FCArchitects
Fearn-Clendaniel Architects, Inc.
6 Larch Avenue Suite 398 Wilmington DE 19804 (P) 302-998-7615

SMYRNA SCHOOL DISTRICT
Smyrna HS – Athletic Multi-Sport Field Lighting
BID NO. SSD22007-SHS_ATHFL

ADDENDUM NO. 1 07 December 2022
ARCHITECT'S PROJECT NO: 22010

Smyrna School District,
Smyrna High School
500 Duck Creek Parkway, Smyrna, DE 19977

Fearn-Clendaniel Architects, Inc.
6 Larch Avenue Suite 398
Wilmington, Delaware, 19804
Phone: (302) 998-7615

BIDS DUE: **10:00 a.m. on January 12, 2022**

LOCATION: **Smyrna School District Administration Office**
82 Monrovia Avenue, Smyrna, DE 19977

1.0 NOTICE TO ALL BIDDERS:

1.1. A mandatory Pre-Bid Meeting will be held on **Thursday, December 22, 2022 at 10:00am.** See changes to the Project Manual below.

1.2. Bidders are hereby notified that this Addendum shall be and hereby becomes part of their Contract Documents, and shall be attached to the Project Manual for this project.

1.3. The following items are intended to revise and clarify the Contract Documents, and shall be included by the Bidder in their proposal.

1.4. Bidders shall verify that their sub-bidders are in full receipt of the information contained herein. Bidders shall acknowledge receipt of each addendum on their Bid Form.

2.0 CLARIFICATIONS:

2.1 Drawings and specifications provided on the State of Delaware procurement website for advertisement purposes should not be used for bidding. Only the documents issued at the Pre-bid Meeting, purchased at the Architect's office, or via download link provided directly by FC Architects should be used for bidding purposes.

2.2 This addendum will be provided on the State of Delaware procurement website. All future addenda will be emailed to plan holders of documents provided directly by FC Architects.

3.0 CHANGES TO THE DRAWINGS:

3.1 See re-issued sheet CS10-01

3.2 See re-issued sheets: E00-01, E10-01, E30-01, E30-02, & E40-01 and Gipe Associates Narrative of Changes.

4.0 CHANGES TO THE PROJECT MANUAL:

There was a typo in specification Section 00 11 16, Invitation to Bid. The pre-bid day was incorrectly identified as Monday, December 22, 2022.

The Pre-Bid Meeting will be held on **Thursday, December 22, 2022 at 10:00am.**

5.0 Attachments:

5.1 Field Lighting Manufacturer to provide required foundation to meet their system requirements and incorporate the associated geotechnical information. See attached geotechnical report.

5.2 See attached Gipe Associates Narrative of Changes.

END OF ADDENDUM NO. 1

Gipe Associates, Inc.
CONSULTING ENGINEERS

W.O. #:22040
Easton Office

Date: November 29, 2022

Re: **SMYRNA SCHOOL DISTRICT – MS FIELD LIGHTING**
Smyrna, Delaware
GAI#: 22040 / FCA#:22010

ADDENDUM NO. 1

The addendum forms a part of the Contract Documents and modifies the original bidding documents dated 11/17/22, as noted below.

CHANGES TO THE DRAWINGS:

1. Sheet E00-01: Add switch to lighting legend and revise mounting height of receptacle from 18" to 48".
2. Sheet E10-01: Add callouts for building/shed next to athletic field, delete plywood backboard and electrical equipment that was located on the same and revise several drawing notes.
3. Sheet E30-02: Delete details showing plywood backboard, added transformer grounding details and revised lighting control enclosure mounting layout.
4. Sheet E30-03: Delete sheet in its entirety.
5. Sheet E40-01: Revise enclosure ratings and locations of panelboards and load centers. Add circuit #6 to panelboard EL1.

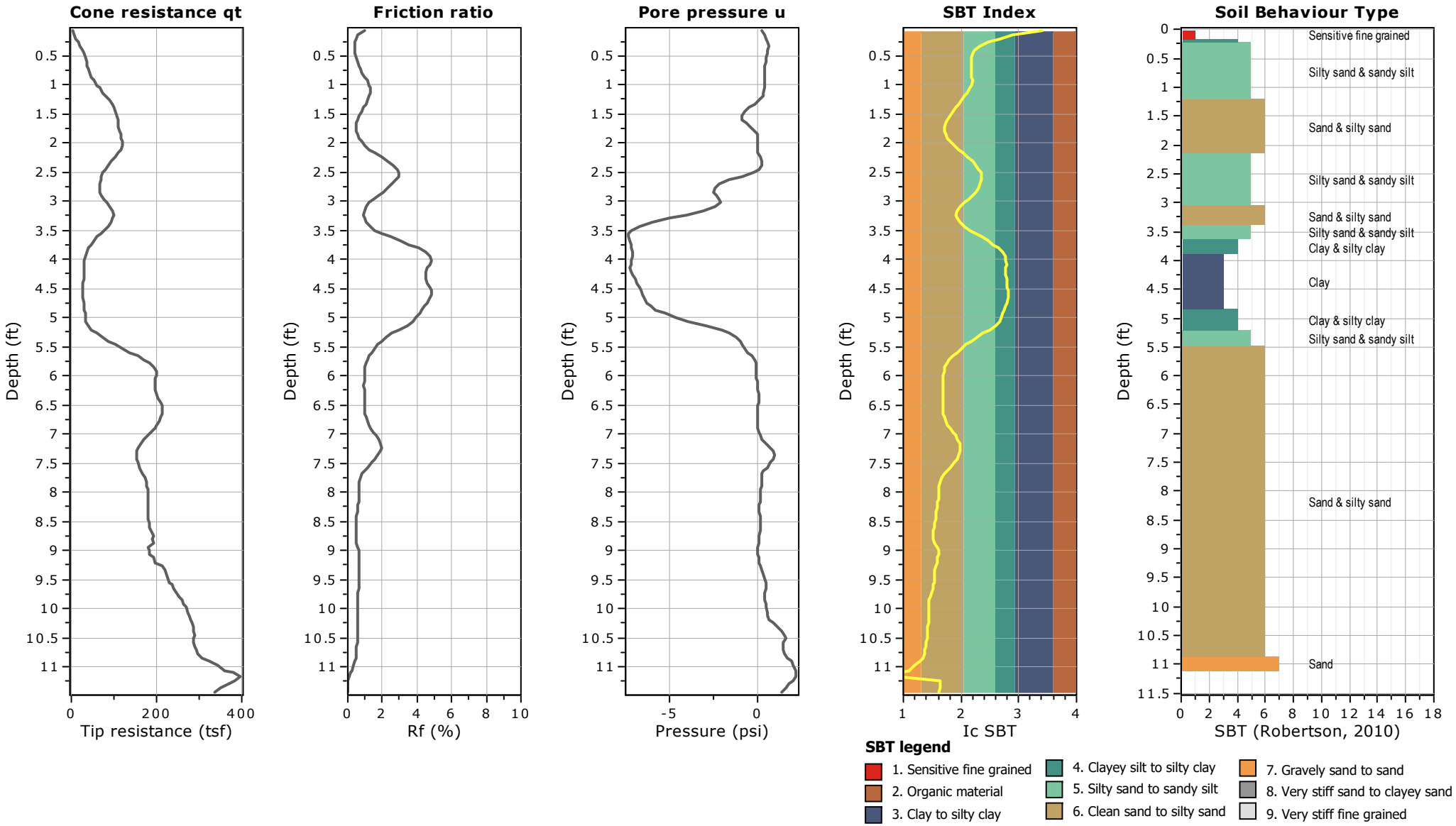
Attachments: E00-01, E10-01, E30-01, E30-02, E40-01

END OF ADDENDUM NO. 1

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1A
Total depth: 11.43 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

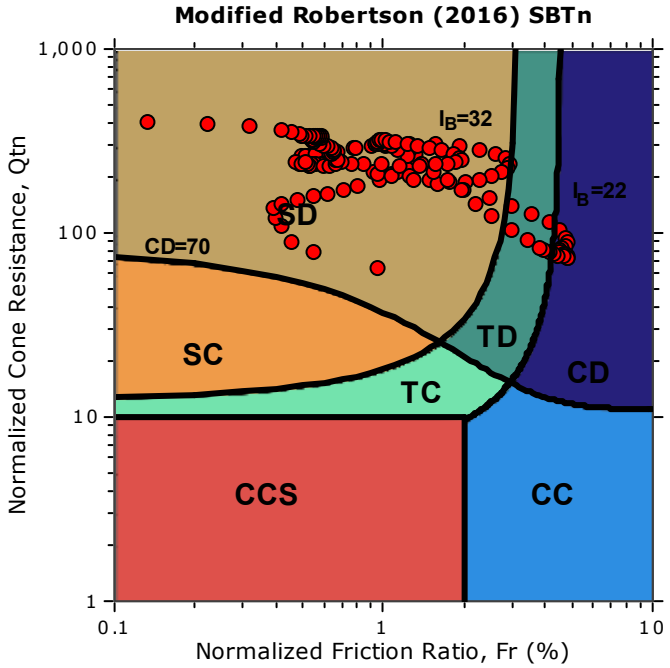


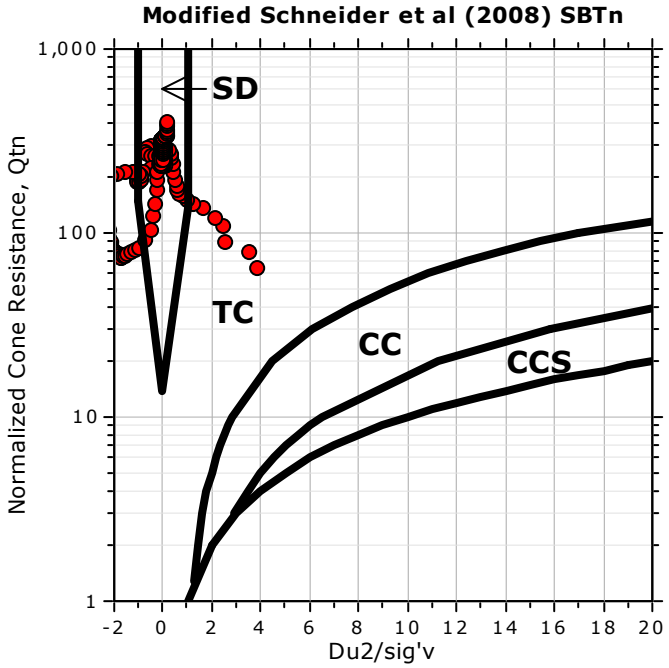
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

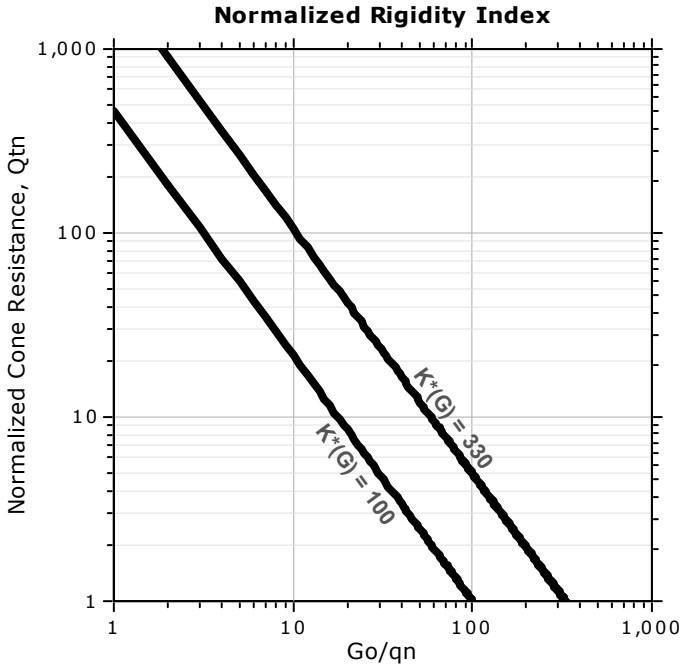
Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-1A
Total depth: 11.43 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Updated SBTn plots







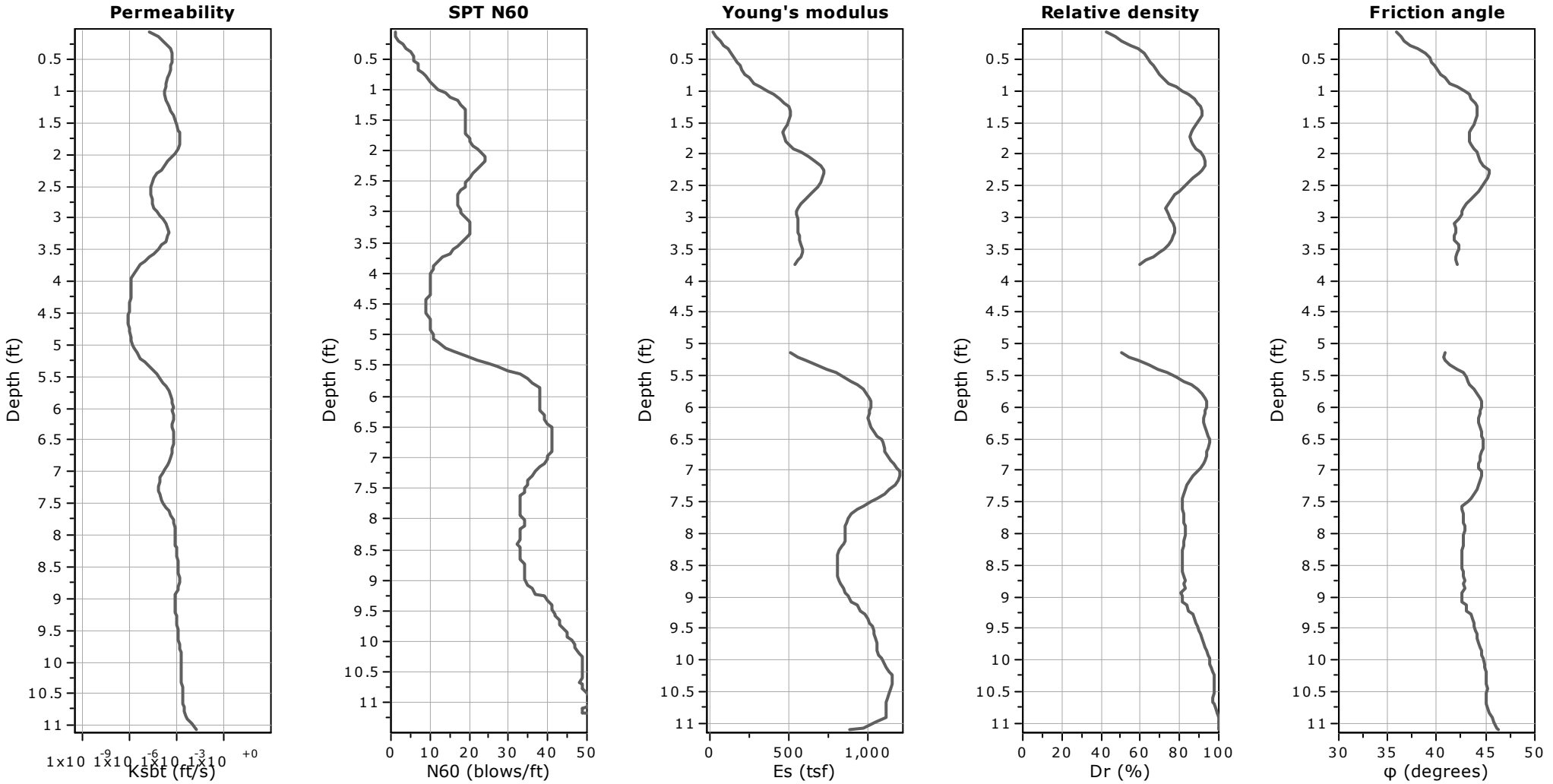
CCS: Clay-like - Contractive - Sensitive
CC: Clay-like - Contractive
CD: Clay-like - Dilative
TC: Transitional - Contractive
TD: Transitional - Dilative
SC: Sand-like - Contractive
SD: Sand-like - Dilative

K(G) > 330: Soils with significant microstructure (e.g. age/cementation)

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1A
Total depth: 11.43 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



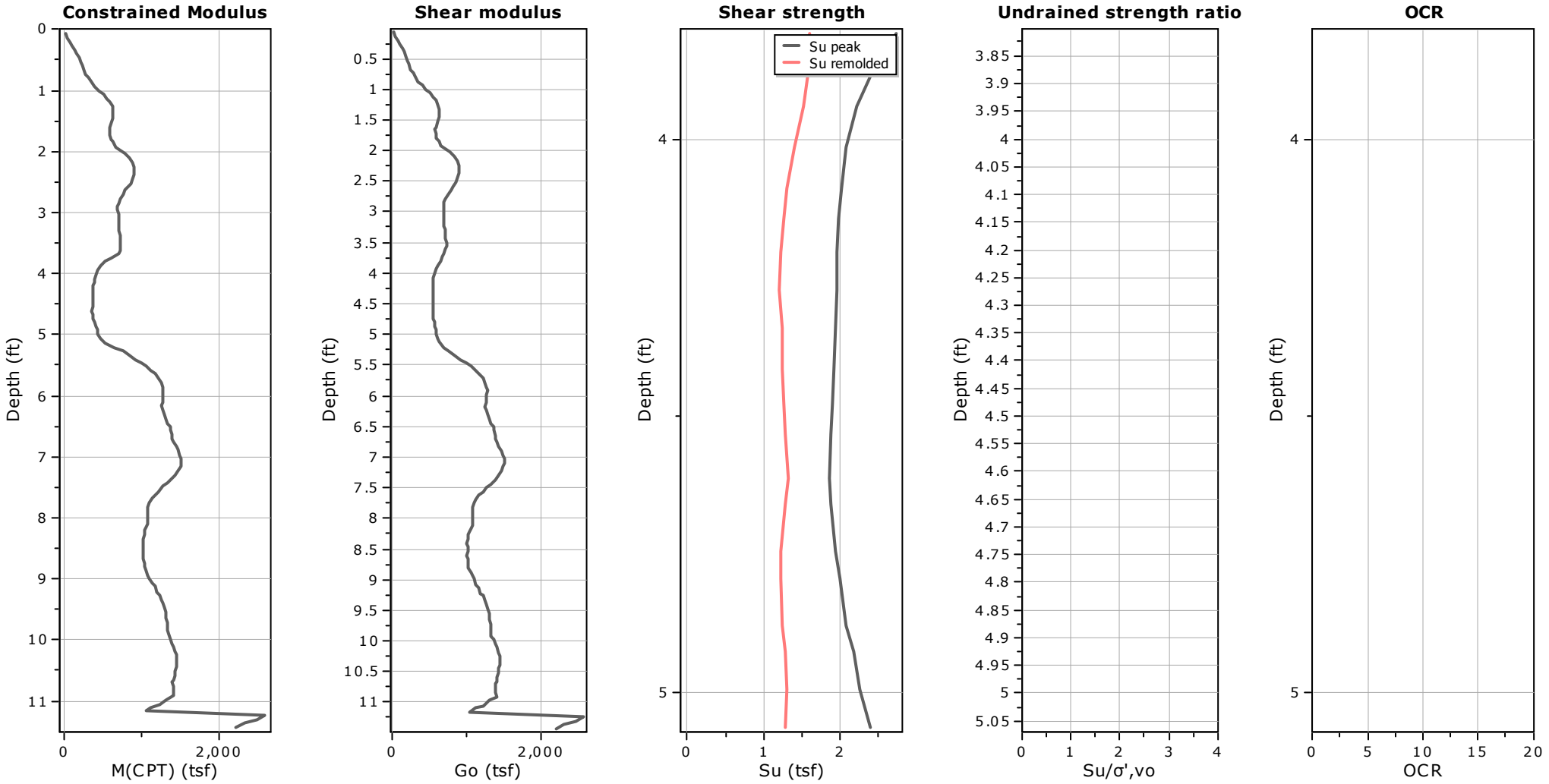
Calculation parameters

Permeability: Based on SBT_n
SPT N_{60}: Based on I_c and q_t
Young's modulus: Based on variable alpha using I_c (Robertson, 2009)
Relative density constant, C_{Dr}: 350.0
Phi: Based on Kulhawy & Mayne (1990)
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1A
Total depth: 11.43 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

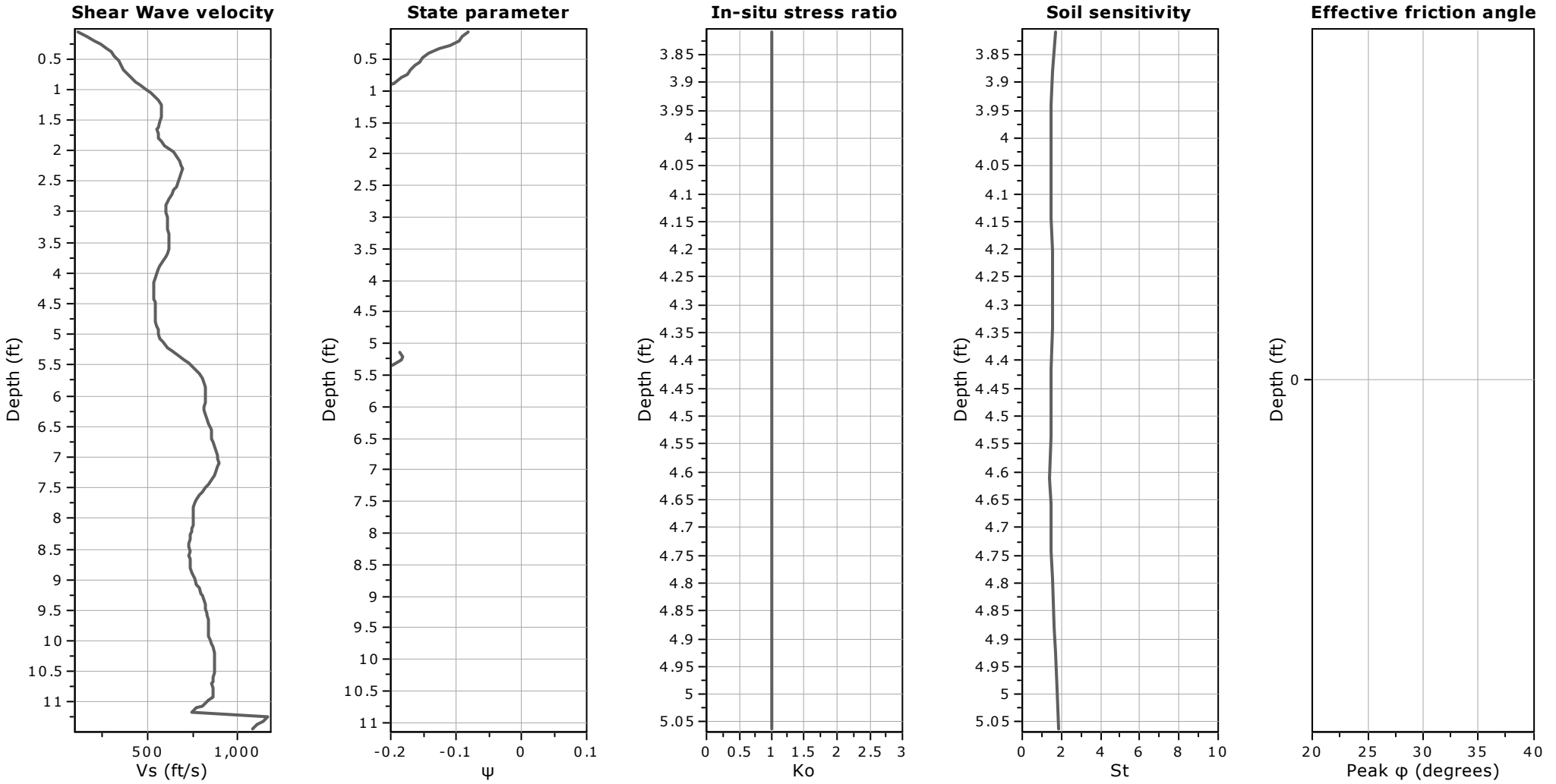
Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)
Go: Based on variable *alpha* using I_c (Robertson, 2009)
Undrained shear strength cone factor for clays, N_{kt}: 14

OCR factor for clays, N_{kt}: 0.33
User defined estimation data
Flat Dilatometer Test data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1A
Total depth: 11.43 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



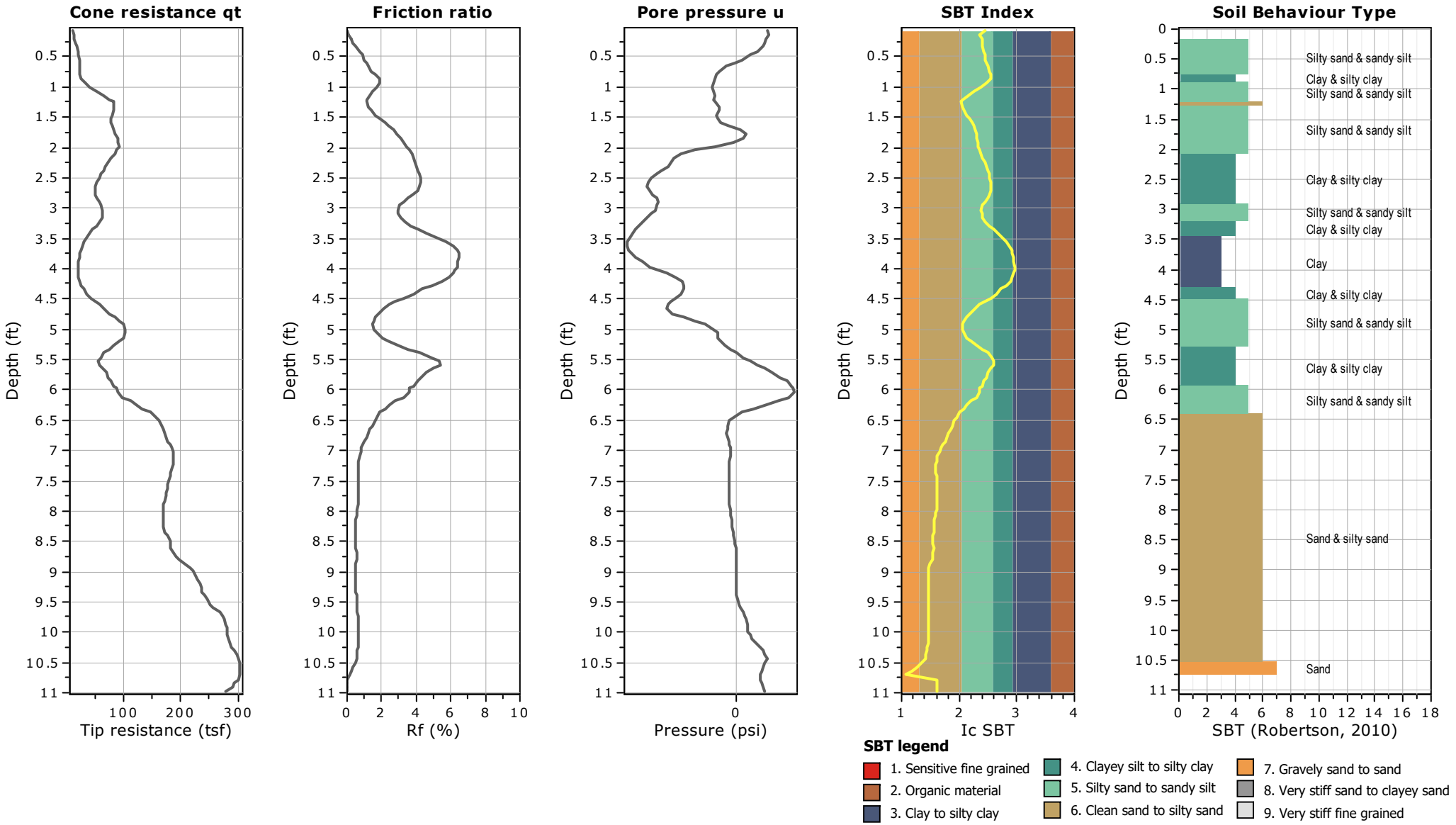
Calculation parameters

Soil Sensitivity factor, N_S: 7.00
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-1B
Total depth: 10.97 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

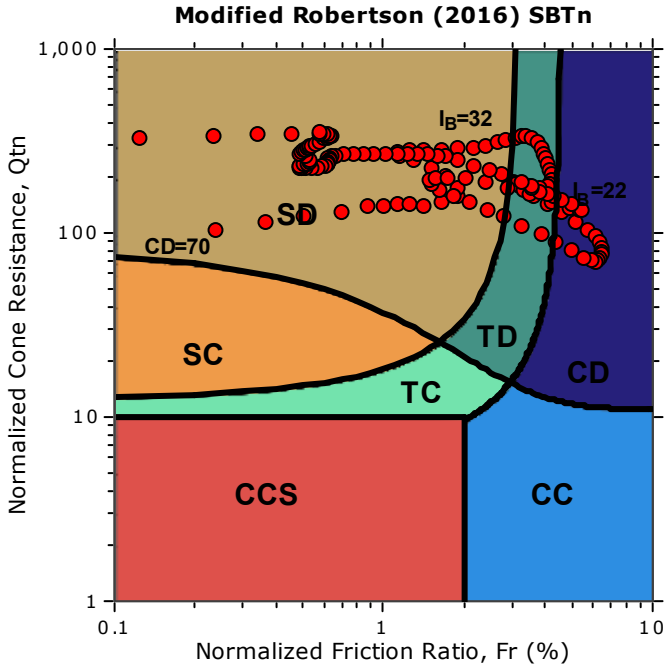


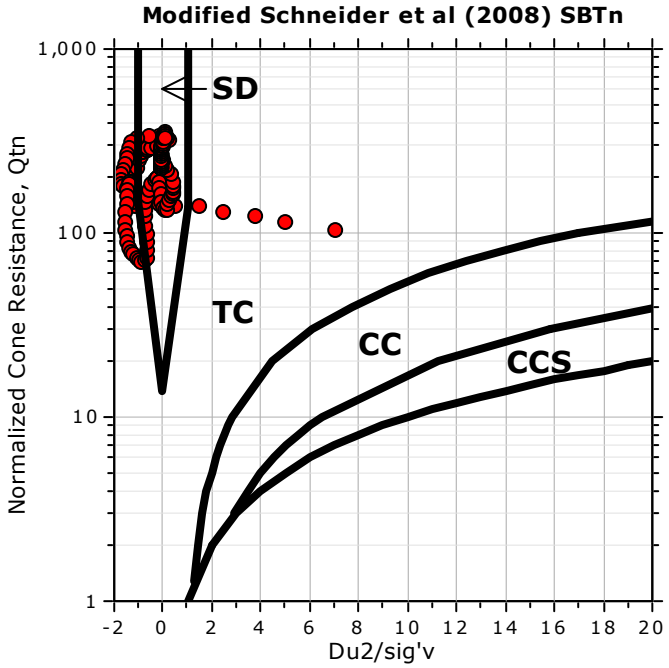
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

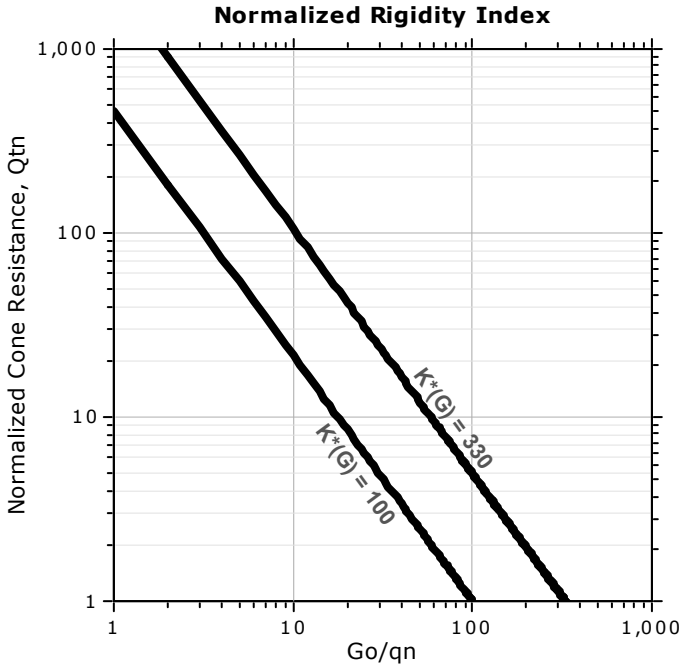
CPT: CPT-1B
Total depth: 10.97 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

Updated SBTn plots







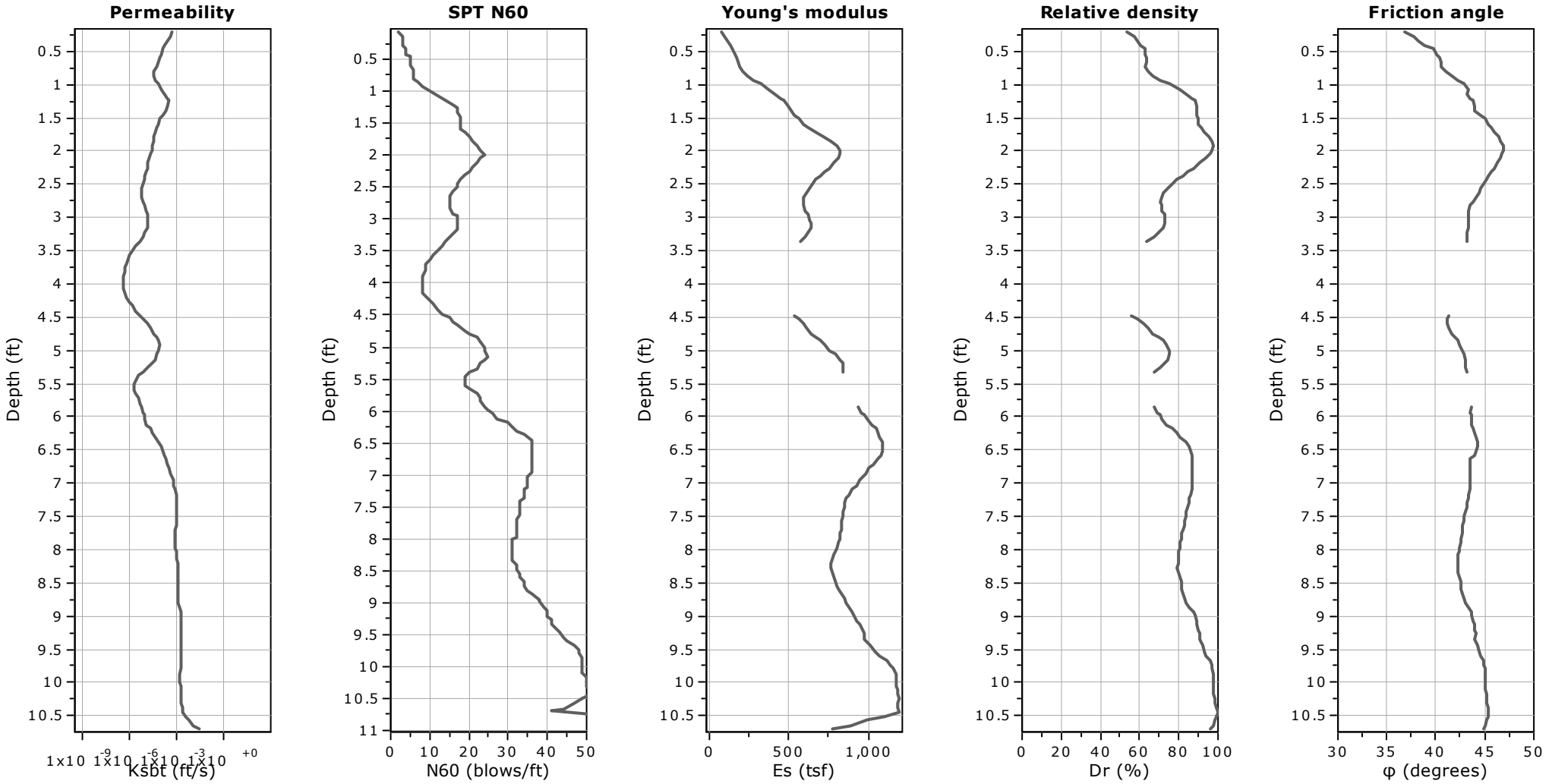
CCS: Clay-like - Contractive - Sensitive
CC: Clay-like - Contractive
CD: Clay-like - Dilative
TC: Transitional - Contractive
TD: Transitional - Dilative
SC: Sand-like - Contractive
SD: Sand-like - Dilative

K(G) > 330: Soils with significant microstructure (e.g. age/cementation)

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1B
Total depth: 10.97 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



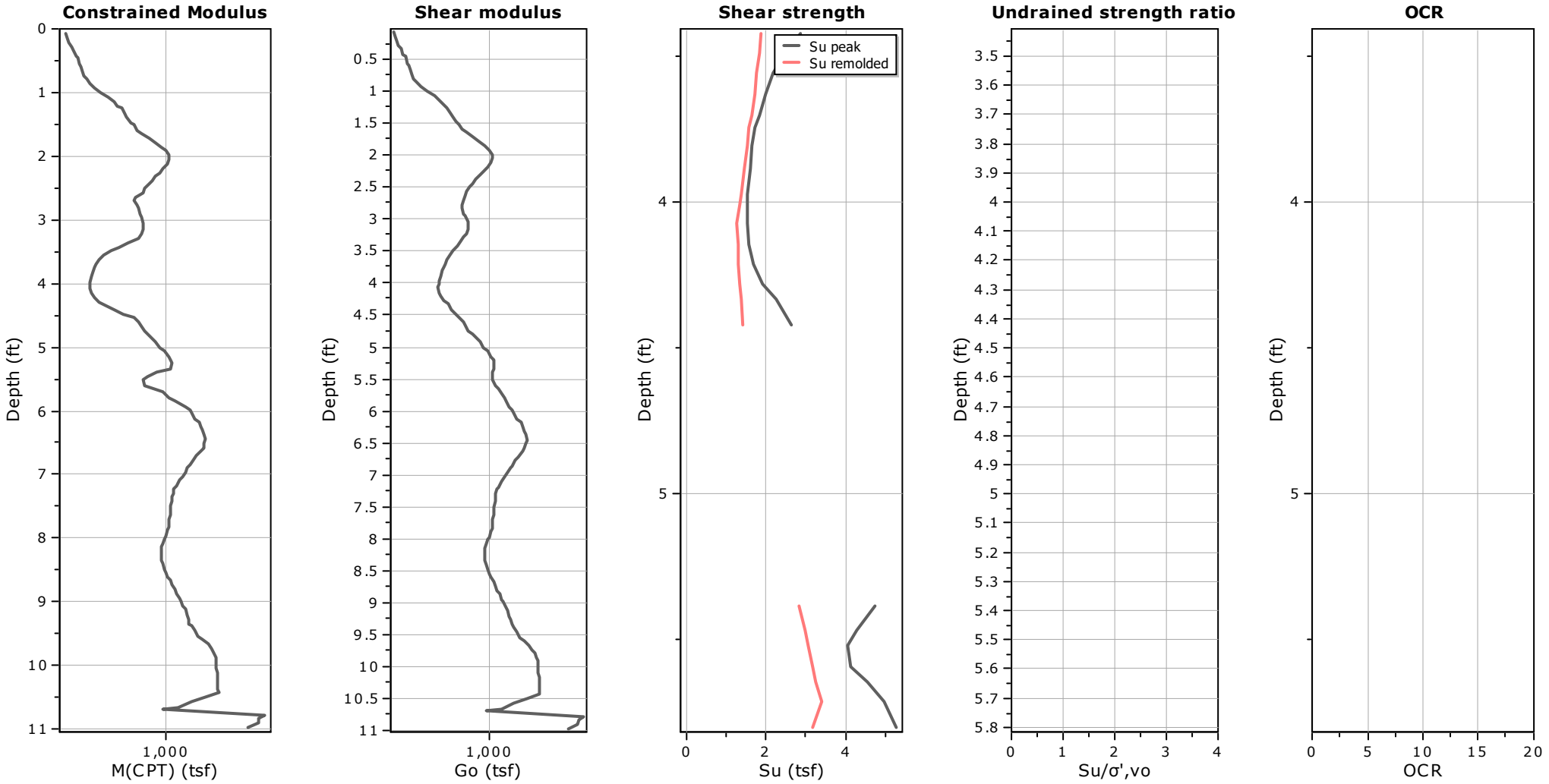
Calculation parameters

Permeability: Based on SBT_n
SPT N_{60}: Based on I_c and q_t
Young's modulus: Based on variable alpha using I_c (Robertson, 2009)
Relative density constant, C_{Dr}: 350.0
Phi: Based on Kulhawy & Mayne (1990)
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1B
Total depth: 10.97 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

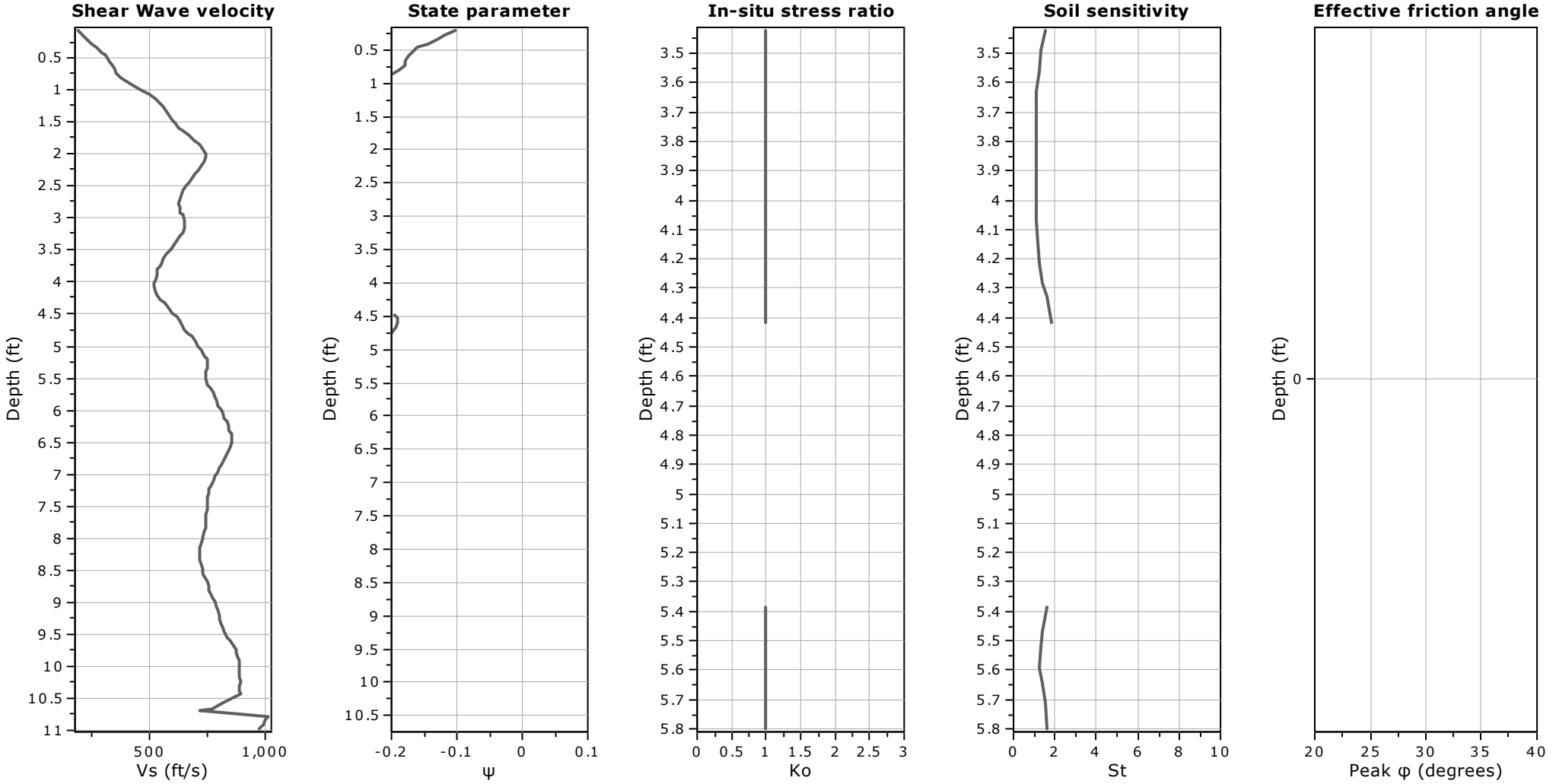
Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)
Go: Based on variable *alpha* using I_c (Robertson, 2009)
Undrained shear strength cone factor for clays, N_{kt}: 14

OCR factor for clays, N_{kt}: 0.33
User defined estimation data
Flat Dilatometer Test data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-1B
Total depth: 10.97 ft, Date: 11/11/2022
Surface Elevation: 32.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

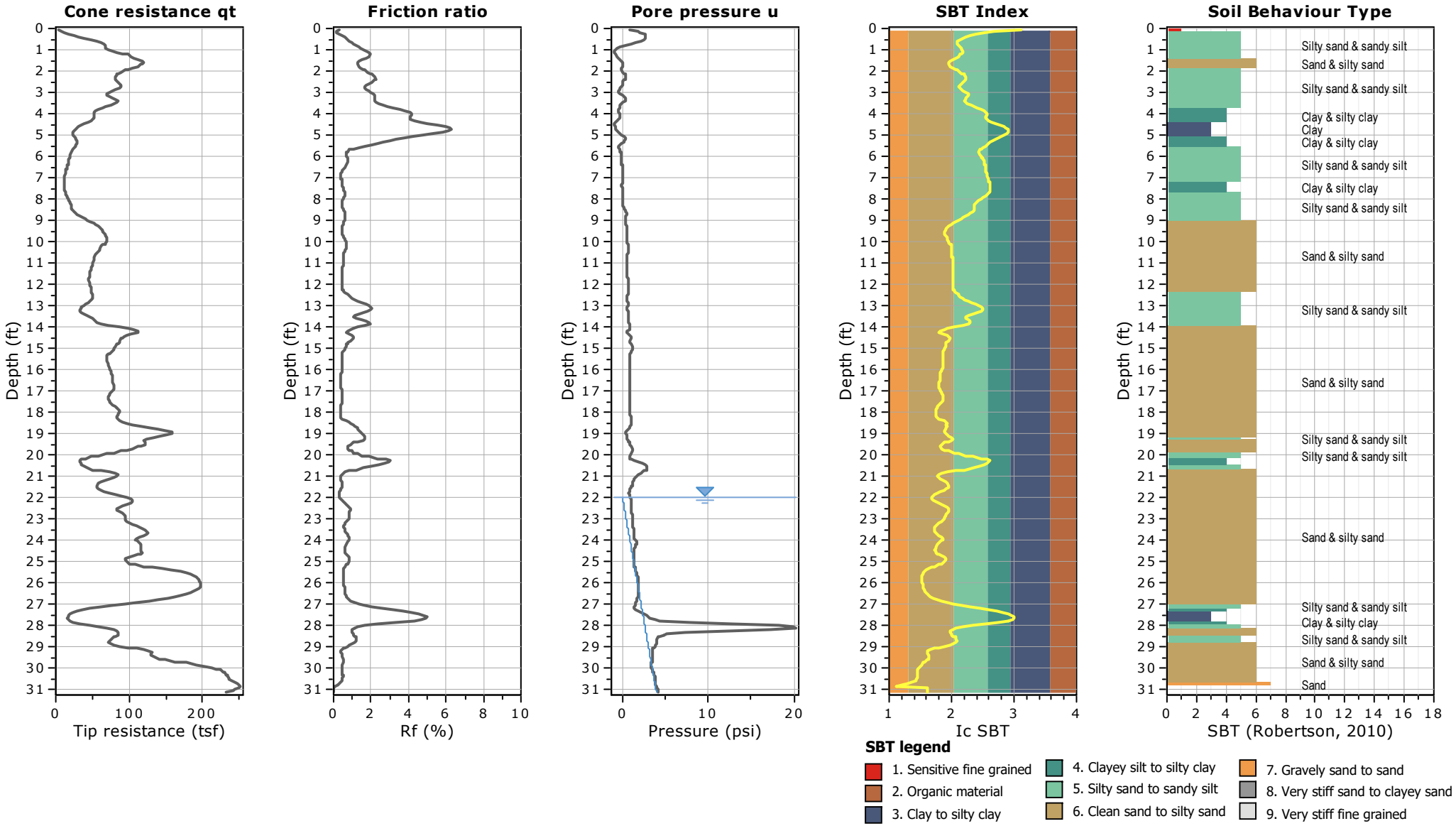
Soil Sensitivity factor, N_S: 7.00

User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-2
Total depth: 31.11 ft, Date: 11/11/2022
Surface Elevation: 38.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

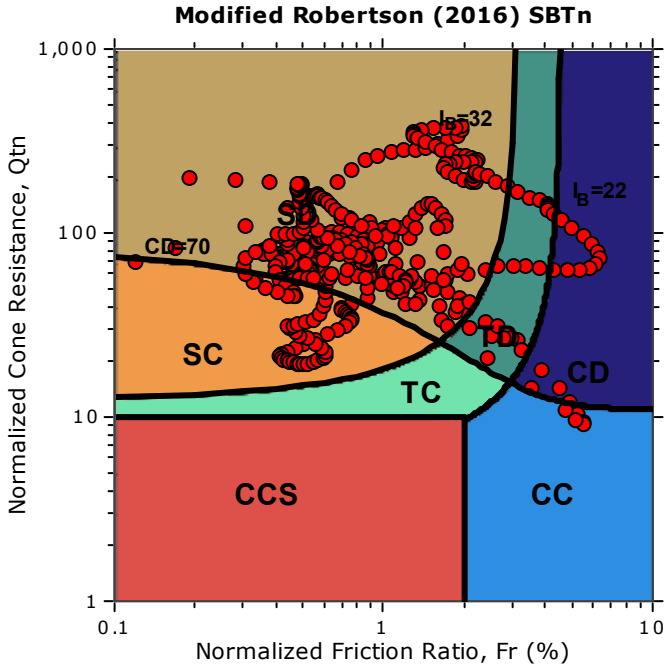


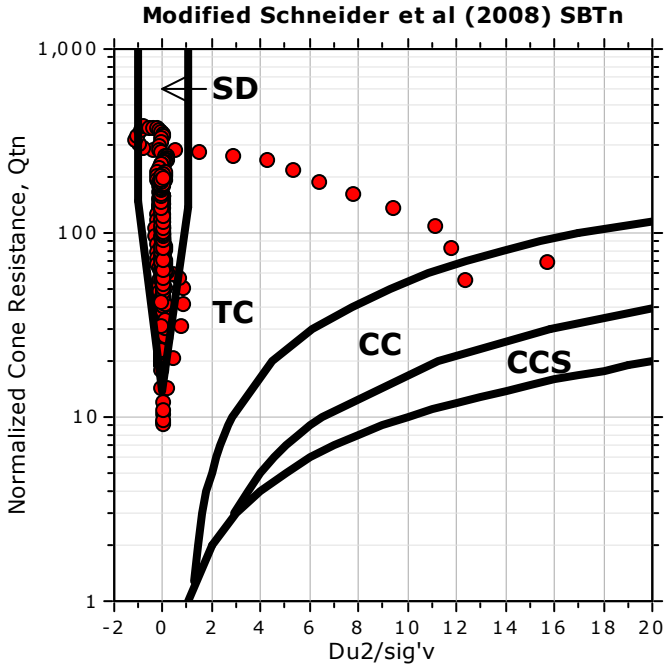
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

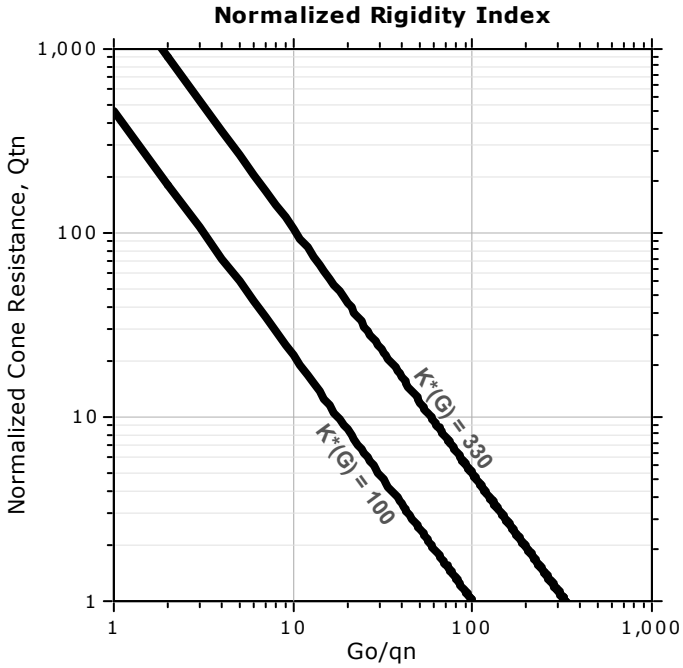
Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-2
Total depth: 31.11 ft, Date: 11/11/2022
Surface Elevation: 38.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Updated SBTn plots







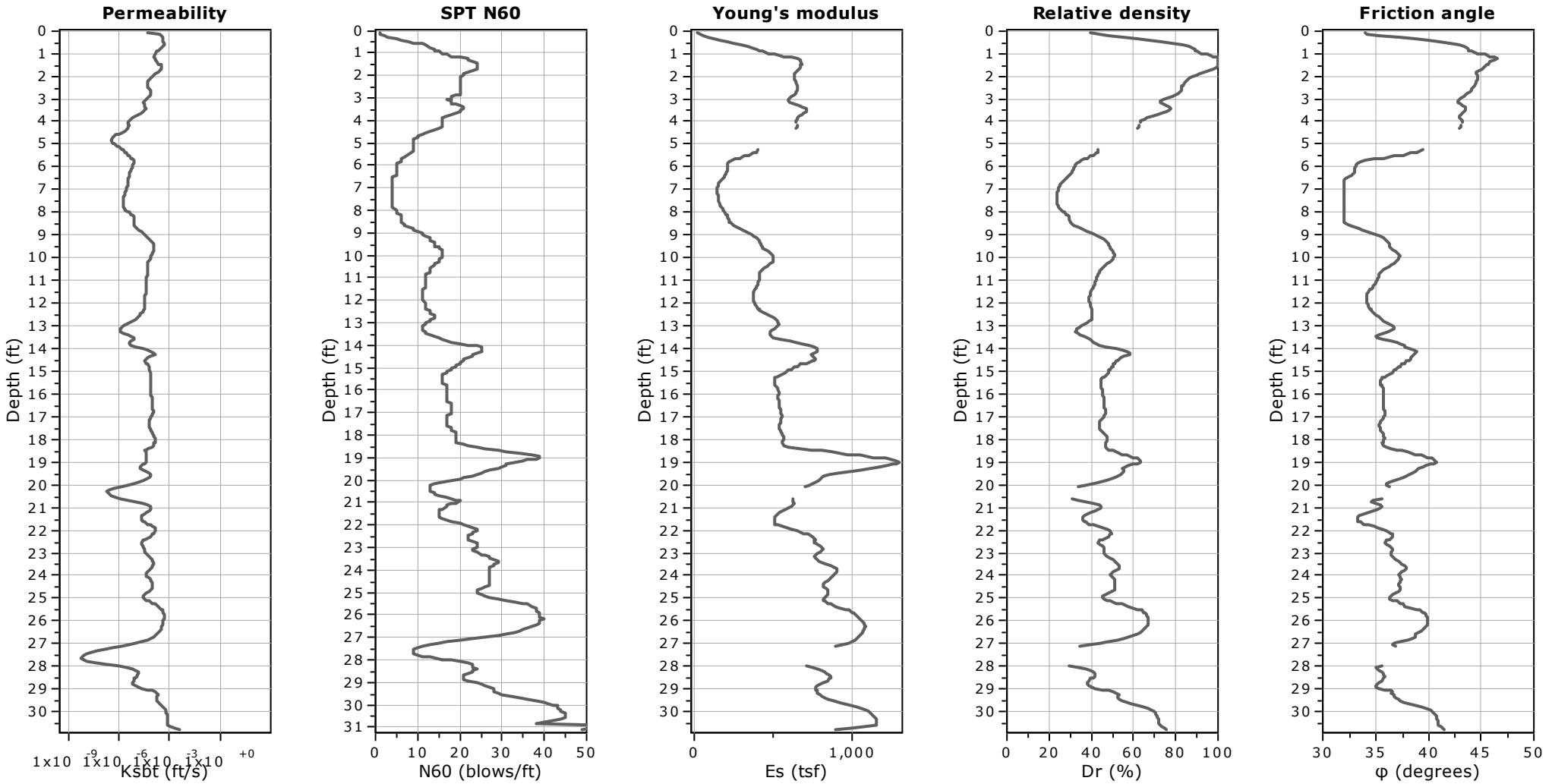
CCS: Clay-like - Contractive - Sensitive
CC: Clay-like - Contractive
CD: Clay-like - Dilative
TC: Transitional - Contractive
TD: Transitional - Dilative
SC: Sand-like - Contractive
SD: Sand-like - Dilative

K(G) > 330: Soils with significant microstructure (e.g. age/cementation)

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-2
Total depth: 31.11 ft, Date: 11/11/2022
Surface Elevation: 38.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



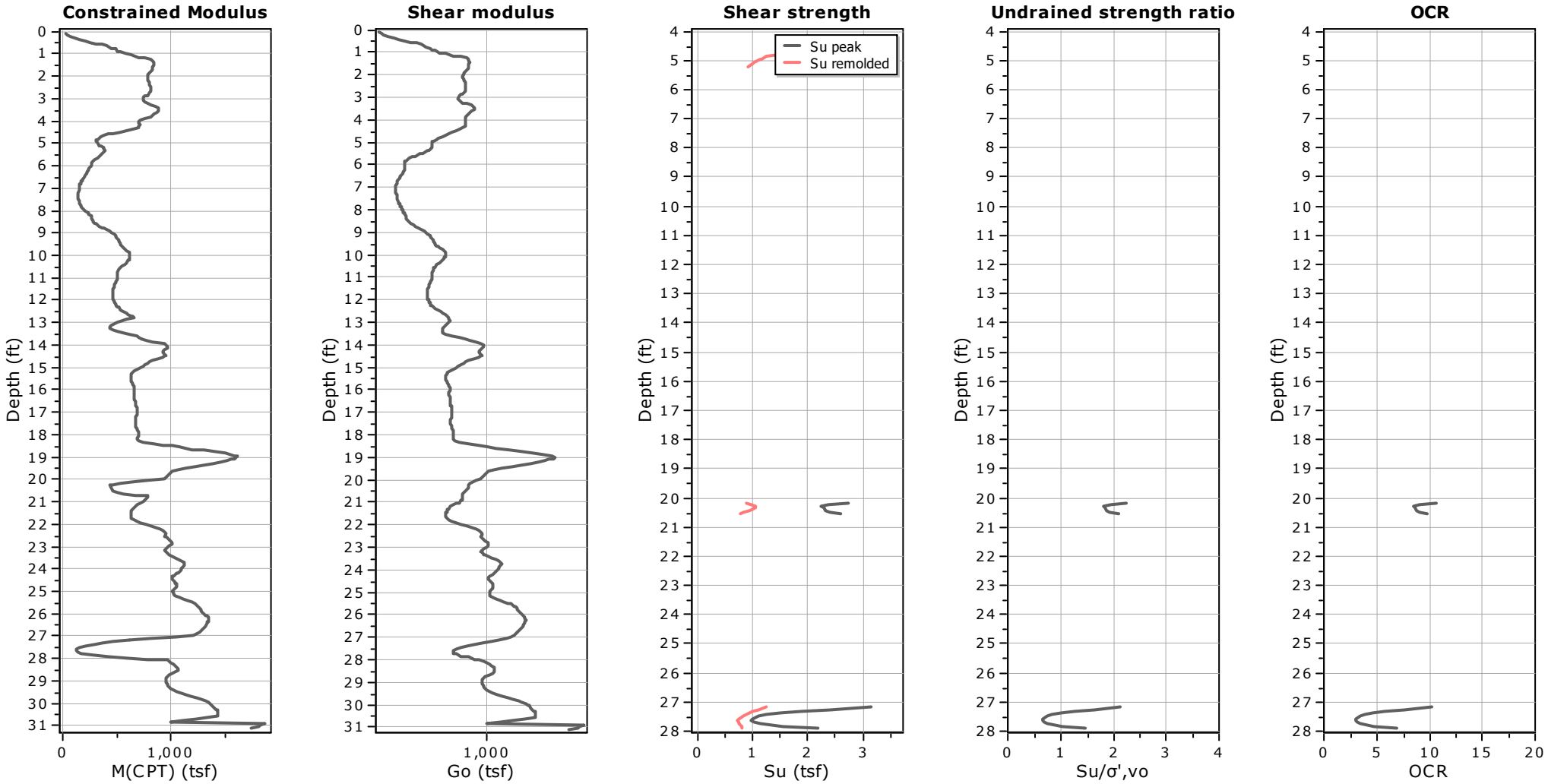
Calculation parameters

Permeability: Based on SBT_n
SPT N_{60}: Based on I_c and q_t
Young's modulus: Based on variable alpha using I_c (Robertson, 2009)
Relative density constant, C_{Dr}: 350.0
Phi: Based on Kulhawy & Mayne (1990)
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-2
Total depth: 31.11 ft, Date: 11/11/2022
Surface Elevation: 38.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



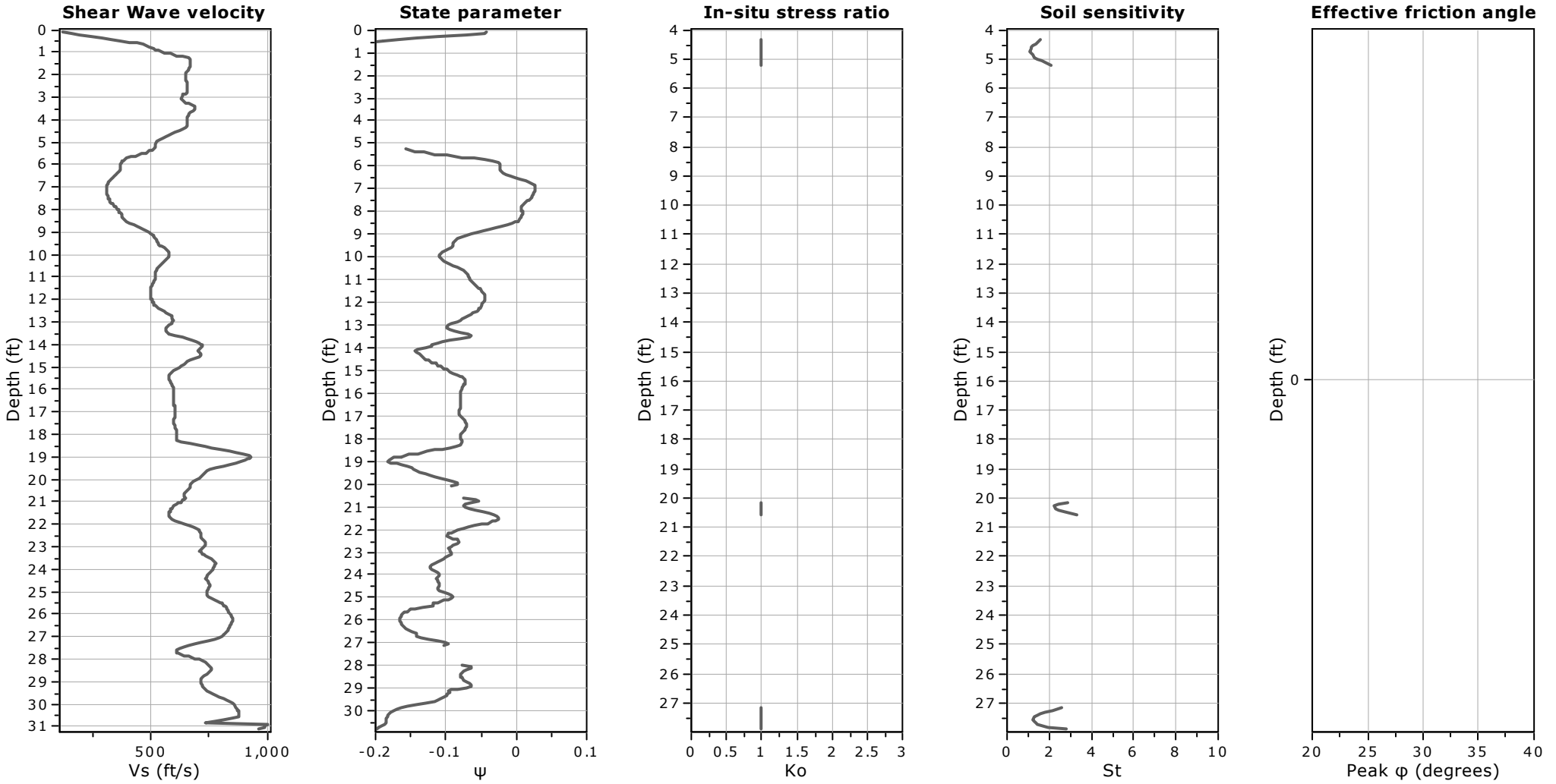
Calculation parameters

Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)
Go: Based on variable *alpha* using I_c (Robertson, 2009)
Undrained shear strength cone factor for clays, N_{kt}: 14
OCR factor for clays, N_{kt}: 0.33
User defined estimation data
Flat Dilatometer Test data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-2
Total depth: 31.11 ft, Date: 11/11/2022
Surface Elevation: 38.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

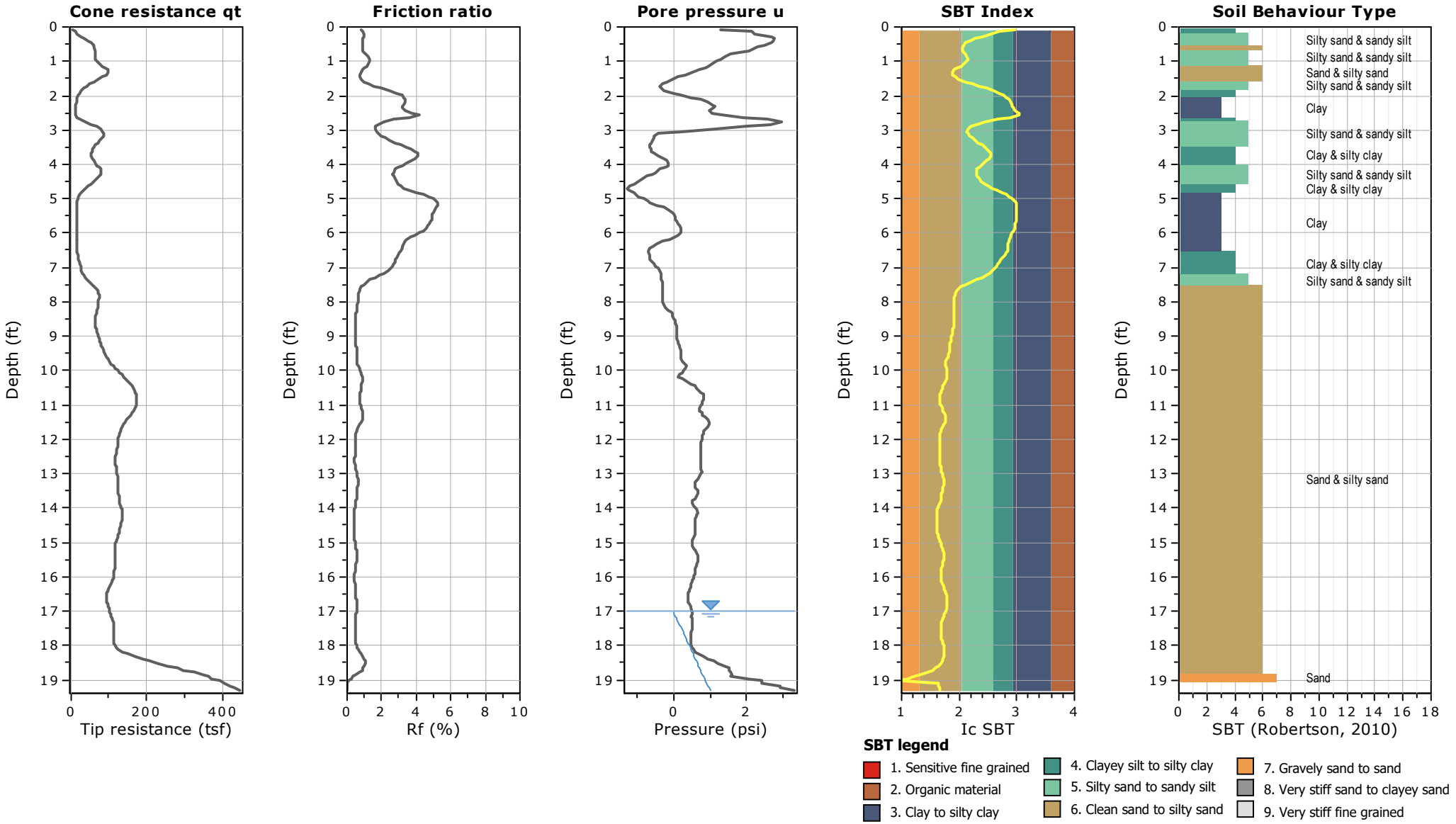
Soil Sensitivity factor, N_S: 7.00

User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-3
Total depth: 19.31 ft, Date: 11/11/2022
Surface Elevation: 31.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

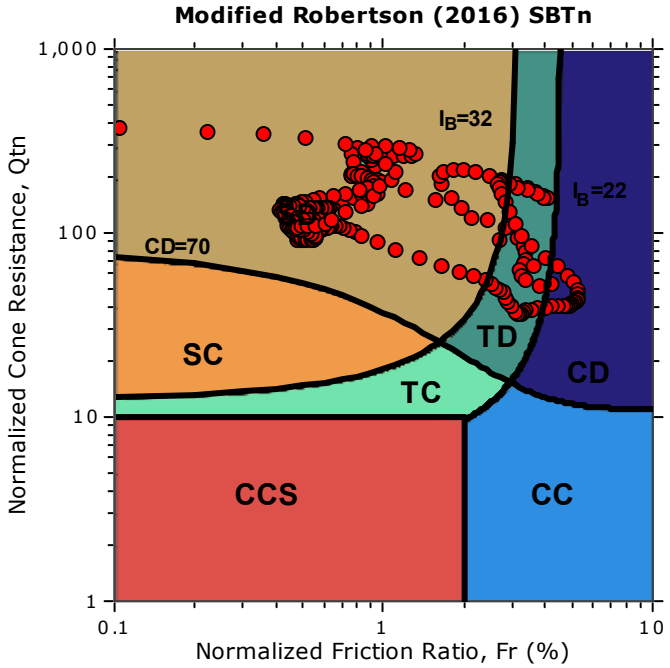


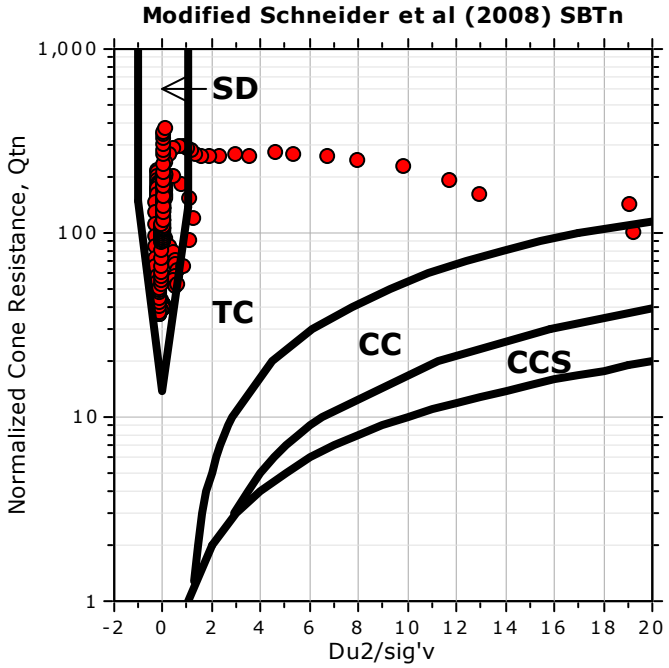
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

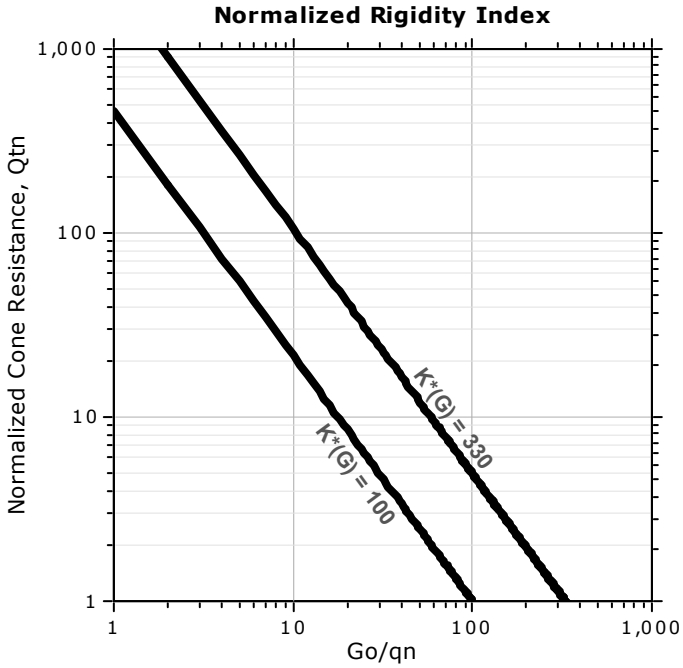
Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-3
Total depth: 19.31 ft, Date: 11/11/2022
Surface Elevation: 31.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Updated SBTn plots







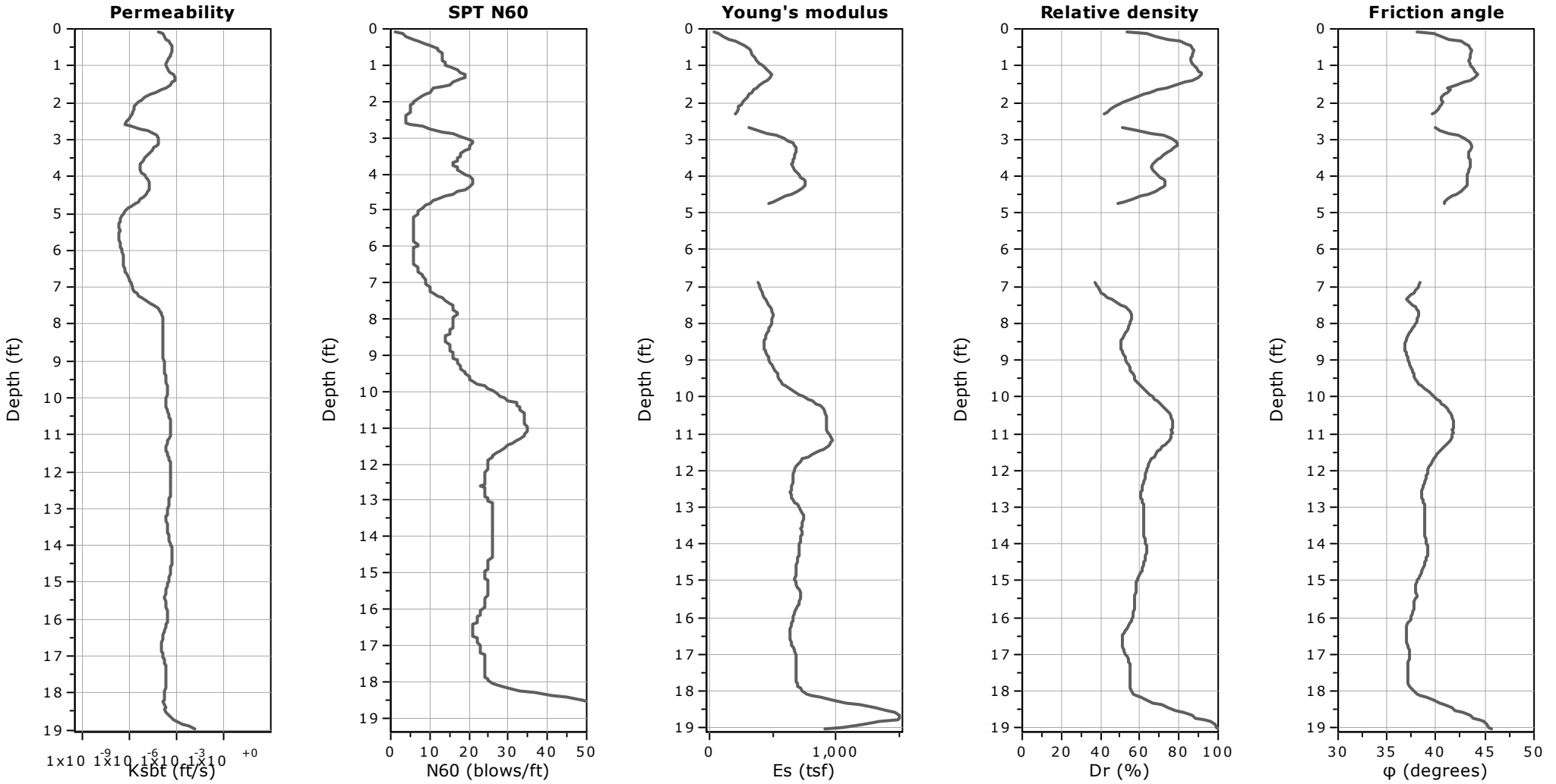
CCS: Clay-like - Contractive - Sensitive
CC: Clay-like - Contractive
CD: Clay-like - Dilative
TC: Transitional - Contractive
TD: Transitional - Dilative
SC: Sand-like - Contractive
SD: Sand-like - Dilative

K(G) > 330: Soils with significant microstructure (e.g. age/cementation)

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-3
Total depth: 19.31 ft, Date: 11/11/2022
Surface Elevation: 31.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



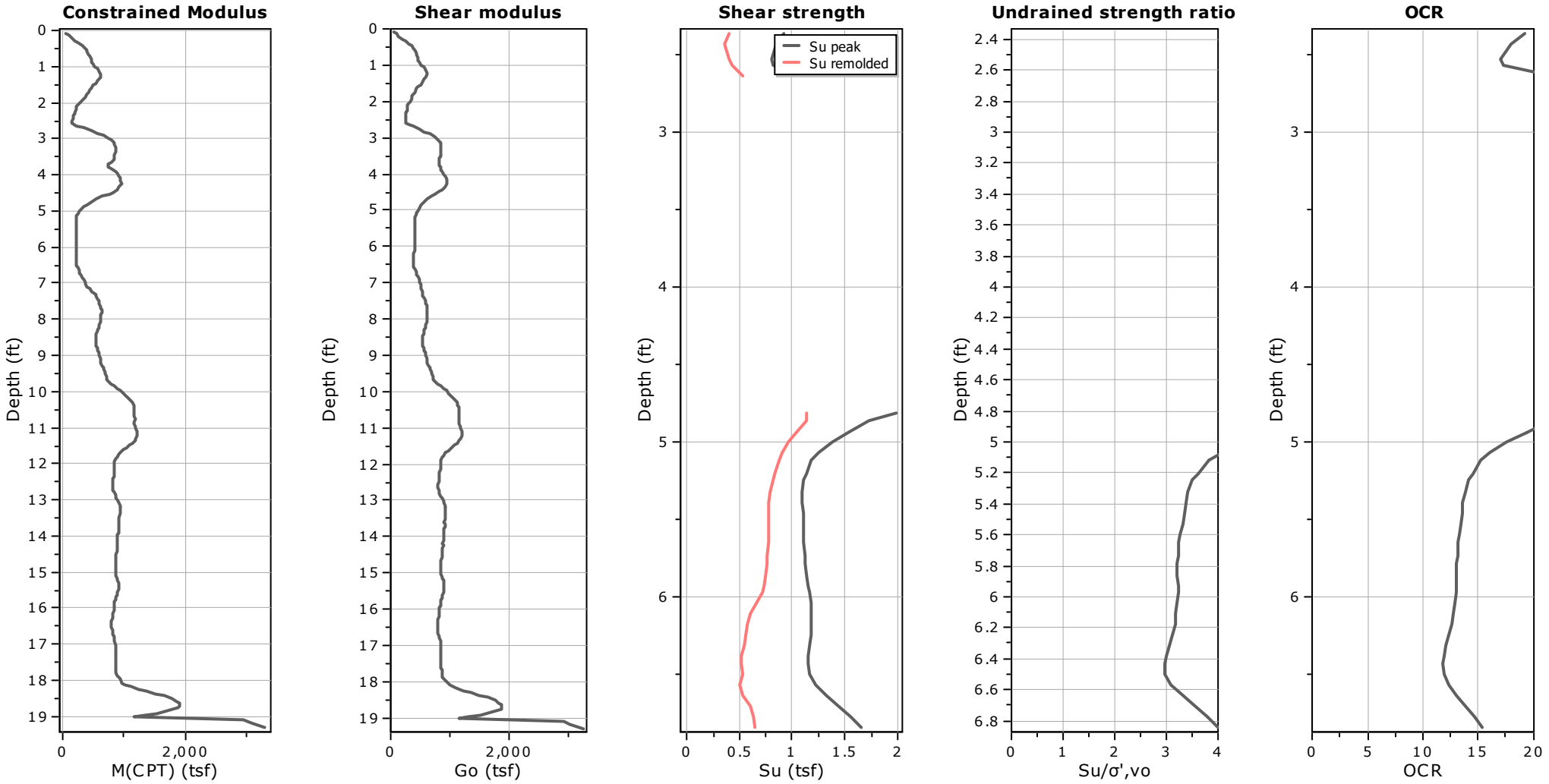
Calculation parameters

Permeability: Based on SBT_n
SPT N_{60}: Based on I_c and q_t
Young's modulus: Based on variable alpha using I_c (Robertson, 2009)
Relative density constant, C_{Dr}: 350.0
Phi: Based on Kulhawy & Mayne (1990)
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-3
Total depth: 19.31 ft, Date: 11/11/2022
Surface Elevation: 31.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



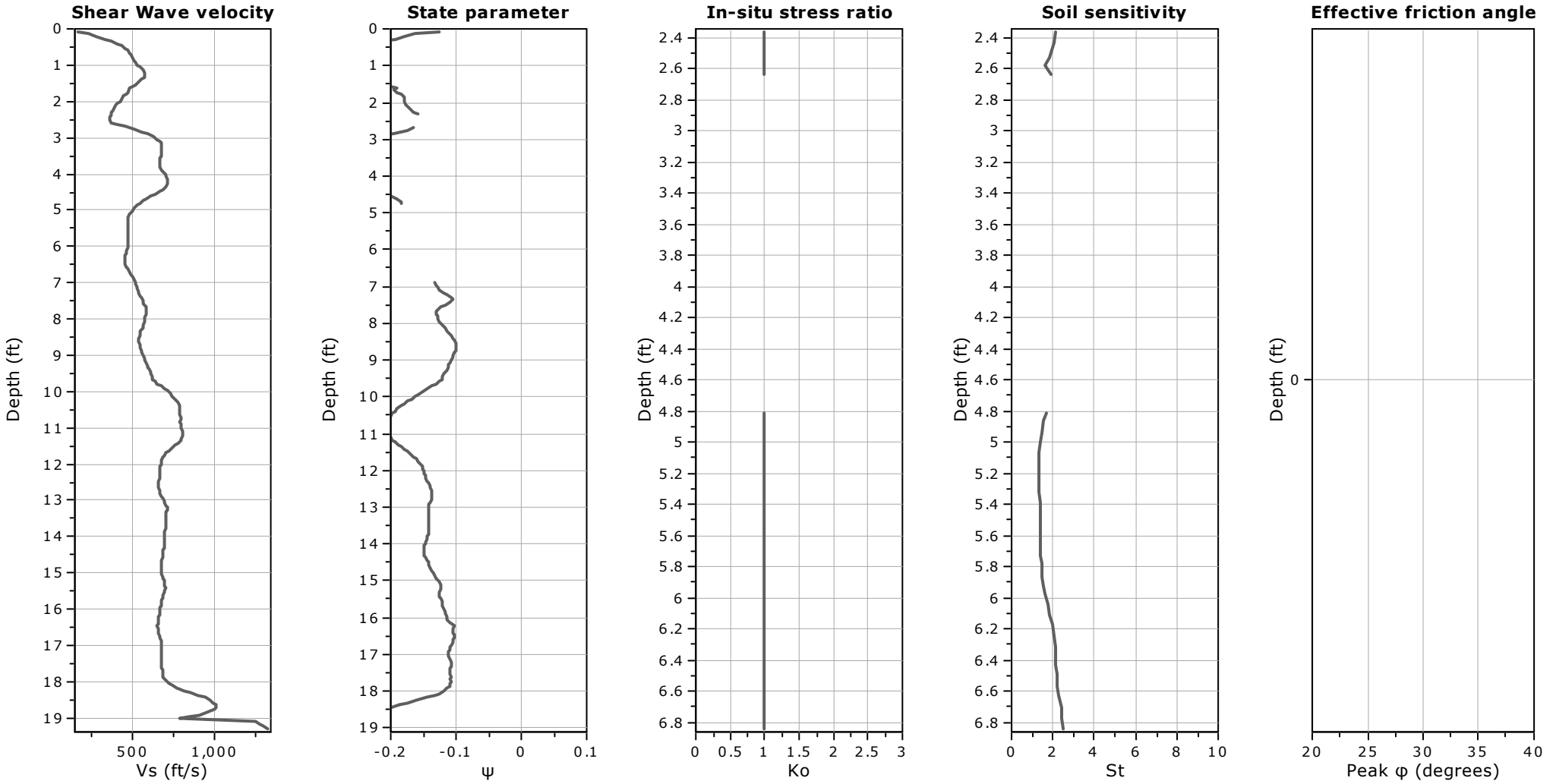
Calculation parameters

Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)
Go: Based on variable *alpha* using I_c (Robertson, 2009)
Undrained shear strength cone factor for clays, N_{kt}: 14
OCR factor for clays, N_{kt}: 0.33
User defined estimation data
Flat Dilatometer Test data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-3
Total depth: 19.31 ft, Date: 11/11/2022
Surface Elevation: 31.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



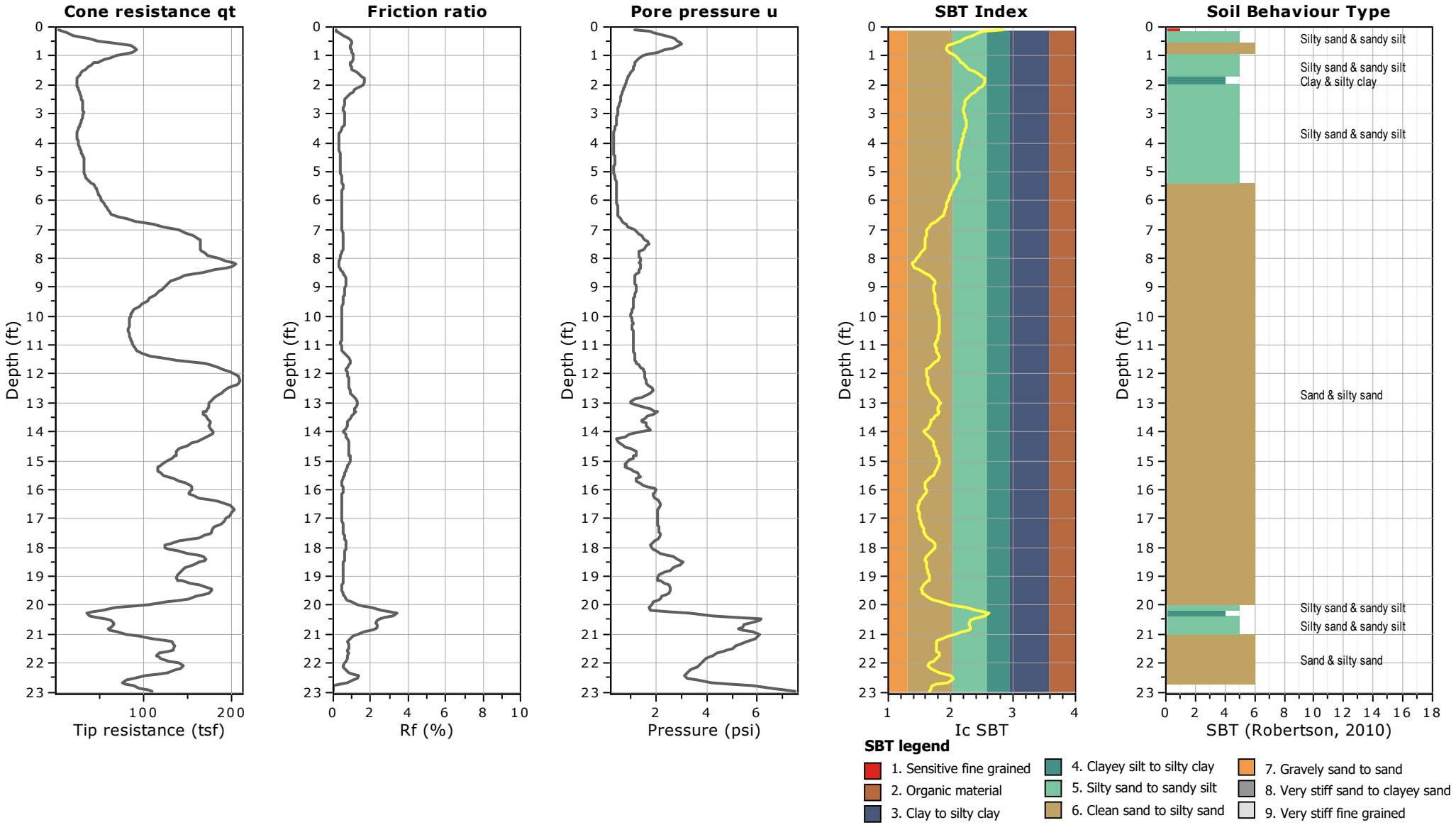
Calculation parameters

Soil Sensitivity factor, N_S: 7.00
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-4
Total depth: 22.97 ft, Date: 11/11/2022
Surface Elevation: 37.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

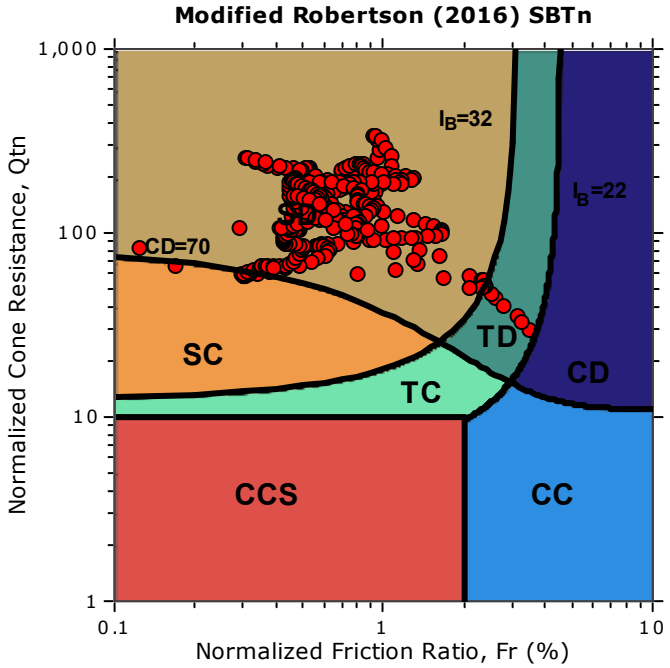


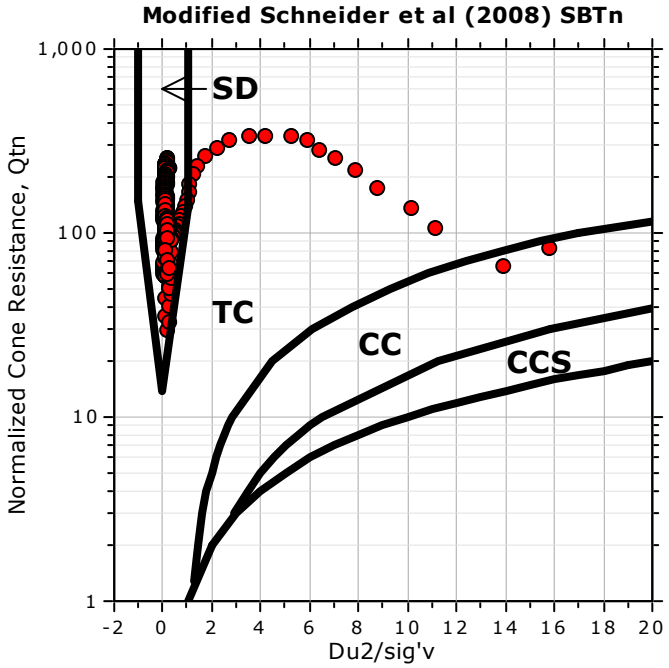
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

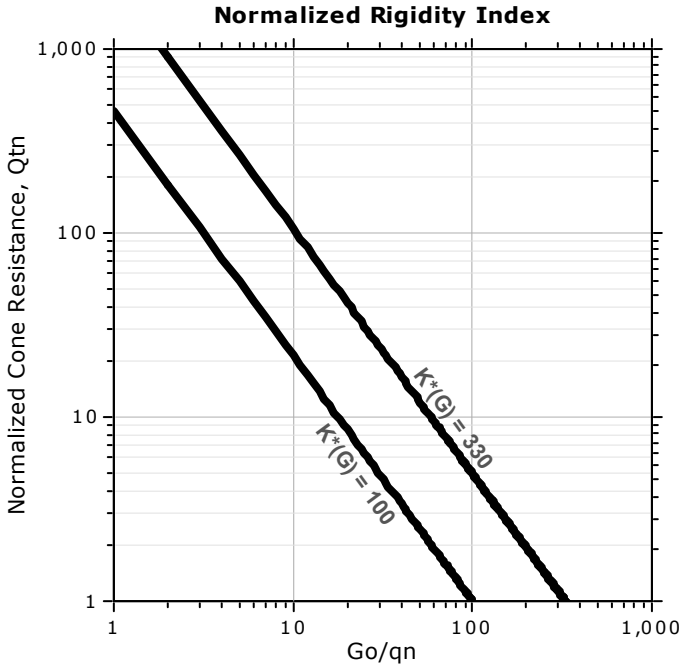
Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**

CPT: CPT-4
Total depth: 22.97 ft, Date: 11/11/2022
Surface Elevation: 37.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Updated SBTn plots







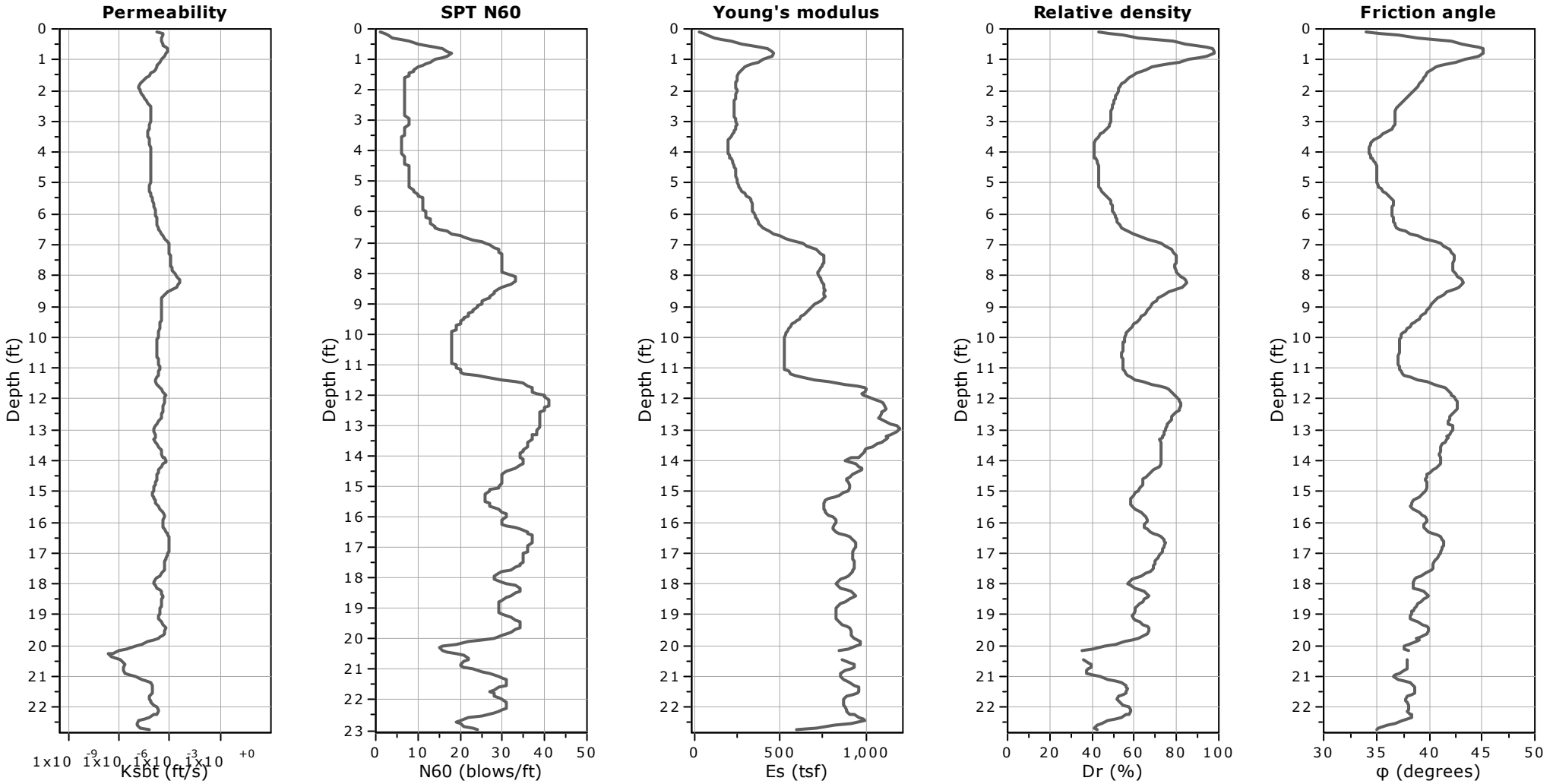
CCS: Clay-like - Contractive - Sensitive
CC: Clay-like - Contractive
CD: Clay-like - Dilative
TC: Transitional - Contractive
TD: Transitional - Dilative
SC: Sand-like - Contractive
SD: Sand-like - Dilative

K(G) > 330: Soils with significant microstructure (e.g. age/cementation)

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-4
Total depth: 22.97 ft, Date: 11/11/2022
Surface Elevation: 37.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



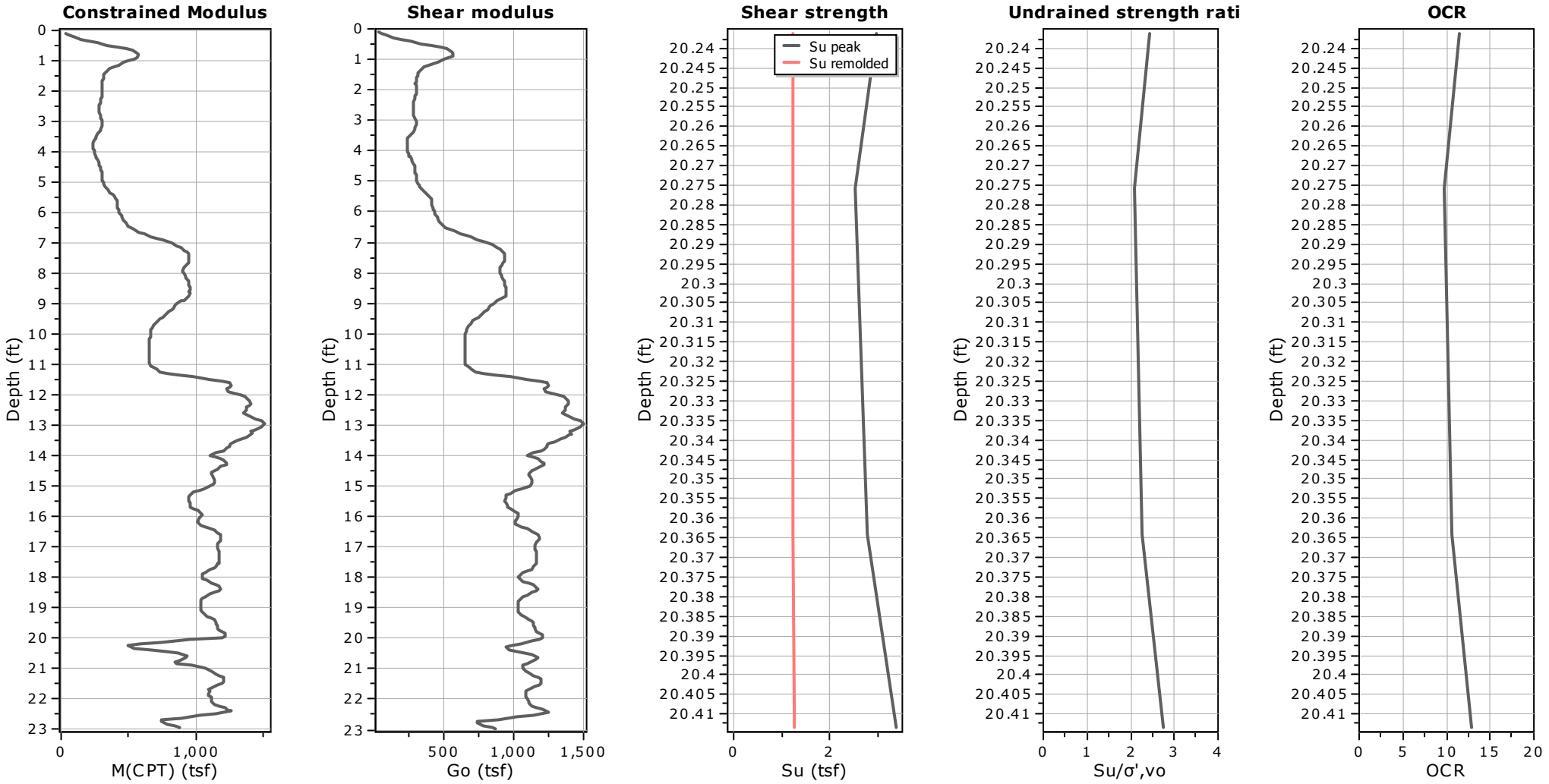
Calculation parameters

Permeability: Based on SBT_n
SPT N_{60}: Based on I_c and q_t
Young's modulus: Based on variable alpha using I_c (Robertson, 2009)
Relative density constant, C_{Dr}: 350.0
Phi: Based on Kulhawy & Mayne (1990)
User defined estimation data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-4
Total depth: 22.97 ft, Date: 11/11/2022
Surface Elevation: 37.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

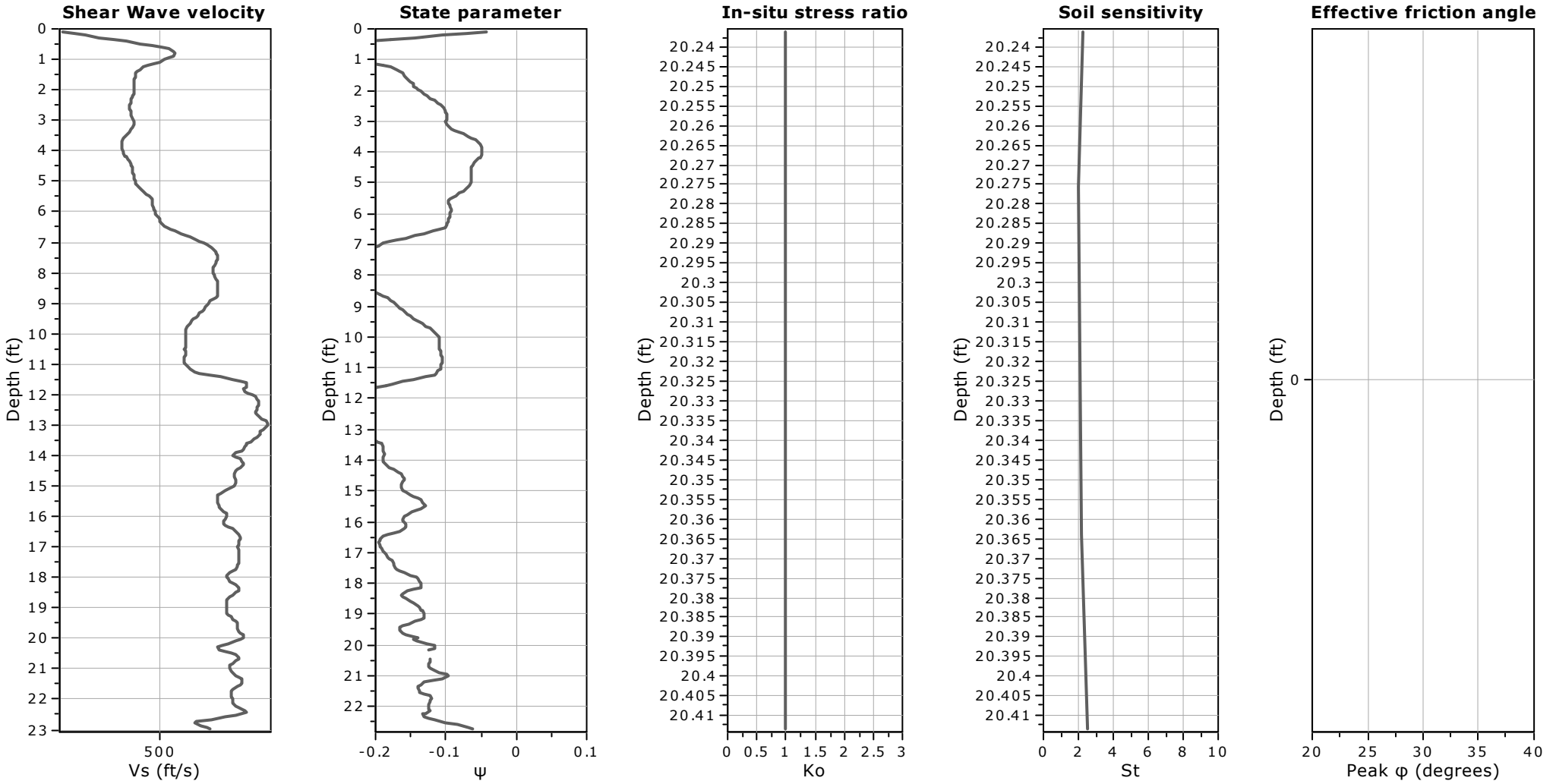
Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)
Go: Based on variable *alpha* using I_c (Robertson, 2009)
Undrained shear strength cone factor for clays, N_{kt}: 14

OCR factor for clays, N_{kt}: 0.33
User defined estimation data
Flat Dilatometer Test data

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
18 Boulden Circle Suite 36
New Castle DE 19720
302 326 2100
www.gtaeng.com

CPT: CPT-4
Total depth: 22.97 ft, Date: 11/11/2022
Surface Elevation: 37.00 ft
Cone Type: Vertek
Cone Operator: D. Hans

Project: **Smyrna High School Field Lights**
Location: **Smyrna, Delaware**



Calculation parameters

Soil Sensitivity factor, N_S: 7.00

User defined estimation data

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL

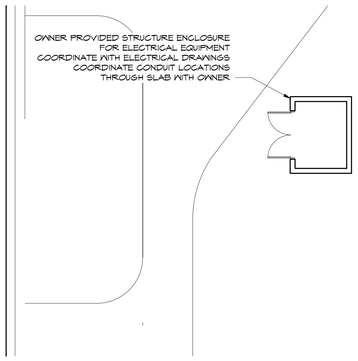
Contract SSD22007-SHS_ATHFL

500 DUCK CREEK PARKWAY
SMYRNA, DE 19977

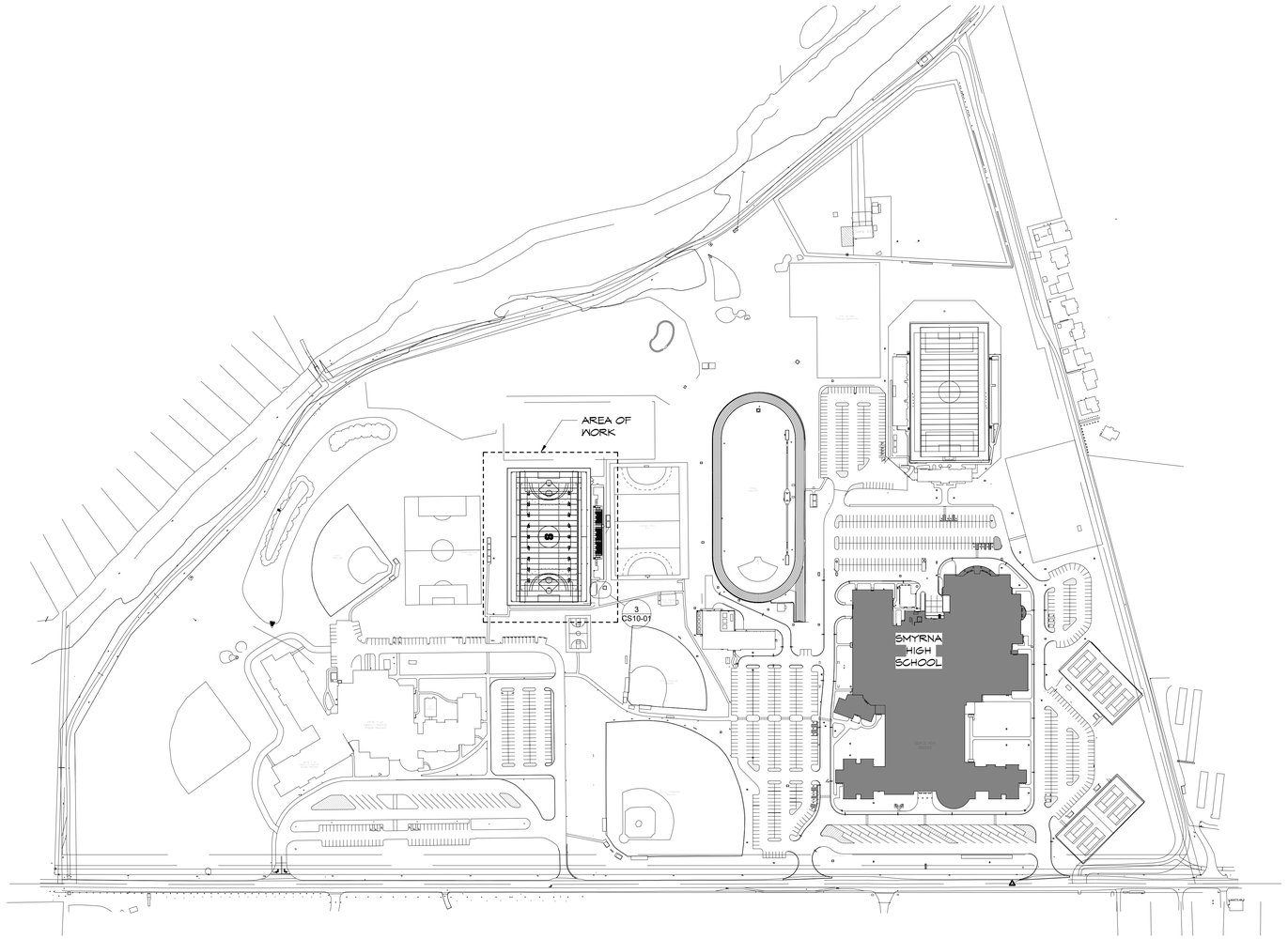
TABLE OF CONTENTS

GENERAL NOTES

1. FIELD LIGHTING MANUFACTURER TO PROVIDE THE REQUIRED FOUNDATION DESIGN TO MEET THEIR SYSTEM REQUIREMENTS.
2. GEOTECHNICAL INFORMATION WAS PROVIDED IN ADDENDUM 1, AND SHALL BE INCORPORATED INTO THE DESIGN OF THE FIELD LIGHTING FOUNDATIONS.



3 ENLARGED SITE PLAN - ELECTRICAL ENCLOSURE
1/8" = 1'-0"



1 SITE KEY PLAN - SMYRNA HIGH & MIDDLE SCHOOL
1" = 160'-0"

KENNETH B. FEARN
6338
STATE OF DELAWARE
REGISTERED ARCHITECT

CONSULTANTS:

M/P/E ENGINEER

GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	ISSUED FOR BIDDING	11-17-2022
2	ADDENDUM 1	12-07-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22007-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

DRAWING TITLE:

COVER SHEET & SITE KEY PLANS

DWN BY:	CHK BY:	PROJ. NUMBER:
FCA	KBF	22010

DATE: 11-03-2022

DRAWING NUMBER: **CS10-01**

SCALE: As indicated

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A	AMPERES	JB	JUNCTION BOX
ADA	AMERICANS WITH DISABILITIES ACT	K	KELVIN
AF	AMPERE FRAME	K	THOUSAND
AFG	ABOVE FINISHED GRADE	KVA	KILOVOLT AMPERES
AHJ	AUTHORITY HAVING JURISDICTION	LB	ELL-BACK
AIC	AMPERE INTERRUPTING CAPACITY	LED	LIGHT EMITTING DIODE
AL	ALUMINUM	LTG	LIGHTING
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MAX	MAXIMUM
		MCB	MAIN CIRCUIT BREAKER
AT	AMPERE TRIP	MH	MOUNTING HEIGHT
AWG	AMERICAN WIRE GAUGE	MIN	MINIMUM
BKR	BREAKER	MLO	MAIN LUGS ONLY
C	CONDUIT	MSB	MAIN SWITCHBOARD
CB	CIRCUIT BREAKER	MTD	MOUNTED
CCT	CORRELATED COLOR TEMPERATURE	MULTI	MULTIPLE
CEE	CONSORTIUM FOR ENERGY EFFICIENCY	N	NEUTRAL, NORMAL, NORTH
CIRC	CIRCUIT	NEC	NATIONAL ELECTRICAL CODE
CKT	CIRCUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CL	CENTER LINE		
CMU	CONCRETE MASONRY UNIT	NO	NUMBER
CNTRL	CONTROL	NTS	NOT TO SCALE
CRI	COLOR RENDERING INDEX	O.C.	ON CENTER
CU	COPPER	P	POLE(S)
D	DEEP, DEPTH	PH	PHASE
dB	DECIBEL (A SCALE)	PNL	PANEL
DB	DUCTBANK	PVC	POLYVINYL CHLORIDE
DE	DELAWARE	PWR	POWER
DIAM	DIAMETER	QTY	QUANTITY
DIV	DIVISION	RCPT	RECEPTACLE(S)
DLC	DESIGN LIGHTS CONSORTIUM	RGS	RIGID GALVANIZED STEEL
DN	DOWN	RNC	RIGID NONMETALLIC CONDUIT
DWG	DRAWING	SPD	SURGE PROTECTIVE DEVICE
EC	ELECTRICAL CONTRACTOR	SS	STAINLESS STEEL
EFF	EFFICIENCY	SW	SWITCH, SOUTHWEST
E.G.	EXAMPLE GIVEN	T	TELEPHONE, TRANSFORMER
ELEC	ELECTRIC	TBD	TO BE DETERMINED
EMER	EMERGENCY	TEMP	TEMPORARY, TEMPERATURE
EMT	ELECTRICAL METALLIC TUBING	TYP	TYPICAL
EPA	ENVIRONMENTAL PROTECTION AGENCY	UG	UNDERGROUND
		U.O.N.	UNLESS OTHERWISE NOTED
EQ	EQUAL	V	VOLTS
EQUIP	EQUIPMENT	VA	VOLT-AMPERES
ETC	ETCETERA	VIA	BY THE WAY OF
ETR	EXISTING TO REMAIN	W	WIRE, WIDTH, WEST
EX/EXST	EXISTING	W/	WITH
EXT	EXTERIOR	WO	WORK ORDER
FL/FLR	FLOOR	WP	WEATHERPROOF
FMC	FLEXIBLE METAL CONDUIT	XFMR	TRANSFORMER
FREQ	FREQUENCY	Y	WYE
FT	FEET	Δ	DELTA
G	GROUND,GFCI	YR	YEAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	©	COPYRIGHT
GND	GROUND	%	PERCENT
H	HEIGHT	'	FEET
HH	HANDHOLE	"	INCHES
HZ	HERTZ	+/-	PLUS OR MINUS
ID	IDENTIFICATION	ø	PHASE
I.E.	THAT IS	&	AND
IESNA	ILLUMINATING ENGINEERING SOCIETY (OF NORTH AMERICA)	#	NUMBER

LIGHTING LEGEND

SYMBOL	DESCRIPTION
P1	ATHLETIC LIGHTING FIXTURE - POLE-MOUNTED - LETTER INDICATES FIXTURE TYPE, NUMBER INDICATES CIRCUIT NUMBER
S	SWITCH - SINGLE POLE - M.H. 42" TO BOTTOM, 48" TO TOP

GENERAL ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	FEEDER/BRANCH CIRCUIT ABOVE GRADE U.O.N.
	FEEDER/BRANCH CIRCUIT UNDERGROUND U.O.N.
	EQUIPMENT CONNECTION
J	JUNCTION BOX
	ENCLOSURE OR CABINET AS NOTED
#	DRAWING NOTE - NEW WORK
D#	DUCTBANK DESIGNATION NUMBER - SEE DUCTBANK SCHEDULE
HH#	HANDHOLE DESIGNATION NUMBER - SEE HANDHOLE SCHEDULE
XXX / XXX	PART PLAN NO. DRAWING NO. — PART PLAN DESIGNATION

SINGLE LINE DIAGRAM LEGEND

SYMBOL	DESCRIPTION
#P #A	CIRCUIT BREAKER - TOP NUMBER INDICATES NUMBER OF POLES, BOTTOM NUMBER INDICATES TRIP RATING

***NOTE:**

1. NOT ALL ITEMS WITHIN LEGEND(S) MAY BE UTILIZED ON THIS PROJECT.

POWER LEGEND

SYMBOL	DESCRIPTION
GFP	DUPLEX RECEPTACLE - WEATHER-RESISTANT GFCI TYPE WITH WEATHERPROOF WHILE-IN-USE COVER - M.H. 48" AFF U.O.N.
	PANELBOARD - 277/480V - SURFACE-MOUNTED, TOP 6'-6" AFF
	PANELBOARD - 120/240V - SURFACE-MOUNTED, TOP 6'-6" AFF
kVA kVA	TRANSFORMER - SEALED, ENCAPSULATED - SEE LOW VOLTAGE TRANSFORMER SCHEDULE
	ENCLOSURE OR CABINET AS NOTED
CB	CIRCUIT BREAKER IN NEMA 1 ENCLOSURE U.O.N.
$L $L2	TOGGLE SWITCH - SINGLE POLE, TWO POLE - HORSEPOWER RATED, WITH LOCKABLE HANDLE GUARD COVERPLATE - M.H. 42" AFF TO BOTTOM, 48" AFF TO TOP

DAVID ROBERT HOFFMAN — REGISTERED — DELAWARE — PROFESSIONAL ENGINEER

CONSULTANTS:

M/P/E ENGINEER

GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	BID DOCUMENTS	11-17-2022
2	ADDENDUM 1	12-01-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22004-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

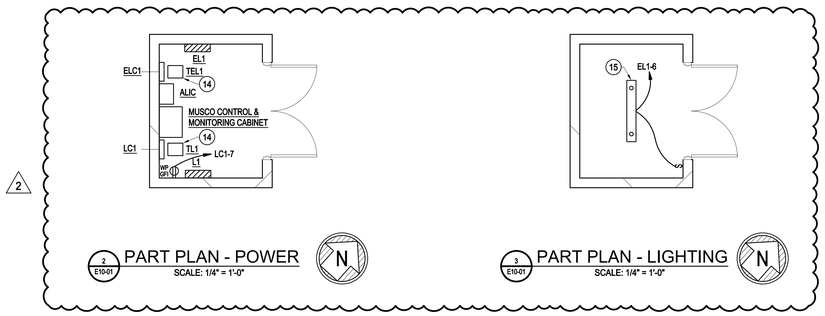
DRAWING TITLE: **LEGEND AND ABBREVIATIONS ELECTRICAL**

DWN BY:	CHK BY:	PROJ. NUMBER:
TMC	CDH	22010

DATE: **11-17-2022**

SCALE: **As indicated**

DRAWING NUMBER: **E00-01**

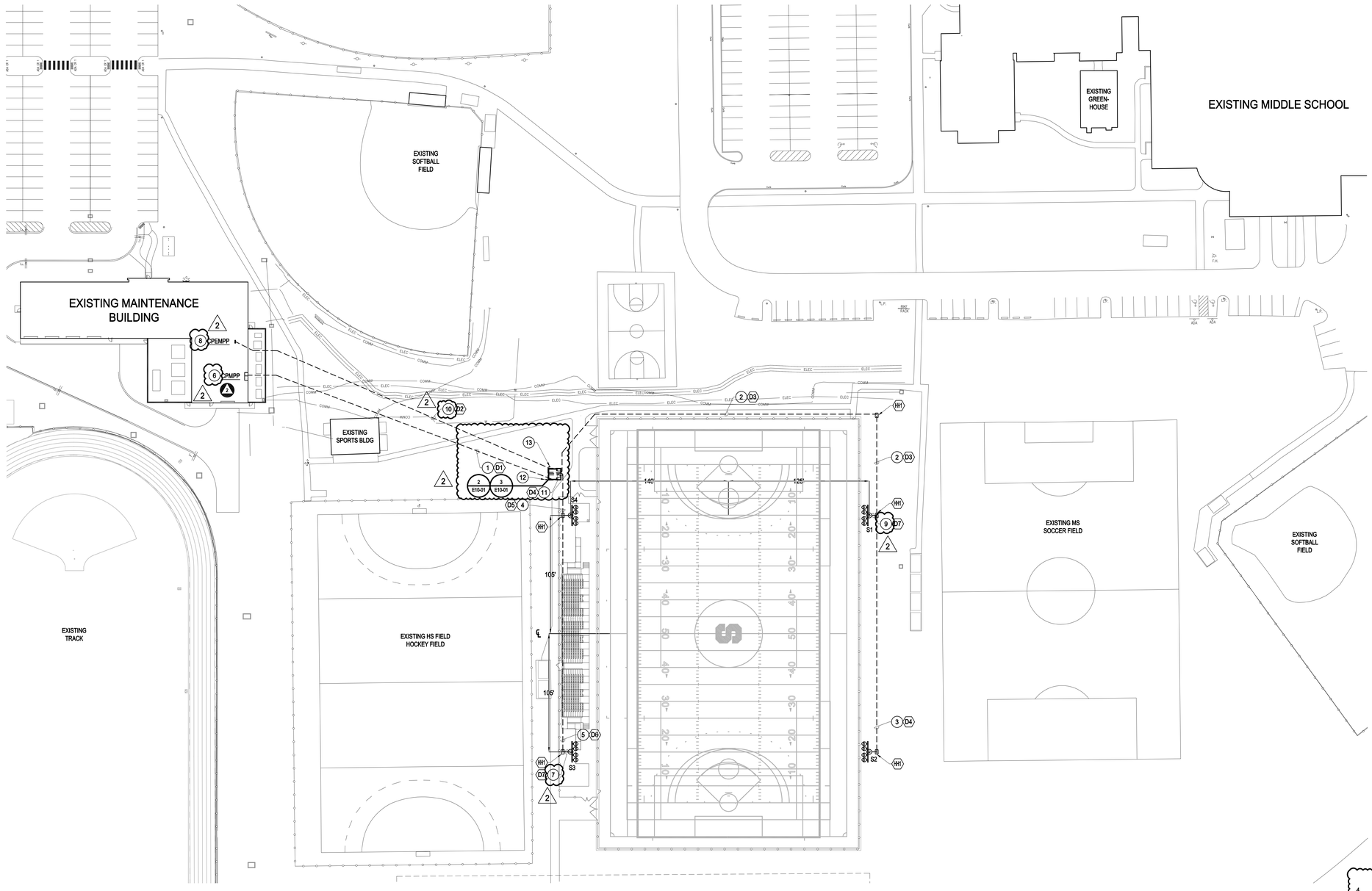


2 E10-01 PART PLAN - POWER
SCALE: 1/4" = 1'-0"

3 E10-01 PART PLAN - LIGHTING
SCALE: 1/4" = 1'-0"

DRAWING NOTES:
(APPLY TO THIS DRAWING ONLY)

1. (3) 3/0 AWG PHASE, (1) 3/0 AWG NEUTRAL, (1) 6 AWG GROUNDING CONDUCTOR IN 2-1/2" CONDUIT. PROVIDE PULL STRING IN SPARE CONDUIT.
2. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO POLES "S1" AND "S2". SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION.
3. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO POLE "S2". SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION.
4. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO POLES "S3" AND "S4". SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION.
5. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO POLE "S3". SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION.
6. NEW BREAKER TO SERVE PANELBOARD L1 SHALL BE PROVIDED IN EXISTING SWITCHBOARD CPMPP. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
7. INSTALL HANDHOLE ADJACENT TO LIGHT STRUCTURE BASE. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO LIGHT FIXTURES FOR FIELD AND BLEACHERS. SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION. TYPICAL FOR POLES "S3" AND "S4".
8. NEW BREAKER TO SERVE EMERGENCY LIGHTING AT FIELD SHALL BE PROVIDED IN EXISTING PANELBOARD CPEMPP. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
9. INSTALL HANDHOLE ADJACENT TO LIGHT STRUCTURE BASE. CONDUCTORS AND CONDUITS FROM MUSCO CONTROL AND MONITORING CABINET TO LIGHT FIXTURES FOR FIELD AND BLEACHERS. SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION. TYPICAL FOR POLES "S1" AND "S2".
10. (3) 6 AWG PHASE, (1) 6 AWG NEUTRAL, (1) 10 AWG GROUNDING CONDUCTOR IN 1" CONDUIT. PROVIDE PULL STRING IN SPARE CONDUIT.
11. CONDUCTORS AND CONDUITS FROM MUSCO AUXILIARY LIGHTING INTERFACE CABINET TO POLES "S3" AND "S4". SEE DETAILS FOR CONDUCTOR AND CONDUIT INFORMATION.
12. 3/4"x10'-0" COPPER CLAD GROUND ROD WITH CAD WELD CONNECTION. PROVIDE 8 AWG BARE COPPER GROUND TO TRANSFORMER TLC1. SEE DETAILS FOR ADDITIONAL INFORMATION.
13. 3/4"x10'-0" COPPER CLAD GROUND ROD WITH CAD WELD CONNECTION. PROVIDE 8 AWG BARE COPPER GROUND TO TRANSFORMER TELC1. SEE DETAILS FOR ADDITIONAL INFORMATION.
14. TRANSFORMER TO BE MOUNTED ON WALL ABOVE LOAD CENTER. REFER TO DETAILS FOR ADDITIONAL INFORMATION.
15. PROVIDE LIGHT FIXTURE EQUAL TO LITHONIA ZL1D WITH 3,000 LUMEN OUTPUT, 4000K CCT, SURFACE/PENDANT MOUNTED AT 8'-0".



2 1 E10-01 SITE PLAN - ELECTRICAL
SCALE: 1" = 40'-0"

SCALE: 1/4" = 1'-0"
4 0 4 8
SCALE: 1" = 40'-0"
40 0 40 80

DAVID ROBERT HOFFMAN — REGISTERED — DELAWARE — PROFESSIONAL ENGINEER

CONSULTANTS:

M/P/E ENGINEER

GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	BID DOCUMENTS	11-17-2022
2	ADDENDUM 1	12-01-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22004-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

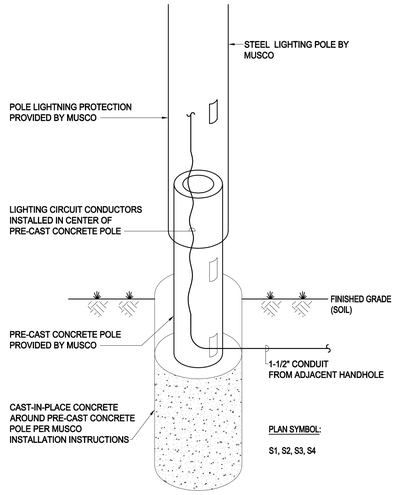
DRAWING TITLE: **SITE PLAN ELECTRICAL**

DWN BY:	CHK BY:	PROJ. NUMBER:
TMC	CDH	22010

DATE: 11-17-2022

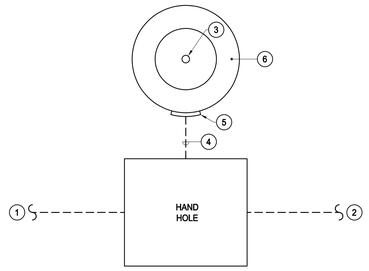
SCALE: As indicated

DRAWING NUMBER: **E10-01**



1 DETAIL - POLE BASE AND FOUNDATION - ATHLETIC FIELD LIGHTING

NO SCALE

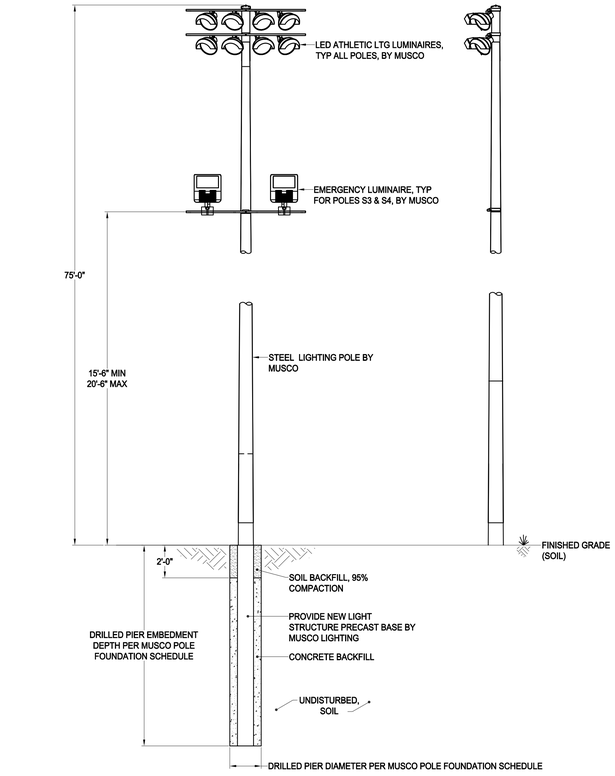


NOTES:

1. CONDUIT(S) FROM MUSCO CONTROL AND MONITORING CABINET. SEE SCHEDULE FOR CONDUIT SIZES AND QUANTITIES.
2. CONDUIT(S) TO NEXT HANDHOLE. SEE SCHEDULE FOR CONDUIT SIZES AND QUANTITIES.
3. CONDUIT TURN-UP INTO CENTER OF CONCRETE POLE (SEE LIGHTING POLE BASE DETAIL FOR ADDITIONAL INFORMATION).
4. 1-1/2" CONDUIT. EXTEND FROM HANDHOLE TO CENTER OF CONCRETE POLE VIA CONDUIT ENTRY PLATE.
5. CONDUIT ENTRY PLATE.
6. PRE-CAST CONCRETE POLE BASE FURNISHED BY MUSCO AND INSTALLED UNDER DIVISION 26.

2 DETAIL - POLE BASE AND FOUNDATION - ATHLETIC FIELD LIGHTING

NO SCALE

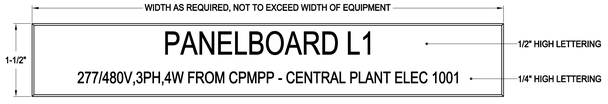


NOTES:

1. SUCCESSFUL BIDDER SHALL PROVIDE ALL CRANES, RIGGING, ETC. REQUIRED TO INSTALL LIGHTING STRUCTURES AS INDICATED HEREIN.
2. VERIFY SOIL STRUCTURE PRIOR TO CONSTRUCTING POLE FOUNDATIONS. REFER TO SPECIFICATIONS FOR STRUCTURAL PARAMETERS.
3. A PROFESSIONAL CIVIL ENGINEER LICENSED IN THE STATE OF DELAWARE SHALL DESIGN FOOTINGS & FOUNDATION. NEED TO DO SOIL TEST BORING AT PROPOSED LOCATIONS.

5 DETAIL - ATHLETIC LIGHTING STRUCTURE INSTALLATION

NO SCALE

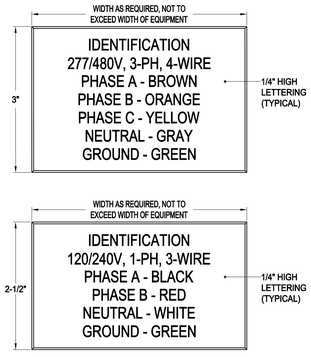


NOTES:

1. LINE #1 IDENTIFIES PANELBOARD DESIGNATION: PANELBOARD [PANELBOARD DESIGNATION, E.G. L1]
2. LINE #2 IDENTIFIES FEEDER CIRCUIT INFORMATION: [VOLTAGE], [PHASE], [# WIRES] FROM [SOURCE EQUIPMENT/CIRCUIT DESIGNATION] - [ROOM WHERE SOURCE IS LOCATED]

3 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - BRANCH PANELBOARD

NO SCALE

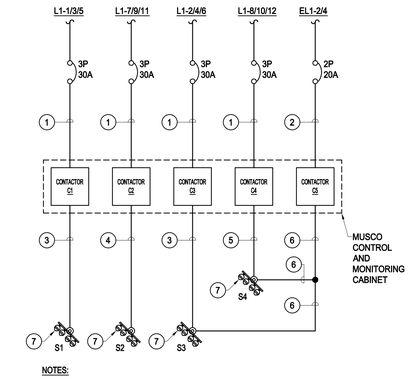


NOTES:

1. APPLY WIRING SYSTEM IDENTIFICATION LABEL AT EACH NEW BRANCH CIRCUIT PANELBOARD AND LOAD CENTER IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) ARTICLE 210.5(C).

4 DETAIL - WIRING SYSTEM IDENTIFICATION LABEL FOR PANELBOARDS/LOAD CENTERS

NO SCALE

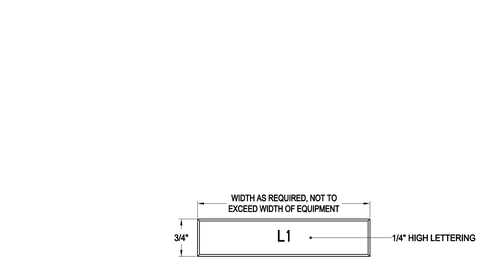


NOTES:

1. (3) 10 AWG PHASE AND (1) 10 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
2. (2) 12 AWG PHASE AND (1) 12 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
3. (3) 8 AWG PHASE AND (1) 10 AWG GROUNDING CONDUCTOR IN 1-1/2" CONDUIT. PROVIDE SPARE 1-1/2" CONDUIT WITH PULL STRING.
4. (3) 6 AWG PHASE AND (1) 10 AWG GROUNDING CONDUCTOR IN 1-1/2" CONDUIT. PROVIDE SPARE 1-1/2" CONDUIT WITH PULL STRING.
5. (3) 10 AWG PHASE AND (1) 10 AWG GROUNDING CONDUCTOR IN 1-1/2" CONDUIT. PROVIDE SPARE 1-1/2" CONDUIT WITH PULL STRING.
6. (2) 10 AWG PHASE AND (1) 10 AWG GROUNDING CONDUCTOR IN 1-1/2" CONDUIT. PROVIDE SPARE 1-1/2" CONDUIT WITH PULL STRING.
7. LED ATHLETIC LIGHTING LUMINAIRE AND POLE BY MUSCO.

8 DETAIL - ATHLETIC FIELD LIGHTING WIRING DIAGRAM

NO SCALE

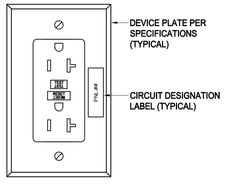


NOTES:

1. LINE #1 IDENTIFIES LOAD SERVED BY CIRCUIT BREAKER.
2. APPLY TO ALL NEW CIRCUIT BREAKERS IN EXISTING SWITCHBOARD CPMPP AND EXISTING DISTRIBUTION PANELBOARD CEPMPP.

6 DETAIL - TYPICAL EQUIPMENT NAMEPLATE - NEW CIRCUIT BREAKER IN EXISTING SWITCHBOARD

NO SCALE



GFCI RECEPTACLE
VERTICAL

NOTES:

1. PROVIDE CIRCUIT LABEL ON INSIDE OF WEATHERPROOF COVER FOR EXTERIOR RECEPTACLES.

7 DETAIL - TYPICAL FACEPLATE LABELING - RECEPTACLES

NO SCALE

DAVID ROBERT HOFFMAN REGISTERED DELAWARE PROFESSIONAL ENGINEER

CONSULTANTS:

M/P/E ENGINEER

GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	BID DOCUMENTS	11-17-2022
2	ADDENDUM 1	12-01-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22004-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

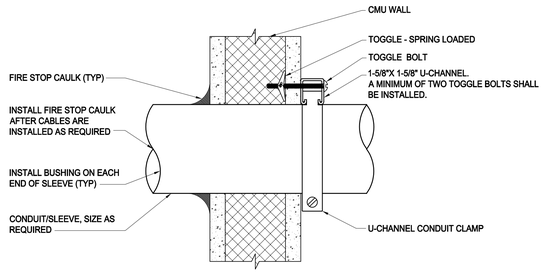
DRAWING TITLE:
DETAILS
ELECTRICAL

DWN BY:	CHK BY:	PROJ. NUMBER:
TMC	CDH	22010

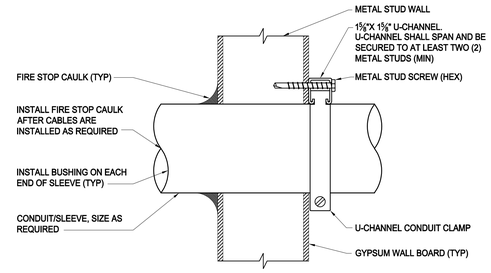
DATE: 11-17-2022

SCALE: As indicated

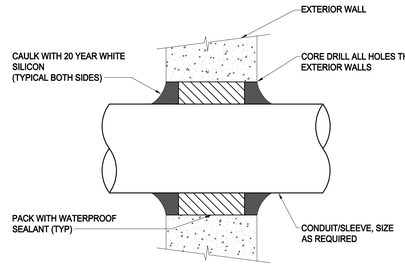
DRAWING NUMBER: E30-01



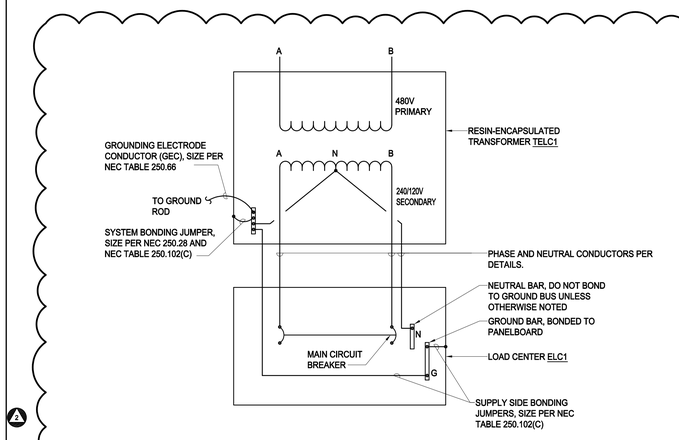
1 **DETAIL - TYPICAL CONDUIT SLEEVE THROUGH INTERIOR CMU WALL** NO SCALE



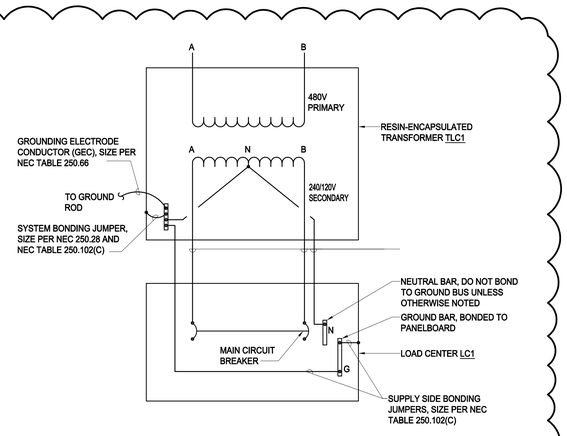
2 **DETAIL - TYPICAL CONDUIT SLEEVE THROUGH INTERIOR STUD WALL** NO SCALE



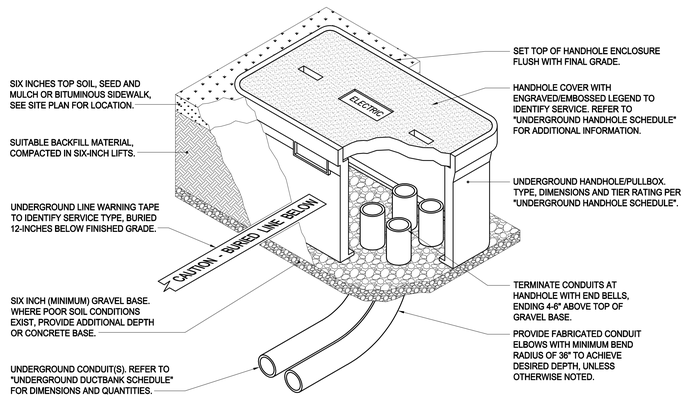
3 **DETAIL - TYPICAL CONDUIT THROUGH EXTERIOR WALL - ABOVE GRADE** NO SCALE



4 **DETAIL - RESIN-ENCAPSULATED TRANSFORMER TELC1 GROUNDING DETAIL** NO SCALE



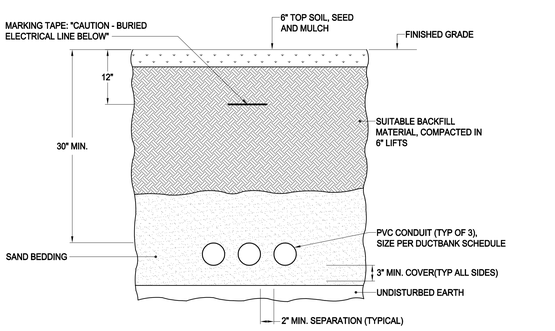
5 **DETAIL - RESIN-ENCAPSULATED TRANSFORMER TLC1 GROUNDING DETAIL** NO SCALE



NOTES:

1. SEAL ACTIVE CONDUITS WITH FOAM DUCT SEALANT.
2. PROVIDE CAP ON SPARE CONDUITS.

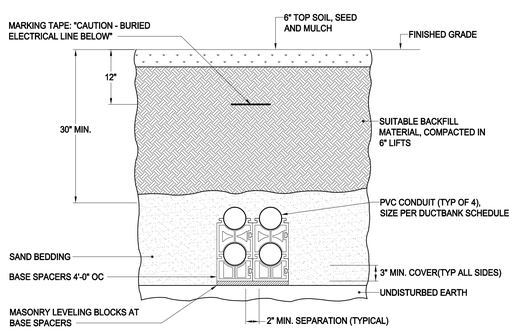
6 **DETAIL - TYPICAL INSTALLATION DETAIL - UNDERGROUND HANDHOLE/PULLBOX** NO SCALE



NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

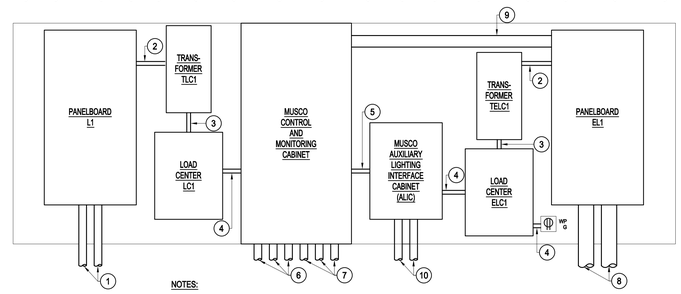
7 **DETAIL - THREE-WAY DIRECT BURIED ELECTRICAL CONDUIT - GENERIC** NO SCALE



NOTES:

1. EXACT DEPTH TO BE COORDINATED WITH OTHER BURIED UTILITIES SUCH AS STORM DRAIN LINE AND ROOF LEADERS.

8 **DETAIL - FOUR-WAY DIRECT BURIED ELECTRICAL CONDUIT - 2X2 - GENERIC** NO SCALE



NOTES:

1. FEEDER CIRCUIT FROM PANELBOARD CPEMPP IN CENTRAL PLANT MECHANICAL ROOM., SEE SITE PLAN.
2. (2) 12 AWG PHASE, (1) 12 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
3. (2) 10 AWG PHASE, (1) 10 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
4. (1) 12 AWG PHASE, (1) 12 AWG NEUTRAL, (1) 12 AWG GROUNDING CONDUCTOR IN 3/4" CONDUIT.
5. (1) 12 AWG PHASE, (1) 12 AWG NEUTRAL, (1) 12 AWG GROUNDING CONDUCTOR AND CONTROL WIRING IN 3/4" CONDUIT.
6. CONDUIT TO POLES "S3" AND "S4", SEE WIRING DETAIL FOR QUANTITY AND CONDUCTOR INFORMATION.
7. CONDUIT TO POLES "S1" AND "S2" SEE WIRING DETAIL FOR QUANTITY AND CONDUCTOR INFORMATION.
8. FEEDER CIRCUIT FROM SWITCHBOARD CPMPP IN CENTRAL PLANT ELECTRICAL ROOM, SEE SITE PLAN.
9. FOUR (4) SETS OF (3) 8 AWG PHASE, AND (1) 10 AWG GROUNDING CONDUCTOR IN 1-1/2" CONDUIT.
10. CONDUIT TO POLES "S3" AND "S4" FOR EMERGENCY LIGHTING, SEE WIRING DETAIL FOR QUANTITY AND CONDUCTOR INFORMATION.

9 **DETAIL - LIGHTING CONTROL ENCLOSURE MOUNTING LAYOUT** NO SCALE

DAVID ROBERT HOFFMAN — REGISTERED — DELAWARE — PROFESSIONAL ENGINEER

CONSULTANTS:

M/P/E ENGINEER

GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	BID DOCUMENTS	11-17-2022
2	ADDENDUM 1	12-01-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22004-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

DRAWING TITLE:
DETAILS ELECTRICAL

DWN BY:	CHK BY:	PROJ. NUMBER:
TMC	CDH	22010

DATE: 11-17-2022

DRAWING NUMBER: E30-02

SCALE: As indicated

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 400 MAIN CIRCUIT BREAKER
A.I.C. RATING: 65K

EXISTING DISTRIBUTION PANELBOARD (NOTE 1): **CPEMPP**

DEMOLITION

LOCATION: MECHANICAL 1000

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION (NOTE 2)	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION (NOTE 2)	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1			SPACE	--	x	x	2			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
3			SPACE	--	x	x	4			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
5			SPACE	--	x	x	6			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
7			SPACE	--	x	x	8			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
9			SPACE	--	x	x	10			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
11			SPACE	--	x	x	12			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
13			SPACE	--	x	x	14			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
15	3	60	BOILER #1	--	x	x	16			**SPACE (NOTE 5)**	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
17	3	60	BOILER #2	--	x	x	18	3	60	PARKING LOT LTS	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
19	3	60	BOILER #3	--	x	x	20	3	60	FUEL PUMPS	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
21	3	250	CP-EMCCA-A	--	x	x	22	3	60	TRANSFORMER PANEL EDP	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
			SUBTOTALS (NOTE 3):	0.0	0.0	0.0				SUBTOTALS (NOTE 3):	0.0	0.0	0.0

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY (NOTE 3)

PHASE:	A	B	C	TOTAL
TOTAL KVA:	0.0	0.0	0.0	0.0
DEMAND KVA:				0.0
TOTAL AMPERES:				

NOTES:
1. EXISTING DISTRIBUTION PANELBOARD IS SQUARE D COMPANY, TYPE I-LINE, CATALOG NO. 12263556530060001.
2. CIRCUIT DESCRIPTIONS WERE COPIED FROM EXISTING CIRCUIT DIRECTORY AND HAVE NOT BEEN VERIFIED FOR ACCURACY.
3. CONNECTED LOADS OF EXISTING CIRCUITS WERE NOT DETERMINED.
4. ITEMS SHOWN IN BOLD ARE AFFECTED BY DEMOLITION WORK. ITEMS NOT SHOWN IN BOLD SHALL REMAIN.
5. PREPARE SPACE TO RECEIVE NEW BREAKER UNDER NEW WORK. REFER TO NEW WORK SCHEDULES FOR ADDITIONAL INFORMATION.

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 400 MAIN CIRCUIT BREAKER
A.I.C. RATING: 65K

EXISTING DISTRIBUTION PANELBOARD (NOTE 1): **CPEMPP**

NEW WORK

LOCATION: MECHANICAL 1000

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION (NOTE 2)	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION (NOTE 2)	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1			SPACE	--	x	x	2			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
3			SPACE	--	x	x	4			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
5			SPACE	--	x	x	6			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
7			SPACE	--	x	x	8			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
9			SPACE	--	x	x	10			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
11			SPACE	--	x	x	12			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
13			SPACE	--	x	x	14			SPACE	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
15	3	60	BOILER #1	--	x	x	16	**3**	**30**	**PANELBOARD EL1 - ATHLETIC FIELD (NOTES 5,6)**	**0.61**	x	x
				x	--	x					x	**0.38**	x
				x	x	--					x	x	**0.10**
17	3	60	BOILER #2	--	x	x	18	3	60	PARKING LOT LTS	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
19	3	60	BOILER #3	--	x	x	20	3	60	FUEL PUMPS	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
21	3	250	CP-EMCCA-A	--	x	x	22	3	60	TRANSFORMER PANEL EDP	--	x	x
				x	--	x					x	--	x
				x	x	--					x	x	--
			SUBTOTALS (NOTE 3):	0.6	0.4	0.1				SUBTOTALS (NOTE 3):	0.6	0.4	0.1

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY (NOTE 3)

PHASE:	A	B	C	TOTAL
TOTAL KVA:	0.6	0.4	0.1	1.1
DEMAND KVA:				1.1
TOTAL AMPERES:	2.2	1.4	0.4	1.3

NOTES:
1. EXISTING DISTRIBUTION PANELBOARD IS SQUARE D COMPANY, TYPE I-LINE, CATALOG NO. 12263556530060001.
2. CIRCUIT DESCRIPTIONS WERE COPIED FROM EXISTING CIRCUIT DIRECTORY AND HAVE NOT BEEN VERIFIED FOR ACCURACY.
3. CONNECTED LOADS OF EXISTING CIRCUITS WERE NOT DETERMINED.
4. ITEMS SHOWN IN BOLD ARE AFFECTED BY NEW WORK. ITEMS NOT SHOWN IN BOLD SHALL REMAIN.
5. PREPARE NEW CIRCUIT BREAKER TO MATCH EXISTING IN AVAILABLE SPACE.
6. UPDATE CIRCUIT DIRECTORY TO INDICATE REVISED CIRCUIT INFORMATION.

EXISTING MAIN SWITCHBOARD: CPMPP (NOTE 1) DEMO

VOLTAGE: 277/480V, 3-PHASE, 4-WIRE
AMPERAGE: 1600
MAINS: MAIN CIRCUIT BREAKER
A.I.C. RATING: 42K

MOUNTING: PAD MOUNTED
ENCLOSURE: NEMA 1
OPTIONS: +GRD
LOCATION: ELECTRICAL 1001

MAIN (SECTION 1 OF 2)	DESCRIPTION (NOTE 2)	CONNECTED LOAD KILO-VOLT AMPERES (kVA) (NOTE 3)	CONNECTED LOAD AMPERES (A) (NOTE 3)	CIRCUIT BREAKER NO. POLES	CIRCUIT BREAKER TRIP RATING	CIRCUIT BREAKER FRAME SIZE	CIRCUIT BREAKER MTG. HEIGHT (INCHES)	REMARKS
1	MAIN CIRCUIT BREAKER			3	1600	2000		

DISTRIBUTION (SECTION 2 OF 2)	DESCRIPTION (NOTE 2)	CONNECTED LOAD KILO-VOLT AMPERES (kVA) (NOTE 3)	CONNECTED LOAD AMPERES (A) (NOTE 3)	CIRCUIT BREAKER NO. POLES	CIRCUIT BREAKER TRIP RATING	CIRCUIT BREAKER FRAME SIZE	CIRCUIT BREAKER MTG. HEIGHT (INCHES)	REMARKS
1	SPACE	--	--	--	--	--	4 1/2	
2	MCCA	--	--	3	400	400	6	
3	CHILLER #3	--	--	3	600	600	6	
4	LC-1	--	--	3	30	150	4 1/2	
5	SPORTS BUILDING	--	--	3	60	150	4 1/2	
6	AT S-1	--	--	3	400	400	6	
7	TVSS	--	--	3	30	150	4 1/2	
8	**SPACE**	**--**	**--**	**--**	**--**	**--**	**4 1/2**	**NOTE 5**
9	COOLING TOWER #1	--	--	3	150	150	4 1/2	
10	COOLING TOWER #2	--	--	3	150	150	4 1/2	
11	COOLING TOWER #3	--	--	3	150	150	4 1/2	
12	AT S-2	--	--	3	50	150	4 1/2	
13	PANEL DP-2	--	--	3	50	150	4 1/2	
14	PANEL DP-1	--	--	3	70	150	4 1/2	
	TOTALS	0.0	0.0					

NOTES:
1. EXISTING MAIN SWITCHBOARD MANUFACTURER IS SQUARE D COMPANY, TYPE QED, SERIES 2, PLANT CODE 85, CATALOG NO. 26355653-024.
2. CIRCUIT DESCRIPTIONS WERE COPIED FROM EXISTING CIRCUIT DIRECTORY AND HAVE NOT BEEN VERIFIED FOR ACCURACY.
3. CONNECTED LOADS OF EXISTING CIRCUITS WERE NOT DETERMINED.
4. ITEMS SHOWN IN BOLD ARE AFFECTED BY NEW WORK. ITEMS NOT SHOWN IN BOLD ARE EXISTING TO REMAIN.
5. PREPARE SPACE TO RECEIVE NEW BREAKER UNDER NEW WORK. REFER TO NEW WORK SCHEDULES FOR ADDITIONAL INFORMATION.

EXISTING MAIN SWITCHBOARD: CPMPP (NOTE 1) NEW WORK

VOLTAGE: 277/480V, 3-PHASE, 4-WIRE
AMPERAGE: 1600
MAINS: MAIN CIRCUIT BREAKER
A.I.C. RATING: 42K

MOUNTING: PAD MOUNTED
ENCLOSURE: NEMA 1
OPTIONS: +GRD
LOCATION: ELECTRICAL 1001

MAIN (SECTION 1 OF 2)	DESCRIPTION (NOTE 2)	CONNECTED LOAD KILO-VOLT AMPERES (kVA) (NOTE 3)	CONNECTED LOAD AMPERES (A) (NOTE 3)	CIRCUIT BREAKER NO. POLES	CIRCUIT BREAKER TRIP RATING	CIRCUIT BREAKER FRAME SIZE	CIRCUIT BREAKER MTG. HEIGHT (INCHES)	REMARKS
1	MAIN CIRCUIT BREAKER			3	1600	2000		

DISTRIBUTION (SECTION 2 OF 2)	DESCRIPTION (NOTE 2)	CONNECTED LOAD KILO-VOLT AMPERES (kVA) (NOTE 3)	CONNECTED LOAD AMPERES (A) (NOTE 3)	CIRCUIT BREAKER NO. POLES	CIRCUIT BREAKER TRIP RATING	CIRCUIT BREAKER FRAME SIZE	CIRCUIT BREAKER MTG. HEIGHT (INCHES)	REMARKS
1	SPACE	--	--	--	--	--	4 1/2	
2	MCCA	--	--	3	400	400	6	
3	CHILLER #3	--	--	3	600	600	6	
4	LC-1	--	--	3	30	150	4 1/2	
5	SPORTS BUILDING	--	--	3	60	150	4 1/2	
6	AT S-1	--	--	3	400	400	6	
7	TVSS	--	--	3	30	150	4 1/2	
8	**PANELBOARD L1**	**70.0**	**84.0**	**3**	**200**	**250**	**4 1/2**	**NOTES 4,5**
9	COOLING TOWER #1	--	--	3	150	150	4 1/2	
10	COOLING TOWER #2	--	--	3	150	150	4 1/2	
11	COOLING TOWER #3	--	--	3	150	150	4 1/2	
12	AT S-2	--	--	3	50	150	4 1/2	
13	PANEL DP-2	--	--	3	50	150	4 1/2	
14	PANEL DP-1	--	--	3	70	150	4 1/2	
	TOTALS	70.0	84.0					

NOTES:
1. EXISTING MAIN SWITCHBOARD MANUFACTURER IS SQUARE D COMPANY, TYPE QED, SERIES 2, PLANT CODE 85, CATALOG NO. 26355653-024.
2. CIRCUIT DESCRIPTIONS WERE COPIED FROM EXISTING CIRCUIT DIRECTORY AND HAVE NOT BEEN VERIFIED FOR ACCURACY.
3. CONNECTED LOADS OF EXISTING CIRCUITS WERE NOT DETERMINED.
4. ITEMS SHOWN IN BOLD ARE AFFECTED BY NEW WORK. ITEMS NOT SHOWN IN BOLD ARE EXISTING TO REMAIN.
5. PROVIDE EQUIPMENT NAMEPLATE PER DETAILS TO INDICATE REVISED CIRCUIT DESCRIPTIONS.

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 30 MAIN CIRCUIT BREAKER (NOTE 1)
A.I.C. RATING: 22K

PANELBOARD: **EL1**
LOCATION: BLDG AT ATH. FIELD (A)

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1				--	x	x	2	2	20	CONTACTOR 5 FOR POLE S3 AND S4 LIGHTS FOR BLEACHERS	0.38	x	x
3	3	30	MAIN BREAKER	x	--	x	4				--	0.38	x
5				x	x	--	6	1	20	LTG - BLDG. AT ATHLETIC FIELD	x	x	0.10
7	2	15	TRANSFORMER ELC1 (NOTE 1)	0.23	x	x	8						
9				x	--	x	10				x	--	x
11				x	x	--	12				x	x	--
			SUBTOTALS:	0.2	0.0	0.0				SUBTOTALS:	0.4	0.4	0.1

MOUNTING: SURFACE (A)
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR
+ INTEGRAL SPD

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	0.6	0.4	0.1	1.1
DEMAND KVA:				1.1
TOTAL AMPERES:	2.2	1.4	0.4	1.3

NOTES:
1. PROVIDE PERMANENT PADLOCK PROVISIONS IN THE "OFF" POSITION.

VOLTAGE: 277/480 3 PHASE, 4 WIRE
AMPERES: 200 MAIN CIRCUIT BREAKER (NOTE 1)
A.I.C. RATING: 22K

PANELBOARD: **L1**
LOCATION: BLDG AT ATH. FIELD (A)

CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	CIRC. NO.	CIRCUIT BREAKER P	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C
1				5.68	x	x	2						
3	3	30	CONTACTOR 1 FOR POLE S1 LIGHTS	x	5.68	x	4	3	30	CONTACTOR 3 FOR POLE S3 LIGHTS	x	5.68	x
5				x	x	5.68	6				x	x	5.68
7				5.68	x	x	8				5.68	x	x
9	3	30	CONTACTOR 2 FOR POLE S2 LIGHTS	x	5.68	x	10	3	30	CONTACTOR 4 FOR POLE S4 LIGHTS	x	5.68	x
11				x	x	5.68	12				x	x	5.68
13	2	15	TRANSFORMER TLC1 (NOTE 1)	0.23	x	x	14				--	x	x
15				x	0.18	x	16				x	--	x
17				x	x	--	18				x	x	--
19				--	x	x	20				--	x	x
21				x	--	x	22				x	--	x
23				x	x	--	24				x	x	--
25				--	x	x	26				--	x	x
27				x	--	x	28				x	--	x
29				x	x	--	30				x	x	--
			SUBTOTALS:	11.6	11.5	11.4				SUBTOTALS:	11.4	11.4	11.4

MOUNTING: SURFACE (A)
ENCLOSURE: NEMA 1
OPTIONS: + EQUIPMENT GROUND BAR
+ INTEGRAL SPD

LOAD SUMMARY

PHASE:	A	B	C	TOTAL
TOTAL KVA:	23.0	22.9	22.7	68.6
DEMAND KVA:				68.6
TOTAL AMPERES:	82.8	82.6	82.0	82.5

NOTES:
1. PROVIDE PERMANENT PADLOCK PROVISIONS IN THE "OFF" POSITION.

VOLTAGE: 120/240 1 PHASE, 3 WIRE
AMPERES: 30 MAIN CIRCUIT BREAKER
A.I.C. RATING: 10K

LOAD CENTER: **ELC1**
LOCATION: BLDG AT ATH. FIELD (A)

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B
1	2	30	MAIN BREAKER	--	x	2			SPACE	--	x
3				x	--	4			SPACE	x	--
5	1	20	CONTROL POWER (NOTE 1)	0.23	x	6			SPACE	--	x
7	1	20	SPARE	x	--	8			SPACE	x	--
9	1	20	SPARE	--	x	10			SPACE	--	x
11	1	20	SPARE	x	--	12			SPACE	x	--
			SUBTOTALS:	0.2	0.0				SUBTOTALS:	0.0	0.0

MOUNTING: SURFACE
ENCLOSURE: NEMA 1 (A)
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	TOTAL
TOTAL KVA:	0.2	0.0	0.2
DEMAND KVA:			0.2
TOTAL AMPERES:	1.9		1.0

NOTES:
1. PROVIDE CIRCUIT BREAKER HANDLE CLAMP TO PREVENT ACCIDENTAL OPERATION.

VOLTAGE: 120/240 1 PHASE, 3 WIRE
AMPERES: 30 MAIN CIRCUIT BREAKER
A.I.C. RATING: 10K

LOAD CENTER: **LC1**
LOCATION: BLDG AT ATH. FIELD (A)

CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B	CIRCUIT NO.	CIRCUIT BREAKER POLE	CIRCUIT BREAKER TRIP	CIRCUIT DESCRIPTION	KVA PER PHASE A	KVA PER PHASE B
1	2	30	MAIN BREAKER	--	x	2			SPACE	--	x
3				x	--	4			SPACE	x	--
5	1	20	CONTROL POWER (NOTE 1)	0.23	x	6			SPACE	--	x
7	1	20	RCPT - LTG CONTROL ENCLOSURE	x	0.18	8			SPACE	x	--
9	1	20	SPARE	--	x	10			SPACE	--	x
11	1	20	SPARE	x	--	12			SPACE	x	--
			SUBTOTALS:	0.2	0.2				SUBTOTALS:	0.0	0.0

MOUNTING: SURFACE
ENCLOSURE: NEMA 1 (A)
OPTIONS: + EQUIPMENT GROUND BAR

LOAD SUMMARY

PHASE:	A	B	TOTAL
TOTAL KVA:	0.2	0.2	0.4
DEMAND KVA:			0.4
TOTAL AMPERES:	1.9	1.5	1.7

NOTES:
1. PROVIDE CIRCUIT BREAKER HANDLE CLAMP TO PREVENT ACCIDENTAL OPERATION.

HANDHOLE SCHEDULE

HANDHOLE IDENTIFICATION NUMBER (HH#)	HANDHOLE / PULLBOX DIMENSIONS WIDTH (INCHES)	LENGTH (INCHES)	DEPTH (NOTE 1)	ENCLOSURE BOX TYPE	ENCLOSURE BOTTOM	ENCLOSURE COVER (NOTE 2) COVER TYPE	LEGEND	MINIMUM TIER RATING (NOTE 3)	REMARKS
HH1	24" x 24"		24"	OPEN	OPEN	SOLID	LIGHTING	TIER 22	

NOTES:
1. STACK BOXES OR PROVIDE EXTENSIONS AS REQUIRED TO ACCOMMODATE CONDUIT STERMINATING AT BOXES WITH TOP OF ENCLOSURE FLUSH WITH FINISHED GRADE ELEVATION.
2. ENCLOSURE COVERS SHALL BE HEAVY-DUTY BOLT-DOWN TYPE WITH GASKETING, UNLESS OTHERWISE NOTED.
3. TIER RATING APPLIES TO HANDHOLE ENCLOSURE AND COVER. TIER RATING SHALL BE IN DETERMINED IN COMPLIANCE WITH ANSI/SCTE 77-2007.

DUCTBANK SCHEDULE

DUCTBANK IDENTIFICATION NUMBER (D#)	CONDUIT DESCRIPTION	CONDUIT INFORMATION QUANTITY(IES)	CONDUIT INFORMATION SIZE(S)	DUCTBANK INFORMATION CONDUIT ARRANGMENT	DUCTBANK INFORMATION ENCASEMENT	REMARKS
D1	FEEDER FROM CPMPP TO PANEL L1	2	2-1/2"	1 x 2	DIRECT-BURIED	
D2	FEEDER FROM CPEMPP TO PANEL EL1	2	1"	1 x 2	DIRECT-BURIED	
D3	SITE LIGHTING	3	1-1/2"	1 x 3	DIRECT-BURIED	
D4	SITE LIGHTING	2	1-1/2"	1 x 2	DIRECT-BURIED	
D5	SITE LIGHTING	5	1-1/2"	2 x 3	DIRECT-BURIED	
D6	SITE LIGHTING	4	1-1/2"	2 x 2	DIRECT-BURIED	
D7	SITE LIGHTING	1	1-1/2"	1 x 1	DIRECT-BURIED	

NOTES:
1. REFER TO DUCTBANK DETAIL DRAWINGS FOR DUCTBANK INSTALLATION REQUIREMENTS.

LOW-VOLTAGE TRANSFORMER SCHEDULE

UNIT #	KVA	TYPE	PRIMARY ELECTRICAL CHARACTERISTICS VOLTAGE (V)	PHASE	FREQUENCY (HZ)	CONFIGURATION TYPE	SECONDARY ELECTRICAL CHARACTERISTICS VOLTAGE (V)	PHASE	FREQUENCY (HZ)	CONFIGURATION TYPE	MINIMUM EFFICIENCY (%) (NOTE 1)	MAXIMUM NOISE LEVEL (dB)	MINIMUM IMPEDANCE (Z) (%)	ENCLOSURE MOUNTING (NOTE 2)	ENCLOSURE NEMA RATING	DIMENSIONS AND WEIGHTS (NOTE 3) HEIGHT (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)	WEIGHT (LBS)	REMARKS (NOTE 3)
TLC1	5	SEALED, RESIN ENCAPSULATED	480	1	60	SINGLE PHASE	120/240	1	60	SINGLE PHASE	--	--	--	WALL-MOUNTED	NEMA 3R	14.75	9.75	11.75	115	
TEL1	5	SEALED, RESIN ENCAPSULATED	480	1	60	SINGLE PHASE	120/240	1	60	SINGLE PHASE	--	--	--	WALL-MOUNTED	NEMA 3R	14.75	9.75	11.75	115	

NOTES:
1. TRANSFORMERS SHALL BE LOW LOSS TYPE WITH MINIMUM EFFICIENCIES PER US DEPARTMENT OF ENERGY (DOE) 2016 STANDARDS, AS DEFINED IN THE CODE OF FEDERAL REGULATIONS, 10 CFR 431.192.
2. DIMENSIONS AND WEIGHTS ARE NOMINAL AND ARE BASED ON BASIS-OF-DESIGN MANUFACTURER'S EQUIPMENT.
3. REFER TO DIVISION 26 SPECIFICATION SECTION "LOW-VOLTAGE TRANSFORMERS" FOR ADDITIONAL INFORMATION.

DAVID ROBERT HOFFMAN — REGISTERED — DELAWARE — PROFESSIONAL ENGINEER

CONSULTANTS:

M/P/E ENGINEER
GIPE ASSOCIATES
8719 BROOKS DRIVE
EASTON, MD 21601
P: (410) 822-8688
WO#: 22040

ISSUE DATES:

1	BID DOCUMENTS	11-17-2022
2	ADDENDUM 1	12-01-2022

Fearn Clendaniel Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

#SSD22004-SHS_ATHFL

SMYRNA SCHOOL DISTRICT

MS FIELD LIGHTING

SMYRNA HIGH SCHOOL
500 Duck Creek Parkway
Smyrna, DE 19977

DRAWING TITLE:
SCHEDULES ELECTRICAL

DWN BY:	CHK BY:	PROJ. NUMBER:
TMC	CDH	22010

DATE: 11-17-2022
SCALE: As indicated
DRAWING NUMBER: **E40-01**