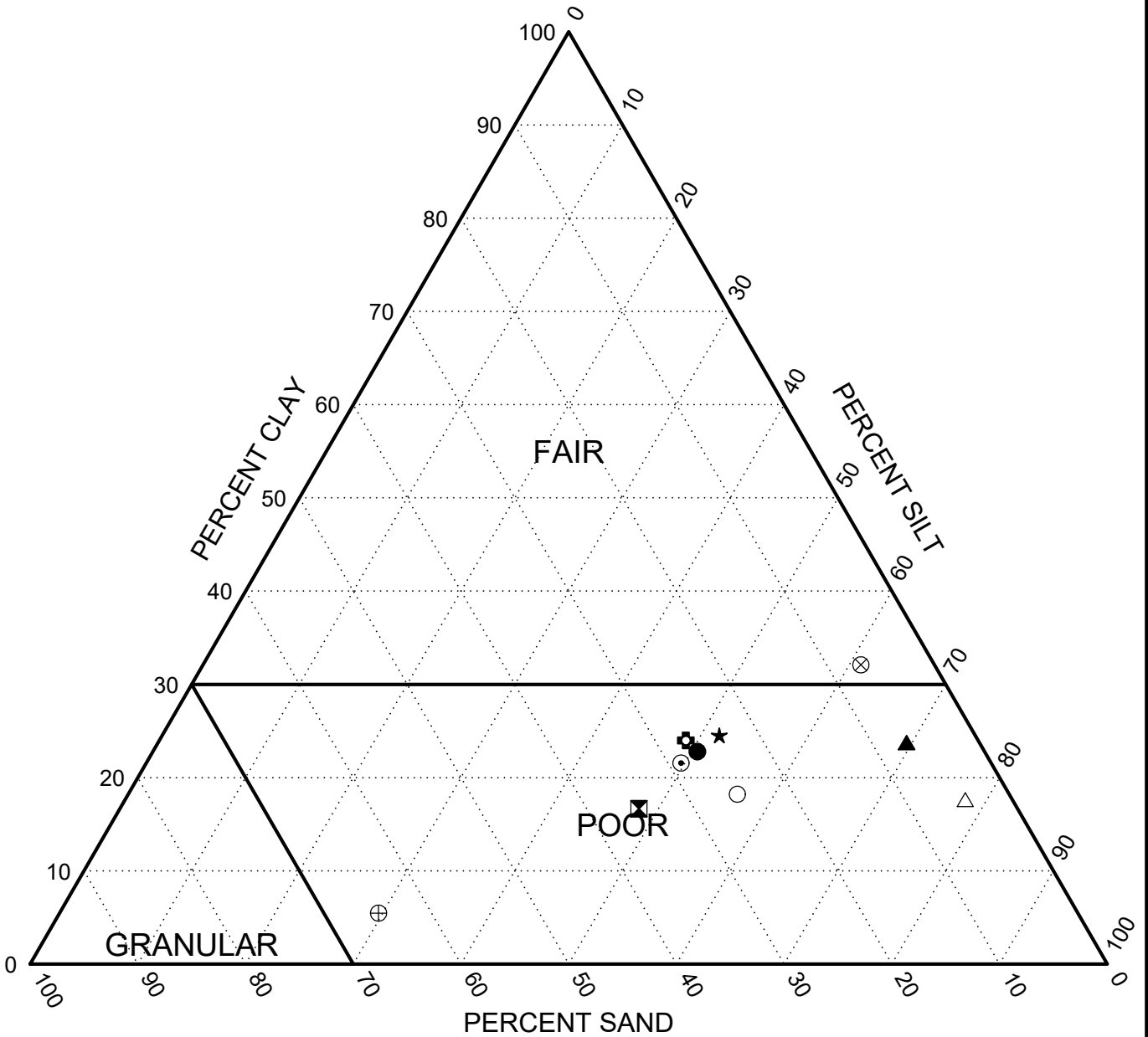
**Illinois Department
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Division of Highways
IDOT

SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	405	597+17.17	19.99 ft Lt.	3.50	A-4 (4) SILTY CLAY LOAM
⊠	406	600+17.49	6.12 ft Rt.	1.50	A-4 (4) LOAM
▲	406	600+17.49	6.12 ft Rt.	3.00	A-6 (13) SILTY CLAY LOAM
★	406	600+17.49	6.12 ft Rt.	5.00	A-4 (3) SILTY CLAY LOAM
⊙	407	603+17.19	19.94 ft Lt.	1.00	A-4 (4) CLAY LOAM
⊕	408	606+17.16	12.06 ft Rt.	1.00	A-4 (5) CLAY LOAM
○	408	606+17.16	12.06 ft Rt.	3.00	A-4 (4) SILTY LOAM
△	409	609+17.36	29.99 ft Lt.	1.50	A-6 (12) SILTY LOAM
⊗	409	609+17.36	29.99 ft Lt.	3.00	A-7-6 (22) SILTY CLAY
⊕	409	609+17.36	29.99 ft Lt.	5.00	A-2-4 (0) SANDY LOAM



Illinois Department of Transportation
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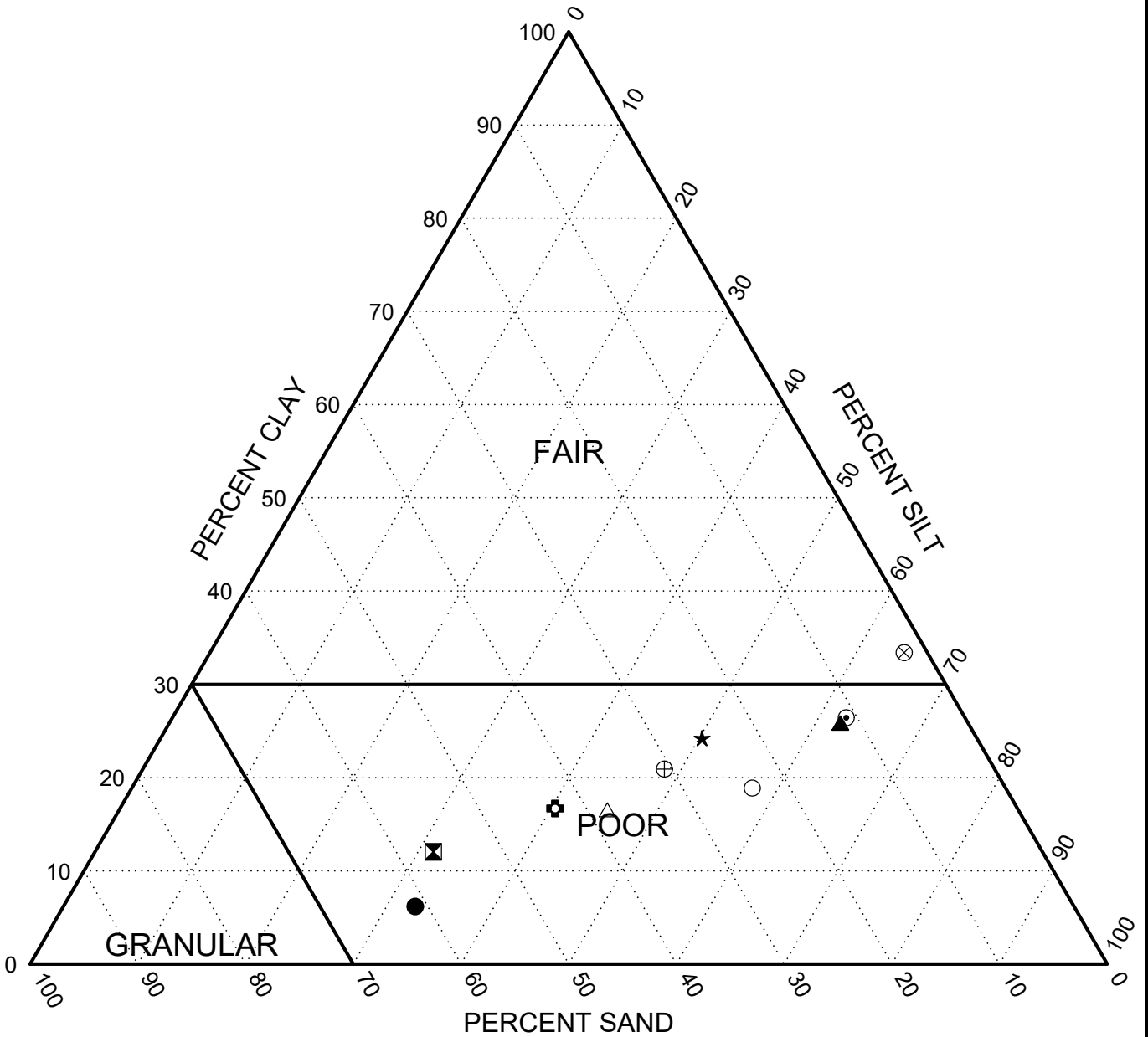
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	410	612+17.16	9.96 ft Rt.	1.00	SANDY LOAM
⊠	413	621+17.47	50.06 ft Lt.	0.00	A-4 (1) SANDY LOAM
▲	413	621+17.47	50.06 ft Lt.	2.00	A-6 (11) SILTY CLAY LOAM
★	413	621+17.47	50.06 ft Lt.	4.50	A-4 (5) SILTY CLAY LOAM
⊙	414	624+22.15	29.56 ft Lt.	1.50	A-6 (12) SILTY CLAY LOAM
⊕	501	627+17.77	34.68 ft Lt.	0.00	A-6 (4) LOAM
○	502	630+17.10	19.91 ft Rt.	0.00	A-6 (12) SILTY LOAM
△	502	630+17.10	19.91 ft Rt.	4.00	A-4 (2) LOAM
⊗	503	633+17.07	20.25 ft Rt.	2.00	A-7-6 (35) SILTY CLAY
⊕	503	633+17.07	20.25 ft Rt.	3.50	A-4 (4) CLAY LOAM



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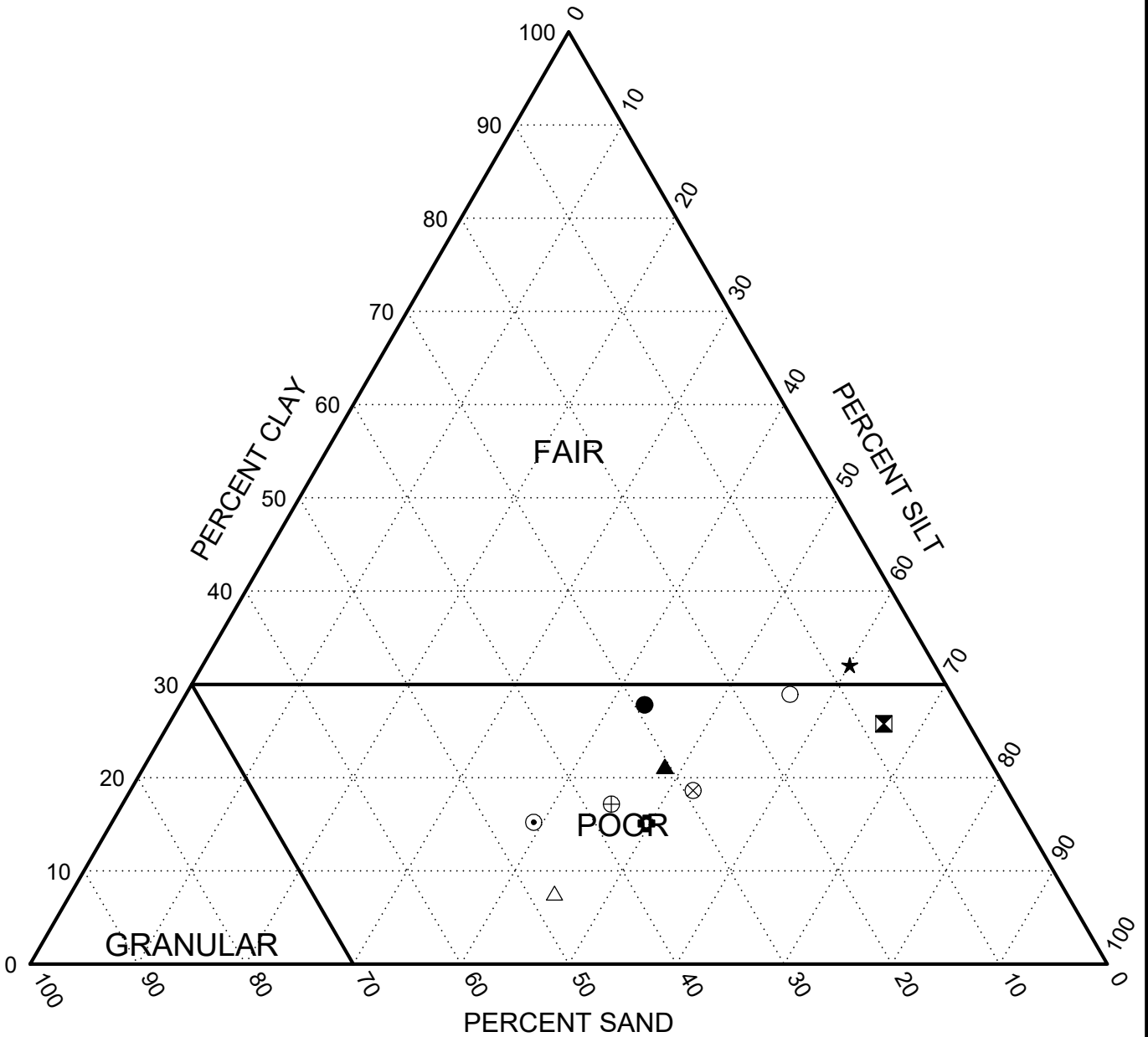
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	504	636+17.23	29.82 ft Lt.	1.00	A-4 (5) CLAY LOAM
⊠	505	639+17.15	20.03 ft Rt.	1.00	A-6 (18) SILTY CLAY LOAM
▲	505	639+17.15	20.03 ft Rt.	3.00	A-4 (3) CLAY LOAM
★	506	642+16.91	20.43 ft Lt.	1.00	A-7-6 (23) SILTY CLAY
⊙	506	642+16.91	20.43 ft Lt.	3.00	A-4 (2) LOAM
⊞	507	645+17.23	19.78 ft Rt.	0.00	A-6 (9) LOAM
○	507	645+17.23	19.78 ft Rt.	3.00	A-7-6 (22) SILTY CLAY LOAM
△	508	648+17.61	19.84 ft Lt.	3.00	A-4 (0) LOAM
⊗	509	651+17.36	6.04 ft Rt.	1.50	A-6 (7) SILTY LOAM
⊕	509	651+17.36	6.04 ft Rt.	4.50	A-4 (3) LOAM



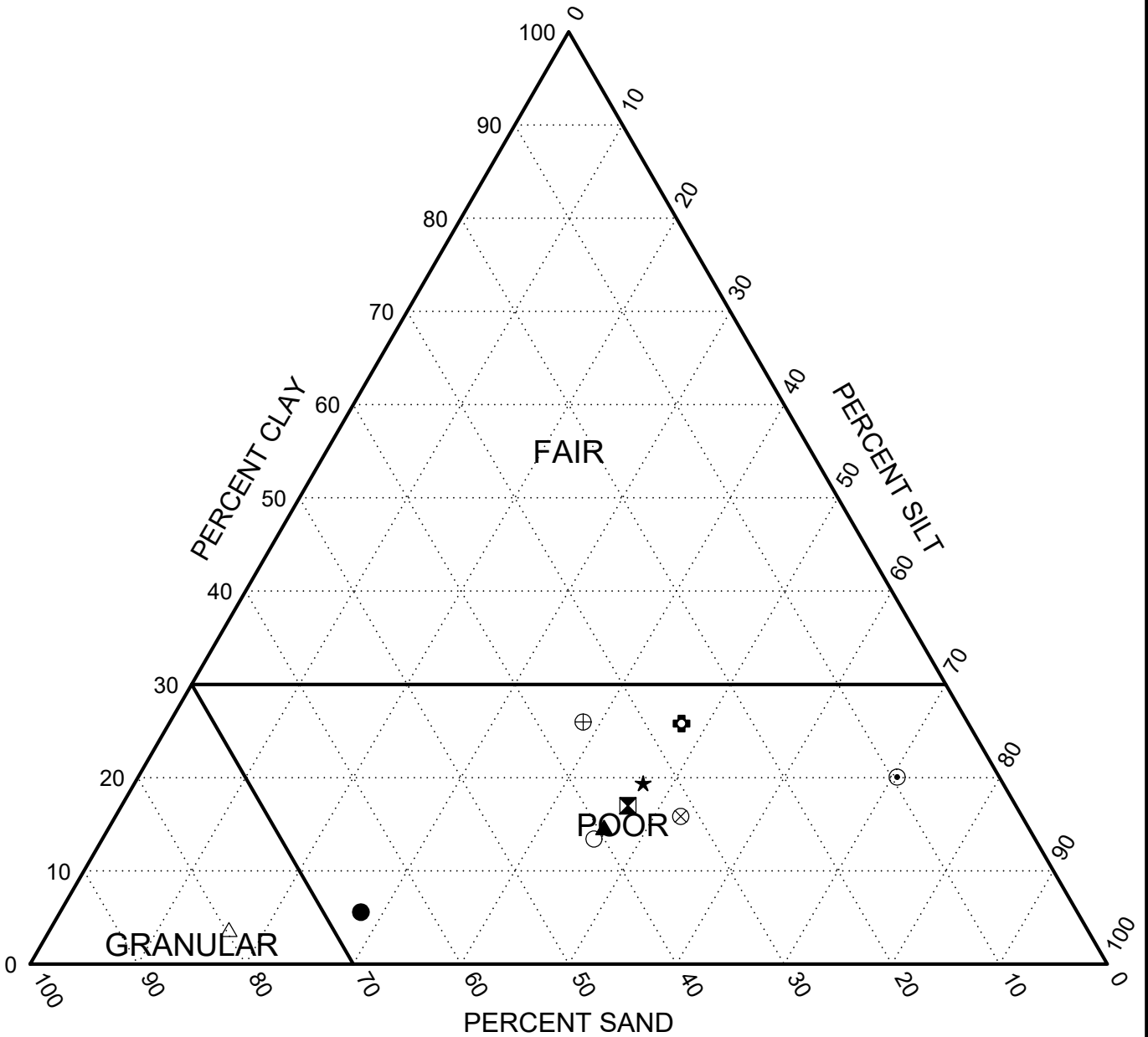
**Illinois Department
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Division of Highways
IDOT

SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall



	Borehole	Station	Offset	Depth (ft)	Classification
●	510	654+17.55	19.69 ft Lt.	1.00	A-2-4 (0) SANDY LOAM
⊠	511	657+17.16	19.58 ft Rt.	1.00	A-6 (5) LOAM
▲	512	660+17.43	19.92 ft Lt.	1.00	A-4 (2) LOAM
★	512	660+17.43	19.92 ft Lt.	4.00	A-6 (7) LOAM
⊙	513	663+17.34	19.69 ft Rt.	2.00	A-6 (14) SILTY CLAY LOAM
⊕	513	663+17.34	19.69 ft Rt.	4.00	A-7-6 (14) CLAY LOAM
○	514	666+17.48	29.95 ft Lt.	0.10	A-4 (2) LOAM
△	514	666+17.48	29.95 ft Lt.	5.00	SANDY LOAM
⊗	601	675+17.19	24.84 ft Rt.	0.00	A-6 (7) SILTY LOAM
⊕	601	675+17.19	24.84 ft Rt.	2.00	A-7-6 (13) CLAY LOAM



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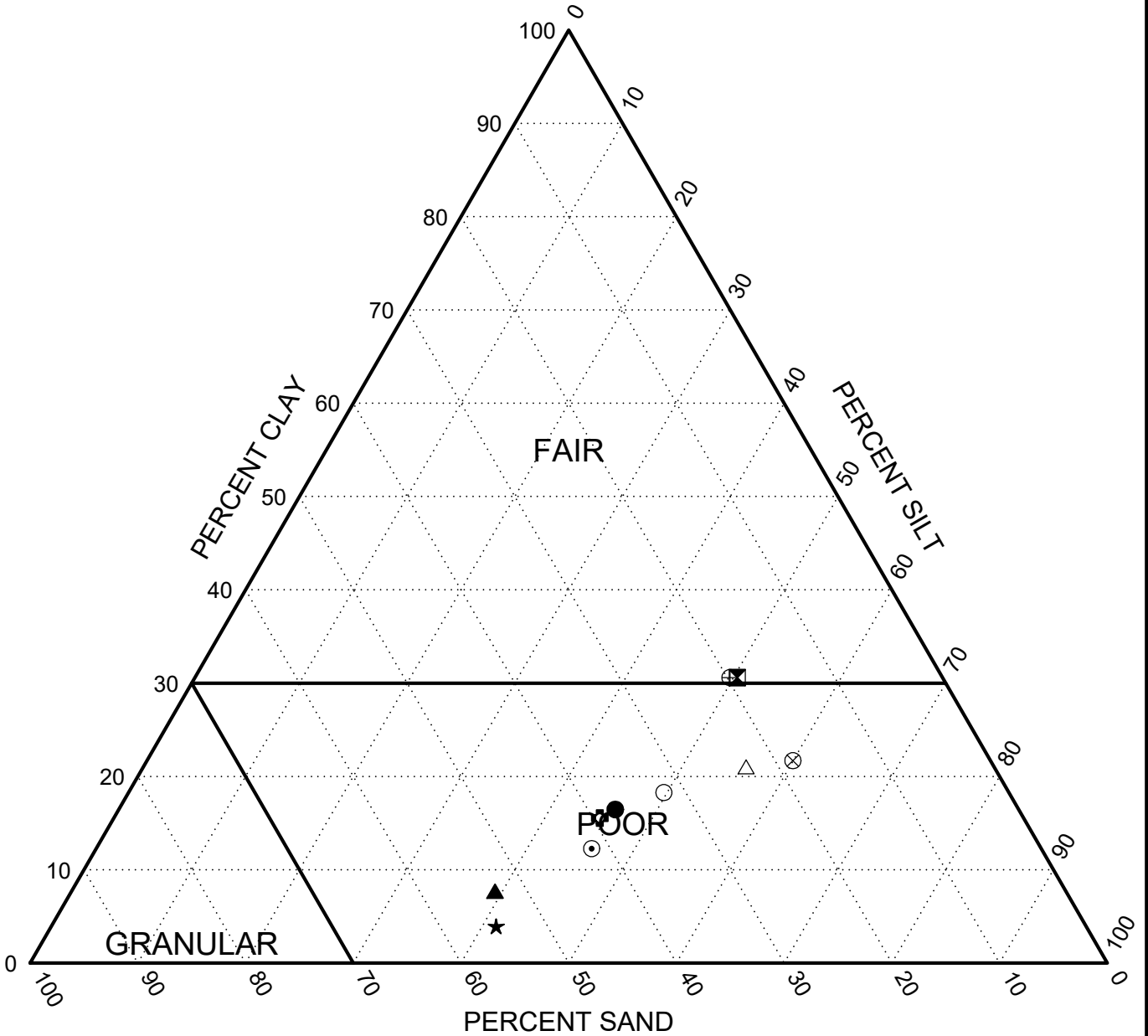
SUBGRADE SUPPORT RATING

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Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	601	675+17.19	24.84 ft Rt.	4.50	A-6 (7) LOAM
⊠	602	678+17.31	24.85 ft Lt.	1.50	A-6 (15) SILTY CLAY
▲	602	678+17.31	24.85 ft Lt.	4.50	A-4 (0) SANDY LOAM
★	603	681+17.24	5.69 ft Rt.	1.50	A-4 (0) SANDY LOAM
⊙	603	681+17.24	5.69 ft Rt.	3.50	A-4 (1) LOAM
⊕	604	684+17.12	40.29 ft Lt.	0.00	A-4 (2) LOAM
○	604	684+17.12	40.29 ft Lt.	0.10	A-4 (4) LOAM
△	607	693+17.30	19.92 ft Rt.	0.00	A-6 (9) SILTY CLAY LOAM
⊗	608	696+16.89	45.23 ft Rt.	0.10	A-6 (9) SILTY CLAY LOAM
⊕	608	696+16.89	45.23 ft Rt.	1.00	A-6 (15) CLAY



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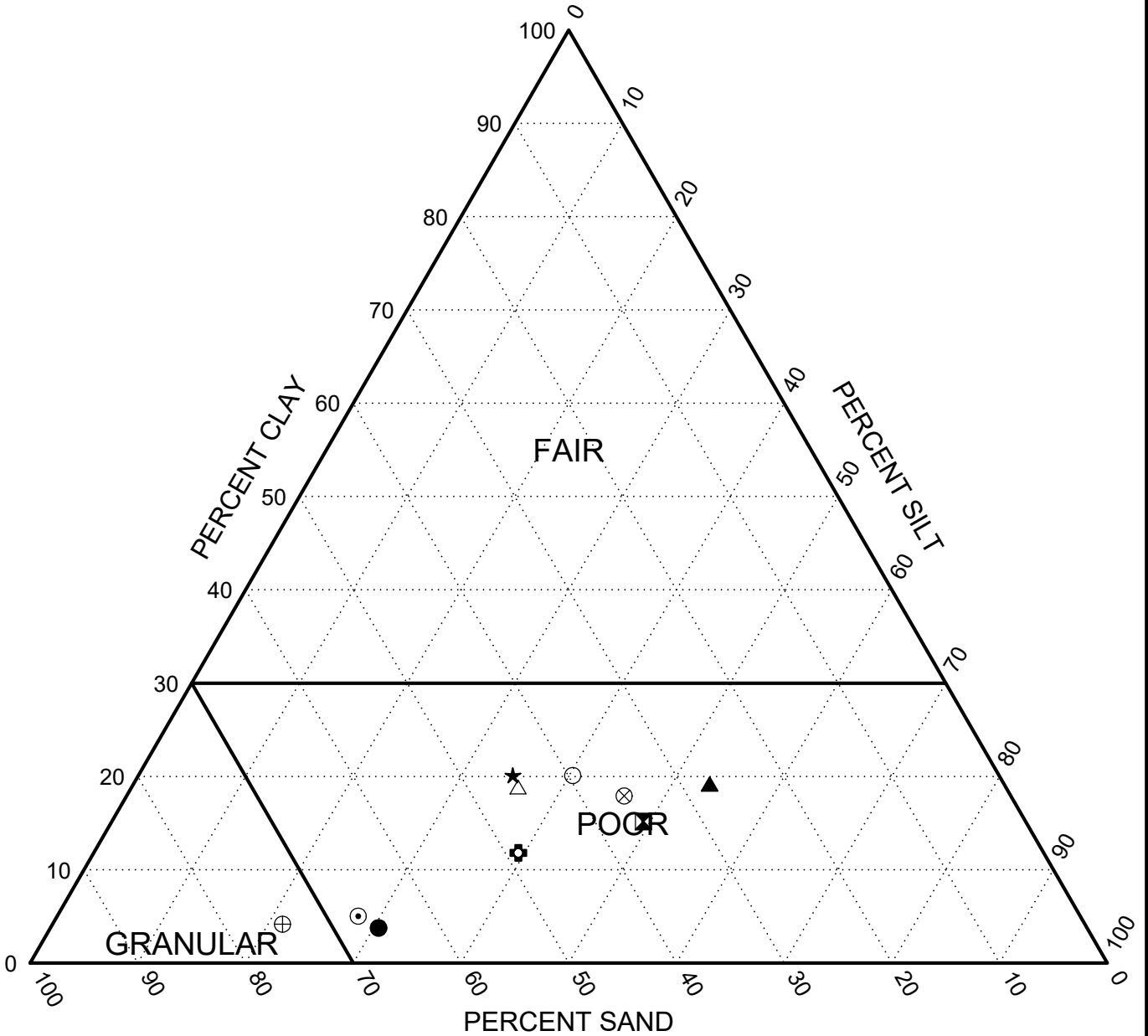
SUBGRADE SUPPORT RATING

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Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	608	696+16.89	45.23 ft Rt.	3.00	A-2-4 (0) SANDY LOAM
⊗	701	699+15.68	13.22 ft Lt.	1.50	A-6 (6) LOAM
▲	701	699+15.68	13.22 ft Lt.	3.50	A-6 (6) SILTY LOAM
★	702	702+17.19	20.32 ft Rt.	0.50	A-6 (5) CLAY LOAM
⊙	702	702+17.19	20.32 ft Rt.	3.00	A-2-4 (0) SANDY LOAM
⊕	703	705+17.163	20.00 ft Lt.	0.00	A-4 (1) LOAM
○	703	705+17.163	20.00 ft Lt.	2.00	A-6 (4) CLAY LOAM
△	704	708+17.60	19.94 ft Rt.	2.00	A-6 (3) LOAM
⊗	705	711+17.12	20.37 ft Lt.	0.00	A-6 (8) LOAM
⊕	706	714+17.25	19.99 ft Rt.	1.00	SANDY LOAM



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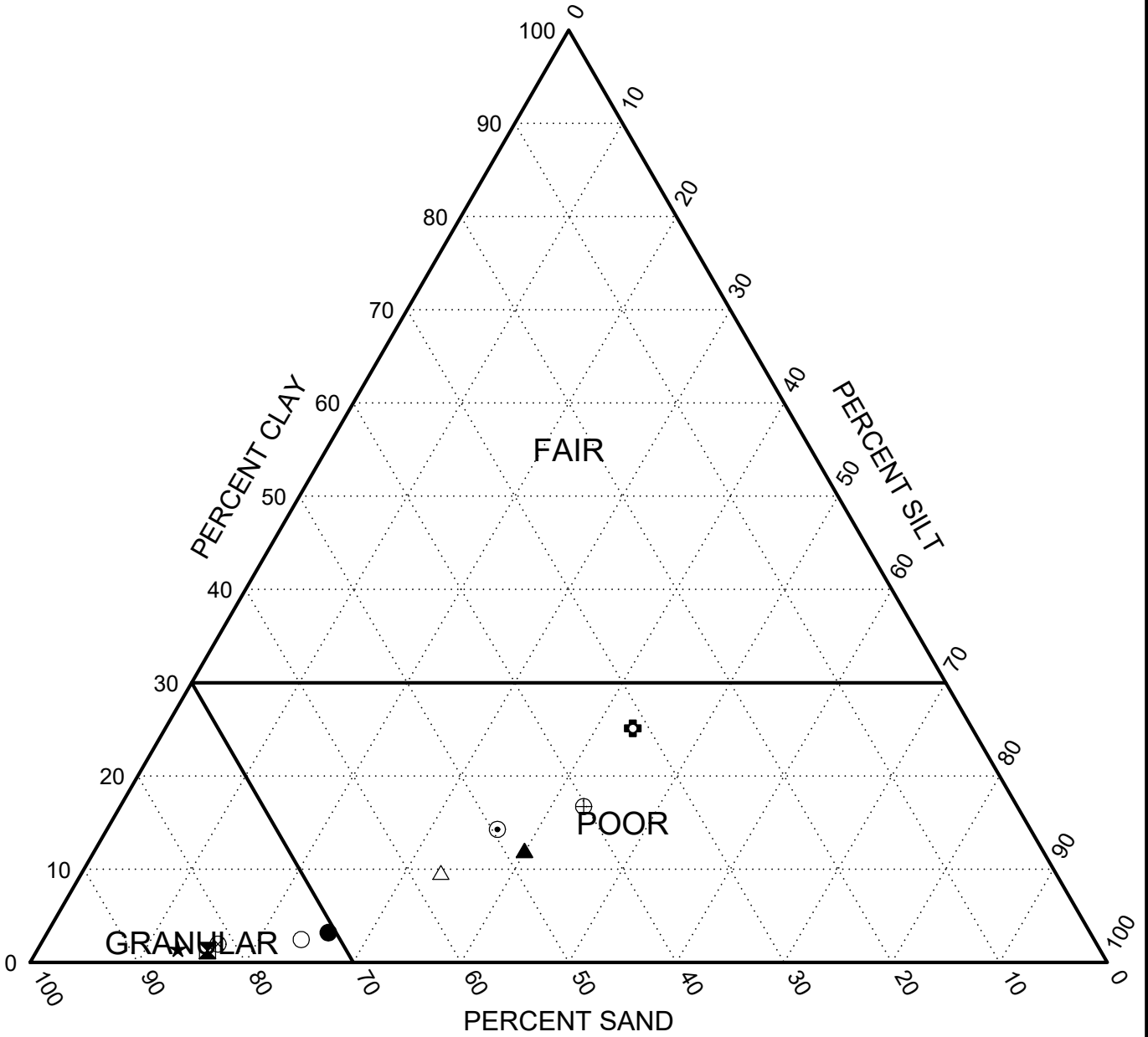
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	707	717+17.75	19.97 ft Lt.	1.50	SANDY LOAM
⊠	707	717+17.75	19.97 ft Lt.	4.00	SAND
▲	708	720+17.64	20.07 ft Rt.	0.00	A-4 (2) LOAM
★	708	720+17.64	20.07 ft Rt.	1.50	SAND
⊙	709	723+17.08	15.33 ft Lt.	0.00	A-6 (5) LOAM
⊕	710	726+17.83	5.97 ft Rt.	1.50	A-6 (11) CLAY LOAM
○	710	726+17.83	5.97 ft Rt.	2.50	A-2-4 (0) SANDY LOAM
△	711	729+17.29	20.09 ft Lt.	0.00	A-6 (2) SANDY LOAM
⊗	711	729+17.29	20.09 ft Lt.	4.00	SAND
⊕	712	732+17.13	14.70 ft Rt.	0.00	A-6 (4) LOAM



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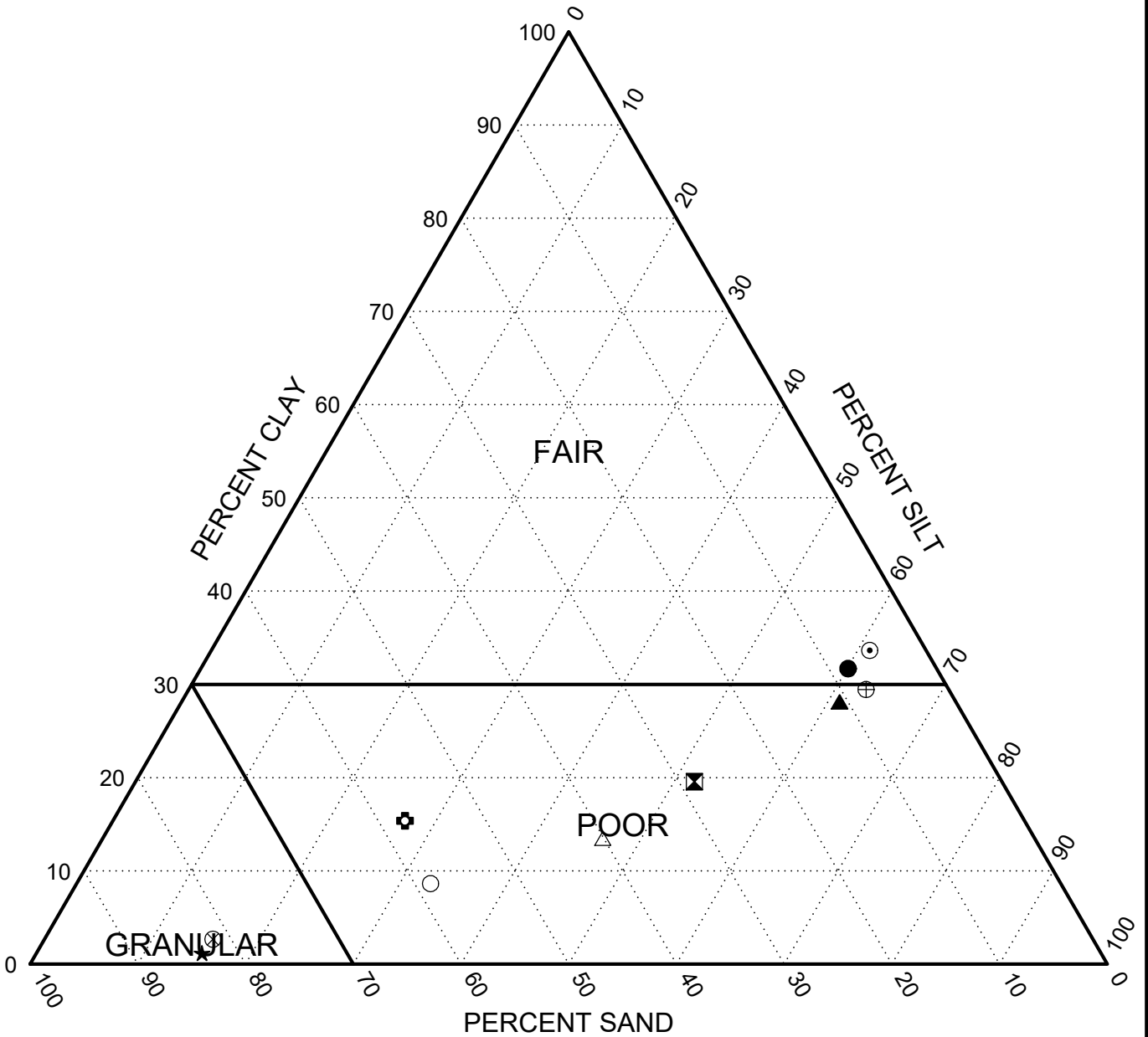
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	712	732+17.13	14.70 ft Rt.	4.50	A-7-6 (21) SILTY CLAY
⊠	713	735+13.09	19.92 ft Lt.	0.00	A-6 (10) SILTY LOAM
▲	714	738+17.03	19.82 ft Rt.	1.00	A-7-6 (18) SILTY CLAY LOAM
★	715	741+17.83	19.38 ft Lt.	1.00	SAND
⊙	716	744+17.15	19.55 ft Rt.	0.50	A-7-6 (31) SILTY CLAY
⊕	716	744+17.15	19.55 ft Rt.	2.00	A-4 (0) SANDY LOAM
○	716	744+17.15	19.55 ft Rt.	5.00	A-4 (0) SANDY LOAM
△	717	747+16.89	15.25 ft Lt.	0.00	A-6 (7) LOAM
⊗	717	747+16.89	15.25 ft Lt.	2.00	SAND
⊕	718	750+17.24	19.49 ft Rt.	1.00	A-7-6 (24) SILTY CLAY LOAM



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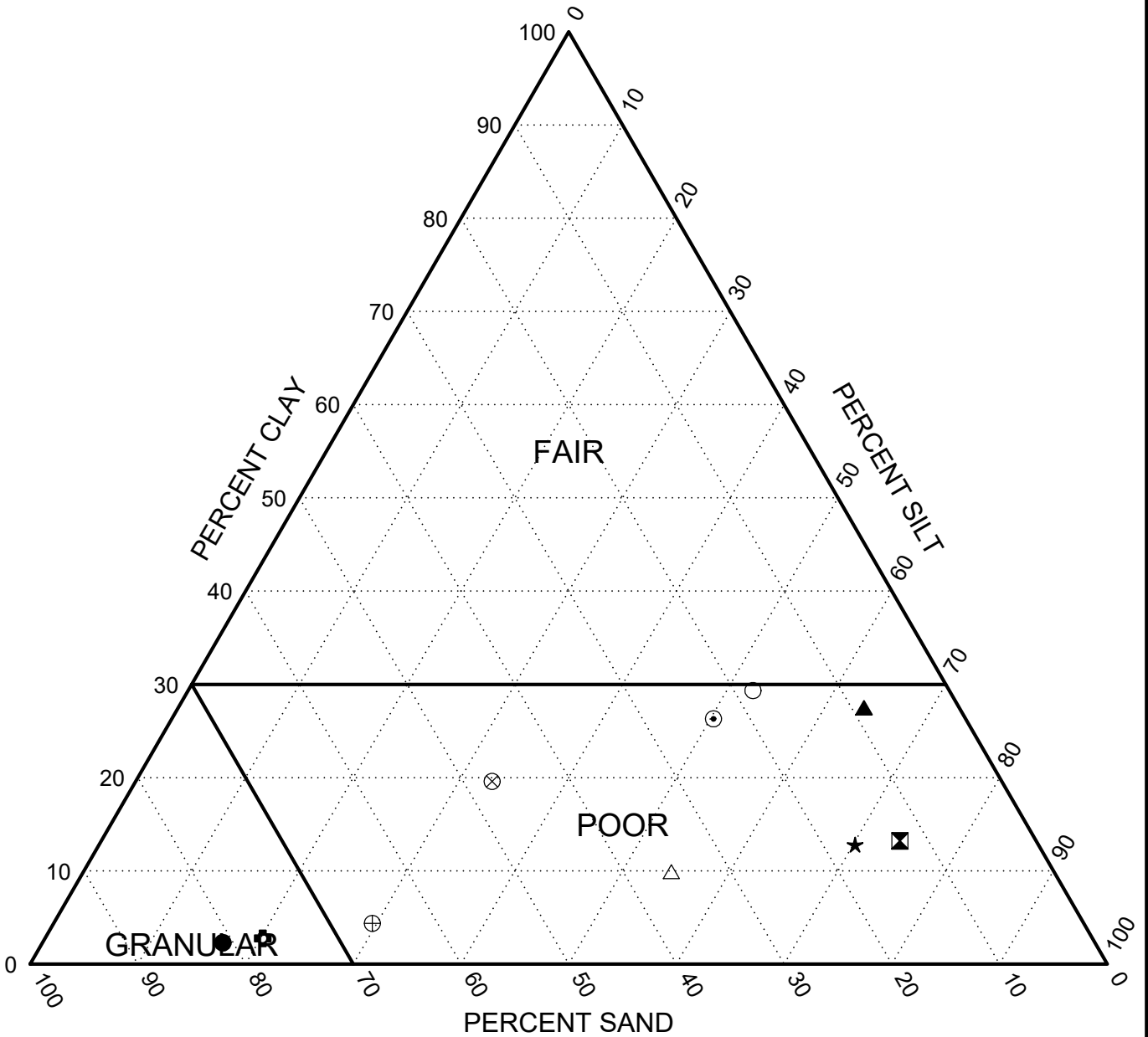
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	718	750+17.24	19.49 ft Rt.	3.00	SAND
■	719	753+20.35	4.46 ft Rt.	1.50	A-6 (9) SILTY LOAM
▲	719	753+20.35	4.46 ft Rt.	3.50	A-6 (15) SILTY CLAY LOAM
★	720	756+17.46	15.14 ft Rt.	0.00	A-6 (13) SILTY LOAM
⊙	720	756+17.46	15.14 ft Rt.	1.00	A-6 (12) SILTY CLAY LOAM
⊕	721	759+17.38	14.64 ft Lt.	2.00	A-1-b (0) SANDY LOAM
○	722	762+17.08	14.83 ft Rt.	1.00	A-7-6 (17) SILTY CLAY LOAM
△	723	765+17.08	19.64 ft Lt.	0.00	A-4 (4) SILTY LOAM
⊗	723	765+17.08	19.64 ft Lt.	2.50	A-6 (8) LOAM
⊕	723	765+17.08	19.64 ft Lt.	4.00	A-2-4 (0) SANDY LOAM



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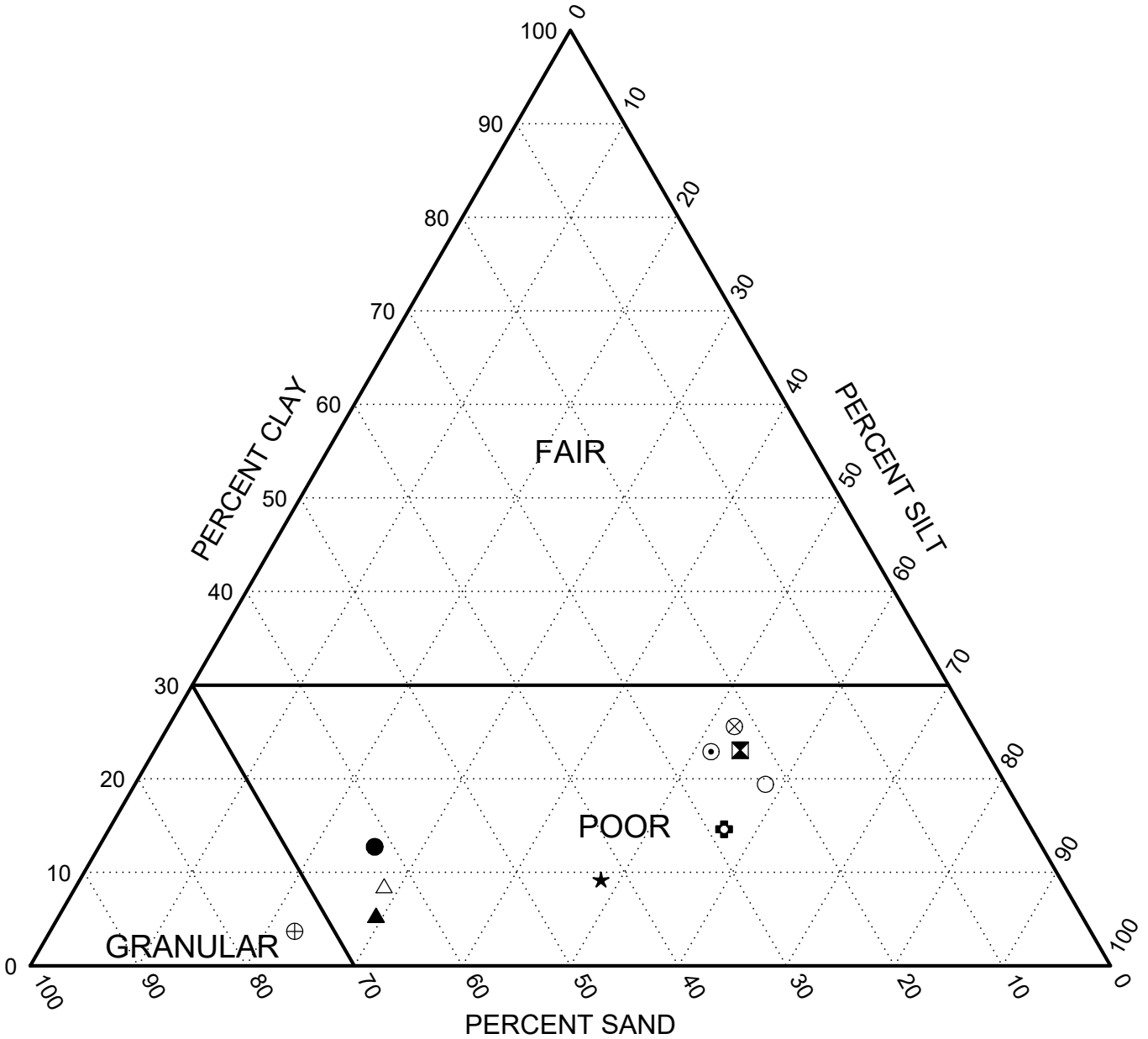
SUBGRADE SUPPORT RATING

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Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	724	768+17.35	14.67 ft Rt.	0.50	A-4 (0) SANDY LOAM
⊠	724	768+17.35	14.67 ft Rt.	3.00	A-6 (10) SILTY CLAY LOAM
▲	724	768+17.35	14.67 ft Rt.	4.00	A-2-4 (0) SANDY LOAM
★	725	771+17.44	15.01 ft Lt.	0.00	A-4 (3) LOAM
⊙	725	771+17.44	15.01 ft Lt.	3.00	A-6 (12) SILTY CLAY LOAM
⊞	726	774+17.56	5.79 ft Rt.	1.50	A-4 (4) SILTY LOAM
○	726	774+17.56	5.79 ft Rt.	3.00	A-6 (8) SILTY LOAM
△	726	774+17.56	5.79 ft Rt.	6.00	A-4 (0) SANDY LOAM
⊗	727	777+17.504	14.94 ft Lt.	2.00	A-6 (12) SILTY CLAY LOAM
⊕	727	777+17.504	14.94 ft Lt.	4.00	A-2-4 (0) SANDY LOAM



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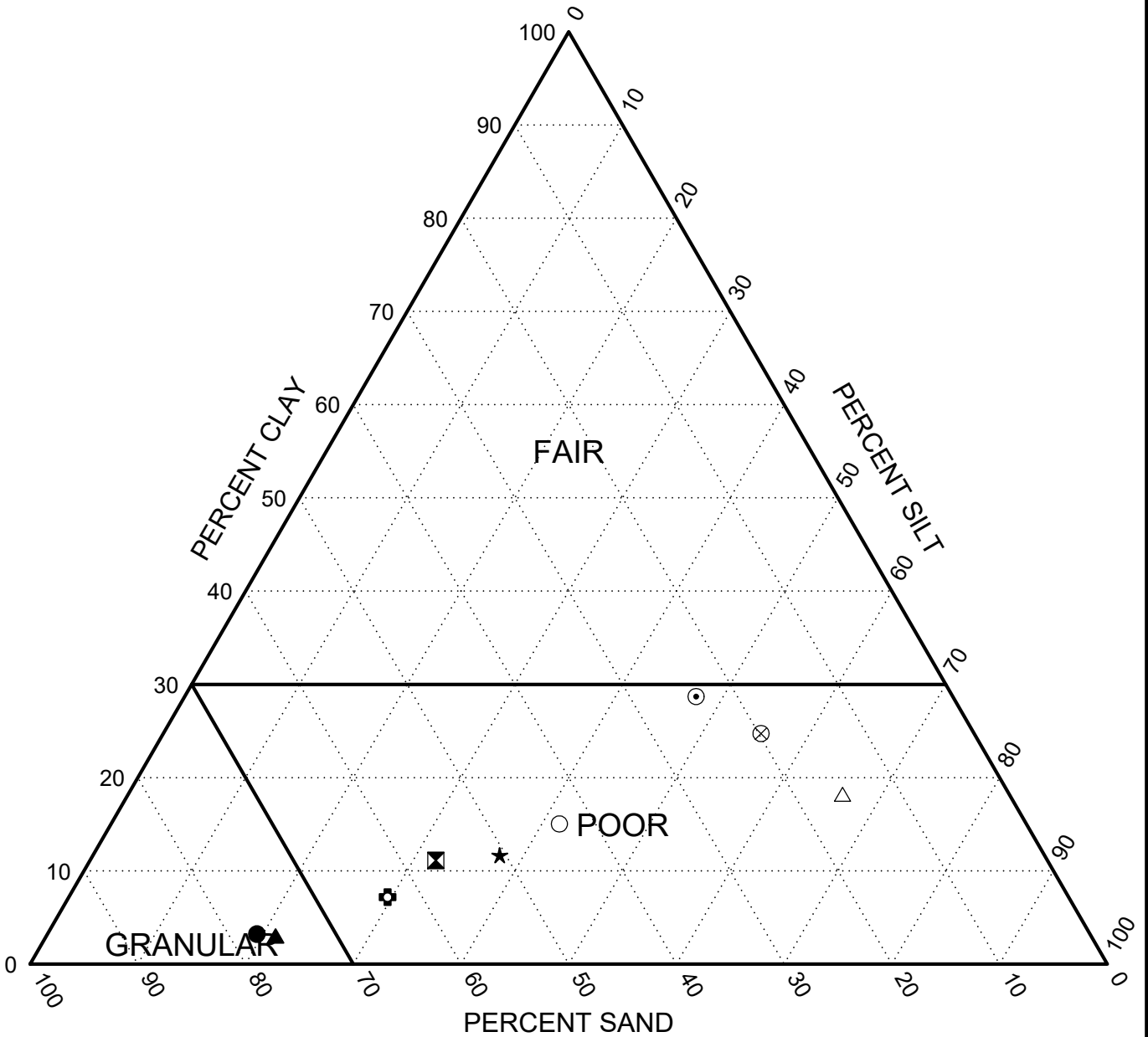
SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

County: Kendall

SUBGRADE SUPPORT RATINGS IL 71 FROM IL 47 TO ORCHARD ROAD LINE BORINGS.GPJ IL_DOT.GDT 1/20/21



	Borehole	Station	Offset	Depth (ft)	Classification
●	728	780+16.83	14.76 ft Rt.	2.00	A-1-b (0) SANDY LOAM
⊠	729	783+17.44	20.02 ft Lt.	0.00	A-4 (1) SANDY LOAM
▲	729	783+17.44	20.02 ft Lt.	3.00	A-1-b (0) SANDY LOAM
★	730	786+17.62	19.49 ft Rt.	0.00	A-4 (2) SANDY LOAM
⊙	730	786+17.62	19.49 ft Rt.	3.00	A-7-6 (20) CLAY LOAM
⊕	730	786+17.62	19.49 ft Rt.	4.50	A-4 (0) SANDY LOAM
○	731	789+16.85	19.86 ft Lt.	0.00	A-4 (3) LOAM
△	731	789+16.85	19.86 ft Lt.	2.50	A-6 (10) SILTY LOAM
⊗	731	789+16.85	19.86 ft Lt.	4.00	A-6 (14) SILTY CLAY LOAM



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SUBGRADE SUPPORT RATING

Route: IL 71 (FAP 311)

Section: (1,1-1)R

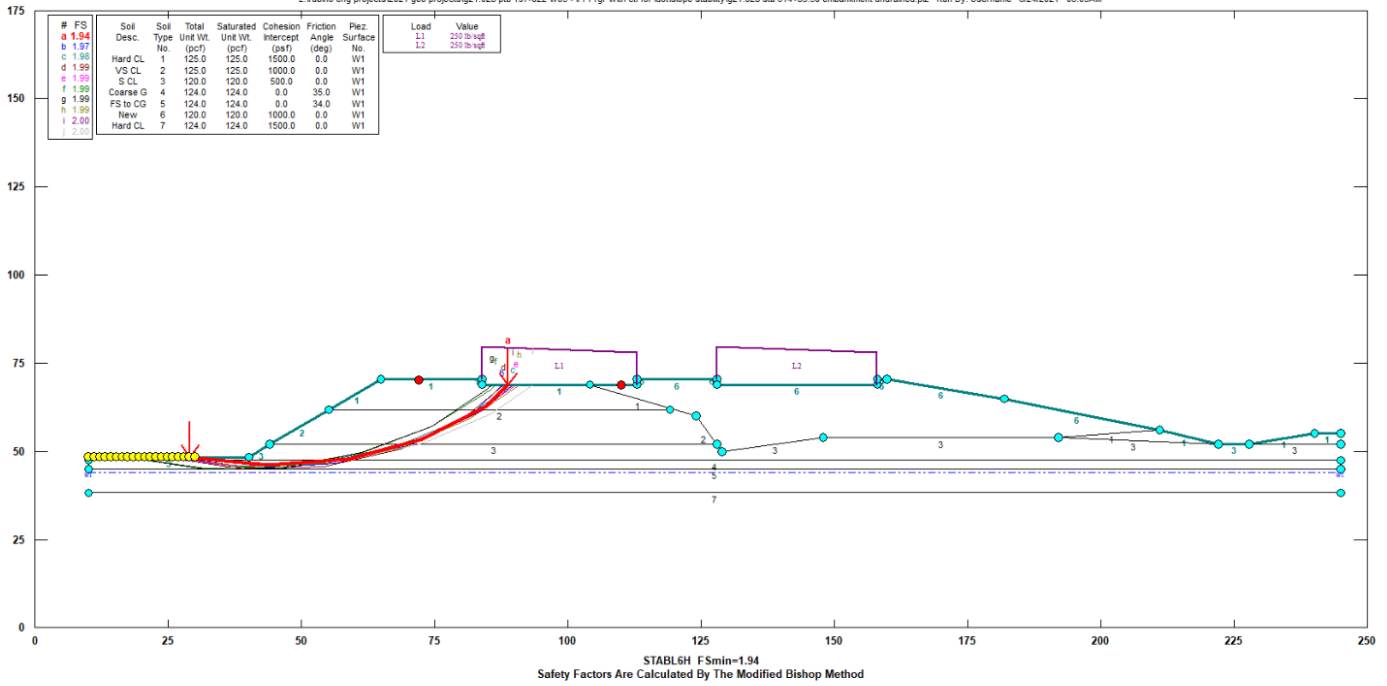
County: Kendall

Appendix H – Slope Stability Models

Preliminary Analysis (Undrained): FOS of 1.94:

G21.028 IL71 RGR Sta 614.83.50

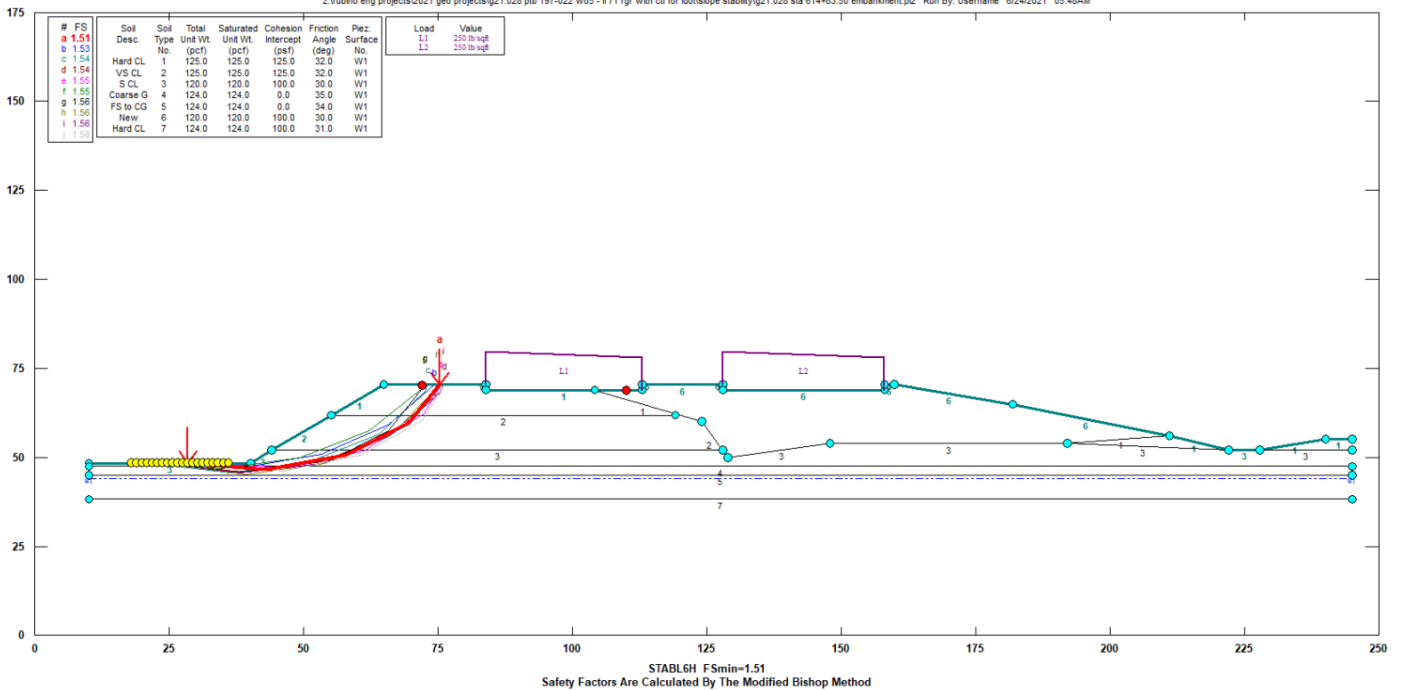
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Preliminary Analysis (Drained): FOS of 1.51:

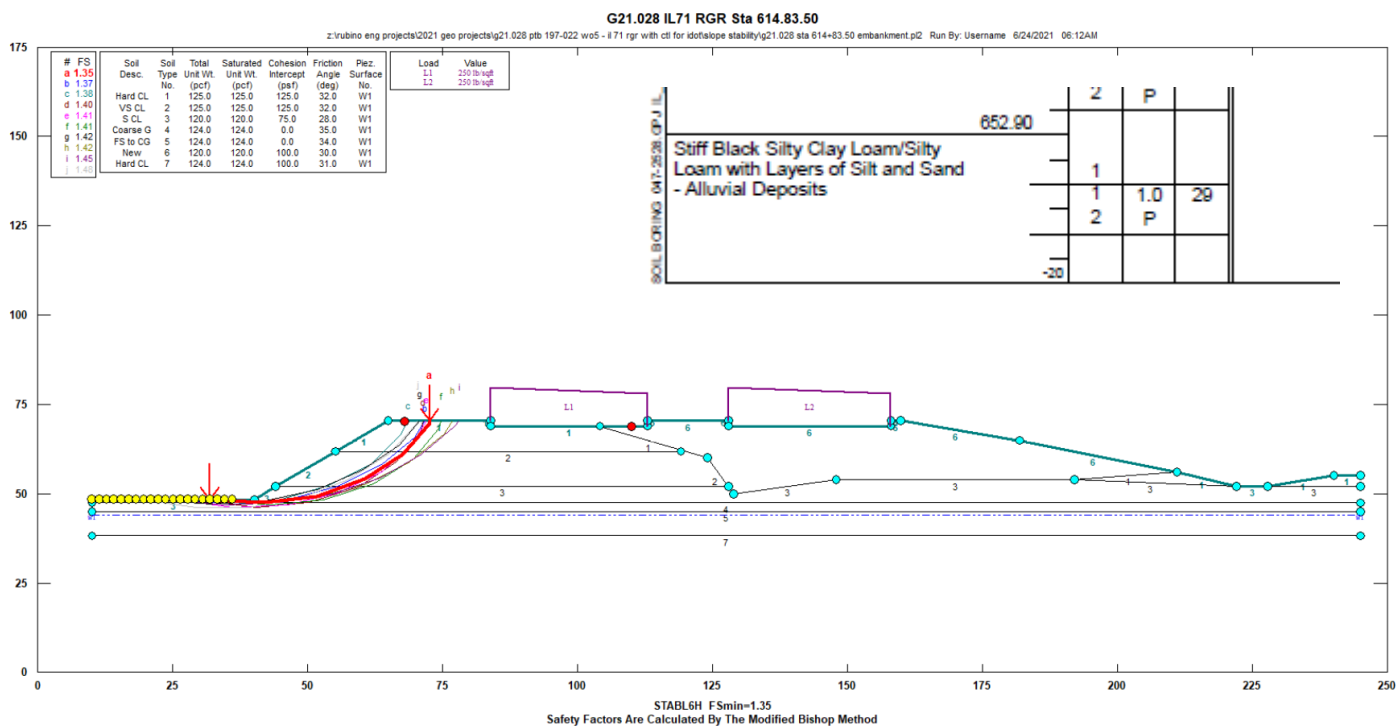
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Preliminary Analysis, Lower properties for S CL 3 (Drained): FOS of 1.35:

Soil properties lowered to define a lower bound FOS due to moisture of 29% and N value of 3 in boring B-02 near elevation 653 feet.



Appendix I – Report Limitations

Subsurface Conditions:

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

Geotechnical Risk:

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

Warranty:

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

Federal Excavation Regulations:

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

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