March 19, 2024

Geotechnical Evaluation
Proposed Addition
1 Venner Road
Amsterdam, New York

Prepared for:

Montgomery County
PO Box 1500
20 Park Street
Fonda, New York

Prepared by:

C.T. MALE ASSOCIATES
50 Century Hill Drive
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Associates Project No: 21.1419

GEOTECHNICAL EVALUATION
PROPOSED ADDITION
AMSTERDAM, NEW YORK

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the findings of a geotechnical engineering evaluation of the subsurface conditions present at the site of a proposed addition to the building located at 1 Venner Road in Amsterdam, New York.

The site's subsurface conditions have been investigated through the advancement of test borings and excavation of test pits in the areas of the proposed addition. From our evaluation of the conditions disclosed by these explorations, we have identified the Seismic Site Class applicable to the project and have developed recommendations for the design and construction of the addition's foundations and floor slabs.

This evaluation has been performed in general accordance with Amendment Number 014, dated September 13, 2023, to our Professional Services Agreement for the project, dated May 31, 2018.

2.0 PROJECT & SITE DESCRIPTION

The project consists of an addition to the south side of the existing structure. The addition is to be a single-story office building approximately 24 feet in width by 50 feet in length with the long side of the addition constructed parallel to the existing building. It is planned to support the addition along its perimeter using conventional spread/strip foundations. No interior columns are expected to be needed for support of the addition. Loads to be imposed on the perimeter strip foundations are not expected to exceed 1,000 kips per linear foot. Based on original drawings for the existing building, the structure was built in the 1960's as a newspaper printing facility and is supported on 25-ton piles. The pile type, length, and bearing stratum are unknown. Select original drawings for the structure are included in Appendix A.

The facility is located to the southwest of the intersection of Venner Rd with New York State Route 5S. It is bordered by industrial buildings, a gas station, and wooded areas. The Subsurface Exploration Location Plan included in Appendix B is an aerial image of the site.

3.0 SUBSURFACE INVESTIGATION AND LABORATORY TESTING

3.1 Test Borings

Two (2) test borings were advanced within the proposed building footprint. Their coordinates, as recorded using a cellular phone, are noted in the test boring logs. Their locations are also shown on the Subsurface Exploration Location Plan contained in Appendix B.

The test borings were advanced by a subcontractor under the observation of a geotechnical engineer from our firm. They were advanced and cased against collapse through rotary drilling of 3¼-inch inside diameter hollow stem augers using a Central

Mine Equipment Model 55 track-mounted drill rig. As the augers were advanced with depth, the overburden was sampled and its penetration resistance determined in general accordance with the procedures of ASTM D-1586, "Standard Method for Penetration Testing and Split-Barrel Sampling of Soils". The sampling and penetration resistance testing were conducted on a continuous basis to a depth of 12 feet and at nominal 5-foot intervals thereafter until reaching the termination depth.

A geotechnical engineer from our firm recorded the standard penetration resistance values (N-values), field classified the recovered samples, and placed representative portions of the samples in glass jars. The samples placed in jars were brought to our geotechnical laboratory, examined, and, where necessary, refinements made to the field classifications. Test boring logs presenting the soil descriptions in accordance with the Burmister identification system and the records maintained in the field are presented in Appendix C along with a sheet and key that explains the terms and symbols used in their preparation. Noted on the logs are the results of pocket penetrometer tests performed on selected samples recovered from the test borings.

3.2 Test Pits

Three (3) test pits were excavated along the existing building to identify the depth to, size of, and orientation of pile caps. These test pits were excavated by a subcontractor under the observation of a geotechnical engineer from our firm. Plan and section views of the existing pile caps are included on the figures included within Appendix D.

3.3 Laboratory Testing

Select recovered soil samples were tested in our geotechnical engineering laboratory for their moisture content and Atterberg Limits in accordance with the procedures of ASTM D2216, *"Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Water by Mass" and* ASTM D-4318, *"Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils"*, respectively. Laboratory test results are included in Appendix E.

4.0 SUBSURFACE CONDITIONS

Test borings B-1 and B-2 were performed within the footprint of the proposed building addition. The subsurface profile disclosed at these two locations consisted of the asphalt pavement and its subbase overlying native silt and clay soils.

Underlying asphalt pavement and its subbase of sand with varying amounts of gravel and silt, silt and clay soils were encountered. The upper portion of these native soils, above a depth of 8 feet, had N-values between 9 and 25 blows per foot and pocket penetrometer values between 2.5 and 4 tsf. This upper material was found to consist of silt with minor amounts of clay and fine sand. Below this layer, the native soils became softer with N-values ranging from 4 to 18 blows per foot and pocket penetrometer values ranging from 0.75 to 2.25 tsf. This lower material was found to typically consist of clay with minor amounts of silt and fine sand. Below a depth of 42 feet, the material became near equal parts fine to medium sand and clay. The deepest boring was terminated at a depth of 52 feet within the native silt and clay soils.

Although some wet and saturated soil samples were recovered within the explored depths, standing water was not observed within the boreholes during or at the completion of drilling due to the low hydraulic conductivity of the native soils. It is our opinion that the depth at which the upper stiff layer of soils transitions to the softer underlying soils is indicative of the level of the seasonal high groundwater table, this occurring at a depth of approximately 8 feet.

5.0 GEOTECHNICAL EVALUATION

5.1 Site Evaluation

The native soil found to underlie the asphalt pavement and its subbase is capable of supporting the proposed addition through the use of strip foundations and, upon compacting the pavement subbase, the addition's floor slab may bear on-grade. To limit total and differential settlement of the addition's foundations to magnitudes judged tolerable for the structure, a relatively modest foundation bearing pressure is recommended for design.

Along the perimeter of the existing building, the depth of backfill placed over and against the building's frost wall and pile caps should be expected to vary. Accordingly, as disclosed through the test pit excavations, the backfill is anticipated to extend to depths of 4 feet to 6 feet. The addition's foundations should bear at the bottom of the building's pile cap or frost wall elevation(s), whichever is found to be present where the addition's foundations butt up against the existing building. Between these two locations, the backfill placed along the existing building should be removed and replaced with well compacted Select Structural Fill. The excavated backfill soils may be used as fill material within landscaped areas.

Perched groundwater may be encountered during excavation for foundations and during overexcavation and replacement of the backfill placed against the existing building. Conventional sump and pump methods of dewatering should suffice for its removal during construction.

The soils exposed at the bottom of the excavations are expected to consist of silt and clay of a stiff consistency. Although initially stiff, these soils may readily soften under foot traffic and if water is allowed to pond on them. To protect the foundation grades from such disturbance and softening, and to provide a stable working surface for foundation construction, all foundation grades should be undercut 3 inches and returned to plan grade through the placement of lean concrete.

Regardless of the care taken to prepare foundation grades, foundations constructed immediately adjacent to the existing building will experience a modest amount of settlement and therefore should be structurally isolated from the same. Compressible isolation boards, at least 1 inch in thickness, should be placed over and against the existing pile caps or frost walls where the addition's foundations and foundation walls are constructed immediately adjacent to and over/extend above the same.

5.2 Site Class Assessment

As the site's overburden does not fit any of the soil profile characteristics which would place it into the Site Class E or F category, it does not fit those site class designations. Rather, based on the weighted average undrained shear strength values, as estimated using a pocket penetrometer, of explored overburden exceeding 1,000 pounds per square foot, the profile is judged to fit the Site Class D designation as identified in Section 1613.3.2 of the 2020 Building Code of New York State and Chapter 20 of ASCE 7-16.

5.3 Liquefaction Analysis

The liquefaction potential of the soils encountered at the location of test boring B-1 was evaluated using the computer program LiquefyPro, Version 5.5a. Input into the program included the soils' standard penetration resistance values, the fines content, the depth to the groundwater table, and the earthquake moment magnitude and peak ground acceleration. The mean and modal (most likely) earthquake moment magnitude values were 5.63 and 4.9, respectively, as determined using the USGS Unified Hazard Tool. The peak ground acceleration used, modified for the Site Class, was 0.188g, as determined using the USGS Seismic Design Maps online tool.

The liquefaction potential was evaluated according to Robertson & Wride's Method (1997) published in the Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Settlement induced by the design earthquake was evaluated according to the Ishihara/Yoshimine Method. The results of the analysis indicate that soil liquefaction will not occur under either the mean or modal earthquake events. Seismically induced settlements are estimated to be negligible for the modal event and approximately ¼ inch for the mean event. Graphical depictions of the liquefaction assessment results can be found in Appendix F.

6.0 GEOTECHNICAL RECOMMENDATIONS

6.1 Site Preparation

Site preparation should begin with the stripping and removal of grass, underlying topsoil, and existing pavements where it is present within the addition footprint. Any underground utilities crossing the addition's footprint should be removed. Excavations made for the removal of underground utilities should be backfilled with Select Structural Fill, an imported run-of-bank sand or sand and gravel which conforms to the limits of gradation listed in Table 1.

Table 1
Imported Select Structural Fill

Sieve Size	Percent Finer by Weight
4 Inch	100
No. 40	0 to 70
No. 200	0 to 15

The Select Structural Fill should be placed in loose lift thicknesses no greater than eight (8) inches and each lift compacted to a dry density equal to at least 95 percent of the materials' maximum dry density as it is defined by ASTM D-1557, *"Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort"*.

Backfill which had been placed along the existing building's perimeter should be removed and replaced with Select Structural Fil within the addition's footprint. It should be placed in lift thicknesses and compacted to the degree recommended above. If fill is found to be present elsewhere below the subgrade for the finished floor elevation of the building, it should be removed in its entirety and replaced with Select Structural Fill, also placed and compacted as previously described.

6.2 Foundation Design & Construction

Strip foundations may be used to support the proposed building addition. To limit their total and differential settlement to one-half (1/2) and one-quarter (1/4) inch, respectively, we recommend designing them for a maximum net allowable bearing pressure of 2,000 psf. The foundation settlements should occur in a semi-elastic manner and those induced by the structure's dead loads be complete within a few months of the addition's construction. All exterior foundations should be at least 24 inches in width and be seated 4 feet below the final exterior site grades to afford their frost protection.

All final excavations to the subgrade surface should be completed by an excavator utilizing a grading bucket or a bucket with a steel plate welded across the face of its teeth so that the bottom of excavations may be trimmed smooth and be absent of grooves that would otherwise be left by an conventional bucket with teeth.

Prior to placing the mud mat of lean concrete as previously described in this report, the exposed excavated subgrade should be inspected by the geotechnical engineer and be dry, stable, and free of any loose soil, standing water, mud, or frost.

Select Structural Fill material should be used to backfill foundation excavations. The backfill materials should be placed in loose lift thicknesses not to exceed 8 inches and compacted in accordance with the aforementioned 95 percent density specification.

6.4 Floor Slab Design & Construction

Floor slabs for the new addition may bear on-grade. They should be provided with a subbase course of crusher-run stone which conforms to the requirements for Type 2 Subbase as specified in the New York State Department of Transportation (NYSDOT) Standard Specification Article 733-04. A subbase thickness of at least six (6) inches is recommended. The gradation of the subbase, as specified by NYSDOT, should conform to that listed in Table 2.

Table 2
Type 2 Subbase

Sieve Size	Percent Finer by Weight
2 Inch	100
¼ Inch	25 to 60
No. 40	5 to 40
No. 200	0 to 10

Prior to placing the subbase, the pavement subgrade exposed upon stripping the area of asphalt pavement should be thoroughly proofrolled and compacted. A smooth drum vibratory roller with a static weight of at least one (1) ton should be used for the proofrolling. It should complete 6 or more passes across the subgrade. Any areas of the subgrade surface which "pumps" or "weaves" under the passing roller should be considered unstable and should undercut and stabilized through backfilling the same with well-compacted Select Structural Fill. Any grade increases needed to establish final subgrade elevation should consist of Select Structural Fill placed and compacted as previously recommended.

The Type 2 Subbase may be placed as a single lift and should compacted to a dry density equal to at least 95 percent of the material's maximum dry density as it is defined by ASTM D-1557, "*Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort*".

So prepared, the floor slabs may be designed assuming a modulus of subgrade reaction of 150 pounds per cubic inch.

7.0 CLOSURE

This report has been prepared to assist in the design and construction of the proposed addition to the existing building located at 1 Venner Road in Amsterdam, New York. The recommendations have been developed from our interpretation of the project site's subsurface conditions disclosed through subsurface explorations and our understanding of the basis of design as it was described herein. No other warranties, expressed or implied, are made.

Respectfully Submitted,

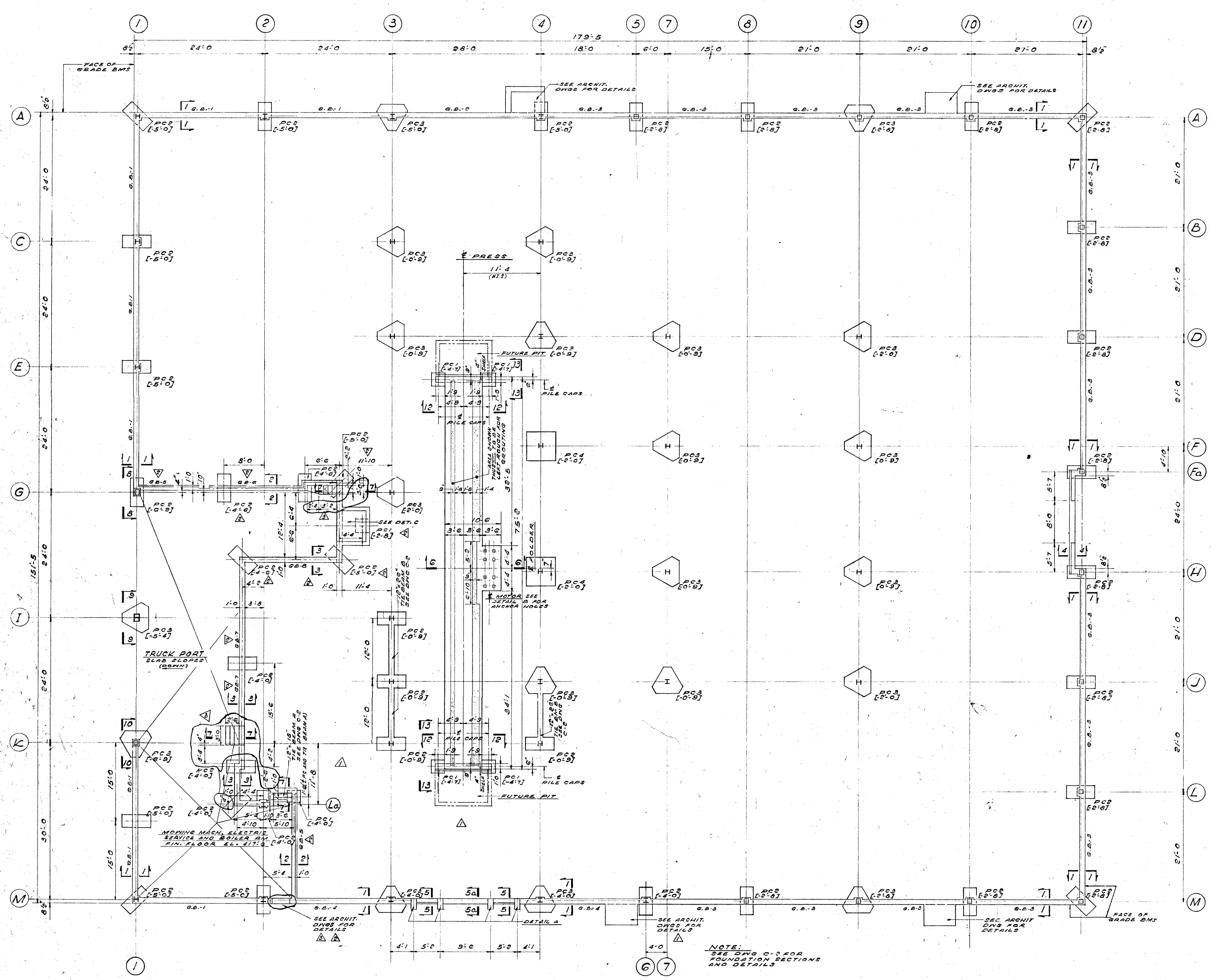
C.T. MALE ASSOCIATES

John Scheetz, P.E.
Geotechnical Engineer
j.scheetz@ctmale.com

Joshua Blake, E.I.T.
Geotechnical Engineer
j.blake@ctmale.com

APPENDIX A

Historic Structure Drawings



FOUNDATION NOTES

1. Building loads supported on poured in place concrete piles driven to resistance to develop a capacity of 25 tons per pile. PER ENGINEERING NEWS RECORD FORMULA.
2. All concrete for foundations shall be stone concrete having a minimum compressive strength of 3000 psi at 28 days.
3. All concrete work shall conform to the latest edition of the "New York State Building Code," and with local laws and ordinances, which ever governs.
4. Reinforcing steel shall be deformed bars intermediate grade new billet steel conforming to A.S.T.M. Spec's A-15 & A 305.
5. See Arch. Mech & Elect. drawings for sleeves and inserts in concrete.
6. Provide 2 - #6 bars around all openings.
7. For slabs on grade see Arch. Dwg's.
8. For Boring Logs see spec's and Arch. Dwg's.
9. For porous fill under slabs see Spec's.

FOUNDATION PLAN

FINISHED 1ST. FLOOR EL. 420'-0 = DATUM EL. 0'-0
PC DENOTES PILE CAP TYPE. SEE DWG C2 FOR DETAILS
[±] DENOTES TOP OF PILE CAP FROM EL. 420'-0

No	DATE	REVISION	BY	CHK	APPR.
3	4/27/66	REV. P.C. CAPACITY, STAIRS AND GRADE BM NEAR COL. M-2	A.P.	I.S.	I.S.
2	3/16/66	ADDED DET. C AND GENERAL REVISIONS AS	A.P.	I.S.	I.S.
1	3-8-66	REV. PRESS MAT & REV. LOC. OF COL La-2	A.P.	I.S.	I.S.

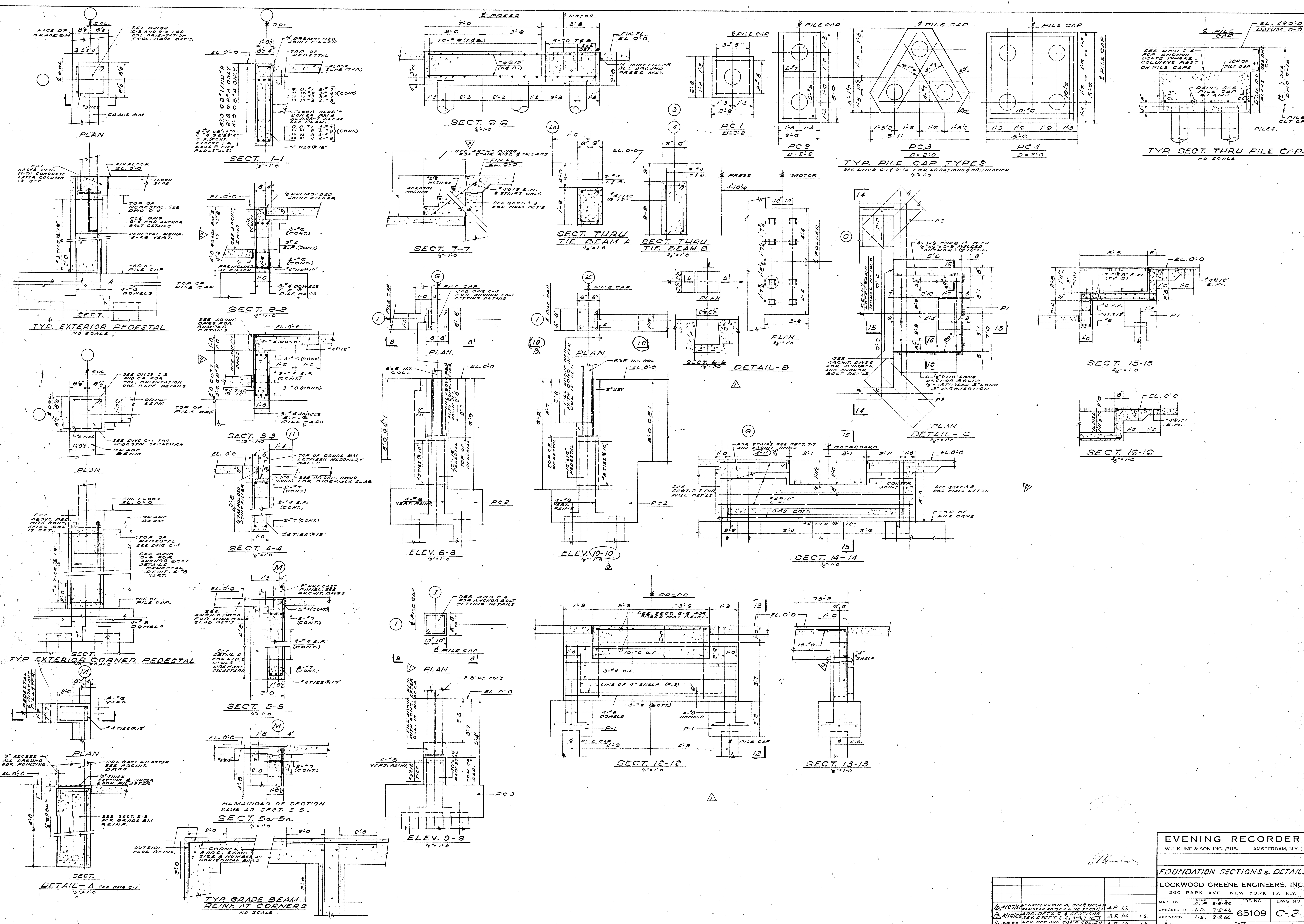
EVENING RECORDER
W.J. KLINE & SON INC., PUB- AMSTERDAM, N.Y.

FOUNDATION PLAN

LOCKWOOD GREENE ENGINEERS, INC.
200 PARK AVE. NEW YORK 17, N.Y.

	NAME	DATE
MADE BY	A.P.	2-8-66
CHECKED BY	J.D.	2-8-66
APPROVED	I.S.	2-8-66

JOB NO. 65109
DWG. NO. C-1
SCALE 1/8"=1'-0
DATE FEB. 8. 1966



EVENING RECORDER

W.J. KLINE & SON INC. ,PUB- AMSTERDAM, N.Y.

FOUNDATION SECTIONS & DETAILS

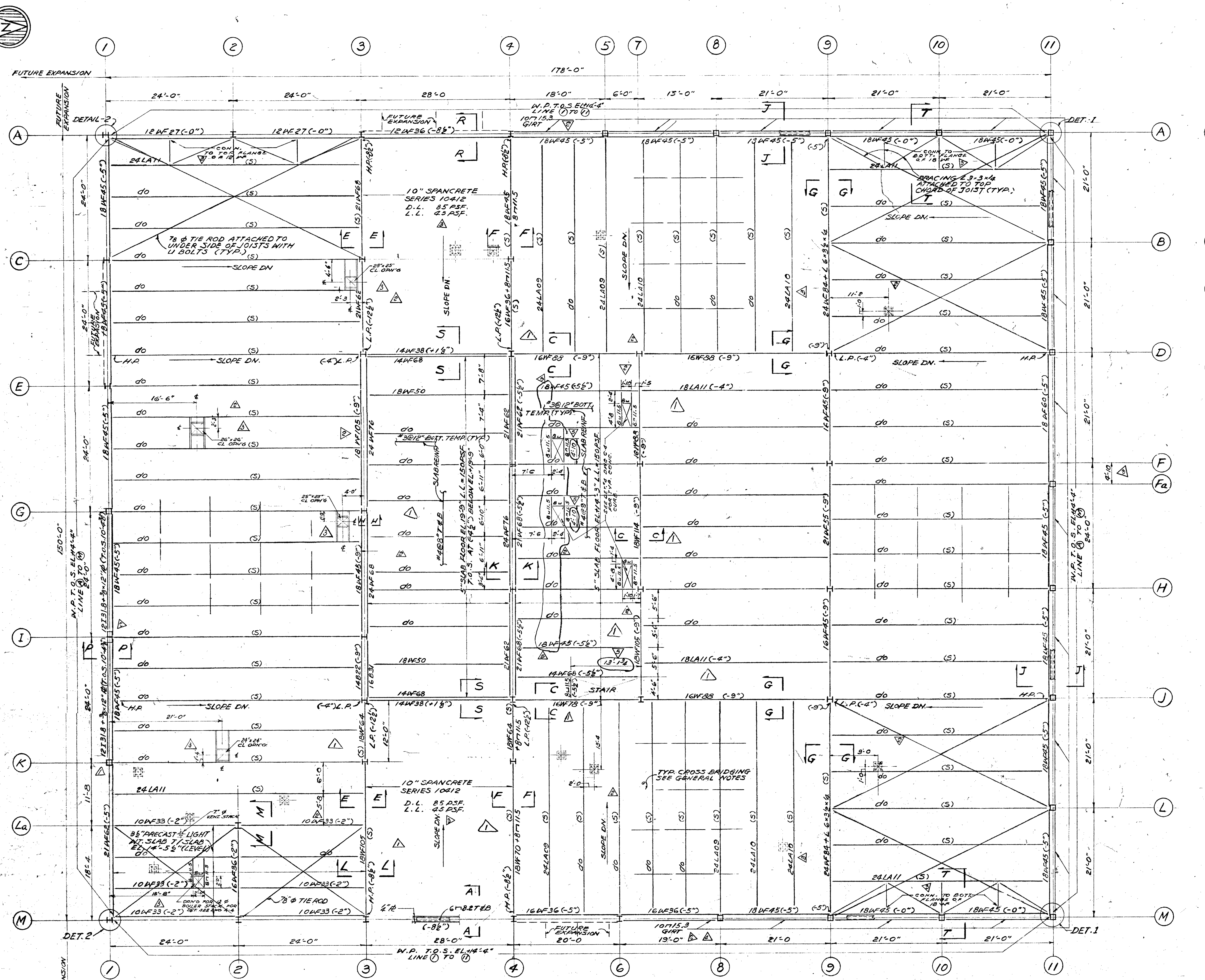
LOCKWOOD GREENE ENGINEERS, INC.
200 PARK AVE. NEW YORK 17, N.Y.

	NAME	DATE
MADE BY	A.P.	2-8-66
CHECKED BY	J.D.	2-8-66
APPROVED	I.S.	2-8-66

JOB NO. 65109 — DWG. NO. C-2

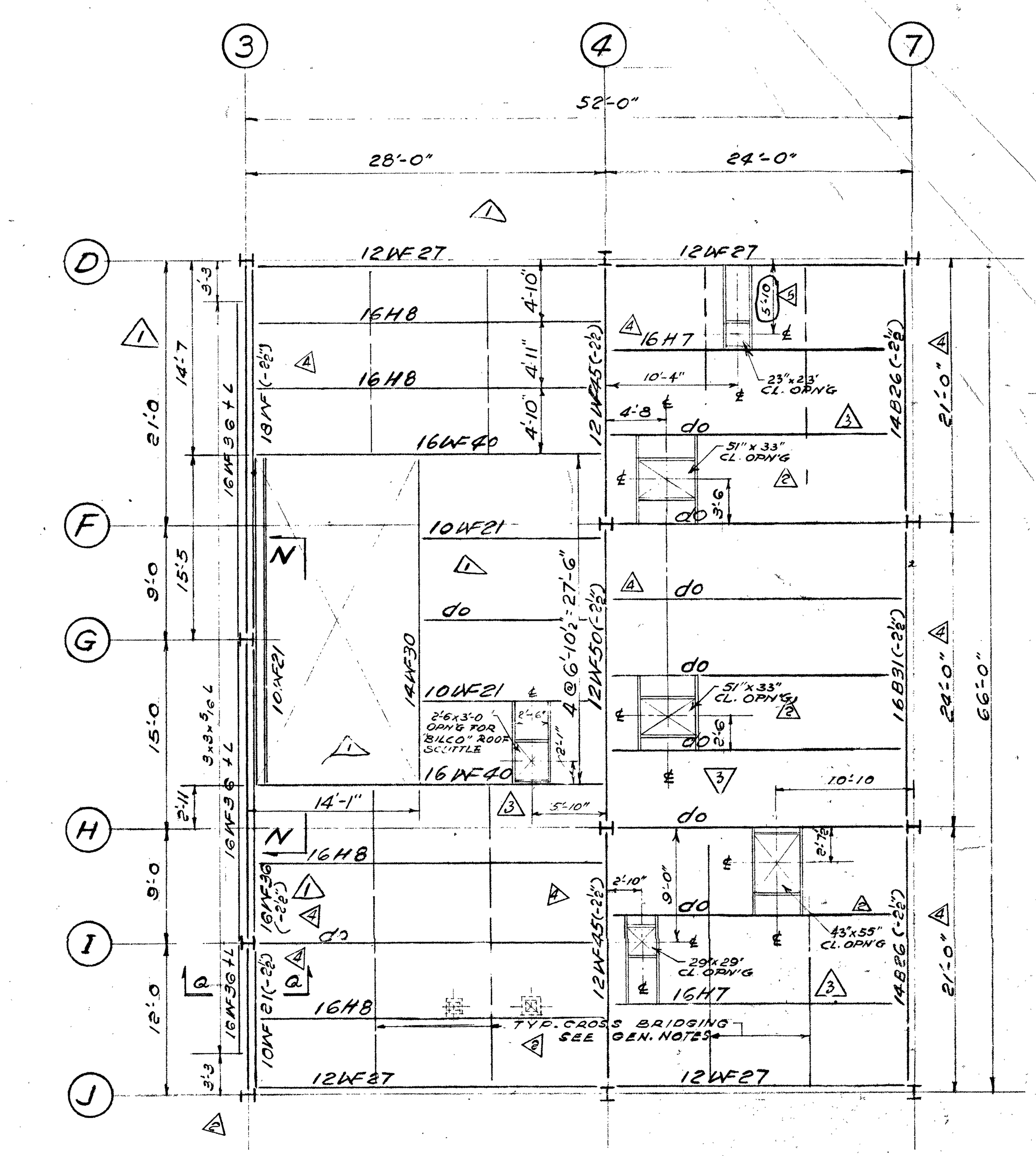
SCALE AS NOTED — DATE FEB.8 1966

No	DATE	REVISION	BY	CHK	APPR.
3	4/27/66	REV. SECT. 11-11 TO 10-10, DIM. @ SECT. 14-14 REMOVED DOTTED LINE SECT. 13-13	A.P.	I.S.	
2	3/16/66	ADD. DET'L C & SECTIONS REV. SECT'S 2-2, 3-3, 7-7	A.P.	I.S.	I.S.
1	3-8-66	REV. PED AND COL @ COL. I-1 ADD DET. B AND SECTS 12-12, 13-13	A.P.	I.S.	I.S.



ROOF FRAMING PLAN

1½" - 20 GA. NARROW RIB METAL DECK UNLESS NOTED.
SPANDREL BEAMS SHALL BE CONNECTED TO INSIDE COL. FLANGE UNLESS NOTED.
ALL BEAM EQUALLY SPACED BETWEEN COLUMNS UNLESS NOTED
(+, –) DENOTES TOP OF STEEL ABOVE OR BELOW WORKING POINT (W.P.) ELEVATIONS.
D.L. = 15 PSF. L.L. = 45 PSF. UNLESS NOTED.
EXTEND AND CONNECT BOTTOM CHORD OF JOIST TO BEAMS AND COLUMNS BETWEEN COL. LINES 4 AND 11 OF LOWER ROOF UNLESS OTHERWISE NOTED
(S) DENOTES SLOPE MEMBER.
2 FOR LOCATION OF ROOF DRAINS SEE MECHANICAL PLANS



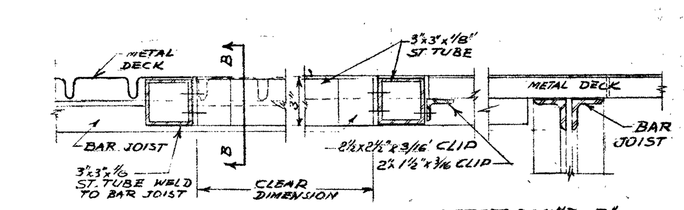
M.E. ROOM ROOF

1½ - 20 GA. NARROW RIB METAL DECK
T.O.S. EL.+29'-9" ABOVE EL. 0'-0" UNLESS NOTED
(–...) DENOTES T.O.S. BELOW EL. 29'-9"
D.L. = 15 PSF. L.L. = 45 PSF.
EXTEND AND CONNECT BOTTOM CHORD OF JOIST TO BEAMS AND COLUMNS.

SEE PLAN

—INDICATES FRAMING FOR ROOF OPENINGS.

OPENINGS CUT IN ROOF DECK SEE DWG. A-4. FOR SIZE & LOCATION



SECTION "A-A"
SCALE: 1½" = 1'-0"

SECTION "B-B"

No	DATE	REVISION	BY	CHK	APPR.
5	5/12/66	REV. 9-16 WF TO 18 WF AND 3 DIMENSIONS. ADDED 13'-1¾ DIM.	A.P.	I.S.	
4	4/27/66	ADD 10" GIRT LINE M6 TO M8 M.E. RM ROOF STEEL (-2'2")	A.P.	I.S.	I.S.
3	4-14-66	REV. ROOF OPENING AND JOISTS, DIM @ COL Fa/11 AS	A.P./A.D.	I.S.	I.S.
2	3/16/66	ADD 16WF + L @ COL LINE 3			
		REV. LOC. COL. La-2. ADD. ROOF BRIDGING AND OPENINGS AS	A.P.	I.S.	I.S.
1	2-21-66	REVISED DIMENSIONS, BEAM SIZES, & SLAB STEEL AS CIRCLED	J.C.D.	I.S.	I.S.

EVENING RECORDER
W.J. KLINE & SON INC., PUB. — AMSTERDAM, N.Y.

ROOF FRAMING PLAN

LOCKWOOD GREENE ENGINEERS, INC.
200 PARK AVE. NEW YORK 17, N.Y.

	NAME	DATE	JOB NO.	DWG. NO.
MADE BY	R.L.	1-25-66	65109	C-3
CHECKED BY	J.D.	1-25-66		
APPROVED	I.S.	1-25-66		
SCALE	1/8" = 1'-0"		DATE	FEB. 8, 1966

COLUMN SCHEDULE

STORY \ COL. NO.	A1	A2	A3	A4	A5	A8	A9	A10	A11	B11	C1	C3	C4
MECH. EQPT. RM. ROOF T.O.S. EL.+29'-9"													
FIN. PENT HOUSE FL. EL.+29'-9"													
MAIN ROOF H.P.T.O.S. EL.+14'-4" (UNLESS NOTED)	24	12	46	45	45 *	48	75	25	32	39 *	46 *	72 *	42
FIN. FIRST FL. EL.+420'-0" = DAT. EL. (0'-0")	8WF31	do	do	8WF31	8×8×1/4 H.T.	do	do	do	do	8×8×1/4 H.T.	8WF31	do	8WF31
BASE PL SIZE	10"×3/4×0'-10"	do	do	10"×3/4×0'-10"	10"×3/4×1'-2"	10"×3/4×1'-2"	10"×7/8×1'-2"	10"×3/4×1'-2"	do	10"×3/4×1'-2"	10"×3/4×0'-10"	do	10"×3/4×0'-10"

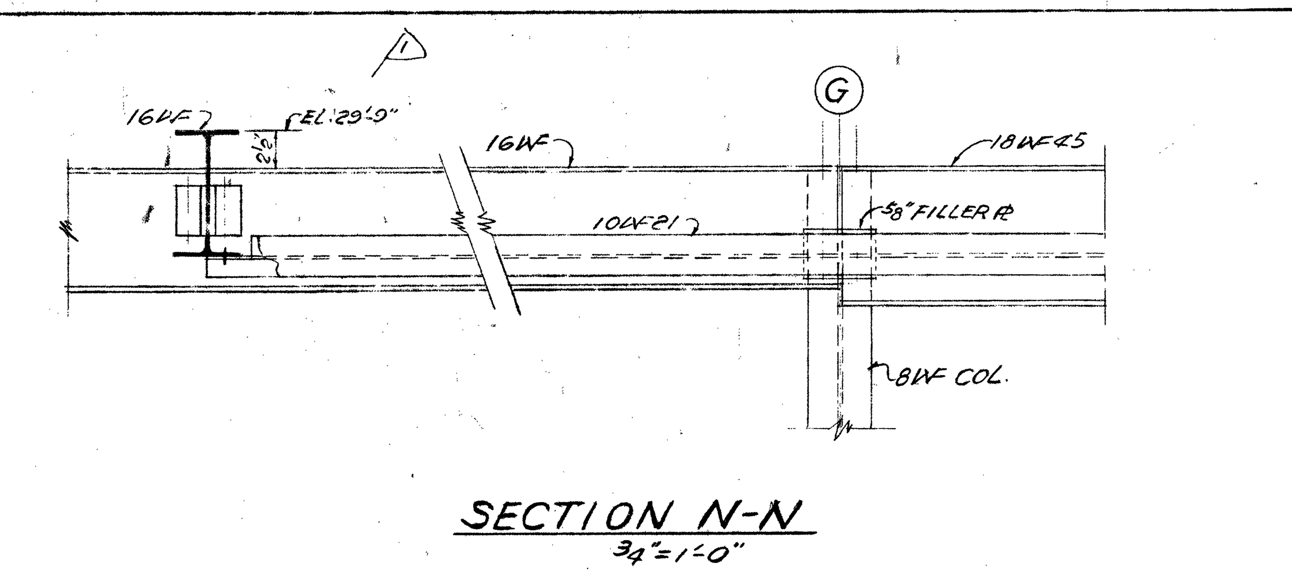
STORY \ COL. NO.	D3	D4	D7	D9	D11	E1	F4	F7	F9	Fall	G1	G3	H4
MECH. EQPT. RM. ROOF T.O.S. EL.+29'-9"	23	26	15				42	15				30	40
FIN. PENT HOUSE FL. EL.+29'-9"	96	80	127				132					142	131
MAIN ROOF H.P.T.O.S. EL.+14'-4" (UNLESS NOTED)	163	165		96 *	54 *	46 *	202	141	62 *	53 *	46 *	196	202
FIN. FIRST FL. EL.+420'-0" = DAT. EL. (0'-0")	8WF48	8WF48	8WF40	8WF31	8×8×1/4 H.T.	8WF31	8WF58	8WF40	8WF31	8×8×1/4 H.T.	8×8×1/4 H.T.	8WF58	8WF58
BASE PL SIZE	15"×1 1/4×1'-3"	15"×1 1/4×1'-3"	14"×1 1/8×1'-2"	12"×3/4×1'-0"	10"×3/4×1'-2"	10"×3/4×0'-10"	17"×1 1/2×1'-5"	15"×1 1/4×1'-3"	10"×3/4×0'-10"	10"×3/4×1'-2"	10"×3/4×1'-2"	17"×1 1/2×1'-5"	17"×1 1/2×1'-5"
				△2			△2			△3			△2

STORY \ COL. NO.	H7	H9	H11	I1	I3	J3	J4	J7	J9	J11	K1	K3
MECH. EQPT. RM. ROOF T.O.S. EL.+29'-9"	25				22	12	17	15				
FIN. PENT HOUSE FL. EL.+29'-9"					90	38	81					
MAIN ROOF H.P.T.O.S. EL.+14'-4" (UNLESS NOTED)	152	62 *	48 *	46 *	127	76	172	135	96 *	49 *	51 *	66
FIN. FIRST FL. EL.+420'-0" = DAT. EL. (0'-0")	8WF40	8WF31	8×8×1/4 H.T.	2-8"×8"×1/4" H.T.	8WF40	8WF31	8WF48	8WF40	8WF31	8×8×1/4 H.T.	8×8×1/4 H.T.	8WF31
BASE PL SIZE	15"×1 1/4×1'-3"	10"×3/4×0'-10"	10"×3/4×1'-2"	14"×3/4×1'-6"	14"×1 1/8×1'-2"	10"×3/4×0'-10"	17"×1 1/2×1'-5"	14"×1 1/8×1'-2"	12"×3/4×1'-0"	10"×3/4×1'-2"	10"×3/4×1'-2"	10"×3/4×0'-10"
				△2					△2			

STORY \ COL. NO.	K4	L11	M1	M2	M3	M4	M6	M8	M9	M10	M11	La2
MECH. EQPT. RM. ROOF T.O.S. EL.+29'-9"												
FIN. PENT HOUSE FL. EL.+29'-9"												
MAIN ROOF H.P.T.O.S. EL.+14'-4" (UNLESS NOTED)	42	39	25	27	51	53	46	46	75	25	32	28
FIN. FIRST FL. EL.+420'-0" = DAT. EL. (0'-0")	8WF31	8×8×1/4 H.T.	8WF31	do	do	do	8WF31	8×8×1/4 H.T.	do	do	8×8×1/4 H.T.	8WF31
BASE PL SIZE	10"×3/4×0'-10"	10"×3/4×1'-2"	10"×3/4×0'-10"	do	do	do	10"×3/4×0'-10"	10"×3/4×1'-2"	10"×7/8×1'-2"	10"×3/4×1'-2"	10"×3/4×1'-2"	10"×3/4×0'-10"

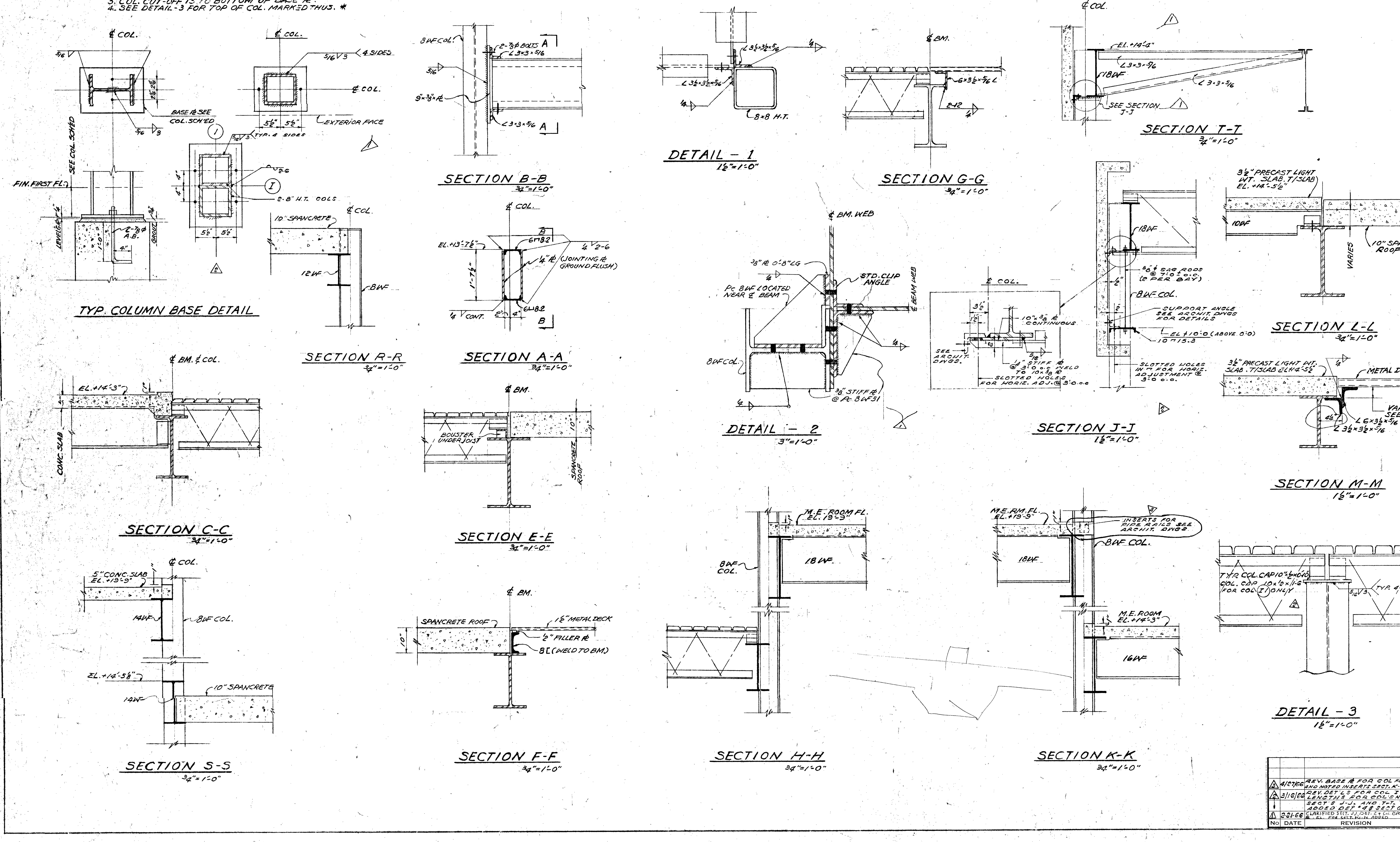
COL. CUT-OFF 8" TYP.

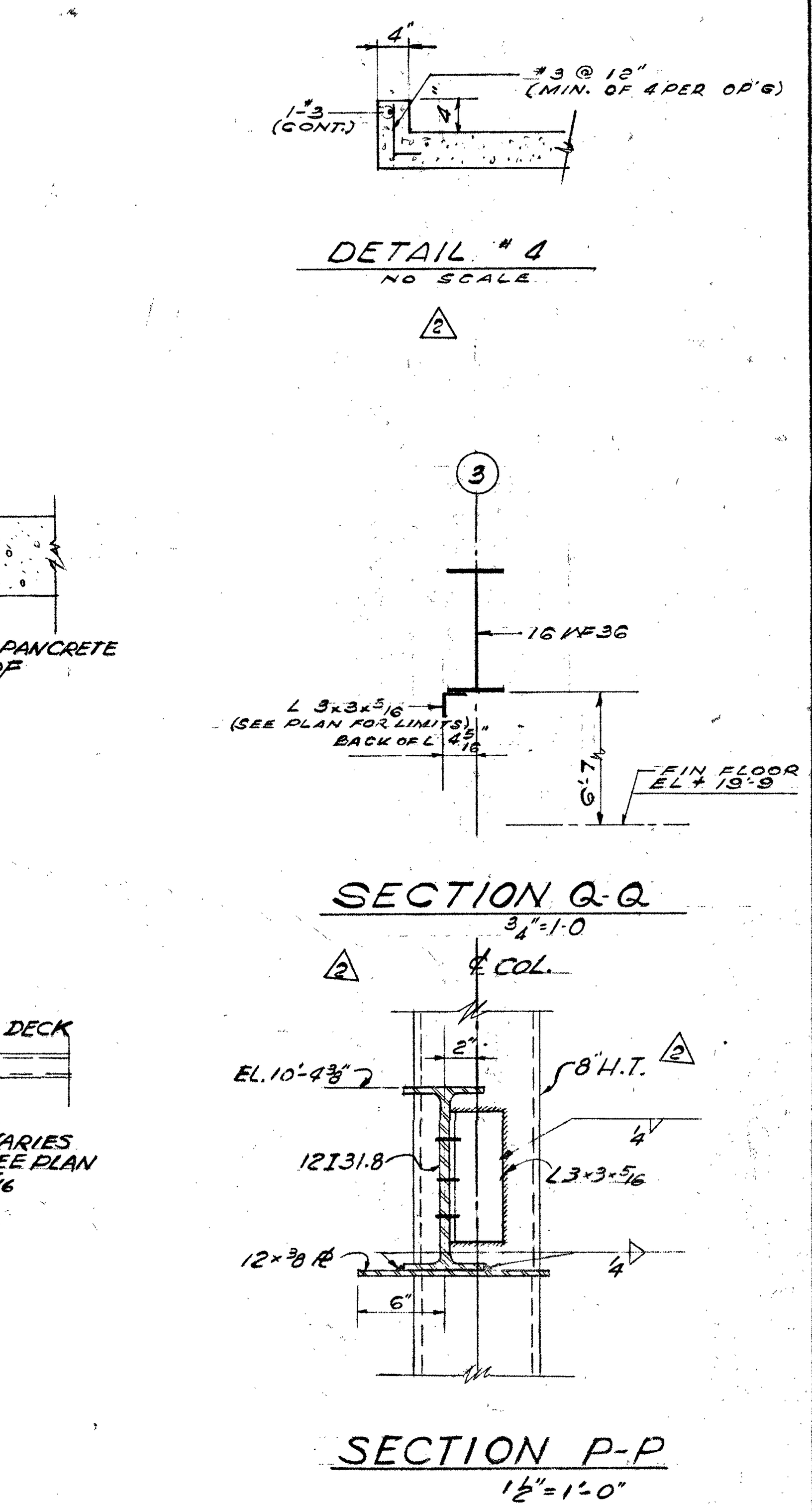
NOTE :
1. ALL COLUMN LOADS ARE IN KIPS (1000#).
2. FIRST DIMENSION OF BASE PL IS PARALLEL TO COL. WEB.
3. COL. CUT-OFF IS TO BOTTOM OF BASE PL.
4. SEE DETAIL-3 FOR TOP OF COL. MARKED THUS. *



STEEL NOTES

1. Design of all structural steel based on allowable stresses & specifications of A-36 Type steel of current A.I.S.C. code.
2. All structural steel work shall conform to the current A.I.S.C. code for material and workmanship & comply with all local laws and ordinances.
3. All long span joists construction shall conform to the current spec's of the "Steel Joist Institute" for LA series A-36 spec.
4. All Joists shall have parallel top & bottom chords unless noted.
5. Rivets and Bolts shall be 7/8" Ø .
6. All shop connections shall be riveted (ASTM A-141 rivets) or welded.
7. All field connections within 3'-0" radius of column shall be made with ASTM A-325 High Strength friction type bolts. Where rivets or bolts are used, use maximum number indicated in Table I of A.I.S.C. Manual unless otherwise noted. All other field bolted connections may be unfinished machine bolts.
8. Long Span Joists: All shop fabrication and field connections shall be welded.
9. Mill bearing end of all columns.
10. Paint all steel one shop coat of approved paint see spec's.
11. Camber of Long Span Joists as per "Steel Joist Institute."
12. Extend bottom chords of all Joists and rigidly connect to columns.
13. Joist Bridging shall consist of bolted cross bracing composed of not less than 1-1/4" x 1-1/4" x 1/8" angles spaced 10'-0" o/c maximum.
14. Metal roof deck shall be welded to supporting steel, see spec's.





No	DATE	REVISION	BY	CHK	APPR.
△3	4/27/66	REV. BASE PL FOR COL Fall AND NOTED INSERTS SECT. K-K	A.P.	I.S.	
△2	3/16/66	REV. DET'LS FOR COL I1, LENGTHS FOR COL'S NTD SECT'S J-J, AND T-T, ADDED DET #4 & SECT QQ	A.P.	I.S.	I.S.
△1	2-21-66	CLARIFIED SECT. JJ DET. 2 & Col. BASE PL. EL. FOR SECT. N-N ADDED	JCD	I.S.	I.S.

EVENING RECORDER
W.J. KLINE & SON INC., PUB- AMSTERDAM, N.Y.

COLUMN SCHEDULE & DETAILS

LOCKWOOD GREENE ENGINEERS, INC.
200 PARK AVE. NEW YORK 17, N.Y.

	NAME	DATE	JOB NO.	DWG. NO.
MADE BY	R.L.	1-25-66	65109	C-4
CHECKED BY	J.D.	1-25-66		
APPROVED	I.S.	1-25-66		
SCALE AS NOTED			DATE FEB. 8. 1966	

APPENDIX B

Subsurface Exploration Location Plan

XREFS: XREFLIST

PROJECT NUMBER: 21.1419

CAD DWG. FILE NAME: 01_FIG1_BORING-P

B-1 TEST BORING LOCATION

TP-1 TEST PIT LOCATION

SUBSURFACE EXPLORATION LOCATION PLAN

1 / FIG1

SCALE: 1" = 100'

CROSS REFERENCE: NONE

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			

DESIGNER : ---
DRAFTED : JDB
CHECKED : ---
PROJ. NO : 21.1419
SCALE : AS NOTED
DATE : JAN. 1, 2024

SUBSURFACE EXPLORATION LOCATION PLAN

PROPOSED ADDITION
1 VENNER ROAD

CITY OF AMSTERDAM — MONTGOMERY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

FIG1

SHEET 01 OF 4

DWG. NO: XX-XXXX

CAD DWG. FILE NAME: K:\Projects\211419\Civil\Geotechnical\DWG\01_FIG1_BORING-P.dwg

APPENDIX C

Test Boring Logs

GENERAL INFORMATION & NOTES TO TEST BORING LOGS

The Test Boring Logs present the observations and records maintained at the site and the visual classification of the samples recovered from the test borings. The samples removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Test Boring Logs together with the recovered samples provide a basis of evaluating the character of the subsurface conditions. Evaluation of the information presented on the Test Boring Logs and the recovered sample classifications must be performed by qualified professionals. The information presented in the following notes defines some of the procedures and terms used in preparing the logs. Refer to the Key to Test Boring Logs where the numbers for the following notes are shown below the columns of the portion of the example log illustrated.

Note 1. The figures in the Depth Column define the scale of the Test Boring Log.

Note 2. The Sample Type Column shows graphically the type and depth interval from which a sample was recovered. See Table I for a description of the symbols used to signify the various types of samples.

Note 3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.

Note 4. Blows on Sampler – shows the results of the "Penetration Test", recording the number of blows required for each 6 inches of penetration of a split spoon sampler into the soil. The first 6 inches of penetration is considered to be a seating drive. The number of blows required for the second and third 6 inch increments of the penetration is termed the penetration resistance, N. Unless otherwise noted a standard 2" O.D./1 ½" ID split spoon sampler was driven with a 140 lb. hammer falling 30 inches.

Note 5. Length of sample recovered.

Note 6. All recovered soil samples are visually classified by an engineering technician, hydrogeologist, environmental scientist, geologist or geotechnical engineer, unless noted otherwise. The method of classification with respect to particle size and plasticity is based primarily on the Unified Soil Classification system (ASTM D2487), as noted in Table II. Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burminster, ASTM Special Technical Publication 479, dated June 1970. (See Table III) The description of the relative soil density or consistency is based upon the penetration records as defined on Table IV. The description of the soil moisture is based upon the relative wetness of the soil sample recovered and is described as dry, moist, wet and saturated. Water introduced in the boring either naturally or during drilling may affect the moisture condition of the recovered sample. Special terms are used as required to describe materials in greater detail; several such terms are listed in Table V. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of sampler blows or through the "chatter" of the drill rig.

Note 7. The description of the rock shown is based on the recovered rock core. The terms frequently used in the description are included in Table VI.

Note 8. The stratification lines represent the approximate boundary between soil types. Actual boundaries may vary between sampling intervals and may be gradual in nature.

Note 9. Miscellaneous observations and procedures noted during drilling are shown in this column. Water level observations are indicated at the bottom of this column. It is important to note that the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a borehole made through fine grained soils), and that drill water used to advance the boring may have influenced the observations. The groundwater level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All of the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or the installation of groundwater level observation wells.

Note 10. Rock Coring: The length of core run is defined as the length of penetration of the core barrel. Core recovery expressed as a percentage is the length of core recovered divided by the core run times 100. The RQD (Rock Quality Designation) percentage is the total pieces of NX (2 1/8" diameter) core exceeding 4 inches in length divided by the core run times 100. Fresh, irregular breaks distinguishable as being caused by drilling or recovery operations are ignored and the pieces counted as intact lengths. RQD values are valid only for cores obtained with NX size core barrels, or larger.

KEY TO TEST BORING LOGS

C.T. MALE ASSOCIATES

TEST BORING LOG

BORING NO.:
ELEV.: **DATUM:**
START DATE: **FINISH DATE:**
SHEET OF

PROJECT: CTM PROJECT NO.:
LOCATION: CTM INSPECTOR:

DEPTH (FT.)	SAMPLE TYPE	NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	15	9	11	14	20	1	Topsoil (±5") Brown fine to coarse SAND, Some Silt, trace of fine gravel	
		2	12	11	15	20	26		(Moist-Firm to Compact) ±4'	
5									Gray LIMESTONE, Hard, Sound, Bedded	RUN #1: 5.5' to 8.5' NX Size Rock Core 100% Recovery 60% RQD

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ See General Information & Notes

TABLE I - SAMPLE TYPE

- Split Spoon Sample
- Shelby Tube Sample
- Auger or Test Pit Sample
- Rock Core

TABLE II - SOIL TYPE & PARTICLE SIZE

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type		Soil Particle Size	
Boulder		>12"	Coarse Grained (Granular)
Cobble		3" - 12"	
Gravel	- Coarse	3" - 3/4"	
	- Fine	3/4" - #4	
Sand	- Coarse	#4 - #10	
	- Medium	#10 - #40	
	- Fine	#40 - #200	
Silt	- Non Plastic (Granular)		Fine Grained
Clay	- Plastic (Cohesive)		

TABLE III - SOIL TYPE PROPORTIONS

The following terms are used in classifying soils consisting of mixture of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and" (&)	35 - 50
"Some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split barrel sampler. the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV - RELATIVE COMPACTNESS OR SOIL CONSISTENCY

The relative compactness or consistency is described in accordance with the following terms:

Granular Soils

Term	Blows per Foot, N
Loose	<11
Firm	11 - 30
Compact	31 - 50
Very Compact	>50

Cohesive Soils

Term	Blows per Foot, N
Very Soft	<3
Soft	3 - 5
Medium	6 - 15
Stiff	16 - 25
Hard	>26

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test. The blows per foot is not always indicative of the actual consistency of cohesive soils.)

TABLE V - STRATIFICATION DESCRIPTION

Varved	- Horizontal uniform layers or seams of soil(s).
Layer	- Soil deposit more than 6" thick.
Seam	- Soil deposit less than 6" thick.
Parting	- Soil deposit less than 1/8" thick.
Laminated	- Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI - ROCK CLASSIFICATION TERMS

Term		Meaning
Hardness	Soft	Scratched by fingernail
	Medium Hard	Scratched easily by penknife
	Hard	Scratched with difficulty by penknife
	Very Hard	Cannot be scratched by penknife
Weathering	Very Weathered	Judged from the relative amounts of disintegration, iron staining, core recovery, clay seams, etc.
	Weathered	
	Sound	
Bedding	Laminated/fissile	Less than .08"
	Thin bedded	1/2" - 2"
	Medium bedded	2" - 2' Natural breaks in Rock layers
	Thick bedded	2' to 4'
	Massive	More than 6'

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers.)

C.T. MALE ASSOCIATES

TEST BORING LOG

BORING NO.:	B-1		
ELEVATION:		DATUM:	
LATITUDE:	42.92912	LONGITUDE:	-74.205571
START DATE:	1/18/2024	FINISH DATE:	1/18/2024
SHEET 1 OF 1			

PROJECT: Montgomery County Department of Social Services — CTM PROJECT NO.: 21.1419

LOCATION: 1 Venner Road, Amsterdam, NY — CTM OBSERVER: J. Blake

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	23	15	7	5	22	18	Asphalt	
									FILL: Brown fine to coarse SAND, Some Silt, trace fine gravel	
		2	2	3	6	8	9	19	Brown/Grey SILT, little clay	PP: 3.75 TSF
5		3	11	7	9	13	16	24	Becomes Grey, trace fine sand	PP: 4.0 TSF
									(Moist - Medium to Stiff) +/-6'	
		4	13	13	12	12	25	24	Grey CLAY, trace silt	PP: 2.5 TSF
10		5	2	2	4	5	6	24		PP: 2.25 PSF
		6	4	4	4	5	8	24	(wet)	PP: 1.25 TSF
15		7	1	1	3	4	4	24		PP: 1.25 TSF
20		8	1	1	3	6	4	24		PP: 1.25 TSF
25		9	2	3	3	4	6	24	(saturated)	PP: 1.5 TSF
									(Moist to Saturated - Soft to Stiff) +/-29'	
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Core Down Drilling

DRILL RIG TYPE: CME 55 Track

METHOD OF INVESTIGATION: 3-1/4" Inside Diameter Hollow Stem Auger

Automatic Hammer

GROUNDWATER LEVEL

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE EVALUATION. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T. MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:

J. Blake

C.T. MALE ASSOCIATES

TEST BORING LOG

BORING NO.:	**B-1**		
ELEVATION:		**DATUM:**	
LATITUDE:	**42.92912**	**LONGITUDE:**	**-74.205571**
START DATE:	**1/18/2024**	**FINISH DATE:**	**1/18/2024**
SHEET 1 OF 1			

PROJECT: Montgomery County Department of Social Services — CTM PROJECT NO.: 21.1419

LOCATION: 1 Venner Road, Amsterdam, NY — CTM OBSERVER: J. Blake

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
30		10	2	2	5	7	7	21	Grey CLAY, little coarse sand, trace fine gravel, trace silt	WR: Weight of Rods
										PP: 1.5 TSF
35		11	3	4	6	8	10	17	Grades Some fine to coarse Sand, little fine gravel, little silt	PP: 1.5 TSF
										PP: 1.5 TSF
40		12	2	5	7	9	12	23		
									(Saturated - Medium) +/-43'	
45		13	WR	5	6	7	11	18	Fine to medium SAND & CLAY, trace silt, trace fine gravel	PP: 1.5 TSF
50		14	3	9	9	10	18	18	Grades little fine gravel	PP: 1.75 TSF
									(Saturated - Firm)	
									End of Boring @ 52'	
60										
65										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Core Down Drilling

DRILL RIG TYPE: CME 55 Track

METHOD OF INVESTIGATION: 3-1/4" Inside Diameter Hollow Stem Auger
Automatic Hammer

GROUNDWATER LEVEL

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: J. Blake

C.T. MALE ASSOCIATES

TEST BORING LOG

BORING NO.:	**B-2**		
ELEVATION:		**DATUM:**	
LATITUDE:	**42.929077**	**LONGITUDE:**	**-74.205404**
START DATE:	**1/18/2024**	**FINISH DATE:**	**1/18/2024**
SHEET 1 OF 1			

PROJECT: Montgomery County Department of Social Services — CTM PROJECT NO.: 21.1419

LOCATION: 1 Venner Road, Amsterdam, NY — CTM OBSERVER: J. Blake

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	19	16	7	6	23	18	Asphalt	
									FILL: Brown fine to coarse SAND, trace silt +/-2'	
		2	2	4	7	7	11	19	Brown/Grey SILT, trace clay	PP: 2.75 TSF
5		3	5	6	7	8	13	0		
									Becomes grey, Some fine to medium Sand, little fine gravel	
		4	7	8	10	10	18	17	(saturated)	
									(Moist to Saturated - Medium to Stiff) +/-8'	
		5	1	3	3	5	6	24	Grey CLAY, trace silt	PP: 2.25 TSF
10										
		6	3	4	3	4	7	24		PP: 1.5 TSF
15										
		7	1	2	3	5	5	24		PP: 0.75 TSF
20										
		8	1	1	5	5	6	24		PP: 1.5 TSF
25										
		9	1	2	3	3	5	24		PP: 1.5 TSF
									(Saturated - Soft to Medium)	
									End of Boring @ 27'	
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Core Down Drilling

DRILL RIG TYPE: CME 55 Track

METHOD OF INVESTIGATION: 3-1/4" Inside Diameter Hollow Stem Auger

Automatic Hammer

GROUNDWATER LEVEL

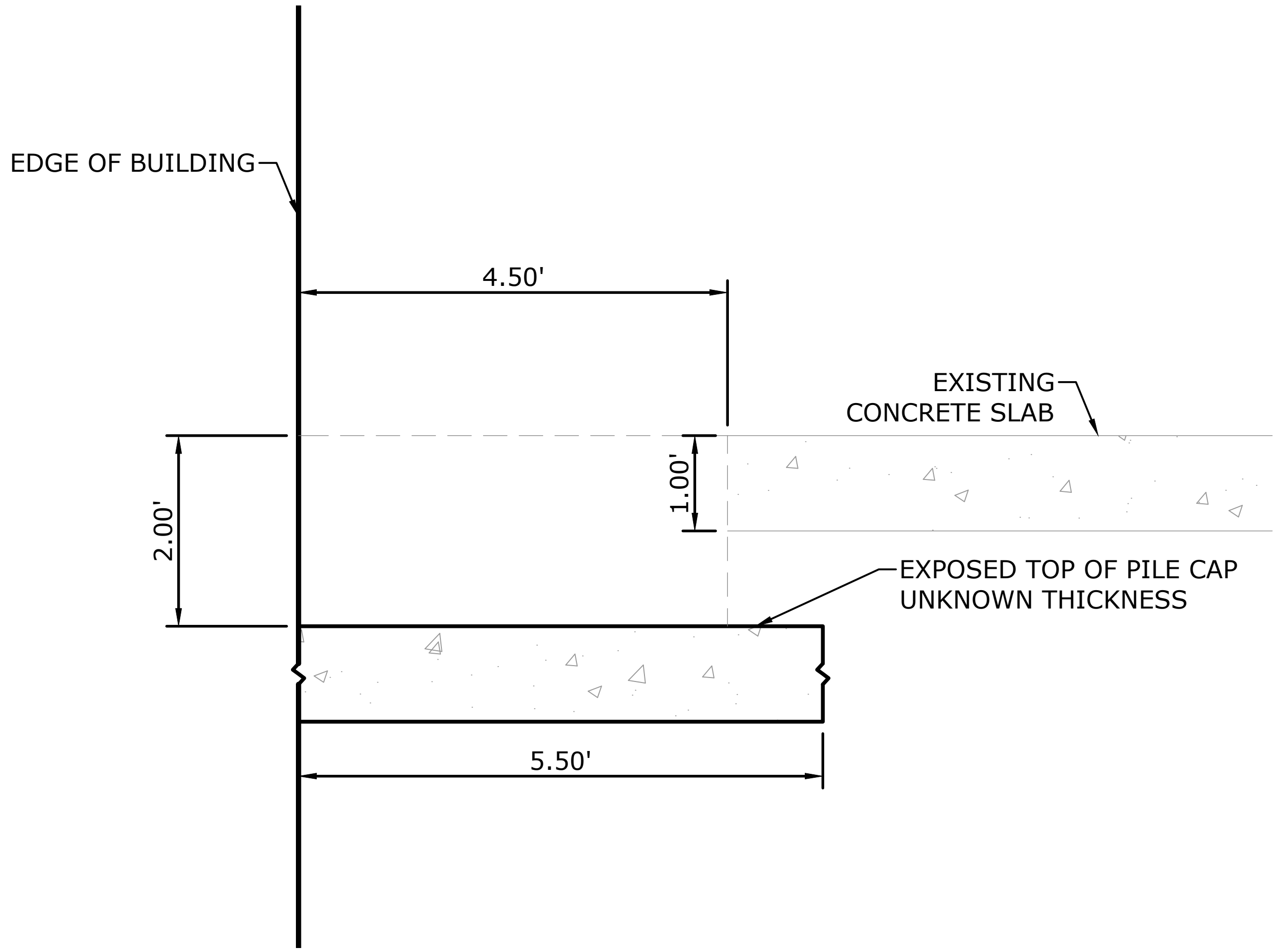
DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:

J. Blake

APPENDIX D

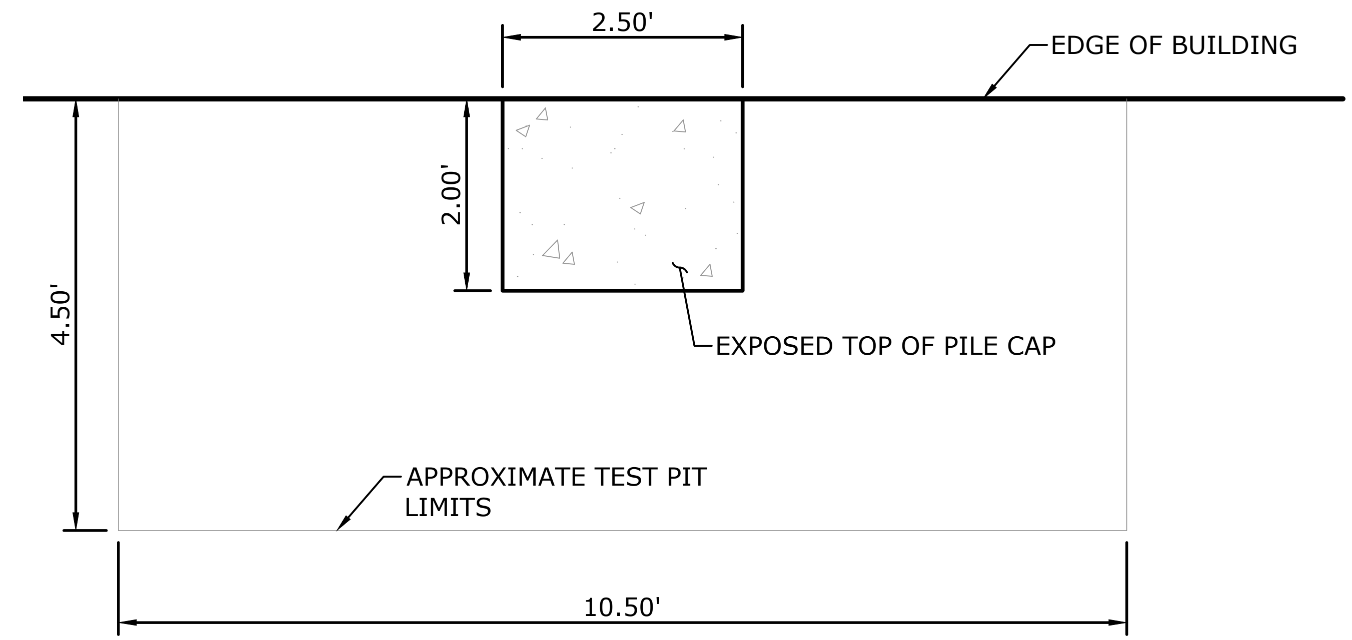
Test Pit Figures



1 / FIG2

TP-1 SECTION VIEW

SCALE: NONE
CROSS REFERENCE: NONE



2 / FIG2

TP-1 PLAN VIEW

SCALE: NONE
CROSS REFERENCE: NONE

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

DESIGNER : ---
DRAFTED : JDB
CHECKED : ---
PROJ. NO : 21.1419
SCALE : AS NOTED
DATE : JAN. 1, 2024

TEST PIT 1

PROPOSED ADDITION
1 VENNER ROAD

CITY OF AMSTERDAM
MONTGOMERY COUNTY, NEW YORK

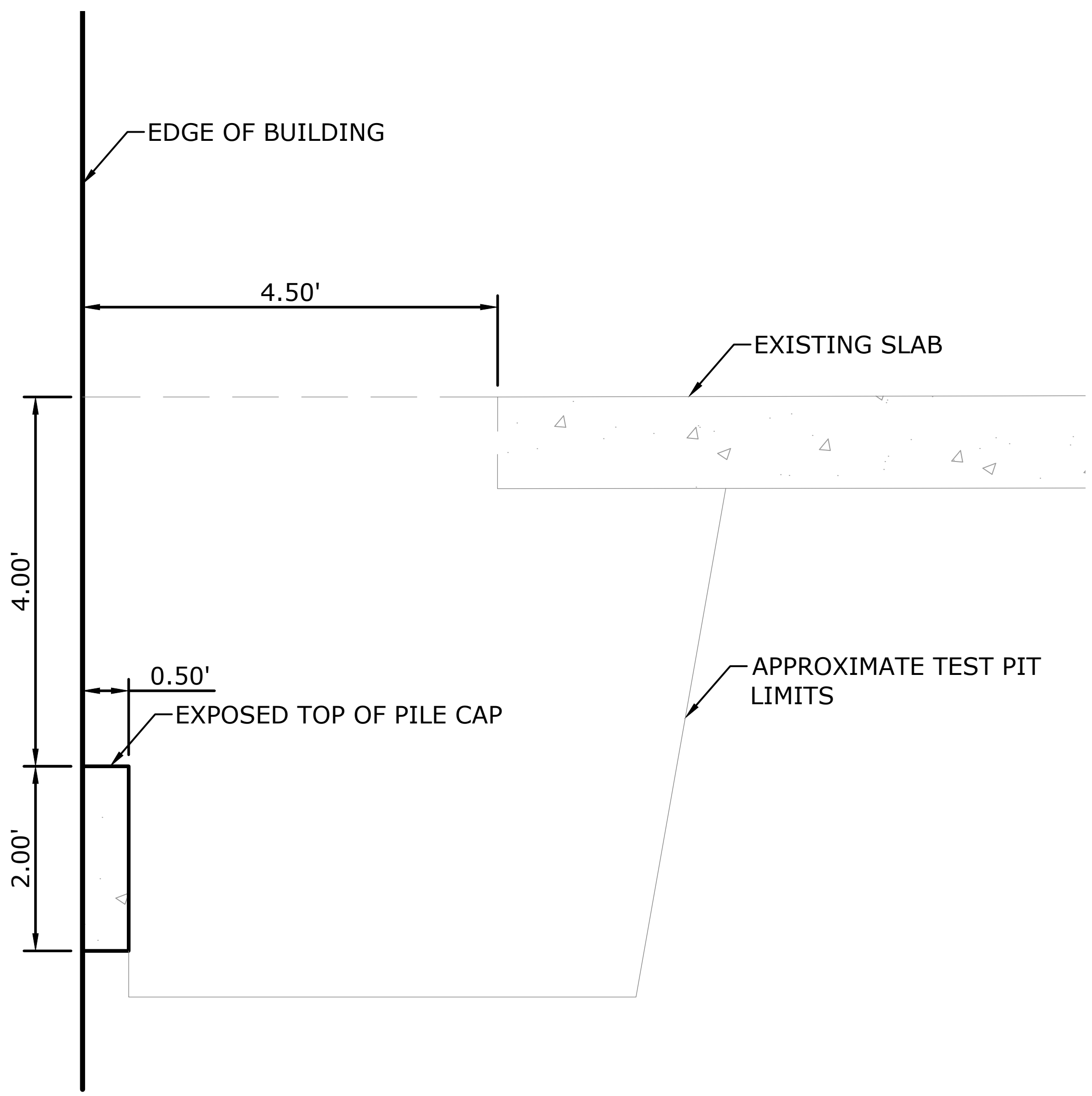
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

FIG2
SHEET 02 OF 4
DWG. NO: XX-XXXX

XREFS: XREFLIST

PROJECT NUMBER: 21.1419

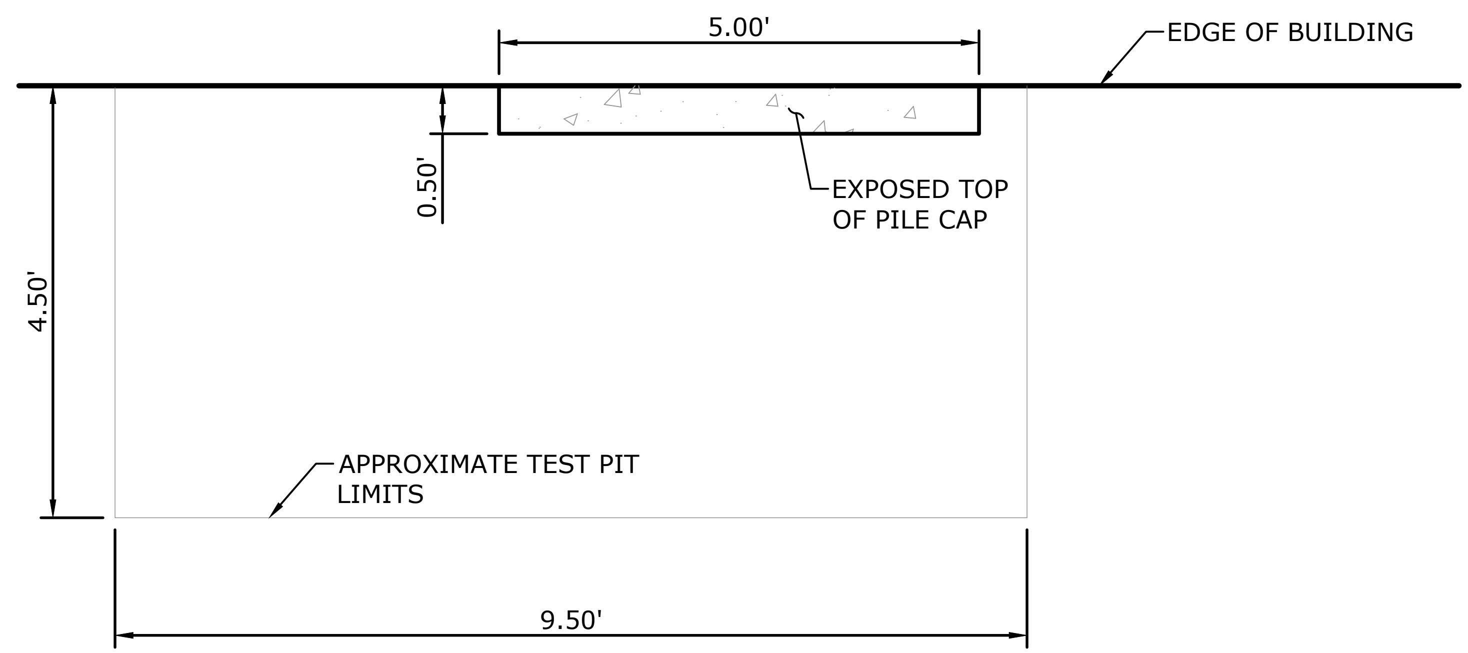
CAD DWG. FILE NAME: 03_FIG_3_TP2.dwg



1
FIG3

TP-2 SECTION VIEW

SCALE: NONE
CROSS REFERENCE: NONE



2
FIG3

TP-2 PLAN VIEW

SCALE: NONE
CROSS REFERENCE: NONE

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

DESIGNER : ---
DRAFTED : JDB
CHECKED : ---
PROJ. NO : 21.1419
SCALE : AS NOTED
DATE : JAN. 1, 2024

TEST PIT 2

PROPOSED ADDITION
1 VENNER ROAD

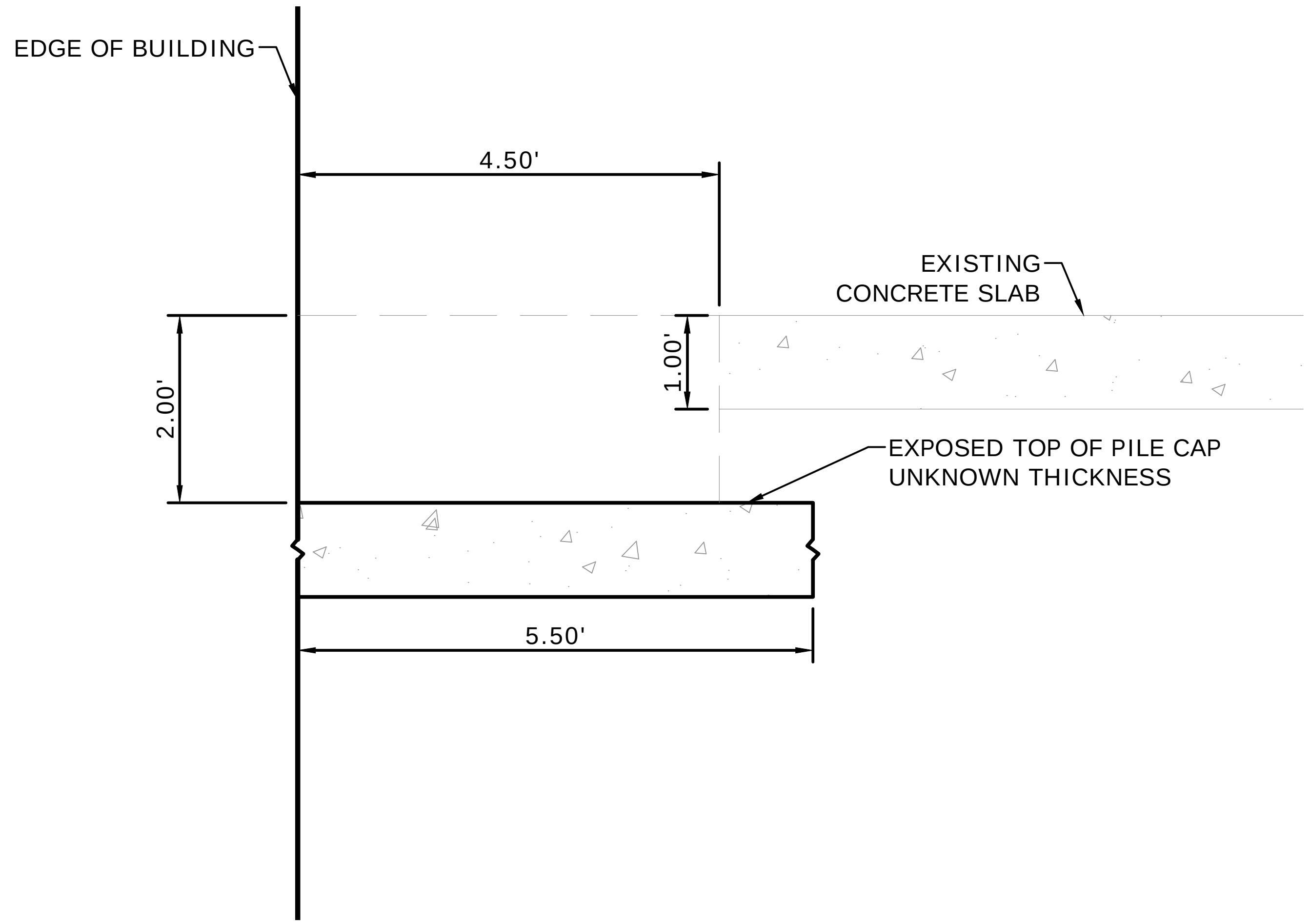
CITY OF AMSTERDAM
MONTGOMERY COUNTY, NEW YORK

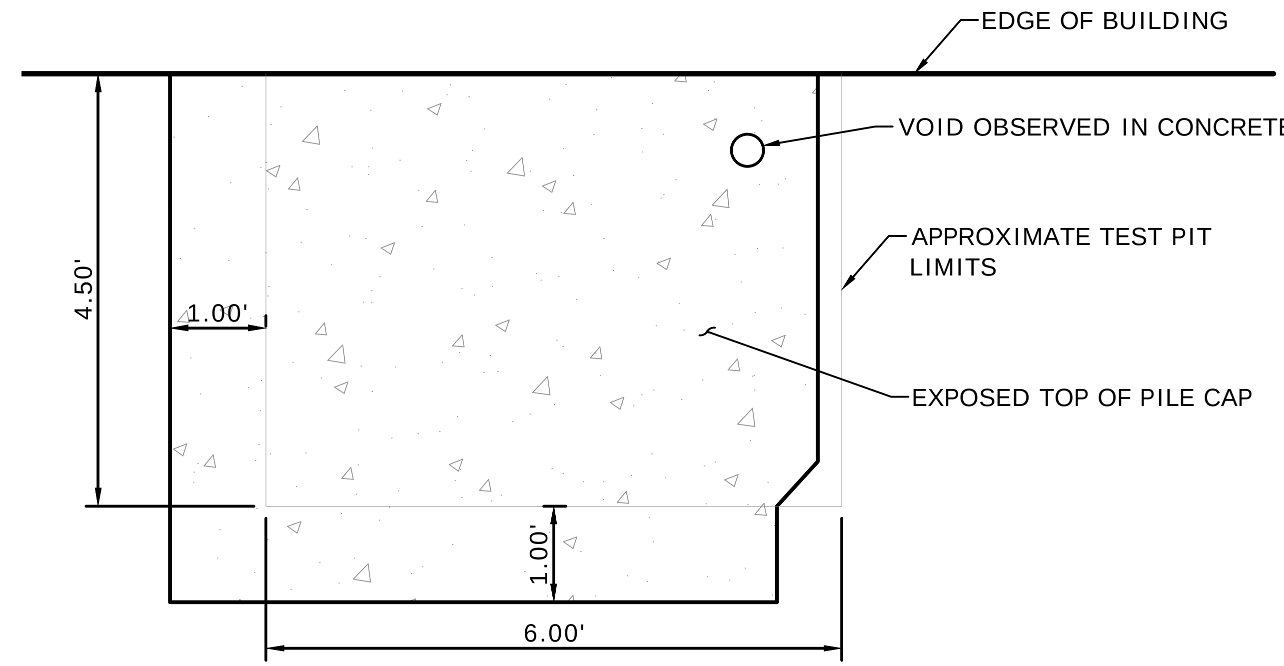
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

FIG3

SHEET 03 OF 4
DWG. NO: XX-XXXX

CAD DWG. FILE NAME: K:\Projects\211419\Civil\Geotechnical\DWG\03_FIG_3_TP2.dwg





1 FIG4 TP-3 SECTION VIEW

SCALE: NONE
CROSS REFERENCE: NONE

2 FIG4 TP-3 PLAN VIEW

SCALE: NONE
CROSS REFERENCE: NONE

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			

DESIGNER : ---
DRAFTED : JDB
CHECKED : ---
PROJ. NO : 21.1419
SCALE : AS NOTED
DATE : JAN. 1, 2024

TEST PIT 3

PROPOSED ADDITION
1 VENNER ROAD

CITY OF AMSTERDAM
MONTGOMERY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY · JOHNSTOWN, NY · POUGHKEEPSIE, NY · SYRACUSE, NY
www.ctmale.com

FIG4

SHEET 04 OF 4
DWG. NO: XX-XXXX

APPENDIX E

Laboratory Test Results

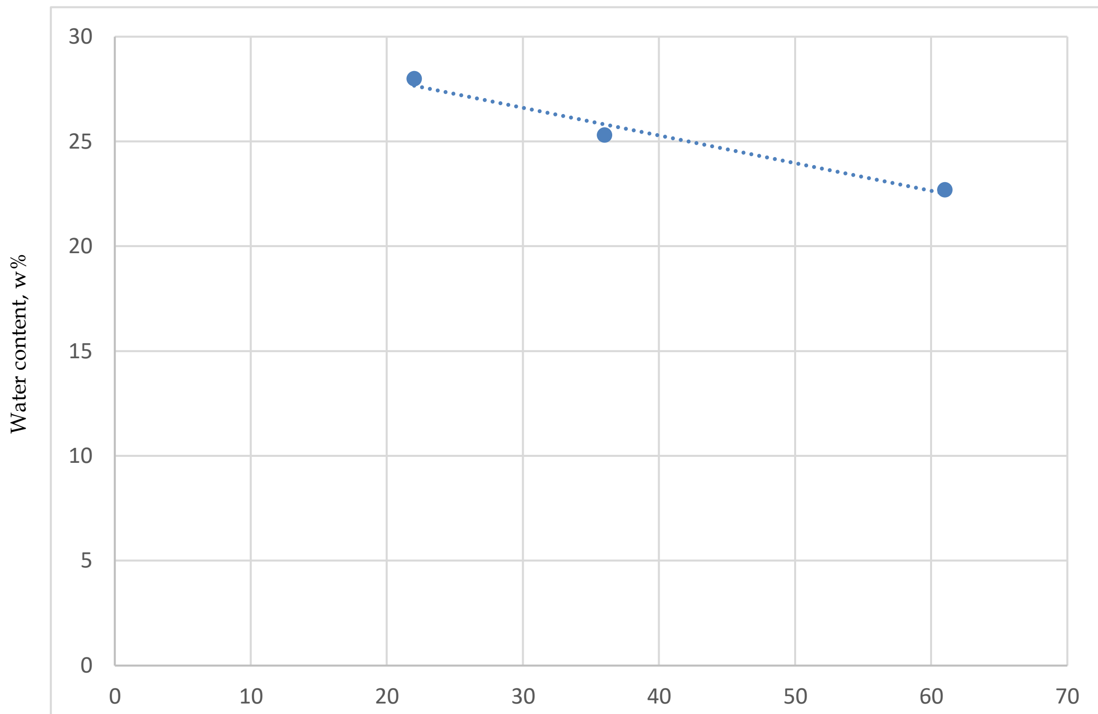
C.T. MALE ASSOCIATES ENGINEERING, SURVEYING,
ARCHITECTURE, LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

ATTERBERG LIMITS DETERMINATION
Geotechnical Engineering Laboratory

Project: Montgomery County DSS | Job No.: 21.1419 | Lab No.:
Location of Project: Amsterdam, NY | Boring No.: B-1 | Sample No.: S-3
Description of Soil: Clayey-Silt
Depth of Sample: 4'-6' | Tested By: R. Smaka | Date: 3/8/2024

Liquid Limit Determination

Water content, w%	28	25.3	22.7		
No. of blows *N*	22	36	61		
Penetration *D* , mm					



Liquid limit = 27
Plastic limit = 21
Plasticity index I_p = 6

Moisture Content (%) = 19.4

Plastic Limit Determination

Water content, w% - wp	20.6	21			

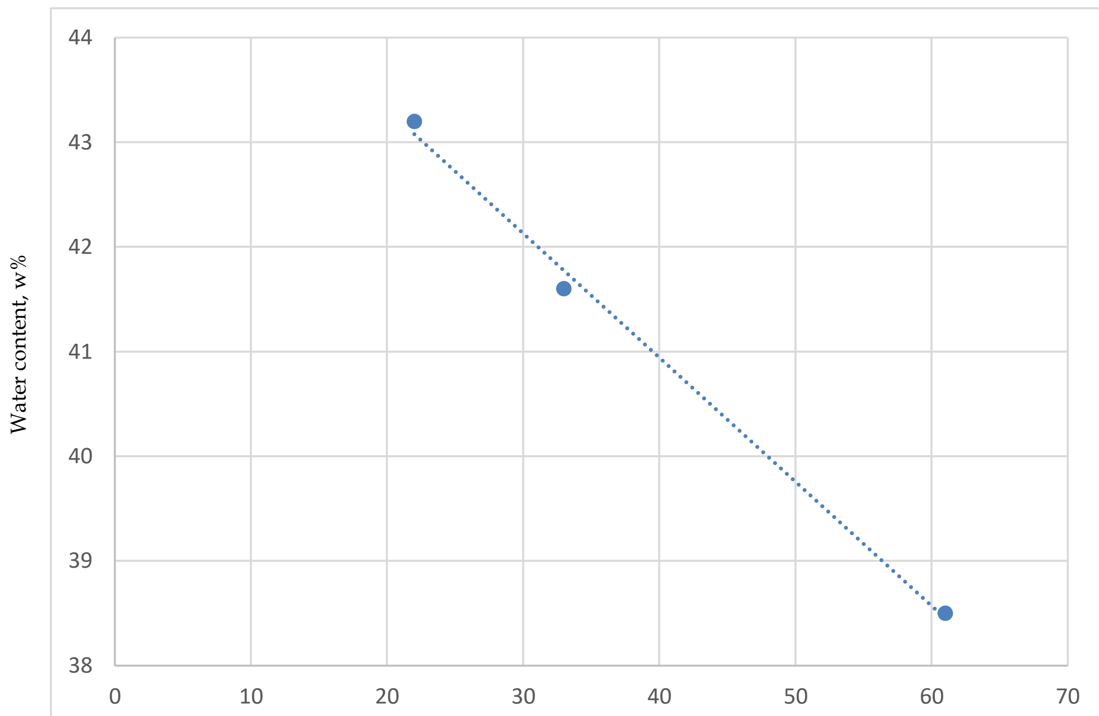
C.T. MALE ASSOCIATES ENGINEERING, SURVEYING,
ARCHITECTURE, LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

ATTERBERG LIMITS DETERMINATION
Geotechnical Engineering Laboratory

Project	Montgomery County DSS	Job No.	21.1419	Lab No.	
Location of Project	Amsterdam, NY	Boring No.	B-1	Sample No.	S-4
Description of Soil	Silt				
Depth of Sample	6'-8'	Tested By	R. Smaka	Date	3/8/2024

Liquid Limit Determination

Water content, w%	38.5	43.2	41.6		
No. of blows *N*	61	22	33		
Penetration *D* , mm					



Liquid limit = 42.3

Plastic limit = 27

Plasticity index I_p = 15

Moisture Content (%) = 33.1

Plastic Limit Determination

Water content, w% - wp	27.3	26.2			

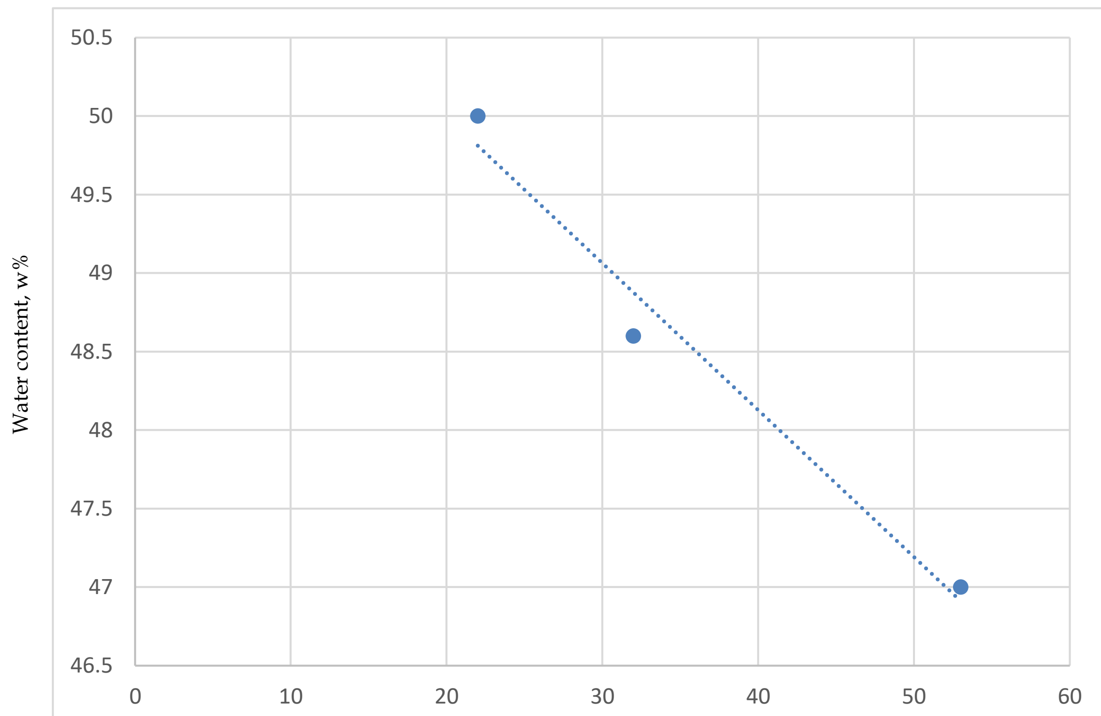
C.T. MALE ASSOCIATES ENGINEERING, SURVEYING,
ARCHITECTURE, LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

ATTERBERG LIMITS DETERMINATION
Geotechnical Engineering Laboratory

Project	Montgomery County DSS	Job No.	21.1419	Lab No.	
Location of Project	Amsterdam, NY	Boring No.	B-1	Sample No.	S-5
Description of Soil	Silt				
Depth of Sample	8'-10'	Tested By	R. Smaka	Date	3/8/2024

Liquid Limit Determination

Water content, w%	47	50	48.6		
No. of blows *N*	53	22	32		
Penetration *D* , mm					



Liquid limit = 49

Plastic limit = 29

Plasticity index I_p = 20

Moisture Content (%) = 30.3

Plastic Limit Determination

Water content, w% - wp	28.6	29.1			

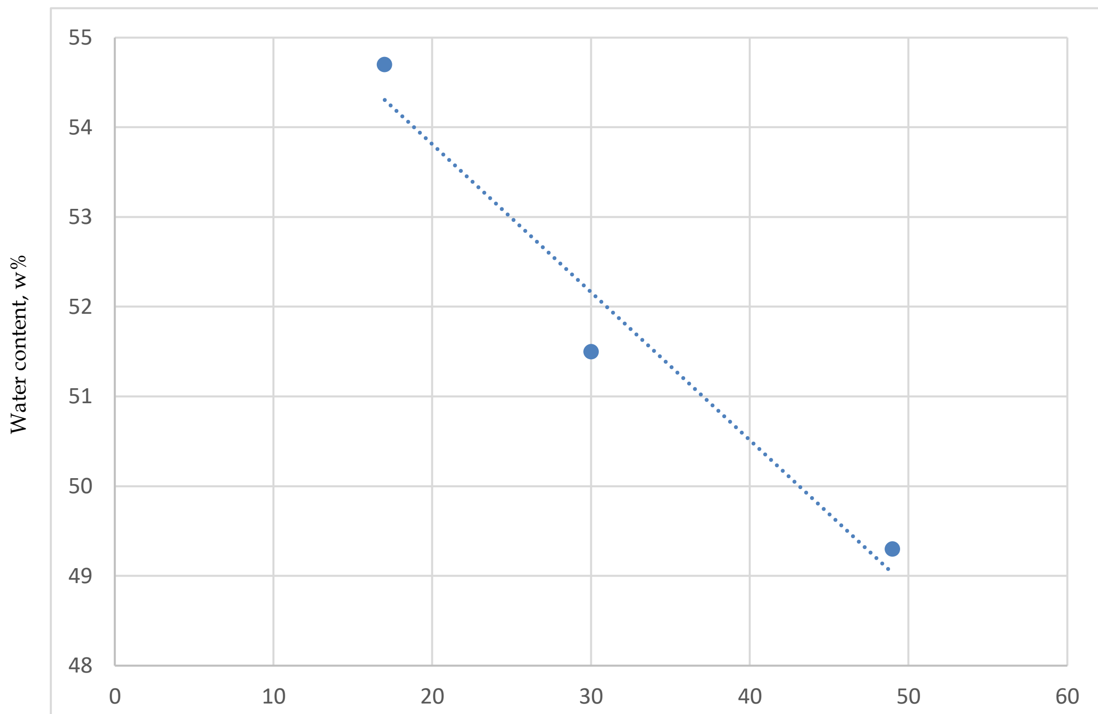
C.T. MALE ASSOCIATES ENGINEERING, SURVEYING,
ARCHITECTURE, LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

ATTERBERG LIMITS DETERMINATION
Geotechnical Engineering Laboratory

Project	Montgomery County DSS	Job No.	21.1419	Lab No.	
Location of Project	Amsterdam, NY	Boring No.	B-1	Sample No.	S-7
Description of Soil	Fat Silt				
Depth of Sample	15'-17'	Tested By	R. Smaka	Date	3/8/2024

Liquid Limit Determination

Water content, w%	49.3	54.7	51.5		
No. of blows *N*	49	17	30		
Penetration *D* , mm					



Liquid limit = 52

Plastic limit = 30

Plasticity index I_p = 22

Moisture Content (%) = 42

Plastic Limit Determination

Water content, w% - wp	30.1	30.1			

APPENDIX F

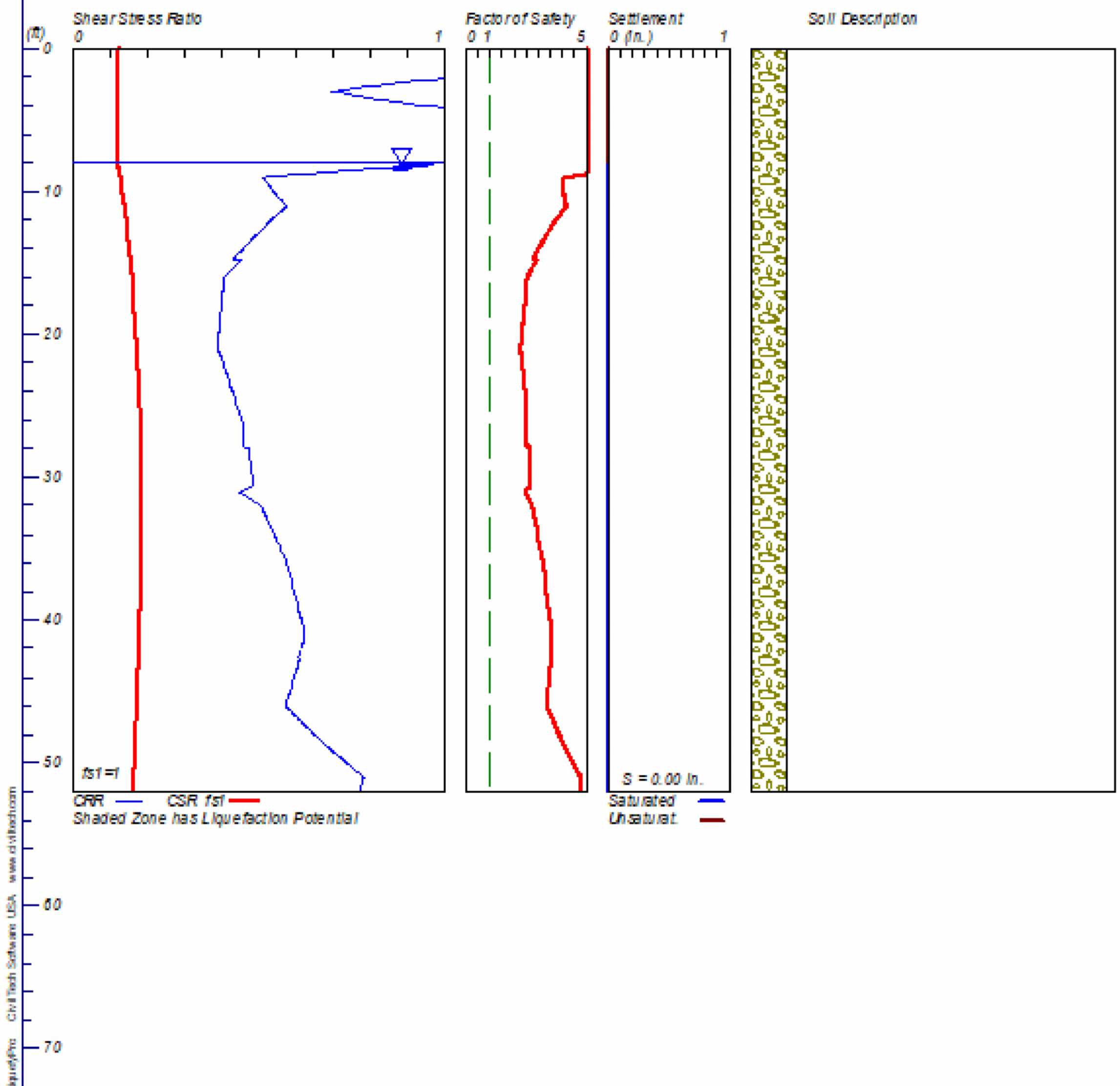
Liquefaction Assessment Output

LIQUEFACTION ANALYSIS

1 Venner Road

Hole No.=B-1 Water Depth=8 ft Surface Elev.=100

Magnitude=4.9
Acceleration=0.188g



LIQUEFACTION ANALYSIS

1 Venner Road

Hole No.=B-1 Water Depth=8 ft Surface Elev.=100

Magnitude=5.63
Acceleration=0.188g