

REGAN YOUNG ENGLAND BUTERA

REFERENDUMS • ENGINEERING • ARCHITECTURE • DESIGN

456 HIGH ST. • MT. HOLLY, NJ 08060 USA
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A BLUEPRINT FOR BETTER

PROJECT MANUAL

SECURITY OFFICE & EXTERIOR BOLLARDS

SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT

177 MAIN STREET

VINCENTOWN, NEW JERSEY 08088

SCHOOL #2: NJDOE SP# 4930-070-19-1000

SCHOOL #3: NJDOE SP# 4930-070-19-2000



**SOUTHAMPTON
TOWNSHIP SCHOOLS**

SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION

177 MAIN STREET

VINCENTOWN, NEW JERSEY 08088

(609) 859-2256

REGAN YOUNG, AIA
NEW JERSEY REGISTRATION NO. 21A00912100

RYEBREAD PROJECT 5601A
29 NOVEMBER 2019

**Working together, we can create building envelopes/systems/interiors/contexts
that are more safe, productive, healthy, efficient, and distinctive.**

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 000010 - TABLE OF CONTENTS
 2

3 All sections have page numbers prefixed by the section number, as page number 000000-3 for page 3
 4 of Section 000000.
 5

6 SECTION
 7 NUMBER SECTION TITLE # PAGES

8
 9
 10 **DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**
 11

| | | | |
|----|---------|--|----|
| 12 | 000010 | TABLE OF CONTENTS | 3 |
| 13 | 000100 | ADVERTISEMENT | 3 |
| 14 | 001000 | INSTRUCTIONS TO BIDDERS | 10 |
| 15 | 002000 | FORM OF BID | 6 |
| 16 | 0026000 | PROCUREMENT SUBSTITUTION PROCEDURES | 3 |
| 17 | 002800 | CONSENT OF SURETY | 1 |
| 18 | 002801 | SURETY COMPANY & AGENCY INFORMATION | 1 |
| 19 | 002850 | AFFIRMATIVE ACTION EVIDENCE FOR CONSTRUCTION PROJECTS | 5 |
| 20 | 002900 | STATEMENT OF OWNERSHIP DISCLOSURE | 4 |
| 21 | 002950 | NON-COLLUSION AFFIDAVIT | 1 |
| 22 | 002960 | NO MATERIAL CHANGE IN CIRCUMSTANCES | 1 |
| 23 | 002970 | CERTIFICATION REGARDING THE DEBARMENT, SUSPENSION INELIGIBILITY AND VOLUNTARY EXCLUSION | 1 |
| 24 | | | |
| 25 | 002980 | DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN | 1 |
| 26 | 004580 | SWORN CONTRACTOR CERTIFICATION REQUIREMENTS | 2 |
| 27 | 004590 | POLITICAL CONTRIBUTIONS DISCLOSURE FORM | 1 |
| 28 | 004595 | PREVAILING WAGES CERTIFICATION FORM | 1 |
| 29 | 005290 | LIST OF PRIME SUBCONTRACTORS | 2 |
| 30 | 006000 | PROJECT FORMS | 3 |
| 31 | 006001 | BIDDER REQUEST FOR INFORMATION | 1 |
| 32 | 007100 | NOTICE TO PROCEED | 1 |

33
 34 **DIVISION 01 - GENERAL REQUIREMENTS**
 35

| | | | |
|----|----------|--|----|
| 36 | | AIA GENERAL CONDITIONS AIA A201 - 2017 | 62 |
| 37 | 010002 | PREVAILING WAGE RATES – NEW JERSEY | 1 |
| 38 | 011000 | SUMMARY | 5 |
| 39 | 012100 | ALLOWANCES | 3 |
| 40 | 012500 | SUBSTITUTION PROCEDURES | 4 |
| 41 | 012501 | SUBSTITUTION REQUEST | 2 |
| 42 | 012600 | CONTRACT MODIFICATION PROCEDURES | 3 |
| 43 | 012610.1 | PRIME CONTRACTOR COR SUMMARY | 1 |
| 44 | 012610.2 | PRIME CONTRACTOR COR WORKSHEET | 1 |
| 45 | 012620.1 | SUBCONTRACTOR COR SUMMARY | 1 |
| 46 | 012620.2 | SUBCONTRACTOR COR WORKSHEET | 1 |
| 47 | 012900 | PAYMENT PROCEDURES | 5 |
| 48 | 012910 | PAYROLL VERIFICATION AFFIDAVIT | 1 |
| 49 | 012911 | PARTIAL RELEASE OF LIENS | 3 |
| 50 | 012920 | BILL OF SALE/CERTIFICATION FOR STORED MATERIAL | 3 |

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

| | | | |
|----|--------|--|----|
| 1 | 013100 | PROJECT MANAGEMENT AND COORDINATION | 15 |
| 2 | 013200 | CONSTRUCTION PROGRESS DOCUMENTATION | 6 |
| 3 | 013233 | PHOTOGRAPHIC DOCUMENTATION | 3 |
| 4 | 013300 | SUBMITTAL PROCEDURES..... | 10 |
| 5 | 013310 | PROJECT START-UP SUBMITTALS..... | 2 |
| 6 | 014000 | QUALITY REQUIREMENTS | 10 |
| 7 | 015000 | TEMPORARY FACILITY AND CONTROLS..... | 6 |
| 8 | 015526 | MAINTENANCE & PROTECTION OF TRAFFIC | 7 |
| 9 | 016000 | PRODUCT REQUIREMENTS | 7 |
| 10 | 017300 | EXECUTION..... | 10 |
| 11 | 017413 | CLEANING & RESTORATION FOR SITEWORK | 4 |
| 12 | 017419 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL | 3 |
| 13 | 017700 | CLOSEOUT PROCEDURES | 7 |
| 14 | 017710 | PROJECT CLOSEOUT SUBMITTALS | 2 |
| 15 | 017721 | MAINTENANCE BOND..... | 2 |
| 16 | 017722 | SUBCONTRACTOR GUARANTY..... | 2 |
| 17 | 017823 | OPERATION AND MAINTENANCE DATA | 9 |
| 18 | 017839 | PROJECT RECORD DOCUMENTS | 5 |
| 19 | 017900 | DEMONSTRATION AND TRAINING..... | 4 |
| 20 | | | |
| 21 | | DIVISION 02 – EXISTING CONDITIONS | |
| 22 | | | |
| 23 | 023000 | SUBSURFACE INVESTIGATION | 1 |
| 24 | 024113 | SELECTIVE SITE DEMOLITION | 4 |
| 25 | 024116 | STRUCTURE DEMOLITION | 7 |
| 26 | | | |
| 27 | | DIVISION 03 - CONCRETE | |
| 28 | | | |
| 29 | 033000 | CAST-IN-PLACE CONCRETE | 16 |
| 30 | 033053 | CONCRETE FOR SITEWORK..... | 4 |
| 31 | | | |
| 32 | | DIVISION 07 - THERMAL AND MOISTURE PROTECTION | |
| 33 | | | |
| 34 | 078413 | PENETRATING FIRESTOPPING..... | 7 |
| 35 | 079200 | JOINT SEALANTS | 8 |
| 36 | | | |
| 37 | | DIVISION 08 - OPENINGS | |
| 38 | | | |
| 39 | 088810 | FIRE RATED GLASS AND FRAMING SYSTEM | 6 |
| 40 | | | |
| 41 | | DIVISION 09 - FINISHES | |
| 42 | | | |
| 43 | 09000 | ROOM FINISH SCHEDULE..... | 1 |
| 44 | 092216 | NON-STRUCTURAL METAL FRAMING | 4 |
| 45 | 092900 | GYPSUM BOARD | 6 |
| 46 | 095113 | ACOUSTICAL PANEL CEILINGS | 7 |
| 47 | 096513 | RESILIENT BASE AND ACCESSORIES | 5 |
| 48 | 096813 | TILE CARPETING..... | 7 |
| 49 | 099123 | INTERIOR PAINTING..... | 7 |
| 50 | | | |

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 **DIVISION 32 – EXTERIOR IMPROVEMENTS**
2
3 321373 CONCRETE PAVING JOINT SEALANTS..... 4
4 323300 SITE FURNISHINGS 3
5
6 **DIVISION 34 – APPENDIX AND EXHIBITS**
7
8 340001 CONTRACTORS USE OF APENDIX DOCUMENTS..... 1
9 GROUND PENETRATING RADAR REPORT..... 13
10 GROUND PENETRATING PLAN – AERIAL..... 1
11 GROUND PENETRATING PLAN – LINEWORK 1
12
13
14
15
16 END OF SECTION 000010

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 000100 - ADVERTISEMENT
2
3

4 NOTICE IS HEREBY GIVEN THAT SEALED PROPOSALS FOR:
5

6 SECURITY OFFICE & EXTERIOR BOLLARDS, SOUTHAMPTON TOWNSHIP SCHOOLS,
7 LOCATED AT 100 WARRIOR WAY; VINCENTOWN, NEW JERSEY 08088.
8

9 Will be received no later than 2:00 PM prevailing time, on 14 February 2020 in the Board
10 Offices located Betty L. Wright Administrative Building, 177 Main Street, Vincentown, New
11 Jersey 08088.
12

13 Prime Bidders must be pre-qualified by the New Jersey Department of the Treasury, Department
14 of Property and Management Construction, prior to the date that bids are received. Any bids
15 submitted under the terms of New Jersey Statutes not including a copy of a valid and active Pre-
16 qualified/Classification Certificate and New Jersey Department of Labor Contractor Registration
17 Certificate may be rejected as being non-responsive to bid requirements.
18

19 One of the following DPMC-Classified Trade(s) and License(s) are required by the Overall
20 Prime Bidder and/or their subcontractors:
21

22 C008 General Construction or C009 General Construction/Alterations and Additions.
23 C032 Heating, Ventilation, Air Conditioning and Refrigeration (HVACr).
24 C047 Electrical.
25

26 Proposals must be addressed to the SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION;
27 Betty L. Wright Administration Building; 177 Main Street; Vincentown, New Jersey 08088;
28 Attn.: Casey DeJoseph, Business Administrator/Board Secretary. All bids received on time shall
29 be opened and read publicly at the above time and date. Electronic (e-mail) submissions shall
30 not be accepted. The SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION and REGAN
31 YOUNG ENGLAND BUTERA, PC. assume no responsibility for bids mailed or misdirected in
32 delivery.
33

34 Sealed bids shall be received as a SINGLE GENERAL CONSTRUCTION contract for all work,
35 goods and services required to complete the project. The bid must identify the name or names of
36 all subcontractors to whom the Prime Bidder will subcontract the furnishing of: (1) Plumbing
37 and Gas Fitting; (2) Heating, Ventilation, Air Conditioning and Refrigeration; (3) Electrical
38 Work, including any electrical power plant, tele-data, fire alarm, or security system; and (4)
39 Structural Steel and Ornamental Iron Work ("Prime Subcontractors"). Each of the Prime
40 Subcontractors shall be qualified in the same manner as the Prime Bidder, in accordance with the
41 requirements of N.J.S.A. 18A:18A-1 et seq. If none are required, the Prime Bidder shall input
42 "None" on the List of Subcontractors.
43

44 The Work shall include, but not be limited to, the construction of Project A - Interior Security
45 Office at School #3 and Project B - exterior bollards and Schools #2 and #3. Project C will be an
46 overall combined bid for Project A and Project B. Separate Contracts for Project A and Project
47 B, could be awarded to separate Contractors, if deemed in the Owner's best financial interests.
48

49 Proposal Forms, Instructions to Bidders, Specifications and other bid documents may be made
50 available and examined by Bidders from the office of REGAN YOUNG ENGLAND BUTERA,

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 PC; 456 High Street; Mt. Holly, New Jersey 08060 during regular business hours. Additional
2 information, including a list of (registered) Prime Bidders, can be obtained from the Architect's
3 web site (www.RYEBREAD.com). Subcontractors and vendors may obtain copies from
4 registered Prime Bidders. There is a \$25.00 non-refundable cost to be a Prime Bidder. An
5 electronic copy of the specifications and drawings shall be made available to Prime Bidders; hard
6 copies of the bidding documents shall not be provided. Access to the electronic documents shall
7 be emailed to the Prime Bidder upon receipt of their payment and all of the following
8 information:

9
10 Business name
11 Contact person
12 Business mailing address
13 Business phone number
14 Business facsimile number
15 Email address

16
17 Inquiries shall be directed to:

18
19 Scott Charles England, AIA
20 REGAN YOUNG ENGLAND BUTERA, PC
21 456 High Street
22 Mt. Holly, NJ 08060
23 (609) 265-2652/0333 Fax
24 paf@ryebread.com
25

26 A NON-MANDATORY PRE-BID CONFERENCE will be held at 3:30 PM prevailing time, on
27 17 January 2020 in the School #3 Main Office located at 100 Warrior Way, Vincentown, New
28 Jersey 08088. Attendance at the Pre-Bid Conference is encouraged but not mandatory. Bid
29 documents will not be available at the pre-bid conference.

30
31 Construction must begin on 22 June 2020 and shall be substantially completed on or before 14
32 August 2020.

33
34 Bids must be made upon the official Form of Bid and shall include Bid Security in the form of a
35 certified check, cashier's check, or by Bid Bond drawn to the order of the Owner in the amount of
36 not less than ten percent (10%) of the Base Bid but in no case in excess of \$20,000.00. The bid
37 shall also be accompanied by an executed Consent of Surety in accordance with N.J.S.A.
38 18A:18A-25, agreeing to furnish a Performance Bond and a Payment Bond, each in the stated
39 principal amount of one hundred percent (100%) of the contract amount, and a two-year
40 Maintenance Bond in the amount of ten percent (10%) of the contract amount.

41
42 Contracts for work under these bids will obligate contractors and Subcontractors to (1) pay
43 Prevailing Wages in accordance with N.J.S.A. 34:11-56(a) et. seq., (2) comply with equal
44 opportunity laws in accordance with N.J.S.A. 10:5-31 et. seq., (3) comply with Affirmative
45 Action laws in accordance with N.J.A.C. 17:27 and comply with Exhibit B of the Department of
46 the Treasury, Guidelines for Administering EEO in Public Contracts), (4) provide ownership
47 disclosure information per N.J.S.A. 52:25-24.2, (5) comply with New Jersey Business
48 Registration laws in accordance with N.J.S.A. 52:32-44 and (6) comply with any and all
49 successors, amendments or additions thereto.
50

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 Prime Bidders are required to comply with the requirements of the State of New Jersey Public
2 School Contract Law, N.J.S.A. Title 18A bidding laws. A Prime Bidder that withdraws or
3 modifies his/her bid prior to 60 days after the actual date of opening of bids may forfeit their bid
4 security. All bid security, except for the security of the three apparent lowest responsible Prime
5 Bidders shall, if requested, be returned after ten days from the opening of the bids, Saturdays,
6 Sundays and holidays excepted, and the bids of such Prime Bidders shall be considered as
7 withdrawn.

8
9 Registered Bidders must submit substitution requests or any questions concerning the project to
10 the Architect on Form 006001 BIDDER REQUEST FOR INFORMATION included in the
11 Project Manual no later than 1:00 PM on 31 January 2020. The Architect will not respond to
12 questions received by those other than Prime Bidders.

13
14 The SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION has the right to award the
15 contracts within sixty (60) days of the bid opening and reserves the right to reject any or all bids
16 and to waive any non-material defects, as may be permitted by law.

17
18 By Order of the SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION.
19 Casey DeJoseph, Business Administrator/Board Secretary.

20
21
22 END OF SECTION 000100

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 001000 - INSTRUCTIONS TO BIDDERS

2

3

4

PART 1 - GENERAL

5

6

Refer to Sections of Divisions 00 and 01 for additional information that may affect the preparation of bids. These Sections contain information pertaining to:

7

8

9

Time, date and place for receipt of bids.

10

Time for completion.

11

Substitution of materials.

12

Alternate prices, allowances, unit prices.

13

Other conditions pertaining to the Work.

14

15 BIDDING DOCUMENTS

16

17 Bidding Documents consist of:

18

19

The Project Manual containing:

20

21

Table of Contents.

22

List of Drawings.

23

Instructions to Bidders.

24

Contract Forms.

25

Modified AIA General Conditions of the Contract.

26

Specifications as listed in the TABLE OF CONTENTS.

27

28

Drawings as listed in the PROJECT MANUAL.

29

30

Any Addenda as may be subsequently issued to Bidders of Record.

31

32

Bidding Documents will be available to Prime Contract Bidders as stated in the ADVERTISEMENT. Sub-Contractors and vendors may obtain copies from registered Prime Contract Bidders. All documents furnished to any person, under any condition, shall remain the property of the Architect and shall not be reproduced or used on any other project without approval of the Architect in writing.

33

34

35

36

37

38 BID UPDATES

39

40

Bidders should regularly visit the Architect's website at the link indicated in the Advertisement and select the applicable project for relevant project information including, but not limited to, addenda, prospective bidders, and budget.

41

42

43

44 SINGLE OVERALL BID

45

46

In accordance with Title 18A, Public School Contracts Law, the Contractor submitting a bid to perform the work under a single contract shall furnish in writing at the time of Bid, the names of persons or entities proposed as Prime subcontractors. Prime subcontractors shall be qualified in accordance with N.J.S.A. 18A:18A-18. In addition, submit evidence of performance security of each Prime subcontractor simultaneously with the bid.

47

48

49

50

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 BID PREPARATION

2
3 Proposal for Contracts as listed in the Advertisement for Bids as hereinafter described, will be
4 received for the performance of the Project. The bids shall cover all cost of any nature, incident
5 to and growing out of the work. In explanation but not in limitation thereof, these costs shall
6 include the cost of all work, labor, materials, equipment, transportation and cost of all else
7 necessary to perform and complete the Project in the manner and within the time required, all
8 incidental expenses in connection therewith, all costs on account of loss by damage or
9 destruction of the Project, to the extent that the cost of such loss is not recovered from insurance
10 carried by the Owner and the Contractor, and any additional expenses for unforeseen difficulties
11 encountered, for settlement of damages and for replacement of defective work and materials.

12
13 Prior to submitting a bid, Bidder shall examine and thoroughly familiarize himself/herself with
14 all of the following:

15
16 The Bidding Documents.

17 All applicable laws, ordinances, rules and regulations which may affect the Work.

18 The Site and all existing Work, buildings, utilities, roads, etc.

19 That the bidding Contractor can secure the necessary labor and equipment and that the
20 materials specified herein may be obtained in the quantities and in the time required by
21 the Contract.

22 All other conditions that may affect the Work.

23
24 Drawings and Specifications have been prepared on the basis of surveys and inspections of the
25 Site and are intended to present an essentially accurate indication of the physical conditions at the
26 Site. This shall not relieve the Bidder of the necessity of fully informing himself/herself as to the
27 existing conditions at the site. The failure or omission of any Bidder to receive or examine any
28 form instrument or document or to visit the site and acquaint themselves with conditions there
29 existing, shall not relieve any Bidder from obligation with respect to his bid.

30
31 If a Bidder finds discrepancies or ambiguities in, or omissions from the Documents, or if he/she
32 is in doubt as to their meaning, he/she shall notify the Architect in writing by the time, date and
33 method indicated in the ADVERTISEMENT. Failure to report any discrepancies, ambiguities,
34 and/or omissions in the manner herein prescribed constitutes a waiver of any claim for additional
35 compensation arising out of any and all additional work and/or materials necessary as a result of
36 the Architect's decision(s) clarifying said discrepancies, ambiguities and/or omissions. If
37 properly notified, the Architect will, if necessary, send written Addenda to all Bidders of Record.
38 Direct inquiries to:

39
40 Scott Charles England, AIA
41 REGAN YOUNG ENGLAND BUTERA, PC
42 456 High Street
43 Mt. Holly, NJ 08060
44 (609) 265-2652/0300 Fax
45 sce@ryebread.com
46

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 PRE-BID CONFERENCE

2
3 A pre-bid conference will be conducted by the Architect as stated in the ADVERTISEMENT. It
4 is the responsibility of the bidders to obtain directions to the place of the meeting and for
5 attendance.

6
7 VISITATION OF EXISTING SITE

8
9 Visit to the existing site may be arranged by calling:

10
11 Kevin Greene, Supervisor of Facilities at (609) 859-2256 , ext. 162.

12
13 REQUESTS FOR INFORMATION

14
15 Registered Prime Bidders requesting information or clarification to bidding or construction
16 related issues shall fax the request to the Architect at (609) 265-0333 by the date and time
17 indicated in the ADVERTISEMENT. Bidders must submit form 006001, BIDDER REQUEST
18 FOR INFORMATION included in this Project Manual. Only requests submitted on the
19 BIDDERS REQUEST FOR INFORMATION form will be answered.

20
21 Request must clearly identify the drawing number and/or specification section in question. All
22 requests must be received in writing no later than the date & time indicated in the
23 ADVERTISEMENT.

24
25 ORAL EXPLANATIONS

26
27 Oral explanations or instructions given before Award of Contract will not be binding. All
28 authorized interpretations will be made by written Addenda.

29
30 ADDENDA

31
32 Written Addenda making changes or corrections to the Bidding Documents after they have been
33 issued will be sent, if required, to Bidders of Record. Such Addenda shall take precedence over
34 that portion of the Bidding Documents concerned and shall become a part of the Contract
35 Documents. The failure to provide the additional notice to bidders shall not serve to void the
36 award of the Contract(s). In accordance with N.J.S.A 18A:18A-21, Addenda shall be issued to
37 reach registered Bidders at least 7 days prior, Saturdays, Sundays and holidays excepted, to the
38 Date for Receipt of Bids. It is the responsibility of the Bidder to ascertain that he/she has
39 received all issued Addenda, prior to submission of the bid.

40
41 Receipt of all Addenda shall be acknowledged by the Bidder on the FORM OF BID in the space
42 provided. Failure to acknowledge Addenda may be cause for rejection of the bid.

43
44 PREQUALIFICATION/CLASSIFICATION

45
46 Pursuant to N.J.S.A. 52:35-1 et seq. and 18A:18A-26, 27 et seq., Bidders on any Contract for
47 State Funded and/or Department of Education work in the State of New Jersey in which the
48 entire cost of the Contract exceeds \$20,000 must be pre-qualified by the Department of Treasury,
49 Division of Property Management and Construction, as to the character and amount of public
50 work on which they may submit bids. Pre-qualified Bidders must submit with their Proposal a

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 Notice of Classification setting forth the type of work and the amount of work for which he has
2 been qualified, that there has been no material adverse change in his qualification information,
3 the total amount of uncompleted work on contracts at the time of the bid opening. (Forms for
4 this purpose are available from the Director of the Division of Property Management and
5 Construction, Department of Treasury, Trenton, NJ 08625,
6 www.state.nj.us/treasury/dpmc/forms.shtml).

7
8 Each bidder submitting a proposal for a single overall contract must include with its bid evidence
9 that the prime subcontractors it proposes (if any) to utilize for structural steel work; plumbing
10 and fire protection work; heating, ventilating and air conditioning work; and electrical work
11 (prime subcontractors) are pre-qualified by the New Jersey Department of Treasury, Division of
12 Property Management and Construction and shall submit with his/her bid a current Notice of
13 Classification and a No Material Change in Qualification Information Form, and a Total Amount
14 of Uncompleted Contracts Form (DPMC Form 701) for each of the above subcontractors.

15
16 Pursuant to N.J.S.A. 18A:7G-37, each prequalified contractor seeking to bid school facilities
17 projects, along with any prime subcontractors required to be named shall, as a condition of
18 bidding, submit a sworn Contractor Certification regarding their qualifications and credentials.
19 A principal owner or officer of each company shall certify that their firm has the qualifications
20 and credentials required by the Contractor Certification. A current, valid copy of a "Certification
21 of Authority to perform work in New Jersey" issued by the Department of the Treasury shall be
22 attached to each Contractor Certification form.

23
24 BUSINESS REGISTRATION OF PUBLIC CONTRACTORS

25
26 Pursuant to N.J.S.A.52:32-44, as set forth above, the bidder shall submit a copy of their Business
27 Registration Certificate as well as each of their subcontractors or suppliers anticipated to be used
28 in the fulfillment of the contract.

29
30 For the term of the contract, the contractor and each of its affiliates and a subcontractor and
31 each of its affiliates [N.J.S.A. 52:32-44(g)(3) shall collect and remit to the Director, New Jersey
32 Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act on all sales of
33 tangible personal property delivered into this State, regardless of whether the tangible personal
34 property is intended for a contract with a contracting agency.

35
36 A business organization that fails to provide a copy of a business registration as required
37 pursuant to section 1 of P.L.2001, c.134 (C.52:32-44 et al.) or subsection e. or f. of section 92
38 of P.L.1977, c.110 (C.5:12-92), or that provides false business registration information under
39 the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of
40 violation, not to exceed \$50,000 for each business registration copy not properly provided
41 under a contract with a contracting agency.

42
43 OWNER'S RIGHT TO ADDITIONAL INVESTIGATION

44
45 The Owner may make such additional investigations as it deems necessary to determine the
46 ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such
47 information and data for this purpose as the Owner may request. The Owner reserves the right to
48 reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the
49 Owner that he is properly qualified to carry out the obligations of the Contract and to complete
50 the work contemplated therein.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 TIME FOR COMPLETION

2
3 Time for completion as indicated in the ADVERTISEMENT. Bidders attention is directed to
4 MODIFIED AIA GENERAL CONDITIONS, Paragraph 8.1.

5
6 BIDDER'S LEGAL NAME

7
8 The Bidders legal name, address and telephone number shall be stated in full on the FORM OF
9 BID. The Bid shall be signed in ink by a Principal duly authorized to bind the Bidder in
10 contracts.

11
12 Bids by Partnerships shall indicate the full names of all partners and shall be signed in the
13 partnership name by one of the partners or by a duly authorized representative followed by the
14 designation of the person signing.

15
16 Bids by Corporations shall have the name of the corporation followed by the State of
17 Incorporation and the designation of the corporate officer authorized to bind the corporation in
18 this matter. Disclosure by the bidder must be continued until the individual names and addresses
19 of every non-corporate stockholder and individual partner exceeding the 10% ownership criteria
20 has been listed. (N.J. S.A.52:25-24.2).

21
22 DOCUMENTS ACCOMPANYING BID

23
24 Refer to Section 002000 - FORM OF BID for a list of all documents required to be submitted
25 with the bid along with the required number of copies.

26
27 Failure to provide all required documents and required number of copies may be cause for
28 disqualification and rejection of bid.

29
30 MAILED BID PROPOSALS

31
32 If a Bid is to be mailed, the bid envelope shall be enclosed in another opaque envelope stating
33 "MAILED BID PROPOSAL" and addressed to:

34
35 Casey DeJoseph, Business Administrator
36 SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION
37 177 Main Street
38 Vincentown, New Jersey 08088

39
40 Electronic (e-mail) submissions shall not be accepted.

41
42 The Bidder assumes full responsibility for bids mailed or misdirected in delivery. The Owner is
43 not responsible for any Bids that fail to arrive within the time specified by the
44 ADVERTISEMENT regardless of fault.

45

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 BID OPENING

2
3 Bids shall be received and opened as stated in the ADVERTISEMENT.

4
5 The award of the Contract(s) or rejection of all bids must be made within sixty (60) days of the
6 bid opening.

7
8 The execution of the Contract(s) shall be done within twenty-one (21) days of award of bid.

9
10 Award made to a Bidder whom is not a resident of the State of New Jersey is conditioned upon
11 Bidder designating a proper agent in the State on whom service can be made in the event of
12 litigation.

13
14 If the successful bidder is a corporation not organized under the laws of New Jersey, the award of
15 Contract and payment of consideration thereunder shall be conditioned upon Corporation
16 promptly filing a certificate of doing business in the State of New Jersey pursuant to the
17 provisions of New Jersey law.

18
19 WITHDRAW OR MODIFICATION OF BID

20
21 No Bids may be withdrawn or modified after the time set for receipt of bids and for a period of
22 60 calendar days thereafter without consent of the Owner.

23
24 INFORMALITIES IN BID PROPOSALS

25
26 The Owner reserves the right to reject any or all bids, and to waive any bid requirements and/or
27 any non-material bid defects, where such rejection or waiver is in the best interests of the Owner,
28 and where such rejection or waiver is permitted by law.

29
30 FORM OF AGREEMENT

31
32 The Form of Agreement shall be the 2017 AIA Document A101 Standard Form of Agreement
33 between Owner and Contractor (Stipulated Sum).

34
35 CONTRACTOR PREFORMANCE REVIEW

36
37 In accordance with N.J.S.A. 18A:18A-15, the Board of Education, through its authorized agent,
38 shall upon completion of the contract report to the department as to the contractor's performance,
39 and shall also furnish such report from time to time during performance if the contractor is then
40 in default.

41
42 CHALLENGES TO BID SPECIFICATIONS

43
44 In accordance with N.J.S.A. 18A:18A-15, any prospective bidder who wishes to challenge a bid
45 specification shall file such challenges in writing with the School Business Administrator/Board
46 Secretary and the Architect no less than three (3) days prior to the opening of bids. Challenges
47 filed after that date shall be considered void and having no impact on the Board of Education or
48 the award of a contract.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 AMERICAN GOODS

2
3 In accordance with N.J.S.A. 18A:18A-20, only manufactured products of the United States,
4 wherever available, and where possible are to be used with this project.

5
6 EQUIVALENT PRODUCTS: The use of manufacturers' brand names, catalogue numbers and
7 similar proprietary identifying data in the Contract Documents are not intended to eliminate from
8 consideration products that are equivalent in quality, appearance and function to those specified.

9
10 BONDING

11
12 Bid Security: Each bid shall include bid security by certified check, cashier's check or bid
13 bond drawn to the Owner in an amount of not less than ten percent (10%) of the base bid
14 but in no case in excess of \$20,000.00.

15
16 Contract Bonds: The Bidder to whom the Contract has been awarded shall, within ten (10)
17 days of the date of the award, furnish and deliver a Performance Bond and Payment
18 Bond, equal to one hundred percent (100%) of the Contract amount. The Bidder(s) to
19 whom the Contract(s) has been awarded shall, prior to requesting Final Payment, furnish
20 and deliver a TWO (2) year Maintenance Bond, equal to ten percent (10%) of the Final
21 Contract Amount. If, at any time after execution and approval of a Contract and
22 Performance-Payment Bond required by Contract Documents, such Bond shall cease to
23 be adequate security for the Owner, the Contractor shall, within five days after notice to
24 do so, furnish a new or additional Bond, in form, sum and signed by such Sureties as
25 shall be satisfactory to the Owner. No further payment shall be deemed due nor shall
26 any further payment be made to the Contractor unless and until such new or additional
27 Bond shall be furnished and approved.

28
29 Consent of Surety: All bids shall be accompanied by an executed Consent of Surety in
30 accordance with 18A:18A-25, agreeing to furnish the required Performance, Labor and
31 Material Payment Bond and Maintenance Bond.

32
33 The Contractor shall obligate their Surety to make periodic inquiries of the Board at
34 reasonable times, to determine whether its Principal has performed or was performing the
35 Contract in accordance with all of its terms and conditions, particularly in relation to the
36 progress payments scheduled under said Contract with the Board.

37
38 Bidder shall provide proof of executed consent with his/her bid from an approved surety
39 company licensed to conduct business in the State of New Jersey agreeing to furnish the required
40 Maintenance Bond.

41
42 BOND AND PERMIT COSTS

43
44 The cost of all Bonds shall be paid for and obtained by the Contractor. Permits shall be
45 coordinated by and obtained by the Contractor. If the municipality requires a fee for the review
46 and release of construction permits, the Contractor shall pay all required fees and submit
47 evidence of such to the Owner for full reimbursement of direct costs without any markup.

48
49 NON-COLLUSION AFFIDAVIT. Pursuant to N.J.S.A. 52:34-15, each bidder shall submit with
50 his bid a Non-Collusion Affidavit in the form bound herein.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 LAW AGAINST DISCRIMINATION

2
3 All contracts related to the project, whether between Owner and Contractor or Contractor and
4 Subcontractors, shall comply with the anti-discrimination provisions of N.J.S.A. 10:2-1 *et seq.*,
5 the New Jersey Law Against Discrimination, N.J.S.A 10:5-31 *et seq.*, N.J.A.C. 17:27, N.J.A.C.
6 6A:7-1.8.

7
8 Pursuant to N.J.S.A. 10:2-1:

- 9
10 a. In the hiring of persons for the performance of work under this contract or any
11 subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of
12 any such materials, equipment, supplies or services to be acquired under this contract, no
13 contractor, nor any person acting on behalf of such contractor or subcontractor, shall, by
14 reason of race, creed, color, national origin, ancestry, marital status, gender identity or
15 expression, affectional or sexual orientation or sex, discriminate against any person who
16 is qualified and available to perform the work to which the employment relates;
17
18 b. No contractor, subcontractor, nor any person on his behalf shall, in any manner,
19 discriminate against or intimidate any employee engaged in the performance of work
20 under this contract or any subcontract hereunder, or engaged in the procurement,
21 manufacture, assembling or furnishing of any such materials, equipment, supplies or
22 services to be acquired under such contract, on account of race, creed, color, national
23 origin, ancestry, marital status, gender identity or expression, affectional or sexual
24 orientation or sex;
25
26 c. There may be deducted from the amount payable to the contractor by the contracting
27 public agency, under this contract, a penalty of \$50.00 for each person for each calendar
28 day during which such person is discriminated against or intimidated in violation of the
29 provisions of the contract; and
30
31 d. This contract may be canceled or terminated by the contracting public agency, and all
32 money due or to become due hereunder may be forfeited, for any violation of this section
33 of the contract occurring after notice to the contractor from the contracting public agency
34 of any prior violation of this section of the contract.
35

36 ANTI-BULLYING BILL OF RIGHTS—REPORTING OF HARASSMENT, INTIMIDATION
37 AND BULLYING—CONTRACTED SERVICE

38
39 The contracted service provider shall comply with all applicable provisions of the New Jersey
40 Anti-Bullying Bill of Rights Act—N.J.S.A. 18A:37-13.1 *et seq.*, all applicable code and
41 regulations, and the Anti-Bullying Policy of the Board of Education. The district shall provide to
42 the contracted service provider a copy of the board’s Anti-Bullying Policy.
43

44 In accordance with N.J.A.C. 6A:16-7.7 (c), a contracted service provider, who has witnessed, or
45 has reliable information that a student has been subject to harassment, intimidation, or bullying
46 shall immediately report the incident to any school administrator or safe schools resource officer,
47 or the School Business Administrator/Board Secretary.
48

49 NEW JERSEY PREVAILING WAGE RATE: Bidders are required to comply with the State
50 prevailing wage rate for public works, Chapter 150 Laws of 1963, N.J.S.A. 34:11-56.25 *et seq.*

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 PUBLIC WORKS CONTRACTOR REGISTRATION: In accordance with the “Public Works
2 Contractor Registration Act” (N.J.S.A. 34:11-56.51) each bidder is required to be registered
3 pursuant to the Act at the time of the bid and in accordance with N.J.S.A. 34:11-56.55 shall
4 submit their certificate prior to awarding of the contract.
5

6 In accordance with N.J.S.A. 34:11-56.27, (a) bidders shall pay workers not less than the
7 prevailing wage rate; (b) in the event it is found that any worker, employed by the contractor or
8 any subcontractor covered by said contract, has been paid a rate of wages less than the prevailing
9 wage required to be paid by such contract, the Owner may terminate the contractor's or
10 subcontractor's right to proceed with the work, or such part of the work as to which there has
11 been a failure to pay required wages and to prosecute the work to completion or otherwise.
12

13 Pursuant to N.J.S.A. 34:11-56.51, a contractor must be registered pursuant to the Public Works
14 Contractor Registration Act in order to bid on a contract. All listed subcontractors must also be
15 registered at the time the bid is submitted.
16

17 PAY TO PLAY: Bidders are advised to comply with the disclosure requirements of 6A:23A-6.3.
18

19 RESIDENT CITIZENS; PREFERRED IN EMPLOYMENT ON PUBLIC WORKS
20 CONTRACTS
21

22 All bidders are to familiarize themselves with N.J.S.A. 34:9-2, which requires the contractor of
23 any public work project to give preference in employment on the project, to citizens of the state
24 of New Jersey. If the terms and conditions of N.J.S.A. 34:9-2 are not complied with, the contract
25 shall be voidable.
26

27 CERTIFIED PAYROLL RECORDS
28

29 The bidder to whom the contract has been awarded agrees to submit certified payroll records to
30 the public body for each payroll period within ten (10) days of payment of wages in accordance
31 with current New Jersey Statutes. Copies of certified payroll forms may be obtained by calling
32 or writing or calling the following agency:
33

34 NEW JERSEY DEPARTMENT OF LABOR
35 Division of Workplace Standards
36 Public Contracts Section
37 CN 389
38 Trenton, New Jersey 08626-0389
39 (609) 292-2259
40

41 CRIMINAL HISTORY BACKGROUND CHECKS
42

43 The contractor and all subcontractors for the project shall provide to the school district (Director
44 of Facilities, Director of Security or School Business Administrator/Board Secretary) evidence or
45 proof that each worker assigned to the project that comes in regular contact with students, has
46 had a criminal history background check, and that said check indicates that no criminal history
47 record information exists on file for that worker.
48

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 The determination of “regular contact with students” will be made by the school district. Failure
2 to provide a proof of criminal history background check for any contractor or subcontractor
3 employee coming in regular contact with students may be cause for breach of contract.
4

5 If it is discovered during the course of the contract that a contractor or subcontractor employee
6 has a disqualifying criminal history, or the employee has not had a criminal history background
7 check, that employee is to be removed from the project immediately.
8

9 RECORDS RETENTION

10
11 In accordance with N.J.A.C. 17:44-2.2 Bidders shall maintain all documentation related to
12 products, transactions or services under this contract for a period of five years from the date of
13 final payment. Such records shall be made available to the New Jersey Office of the State
14 Comptroller upon request.
15

16 GROUND PENETRATING FIELD MARK-OUT

17 As part of the Base-Bid, the Contractor shall be responsible to provide a GPR field-markout of
18 the existing conditions related to the bollard construction prior to starting layout work for the
19 bollards.
20

21
22 PARTS 2 AND 3 (Not Applicable)
23

24
25 END OF SECTION 001000

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002000 - FORM OF BID

2
3 TO:

4
5 Casey DeJoseph, Business Administrator/Board Secretary
6 SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION
7 177 Main Street
8 Vincentown, New Jersey 08088
9

10
11 FROM:

12 _____ (NAME)

13 _____ (ADDRESS)

14 _____ (CITY, STATE, ZIP)

15 _____ (PHONE/FAX NUMBER)

16 _____ (EMAIL ADDRESS)

17
18
19 Operating as an individual, a partnership, corporation under the laws of the State of New Jersey
20

21 _____
22 (Input words that apply)
23
24

25 PROPOSAL FOR: RYEBREAD PROJECT NO. 5601A

26
27 SECURITY OFFICE & EXTERIOR BOLLARDS
28 Southampton Township School District
29 177 Main Street
30 Vincentown, New Jersey 08088
31

32 This proposal is based on Specifications and Drawings dated 29 November 2019 and prepared
33 by:

34
35 ARCHITECTURAL, MECHANICAL & ELECTRICAL
36 REGAN YOUNG ENGLAND BUTERA, PC
37 456 High Street
38 Mt. Holly, New Jersey 08060
39

40 *Bidders shall note the Owner will select the lowest responsible bid between Project A, Project B,*
41 *or the combination bid of Project C as deemed in their best financial interests. The lowest bid*
42 *could be awarded to separate Contractors or one overall Contractor.*
43
44

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 **PROJECT A - SECURITY OFFICE - BASE BID:** Pursuant to and in compliance with your
2 request for proposals for the above named project and contract, and having examined the site
3 where the work is to be located, and having become familiar with local conditions as they may,
4 in any way, affect the cost and/or execution of the work, and having carefully examined the
5 specifications and drawings named above, the Undersigned Bidder hereby agrees to provide all
6 plant, labor, materials, supplies equipment, transportation and other facilities necessary and
7 proper for, or incidental to, or required for complete and satisfactory execution of work. For a
8 one-time lump sum bid, which shall include the allowance(s) listed below:
9

10
11 _____(\$ _____)
12

13
14 **PROJECT B - EXTERIOR BOLLARDS - BASE BID:** Pursuant to and in compliance with
15 your request for proposals for the above named project and contract, and having examined the
16 site where the work is to be located, and having become familiar with local conditions as they
17 may, in any way, affect the cost and/or execution of the work, and having carefully examined the
18 specifications and drawings named above, the Undersigned Bidder hereby agrees to provide all
19 plant, labor, materials, supplies equipment, transportation and other facilities necessary and
20 proper for, or incidental to, or required for complete and satisfactory execution of work. For a
21 one-time lump sum bid, which shall include the allowance(s) listed below:
22

23
24 _____(\$ _____)
25

26
27 **PROJECT C – SECURITY OFFICE (PROJECT A) & EXTERIOR BOLLARDS**
28 **(PROJECT B) COMBINED - BASE BID:** Pursuant to and in compliance with your request
29 for proposals for the above named project and contract, and having examined the site where the
30 work is to be located, and having become familiar with local conditions as they may, in any way,
31 affect the cost and/or execution of the work, and having carefully examined the specifications
32 and drawings named above, the Undersigned Bidder hereby agrees to provide all plant, labor,
33 materials, supplies equipment, transportation and other facilities necessary and proper for, or
34 incidental to, or required for complete and satisfactory execution of work. For a one-time lump
35 sum bid, which shall include the allowance(s) listed below:
36

37
38 _____(\$ _____)
39

40
41 **ALLOWANCES** below, which include labor, materials, taxes, insurance, overhead, profit and
42 other costs in connection therewith, shall be included in the Base-Bid proposal for the quantities
43 listed. Allowances listed shall include all incidental items required to render the allowance fully
44 complete and operational whether specifically referenced or not. Any unused allowances shall be
45 deducted from the contract value at the stated amount.
46

47 **Contingency Allowance No. 01:** Include in the Base-Bid a contingency allowance amount of
48 \$5,000 for additional work for Project A and for \$5,000 for Project B. For Project C, include in
49 the Base-Bid a contingency allowance of \$10,000.

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1
 2 **UNIT PRICES** below, which include labor, materials, insurance, overhead, profit and other
 3 costs in connection therewith, shall prevail for changes in quantity of work when modification to
 4 Contract is made by Change Order. Unit prices may be either deducted from or added to the
 5 contract value at the stated amount and the Owner reserves the right to reject individual Unit
 6 Prices and negotiate a fair and reasonable value on a case-by-case- basis. Unit Prices listed shall
 7 include all incidental items required to render the Unit Price fully complete and operational
 8 whether specifically referenced or not. Unused unit price totals included in the Base Bid shall be
 9 deducted from the contracted amount at the end of the Project.

10
 11 All Prime Bidders shall complete the schedule for each Unit Price. Prime Bidders shall be
 12 required to bid on all Unit Prices listed under their contract alternate proposals.

13
 14 Bidders shall note that the unit prices are for work in addition to that contained on the plans and
 15 included in the Base Bid and can be added to or subtracted from at the discretion of the Architect.

16
 17 **Unit Price – UP-1: INSTALLED BOLLARD:** Addition (or deletion) of one complete
 18 additional bollard assembly as directed by the Architect/Owner.

19

| Qty Unit | Cost/Unit | Total |
|-------------|-----------|----------|
| Per bollard | \$ _____ | \$ _____ |

20
 21
 22
 23
 24
 25 **NO MATERIAL ADVERSE CHANGE IN QUALIFICATION:** The undersigned bidder hereby
 26 certifies that there has been no material adverse change in the qualification information last
 27 submitted to the New Jersey Department of the Treasury pursuant to NJSA 18A: 18A-28.

28
 29 **HOLD HARMLESS AGREEMENT:** By submitting and executing a bid proposal the Bidder, if
 30 corporation, also responsible individual of corporation signing individually agrees to indemnify
 31 and hold harmless the Owner, Architect, and their agents and employees, from all and against all
 32 claims, damages, losses, and expenses, including reasonable attorney's fees in case it shall be
 33 necessary to file an action, arising out of bodily injury, illness or death, or for property damage,
 34 by the Contractor negligent act or omission or that of a Subcontractor, or that of anyone
 35 employed by them or for whose acts contractor or subcontractor may be liable. This
 36 indemnification and agreement shall apply in all instances whether Owner, Architect is made a
 37 party to the action by third-party in-pleading or is made party to a collateral action arising, in
 38 whole or in part, from any of the issues emanating from the original cause of action or claim.

39
 40 **TIME OF COMPLETION:** The Undersigned Bidder agrees to complete the work as indicated in
 41 the Advertisement, (Bidder is referred to AIA GENERAL CONDITIONS, Par. 8.1).

42
 43 **ATTACHED TO THIS PROPOSAL** are **TWO** copies (One original and one copy) of all the
 44 following documents (Fill in all blank spaces, alternate bids and unit prices. Failure to comply
 45 may be cause for rejection of bid.).

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 DOCUMENTS ACCOMPANYING BID

2

3 Failure to provide all required documents and required number of copies may be cause
4 for disqualification and rejection of bid.

5

6 **Bidder shall correlate the following required documents in the order listed below &**
7 **place an “X” in the box next to each item provided.**

8

9 In bid envelope:

- 10 1. Form of Bid.
- 11 2. DPMC Notice of Classification.
- 12 3. Total Amount of Uncompleted Contracts Affidavit (DPMC Form 701).
- 13 4. Business Registration of Public Contractors from the New Jersey Division of
14 Taxation.
- 15 5. Bid Security in the form of a Bid Bond, certified check or cashier's check in the
16 amount of not less than 10% of the Base Bid, or \$500.00 whichever is more, but in
17 any event not more than \$20,000.00. The Bid Security must be in a form
18 consistent with the statutory requirements of the State of New Jersey.
- 19 6. Consent of Surety: Section 002800, or similar.
- 20 7. Surety Company & Agency Information: Section 002801.
- 21 8. Affirmative Action Evidence: Section 002850.
- 22 9. Ownership Certificate: Section 002900 or similar if Bidder is a partnership or a
23 corporation.
- 24 10. Non-Collusion Affidavit: Section 002950.
- 25 11. No Material Change in Qualification Information Form: Section 002960.
- 26 12. Form of certification stating that bidder is not currently debarred, suspended or
27 disqualified under N.J.A.C. section 19:32-1.8. Section 002970.
- 28 13. Disclosure of Investment Activities in Iran. Section 002980.
- 29 14. Contractor's Sworn Contractor Certification. Section 004580; and
30

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

Credentials A, B & C listed below must be stapled to this certification.

- A. "Contractor Registration Certificate" from the New Jersey Department of Labor in accordance with the "Public Works Contractor Registration Act."
 B. "Certificate of Authority" issued by the Department of Treasury.
 C. Contractor or trade license.

15. Political Contributions Disclosure Form: Section 004590.

16. Prevailing Wages Certification Form: Section 004595.

17. List of Prime Subcontractors: Section 005290.

For each Prime subcontractor listed, attached a copy of:

- A. DPMC Notice of Classification.
 B. Total Amount of Uncompleted Contracts Affidavit (DPMC Form 701).
 C. Business Registration of Public Contractors from the New Jersey Division of Taxation.
 D. No Material Change in Qualification Information Form: Section 002960.
 E. Contractor's Sworn Contractor Certification. Section 004580; and

Credentials 1, 2 & 3 listed below must be stapled to this certification.

1. "Contractor Registration Certificate" from the New Jersey Department of Labor in accordance with the "Public Works Contractor Registration Act."
 2. "Certificate of Authority" issued by the Department of Treasury.
 3. Contractor or trade license.

F. Evidence of Prime Subcontractor's performance security. (Required only if Bidders Bid Bond does not cover Bidders Prime subcontractors.) (Attach to Prime Bidder's Bid Bond).

18. TWO (2) copies (One original and one copy) of all required documents.

IF AWARDED CONTRACT, the Undersigned Bidder agrees to execute the AGREEMENT and to furnish the required Performance and Payment Bonds and evidence of required insurance as soon as practicable after Notice of Acceptance of Proposal or in any event not later than 10 calendar days after receipt of such notification.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

If the Undersigned Bidder fails to execute AGREEMENT and furnish required bond and evidence of insurance, the Bid Security accompanying this Proposal will be forfeited to the Owner as liquidated damages for the delay and loss caused to the Owner by reason of such failure by the Undersigned Bidder.

THE UNDERSIGNED BIDDER HAS COMPLIED with all requirements concerning licensing and with all Local, State and Federal laws. No legal requirement has been violated in making this Proposal nor will be violated in the execution of the Work if this Proposal is accepted.

In addition, the undersigned hereby certifies that there has been no material adverse change in the qualification information last submitted to the New Jersey Department of Treasury pursuant to N.J.S.A. 18A:18A-28.

IT IS UNDERSTOOD that the right is reserved by the Owner to reject any and all bids and to waive all informalities in connection therewith as may be permitted by law.

AWARD OF CONTRACT(S)

A Single Prime Contract shall be awarded for all of the work and materials required to complete the project, unless all bids are rejected, to the lowest responsible bidder based on the total amount of the Base Bid and Alternates (if any), accepted by the Owner.

IT IS AGREED THAT THIS BID MAY NOT BE WITHDRAWN for a period of 60 days after the actual date of receipt of bids.

RECEIPT OF THE FOLLOWING ADDENDA is acknowledged by the Undersigned bidder (List by number and date):

| <u>ADDENDUM NO.</u> | <u>DATED</u> | <u>ADDENDUM NO.</u> | <u>DATED</u> |
|---------------------|--------------|---------------------|--------------|
| _____ | _____ | _____ | _____ |

Respectfully submitted this _____ day of _____ 20_____.

_____(Name of Firm)

By: _____ L.S.
Print

*(SEAL IF BIDDER
IS A CORPORATION)

Signature

Title

Federal Employment Identification Number (FEIN)

END OF SECTION 002000

DOCUMENT 002600 - PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

- A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.
- B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 012500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

1.2 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

- A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.
- B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:
 - 1. Extensive revisions to the Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
 - 3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

- A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing by prime contract Bidder only in compliance with the following requirements:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Requests for substitution of materials and equipment will be considered if received no later than 10 days prior to date of bid opening the date and time for questions indicated in the ADVERTISEMENT.
2. Submittal Format: Submit one pdf copy of each written Procurement Substitution Request, using form 012501 Substitution Request form of the Project Manual.
3. Submittal Format: Submit Procurement Substitution Request, using format provided on Project Web site.
 - a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and drawing numbers.
 - b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:
 - 1) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
 - 2) Copies of current, independent third-party test data of salient product or system characteristics.
 - 3) Samples where applicable or when requested by Architect.
 - 4) Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - 5) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - 6) Research reports, where applicable, evidencing compliance with building code in effect for Project.
 - 7) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate the proposed substitute.
 - c. Bidder shall provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.
 - d. By submitting the Procurement Substitution Request, Bidder waives the right to additional payment or an extension of Contract Time due to any failure of the substitute to perform as represented in the Procurement Substitution Request.

B. Architect's Action:

1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 002600

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002800 - CONSENT OF SURETY

2

3

4 TO: SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION (Owner).

5 _____

6 herein called the Surety hereby agrees that if the Contract

7 Contract No. _____ (Title)

8 for the construction of the _____

9 _____ and approved Allowances, Alternates & Unit Prices (if any)

10 at the _____

11 be awarded to _____

12

13 herein called the Bidder, the Surety will provide the Bidder

14

15 with such form and sums that are required by said Contract.

16

17 Signed, sealed and dated this _____ day of 20_____.

18

19 _____

(Surety)

20

21 _____

(Bond No.)

22

(SEAL)

23

24

25

26

Attest: _____

By: _____

27

(Attorney in fact)

28

29

**CONSENT OF SURETY MUST BE SIGNED BY AN AUTHORIZED AGENT OR
REPRESENTATIVE OF A SURETY COMPANY AND NOT BY THE INDIVIDUAL OR
COMPANY SUBMITTING THE BID.**

30

31

32

33

34

END OF SECTION 002800

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002801 - SURETY COMPANY & AGENCY INFORMATION

2
3
4 PRIME BIDDER:

5 _____ (NAME)

6 _____ (ADDRESS)

7 _____ (CITY, STATE, ZIP)

8 _____ (TELEPHONE NUMBER)

9 _____ (FACSIMILE NUMBER)

10 _____ (E-MAIL ADDRESS)

11
12 In accordance with the bidding requirements, the bidder hereby acknowledges the following
13 responsible surety data for this project:

14
15
16 SURETY COMPANY

17 _____ (NAME)

18 _____ (ADDRESS)

19 _____ (CITY, STATE, ZIP)

20 _____ (TELEPHONE NUMBER)

21 _____ (FACSIMILE NUMBER)

22 _____ (E-MAIL ADDRESS)

23
24
25 SURETY AGENCY

26 _____ (NAME)

27 _____ (ADDRESS)

28 _____ (CITY, STATE, ZIP)

29 _____ (TELEPHONE NUMBER)

30 _____ (FACSIMILE NUMBER)

31 _____ (E-MAIL ADDRESS)

32
33 END OF SECTION 002801

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002850 – AFFIRMATIVE ACTION EVIDENCE FOR CONSTRUCTION
2 PROJECTS

3
4
5 Bidder shall complete this form and submit it with his/her bid proposal.

6
7 Pursuant to N.J.S.A.10:5-31 et. seq. and N.J.A.C.17:27, all successful bidders are required to
8 submit evidence of appropriate Affirmative Action compliance to the Division of Public
9 Contracts Equal Employment Opportunity Compliance (hereafter referred to as “Division”) and
10 the awarding Public Agency. During a review, the Division representatives will review the Public
11 Agency files to determine whether the Affirmative Action evidence has been submitted by the
12 vendor/contractor. Specifically, each vendor/contractor shall submit to the Public Agency, prior
13 to execution of Public Agency contract the following documents within seven (7) days after
14 receipt of the notification of intent to award the contract or receipt of the contract, whichever is
15 sooner:

16
17 The construction contractors shall complete and submit an Initial Project Workforce Report Form
18 AA-201 upon notification of award. Proper completion and submission of this report shall
19 constitute evidence of the contractor’s compliance with the regulations. Failure to submit this
20 form may result in the contract being terminated. The contractor also agrees to submit a copy of
21 the Monthly Project Workforce Report Form AA-202 once a month thereafter for the duration of
22 the contract to the Division and to the public agency compliance officer.

23
24 After notification of award, but prior to signing a construction contract the EEO/AA evidence
25 must be submitted.

26
27 Upon award of a construction contract, it shall be the responsibility of the Public Agency to
28 provide the contractor with Form AA-201, Initial Project Workforce Report. The Division does
29 not supply this form to the contractor.

30
31 Failure on the Contractor’s part to comply with their requirements of N.J.S.A. 10:5-31 et. seq.
32 and N.J.A.C. 17:27 that result in sanctions and/or penalties against the Public Agency from the
33 Division agree to pay all costs and expenses incurred by the Public Agency.

34
35 The undersigned contractor certifies that he/she is aware of the commitment to comply with the
36 requirements of N.J.S.A. 10:5-31 et. seq. and N.J.A.C. 17:27 and agrees to furnish the required
37 documentation pursuant to the Law.

38
39 Signed, sealed and dated this _____ day of 20_____.

40 _____ (Company)

41 _____ (Signature)

42 _____ (Title)
43
44

EXHIBIT B

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

N.J.S.A. 10:5-31 et seq. (P.L.1975, c.127)

N.J.A.C.17:27 - 1.1 et seq.

CONSTRUCTION CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Dept. of LWD, Construction EEO Monitoring Program, may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B, and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active “card
2 carrying” members who are minority and women workers is equal to or greater than the targeted
3 employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or
4 subcontractor agrees that a good faith effort shall include compliance with the following
5 procedures:
6

7 (A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a
8 construction trade, the contractor or subcontractor shall, within three business days of the
9 contract award, seek assurances from the union that it will cooperate with the contractor or
10 subcontractor as it fulfills its affirmative action obligations under this contract and in
11 accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq.,
12 as supplemented and amended from time to time and the Americans with Disabilities Act. If
13 the contractor or subcontractor is unable to obtain said assurances from the construction trade
14 union at least five business days prior to the commencement of construction work, the
15 contractor or subcontractor agrees to afford equal employment opportunities minority and
16 women workers directly, consistent with this chapter. If the contractor's or subcontractor's
17 prior experience with a construction trade union, regardless of whether the union has
18 provided said assurances, indicates a significant possibility that the trade union will not refer
19 sufficient minority and women workers consistent with affording equal employment
20 opportunities as specified in this chapter, the contractor or subcontractor agrees to be
21 prepared to provide such opportunities to minority and women workers directly, consistent
22 with this chapter, by complying with the hiring or scheduling procedures prescribed under
23 (B) below; and the contractor or subcontractor further agrees to take said action immediately
24 if it determines that the union is not referring minority and women workers consistent with
25 the equal employment opportunity goals set forth in this chapter.
26

27 (B) If good faith efforts to meet targeted employment goals have not or cannot be met for each
28 construction trade by adhering to the procedures of (A) above, or if the contractor does not
29 have a referral agreement or arrangement with a union for a construction trade, the contractor
30 or subcontractor agrees to take the following actions:
31

- 32 (1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO
33 Monitoring Program, and minority and women referral organizations listed by the
34 Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of
35 minority and women workers;
- 36 (2) To notify any minority and women workers who have been listed with it as awaiting
37 available vacancies;
- 38 (3) Prior to commencement of work, to request that the local construction trade union refer
39 minority and women workers to fill job openings, provided the contractor or
40 subcontractor has a referral agreement or arrangement with a union for the construction
41 trade;
- 42 (4) To leave standing requests for additional referral to minority and women workers with
43 the local construction trade union, provided the contractor or subcontractor has a referral
44 agreement or arrangement with a union for the construction trade, the State Training and
45 Employment Service and other approved referral sources in the area;
- 46 (5) If it is necessary to lay off some of the workers in a given trade on the construction site,
47 layoffs shall be conducted in compliance with the equal employment opportunity and
48 nondiscrimination standards set forth in this regulation, as well as with applicable
49 Federal and State court decisions;

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 (6) To adhere to the following procedure when minority and women workers apply or are
2 referred to the contractor or subcontractor:

3 (i) The contractor or subcontractor shall interview the referred minority or women
4 worker.

5 (ii) If said individuals have never previously received any document or certification
6 signifying a level of qualification lower than that required in order to perform the
7 work of the construction trade, the contractor or subcontractor shall in good faith
8 determine the qualifications of such individuals. The contractor or subcontractor
9 shall hire or schedule those individuals who satisfy appropriate qualification
10 standards in conformity with the equal employment opportunity and non-
11 discrimination principles set forth in this chapter. However, a contractor or
12 subcontractor shall determine that the individual at least possesses the requisite
13 skills, and experience recognized by a union, apprentice program or a referral
14 agency, provided the referral agency is acceptable to the Dept. of LWD,
15 Construction EEO Monitoring Program. If necessary, the contractor or
16 subcontractor shall hire or schedule minority and women workers who qualify as
17 trainees pursuant to these rules. All of the requirements, however, are limited by
18 the provisions of (C) below.

19 (iii) The name of any interested women or minority individual shall be maintained on a
20 waiting list and shall be considered for employment as described in (i) above,
21 whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO
22 Monitoring Program, the contractor or subcontractor shall provide evidence of its
23 good faith efforts to employ women and minorities from the list to fill vacancies.

24 (iv) If, for any reason, said contractor or subcontractor determines that a minority
25 individual or a woman is not qualified or if the individual qualifies as an advanced
26 trainee or apprentice, the contractor or subcontractor shall inform the individual in
27 writing of the reasons for the determination, maintain a copy of the determination
28 in its files, and send a copy to the public agency compliance officer and to the
29 Dept. of LWD, Construction EEO Monitoring Program.

30
31 (7) To keep a complete and accurate record of all requests made for the referral of workers in
32 any trade covered by the contract, on forms made available by the Dept. of LWD,
33 Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD,
34 Construction EEO Monitoring Program upon request.

35
36 (C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the
37 contractor or subcontractor from complying with the union hiring hall or apprenticeship
38 policies in any applicable collective bargaining agreement or union hiring hall arrangement,
39 and, where required by custom or agreement, it shall send journeymen and trainees to the
40 union for referral, or to the apprenticeship program for admission, pursuant to such
41 agreement or arrangement. However, where the practices of a union or apprenticeship
42 program will result in the exclusion of minorities and women or the failure to refer minorities
43 and women consistent with the targeted county employment goal, the contractor or
44 subcontractor shall consider for employment persons referred pursuant to (B) above without
45 regard to such agreement or arrangement; provided further, however, that the contractor or
46 subcontractor shall not be required to employ women and minority advanced trainees and
47 trainees in numbers which result in the employment of advanced trainees and trainees as a
48 percentage of the total workforce for the construction trade, which percentage significantly
49 exceeds the apprentice to journey worker ratio specified in the applicable collective

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the
2 ratio established by practice in the area for said construction trade. Also, the contractor or
3 subcontractor agrees that, in implementing the procedures of (B) above, it shall, where
4 applicable, employ minority and women workers residing within the geographical
5 jurisdiction of the union.
6

7 After notification of award, but prior to signing a construction contract, the contractor shall
8 submit to the public agency compliance officer and the Dept. of LWD, Construction EEO
9 Monitoring Program an initial project workforce report (Form AA-201) electronically provided
10 to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its
11 website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-
12 7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a
13 month thereafter for the duration of this contract to the Dept. of LWD, Construction EEO
14 Monitoring Program, and to the public agency compliance officer.
15

16 The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is
17 necessary, for on-the-job and/or off-the job programs for outreach and training of minorities and
18 women.
19

20 (D) The contractor and its subcontractors shall furnish such reports or other documents to the
21 Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of
22 LWD, Construction EEO Monitoring Program from time to time in order to carry out the
23 purposes of these regulations, and public agencies shall furnish such information as may be
24 requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a
25 compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.
26

(Revised: January 2016)

27
28
29
30 END OF SECTION 002850

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002900 - STATEMENT OF OWNERSHIP DISCLOSURE

2 PART 1 - GENERAL

3 1.1 ORGANIZATION INFORMATION

4 A. Provide the following as per N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L.
5 2016, c.43).

6 B. This statement shall be completed, certified to, and included with all bid and proposal
7 submissions. Failure to submit the required information is cause for automatic
8 rejection of the bid or proposal.

9 Organization Name: _____

10 Organization Address: _____

11 _____

12 C. Type of Business Organization

13 1. Check the box that represents the type of business organization:

14 Sole Proprietorship (skip PARTS 2 and 3, execute certification in PART 4)

15 Non-Profit Corporation (skip PARTS 2 and 3, execute certification in PART
16 4)

17 For-Profit Corporation (any type) Limited Liability Company (LLC)

18 Partnership Limited Partnership Limited
19 Liability Partnership (LLP)

20 Other (be specific): _____

21 PART 2 - STOCKHOLDER INFORMATION

22 2.1 LIST OF CORPERATION STOCKHOLDERS

23 A. Percentage Amount

24 1. Check the box that represents the corporation's stockholder percentages:

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 The list below contains the names and addresses of all stockholders in the
 2 corporation who own 10 percent or more of its stock, of any class, or of all
 3 individual partners in the partnership who own a 10 percent or greater
 4 interest therein, or of all members in the limited liability company who own
 5 a 10 percent or greater interest therein, as the case may be. **(COMPLETE**
 6 **THE LIST BELOW IN THIS SECTION)**

7 (Please attach additional sheets if more space is needed):

| Name of Individual or Business Entity | Home Address (for Individuals) or Business Address |
|---------------------------------------|--|
| | |
| | |
| | |
| | |

8 No one stockholder in the corporation owns 10 percent or more of its stock,
 9 of any class, or no individual partner in the partnership owns a 10 percent or
 10 greater interest therein, or no member in the limited liability company owns
 11 a 10 percent or greater interest therein, as the case may be. **(SKIP TO**
 12 **PART 4)**

13 PART 3 - STOCKHOLDER DISCLOSURE

14 3.1 DISCLOSURE OF 10% OR GREATER OWNERSHIP

15 A. Disclosure of 10% or greater ownership in the stockholders, partners or llc members
 16 listed in PART 2.

17 1. If a bidder has a direct or indirect parent entity which is publicly traded, and any
 18 person holds a 10 percent or greater beneficial interest in the publicly traded
 19 parent entity as of the last annual federal Security and Exchange Commission
 20 (SEC) or foreign equivalent filing, ownership disclosure can be met by providing
 21 links to the website(s) containing the last annual filing(s) with the federal
 22 Securities and Exchange Commission (or foreign equivalent) that contain the
 23 name and address of each person holding a 10% or greater beneficial interest in
 24 the publicly traded parent entity, along with the relevant page numbers of the
 25 filing(s) that contain the information on each such person.

26 (Please attach additional sheets if more space is needed):

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

| Website (URL) containing the last annual SEC (or foreign equivalent) filing | Page #'s |
|---|----------|
| | |
| | |
| | |

- 1 2. List the names and addresses of each stockholder, partner or member owning a
 2 10 percent or greater interest in any corresponding corporation, partnership
 3 and/or limited liability company (LLC) listed in PART 2 other than for any
 4 publicly traded parent entities referenced above. The disclosure shall be
 5 continued until names and addresses of every non-corporate stockholder, and
 6 individual partner, and member exceeding the 10 percent ownership criteria
 7 established pursuant to N.J.S.A. 52:25-24.2 has been listed.

8 (Please attach additional sheets if more space is needed):

| Stockholder/Partner/Member & Corresponding Entity Listed In PART 2 | Home Address (for Individuals) or Business Address |
|--|--|
| | |
| | |
| | |

9 PART 4 - CERTIFICATION

- 10 4.1 I, being duly sworn upon my oath, hereby represent that the foregoing information and
 11 any attachments thereto to the best of my knowledge are true and complete.
- 12 A. I acknowledge: that I am authorized to execute this certification on behalf of the
 13 bidder/proposer; that the SOUTHAMPTON TOWNSHIP BOE is relying on the
 14 information contained herein and that I am under a continuing obligation from the date
 15 of this certification through the completion of any contracts with the SOUTHAMPTON
 16 TOWNSHIP BOE to notify them in writing of any changes to the information
 17 contained herein;
- 18 B. that I am aware that it is a criminal offense to make a false statement or
 19 misrepresentation in this certification, and if I do so, I am subject to criminal
 20 prosecution under the law and that it will constitute a material breach of my
 21 agreement(s) with the, permitting the SOUTHAMPTON TOWNSHIP BOE to declare
 22 any contract(s) resulting from this certification void and unenforceable.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 Full Name (Print): _____

2 Title: _____

3 Signature: _____

4 Date: _____

5

6

7 END OF SECTION 002900

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002950 - NON-COLLUSION AFFIDAVIT

2
3
4 STATE OF NEW JERSEY

5 County of Burlington, Owner: SOUTHAMPTON TOWNSHIP BOARD OF EDUCATION

6
7 I, _____ of _____ (Municipality)

8 in the County of _____ and the State of _____
9 of full age, being duly sworn according to law on my oath depose and say that:

10 I am _____ of the firm of _____,
11 the bidder making the Bid for the above named Project, and that I have executed the said Bid
12 with full authority so to do; that said Bidder has not, directly or indirectly, entered into any
13 agreement, participated in any collusion, or otherwise taken any action in restraint of free,
14 competitive bidding in connection with the above named Project; and that all statements
15 contained in said Bid and in this affidavit are true and correct, and made with full knowledge that
16 the above named Owner relies upon the truth of the statements contained in said Bid and in the
17 statements contained in this affidavit in awarding contract for the said Project.

18
19 I further warrant that no person or selling agency has been employed or retained to solicit or
20 secure such contract upon an agreement or understanding for a commission, percentage,
21 brokerage or contingent fee, except bona fide employees or bona fide established commercial or
22 selling agencies maintained by

23 _____ (Bidder)

24 By: _____ (Type name)

25
26
27
28
29
30
31
32
33
34 Subscribed and sworn to before me this

35 _____ day of _____, 20_____.

36 State of _____

37 Notary Public: _____

38 My commission expires _____, 20_____.

39
40 END OF SECTION 002950

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002960 – NO MATERIAL CHANGE OF CIRCUMSTANCES
2

3 I, _____ being of full age under oath depose and say:
4

- 5 1. I am a(n) owner, partner, shareholder or officer of the company set forth below and
6 am duly authorized to execute this affidavit on its behalf.
7
8 2. A statement as to the financial ability, adequacy of plant and equipment,
9 organization and prior experience of Bidder, as required by N.J.S.A. 18A:18A-28 has
10 been submitted to the Department of Treasury within one (1) year preceding the date
11 of opening of bids for this contract.
12
13 3. I certify, as required by N.J.S.A. 18A:18A-32 that there has been no material adverse
14 change in the qualification information of Bidder since such statement was submitted
15 to the Department of Treasury except:
16

17 _____
18 _____
19 _____

20 _____
21 TITLE

22 _____
23 COMPANY
24
25
26
27
28
29
30
31
32
33
34

35 Subscribed and sworn to before me this

36 _____ day of _____, 20_____.

37 State of _____

38 Notary Public: _____

39 My commission expires _____, 20_____.

40
41 END OF SECTION 002960

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 002970 - CERTIFICATION REGARDING THE DEBARMENT, SUSPENSION,
2 DISQUALIFICATION, INELIGIBILITY AND VOLUNTARY EXCLUSION
3

4 I am _____ of the firm of _____
5 (title) (name of your organization)

6 _____
7 (state the address of your organization)

8 CHOOSE ONE OF THE FOLLOWING

9 () A. I hereby certify on behalf of _____ that
10 (name of your organization)

11
12 neither it nor its principals are included on any State or Federal Government's
13 List of Debarred, Suspended, or Disqualified Bidders as a result of action
14 taken by any State or Federal Agency.

15
16 () B. I am unable to certify to any of the statements set forth in this certification. I have
17 attached an explanation to this form.

18 _____ (SEAL)
19 (Signature)

20 _____
21 (Type Name & Title)

22 _____
23 (Date)
24

25 The Board of Education may not enter into a Contract for work with any person, company, or
26 firm that is on the State Department of Labor and Workforce Development, Prevailing Wage
27 Debarment List, or State of New Jersey Consolidated Debarment Report
28 (eee.state.nj.us/treasury/debarred), or the Federal System for award -SAM.gov. By certifying
29 this Form, the Contractor confirms neither it nor its principals are included on any State or
30 Federal Government's List of Debarred, Suspended, or Disqualified Bidders as a result of action
31 taken by any State or Federal Agency.
32

33
34 Subscribed and sworn to before me this

35 _____ day of _____, 20_____.

36 State of _____

37 Notary Public: _____

38 My commission expires _____, 20_____.

39
40 END OF SECTION 002970

**STATE OF NEW JERSEY -- DIVISION OF PURCHASE AND PROPERTY
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN**

Quote Number: _____ **Bidder/Offeror:** _____

PART 1: CERTIFICATION
BIDDERS MUST COMPLETE PART 1 BY CHECKING EITHER BOX.
FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE.

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division's website at <http://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf>. Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification will render a bidder's proposal non-responsive.** If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party

PLEASE CHECK THE APPROPRIATE BOX:

I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is listed on the N.J. Department of the Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. **I will skip Part 2 and sign and complete the Certification below.**

OR

I am unable to certify as above because the bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. **I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below.** Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

EACH BOX WILL PROMPT YOU TO PROVIDE INFORMATION RELATIVE TO THE ABOVE QUESTIONS. PLEASE PROVIDE THOROUGH ANSWERS TO EACH QUESTION. IF YOU NEED TO MAKE ADDITIONAL ENTRIES, CLICK THE "ADD AN ADDITIONAL ACTIVITIES ENTRY" BUTTON.

| | |
|--|--------------------------------------|
| Name _____ | Relationship to Bidder/Offeror _____ |
| Description of Activities _____ _____ | |
| Duration of Engagement _____ | Anticipated Cessation Date _____ |
| Bidder/Offeror Contact Name _____ | Contact Phone Number _____ |

ADD AN ADDITIONAL ACTIVITIES ENTRY

Certification: I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder; that the State of New Jersey is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the State, permitting the State to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): _____ **Signature:** _____

Do Not Enter PIN as a Signature

Title: _____ **Date:** _____

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 004580 - SWORN CONTRACTOR CERTIFICATION REQUIREMENTS

2
3 In accordance with N.J.S.A. 18A:7G-37, a prequalified contractor seeking to bid school facilities
4 projects, and any subcontractors, required to be named under N.J.S.A. 18A:7G-1. shall, as a
5 condition of bidding, submit this Sworn Contractor Certification regarding qualifications and
6 credentials.

7
8 By signing and submitting this Sworn Contractor Certification the principal Owner or Officer of
9 the Company or Corporation certifies that the firm has the following qualifications and
10 credentials:

11
12 **Credentials 1, 2 & 3 listed below must be stapled to this certification.**

13
14 (1) A current, valid certificate of registration issued pursuant to “The Public Works Contractor
15 Registration Act”, P.L. 1999, c.238 (C.34:11-56.48 et seq), N.J.S.A. 34:11-56.48 et seq., a copy
16 of which is attached hereto;

17
18 (2) A current, valid “Certificate of Authority to perform work in New Jersey” issued by the
19 Department of Treasury, a copy of which is attached hereto;

20
21 (3) A current, valid contractor or trade license required under applicable New Jersey Law for any
22 trade or specialty area in which the firm seeks to perform work, a copy of which is attached
23 hereto;

24
25 (4) During the term of construction of the school facilities project, I as principal Owner or Officer
26 of the company or corporation, as contractor, will have in place a suitable quality control and
27 quality insurance program and an appropriate safety and health plan.

28
29 As the principal Owner or Officer of the company or corporation, I certify that, at the time of
30 bidding this project, the amount of the bid proposal and the value of all this firm’s outstanding
31 incomplete contracts does not exceed the firm’s existing aggregate rating limit.

32
33
34 Company: _____

35
36
37 _____
38 (Signature)

39
40
41 _____
42 (Print Name)

43
44 Date: _____
45
46
47

48
49 Corporate Seal
50

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 Sworn and subscribed before me this
2
3 _____ day of _____ 20__.
4
5 NOTARY PUBLIC _____
6 (Signature)
7
8 _____
9 (Print Name)
10 SEAL
11
12 Notary Public - State of _____
13
14 My Commission Expires _____
15
16 END SECTION 004580

SECTION 004590 – POLITICAL CONTRIBUTIONS DISCLOSURE FORM

The undersigned, being authorized and knowledgeable of the circumstances, does hereby certify

that _____ (Business Entity) has made the following **reportable** political contributions to any elected official, political candidate or any political committee as defined in N.J.S.A. 19:44-20.26 during the twelve (12) months preceding this award of contract:

Reportable Contributions

| <u>Date of Contribution</u> | <u>Amount of Contribution</u> | <u>Name of Recipient Elected Official/ Committee/Candidate</u> | <u>Name of Contributor</u> |
|------------------------------------|--------------------------------------|---|-----------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

The Business Entity may attach additional pages if needed.

No Reportable Contributions (Please check (✓) if applicable.)

I certify that _____ (Business Entity) made no reportable contributions to any elected official, political candidate or any political committee as defined in N.J.S.A. 19:44-20.26.

CERTIFICATION

I certify, that the information provided above is in full compliance with Public Law 2005—Chapter 271.

Name of Authorized Agent: _____

Signature: _____

Title: _____

Business Entity: _____

END OF SECTION 004590

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 004595 – PREVAILING WAGES CERTIFICATION FORM

It is the determination of the Southampton Township Board of Education that this is a public works project that in total will exceed \$2,000.00 (two thousand dollars), therefore prevailing wages rules and regulations apply as promulgated by the New Jersey Prevailing Wage Act and in conformance with N.J.S.A. 34:11-56:25.

CERTIFICATION

1. I certify that our company understands that this project of the Southampton Township Board of Education requires prevailing wages to be paid in full accordance with the law.
2. I further certify that all subcontractors named in this bid understand that this project requires the subcontractor to pay prevailing wages in full accordance with the law.

NOTIFICATION OF VIOLATIONS – New Jersey Department of Labor

Has the bidder or any person having an “interest” with the bidder, been notified by the New Jersey Department of Labor by notice issued pursuant to N.J.S.A. 34:11-56:37 that he/she has been in violation for failure to pay prevailing wages as required by the New Jersey Prevailing Wage Act within the last five (5) years?

* Yes No

*If yes, please attach a signed document explaining any/or all administrative proceedings with the NJDOL within the last five (5) years.

Please include any pending administrative proceedings with the NJDOL, if any.

Name of Company: _____

Authorized Agent: _____

Authorized Signature: _____

END OF SECTION 004595

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 005290 - LIST OF PRIME SUBCONTRACTORS

2
3
4 BIDDER:

5
6 _____ (NAME)

7
8 _____ (ADDRESS)

9
10 _____ (CITY, STATE, ZIP)

11
12 _____ (PHONE/FAX NUMBER)

13
14 In accordance with NJSA 18A:18A-18, where the Bid requires and/or permits more than one of
15 the specified branches of work to be under one contract, the bidder shall list below the applicable
16 name or names of their Prime Subcontractors. If none are required, the Bidder shall input
17 "None" on the list of those Subcontractors. Subject to compliance with the Public Bidding
18 Laws, if the Overall Bidder elects to undertake one or more of the subcontracts listed with their
19 own forces, they MUST indicate their intentions on this form.

20
21 LIST OF PRIME SUBCONTRACTORS

22
23
24 PLUMBING (C030)

25 _____ (NAME)

26 _____ (ADDRESS)

27 _____ (CITY, STATE, ZIP)

28 _____ (PHONE/FAX NUMBER)

29 _____ (DOLLAR VALUE)

30
31
32 HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION (HVACr) (C032)

33 _____ (NAME)

34 _____ (ADDRESS)

35 _____ (CITY, STATE, ZIP)

36 _____ (PHONE/FAX NUMBER)

37 _____ (DOLLAR VALUE)

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 ELECTRICAL WORK (C047), including any electrical power plant, tele-data, fire alarm, or
2 security

3 _____ (NAME)

4 _____ (ADDRESS)

5 _____ (CITY, STATE, ZIP)

6 _____ (PHONE/FAX NUMBER)

7 _____ (DOLLAR VALUE)

8

9
10 STRUCTURAL STEEL AND ORNAMENTAL IRON WORK (C029)

11 _____ (NAME)

12 _____ (ADDRESS)

13 _____ (CITY, STATE, ZIP)

14 _____ (PHONE/FAX NUMBER)

15 _____ (DOLLAR VALUE)

16

17

18 GENERAL CONSTRUCTION (C008 or C009), which shall include all other work goods and
19 services required for the completion of the project.

20 _____ (NAME)

21 _____ (ADDRESS)

22 _____ (CITY, STATE, ZIP)

23 _____ (PHONE/FAX NUMBER)

24 _____ (DOLLAR VALUE)

25

26

27 END OF SECTION 005290

SECTION 006000 – PROJECT FORMS

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

- A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:
1. AIA Document A101-2017 "Standard Form of Agreement between Owner and Contractor Where the Basis of Payment is a Stipulated Sum."
 - a. The Modified General Conditions for Project are AIA Document A201-2017 "General Conditions of the Contract for Construction."
 2. The Modified General Conditions are included in the Project Manual.
 3. Form for Requests for Information (RFIs): Section 006001 – Bidder Request for Information is to be used during the Bidding Phase and is included in the Project Manual.
 4. Notice to Proceed: Section 007100 – Notice to Proceed is included in the Project Manual.

1.2 ADMINISTRATIVE FORMS

- A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.
- B. Copies of AIA standard forms may be obtained from the American Institute of Architects; <https://www.aiacontractdocs.org>; (800) 942-7732.
- C. State of New Jersey Pre-Qualification (Notice of Classification) information may be obtained from the New Jersey Department of Treasury at (609) 633-3990 or (609) 984-4708.
- D. State of New Jersey WORKFORCE REPORTS may be obtained from the New Jersey Division of Public Contracts Equal Employment Opportunity Compliance at www.state.nj.us/treasury/contract_compliance.
- E. Preconstruction Forms:
1. Form of Performance Bond and Labor and Material Bond: Bonding Company's standard form complying with the statutory requirements of the State of New Jersey.
 2. Form of Payment Bond: AIA Document A312-2010 "Payment Bond."
 3. Form of Performance Bond: AIA Document A312-2010 "Performance Bond."
 4. Form of Certificate of Insurance: Insurance Company's standard form complying with the statutory requirements of the State of New Jersey.
 5. Form of Certificate of Insurance: AIA Document G715-2017 "Supplemental Attachment, ACORD Certificate of Insurance."

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

6. Tracking Report: Initial Project Workforce Report - Building Construction (NJAAO Form AA-201).

F. Information and Modification Forms:

1. Form for Requests for Information (RFIs): Section 013100 – Contractor Request for Information is to be used during the Construction Phase and is included in the Project Manual.
2. Form for Requesting Substitutions: Section 012501 – Substitution Request is included in the Project Manual.
3. Form for Submitting Submittals: Section 013300 – Submittal Transmittal Form is included in the Project Manual.
4. Change Order Form: AIA Document G701-2017, "Change Order."
5. Prime Contractor Change Order Request Forms: Sections 012610 & 012610.1 - Prime Contractor COR Summary & Worksheet.
6. Subcontractor Change Order Request Forms: Sections 012620 & 012620.1 - Subcontractor COR Summary & Worksheet.
7. Form of Architect's Memorandum for Minor Changes in the Work: AIA Document G710-2017, "Architect's Supplemental Instructions."
8. Form of Change Directive: AIA Document G714-2017, "Construction Change Directive."
9. Form E-2 NJSDA - Contractor Certification and Consent Upon Award Of Contract.

G. Payment Forms:

1. Schedule of Values Form: AIA Document G703-1992 "Continuation Sheet."
2. Payment Application: AIA Document G702-1992 "Application and Certificate for Payment."
3. Payroll Verification: Section 012910 – Payroll Verification Affidavit is included in the Project Manual.
4. Partial Release: Section 012911 – Partial Release of Liens is included in the Project Manual.
5. Stored Materials: Section 012920 – Bill of Sale/Certification for Stored Materials is included in the Project Manual.
6. Monthly Tracking Reports: Monthly Workforce Tracking - Building Construction (Form AA-202).
7. Form of Partial Release: AIA Document G707A-1994, "Consent of Surety to Reduction in or Partial Release of Retainage."

H. Close Out Forms:

1. Substantial Completion: AIA Document G704-2017, "Certificate of Substantial Completion."
2. Payment Application: AIA Document G702/703-1992, "Application and Certificate for Payment and Continuation Sheet."
3. Form of Contractor's Affidavit: AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

4. Form of Affidavit of Release of Liens: AIA Document G706A-1994, "Contractor's Affidavit of Payment of Release of Liens."
5. Form of Consent of Surety: AIA Document G707-1994, "Consent of Surety to Final Payment."
6. Maintenance Bond: Section 017721 - Maintenance Bond is included in the Project Manual.
7. Subcontractor Guaranty: Section 017722 – Subcontractor Guaranty is included in the Project Manual.

END OF DOCUMENT 006000

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 006001 - BIDDER REQUEST FOR INFORMATION

2

3 FROM: _____

4 REQUEST DATE: _____ EMAIL _____

5 BIDDER'S RFI NUMBER: _____

6

7 TO:

8 Scott Charles England, AIA

9 REGAN YOUNG ENGLAND BUTERA, PC

10 Fax: (609) 265-0333

Email: sce@ryebread.com

11

12

13 REFERENCES (List all applicable drawings & specifications):

14

15

16

17

18 PLEASE RESPOND TO THE FOLLOWING:

19

20

21

22

23

24

25

26

27

28

29

30 _____
31 RESPONSE:

32

33

34

35

36

37

38

39

40 _____

41 DATE OF RESPONSE: _____ BY: _____

42 DISTRIBUTION: _____

43

44 END OF SECTION 006001

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 007100 - NOTICE TO PROCEED

2

3

4 TO: _____ DATE: _____

5 _____ PROJECT: _____

6 _____

7 _____

8

9 You are hereby notified to commence WORK in accordance with

10 the Agreement dated _____, on or

11 before _____, and you are

12 to complete the WORK within _____ consecutive calendar days

13 thereafter. The date of completion of all WORK is

14 therefore _____.

15 _____

16

(OWNER)

17 By: _____

18 Title: _____

19

20 ACCEPTANCE OF NOTICE

21

22 Receipt of the above NOTICE TO PROCEED

23 is hereby acknowledged by:

24 _____

25

(CONTRACTOR)

26 this the _____, 20_____

27 _____

28 By: _____

29 Title: _____

30 Employer ID #: _____

31

32

33 END OF SECTION 007100

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General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Security Office & Exterior Bollards - Southampton Township School District
177 Main Street
Vincentown, New Jersey 08088

THE OWNER:

(Name, legal status and address)

Southampton Township Board of Education Casey DeJoseph, SBA
Betty Wright Administrative Building
177 Main Street
Vincentown, New Jersey 08088

THE ARCHITECT:

(Name, legal status and address)

Regan Young England Butera, P.C.
456 High Street
Mount Holly, New Jersey 08060

TABLE OF ARTICLES

| | |
|----|--|
| 1 | GENERAL PROVISIONS |
| 2 | OWNER |
| 3 | CONTRACTOR |
| 4 | ARCHITECT |
| 5 | SUBCONTRACTORS |
| 6 | CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS |
| 7 | CHANGES IN THE WORK |
| 8 | TIME |
| 9 | PAYMENTS AND COMPLETION |
| 10 | PROTECTION OF PERSONS AND PROPERTY |
| 11 | INSURANCE AND BONDS |
| 12 | UNCOVERING AND CORRECTION OF WORK |
| 13 | MISCELLANEOUS PROVISIONS |

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503[™], Guide for Supplementary Conditions.

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(879708533)

- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES
- 16 NEW JERSEY REQUIREMENTS FOR PUBLIC WORK

Init.

INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, **12.1**

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5, 10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

Additional Inspections and Testing

9.4.2, 9.8.3, **12.2.1**, **13.4**

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,

3.12.10.1, 4.2.7, 9.3.2, 13.4.1

Arbitration

8.3.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1, 13.4.2, 15.2

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

Building Information Models Use and Reliance

1.8

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Init.

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(879708533)

Certificates of Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval
13.4.4

Certificates of Insurance
9.10.2

Change Orders

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

Change Orders, Definition of

7.2.1

CHANGES IN THE WORK

2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

Claims, Definition of

15.1.1

Claims, Notice of

1.6.2, 15.1.3

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4
Claims and Timely Assertion of Claims

15.4.1

Claims for Additional Cost

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, 15.1.5

Claims for Additional Time

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, 15.1.6

Concealed or Unknown Conditions, Claims for

3.7.4

Claims for Damages

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7

Claims Subject to Arbitration

15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to

2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, 15.1.5

Commencement of the Work, Definition of

8.1.2

Communications

3.9.1, 4.2.4

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

Compliance with Laws

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, 6

Construction Change Directive, Definition of
7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.4

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 5.4.2, 11.5, 14

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1

Contract Documents, Copies Furnished and Use of
1.5.2, 2.3.6, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, 9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, 15.1.5, 15.2.5

Contract Sum, Definition of

9.1

Contract Time

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction and Submittal Schedules

3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Init.

Contractor's Employees
2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2.1.1

Contractor's Liability Insurance
11.1
Contractor's Relationship with Separate Contractors and Owner's Forces
3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4
Contractor's Relationship with Subcontractors
1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4
Contractor's Relationship with the Architect
1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1
Contractor's Representations
3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2
Contractor's Responsibility for Those Performing the Work
3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8
Contractor's Review of Contract Documents
3.2
Contractor's Right to Stop the Work
2.2.2, 9.7
Contractor's Right to Terminate the Contract
14.1
Contractor's Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3
Contractor's Superintendent
3.9, 10.2.6
Contractor's Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4
Coordination and Correlation
1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1
Copies Furnished of Drawings and Specifications
1.5, 2.3.6, 3.11
Copyrights
1.5, **3.17**
Correction of Work
2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1

Correlation and Intent of the Contract Documents
1.2
Cost, Definition of
7.3.4
Costs
2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14

Cutting and Patching
3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damage to the Work
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damages, Claims for
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7
Damages for Delay
6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2

Date of Commencement of the Work, Definition of
8.1.2
Date of Substantial Completion, Definition of
8.1.3
Day, Definition of
8.1.4
Decisions of the Architect
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification
9.4.1, **9.5**, 9.7, 14.1.1.3
Defective or Nonconforming Work, Acceptance, Rejection and Correction of
2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1
Definitions
1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1

Delays and Extensions of Time
3.2, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**, 10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5

Digital Data Use and Transmission
1.7
Disputes
6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site
3.11
Drawings, Definition of
1.1.5
Drawings and Specifications, Use and Ownership of
3.11
Effective Date of Insurance
8.2.2

Emergencies
10.4, 14.1.1.2, **15.1.5**
Employees, Contractor's
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1
Equipment, Labor, or Materials
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
Execution and Progress of the Work
1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Init.

Extensions of Time
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,
10.4, 14.3, 15.1.6, 15.2.5

Failure of Payment

9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

Final Completion and Final Payment

4.2.1, 4.2.9, 9.8.2, 9.10, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

GENERAL PROVISIONS

1

Governing Law

13.1

Guarantees (See Warranty)

Hazardous Materials and Substances

10.2.4, 10.3

Identification of Subcontractors and Suppliers

5.2.1

Indemnification

3.17, 3.18, 9.6.8, 9.10.2, 10.3.3, 11.3

Information and Services Required of the Owner

2.1.2, 2.2, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5,

9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2,

14.1.1.4, 14.1.4, 15.1.4

Initial Decision

15.2

Initial Decision Maker, Definition of

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,

9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

Instruments of Service, Definition of

1.1.7

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, 11

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

Insurance, Contractor's Liability

11.1

Insurance, Effective Date of

8.2.2, 14.4.2

Insurance, Owner's Liability

11.2

Insurance, Property

10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy
9.9.1

Insured loss, Adjustment and Settlement of
11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

Interest

13.5

Interpretation

1.1.8, 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1,

10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4,

9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8,

15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6,

4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3,

11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15,

15.1.2, 15.1.3, 15.1.5

Materials, Hazardous

10.2.4, 10.3

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2,

10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and

Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Mediation

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1,

15.4.1.1

Minor Changes in the Work

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, 7.4

Init.

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2

Mutual Responsibility

6.2

Nonconforming Work, Acceptance of

9.6.6, 9.9.3, 12.3

Nonconforming Work, Rejection and Correction of
2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2

Notice

1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1

Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, 15.1.3, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1

Notice of Testing and Inspections

13.4.1, 13.4.2

Observations, Contractor's

3.2, 3.7.4

Occupancy

2.3.1, 9.6.6, 9.8

Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1

OWNER

2

Owner, Definition of

2.1.1

Owner, Evidence of Financial Arrangements

2.2, 13.2.2, 14.1.1.4

Owner, Information and Services Required of the

2.1.2, 2.2, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Insurance

11.2

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work

2.5, 14.2.2

Owner's Right to Clean Up

6.3

Owner's Right to Perform Construction and to Award Separate Contracts

6.1

Owner's Right to Stop the Work

2.4

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2, 14.4

Ownership and Use of Drawings, Specifications and Other Instruments of Service

1.1.1, 1.1.6, 1.1.7, 1.5, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

Partial Occupancy or Use

9.6.6, 9.9

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4

Payment, Failure of

9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, 9.10, 12.3, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, 11.1.2

Payments, Progress

9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

PAYMENTS AND COMPLETION

9

Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

PCB

10.3.1

Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, 11.1.2

Permits, Fees, Notices and Compliance with Laws

2.3.1, 3.7, 3.13, 7.3.4.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION OF

10

Polychlorinated Biphenyl

10.3.1

Product Data, Definition of

3.12.2

Product Data and Samples, Shop Drawings

3.11, 3.12, 4.2.7

Progress and Completion

4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.4

Progress Payments

9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Init.

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Project, Definition of
1.1.4
Project Representatives
4.2.10
Property Insurance
10.2.5, 11.2
Proposal Requirements
1.1.1
PROTECTION OF PERSONS AND PROPERTY
10
Regulations and Laws
1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1,
10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4
Rejection of Work
4.2.6, 12.2.1
Releases and Waivers of Liens
9.3.1, 9.10.2
Representations
3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1
Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field
Conditions by Contractor
3.2, 3.12.7, 6.1.3
Review of Contractor's Submittals by Owner and
Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
Review of Shop Drawings, Product Data and Samples
by Contractor
3.12
Rights and Remedies
1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,
6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2,
12.2.4, 13.3, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
Schedules, Construction
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Separate Contractors, Definition of
6.1.1
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4
Site Visits, Architect's
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4
Special Inspections and Testing
4.2.6, 12.2.1, 13.4
Specifications, Definition of
1.1.6
Specifications
1.1.1, 1.1.6, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14
Statute of Limitations
15.1.2, 15.4.1.1
Stopping the Work
2.2.2, 2.4, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,
9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1
Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8,
9.9.1, 9.10.2, 9.10.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, 11.3
Substances, Hazardous
10.3
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2,
15.1.2
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
2.3.3
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2

Init.

Subsurface Conditions
3.7.4

Successors and Assigns
13.2

Superintendent
3.9, 10.2.6

Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4

Suppliers
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1

Surety
5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7

Surety, Consent of
9.8.5, 9.10.2, 9.10.3

Surveys
1.1.7, 2.3.4

Suspension by the Owner for Convenience
14.3

Suspension of the Work
3.7.5, 5.4.2, 14.3

Suspension or Termination of the Contract
5.4.1.1, 14

Taxes
3.6, 3.8.2.1, 7.3.4.4

Termination by the Contractor
14.1, 15.1.7

Termination by the Owner for Cause
5.4.1.1, 14.2, 15.1.7

Termination by the Owner for Convenience
14.4

Termination of the Architect
2.3.3

Termination of the Contractor Employment
14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT
14

Tests and Inspections
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4

TIME
8

Time, Delays and Extensions of
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits
2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

Time Limits on Claims
3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work
9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK
12

Uncovering of Work
12.1

Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3

Unit Prices
7.3.3.2, 9.1.2

Use of Documents
1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

Use of Site
3.13, 6.1.1, 6.2.1

Values, Schedule of
9.2, 9.3.1

Waiver of Claims by the Architect
13.3.2

Waiver of Claims by the Contractor
9.10.5, 13.3.2, 15.1.7

Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7

Waiver of Consequential Damages
14.2.4, 15.1.7

Waiver of Liens
9.3, 9.10.2, 9.10.4

Waivers of Subrogation
6.1.1, 11.3

Warranty
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2

Weather Delays
8.3, 15.1.6.2

Work, Definition of
1.1.3

Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2

Written Interpretations
4.2.11, 4.2.12

Written Orders
1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

Init.

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements. The Contract Documents shall apply to all Contractors for the Project and each Contractor is responsible for the content of all.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.2.1 The Contractor acknowledges and warrants that it has closely examined all of the Contract Documents, that they are suitable and sufficient to enable the Contractor to complete the Work in a timely manner for the Contract Sum, and that they include all Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in full compliance with all applicable codes, laws, ordinances and regulations and that questions regarding the bid documents and any interpretation(s) regarding same have been asked by the Contractor, in the form and manner required in the instructions to bidders.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, transportation/delivery, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.3.1 The Work shall include the obligation of the Contractor to visit the site of the Project before submitting a bid. Such site visit shall be for the purpose of familiarizing the Contractor with the conditions as they exist and the character of the operations to be carried on under the Contract Documents, including all existing site conditions, access to the site, physical characteristics of the site and surrounding areas.

§ 1.1.3.2 Nothing in these General Conditions shall be interpreted as imposing on either the Owner or Architect, or their respective agents, employees, officers, directors or consultants, any duty, obligation or authority with respect to any items that are not intended to be incorporated into the completed project, including but not limited to shoring, scaffolding, hoists, temporary weatherproofing, or any temporary facility or temporary activity, since these are the sole responsibility of the Contractor.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.5.1 The Drawings are diagrammatical and show the general arrangement and extent of the Work; exact locations and arrangements of parts shall be determined as the Work progresses and shall be subject to the Architect's approval.

Init.

- .1 The right is reserved by the Architect to make any reasonable change in location of equipment, ductwork, and piping prior to roughing in without involving additional expense to the Owner.
- .2 Contractor shall coordinate his Work with the Work of others and shall be responsible for the coordination work, so that interference between mechanical, electrical and other work and architectural and structural work does not occur.
- .3 Contractor shall furnish and install supports, hangers, offsets, bends, turns, and the like in connection with this Work to avoid interference with work of other Contractors, to conceal Work where required, and to secure necessary clearance and access for operation and maintenance without involving additional expense to the Owner.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

(Paragraph deleted)

§ 1.2.1.1 The general character of the detail work is shown on the drawings, but minor modifications may be made in large-scale details. Where the word "similar" occurs on the drawings it shall be used in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection to other parts of the work.

- .1 Where on any drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to other like portions of the work.
- .2 Where detail is indicated by starting only, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to all other similar parts in the work unless otherwise indicated.
- .3 In case of differences between small and large-scale drawings, the larger scale drawings shall take precedence. Dimensions given shall take precedence over scale measurements.
- .4 Any discrepancies or questions as to the application of, and interpretations related to 1.2.1.1, shall be referred to the Architect for adjustment before any work affected thereby has been performed.

§ 1.2.1.2 During the course of the work, should any ambiguities or discrepancies be found in the Specifications or on the Drawings; or should there be found any discrepancies between the Drawings and Specifications to which the Contractor has failed to call attention before submitting his bid, then the Architect will interpret the intent of the Drawings and Specifications; and the Contractor hereby agrees to abide by the Architect's interpretation and to carry out the work in accordance with the decision of the Architect.

§ 1.2.1.3 It is expressly stipulated that neither the Drawings nor the Specifications shall take precedence over the other, and it is further stipulated that the Architect may interpret or construe the Drawings and Specifications so as to secure in all cases the result most consistent with the needs and requirements of the Owner. In the event of such ambiguity or discrepancy subject to any Architect's interpretation, the Contractor shall comply with the more stringent requirement, and supply the better quality or greater quantity of work.

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§ 1.2.1.4 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.2.1 The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. It is not the intent to limit the acceptance to any one material or product specified, but rather to name or describe it as the absolute minimum standard that is desired and acceptable, all determinations as to equality of a proposed product or material shall be at the discretion of the Architect and/or the Owner.

- .1 A material or product of lesser quality will not be acceptable.
- .2 Where "Basis of Design" products or manufacturer's names are used, whether or not followed by the words "or approved equal," they shall be subject to approved equals and authorized only by the Architect and/or the Owner.

§ 1.2.2.2 Substitutions lowering performance, quality, method of assembly or installation, or in general not in keeping with details and specifications, will not be permitted. Refer to substitution procedure indicated elsewhere in the Contract Documents.

§ 1.2.2.3 It is understood when a bid for any product or material is submitted, the bidder is aware of specified requirements and all materials or products within his bid are equal or better than such specified items.

§ 1.2.2.4 In addition to the Specifications, it shall be understood that details on Drawings shall become part of the Specification in determining the required "standard of quality."

§ 1.2.2.5 If a conflict occurs between Drawing details and Specifications, bidder during bidding process and/or Contractor shall bring such conflicts to the attention of the Architect in accordance with applicable requirements indicated elsewhere in other sections of Contract Documents.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity, the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.4.1 Whenever in the Contract Documents an item of work is referred to in the singular number, such reference shall apply to as many such items as are required to complete the work.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

Init.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use the Electronic Indemnification Form provided by the Architect to establish the protocols for the development, use, transmission, and exchange of digital data.

(Paragraphs deleted)

§ 1.9 EXECUTION OF CONTRACT DOCUMENTS

§ 1.9.1 Execution of the Contract by the Contractor is a representation that said Contract Documents are full and complete, are sufficient to have enabled the Contractor to determine the cost of the Work therein to enter into the Contract and that the Contract Documents are sufficient to enable it to construct the Work outlined therein, and otherwise to fulfill all its obligations hereunder, including, but not limited to, Contractor's obligation to construct the Work for an amount not in excess of the Contract Sum on or before the date(s) of Substantial Completion established in the Agreement. The Contractor further acknowledges and declares that it has visited and examined the site, examined all physical, legal, and other conditions affecting the Work and is fully familiar with all of the conditions thereon and thereunder affecting the same. In connection therewith, Contractor specifically represents and warrants to Owner that it has, by careful examination, satisfied itself as to: (1) the nature, location and character of the Project and the site, including, without limitation, the surface and subsurface conditions of the site and all structures and obstructions thereon and thereunder, both natural and man-made, and all surface and subsurface water conditions of the site and the surrounding area; (2) the nature, location, and character of the general area in which the Project is located, including without limitation, its climatic conditions, available labor supply and labor costs, and available equipment supply and equipment costs; and (3) the quality and quantity of all materials, supplies, tools, equipment, labor, approvals, and professional services necessary to complete the Work in the manner and within the cost and time frame required by the Contract Documents. In connection with the foregoing, and having carefully examined all Contract Documents, as aforesaid, and having visited the site, the Contractor acknowledges and declares that it has no knowledge of any discrepancies, omissions, ambiguities, or conflicts in said Contract Documents and that if it becomes aware of any such discrepancies, omissions, ambiguities, or conflicts, it will promptly notify Owner and Architect of such fact.

§ 1.9.2 The Contract Documents include all items necessary for the proper execution and completion of the Work by the Contractor. The Work shall consist of all items specifically included in the Contract Documents as well as all additional items of work which are reasonable inferable from that which is specified in order to complete the Work in accordance with the Contract Documents. The Contract Documents are complementary, and what is required by any one Contract Document shall be as binding as if required by all. Any differences between the requirements of the Drawings and the Specifications or any differences noted within the Drawings themselves or within the Specifications themselves have been referred to the Owner and Architect by Contractor prior to the submission of bids and have been clarified by an Addendum issued to all bidders.

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§ 1.9.2.1 If any such differences or conflicts were not called to the Owner's and Architect's attention prior to submission of bids, the Architect shall decide which of the conflicting requirements will govern based upon the most stringent of the requirements, and, subject to the approval of the Owner, the Contractor shall perform the Work at no additional cost and/or time to the Owner in accordance with the Architect's decision. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonable inferable therefrom as being necessary to produce the intended results.

§ 1.9.2.2 The term "reasonably inferable" includes work necessary to "provide" work indicated or specified, as defined in section: Definitions and Standards; that is: furnish and install, complete, in place and ready for use.

§ 1.9.2.3 Details referenced to portions of the Work shall apply to other like portions of the Work not otherwise detailed.

§ 1.9.2.4 The Contractor shall request, from the Architect's interpretation of apparent discrepancies, conflicts, or omissions in the Specifications and Drawings. Subcontractors shall forward such requests through the Contractor. Such requests, and the Architect's interpretation, shall be in written form; other forms of communications shall be used to expedite resolution of concerns, but will not be binding.

§ 1.9.3 Explanatory notes shall take precedence over conflicting drawn note indications. Large-scale drawings shall take precedence over small-scale drawings. Figured dimensions shall take precedence over scaled measurements. Should contradictions be found, the Architect shall determine which indication is correct.

§ 1.9.4 Where it is required in the specifications that materials, products, processes, equipment, or the like be installed or applied in accordance with manufacturers' instructions, directions, or specifications, or words to this effect, it shall be construed to mean that said application or installation shall be in strict accordance with printed material concerned for use under conditions similar to those at the job site.

§ 1.9.5 Any material specified by reference to the number, symbol, or title of a Commercial Standard, Federal Specification, ASTM Specification, trade association standard, or other similar standards, shall comply with the requirements in the latest revision thereof and any amendments or supplements thereto in effect one month prior to the date on which bids are opened and read, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the specifications, shall have full force and effect as though printed in the specifications.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

(Paragraphs deleted)

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

Init.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The furnishing of these surveys and the legal description of the site shall not relieve the Contractor from its duties under the Contract Documents. Neither Owner nor the Architect shall be required to furnish Contractor with any information concerning subsurface characteristics or conditions of the areas where the Work is to be performed. When the Owner or Architect has made investigations of subsurface characteristics or conditions of the areas where the Work is to be performed, such investigations, if any, were made solely for the purposes of Owner's study and Architect's design. Neither such investigations nor the records thereof are a part of the Contract between Owner and Contractor. To the extent such investigations or the records thereof are made available to the Contractor by the Owner or Architect, such information is furnished solely for the convenience of Contractor. Neither Owner nor Architect assumes any responsibility whatsoever in respect of the sufficiency or accuracy of the investigations thus made, the records thereof, or of the interpretations set forth therein or made by the Owner or Architect in its use thereof, and there is no warranty or guaranty, either express or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout the areas where the Work is to be performed, or any part thereof, or that unforeseen developments may not occur, or that materials other than or in proportions different from those indicated may not be encountered. The Contractor shall undertake such further investigations and studies as may be necessary or useful to determine subsurface characteristics and conditions. In connection with the foregoing, Contractor shall be solely responsible for locating (and shall locate prior to performing any Work) all utility lines, telephone company lines and cables, sewer lines, water pipes, gas lines, electrical lines, including, without limitation, all buried pipelines and buried telephone cables and shall perform the Work in such a manner so as to avoid damaging any such lines, cables, pipes, and pipelines.

(Paragraphs deleted)

§ 2.3.4.1 After award of Contract and for construction purposes, designated Contractors will be furnished with printed signed and sealed Drawings and Specifications free of charge for filing with public bodies.

- .1 Additional copies of Drawings and Specifications will be furnished upon receipt of the amount indicated in the Advertisement. Subcontractors and vendors shall obtain copies of the Drawings and Specifications through the Contractor from his/her allotment.
- .2 Digital copies of the Drawings and Specifications shall be issued to the Contractor at no charge.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to be able to complete the Work within the Contract Time or fails to remove and discharge (within ten days) any lien filed upon Owner's property by anyone claiming by, through or under Contractor, or disregards the instructions of Architect or Owner when based on the requirements of the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor and/or their Surety shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The term "Contractor" shall mean the respective Prime Contract person or entity identified as such in the Owner Contractor Agreement, for each respective Prime Construction Contract, as responsible for the supervisory control over allocation, coordination of all Subcontractors or trades, performance and completion of all portions of the Work, including cooperation with those doing portions of the Work under Separate Contract with the Owner.

§ 3.1.1.2 The term "Contractor" shall mean and apply with equal force to each respective Prime Contractor and all other Contractors having a direct Contract with the Owner, or with each respective Contractor or other Prime Contractor for other branches of the Work, or his authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 Regularly scheduled job meetings shall be held at a location and time convenient to the Contractor, Owner's representatives and the Architect. The Contractor shall attend such meetings or be represented by a person in authority who can speak for and make decisions for the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

- .1 If the Contractor requires clarification of the intent of the Contract Documents after award, the Contractor shall be responsible to issue a typewritten Request for Information (RFI) to the Architect utilizing the Architect's sample form via acceptable methods set forth in Article 4.2.

§ 3.2.2 In addition to and not in derogation of Contractor's duties under Paragraph 1.5.2, the Contractor shall carefully study and compare the Contract Documents with each other and shall at once report to the Architect errors, inconsistencies or omissions discovered. If the Contractor performs any construction activity involving an error, inconsistency or omission in the Contract Documents that the Contractor recognized or reasonably should have recognized without such notice to the Architect, the Contractor shall assume complete responsibility for such performance and shall bear the full amount of the attributable costs for correction. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. However, any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect.

§ 3.2.2.1 Conditions Precedent – Notice

- .1 Notice of any alleged Conflict that have been reasonably identified prior to submitting a Bid shall be provided to the Architect immediately in order that the Architect in its discretion, may issue an Addendum.
- .2 A Bidder's failure to do so constitutes an absolute waiver of any Conflict that may thereafter be asserted with respect thereto and shall bar any recovery regarding such Conflict.
- .3 If any errors, inconsistencies or omissions appear in the drawings, specifications or other Contract Documents, which should reasonably have been discovered and concerning which interpretation had not been obtained from the Architect during the Bidding Period, the Contractor shall within ten (10) days after receiving written "Notice of Award" notify the Architect in writing of such error, inconsistency or omission. In the event the Contractor fails to give such notice, Contractor and its Surety may be required to indemnify Owner for the costs of any such errors, inconsistencies or omissions and the cost of rectifying same including attorney's fees. Interpretation of this procedure after the ten-day period will be made by the Architect and his decision will be final. By Submission of a bid, the Contractor acknowledges that the Contract Documents are full and complete, are sufficient to

Init.

have enabled it to determine the cost of the Work and that the Drawings, the Specifications and all addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with applicable laws, statutes, ordinances, building codes and regulations, and otherwise to fulfill all of its obligations under the Contract Documents.

- .a The Contract Documents are sufficiently complete and detailed for the Contractor to perform the Work and comply with all requirements of the Contract Documents;
- .b The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures, and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of products by manufacturers are consistent with;
 - .i Good and sound practices within the construction industry;
 - .ii Generally prevailing and accepted industry standards applicable to Work;
 - .iii Requirements of any warranties applicable to the Work; and
 - .iv All laws, ordinances, regulations, rules, and orders which bear upon the Contractor's performance of the Work.
- .c The Contractor has read, understands and accepts the Contract Documents and its bid was made in accordance with them;
- .d The Contract Sum is based upon the products, materials, systems and equipment required by the Contract Documents without exception. Where the Contract Documents list one or more manufacturer or brand name products, materials, systems and equipment as acceptable, the Contract sum is, in each instance, based upon one of the listed manufacturers or brand name products, materials, systems, and equipment, or, if the contract Sum is based upon the substitution of an "or equal" manufacturer or product, material, system or equipment, the Contractor has in each such instance sought and received the Architect's approval for the substitution either:
 - .i Prior to the Bid in accordance Architect's Addenda; and
 - .ii After commencement of the Work, under in conformance with substitution procedure elsewhere in the Contract Documents.
- .e The Contract Sum is firm and all inclusive, and no escalation is contemplated for any reason whatsoever.
 - .i The Contract Sum includes any and all costs associated with completion by those dates and times, including any and all costs associated with out-of-sequence work, come-back work, stand-by work, stacking of trades, coordination with the schedules and work of separate Contractors, allowing sufficient time, work and storage areas, and site access for separate Contractors to timely progress and complete their work, overtime, expediting and acceleration that may be required to complete the work by those dates and times.
 - .ii The Contractor has reviewed the completion dates and times, and milestone dates set forth in the Contract Documents, agrees that such dates and times are reasonable and commits to achieve them.
- .f The Contractor shall satisfy itself as to the accuracy of all dimensions and locations. In all cases of interconnection of its work with existing or other work, it shall verify at the site, all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to verify all such locations or dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner.

§ 3.2.2.2 Deviations from the construction documents must be noted by the Contractor at the time of shop drawing submission. Failure to do so will result in the implication of Section 3.2 of the General Conditions and Paragraph 3.2.1 and 3.2.1.1 above.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3,

Init.

the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor and/or their Surety shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities; unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor, when requested by the Architect, shall meet with representative of the Architect at all times and furnish all information requested; he shall allow the Architect and Construction Code Officials to inspect the work at all times. Neither the Owner, nor the Architect shall be liable to the Contractor for extra compensation or damages for interference or delays on account of any such meetings, information, or inspections so requested or other acts of the Architect done in good faith and within the scope of their employment by the Owner.

- .1 In addition the Contractor is entrusted with the oversight, management control, and general direction of this project to ensure that all contract completion dates are met. In the event that there are any delays caused to any subcontractor on this project, liability shall lie with the Contractor and not with the Owner.

§ 3.3.5 The Contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery conditions and that they provide materials on time. The Contractor shall coordinate its Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The Contractor shall be responsible for the space requirements, locations, and routing of its materials and equipment. In areas and locations where the proper and most effective space requirements, locations and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation.

§ 3.3.6 The Contractor shall establish and maintain bench marks and all other grades, lines, and levels necessary for the Work, report errors or inconsistencies to the Architect before commencing Work and review the placement of the building(s) and permanent facilities on the site with the Owner and Architect after all lines are staked out and before foundation Work is started. Contractor shall provide access to the Work for the Owner, the Architect, other persons designated by Owner, and governmental inspectors. Any encroachments made by Contractor or its Subcontractor (of any tier) on adjacent properties due to construction as revealed by an improvement survey, except for encroachments arising from errors or omissions not reasonably discoverable by Contractor in the Contract Documents, shall be the sole responsibility of the Contractor, and Contractor shall correct such encroachments within thirty (30) days of the improvement survey (or as soon thereafter as reasonably possible), at Contractor's sole cost and expense, either by the

Init.

removal of the encroachment (and subsequent reconstruction on the Project site) or agreement with the adjacent property owner(s) (in form and substance satisfactory to Owner in its sole discretion) allowing the encroachments to remain.

§ 3.3.7 Coordination:

- .1 In the case of a single prime Contract (single prime), the General Contractor becomes the sole responsible party for the coordination of the entire project, and all other contractors shall mean subcontractors. In the case of a multiple Prime Contract (separate prime), the General Contractor shall also be responsible to coordinate the relationships among the Prime Contractors.
- .2 The General Contractor shall be responsible to coordinate and expedite the total construction process and all of its parts. The Owner relies upon the organization, management, skill, cooperation and efficiency of the General Contractor to supervise, direct, control and manage the work and to coordinate and expedite the efforts of the other prime contractors and subcontractors so as to deliver the work conforming to the contract within the scheduled time. The General Contractor is responsible for proper sequence and coordination. It shall determine the location of work and resolve conflicts amongst Contractors.
- .3 The General Contractor shall provide a qualified full-time staff member or members to manage the project on site. This Construction Superintendent shall coordinate, organize and manage the project from the Contractor's on-site field office and oversee their own work and the work of their sub-contractors. Should the Prime Contractor be responsible for multiple projects at different sites, or multiple locations on one large site, then the Contractor shall provide a separate qualified superintendent for each of the projects or locations. This determination shall be made by and subject to the approval of the Owner, Architect who at all times may require additional manpower. The Superintendent shall be responsible for on-site safety, quality assurance, conformance with the Contract Documents and perform coordination with all on-site construction personnel and/or subcontractors. The Construction Superintendent shall be subject to the approval of the Owner and Architect who at all times have the right to require the contractor to replace this Construction Superintendent if they fail to perform.
- .4 The other prime contractors (separate prime) or subcontractor's (single prime) shall also have a designated Superintendent and/or Foreman who will at all times be subject to the approval of the Owner, Architect. The Owner and Architect reserve the right to require the Contractor to replace the Superintendent and/or Foreman if, in the opinion of the Owner or Architect, the Superintendent and/or Foreman is not performing satisfactorily.
- .5 Each prime contractor shall coordinate his activities with the activities of other contractors.
- .6 All questions pertaining to the work are to be made to the Architect sufficiently in advance (via an RFI Form) of construction to permit comparisons investigation or references to drawings and shop drawings as necessary.
- .7 The General Contractor is required to submit a site logistics plan coordinating all Owner functions with the access and safety of the job site.
- .8 The Contractor is required to coordinate all the inspection and material testing to meet the contract documents specifications.
- .9 The Contractor has full and sole responsibility for construction methods and implementation of a "quality control system" to insure coordination.
- .10 The Contractor is responsible for field verification of all dimensions/measurements for the coordination of materials and trades. Check field dimensions, clearances, relationships to available space, and anchors.
- .11 The Contractor shall make all necessary arrangements to conduct work so that all parts shall be carried on harmoniously and simultaneously or sequentially, so as components or increments of the same shall not interfere or retard the progress of others.
- .12 Minor changes in locations of equipment, parts, etc. due to field conditions shall be made, if so directed, at no additional cost.
- .13 The Contractor shall coordinate the delivery, unloading, movement, relocation, storage and protection of all materials.
- .14 The Contractor shall examine the drawings and dimensions and is responsible for satisfactory joining and fitting of all parts of the work.
- .15 Accurate dimensions, sleeved and opening drawings are to be submitted prior to placement in the field.
- .16 Prepare coordination drawings for all above ceiling areas throughout the entire project. Drawings

Init.

showing all piping, duct, cable trays, electrical ductbanks, and similar items, but not electrical conduit less than 4 inches in diameter. Complete architectural, mechanical and electrical reflected ceiling layouts, (including ductwork, conduits, piping, lighting, etc.).

- .17 The Contractor is responsible for any omissions of the subcontractors and is required to provide a complete operating facility.
- .18 The General Contractor shall be responsible for preserving the integrity of ceiling heights and room sizes and shall:
 - .a Check compatibility with equipment, other work, electrical characteristics, and operational control requirements. Check motor voltages and control characteristics. Coordinate controls, interlocks, wiring of pneumatic switches, and relays. Coordinate wiring and control wiring diagrams. Review the effect of changes on other work. Obtain and distribute installation data on each item of equipment requiring mechanical or electrical connections;
 - .b Coordinate and observe start-up and demonstration of equipment and systems. Observe and maintain record of tests and inspections. Coordinate maintenance of record documents;
 - .c Assist the Architect with final inspections;
 - .d Coordinate all mechanical, plumbing, electrical, food service and equipment/furnishings work, and coordinate that work with all other work; and
 - .e Inform the Owner via the Architect when coordination of his work is required.
- .19 Where space is limited, coordinate arrangement of mechanical, electrical, and other work to fit, show plan and cross-section dimensions of space available, including structural obstructions and ceilings as applicable.
- .20 Coordinate cutting and patching activities and sequencing.
- .21 The Architect and Owner shall assist in resolution of any coordination items.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.2.1 Not later than ten (10) days from the Notice to Proceed, the Contractor shall provide a list showing the names of the manufacturers proposed to be used for each of the products identified in the Specifications and the installing Subcontractor's name(s).

§ 3.4.2.2 STANDARD OF QUALITY: The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes.

- .1 It is not the intent to limit the Contractor to any one material or product specified but rather to described as the minimum standard.
- .2 When proprietary names are used as the "Basis of Design", for specified products or equipment, they shall be followed by the words "or approved equal in quality necessary to meet the specifications," unless otherwise indicated elsewhere in the Contact Documents.

§ 3.4.2.3 The Architect will evaluate alternatives and substitutions and shall be the sole judge of whether the alternatives, (substitutions), are acceptable or not.

- .1 The burden of proving the alternatives, (substitutions), are equal, or better, to the specified product is that of the Contractor.
- .2 Contractor shall submit request for substitution in accordance with substitution procedures indicated elsewhere in the Contract Documents.
- .3 Any alternative names or products which do not meet the specifications will not be accepted.

Init.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.4 The Contractor will be held to be thoroughly familiar with all conditions affecting labor in the locale of the Project, including, but not limited to, trade jurisdictions and agreements, incentive and premium time, pay, procurement, living and commuting conditions. Contractor shall assume responsibility for costs resulting from his failure to verify conditions affecting his labor.

§ 3.4.5 Contractor shall be responsible for labor peace on the Project and shall at all times make its best efforts and judgment as an experienced contractor to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes, or strikes where reasonably possible and practical under the circumstances and shall at all times maintain Project-wide labor harmony. Except as specifically provided in Subparagraph 8.3.1, Contractor shall be liable to Owner for all damages suffered by Owner occurring as a result of work stoppages, slowdowns, disputes, or strikes.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 The Contractor represents that all manufacturer and supplier warranties shall run directly to or be specifically assignable to the Owner. The Contractor warrants that all portions of the work that will be covered by a manufacturer's or supplier's warranty shall be performed in such a manner so as to preserve all rights under such warranties. The Contractor hereby assigns to the Owner effective upon the termination of this contract all manufacturer's and supplier's warranties relating to the Work, and the Contractor shall upon request of the Owner, execute any document reasonably requested by Owner to effectuate such assignment. If the Owner attempts to enforce a claim based upon a manufacturer's or suppliers warranty and such manufacturer or supplier refuses to honor such warranty based in whole or in part on a claim of defective installation by the Contractor, the Contractor shall be responsible for any resulting loss or damages incurred by the Owner as a result of the manufacturer's or supplier's refusal to honor such warranty. The Contractor's obligations under this Subparagraph 3.5.1.1 shall survive the expiration or earlier termination of the Contract. The warranty period for all work of each Contractor shall not be less than two (2) years from the date of Substantial Completion and acceptance by the Owner unless otherwise specified.

§ 3.5.3 The Contractor represents and warrants the following to the Owner (in addition to the other representations and warranties contained in the Contract Documents), as an inducement to the Owner to execute the Owner-Contractor Agreement, which representations and warranties shall survive the execution and delivery of the Owner-Contractor Agreement and the final completion of the Work:

- .1 That he/she is authorized to do business in the State, County, and/or City where construction will take place at the Project and is properly licensed by all necessary governmental and public authorities having jurisdiction over him/her and over the Work and the site of the Project;
- .2 That he/she is familiar with all Federal, State, Municipal and Department laws, ordinances and regulations, which may in any way affect the work of those employed herein, including but not limited to any special acts relating to the work or to the project of which it is a part;
- .3 That such temporary and permanent work required by the Contract Documents as is to be done by him/her, can be satisfactorily constructed and used for the purposes for which it is intended;
- .4 That he/she is familiar with local trade jurisdictional practices at the site of the project;
- .5 That he/she has carefully examined the plans; the specifications and the site of the work, and that from his own investigations, he/she has satisfied himself/herself as to the nature and location of the work, the character, quality and quantity of the surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the work, and the general

Init.

local conditions, and all other materials which may in any way affect the work or his/her performance; and

- .6 That he/she has determined what local ordinances, if any, will affect his work. That he/she has checked for any County, City, Borough, or Township rules or regulations applicable to the area in which the Project is being constructed and in addition, for any rules or regulations of other organizations having jurisdiction, such as planning commission, industries, or utility companies who have jurisdiction over property on which the Work will be performed. Any costs of compliance with local controls are included in the prices bid, even if documents of such local controlling agencies are not listed specifically in the Contract Documents.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received, or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.6.1 The Owner is exempt from all taxes including Federal Excise Tax, fuel tax, transportation taxes and State Sales or Use Tax.

§ 3.6.2 The Contractor shall pay all social security taxes, unemployment insurance, contributions, or other taxes measured by wages of employees, attributable to, or performing the Work.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 The Contractor shall be required to secure permits or government approvals necessary for the proper execution and completion of the work. The Contractor shall obtain business licenses required by the State, County and/or City and shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work.

- .1 It shall be the obligation of the Contractor to review the Contract Documents and to determine and to notify the Owner and Architect of any discrepancy between building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine.
- .2 The Contractor shall not violate any zoning, setback or other requirements of applicable laws, codes and ordinances, building codes, rules or regulations, the Contractor promptly shall notify the Architect, in writing, and necessary changes shall be accomplished by appropriate modification.
- .3 The required Building Permit or Permits shall be secured by the Contractor for his trade; or by the Prime Contractor in charge of the Work when the Contract combines more than one trade under a Single Contract. Fees shall be paid for by the Owner or reimbursed after submission of receipt to the Architect for Owner's payment, by the Contractor or subcontractor without additional markup.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.2.1 Subject to the other terms and conditions of these General Conditions, it is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate modification.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to the correction thereof or related thereto, including all fines and penalties.

§ 3.7.4 Concealed or Unknown Conditions

Claims for Concealed or Unknown Conditions: Subject to the Contractor's obligations under Articles 3.2, if conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than five (5) days after first observance

Init.

of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject to further proceedings pursuant to Section 15.2.5.1.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts; and
- .2 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect the difference between actual costs and the allowances under in the Contract Documents.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent full-time superintendent and necessary assistants, acceptable to the Owner and Architect who shall be in attendance at the Project site during performance of the Work and until final completion of all work including all corrective and punch list items. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. If, in the Architect's opinion, the quality or progress of the work is adversely affected by the lack of adequate supervision, the Contractor shall increase the number of supervisory personnel at no increase in the Contract Sum. Each contractor must have supervisory personnel on site at all times during the execution of any work under their respective contract.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.9.4 A Superintendent for the contractor shall be required for the overall project and a Foreman shall be required at each project site. The number of necessary Assistants to the superintendent shall be determined by the areas where work is in progress so that the work areas are adequately supervised by the Contractor's superintendent or one of his assistants. If in the Architect's opinion, the quality or progress of the work are adversely affected by lack of adequate supervision, the Contractor shall be required to increase the number of supervisory personnel at no increase in the Contract sum.

Init.

§ 3.9.5 The Contractor shall provide a qualified full-time staff member or members to provide mechanical and electrical coordination and perform coordination with all their subcontractors.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The schedule which is prepared by the General Contractor shall indicate the proposed starting and completion date for the various subdivisions of the Work as well as the totality of the Work. The schedule shall be updated every thirty (30) days and must be submitted to the Architect with Contractor's Applications for Payment. If the schedule is not submitted with the payment application, no payment will be processed. Each schedule shall contain a comparison of actual progress with the estimated progress for such point in time started in the original schedule. If any schedule submitted sets forth a date for Substantial Completion for the Work or any phase of the Work beyond the date(s) of Substantial Completion established in the Contract (as the same may be extended as provided in the Contract Documents), then Contractor shall submit to Architect and Owner for their review and approval a description of the means and methods which Contractor intends to employ to expedite the progress of the Work to ensure timely completion of the various phases of the Work as well as the totality of the Work. To ensure such timely completion, Contractor shall take all necessary action including, without limitation, increasing the number of personnel and labor on the Project and implementing overtime and double shifts. In that event, Contractor shall not be entitled to an adjustment in the Contract Sum or the schedule.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

Init.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor shall be returned by the Architect without action.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.12.11 After the Contract has been executed, the Owner and the Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in "SUBSTITUTION PROCEDURES" and "PRODUCT REQUIREMENTS" in Division 01 of the Project Manual.

§ 3.12.12 All substitutions or deviations from the plans and specifications must be clearly noted as such on all Shop Drawings, Product Data, Samples or similar submittals. Contractor shall identify, coordinate and pay for any additional requirements as a result of substitutions, deviations, etc., including necessary change orders and additional work of other trades as a result of the substitution.

§ 3.12.13 All Shop Drawings, Product Data, Samples or similar submittals are to be submitted within the time frame indicated in the Contract Documents. Shop Drawings, Product Data, Samples or similar submittals logs shall be updated and submitted at each job meeting along with job meeting report form.

§ 3.12.14 All shop drawings are to include manufacturer's data. All shop drawings and samples are to be submitted by the Contractor to the Architect for review. Each sheet of the shop drawings shall identify the project, contractor, subcontractor, and fabricator or manufacturer and the date of the drawings. All shop drawings shall be numbered in consecutive sequence and each sheet shall indicate the total number of sheets in the set.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall not place or maintain, or allow to be placed or maintained, any advertising matter, sign, bill, poster, etc., on or about the Site, except those required by law or by the Contract Documents, unless approved by the Architect.

§ 3.13.3 Contractor shall store materials on site only in areas as directed by the Owner and shall confine operations only to areas of new construction. The Contractor shall provide adequate protection around the designated storage areas. Workers will not be permitted in areas other than construction areas. When by exception, the Owner allows any room to be used as a shop, storeroom, etc., during the progress of the work, the Contractor making use of the space will be responsible for any repairs, patching, or cleaning arising from such use. Prior approval of Owner for use of such areas is mandatory and Contractor shall be required to provide full access to other trades for work activities. Contractors shall not be permitted to use partially completed spaces for storage areas or offices.

§ 3.13.4 If the Work is to be executed in areas occupied by the Owner, the Contractor shall inform the Owner in advance of the areas scheduled to be worked on so that the Owner's personnel may make proper preparations to protect equipment and records.

§ 3.13.5 All storage of materials at the site shall be subject to the approval or rejection of the Owner and such storage, even when approved, will be done as to minimize any impact upon the Owner's ongoing operations at the site.

§ 3.13.6 All materials delivered to the premises which are to form a part of the work are to be considered the property of the Owner and must not be removed without the Owner's consent; but the Contractor shall remove all surplus materials upon completion of each phase of the work and as directed by the Architect.

§ 3.13.7 The existing facilities may be in use during the progress of the work as indicated in the specifications. The Contractor shall schedule his work in conjunction with the use of the facility to permit operation by the Owner and cause the least disruption to the Owner's normal schedule.

§ 3.13.8 If the Contractor is required to work in areas that will also be occupied, he/she shall maintain adequate barricades, fences, etc. to protect the occupants and the work. Any work that is not possible to be completed while occupants are present shall be completed on weekends or evenings only with approval of the Owner. No work shall

Init.

occur while the building is occupied without consent of the Owner.

§ 3.13.9 Construction shall be limited to the hours indicated in "SUMMARY" in Division 01 of the Project Manual.

§ 3.13.9.1 In the event that a Contractor will require working beyond 3:30 PM or on weekends, the Contractor agrees to pay the overtime expenses incurred by the Owner. The overtime rates per person will vary between \$75.00 per hour to \$90.00 per hour depending on the individual selected by the Owner for building coverage. All construction shall be performed with a minimum of inconvenience to the building occupants or grounds.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 Each Prime Contractor shall perform a daily clean up and removal of debris from the site including that of his subcontractors. Each Prime Contractor shall maintain an adequate supply of laborers to accomplish daily clean up and removal of debris from the site and work areas. No debris will be allowed to accumulate in or around the building including masonry debris. The building site must be maintained free of all litter, dirt, dust and debris on a daily basis. The Owner's team may stop all work and require all personnel on site to clean up. Prior to installation of finishes, the floors shall be swept or vacuumed and kept free of dust and dirt until turned over to the Owner.

§ 3.15.4 Cleaning and debris removal may be considered a safety concern by judgment of the Owner or their agents, and as such the work may be stopped to provide time and labor for immediate clean up by the Contractor(s).

§ 3.15.5 Final Clean-Up: The Contractor has the responsibility for the final clean-up and policing of the entire site after other contractors have removed their own waste materials, rubbish, equipment, tools and plant. In addition, thereto, the General Construction Contractor shall have a professional cleaning company perform the following immediately prior to the Architect's inspection for Substantial Completion:

- .1 Removal of all manufacturer's temporary labels from materials, equipment and fixtures;
- .2 Removal of all stains from glass and mirrors; wash, polish, inside and outside;
- .3 Removal of marks, stains, finger prints, other soil, dust, dirt, from painted, decorated, or stained woodwork, plaster or gypsum wall board, metal, acoustic tile, and equipment surfaces;
- .4 Remove spots, paint, soil, from resilient flooring and carpeting;
- .5 Remove temporary floor protections; clean, strip and provide three (3) coats of wax on new VCT floors or otherwise treat as directed by the material manufacturers recommendation, all finished floors. Final vacuum all carpet;
- .6 Clean all interior finished surfaces, including doors and window frames, and hardware required to have a polished finish, of oil, stains, dust, dirt, paint, and the like; leave without finger prints, blemishes; and
- .7 Final site cleanup shall extend beyond the Contract Limit Lines as reasonably required to insure the complete removal of all construction debris from the entire site, including staging areas.

Init.

§ 3.15.6 No accumulation of flammable material shall be permitted.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.16.1 Contractor shall keep only necessary equipment on site and shall cooperate with the Owner regarding the location of stored material. Contractor shall not be allowed to unreasonably encumber the Project site (or building) with equipment and stored material and shall afford other contractors reasonable opportunity for introduction and storage of their materials and for execution of other work.

§ 3.16.2 General Contractor shall be responsible to maintain access/egress to building and site.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Owner's consultant's and agents, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

- .1 Contractor, for itself, its successors and assigns, agrees to indemnify and save Owner, the individual members (past, present and future), its successors, assigns, employees, agent, Architects, Engineers harmless from, and against any and all claims, demands, damages, actions or causes of action by any party, together with any and all losses, costs or expenses in connection therewith or related thereto, including, but not limited to, attorney fees and costs of suit, for bodily injuries, death or property damage arising in or in any manner growing out of the work performed, or to be performed under this Contract. Contractor and its successors and assigns agree to indemnify the Owner, its individual members (past, present and future), its successors, assigns, employees, agents, Architects, Engineers against all fines, penalties or losses incurred for, including, but not limited to, attorney fees and costs of suit, or by reason of the violation by Contractor in the performance of this Contract, or any ordinance, regulation, rule of law of any political subdivision or duly constituted public authority. Without limiting the foregoing, the Contractor, at the request of Owner, its individual members (past and present), its successors, assigns, employees, agents, Architects, Engineers agrees to defend at the Contractor's expense any suit or proceeding brought against Owner, its individual members (past, present and future), its successors, assigns, employees, agents, Architect, Engineers due to, or arising out of the work performed by the Contractor.
- .2 The Contractor assumes the entire risk, responsibility, and liability for any and all damage or injury of every kind and nature whatsoever (including death resulting therefrom) to all persons, whether employees of the Contractor or otherwise, and to all property (including the Work itself) caused by, resulting from, arising out of or occurring in connection with the execution of the Work, or in preparation for the Work, or any extension, modification, or amendment to the Work by the Change Order or otherwise. To the fullest extent permitted by law, the Contractor and its Surety shall indemnify and save harmless the Owner, the Architect, the Architect's consultants, and the respective agents and employees of any of them (herein collectively called the Indemnitees) from and against any and all

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liability, loss, damages, interest, judgments, and liens growing out of, and any and all costs and expenses (including, but not limited to, counsel fees and disbursements) arising out of, relating to or incurred in connection with the Work including, any and all claims, demands, suits, actions, or proceedings which may be made or brought against any of the Indemnitees for or in relation to any breach of the Contract for Construction or any violation of the laws, statutes, ordinances, rules, regulations, or executive orders relating to or in any way affecting the performance or breach of the Contract for Construction, whether or not such injuries to persons or damages to property are due or claimed to be due, in whole or in part, to any negligence of the Contractor or its employees, agents, subcontractors, or materialmen, excepting only such injuries and/or damages as are the result of the sole gross negligence of the Owner, Architect, or Engineer.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.19 Re-Design

§ 3.19.1 If the Contractor makes or causes to be made, due to approval of substitute equipment or otherwise, any substantial change in the form, type, system and details of construction from those shown on the drawings, he/she shall pay for all costs arising from such changes. The Contractor shall reimburse the Owner for all Architectural and engineering fees required to check the adequacy of and/or document such changes. Any changes or departures from the construction and details shown shall be made only after written approval from the Architect.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.1.1 The Architect is REGAN YOUNG ENGLAND BUTERA, PC, a professional corporation under the laws of the State of New Jersey, with principal offices at 456 High Street, Mount Holly, New Jersey 08060, and is identified as "the Architect" in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as "the Architect" as though singular in number. The term "the Architect" means REGAN YOUNG ENGLAND BUTERA, PC or its authorized representative. Engineering Services for Mechanical, Plumbing, Electrical and Fire Protection are provided under the Architect's contract.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and with the Owner's concurrence, from time to time during the two-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the

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Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4 and by regulations regarding "Change Orders" promulgated under the Public School Contracts law, N.J.S.A. 18A:18A-1 et seq., and N.J.A.C. 6:20-8.3.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

Init.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the language and intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.15 Reference in the technical provisions of the specifications to standard specifications and test methods, including those of the American Society for Testing and Materials, the American Iron and Steel Institute, the American National Standards Institute, the American Society of Mechanical Engineers, the American Society of Heating, Refrigeration and Air Conditioning Engineers, the Factory Mutual System, the National Fire Protection Association, Federal Specifications, and other similar nationally recognized technical societies and agencies shall refer to the editions and revisions current with the date of the codes referenced in the Contract Documents.

§ 4.2.16 The Architect's decision with respect to proposed substitutions of material or equipment specified by trade name shall be final. The Architect reserves the right to waive specifications and to accept a proposed substitution, which in his opinion is superior to the material or product specified, or to limit the specification to the product specified.

§ 4.2.17 Approval of substitutions shall not relieve the Contractor of responsibility for adequate fulfillment of all the various parts of the work, nor from specified guarantees and maintenance. Modification of adjacent or connecting work required due to any substitution approval shall be provided as part of the substitution.

§ 4.2.18 Insofar as practicable, except as otherwise specified or shown, the material or product of one manufacturer shall be used throughout the work for each specified purpose.

§ 4.2.19 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in strict accordance with the manufacturer's directions. Should such directions conflict with the Specifications, the Contractor shall request clarification from the Architect before proceeding.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.1.1 In accordance with Title 18A, Public School Contracts Law, the Contractor submitting a bid to perform the work under a single contract shall furnish in writing at the time of Bid, the names of persons or entities proposed as Prime subcontractors. Prime subcontractors shall be qualified in accordance with N.J.S.A. 18A:18A-18. In addition, submit evidence of performance security of each Prime subcontractor simultaneously with the bid.

§ 5.2.1.2 In accordance with Chapter 150, Laws of 1963: Prime subcontractors appearing on the Commissioner of Labor and Industry's current list of subcontractors who have failed to pay prevailing wages, will be automatically rejected.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.2.1 Failure of the Owner or Architect to voice objection to a Subcontractor or material supplier shall not relieve the Contractor of responsibility for compliance with the Contract Documents.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.3.1 Prime Subcontractors or Subcontractors proposed by the Contractor will not be acceptable to either the Owner or Architect where evidence exists that such proposed Subcontractors (1) are unable or unwilling to comply with the requirements of the Contract Documents; (2) have experience, judged by the Owner or Architect, to be inconsistent with requirements for the Work; (3) or appear on the Department of Labor and Workforce Development Prevailing Wage Debarment List. In these instances, the Contractor will not be entitled to a change in the Contract Sum as provided in Subparagraph 5.2.3 and shall propose substitute Subcontractors for those not accepted for causes stated herein.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.2.5 No work shall take place on site by a subcontractor unless a qualified Contractor, responsible for the subcontractor's work, is on site to manage the work of their subcontractor.

§ 5.3 Subcontractual Relations

(Paragraphs deleted)

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1.1 Where the Contractor sublets portions of the Work, the entire responsibility for the subdividing of Work rests with the Contractor. The Owner and Architect are not responsible for the manner of the subdivision of the Work and neither will enter into nor settle disagreements or disputes between Contractor and Subcontractors.

§ 5.3.2 The Contractor shall obligate each Subcontractor specifically to comply with the New Jersey Plan of Affirmative Action to avoid discriminatory practice in employment.

§ 5.3.3 The Contractor shall obligate each Subcontractor to comply with the applicable prevailing wage schedule of the Department of Labor of the State of New Jersey per 16.2.1 and 16.2.2.

§ 5.3.4 The Contractor shall obligate each Subcontractor to comply with the Public Works (the Public Works Contractor Registration Act of the State of New Jersey).

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Contractor shall be responsible to coordinate all Work. All trades have a mutual obligation to coordinate their work with the other trades and cooperate as necessary with the Contractor and the Construction Schedule to complete the work as required by the Owner. The Contractor is required to have their Superintendent or Foreman on site at all times when their work or that of their Subcontractors is in progress.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent. Should the Contractor be damaged by any other separate Contractor on the work by reason of such other Contractor's failure to perform properly his Contract with the Owner, no action will lie against the Owner or Architect, and the Owner and the Architect shall have no liability therefore, but the Contractor may assert his claim for damage against such separate Contractor as a third-party beneficiary under the Contract between such other Contractor and the Owner.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

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§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5 or to other completed or partially completed construction or property on the site or to property of any adjoining Owner or other party.

§ 6.2.4.1 Should the Contractor cause damage to the work or property of any separate Contractor on the Project, the Contractor shall, upon due notice, settle with such other Contractor by agreement or Court of Law if he will so settle. If such separate Contractor sues the Owner or Architect, or initiates a Court of Law proceeding on account of any damage alleged to have been so sustained, the Contractor agrees that he will hold the Owner and Architect harmless against any such suit, and that he will reimburse to the Owner or Architect, as the case may be, the cost of defending such suit, including reasonable attorney's fee and if judgment against Owner or Architect arises therefrom, the Contractor shall pay all judgment cost incurred by the Owner and Architect.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible as the Owner determines to be just, based on the recommendation of the Architect.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.1.1 A field directive or field order shall not be recognized as having any impact upon the Contract Sum or the Contract Time and the Contractor shall have no claim therefore unless it shall, prior to complying with same and in no event no later than 10 working days from the date such direction or order was given, submit to the Owner for the Owner's approval its change proposal.

§ 7.1.1.2 When submitting its Change Order request, the Contractor shall include and set forth in clear and precise detail breakdowns of labor and materials for all trades involved and the estimated impact on the Construction Schedule. The Contractor shall use the Prime Contractor Change Order Request forms, 012610 and the Subcontractor Change Order Request forms, 012620 of the Project Manual.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone in accordance with Section 7.4.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 Notwithstanding anything to the contrary contained in this article, all Change Orders shall be subject to the requirements of N.J.A.C. 6A:26-4.9 (2006).

§ 7.1.5 A directive or order from the Owner or Architect, other than a Change Order, a Construction Change Directive or any order for a minor change pursuant to this article 7, shall not be recognized as having any impact on the contract sum or the contract time and the Contractor shall have no claim therefore. If the Contractor believes that a directive or order would require it to perform work not required by the contract documents, the Contractor shall so inform the Owner and Architect in writing prior to complying with the same and in no event any later than five (5) working days from the day such direction or order was given and shall submit to the Owner and Architect for the Owner's and Architect's approval its change proposal.

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§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Change Orders shall include all costs, including cost of preparation of the Change Order, all impact and ripple costs associated with modifications or delays to the work an assessment of the amount and impact of any perceived potential delays, and all costs associated with modifications to other work.

- .1 The Prime Contractor shall furnish all necessary documentation to support the additional cost, including but not limited to the following:
 - .a Copy of subcontractor's proposal;
 - .b Complete breakdown for all costs for labor and material;
 - .c Complete breakdown of related costs; and
 - .d Other information as may be requested by the Architect.

§ 7.2.3 The overall cost of the Change Order shall be inclusive, and once accepted by the Owner it shall be considered full and final.

§ 7.2.4 When a Change Order involves both additions and deletions in material, the net quantity is to be determined and the appropriate overhead and profit is to be applied to the net quantity.

§ 7.2.5 When any change in the Work, regardless of the reason therefore, requires or is alleged to require an adjustment in Contract Time, such request for time adjustment shall be submitted by the Contractor as part of the change proposal. Any Change Order approved by the Owner and for which payment is accepted by the Contractor, in which no adjustment in Contract Time is stipulated, shall be understood to mean that no such adjustment is required by reason of the change, and any and all rights of the Contractor or any subsequent request for adjustment of Contract Time by reason of the change is waived.

§ 7.2.6 Request by the Contractor for adjustment of the Contract Amount regardless of the reason therefore, shall be submitted to the Owner and Architect with itemized labor and material quantities and unit prices to permit proper evaluation of the request. A submission by the Contractor containing unsubstantiated lump sum requests for adjustment of the Contract Amount will not be considered by the Owner and Architect. The Owner and Architect will not be liable for any delay incurred by reason of the Contractor's failure to submit satisfactory justification and back-up with any request for adjustment to the Contract Amount.

§ 7.2.7 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the initial Work which is the subject to the Change Order, including, but not limited to, all direct, indirect and impact costs associated with such change and any and all adjustment to the Contract Sum and the Construction Schedule. The Contractor will not be entitled to any compensation for additional work, impact costs or delays in the Construction Schedule not included in the Change Order.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance shall be in accordance with the Prevailing Wage Rates at the time the Contract is signed with no additional "labor burden", future increases or any other considerations;
- .2 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
- .3 The allowance for overhead and profit combined, included in the total cost to the Owner, shall be based upon the following schedule, may only include a Contractor, his Subcontractor and shall be limited to a total of 15% of the cost:
 - .a In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontractors, they shall be itemized.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.3.1 Contract Time shall start and end on the dates indicated in the Agreement plus any authorized extension(s) of time as approved by written Change Order.

§ 8.2.4 The Contractor shall have sole responsibility for any and all costs, charges, fees or expenses of any and all kinds from the failure to complete the work within the preceding time period, and such sums shall be deducted from the Contract Sum.

§ 8.2.5 Owner, or his representative, in coordination with the Contractor, shall set work hours. Contractor may be required to work nights, weekends or holidays as necessary to complete the work in accordance with the Schedule or in coordination with the Owner's activities. Under no circumstances shall the Contractor begin or continue with work that is adversely impacting the Owner's activity or operations. All utility shutdowns, interruptions, work in or adjacent to existing buildings will be coordinated through the Owner, or his representative, and may have to be performed during hours when the building is not in operation. All cutting, hammering or other activity that is noisy, produces smoke or fumes or is otherwise disruptive to the building occupants may have to be done during hours when the building is not in operation. Work required to be performed during non-operating hours, as determined by the Owner or his representative, will be performed at no additional cost to the Owner. Contractor agrees to increase manpower, increase work hours, and to increase equipment necessary to maintain the Project Construction Schedule, and when also requested by the Architect and the Owner, and shall be without additional cost or charge to the Owner.

§ 8.2.6 Work shall commence in accordance with the Notice to Proceed and shall proceed uninterrupted to Final Completion. The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of all or part of the completed Work in accordance with the milestone dates set forth in other sections of the Contract Documents, as per approved Schedule, and that the Owner has made arrangements to discharge its public obligations based upon the Contractor's achieving Substantial Completion of all of the Work within the Contract Time. The Contractor further acknowledges and agrees that if the Contractor fails to complete substantially or cause the Substantial Completion of any portion of the Work as required by the Project Construction Schedule and/or within

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the Contract Time, the Owner will sustain extensive damages and serious loss as a result of such failure. The exact amount of such damages will be extremely difficult to ascertain. Therefore, the Owner and the Contractor agrees as set forth below:

- .1 If the Contractor fails to achieve partial completion within the requirements of the milestone dates or the approved Schedule or to achieve Substantial Completion of all or part of the Work when and as required by the Project Construction Schedule and/or within the Contract Time, the Owner shall be entitled to retain or recover from the Contractor and its Surety, as liquidated damages and not as a penalty, the amounts indicated in other sections of the Contract Documents and commencing upon the first day following expiration of the Project Construction Schedule and/or the Contract Time, as the case may be, and continuing until the actual Date of Substantial Completion.
- .2 Adherence to Schedule:
 - a Monthly progress payments will only be released after the Contractor reaches the status of completion for that month contemplated by the construction schedule.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by occurrences beyond the control and without the fault or negligence of the Contractor and which by the exercise of reasonable diligence the Contractor is unable to prevent or provide against, including labor disputes (other than disputes limited to the work force of, or provided by, the Contractor or its Subcontractors), fire, unusual delay in deliveries not reasonably anticipatable, unavoidable casualties, or by other occurrences which the Architect, subject to the Owner's approval, determines may justify delay, then, provided that the Contractor is in compliance with Subparagraph 8.3.3 hereof, the Contract Time shall be extended by Change Order or Construction Change Directive for the length of time actually and directly caused by such occurrence as determined by the Architect and approved by the Contractor and Owner (such approval not to be unreasonably withheld, delayed, or conditioned); provided, however, that such extension of Contract Time shall be net of any delays caused by or due to the fault or negligence of the Contractor or which are otherwise the responsibility of the Contractor and shall also be net of any contingency or "float" time allowance included in the Contractor's construction schedule. The Contractor shall, in the event of any occurrence likely to cause a delay, cooperate in good faith with the Architect and Owner to minimize and mitigate the impact of any such occurrence and do all things reasonable under the circumstances to achieve this goal.

§ 8.3.2 Claims relating to time shall be made as follows:

- .1 Any claim for extension of time should be made in writing to the Architect not more than five (5) days after the commencement of the delay, otherwise, it shall be waived. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the work. No claim made beyond the five (5) days shall be considered valid; and
- 2 The Contractor agrees that if any delay in the Contractor's works unnecessarily delays the work of any other Contractor or Contractors, the Contractor shall in that case pay all costs and expenses incurred by such parties due to such delays and hereby authorizes the Owner to deduct the amount of such costs and expenses from any moneys due or to become due the Contractor under this Contract. The Architect shall be responsible for ascertaining whether the Contractor is responsible for delaying any of the work of any other Contractor. The Architect's decision shall be final.

§ 8.3.3 Notwithstanding anything to the contrary in the Contract Documents, any extension of the Contract Time, to the extent permitted under Paragraph 8.3.1, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity or (4) other similar claims (collectively referred to in this Paragraph 8.3.3 as "delays"), whether or not such delays are foreseeable, unless a delay is caused by acts of the Owner constituting active interference with the Contractor's performance of the Work and only to the extent such acts continue after the Contractor furnishes the Owner and Architect with written notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any delay including without limitation consequential damages, lost opportunity cost, impact damages or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including without limitation ordering changes in the Work or directing suspension, rescheduling or correction of the Work) regardless of the extent or frequency of the Owner's exercise of such rights or remedies shall not be construed as an act of interference with the Contractor's performance of the Work.

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§ 8.3.4 The Contractor agrees that the Owner can deduct from the Contract Sum, any wages paid by the Owner to any Inspector, Architect, or other professional necessarily employed by the Owner for any number of days in excess of the number of days allowed in the specifications for completion of work.

§ 8.3.5 Where the cause of delay is due to weather conditions, an extension of time shall be granted only for unusually severe weather, as determined by reference to historical data. The term "historical data" as used in the previous sentence shall be construed according to this formula: Average rainfall (or snow or low temperature) for the past five years.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

§ 9.2.1 Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work which in the aggregate equals the total Contract Sum, divided so as to facilitate payments to Subcontractors, supported by such evidence of correctness as the Architect may direct or as required by the Owner. It will be necessary for all Contractors to divide their contract into a separate schedule for the work performed at the project. These schedules, when approved by the Architect and Owner, shall be used to monitor the progress of the Work and as a basis for Certificates for Payment. All items with entered values will be transferred by the Contractor to the "Applications and Certificate for Payment," and shall include the latest approved Change Orders and Construction Change Directives. Change Order values and Construction Change Directive values shall be broken down to show the various subcontracts. The Application for Payment shall be on AIA Document G702 and G703 and the approved Voucher obtainable from the Owner. Each item shall show its total scheduled value, value of previous applications, value of the application, percentage completed, value completed and value yet to be completed. All blanks and columns must be filled in, including every percentage complete figure.

§ 9.2.2 Each Prime Contractor shall include the following separate items in their schedule of values:

- .1 Punch List Work - Minimum of 1% of contract value.
- .2 Value for testing.
- .3 Value for Record Drawings and manuals.
- .4 Value for final clean-up and monthly value for daily clean up by General Contractor.
- .5 Value for equipment start-up and commissioning.
- .6 Value for shop drawings.
- .7 Safety protections.
- .8 Project Schedule and monthly updates.
- .9 Allowances.
- .10 TAB coordination shiv, belts and modifications as required.
- .11 Value for Owner's attic stock.
- .12 Winter Protection.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for their Contract on AIA Document G702 and G703 and the Contract Documents.

(Paragraphs deleted)

§ 9.3.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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(Paragraph deleted)

§ 9.3.3 Until substantial completion, the Owner will pay 98% of the amount due the Contractor on account of progress payments until a balance of \$500,000 is due the Contractor. The retainage will then be increased to Five Percent (5%) of the \$500,000.00 balance of the contract until final completion. The retainage will be held until final acceptance of the project by the Architect and the Owner. The Contractor shall submit a separate voucher for the full amount of the retainage along with the Consent of Surety, A.I.A. Form G707A and the Contractor shall be required to furnish a Maintenance Bond for 10% of the Project Cost for a period of two (2) years from the Date of Substantial Completion.

§ 9.3.4 Upon acceptance of the work performed pursuant to this Contract for which the Contractor has agreed to the withholding of payments pursuant to Article 9 of this Contract, all amounts being withheld by the Owner shall be paid in accordance with Paragraph 9.3.3 without further withholding of any amounts for any purposes whatsoever, provided that the Contract has been satisfactorily completed.

§ 9.3.5 Each application for payment shall be accompanied by the following, all in form and substance satisfactory to the Owner and Architect:

- .1 A current contractor's lien waiver and duly executed and acknowledged sworn statement by an officer of the Contractor showing all subcontractors and material supplier with whom the Contractor has entered into subcontracts, the amount of each such subcontract, the amount requested for any subcontractor and material supplier in the requested progress payment and the amount to be paid to the Contractor from such progress payment together with similar sworn statements from all such subcontractors and material supplier.
- .2 Duly executed waivers of mechanics and material supplier's liens from all subcontractors and when appropriate, from material supplier and lower tier subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous application for payment.
- .3 A Purchase Order or Voucher if required by the Owner.
- .4 Payroll Verification Affidavit.
- .5 Bill of Sale/Certification for Stored Materials.
- .6 Monthly Project Workforce Report (AA-202).

§ 9.3.6 At the Owner's option, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with Paragraphs 9.3.1, 9.3.2, 9.3.3, 9.3.4 and 9.3.5 satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.6.1 With each Application for Payment the Contractor shall submit to the Architect and Owner Section 012920 Bill of Sale/Certification for Stored Materials as found in the Project Manual identifying each location where materials are stored off the Project site and the value of materials at each location. The Contractor shall procure insurance satisfactory to the Owner for materials stored off the Project site in an amount not less than the total value thereof. The Contractor shall also provide picture(s) of the stored material(s).

§ 9.3.6.2 The consent of any surety shall be obtained to the extent required prior to the payment for any materials stored off the Project site.

§ 9.3.6.3 Representatives of the Owner shall have the right to make inspections of the off-site storage areas at any time.

§ 9.3.6.4 Materials stored off site shall be protected from diversion, destruction, theft and damage to the satisfaction of the Owner, shall specifically be marked for use on the Project and shall be segregated from other materials at the storage facility.

§ 9.3.7 The Contractor warrants and agrees that title to all Work will pass to the Owner either by incorporation in the construction or upon receipt of payment therefor by the Contractor; whichever occurs first, free and clear of all liens, claims, security interests, or encumbrances whatsoever, that the vesting of such title shall not impose any obligation on Owner or relieve Contractor of any of its obligations under the Contract, that the Contractor shall remain responsible

Init.

for damages to or loss of the Work, whether completed or under construction, until responsibility for the Work has been accepted by Owner in the manner set forth in the Contract Documents, and that no Work covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, after receipt of the Contractor's Application for Payment, and as indicated in the Form of Agreement Between Owner and Contractor either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1 The Contractor warrants and agrees that title to all Work will pass to the Owner either by incorporation in the construction or upon receipt of payment therefor by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests, or encumbrances whatsoever, that the vesting of such title shall not impose any obligation on Owner or relieve Contractor of any of its obligations under the Contract, that the Contractor shall remain responsible for damages to or loss of the Work, whether completed or under construction, until responsibility for the Work has been accepted by Owner in the manner set forth in the Contract Documents, and that no Work covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 avoidable delay in the progress of the work;

Init.

- .9 failure to cooperate with the Architect relative to the construction schedule, material storage, coordination with the Owner and/or other contractors, clean up and site safety;
- .10 failure to submit shop drawings as required by the Contract Documents;
- .11 failure of any Contractors to comply with mandatory requirements for maintaining record drawings. The Contractor shall be required to check record drawings each month. Written confirmation that the record drawings are up-to-date shall be required by the Architect before approval of the Contractor's monthly payment requisition will be considered;
- .12 safety violations; or
- .13 insurance lapses.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

- .1 If the Contractor disputes any determination by the Architect with regard to any Certificate of Payment, the Contractor nevertheless expeditiously shall continue to prosecute the Work.
- .2 The failure of the Owner to retain any percentage payable to the Contractor or any change in or variation of the time, method or condition of payments to the Contractor shall not release or discharge to any extent whatsoever the Surety upon any bond given by Contractor hereunder. The Owner shall have the right, but not the duty, to disregard any schedule of items and costs that the Contractor may have furnished and defer or withhold in whole or in part any payment if it appears to the Owner, in its sole discretion, that the balance available in the Contract Sum as adjusted and less retained percentages, may be insufficient to complete the Work.
- .3 Notwithstanding any provision of any law to the contrary, the Contractor agrees that the time and conditions for payment under the Contract for Construction shall be as stated in the Contract for Construction and in the Contract Documents. The Contractor specifically agrees that Owner's failure to give, or timely give, notice of:
 - .a Any error in an invoice or application for payment submitted by the Contractor for payment; or;
 - .b any deficiency or non-compliance with the Contract Documents with respect to any Work for which payment is requested, shall not waive or limit any of the Owner's rights or defenses under the Contract for Construction and the Contract Documents, or require the Owner to make a payment in advance of the time, or in an amount greater than, as provided by the Contract for Construction.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents and shall so notify the Architect. Notwithstanding Certification by the Architect, the Owner may refuse to make payment based on any default by the Contractor including, but not limited to those defaults set forth in Subparagraphs 9.5.1 through 9.5.1.13. The Owner shall not be deemed in default by reason of withholding payment while any of such defaults by the Contractor remain uncured.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than fourteen (14) days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors and suppliers (of any tier) within the same time.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

Init.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.6.9 The Owner will issue timely payments to the Contractor in accordance with the requirements of "The Prompt Payment Act", N.J.S.A. 2A:30A-1, et seq. The Contractor is hereby notified that the Owner, as a public entity, requires all payments to be approved at scheduled public meetings. The vote on authorization for payments will be made at the first public meeting of the Owner, following the Owner's receipt of the Architect's authorization for payment, and paid during the subsequent payment cycle.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within fourteen days after receipt of the Contractor's Application for Payment, or if the Owner does not, for reasons other than a default of the Contract, including but not limited to those defaults set forth in Subparagraphs 9.5.1.1 through 9.5.1.12, pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof which the Owner agrees to accept separately is sufficiently complete in accordance with this definition and the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Work will not be considered substantially complete until all project systems included in the Work are operational as designed and scheduled, all designated or required inspections, certifications, permits, approvals, licenses and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial use and occupancy of the Project are received, designated instruction of Owner's personnel has been completed, and all final finishes within the Contract are in place. In general, the only remaining Work shall be minor in nature, so that the Owner can occupy the building on that date and the completion of the Work by the Contractor would not materially interfere or hamper the Owner's (or those claiming by, through or under the Owner) normal operations. Contractor recognizes that normal operations requires the use and occupancy of the Work by building's intended occupants without interruption and that any punch list or corrective work shall be done at times when the Work is not so occupied. As a further condition of

Init.

substantial completion acceptance, the Contractor shall certify that all remaining Work will be completed within thirty (30) consecutive calendar days or as agreed upon following the date of substantial completion. In addition to any other definitions of Substantial Completion as defined by the contract documents, the following is required before the project is considered "Substantially Complete":

1. All required final inspections have been completed by the authority having jurisdiction resulting in a Temporary Certificate of Occupancy, Certificate of Occupancy or a Certificate of Approval.
2. Air Balancing Reports can be hand written field notes but must be reviewed and approved via the shop drawing process by the Mechanical Engineer. Final Air and Water Balancing Reports certified by the licensed balancer are required for "Final Acceptance" and the start of the warranty period. (These reports must be submitted in accordance with the shop drawing process to the Architect so that they can be tracked and approved and distributed to all applicable parties).
3. Equipment Start Up Reports can be hand written field notes but must be reviewed and approved via the shop drawing process by the Mechanical Engineer. (These reports must be submitted in accordance with the shop drawing process to the Architect so that they can be tracked and approved and distributed to all applicable parties).
4. Owner On-Site ATC Training: Refer to the ATC specifications for training requirements on-site and off-site. The Owner does not have beneficial use of the mechanical system until they can operate it following this training.

§ 9.8.2 Before the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list (Punch List) of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.2.1 The Contractor shall perform a Quality Control/Quality Assurance QC/QA Punch List of all work prior to requesting Substantial Completion and a Punch List from the Architect. The Architect shall take the lead and conduct an onsite review with the Contractor's superintendent and representation from every major sub prime contractor. Notification of this onsite walk-thru shall be provided from the Architect and Owner who may or may not choose to attend. The Architect shall record and distribute this Punch List to the Contractor for their use and who shall document the completion of the work and the date. After successful completion of the Punch List and all work, the Contractor shall request the Architect to perform a Punch List review walk thru. Substantial Completion shall be requested in accordance with paragraph 9.8.1.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents and the requirements above so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate.

§ 9.8.5.1 The Architect's Certificate of Substantial Completion shall be subject to the Owner's final approval.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, who shall obtain all necessary modifications to its insurance coverage to permit such occupancy or use. In addition, Contractor shall obtain consent of those public

Init.

authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete pursuant to the terms of that Agreement.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of any Work not complying with the requirements of the Contract Documents; and

- .1 except as hereinafter stated, nor does it waive the Owner's right to Liquidated Damages. Final Acceptance of the Work shall be for the whole Work only and not part.

§ 9.9.4 As portions of the Project are completed, and occupied, Contractor shall ensure the continuing construction activity will not unreasonably interfere with the use, occupancy and quiet enjoyment of the completed portions thereof.

- .1 The Contractor agrees to coordinate the Work with the Architect and the Owner in order to minimize disturbance to occupied portions of the structure.
- .2 In the event performances or scheduled events by the Owner are conducted in close proximity to the Work in progress, the Contractor agrees to cease all work which may disturb the Owner's occupants at the site.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. All required close out documentation pursuant to the Contract Documents, shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The Architect will not issue the final Application for Payment to the Owner until all required close out documentation has been received and approved by the Architect and accepted by the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, and (6) evidence of compliance with all requirements of the Contract Documents: notices, certificates, affidavits, other requirements to complete obligations under the Contract Documents, including but not limited to (a) instruction of Owner's representatives in the operation of mechanical, electrical, plumbing and other systems, (b) delivery of keys to Owner with keying schedule, master, sub-master and special keys, (c) delivery to Architect of Contractor's General Warranty as described in section 3.5 and each written warranty and assignment thereof prepared in duplicate, certificates of inspections, and bonds for Architect's review and delivery to Owner, (d) delivery to Architect a printed or typewritten operating, servicing, maintenance and cleaning instructions for all Work; parts lists and special tools for mechanical and electrical Work, in approval form, (e) delivery to the Architect of specified Project record documents, (f) delivery to the Architect all required "Attic Stock" and spare parts, and (g) delivery to Owner of a Final Waiver of Liens (AIA Document G-706 or other form satisfactory to Owner), covering all Work including that of all Subcontractors, vendors, labor, materials and services, executed by an authorized officer and duly notarized. In addition to the foregoing, all other submissions required by other articles and paragraphs of the Project Manual shall be submitted to the Architect before approval of final payment. If a Subcontractor refuses to furnish a release or waiver

Init.

required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If a lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

9.11 Liquidated Damages

§ 9.11.1 The Contractor understands and agrees that all work must be performed in an orderly and closely coordinated sequence so that the date for substantial completion is met.

§ 9.11.2 If the Contractor fails to complete his/her work or fails to complete a portion of his/her work, he/she shall pay the Owner, as liquidated damages and not as a penalty, the sum as specified in sub-paragraphs 9.11.5. Such amount is agreed upon as a reasonable and proper measure which the Owner will sustain each calendar day by failure of the Contractor to complete work within the stipulated time. Liquidated damages shall also apply to all Phased construction milestone dates as established by the Phasing Schedule.

§ 9.11.3 Substantial completion will be determined by the Architect as defined in paragraph 9.8.1.

§ 9.11.4 For damage occurring at the time of delay, the Owner may retain the amount due to him/her under this clause from any payments due to the Contractor.

§ 9.11.5 The Owner will suffer financial loss if the project is not substantially complete on the date set forth in the Contract Documents. The Contractor and the Contractor's Surety shall be liable for and pay to the Owner the sums hereinafter stipulated and fixed, agreed as liquidated damages for each calendar day of delay as follows:

- .1 ONE THOUSAND FIVE HUNDRED DOLLARS (\$1,500.00) per calendar day of delay beyond the date of Substantial Completion.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract and the following:

- .1 The Contractor must fully comply with the job safety requirements in addition to all Federal, State and Local safety guidelines. All cost associated with complying with all safety requirements shall be included in each contractor's bid.
- .2 The Contractor will serve as the overall Project Safety Coordinator and shall be responsible for all issues of safety and protection. The Contractor shall designate a safety person at the job site while the contractor is working on the project site. The designated safety person shall be responsible for the safety of their work and for their workers and to make continuous inspections for all safety issues relating to his work. Each Contractor must comply with job Safety Requirements in addition to the

Init.

- Federal Occupational Safety and Health Act (OSHA) and local agency requirements. Failure to comply with safety issues will be grounds for withholding of payments.
- .3 Contractor will comply with all reasonable requests of the Owner with respect to additional security and protections required for work interfacing with Facility Operations. Safety is of utmost importance on this project and all issues relative to safety and protection of the Facility, Staff and Occupants will be treated as emergency needs and will not be subject to the seven-day notice requirements of Article 14.
 - .4 Contractor shall provide, relocate and /or maintain barricades, signage, provide flagmen etc. as necessary to ensure public safety and safe egress. Contractor to provide, maintain, relocate and remove in coordination with the Owner, the perimeter security fence.
 - .5 The proper execution of the required safety provisions is directly related to the general condition safety line item on the Schedule of Values. The failure to provide a competent person on site to properly identify and take immediate corrective action may result in deductions to the general condition safety line item of the Schedule of Values.
 - .6 The Contractor shall be responsible for the immediate investigation and resolution of all safety and environmental complaints/issues generated by Contractor employees, Owners, Owner's representatives or members of the public.
 - .7 The Contractor shall be responsible for providing and maintaining all temporary emergency egress routes. The Contractor shall obtain the approval of the Building and Fire Departments for all temporary emergency egress routes. General Contractor to provide for fire separation walls between occupied areas as required by local officials.
 - .8 Contractor shall maintain all egress routes throughout building. Contractor shall post exit signs as coordinated with the Owner. Contractor shall provide wall hung fire extinguishers throughout building as deemed necessary by the fire officials.
 - .9 The Contractor shall supply (2) two OSHA approved means of access/egress to each floor and roof for the course of the entire project for use by all applicable parties. The Contractor shall erect and maintain OSHA approved pedestrian walking bridges, for emergency access/egress and as necessary to protect personnel from overhead work.
 - .10 Contractor shall provide OSHA approved pedestrian walking bridges as required to protect against overhead hazards.
 - .11 Contractor's safety representative shall perform a daily safety inspection walk through to ensure that all requirements of the OSHA Standards, Fire Protection Standards and Safe Work Practices are being complied with and/or corrected. The responsibility of the Contractor is to provide a safe and healthy work environment for construction personnel, Owner's personnel and representative, and the public.
 - .12 Upon written receipt of safety concerns and/or issues, the Contractor shall respond in writing addressing how the safety concerns or issues were resolved. The Owner shall be copied on all safety-related correspondence.
 - .13 The Contractor's response and compliance with correction of deficiencies noted in the safety concerns notice issued by the Authority having jurisdiction is mandatory. Failure to comply will be grounds for withholding of progress payments until the conditions are acceptable to OSHA or Authority having local jurisdiction.
 - .14 The Contractor shall provide, when requested by the Architect a copy of all licenses (welding, asbestos, etc.) as required by applicable agencies.
 - .15 The Contractor shall provide, when requested by the Architect a copy of all testing and inspection reports.
 - .16 Contractor shall have all required personal protective equipment and materials available for use by each employee as required by Federal, State and Local guidelines.
 - .17 Contractor shall supply proper equipment and crew sizes as necessary to safely complete the work.
 - .18 Notify Owner immediately upon arrival of OSHA to the site.
 - .19 Contractor shall submit to the Owner all Material Safety Data Sheets and shall cooperate in the posting of all required notifications relative to the use of hazardous substances on the property. Contractor shall comply with New Jersey Law regarding the use or storage of hazardous substances in Schools.
 - .20 For the safety of occupants, staff, and the public, the steel erection must be scheduled and coordinated with the Owner and Architect. Swinging of steel and crane boom over occupied space will not be allowed. Steel contractor shall provide additional barricades and fencing around his crane and steel at all times.

Init.

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User Notes:

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- .21 The speed limit within the project property is 5 MPH. Contractor employees operating vehicles in excess of the speed limit or in any otherwise unsafe manner will be directed to leave the site and will not be permitted to return.
- .22 Contractor shall submit an acceptable OSHA compliant site specific written safety plan to the Owner for the project files within fourteen (14) days from the Notice to Proceed or prior to mobilizing on site, whichever comes first.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction as well as any other real or personal property of the Owner; and
- .4 The Contractor shall provide a third-party Insurance Safety Site Inspection Report monthly and remedy all issues promptly.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss and further, the Contractor shall give immediate notice to the Owner and Architect of the onset of any hazardous conditions at the site which could require the implementation of safety programs or measures by personnel on site.

§ 10.2.2.1 Contractor shall comply with all regulations required by the Federal Occupational Safety and Health Act (OSHA).

§ 10.2.2.2 The Contractor shall conform to all applicable New Jersey Department of Environmental Protection regulations.

§ 10.2.2.3 Contractor shall comply with Construction and Environmental Standards contained in Federal and State Regulations and other applicable laws.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities consistent with applicable laws, statutes, ordinances, codes, rules and regulations and lawful orders of public authorities, and prevailing industry practice.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods not prohibited by the Contract Documents are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

Init.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.2.9 The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits under the Contractor's control shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site. Contractor will comply with all reasonable requests of the Owner with respect to additional security and protections required for work interfacing with Owner's operations. Safety is of utmost importance on this project and all issues relative to safety and protection of the building and its occupants will be treated as emergency needs and will not be subject to the seven-day notice requirements of Article 14.

§ 10.2.10 The Contractor shall remove snow and/or ice, which may accumulate on the site within areas under his/her control which might result in damage or delay.

§ 10.2.11 The Contractor shall take all precautions necessary to prevent loss and/or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner and Contractor, whether or not forming part of the Work, located within those areas of the Project to which the Contractor has access. Whenever unattended, including nights and weekends, mobile equipment and operable machinery shall be kept locked and made inoperable and immovable.

§ 10.2.12 Neither the Owner or Architect shall be responsible for providing a safe working place for the Contractor, the Subcontractors or their employees, or any individual responsible to them for the work.

§ 10.2.13 The Contractor shall conform to requirements of OSHA, the Construction Safety Code of the State Department of Labor and other governing bodies having jurisdiction. The requirements of the New Jersey and Local Building Construction Codes shall apply where they are equal to or more restrictive than the requirements of the Federal Act.

§ 10.2.14 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work as necessary from damage or any cause.

§ 10.2.15 The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work which caused death, personal injury or property damage giving full details and statements of any witnesses. In addition, if death, serious personal injury or serious property damage is caused, the accident shall be reported immediately by telephone or messenger to the Owner and Architect.

§ 10.2.16 Contractor is required to follow and enforce the work rules set forth below. Failure to comply with or enforce any of these rules will be grounds for suspension and/or termination of their Contract:

- .1 No use of alcoholic beverages prior to or during working hours. Anyone found impaired will be removed from the Project site.
- .2 No use of illegal drugs or prescription medications which could induce drowsiness or otherwise impair perception or performance. Use of illegal drugs may result in prosecution to the fullest extent of the law. Any warning associated with use of prescription drugs must be complied with, particularly warning against operation of machinery and equipment.
- .3 Horseplay or rough-housing will not be allowed.
- .4 Sexual, racial, or ethnic harassment, or similar conduct will not be tolerated.
- .5 All employees shall use proper sanitation habits including use of toilet and trash facilities.
- .6 All employees shall dress in clothing that identifies their company and is appropriate for the work they are to perform. All personnel are to wear hardhats, safety shoes, glasses, gloves, masks or respirators,

Init.

- .7 noise protection devices, and other protective clothing and equipment as required by OSHA standards. All equipment is to be property stored and/or secured at the end of the workday or if it is to remain idle for greater than one hour.
- .8 All personnel are to be made aware of the availability of Material Safety Data Sheets for materials used at the Project site. This information is available from the Contractor using the product. The Contractor shall maintain a copy of all MSDS at the construction site for all personnel to review.
- .9 Enforce a full time no smoking or alcohol use policy for all employees during the entire course of the project. Any worker found violating these restrictions, or being belligerent, will be subject to removal from the site. (Contractors shall post required signs).

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

(Paragraph deleted)

§ 10.4 Emergencies

(Paragraph deleted)

§ 10.4.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

Init.

§ 10.4.2 – Emergency/Safety Plan

- .1 All parties involved in the construction process should be aware of emergency services that may be required during the construction process.
- .2 Contractor shall establish the site-specific Emergency Action Plan and, after approval by the local authorities, shall display at site trailers and various locations at the site.
- .3 In case of an accident, emergency, or injury on the job site, the Contractor shall immediately follow the Site-Specific Emergency Action Plan. Following the incident, the Contractor shall submit to the Owner a complete written accident report detailing the circumstances which caused the accident, extent of injuries, damage to the building, time of accident, corrective action required, etc.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 All insurance provisions shall be confirmed with Owner's Insurance Agent. Contractor shall, without in any way altering Contractor's liability under the Contract or applicable law, obtain, pay for and maintain insurance for the coverages and amounts of coverage not less than those set forth below in the Schedule of Insurance Coverages and shall provide to Owner certificates issued by insurance companies satisfactory to Owner to evidence such coverage no later than seven days of the date of the execution of this Contract and prior to any personnel or equipment being brought onto and/or before any work commences at the job site. The coverage afforded under any insurance obtained pursuant to this paragraph shall be primary to any valid and collectible insurance carried separately by any of the indemnities. Such certificates shall provide that there shall be no cancellation, non-renewal or material change of such coverage without thirty (30) days prior written notice to Owner. In the event of any failure by Contractor to comply with the provisions of this Paragraph 11.1, Owner may, at its option, on notice to Contractor, suspend the Contract for cause until there is full compliance with this Paragraph 11.1 and/or terminate the Contract for cause. Alternatively, Owner may purchase such insurance at Contractor's expense, provided that Owner shall have no obligation to do so, and if Owner shall do so, Contractor shall not be relieved of or excused from the obligation to obtain and maintain such insurance amounts and coverages. Contractor shall provide the Owner and Architect a copy of any and all applicable insurance policies.

- .1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless all parties or persons described in Section 3.18.

§ 11.1.2 The Contractor shall require all Subcontractors to carry similar insurance coverages and limits of liability as required under this Article 11, adjusted to the nature of Subcontractors' operations and submit same through Contractor to Owner and Architect for approval, before any personnel or equipment is brought onto the site and/or before any work commences.

§ 11.1.3 In the event Contractor fails to obtain the required certificates of insurance from the Subcontractor and a claim is made or suffered, the Contractor shall indemnify, defend and hold harmless all parties or persons described in Section 3.18 from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) all parties or persons described in Section 3.18 as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 Schedule of Insurance Coverages

§ 11.2.1

- .1 **Commercial General Liability** of not less than \$5,000,000, naming all parties or persons described in Section 3.18 as additional insureds on a primary and non-contributory basis.
- .2 **Worker's Compensation** in the Statutory amount together with Employer's Liability Insurance of \$500,000 for each accident.
- .3 **Comprehensive Automobile Liability Insurance** of \$1,000,000, naming all parties or persons described in Section 3.18 as additional insureds on a primary and non-contributory basis.
- .4 **Sexual Harassment** of not less than \$1,000,000, naming all parties or persons described in Section 3.18 as additional insureds on a primary and non-contributory basis.

Init.

§ 11.2.2 Contractors Pollution Liability Insurance including limits of \$1,000,000 each Incident/\$2,000,000 aggregate and including full coverage for mold, legionella, asbestos, and lead. All parties or persons described in Section 3.18 are to be included as additional insureds on a primary and non-contributory basis.

§ 11.2.3 Builder's Risk Insurance Contractor shall provide for all risk of physical loss or damage to the property described hereunder in an amount equal to the Total Project Value and furnished under Construction Contracts for the School Facilities Project; excepting excavations, foundations and other structures customarily excluded by such insurance. The Policy shall name all parties or persons described in Section 3.18 as loss payee as their interests may appear on a primary and non-contributory basis. The Builders Risk Policy is to include coverage for the perils of Earthquake, Flood, Full Windstorm, Equipment Breakdown and Theft (excluding employee theft), contain an endorsement allowing permission to occupy and include coverage for both transit and offsite storage. The policy is also to include all Contractors, Subcontractors and Sub-subcontractors as well as all parties or persons described in Section 3.18 as additional insureds on a primary and non-contributory basis. The contractor and all subcontractors are responsible for all policy deductibles and uninsured or underinsured losses.

§ 11.3 Bonds, Performance and Payment

§ 11.3.1 Contractor shall furnish a performance bond and labor and material payment bond meeting all statutory requirements of the State of New Jersey in form and substance satisfactory to the Owner and without limitation complying with the following specific requirements:

- .1 Except as otherwise required by statute, the form and substance of such bonds shall be satisfactory to the Owner in the Owner's sole judgment;
- .2 The bonds shall be executed by a responsible surety licensed in the State of New Jersey Best's rating of no less than A-/X and shall remain in effect for a period of not less than two years following the date of final acceptance or the time required to resolve any items of incomplete or inadequate work and the payment of any disputed amounts, whichever time period is longer;
- .3 The performance bond and the labor and material payment bond shall each be in an amount equal to the Contract Sum;
- .4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power;
- .5 Any bond under this Paragraph 11.3.1 must display the surety's bond number. A rider including the following provisions shall be attached to each bond:
 - a Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change or other modification of the Contract Documents which singularly or in the aggregate equals or is less than 20% of the Contract Sum. Except as to increases in the Contract Sum in excess of the percentage set forth in this clause 11.3.1.5.a. Any other alterations, change, extension of time or other modification of the Contract Documents or a forbearance on the part of either the Owner or the Contractor to the other shall not release the surety of its obligations hereunder and notice to surety of such matter is hereby waived.
 - b Surety further agrees that in the event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or surety shall cause written notice of such default (specifying said default in writing) to be given to the Owner, and the Owner shall have 30 days after receipt of such notice within which to cure such default of such additional reasonable time as may be required if the nature of such default is such that it cannot be cured within 30 days. Such notice of default shall be sent by certified or registered U.S. mail, return receipt requested, first class postage prepaid to the Owner.

§ 11.4 Maintenance of Insurance

§ 11.4.1 If any of the foregoing insurance coverages are required to remain in force after final payment, including, but not limited to coverage for completed operations, an additional certificate evidencing continuation of such coverage shall be submitted to the Architect with the Final Application for Payment.

§ 11.4.2 In no event shall any failure of the Owner to receive certificates of policies required under paragraph 11.1 or to demand receipt of such certificates prior to the Contractor commencing Work be construed as a waiver of the Owner or the Architect of the Contractor's obligations to obtain insurance pursuant to this Article 11. The obligation to procure and maintain any insurance required by this Article 11 is a separate responsibility of the Contractor and

Init.

independent of the duty to furnish a certificate of such insurance policies.

§ 11.4.3 If the Contractor fails to purchase and maintain or require to be purchased and maintained any insurance required under this Article 11, the Owner may, but shall not be obligated to, upon five days written notice to the Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to deduct said cost from the Contractor's Contract Sum.

(Paragraphs deleted)

§ 11.4.4 When any required insurance due to the attainment of a normal expiration date or renewal date shall expire the Contractor shall supply the Owner with certificates of insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection and scope as was provided by the previous policy. In the event any renewal or replacement policy for whatever reason obtained or required is written by a carrier other than that with whom the coverage was previously placed, or the subsequent policy differs in any way from the previous policy, the Contractor shall also furnish replacement policy unless the Owner provides the Contractor with prior written consent to submit only a certificate of insurance for any such policy. All renewal and or replacement policies shall be in form and substance satisfactory to the Owner and written by carriers acceptable to the Owner.

§ 11.4.5 The Contractor shall cause each subcontractor to (1) procure insurance in the amounts set for in Paragraph 11.2 and (2) name the indemnities under Paragraph 3.18 as additional insureds under the subcontractor's comprehensive general liability policy. The additional insured endorsement included on the subcontractor's comprehensive general liability policy shall state that coverage is afforded the additional insureds with respect to claims arising out of operations performed by or on behalf of the Contractor. If the additional insureds have other insurance, which is applicable to the claims, such other insurance shall be on an excess or contingent basis. The amount of the insurance liability under this insurance policy shall not be reduced by the existence of such other insurance.

§ 11.4.6 Property insurance provided by the Owner shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring, or other similar items commonly referred to as construction equipment which may be on the site and the capital value of which is not included in the work. The Contractor shall make its own arrangements for any insurance it might require on such construction requirement. Any such policy obtained by the Contractor under this Paragraph 11.4.6 shall include a waiver of subrogation.

§ 11.4.7 The Contractor may carry whatever additional insurance he/she deems necessary to protect him/herself against hazards not covered for theft, collapse, water damage, materials and equipment stored on the site, and for materials and equipment stored off site, and against loss of owned or rented capital equipment and tools owned by mechanics or any tools, equipment, scaffolding, staging, towers and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the Work.

§ 11.4.8 All insurance coverage procured by the Contractor shall be provided by insurance companies having policy holder ratings no lower than "A-" and financial rating no lower than, "X" in the Best's Insurance guide, latest edition in effect as the date of the Contract and subsequently in effect at the time of the renewal of the policies required by the Contract Documents which coverage shall be maintained for no less than two (2) years following Substantial Completion.

§ 11.4.9 If the Owner or the Contractor is damaged by the failure of the other party to purchase or maintain insurance required under Article 11, then the party who failed to purchase or maintain the insurance shall bear all reasonable costs (including attorney's fees and court and settlement costs) properly attributable thereto.

§ 11.4.10 The Contractors must remove all "X, C & U" exclusions from their policies.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

Init.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If prior to the date of Substantial Completion, the Contractor, a subcontractor or anyone for whom either is responsible, uses or damages any portion of the Work or existing conditions, including without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause each such item to be restored to "like new condition" at no expense to the Owner.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two (2) years after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the two-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

- .1 The obligations under Paragraph 12.2 shall cover any repairs and replacement to any part of the Work or other property caused by the defective Work.
- .2 Upon completion of any work under or pursuant to this Paragraph 12.2., the two-year correction period in connection with the work requiring correction shall be renewed and recommenced.

§ 12.2.2.2 The two-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The two-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the two-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

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§ 12.3 Acceptance of Nonconforming Work

§ 12.3.1 If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be affected whether or not final payment has been made. This Subparagraph relates exclusively to the knowing acceptance of nonconforming work by the Owner. It has no applicability to work accepted by the Owner or Architect without the knowledge that such work fails to conform to the requirements of the Contract Documents.

§ 12.3.2 The Contractor and its Surety guaranty to make good, repair and/or correct, at no cost or expense to the Owner, any and all latent defects hereafter discovered, provided only that notice in writing, shall be given by the Owner to the Contractor within two years of the discovery of such defects.

- .1 This obligation shall survive the termination of any or all other obligation or obligations under the contract Documents and it is agreed by the Contractor and its Surety that in the event the Owner is required to bring suit under this provision against the Contractor or its Surety to enforce this obligation, the contractor and its Surety hereby waive any defense of the status of limitations.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of New Jersey.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

Init.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense. The Contractor also agrees that the cost of testing services required for the convenience of the Contractor in his/her scheduling and performance of the Work and the cost of testing services related to remedial operations performed to correct deficiencies in the Work shall be borne by the Contractor.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

§ 13.5.1 The Contractor shall not be entitled to any payment of interest for any reason, action or inaction by the Architect or the Owner.

§ 13.5.2 Any payments withheld for time delays, faulty materials, or workmanship, shall not bear interest for period of delay or non-acceptance.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract in the manner provided in Subparagraph 14.1.2 if repeated suspensions, delays or interruptions by the Owner as described in Paragraph 14.3 constitute in the aggregate more than 100% of the total number of days scheduled for completion or 120 days in any 365-day period, whichever is less, or if all the Work is entirely stopped for a continuous period of 45 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.

§ 14.1.2 If one of the above reasons exist, the Contractor may, upon fourteen (14) days written notice to the Owner and Architect, terminate the Contract, unless this reason is cured prior to the expiration of the notice, and recover from the Owner payment of work properly executed in accordance with the Contract Documents (the basis for such payment shall be as provided in the Contract) and for payment for cost directly related to work thereafter performed by Contractor in terminating such work including reasonable demobilization and cancellation charges provided said work is authorized in advance by Architect and Owner.

§ 14.1.3 The Owner shall not be responsible for damages for loss of anticipated profits on work not performed on account of any termination described in Subparagraph 14.1.1 and 14.1.2.

§ 14.1.4 If the Work is stopped for a period of 45 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials and/or equipment;
- .2 fails to make prompt payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- .4 disregards the instructions of Architect or Owner (when such instructions are based on the requirements of the Contract Documents);
- .5 is adjudged bankrupt or insolvent, or makes a general assignment for the benefit of Contractor's creditors, or a trustee or a receiver is appointed for Contractor or for any of its property, or files a petition to take advantage of any debtor's act, or to recognize under bankruptcy or similar laws;
- .6 breaches any warranty made by the Contractor under or pursuant to the Contract Documents;
- .7 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with the requirements of the Contract Documents;
- .8 fails after the commencement of the Work to proceed continuously with the construction and completion of the work for more than 10 days except as permitted under the Contract Documents; or
- .9 otherwise does not fully comply with the Contract Documents.

§ 14.2.2 When

(Paragraphs deleted)

the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.3 If the costs of finishing the Work, including compensation for the Architect's and any other Consultant's services and expenses made necessary thereby, and other costs and expenses identified hereinafter, exceed the unpaid balance of the Contract Sum, the Contractor and its Surety shall pay the difference to the Owner upon demand. The costs of finishing the Work include, without limitation, all reasonable attorney's fees, additional title costs, insurance, additional interest because of any delay in completing the Work, and all other direct and indirect consequential costs, including, without limitation, Liquidated Damages for untimely completion as specified in the Contract Documents, incurred by the Owner by reason of, or arising from, or relating to the termination of the Contractor as stated herein.

(Paragraph deleted)

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor shall be entitled

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to Owner payment for Work performed as of the date of termination in accordance with the contract Documents. The Contractor shall, as a condition of receiving the payments referred to herein, execute and deliver all such papers, turn over all plans, documents and files of whatsoever nature required by the Owner, and take all such steps, including the legal assignment of its contractual rights, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor. The Contractor warrants that it will enter into no subcontracts or other agreements that would adversely impact the Owner's rights or increase the Owner's obligations under this paragraph. In no event shall the Owner be liable to the Contractor for lost or anticipated profits or consequential damages, or for any amount in excess of the compensation due to the Contractor in accord with the Contract Documents for the Work performed as of the date of termination. The warranty and indemnity obligations of the Contractor and Surety shall survive and continue, notwithstanding any termination pursuant to this paragraph, with respect to the Work performed as of the date of termination.

§ 14.4.4 If Owner terminates the Contract for cause pursuant to Paragraph 14.2 and it is subsequently determined that the Owner was not authorized to terminate the Contract as provided in Paragraph 14.2, the Owner's termination shall be treated as a termination for convenience under this Paragraph 14.4 and the rights and obligations of the parties shall be the same as if the Owner has issued a notice of termination to the Contractor as provided in this Paragraph 14.4.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

§ 15.1.2.1 Issues involving the applicable statute of limitations shall be governed by New Jersey Law.

§ 15.1.2.2 No act or omission by the Owner or Architect, or by anyone acting on behalf of either shall be deemed or construed as a waiver or limitation of any right or remedy under the Contract Documents, or as an admission, acceptance, or approval with respect to any breach in the Contract for Construction or failure to comply with the Contract Documents by the Contractor, unless the Owner expressly agrees in writing.

§ 15.1.2.3 The Owner's exercise or failure to exercise any rights, claims or remedies it may have arising out of or relating to the Contract Documents shall not release, prejudice, or discharge the Owner's other rights and remedies, nor shall it give rise to any right, claim, remedy or defense by any other person, including the Contractor, its Surety, any Subcontractor, or any other person or entity.

§ 15.1.2.4 Whenever possible, each provision of the Contract Documents shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of the Contract Documents or portion thereof is prohibited or found invalid by law, only such invalid provision or portion thereof shall be ineffective and shall not invalidate or affect the remaining provision of the Contract Documents or valid portions of such provision, which shall be deemed severable. Further, if any provision of this Contract is deemed inconsistent with applicable law, applicable law shall control.

§ 15.1.2.5 Contractor shall promptly pay to Owner all costs and reasonable attorney's fees incurred in connection with any action or proceeding in which Owner prevails, based on a breach of the Contract or other dispute arising out of or in connection with the Contract.

§ 15.1.2.6 In the event of the appointment of a trustee and/or receiver or any similar occurrence affecting the management of the account of the Contractor pertaining to the Work, it shall be the obligation of the Contractor, its representatives, receivers, sureties, or successors in interest to continue the progress of the Work without delay and specifically to make timely payment to Subcontractors and Suppliers of all amounts that are lawfully due them and to provide the Owner and all Subcontractors and Suppliers whose work may be affected with timely notice of the status of receivership, bankruptcy, etc., and the status of their individual accounts.

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§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within five days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.3.3 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding five days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given to the Owner and Architect before proceeding to execute the Work and within five days after the occurrence of the event giving rise to such Claim for increase in the Construct Sum. The foregoing written notice shall contain a written statement from the Contractor setting forth in detail the nature and cause of the Claim and an itemized statement of the increase requested. No such written notice shall form the basis of an increase to the Contract Sum unless and until such increase has been authorized by a written Change Order executed and issued according to the terms and conditions set forth herein. The Contractor hereby acknowledges that the Contractor shall not have any right to, and the Owner will not consider any requests for an increase in the Contract Sum that is not submitted in compliance with the foregoing requirements. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided herein shall be given. Said notice shall itemize all claims and shall contain sufficient detail and substantiating data to permit evaluation of same by the Owner and Architect. No such claim shall be valid unless so made. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary. Any change in the Contract Sum resulting from such claim shall be authorized only by Change Order or Construction Change Directive, as the case may be. All required notices for additional costs shall be made in writing.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

(Paragraphs deleted)

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless

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otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.5.1 All claims and disputes and other matters in question between the Contractor and the Owner arising out of or relating to the Contract Documents or a breach thereof with regard to the Initial Decision Maker's decision, shall be decided through suit in New Jersey Superior Court and Contractor consents to the jurisdiction of the New Jersey Superior Court. The Contractor shall carry on all work and maintain its progress during such suit and the Owner shall continue to make payments not related to the dispute of the Contractor in accordance with Contract Documents.

§ 15.2.6 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

(Paragraph deleted)

§ 15.2.7 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

(Paragraphs deleted)

ARTICLE 16 NEW JERSEY REQUIREMENTS FOR PUBLIC WORK

(Paragraph deleted)

§ 16.1 Overtime

The Contractor or any subcontractor shall not employ any mechanic, worker or laborer engaged in the performance of the Work more than 8 hours in any one day in accordance with and subject to the exceptions named in Revised Statutes of New Jersey, Title 34, Chapter 10 and any and all revised statutes thereof.

(Paragraph deleted)

§ 16.2 Prevailing Wage

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(Paragraph deleted)

§ 16.2.1 Pursuant to Revised Statutes of New Jersey, Title 34, Chapter 11, Article 28 as amended, wages for all laborers, workers and mechanics employed by the Contractor or any Subcontractor for the Work shall not be less than the prevailing wages for work of a similar nature in the vicinity of the Project Site as fixed by the Commissioner of Labor and Industry and made a part of Division 01 - Conditions of the Contract. Contractors are referred to Section 010001-PREVAILING WAGE RATES for wage determination.

(Paragraph deleted)

§ 16.2.2 The Contractor and Subcontractors shall do the following:

- .1 Pay to all workers engaged in the performance of services directly upon the Work, the prevailing rate of wages specified in the Contract.
- .2 Keep an accurate record showing the name, craft or trade and actual hourly rate of wages paid to each worker employed by him in connection with the Work. Records shall be preserved two years from the date of payment.
- .3 Post the prevailing wage rates for each craft and classification involved, as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the Work and at such place or places as are used by the employer to pay workers their wages.
- .4 Before final payment, file written statements certifying to the amounts then due and owing to any and all workers for wages due on account of the Work. The statements shall set forth the names of the persons whose wages are unpaid and the amount due to each. The statement shall be verified by the oath of the Contractor or Subcontractor, as the case may be.

§ 16.3 Business Registration of Public Contractors

(Paragraph deleted)

§ 16.3.1 Pursuant to P.L. 2004, c.57, bidders shall include proof of its own business registration and proofs of business registration of those subcontractors required to be listed in the bidder's submission (i.e., "named subcontractors.") The proof of business registration shall be provided at the time the bid or proposal is officially received and opened by the contracting agency. If there are no subcontractors on a job, the Contractor must certify to that effect.

(Paragraphs deleted)

§ 16.3.2 After award of the contract, the Contractor shall obtain proof of business registration of subcontractors and suppliers through all tiers of a contract, when the value of the goods or services to be provided by the subcontractor or supplier exceeds 15% of the contracting agency's bid threshold.

(Paragraph deleted)

§ 16.3.3 The Contractor shall provide written notice to its subcontractors and suppliers of the responsibility to submit proof of business registration to the Contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

§ 16.3.4 Before final payment on the Contract is made by the contracting agency, the Contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the Contract or shall attest that no subcontractors were used.

§ 16.3.5 A contractor or a contractor with a subcontractor that has entered into a contract with a contracting agency, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury the use tax due pursuant to the "Sales and Use Tax Act," P.L.1966, c.30 (C.54:32B-1 et seq.) on all their sales of tangible personal property delivered into this State.

§ 16.3.6 A business organization that fails to provide a copy of a business registration as required pursuant to Section 1 of P.L.2001, c.134 (C.52:32-44 et al.) or subsection e. or f. of Section 92 of P.L.1977, c.110 (C.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency."

§ 16.4 Workers and Community Right to Know Act

§ 16.4.1 Contractors shall be required to submit copies of all Material Safety Data Sheets to the Owner and shall

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cooperate in the posting of all required notifications relative to the use of hazardous substances on Owner's property. Contractor shall comply with New Jersey Law regarding the use or storage of hazardous substances in Schools and as follows:

§ 16.4.2 New Jersey Administrative Code 8:59 - 6.5

.1 Subcontractors:

- .a** When a public or private subcontractor produces, uses or stores hazardous substances at a public employer's facility in such a way that the employees of the public employer are or may be exposed to the hazardous substances, the public employer shall find out the identity of the hazardous substances and provide health hazard and protective procedure information about the substances to exposed and potentially exposed employees during the annual education and training program or upon request of an employee or employee representative, whichever occurs sooner.
- .b** If not part of the annual training program, such information may be provided to exposed and potentially exposed employees in writing. The public employer shall provide exposed and potentially exposed employees with appropriate hazardous substance fact sheets or Material Safety Data Sheets, if requested.
- .c** Contractor shall retain a copy of the Material Safety Data Sheet and Hazardous Substance Fact Sheets on the job site.

§ 16.5 Meghan's Law

During the performance of this contract, neither the Contractor nor any Subcontractor, where applicable, shall knowingly allow any employee registered pursuant to N.J.S.A. 2C:7-1, et seq. "Meghan's Law", as a Tier 3 offender (sex offenders determined to pose a relatively high risk of re-offense") or a Tier 2 offender (sex offenders determined to pose a moderate risk of re-offense), upon the Owner's property or the Project site.

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1 SECTION 010002 - PREVAILING WAGE RATES
2
3

4 NEW JERSEY DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT
5 PREVAILING WAGE RATES:
6

7 The Prevailing Wage Rate Determination by the New Jersey Department of Labor and
8 Workforce Development pursuant to Chapter 150 of the New Jersey Laws of 1963.
9

10 **Website:**

11
12 https://www.nj.gov/labor/wagehour/wagehour_index.html
13

14 **Wage & Hour - General Information**

15
16 Tel. (609) 292-2305

17 Tel. (609) 292-2337

18 Fax (609) 695-1174

19 **Public Contracts** – For information about prevailing wage rates on public works projects:

20 Tel. (609) 292-2259

21 Fax (609) 695-1174

22 **Contractor Registration** – For information about registering with the Department of Labor and
23 Workforce Development in order to bid on or engage in the performance of any public works
24 project:

25 Tel. (609) 292-9464

26 Fax (609) 633-8591
27

28 The Prevailing Wage Rates in the locality is for each craft or trade or classification of all workers
29 needed to perform the contract during the anticipated term thereof are hereby made a part of each
30 Contract to be performed under this Project Manual.
31

32 It is the responsibility of the Contractor and each Subcontractor to use the current Prevailing
33 Wage Rates when bidding this Project and, if awarded the Contract, to pay their employees the
34 minimum amounts mandated by such Prevailing Wage Rate Determination and to submit all
35 certified payroll records to the Owner in accordance with the regulations.

36 In the event it is found that any worker employed by the contractor, or any subcontractor covered
37 by said contract, has been paid a rate of wages less than the prevailing wages required to be paid
38 by such contract, the public body, the lessee to whom the public body is leasing a property or
39 premises or the lessor from whom the public body is leasing or will be leasing a property or
40 premises may terminate the contractor's or subcontractor's right to proceed with the work, or
41 such part of the work as to which there has been a failure to pay required wages and to prosecute
42 the work to completion or otherwise.
43

44
45 END OF SECTION 010002

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work under separate contracts.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and Drawing conventions.
8. Miscellaneous provisions.

B. Related Requirements:

1. Section 000100 "Advertisement" for project information and work covered by the contract documents.
2. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

- C. All specification divisions and drawings listed are part of the Contract Documents. It is ultimately the responsibility of the Contractor and their subcontractors to review all the Contract Documents and all field conditions to determine the full extent of work for this project.

- D. The Contractor shall provide all labor, materials, equipment and services for the complete and proper installation and operation of the work as indicated, required or implied by the Contract Documents.

- E. The submission of a proposal by the Contractor will be considered an indication that a thorough review of the conditions, materials, and the Contract Documents have been made by the Contractor and their subcontractors, and the results of such investigations have been included in their proposal and accepted.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.3 PROJECT INFORMATION

- A. Project Identification: Operations and Maintenance Building.
 - 1. Project Location: 177 Main Street, Vincentown, New Jersey 08088.
- B. Owner: Southampton Township Board of Education.
 - 1. Owner's Representative: Casey DeJoseph.
- C. Architect: Regan Young England Butera, P.C.
- D. Architect's Consultants: Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
 - 1. Mechanical: Kelter & Gilligo, P.C.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. Type of Contract:
 - 1. Project will be constructed under a single prime contract.
 - 2. Board of Education may elect to award projects separately or as a combined overall bid as deemed in their best financial interests.

1.5 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
 - 1. Adjacent Well House and Well Construction.

1.6 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 3:30 p.m., Monday through Friday, unless otherwise indicated.
 1. Weekend Hours: Subject to Southampton Township ordinances and 72 hours notice and Owner approval.
 2. Early Morning Hours: Subject to Southampton Township ordinances and 72 hours notice and Owner approval.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Architect not less than two days in advance of proposed utility interruptions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 1. Notify Architect not less than two days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted on the Owner's property.
- F. Restricted Substances: Use of tobacco products and other controlled substances on Owner's property is not permitted.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- H. Contractor employees shall also be required to have company shirts and photographic identification clearly displayed at all times that indicates the employees name, current photograph and company of employment. Anyone on site without proper credentials visibly displayed at all times shall be asked to leave the project site.
- I. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
 1. Maintain list of approved screened personnel with Owner's representative.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Abbreviations: Materials and products are identified by abbreviations and scheduled in Section 000030 - Abbreviations of the Project Manual.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.10 MISCELLANEOUS PROVISIONS

- A. The Contractor shall not perform any work or provide any services materials or supplies until an executed Notice to Proceed and an approved Purchase Order has been received from the Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Contingency allowances.

1.3 DEFINITIONS

- A. Allowance is a quantity of work or dollar amount established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances on forms in Section 012610 "Prime Contractor Change Order Request Summary" and Section 012620 "Subcontractor Request Summary."

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.
- D. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.6 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.7 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Refer to Section 002000 – Form of Bid, for Schedule of Allowances.

END OF SECTION 012100

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for products selected under an allowance.
 - 2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit one pdf copy of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use Section 012501 – Substitution Request form provided in Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from current edition of the New Jersey Rehabilitation Subcode and the IBC-NJ Code.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- b. Substitution request is fully documented and properly submitted.
- c. Requested substitution will not adversely affect Contractor's construction schedule.
- d. Requested substitution has received necessary approvals of authorities having jurisdiction.
- e. Requested substitution is compatible with other portions of the Work.
- f. Requested substitution has been coordinated with other portions of the Work.
- g. Requested substitution provides specified warranty.
- h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 10 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 012501 – SUBSTITUTION REQUEST

Project: _____ Substitution Request Number: _____

From: _____
To: _____ Date: _____

A/E Project Number: _____
Re: _____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: New product 2-5 years old 5-10 yrs old More than 10 years old

Differences between proposed substitution and specified product: _____

Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Savings to Owner for accepting substitution: _____ (\$ _____).

Proposed substitution changes Contract Time: No Yes [Add] [Deduct] _____ days.

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SUBSTITUTION REQUEST

012501 - 1

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution is compliant with the building code in effect for Project.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

- Substitution approved - Make submittals in accordance with Specification Section 013300.
- Substitution approved as noted - Make submittals in accordance with Specification Section 013300.
- Substitution rejected - Use specified materials.
- Substitution Request received too late - Use specified materials.

Signed by:

Date:

Additional Comments: Contractor Subcontractor Supplier Manufacturer A/E _____

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710 or similar.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use Section 012610 "Prime Contractor Change Order Request Summary" and Section 012620 "Subcontractor Change Order Request Summary." These documents will be provided by the Architect, in digital format to the Contractor.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use Section 012610 "Prime Contractor Change Order Request Summary" and Section 012620 "Subcontractor Change Order Request Summary." These documents will be provided by the Architect, in digital format to the Contractor.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701 or similar.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 or similar. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECURITY OFFICE EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 012610.1 - PRIME CONTRACTOR CHANGE ORDER REQUEST WORKSHEET

PRIME CONTRACTOR: _____

C.O.R. NO.: _____

DATE: _____

Complete and attached this Worksheet to Section 012610 - Prime Contractor Change Order Request Summary.

**PRIME CONTRACTOR DIRECT COSTS
 ADDITIONS**

| | DESCRIPTION | MATERIAL & EQUIPMENT | | | LABOR | | | TOTAL |
|----|------------------------|----------------------|------|---------------|-------|---------|---------------|---------------|
| | | QTY | COST | SUBTOTAL | HRS | RATE/HR | SUBTOTAL | |
| 1 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 2 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 3 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 4 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 5 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 6 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 7 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 8 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 9 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 10 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| | ADDITIONS TOTAL | | | \$0.00 | | | \$0.00 | \$0.00 |

DEDUCTIONS

| | DESCRIPTION (Use minus sign for all deduct dollar figures) | MATERIAL & EQUIPMENT | | | LABOR | | | TOTAL |
|----|--|----------------------|----------|---------------|-------|-------------|---------------|---------------|
| | | QTY | COST (-) | SUBTOTAL | HRS | RATE/HR (-) | SUBTOTAL | |
| 1 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 2 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 3 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 4 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 5 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 6 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 7 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 8 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 9 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 10 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| | DEDUCTIONS TOTAL | | | \$0.00 | | | \$0.00 | \$0.00 |

| | | | | | | | | |
|---|--|--|--|--|--|--|--|---------------|
| GRAND TOTAL (Additions & Deductions) | | | | | | | | \$0.00 |
|---|--|--|--|--|--|--|--|---------------|

SECTION 012610 - PRIME CONTRACTOR CHANGE ORDER REQUEST SUMMARY

PRIME CONTRACTOR: _____ C.O.R. NO.: _____

NUMBER OF DAYS REQUESTED FOR CONTRACT EXTENTION: _____ DATE: _____

DESCRIPTION OF CHANGE: _____

**PRIME CONTRACTOR DIRECT COSTS
 ADDITIONS**

| | | | |
|---|---------------------------|----------------------|-------------------------------------|
| A | Material & Equipment | <input type="text"/> | |
| B | Labor | <input type="text"/> | |
| C | Subtotal of Additive Cost | | <input type="text" value="\$0.00"/> |

DEDUCTIONS (use minus sign for all deduct figures)

| | | | |
|---|----------------------------|----------------------|-------------------------------------|
| D | Material & Equipment | <input type="text"/> | |
| E | Labor | <input type="text"/> | |
| F | Subtotal of Deductive Cost | | <input type="text" value="\$0.00"/> |

G Contractor's Total Direct Cost (C+F)

H Prime Contractor's Mark-up

Line "H" mark-up is calculated in accordance with Article 7 of the General Conditions of the Contract for Construction. Mark-up percentages applied to the line "G" subtotal are as follows: Not to exceed 15% on first \$50,000, 10% on balance beyond \$50,000, 6% for credits.

I Total Prime Contractor Direct Costs + Mark-up (Line G + H)

J Total Subcontractor Direct Costs

*(Note: If there are two or more subcontractors for this change item, then use a separate form for each subcontractor.)
 Sum of Lines "I" and "L" from Subcontractor Change Order Request Summary 012620*

K Subcontractor Mark-up

Sum of Lines "J", "M", "N" and "O" from Subcontractor Change Order Request Summary 012620

L General Contractor's Mark-up on Subcontractor Direct Costs

Line "L" mark-up is calculated in accordance with Article 7 of the General Conditions of the Contract for Construction. Mark-up percentages applied to the line "J" subtotal are as follows: Not to exceed 5% on first \$50,000, 3% on balance beyond \$50,000, 4% for credits.

M Total Prime Contractor Change Request (Line I + J + K + L)

Note: Include detailed breakdown of material, labor and equipment cost for each trade using Sections 012611 and 012621. Refer to AIA Document A201 General Conditions of the Contract for Construction, Article 7.

| | |
|---|------------|
| <i>To the best of my knowledge and belief, I certify that all costs listed above are correct.</i> | |
| Contractor Name _____ | Date _____ |
| Contractor Signature _____ | |

SECURITY OFFICE EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 012620.1 - SUBCONTRACTOR CHANGE ORDER REQUEST WORKSHEET

SUBCONTRACTOR: _____

C.O.R. NO.: _____

DATE: _____

Complete and attached this Worksheet to Section 012620 - Subcontractor Change Order Request Summary.

**SUBCONTRACTOR DIRECT COSTS
 ADDITIONS**

| | DESCRIPTION | MATERIAL & EQUIPMENT | | | LABOR | | | TOTAL |
|----|------------------------|----------------------|------|---------------|-------|---------|---------------|---------------|
| | | QTY | COST | SUBTOTAL | HRS | RATE/HR | SUBTOTAL | |
| 1 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 2 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 3 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 4 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 5 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 6 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 7 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 8 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 9 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 10 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| | ADDITIONS TOTAL | | | \$0.00 | | | \$0.00 | \$0.00 |

DEDUCTIONS

| | DESCRIPTION (Use minus sign for all deduct dollar figures) | MATERIAL & EQUIPMENT | | | LABOR | | | TOTAL |
|----|--|----------------------|----------|---------------|-------|-------------|---------------|---------------|
| | | QTY | COST (-) | SUBTOTAL | HRS | RATE/HR (-) | SUBTOTAL | |
| 1 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 2 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 3 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 4 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 5 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 6 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 7 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 8 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 9 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| 10 | | | | \$0.00 | | | \$0.00 | \$0.00 |
| | DEDUCTIONS TOTAL | | | \$0.00 | | | \$0.00 | \$0.00 |

| | |
|---|---------------|
| GRAND TOTAL (Additions & Deductions) | \$0.00 |
|---|---------------|

SECTION 012620 - SUBCONTRACTOR CHANGE ORDER REQUEST SUMMARY

SUBCONTRACTOR: _____ C.O.R. NO.: _____
 NUMBER OF DAYS REQUESTED FOR CONTRACT EXTENTION: _____ DATE: _____
 DESCRIPTION OF CHANGE: _____

SUBCONTRACTOR DIRECT COSTS

ADDITIONS

| | | | |
|---|---------------------------|----------------------|-------------------------------------|
| A | Material & Equipment | <input type="text"/> | |
| B | Labor | <input type="text"/> | |
| C | Subtotal of Additive Cost | | <input type="text" value="\$0.00"/> |

DEDUCTIONS (use minus sign for all deduct figures)

| | | | |
|---|----------------------------|----------------------|-------------------------------------|
| D | Material & Equipment | <input type="text"/> | |
| E | Labor | <input type="text"/> | |
| F | Subtotal of Deductive Cost | | <input type="text" value="\$0.00"/> |

G Subcontractor's Total Direct Cost (C+F)

H Subcontractor's Mark-up

Line "H" mark-up is calculated in accordance with Article 7 of the General Conditions of the Contract for Construction. Mark-up percentages applied to the line "G" subtotal are as follows: Not to exceed 15% on first \$50,000, 10% on balance beyond \$50,000, 6% for credits.

I **Total Subcontractor Direct Costs + Mark-up** (Line G + H)

J Total of all Sub-subcontractor Direct Costs

K Sub-subcontractor Mark-up

Line "K" mark-up is calculated in accordance with Article 7 of the General Conditions of the Contract for Construction. Mark-up percentages applied to the line "J" subtotal are as follows: Not to exceed 15% on first \$50,000, 10% on balance beyond \$50,000, 6% for credits.

L Subcontractor's Mark-up on Sub-subcontractor Direct Costs

Line "L" mark-up is calculated in accordance with Article 7 of the General Conditions of the Contract for Construction. Mark-up percentages applied to the line "J" subtotal are as follows: Not to exceed 5% on first \$50,000, 3% on balance beyond \$50,000, 4% for credits.

M **Total Subcontractor Change Request** (Line I + J + K + L)

Note: Include detailed breakdown of material, labor and equipment cost for each trade using Section 012621. Refer to AIA Document A201 General Conditions of the Contract for Construction, Article 7.

| | |
|---|------------|
| <i>To the best of my knowledge and belief, I certify that all costs listed above are correct.</i> | |
| Contractor Name _____ | Date _____ |
| Contractor Signature _____ | |

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 012910 "Payroll Verification Affidavit" to be completed and attached to each application for payment.
 - 4. Section 012911 "Partial Release of Liens" to be completed and attached to each application for payment.
 - 5. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703.
 3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
 - a. Differentiate between items stored on-site and items stored off-site.
 5. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 6. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
 7. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
 - 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Use Section 012911 – “Partial Release of Liens” of the Project Manual.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 5. Products list (preliminary if not final).
 6. Sustainable design action plans, including preliminary project materials cost data.
 7. Schedule of unit prices.
 8. Submittal schedule (preliminary if not final).
 9. List of Contractor's staff assignments.
 10. List of Contractor's principal consultants.
 11. Copies of building permits.
 12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 13. Initial progress report.
 14. Report of preconstruction conference.
 15. Certificates of insurance and insurance policies.
 16. Performance and payment bonds.
 17. Data needed to acquire Owner's insurance.
 18. Copies of Initial Project Workforce Report.
 19. Copies of Monthly Workforce Tracking.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706.
 5. AIA Document G706A.
 6. AIA Document G707.
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.
 10. Letter on Contractor's letterhead stating that all Workforce Tracking forms and Weekly Certified Payroll Records have been submitted to the proper recipients.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 012910 - PAYROLL VERIFICATION AFFIDAVIT

State of New Jersey

County of _____

_____ being duly sworn, on its oath deposes and says:

I swear that the payroll on the Project indicated below,

under contract with _____ (Owner) and for the payroll period indicated, was fully paid and that nothing is due and owing to any worker thereunder, and that the wages paid were, in no case, less than the applicable wage rates contained in the wage determination decision of the Secretary of Labor of New Jersey, and that the job classification for each worker conformed to the actual work he/she performed.

In addition, I have submitted to the Owner for their files one copy of all weekly-certified payroll records for this pay period.

The above statement applies in full to all of the sub-contractors under this contract.

Project Name & Location: _____

Pay Period: _____

Contract No. _____ - _____ (Name)

Contractor _____

BY: _____

TITLE: _____

Subscribed and sworn to before me this

_____ day of _____, 20_____.

State of _____

Notary Public: _____

My commission expires _____, 20_____.

END OF SECTION 012910

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 012911 - PARTIAL RELEASE OF LIENS

STATE OF NEW JERSEY

I, _____ of _____ (Municipality)
in the County of _____ and the State of _____
_____ of full age, being duly sworn according to law
on my oath depose and say:

I am _____ (Title)
of the firm of _____

(strike two of the three options below, which do not apply)

1. (Prime Contractor _____)
2. (Subcontractor to _____)
3. (Material supplier to _____)

in connection with construction of the _____

(Project name and location)

To be completed by Prime Contractor

To the date hereof, all labor and/or material(s) installed, including all applicable sales or use taxes furnished for this project has been fully paid for, and there are no sums due or to become due therefore, except as follows:

All labor directly employed by us for this project has been fully paid as of the date of our last payroll period

_____ (Date), except as follows:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

To be completed by Prime Contractor

To the date hereof, all labor and/or material(s) installed, including all applicable sales or use taxes furnished for this project has been fully paid for, and there are no sums due or to become due therefore, except as follows:

To be completed by Subcontractor and/or Material Supplier

All labor directly employed by us for this project has been fully paid as of the date of our last payroll period

_____ (Date), except as follows:

All withholding, Social Security, or Unemployment Taxes, all Union benefits and Welfare Funds, all Workman's Compensation, Public Liability, and accumulations of Withholding taxes are separately deposited in trust funds.

This affidavit is made with the full knowledge that _____
_____ (Owner)

relies hereon in making partial (final) payment \$ _____
(Amount of payment) to us for labor and or material furnished and installed for the project named herein.

By: _____ L.S.

*(SEAL IF BIDDER
IS A CORPORATION)

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

Subscribed and sworn to before me this

_____ day of _____, 20_____.

State of _____

Notary Public: _____

My commission expires _____, 20_____.

END OF SECTION 012911

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SECTION 012920-BILL OF SALE/CERTIFICATION FOR STORED MATERIAL
2
3

4 OWNER: _____

5 CONTRACTOR: _____
6

7 IN ACCORDANCE WITH THE CONTRACT DOCUMENTS on the above Project, the Owner
8 has allowed the Contractor to purchase materials and/or equipment in advance of the time
9 required for the installation of said materials and/or equipment and to requisition the Owner for
10 payment of such material and/or equipment properly stored. The following is mutually agreed:
11

- 12 1. The Contractor certifies that he/she is the legal owner of the materials and/or equipment
13 listed below and provides the Owner with a certificate of insurance naming the Owner as
14 loss beneficiary for the full dollar amount representing the materials stored.
15
- 16 2. The Contractor agrees to transfer to the Owner the materials and/or equipment listed
17 below and to transfer all rights, title and interest therein to the Owner.
18
- 19 3. The materials and/or equipment listed below has been properly stored where listed below
20 and has been designated by a tag or other appropriate notice affixed thereto stating:
21
- 22 4. Nothing in these provisions shall be construed as relieving the Contractor from the sole
23 responsibility for the care, custody and protection of such materials and/or equipment or
24 as a waiver of the right of the Owner to require fulfillment of all terms and conditions of
25 the Contract Documents.
26
- 27 5. When materials and/or equipment are stored off the Project Site, the Contractor certifies
28 that such materials and/or equipment, listed below, are fully insured against the perils of
29 fire, theft, extended coverage, vandalism and malicious mischief.
30
- 31 6. The Owner and Architect reserve the right to inspect materials and/or equipment,
32 wherever stored, at their convenience during normal working hours.
33
- 34 7. The cost and expense, if any, involved in the storage and/or delivery to the Project Site
35 will be borne by the Contractor.
36

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 LIST OF MATERIALS AND/OR EQUIPMENT STORED:

2

| 3 | <u>ITEM</u> | <u>DESCRIPTION</u> | <u>QUANTITY</u> | <u>TOTAL VALUE</u> |
|---|-------------|--------------------|-----------------|--------------------|
| 4 | 1. | | | |
| 5 | 2. | | | |
| 6 | 3. | | | |
| 7 | 4. | | | |
| 8 | 5. | | | |
| 9 | | | | |

10
11 PLACE AND METHOD OF STORAGE:

12

| <u>LOCATION</u> | <u>STORED BY</u> | <u>PROTECTED BY</u> |
|--|---------------------------------------|---|
| <input type="checkbox"/> Warehouse | <input type="checkbox"/> Contractor | <input type="checkbox"/> Building Cover |
| <input type="checkbox"/> Storage Yard | <input type="checkbox"/> Distributor | <input type="checkbox"/> Plastic Cover |
| <input type="checkbox"/> On Project Site | <input type="checkbox"/> Manufacturer | <input type="checkbox"/> Not Required |

13
14
15 NAME AND ADDRESS OF PARTY STORING MATERIALS AND/OR EQUIPMENT

16
17 NAME: _____

18 ADDRESS: _____

19 CITY, STATE, ZIP: _____

20
21 BILL OF SALE:

22
23 In consideration of the sum or sums listed above in lawful money of the United States to be paid
24 as provided in the Contract Documents, The Contractor does grant and convey unto the Owner
25 title of ownership of all materials and/or equipment listed above to have and to hold the same
26 unto the Owner forever.

27
28 The Contractor does, for himself/herself, his/her successors and assigns covenant and agree to
29 warrant and defend the sale of the above listed materials and/or equipment hereby sold unto the
30 Owner, against all claims or any claims or any person or persons whomsoever.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1 SWORN TO AND SUBSCRIBED _____
2 Contractor

3 BEFORE ME THIS _____ DAY
4 OF _____, 20_____. By: _____
5 Name

6 _____
7 Notary Public of the State of
8 New Jersey. _____
9 Title

10 My Commission Expires: _____
11 _____
12 Date
13
14

15
16
17
18

19 Accepted for Project Owner:
20
21 _____
22 Signature Title Date
23
24

25 END OF SECTION 012920

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.

6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor-control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
9. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Submittal Format: Submit or post coordination drawing files using PDF format.
2. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of that can be obtained from the Architect.

1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Each Request for Information shall be limited to a single subject of inquiry.
 2. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 3. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed and when it is needed. Contractor shall provide their own interpretation or understanding of the requirement along with their reasons for how they reached such an understanding. Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Potential cost impact & potential estimate.
 14. Potential time impact & potential delay.
 15. Change order required.
 16. Date response needed.
 17. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Use Contractor's Request for Information included at end of Part 3.
1. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action and shall not be entered into the RFI Log:
 - a. Requests for approval of submittals.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 working days of receipt of the RFI response. Failure to provide such written notice shall waive the Contractor's right to seek additional time or cost.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's will be provided by Architect for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
3. Contractor shall execute a data licensing agreement in the form of Electronic Files Indemnification form provided by the Architect.
 - a. Subcontractors, and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of Electronic Files Indemnification form provided by the Architect.

1.9 PROJECT MEETINGS

- A. General: Architect will schedule and conduct] meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of 10 working days prior to meeting.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Contractor(s) and Architect, within three days of the meeting.
4. Contractor Progress Status Report: Prime Contractors shall distribute their progress report at each meeting to all invited attendees. Copy of form is included at end of Part 3.

- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 5 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Permits.
 - d. Phasing.
 - e. Critical work sequencing and long lead items.
 - f. Designation of key personnel and their duties.
 - g. Lines of communications.
 - h. Procedures for processing field decisions and Change Orders.
 - i. Procedures for RFIs.
 - j. Procedures for testing and inspecting.
 - k. Procedures for processing Applications for Payment.
 - l. Distribution of the Contract Documents.
 - m. Submittal procedures.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- n. Preparation of Record Documents.
 - o. Use of the premises and existing building]
 - p. Work restrictions.
 - q. Working hours.
 - r. Owner's occupancy requirements.
 - s. Responsibility for temporary facilities and controls.
 - t. Procedures for moisture and mold control.
 - u. Procedures for disruptions and shutdowns.
 - v. Construction waste management and recycling.
 - w. Parking availability.
 - x. Office, work, and storage areas.
 - y. Equipment deliveries and priorities.
 - z. First aid.
 - aa. Security.
 - bb. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 10 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Procedures for completing and archiving web-based Project software site data files.
 - d. Submittal of written warranties.
 - e. Requirements for preparing operations and maintenance data.
 - f. Requirements for delivery of material samples, attic stock, and spare parts.
 - g. Requirements for demonstration and training.
 - h. Preparation of Contractor's punch list.
 - i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - j. Submittal procedures.
 - k. Coordination of separate contracts.
 - l. Owner's partial occupancy requirements.
 - m. Installation of Owner's furniture, fixtures, and equipment.
 - n. Responsibility for removing temporary facilities and controls.
 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- E. Progress Meetings: Architect will conduct progress meetings at bimonthly intervals or as deemed necessary by the Architect.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
 4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of RFIs.
 - 14) Proposal Requests.
 - 15) Change Orders.
 - 16) Pending changes.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

CONTRACTOR REQUEST FOR INFORMATION

FROM: _____

REQUEST DATE: _____ EMAIL _____

CONTRACTOR'S RFI NUMBER: _____

TO:
Scott Charles England, AIA
REGAN YOUNG ENGLAND BUTERA, PC
Fax: (609) 265-0333

Email: sce@ryebread.com

REFERENCES (List all applicable drawings & specifications):

PLEASE RESPOND TO THE FOLLOWING:

POTENTIAL COST IMPACT & POTENTIAL ESTIMATE: _____

POTENTIAL TIME IMPACT & POTENTIAL DELAY: _____

CHANGE ORDER REQUIRED: Yes No

DATE RESPONSE NEEDED: _____

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

DESIGN PROFESSIONAL'S RESPONSE:

DATE OF RESPONSE: _____ BY: _____

DISTRIBUTION: _____

Note: This reply is not an authorization to proceed with work involving additional cost, time or both. If any reply requires a change to the Contract Documents, a Change Order, Construction Change Directive, or a Minor Change in the work must be executed in accordance with the Contract Documents.

CONTRACTOR PROJECT STATUS REPORT

(To be submitted at each Job Meeting)

CONTRACTOR: _____ DATE _____

EST. % OF COMPLETION: _____ CONFORMANCE W/ SCHED(+,=,-): _____

WORK IN PROGRESS: (List main work items and % completion for each item)

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

H. _____

PROJECTED WORK: (List only what you expect to perform in the next two weeks & include % of completion for each item)

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

POINTS OF RECORD: (be brief)

A. _____

B. _____

C. _____

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Informational submittals.
 - 2. Coordination.
 - 3. Startup construction schedule.
 - 4. Contractor's Construction Schedule.
 - 5. Construction schedule updating reports.
 - 6. Gantt-chart schedule requirements.
 - 7. Reports.
 - 8. Daily construction reports.
 - 9. Material location reports.
 - 10. Site condition reports.
 - 11. Unusual event reports.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. PDF file.
- B. Startup construction schedule.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Maximum sheet size 8 1/2 x 11. Multiple sheets are acceptable.
- D. Construction Schedule Updating Reports: Submit with Applications for Payment.
- E. Daily Construction Reports: Submit at weekly intervals.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- F. Material Location Reports: Submit at weekly intervals.
- G. Site Condition Reports: Submit at time of discovery of differing conditions.
- H. Unusual Event Reports: Submit at time of unusual event.
- I. Qualification Data: For scheduling consultant.

1.4 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion and final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 2 days, unless specifically allowed by Architect.
 - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 - 4. Startup and Testing Time: Include no fewer than 5 days for startup and testing.
 - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 6. Punch List and Final Completion: Include not more than 10 days for completion of punch list items and final completion.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use-of-premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 4. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Fabrication.
 - e. Sample testing.
 - f. Deliveries.
 - g. Installation.
 - h. Tests and inspections.
 - i. Adjusting.
 - j. Curing.
 - k. Startup and placement into final use and operation.
 5. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- F. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.
- G. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 1. Unresolved issues.
 2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
 5. Pending modifications affecting the Work and the Contract Time.
- H. Contractor's Construction Schedule Updating: At monthly intervals, When requested by the Architect, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- I. Recovery Schedule: When periodic update indicates the Work is 5 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- J. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1.6 STARTUP CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within seven days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1.7 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 7 days of date established for the Notice to Proceed.
 1. Base schedule on the startup construction schedule and additional information received since the start of Project.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 5 percent increments within time bar.

1.8 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Testing and inspection.
 - 8. Accidents.
 - 9. Meetings and significant decisions.
 - 10. Unusual events.
 - 11. Stoppages, delays, shortages, and losses.
 - 12. Meter readings and similar recordings.
 - 13. Emergency procedures.
 - 14. Orders and requests of authorities having jurisdiction.
 - 15. Change Orders received and implemented.
 - 16. Construction Change Directives received and implemented.
 - 17. Services connected and disconnected.
 - 18. Equipment or system tests and startups.
 - 19. Partial completions and occupancies.
 - 20. Substantial Completions authorized.

- B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
 - 1. Material stored prior to previous report and remaining in storage.
 - 2. Material stored prior to previous report and since removed from storage and installed.
 - 3. Material stored following previous report and remaining in storage.

- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- D. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
1. Submit unusual event reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs and/or videos.
- B. Related Requirements:
 - 1. Section 024116 "Structural Demolition" for photographic documentation before demolition operations commence.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and/or video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs and/or Video Recordings: Submit image files within seven days of recording.
 - 1. Submit photos on CD-ROM or thumb-drive. Include copy of key plan indicating each location and direction.
 - 2. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name of Architect.
 - c. Name of Contractor.
 - d. Date photograph was taken.
 - e. Description of location, vantage point, and direction.
 - f. Unique sequential identifier keyed to accompanying key plan.

1.4 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels, and with vibration-reduction technology. Use flash in low light levels or backlit conditions.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full high-definition mode with vibration-reduction technology. Provide supplemental lighting in low light levels or backlit conditions.
- C. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
- D. Metadata: Record accurate date and time from camera.
- E. File Names: Name media files with date, Project area and sequential numbering suffix.

1.5 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Preconstruction Photographs: Before Prior to the start of any work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
 - 1. Show existing conditions of all rooms, corridors, stair towers, elevators, restrooms and other spaces effected by the Work.

1.6 CONSTRUCTION VIDEO RECORDINGS

- A. Video Recording Photographer: Engage a qualified videographer to record construction video recordings.
- B. Preconstruction Video Recording: Before starting Prior to the start of any work, record video recording of Project site and surrounding properties from different vantage points.
 - 1. Show existing conditions of all rooms, corridors, stair towers, elevators, restrooms and other spaces effected by the Work.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
- 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
- 2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
- 3. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
- 4. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
- 5. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
- 6. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
- 7. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
- 8. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal Category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Architect.
 4. Name of Contractor.
 5. Name of firm or entity that prepared submittal.
 6. Names of subcontractor, manufacturer, and supplier.
 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
 8. Category and type of submittal.
 9. Submittal purpose and description.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 11. Drawing number and detail references, as appropriate.
 12. Indication of full or partial submittal.
 13. Location(s) where product is to be installed, as appropriate.
 14. Other necessary identification.
 15. Remarks.
 16. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Paper Submittals (*Only for submittals that require an original signature and/or raised seal*):
1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
 2. Provide a space approximately **6 by 8 inches (150 by 200 mm)** on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect, will return two copies.
 4. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 5. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using Submittal Transmittal Form found at the end of Part 3.
- E. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
1. Transmittal Form for Electronic Submittals: Use Submittal Transmittal Form found at the end of Part 3.

1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include an executed PDF of the Submittal Transmittal Form. Include information in email subject line as requested by Architect.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 - 5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
 - 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 - 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 - 4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Paper Transmittal: Include paper transmittal including complete submittal information indicated.
 - 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 - 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 - 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal by signing each Submittal Transmittal Form with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return it]
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SUBMITTAL TRANSMITTAL FORM

PRIME CONTRACTOR'S
SUBMITTAL NO.

DATE:

PRIME CONTRACTOR:

SUBCONTRACTOR:

SUPPLIER:

MANUFACTURER:

ITEM: (Be Specific)

SPEC SECTION:

DRAWING NO.:

NO. OF COPIES:

As, the above named PRIME CONTRACTOR we affirm that we have checked this submission for conformance with the design concept of the Project and with the Contract Documents; that the Contract Document requirements have been met and that we have verified all dimensions, conditions, and quantities as shown and/or corrected on this submittal; that the submittal will not cause conflict with or increase cost to other Prime Contractors or the Owner; and that all previous applicable changes made in the Project by Change Orders or other directives have been properly shown on each submittal affected.

Architect/Engineer Action Stamp

By: _____

Title: _____

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 013310 - PROJECT START-UP SUBMITTALS

Submit copies of the following to the Architect immediately after the issuance of the Contract. This form is an internal form used by REGAN YOUNG ENGLAND BUTERA and shall be used only as a guide for submissions by the Contractor. Additional items not included on this list may be required at the discretion of the Architect or as referenced in their individual sections.

CONTRACTOR: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

| <u>ITEM</u> | <u>DATE RECEIVED</u> |
|--|----------------------|
| O Contract | _____ |
| O Performance Bond & Payment Bond | _____ |
| P Insurance Certificate | _____ |
| O Notice to Proceed | _____ |
| P Contractor's Certification of Subcontractor(s) Insurance Coverage's | _____ |
| P Copies of Permits | _____ |
| P Schedule of Values | _____ |
| P Initial Workforce Report (Affirmative Action) | _____ |
| P Required Cuts (see indiv. spec sections) | _____ |
| P Construction Schedule | _____ |
| P List of Subcontractors | _____ |
| P List of Manufacturers/Suppliers | _____ |
| P List of Contractor's Staff Assignments | _____ |
| Digital copy of preconstruction photographs and/or videos (disk or thumb drive) | _____ |

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

O – Three Original copies required.
P – PDF copy required.

END OF SECTION 013310

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of [five] <Insert number> previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- I. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect[or Construction Manager].

1.4 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.6 ACTION SUBMITTALS

- A. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.7 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

- F. Reports: Prepare and submit certified written reports and documents as specified.
- G. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed] and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
 - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, telephone number, and email address of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.10 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.11 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Engage a qualified testing agency to perform quality-control services.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.12 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.
1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.
- E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. HVAC system isolation schematic drawing.
 - 3. Location of proposed air-filtration system discharge.
 - 4. Waste-handling procedures.
 - 5. Other dust-control measures.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
- B. Signage: Provide signage attached at 50 feet intervals advising "Construction Area – Keep Out".
- C. Orange Safety Fencing: Provide around the entire area of any and all earthwork, excavations, etc. and shall be maintained until the work is complete.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- F. Telephone Service: Provide Job Forman with cell phone.

3.4 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Temporary storage shall not be located within 30 feet (9 m) of building lines.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
- E. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Maintain and touch up signs so they are legible at all times.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution" and Sections 017419 "Construction Waste Management and Disposal."

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.

2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
2. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
3. Indicate methods to be used to avoid trapping water in finished work.
 - a. Air manufactured moisture level within [48] <Insert time period> hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. entrances, as required by authorities having jurisdiction.
 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

SECTION 015526 - MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 GENERAL

1.1 RELATED WORK

- A. Section 017413: Cleaning and Restoration for Sitework.

1.2 DESCRIPTION

- A. Provide for maintenance and protection of traffic as specified herein and in the Standard Specifications, latest revisions.
- B. Before beginning work on any phase of the project, furnish and install all construction signs, barricades, traffic guides, lights and other devices necessary to protect the public during construction.
- C. Do not occupy with equipment, materials or personnel any roadway or sidewalk areas within or adjacent to the project that is open to traffic except as necessary during actual working hours.
- D. Repair any damage to newly constructed or existing pavements as directed by ARCHITECT, at CONTRACTOR's expense, or repair will be made by others and cost of such repairs will be charged against CONTRACTOR.

1.3 REFERENCE STANDARDS

- A. U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Control Devices for Streets and Highways, current edition. (MUTCD)

1.4 SUBMITTALS

- A. All submittals shall be submitted through the Architect.
- B. Traffic Control Plan:
 - 1. Within ten (10) days after Notice to proceed and before work on the project begins, submit a Traffic Control Plan for the maintenance and protection of traffic.
 - 2. Show type and location of barricades, lights, cones, barrels, signs and other devices.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

- C. Copies of all notices as specified herein.
- D. Name, address, phone number and contact person supplying traffic control devices.

1.5 PROJECT CONDITIONS

- A. Except as necessary during actual working hours, and then only with the specified authorization of the ARCHITECT or jurisdictional authority, the CONTRACTOR shall not occupy with his equipment, materials or personnel any roadway or sidewalk area within or adjacent to the project that is open to traffic.
- B. No equipment or machinery having caterpillar or other heavy treads that mar or damage pavements shall be permitted to move over or operate from newly constructed or existing pavements unless such equipment or machinery is moved on suitable pontoons or trailers or operated on heavy planking or other suitable platforms.
- C. The CONTRACTOR shall provide for prompt removal from the existing roadways of all dirt and other materials that have been spilled, washed, tracked or otherwise deposited thereon by his hauling and other operations whenever the accumulation is sufficient to cause the formation of mud, interfere with drainage, damage pavements, create a traffic hazard or dust condition.
- D. The CONTRACTOR shall cease work in existing roads when snow is imminent. The CONTRACTOR is responsible for snow removal within the limits of the construction fencing. The CONTRACTOR shall make suitable provisions to mark the location of equipment and all other obstructions in the event of deep snow.
- E. The requirements of the agency having jurisdiction over the roadways in which the CONTRACTOR is working shall govern.
- F. The CONTRACTOR may be required to provide, in addition to flagmen, uniformed traffic officers to fulfill the expressed needs of the owner, municipality, or any governmental agency having jurisdiction and shall contact the same to determine their requirements.
- G. During any suspension of the work, the CONTRACTOR shall make passable and shall open to traffic such portions of the project and temporary roadways or portions thereof as may be agreed upon between the CONTRACTOR and the ARCHITECT and the jurisdictional authority for the temporary accommodation of necessary traffic during the anticipated period of suspension. When work is resumed, the CONTRACTOR shall replace or renew all work or materials lost or damaged because of such temporary use of the project in every respect as though its prosecution had been continuous and without interference.

PART 2 PRODUCTS

MAINTENANCE & OPERATIONS BUILDING
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

2.1 GENERAL

- A. Materials may be new or used but must be suitable for the intended purpose and must not violate requirements of applicable codes and standards.

2.2 CONES

- A. Cones shall conform to Part 6, Section 6F.59 of the MUTCD.
- B. Cones shall be a minimum of 18" high and be reflectorized.
- C. Cones shall be kept clean and bright for maximum target value. Cones shall be orange in color. Rubber cones shall be painted at the place of manufacture. Plastic cones shall be polyvinyl chloride with the color molded into the plastic.

2.3 DRUMS

- A. Drums shall conform to Part 6, Section 6F.62 of the MUTCD.
- B. Drums shall be 36" high 18" diameter with horizontal, circumferential, orange and white reflectorized stripes, 4" to 8" wide.

2.4 BARRICADES

- A. Barricades shall be Type I, Type II and Type III conforming to Part 6, Section C-8 with characteristics as follows:

| BARRICADE CHARACTERISTICS | | | |
|----------------------------------|----------------|----------------|----------------|
| TYPE* | | | |
| | I | II | III |
| Width of rail | 8" min-12" max | 8" min-12" max | 8" min-12" max |
| Length of rail | 2 ft. minimum | 2 ft. minimum | 4 ft. minimum |
| Width of stripes** | 6 inches | 6 inches | 6 inches |
| Height | 3 ft. minimum | 3 ft. minimum | 5 ft. minimum |

MAINTENANCE & OPERATIONS BUILDING
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

| | | | |
|------------------------------------|------------------------|------------------------|---|
| Number of Reflectorized Rail Faces | 2 (one each direction) | 4 (two each direction) | 3 if facing in one direction; 6 if facing in two directions |
|------------------------------------|------------------------|------------------------|---|

* For wooden barricades nominal lumber dimensions will be satisfactory
 ** For rails less than 3 feet long, 4 inch wide stripes shall be used

2.5 LIGHTING DEVICES

- A. Lighting devices shall conform to Part 6, Section 6F.75 of the MUTCD and be as specified herein.
- B. Batteries: Storage batteries or other bulk power sources, not part of a monolithic flasher unit shall be located as far as practicable from the traveled way and at ground level. Single flasher and steady burning units with self-contained batteries shall weigh not more than seven (7) pounds and when located on traffic control devices shall be securely fastened with the bottom tangent of the lens at 36 inches above the existing ground level. Battery powered dual alternate flashers located on advance warning signs shall have the battery power source located as far as practicable from the traveled way and at ground level.
- C. Flashing Warning Lights

1. Low intensity flashing warning lights shall be installed on traffic control devices where specified elsewhere herein. Low intensity lights shall be battery operated yellow flashing lights with a one piece lens not less than seven inches in diameter. They shall flash at a rate of 55-75 flashes per minute and the flash duration shall be ten percent of each flash cycle. Light intensity shall not drop below ten candelas during the first 336 hours of continuous flashing as specified in ITE Standards Requirement 5.0, Paragraph 5.10, Section 1 of the ITE Standards for Flashing and Steady Burn Barricade Warning Lights. The lens shall be externally illuminated by reflex-reflection of the light from the headlights of the oncoming automotive traffic. Intensity when acting as a reflex-reflector shall be as in ITE Standard Requirement 5, Paragraph 5.30. If designed with a reflex reflector ring, the ring shall not be less than 1/2-inch in width around the periphery of the lens. Manufacturing design requirements shall conform to the ITE Standard as specified in the following requirements:

| | |
|-----------------------------------|------|
| Lens requirements..... | 6.00 |
| Head and Housing..... | 7.00 |
| Photoelectric Controls..... | 8.00 |
| Testing, Quality and Marking..... | 9.00 |

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

2. Low intensity flashing warning lights when used where specified shall be kept lighted as specified for steady burning lights.

D. Steady Burning Warning Lights

1. Steady burning lights shall be installed on traffic control devices where specified elsewhere herein. Steady burning lights shall have low wattage yellow electric lamps having a minimum of ten beam candle power. They may be self-contained units with batteries or may be operated with a portable electric generator or from available utility lines. When a circuit in excess of fifty volts is used and such circuits including the light units are within reach of a person who can make contact with the ground, they shall be equipped with an UL approved ground-fault circuit interrupter. Steady burning lights when used where specified shall be kept lighted from one hour before sunset until one hour after sunrise, and through all hours of fog, smog, and other adverse atmospheric conditions affording insufficient visibility for the safe operation of traffic.

2.6 PAVEMENT MARKINGS

- A. Temporary pavement markings shall be reflectorized plastic tape specifically designed for this purpose or traffic paint and glass beads conforming to the Standard Specifications. Color shall be yellow.
- B. Painted temporary pavement markings shall be completely dry before opening roadway to traffic.

2.7 TEMPORARY CONSTRUCTION SIGNS

- A. Temporary construction signs shall conform to Part 6, Section F of the MUTCD and be Regulatory, Warning or guide signs as appropriate as specified herein.

2.8 UNIFORMED TRAFFIC DIRECTORS

- A. Uniformed traffic directors shall be trained and of average intelligence, good physical condition, including sight and hearing, having a mental alertness, a courteous but firm manner, neat appearance and sense of responsibility for the safety of the public. Traffic directors shall wear an orange vest. This garment shall be reflectorized for nighttime operations.

PART 3 EXECUTION

3.1 GENERAL

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

- A. Keep the portion of the project being used by public traffic, whether it be through or local traffic, in such condition that pedestrian and vehicular traffic will be adequately and safely accommodated, both temporarily and permanently.
- B. Erect, and/or maintain in substantial manner and good condition striping, barricades, signs, lights, traffic signals, cones, and other warning and danger signals and devices, including flagmen and uniformed traffic directors, appropriate and adequate for the specific needs.
- C. Traffic control devices are to be provided at work site, closed roads, intersections, open excavations, locations of material storage, standing equipment and other obstructions, at points where usable traffic width of road is reduced, at points where traffic is diverted from its normal course or lanes, and other places of danger to vehicular or pedestrian traffic or to completed work.
- D. Establish, repair, replace and relocate signs, lights, warning and protective services as required.
- E. Do not permit equipment or machinery having Caterpillar or other heavy treads that mar or damage pavements to move over or to operate from newly constructed or existing pavement unless such equipment or machinery is moved on suitable pontoons or trailers.

3.2 EMERGENCY ACCESS

- A. All streets and building access points shall be maintained such that Emergency Vehicles and Personnel shall have complete 24 hour access.

3.3 PRIVATE DRIVEWAYS

- A. Notify owners of adjoining properties at least twenty-four (24) hours prior to beginning any work which will interfere with their passage.
- B. Provide means of access for pedestrian and vehicular traffic at all private driveways and occupied buildings affected by the work of this contract.
- C. During construction in the vicinity of driveways, access width at driveway entrance shall be plainly marked by lights and other devices as necessary.

3.4 DIVERSION OF TRAFFIC

- A. Any restriction or diversion of traffic at any time shall be subject to approval of the Local Police Department.
- B. Notify Municipal Police and Fire Departments at least twenty-four (24) hours prior to the closing of any roadway to traffic.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

- C. In accordance with the laws of 1983, c.84, the CONTRACTOR shall give seventy-two (72) hours notice (by the erection and maintenance of signs near the affected area) whenever a township road must be closed to vehicular traffic for a period of forty-eight (48) hours or more.
- D. In case of an emergency, "every effort shall be made to notify the public as soon as possible of the closing."

3.5 APPLICATION

A. Barricades

- 1. Type I and Type II Barricades:
 - a. Type I and Type II barricades shall be used when traffic is maintained through the area being constructed and/or reconstructed.
 - b. Type II barricades shall be used singly or in groups to mark a specific hazard or they may be used in a series for channelizing traffic.
- 2. Type III Barricades
 - a. Type III barricades shall be erected at points of closure when a road section is closed to traffic.
 - b. Type III barricades may extend completely across a roadway and its shoulder or from curb to curb.
 - c. Type III barricades shall not be used on public thoroughfares without the written permission of the ARCHITECT and the authorities having jurisdiction.

B. Cones

- 1. Traffic cones shall be installed to channelize traffic during daylight hours only.

C. Drums

- 1. Drums shall be used to delineate the edge of a traveled way, lane changes, lane closures and other similar conditions such as to channelize traffic.
- 2. Drums may also be used to mark specific hazards.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

3. Drums shall not be weighted with sand, water or other materials to the extent that would make them hazardous to motorists.

D. Lighting Devices

1. During hours of darkness a flashing warning light shall be placed on drums or barricades used singly.
2. Steady burn warning lights shall be used on drums or barricades used in a series for Traffic Channelization.

3.6 UNIFORMED TRAFFIC DIRECTORS

- A. Uniformed traffic directors shall be provided when and where called for by the jurisdictional authority.
- B. The CONTRACTOR may, with the permission of the respective police department, secure the services of uniformed police officers to direct traffic in those parts of the project under the jurisdiction of the respective municipality.
- C. These directors shall be responsible and trained in their duties to direct pedestrian and vehicular traffic, shall act in conformance with the police department and while serving as traffic directors on this project, shall not be required to perform any other duties.
- D. Flagmen who are normally hired to do other work on the project during the same work period shall not be considered as uniformed traffic directors.
- E. When controlling traffic, uniformed traffic directors shall follow the procedures stipulated for flagmen in the MUTCD.

END OF SECTION

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for products selected under an allowance.
 - 2. Section 012500 "Substitution Procedures" for requests for substitutions.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual

characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.

- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications. Submit a comparable product request, if applicable.

1.4 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Architect's Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.

2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
3. See MPE specifications on drawings for additional identification requirements.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner for not less than two years.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Architect whose determination is final.

B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated]
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."
7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match existing or Architect's sample," provide a product that complies with requirements and matches existing conditions or Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 2. Evidence that proposed product provides specified warranty.
 3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 4. Samples, if requested.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Submittal Requirements: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

- B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
4. Section 024116 "Structure Demolition" for demolition and removal of selected portions of the building.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 PREINSTALLATION MEETINGS

- A. Cutting and Patching Conference: Conduct conference at Project site.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:
 - a. Contractor's superintendent.
 - b. Trade supervisor responsible for cutting operations.
 - c. Trade supervisor(s) responsible for patching of each type of substrate.
 - d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affecting by cutting and patching operations.
2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 3. Products: List products to be used for patching and firms or entities that will perform patching work.
 4. Dates: Indicate when cutting and patching will be performed.
 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.6 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Plumbing piping systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Communication systems.
 - h. Fire-detection and -alarm systems.
 - i. Electrical wiring systems.
 - j. Operating systems of special construction.
 - k. Access control and CCTV systems.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Fire barriers, partitions and walls.
 - d. Equipment supports.
 - e. Piping, ductwork, vessels, and equipment.
 - f. Noise- and vibration-control elements and systems.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings. If discrepancies are discovered, notify Architect promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of **96 inches (2440 mm)** in occupied spaces and **90 inches (2300 mm)** in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls".
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

SECTION 017413 - CLEANING AND RESTORATIONS FOR SITEWORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Related work specified elsewhere:
 - 1. General requirements for cleaning and restorations: See the General Conditions.
 - 2. Cleaning for specific products or work: Specification Section for that work.
- B. Maintain premises and public properties free from accumulations of waste, debris and rubbish caused by work operations.
- C. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials; clean all sight exposed surfaces; leave project clean and ready for occupancy.
- D. At completion of work, restore or replace, when and as directed by the ARCHITECT, any public or private property disturbed or damaged by CONTRACTOR's work operations to a condition at least equal to that existing prior to beginning work, or as otherwise specified. Materials shall be approved by the ARCHITECT.

PART 2 PRODUCTS

2.1 MATERIALS

- A. For temporary and permanent vegetative restoration, use the following materials. All materials shall conform to the applicable Sections of the New Jersey Soil Conservation Service (NJSCS) Standards for Soil Erosion and Sediment Control, and the applicable Sections of the Standard Specifications.
- B. Grass restorations: All grass restoration materials shall conform to the specification sections entitled, "Topsoiling," "Fertilizing and Seeding," and "Mulching."
- C. Pavement restorations: All paving materials shall conform to the Standard Specifications.
- D. Restoration of curbs and other concrete structures:
 - 1. Concrete:
 - a. Shall conform to Section 903.03 of the Standard Specifications.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

- b. Compressive Strength shall conform to specification Section entitled “Concrete for Sitework”.
- 2. Joint fillers: Section 914.01, bituminous cellular type.
- 3. Curing compound: Section 903.10, white-pigmented liquid.
- E. All other materials: As approved by the ARCHITECT or authorities having jurisdiction.

PART 3 EXECUTION

3.1 METHODS OF CONDUCTING WORK - CLEANING

- A. Requirements of regulatory agencies: Dispose of all solid waste materials (including concrete, blacktop, trees, stumps, unacceptable backfill material including heavy clay soils, organic materials, silts, rock) in permanently established licensed OSWA (Office of Solid Waste Administration, New Jersey Department of Environmental Protection) landfills, or in temporary landfill sites approved by OWSA.
- B. Safety requirements:
 - 1. Hazards control:
 - a. Store volatile wastes in covered metal containers, and remove from premises daily.
 - b. Prevent accumulation of waste which create a hazardous condition.
 - c. Provide adequate ventilation during use of volatile or noxious substances.
 - 3. Conduct cleaning and disposal operation to comply with local ordinances and anti-pollution laws:
 - a. Do not burn or bury rubbish and waste materials on project site.
 - b. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - c. Do not dispose of wastes into streams or waterways.
- C. Cleaning during construction:

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

1. Execute periodic cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish and windblown debris resulting from construction operations.
2. Provide on-site containers for the collection of waste materials, debris and rubbish.
3. Remove waste materials, debris and rubbish from site periodically and legally dispose at location provided by CONTRACTOR.

D. Dust control:

1. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
2. The CONTRACTOR shall employ construction methods and means that will keep flying dust to the minimum. He shall provide for the laying of water on the Project, and on roads, streets and other areas immediately adjacent to the Project limits, wherever traffic, or buildings that are occupied or in use, are affected by such dust caused by his hauling or other operations. The CONTRACTOR, shall control dust using calcium chloride, water or other materials approved by the ARCHITECT. If calcium chloride is used, the rate of application shall be approximately 1.5 pounds per square yard. The cost of carrying out the foregoing provisions shall be included in the prices bid for the various items in the Contracts.

The CONTRACTOR shall provide for prompt removal from existing roadways of all dirt and other materials that have been spilled, washed, tracked or otherwise deposited thereon by his hauling and other operations whenever the accumulation is sufficient to cause the formation of mud, interfere with drainage, damage pavements or create a traffic hazard.

E. Final cleaning:

1. Employ skilled workmen for final cleaning.
2. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
3. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
4. Remove all temporary buildings and structures built by CONTRACTOR, all temporary works; tools, machinery or other construction equipment furnished by him.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

5. Clean insides of manholes, valve boxes, inlets or other structures constructed, reconstructed or reset during CONTRACTOR's operations to remove debris, excess mortar of foreign materials.
6. Prior to final acceptance, CONTRACTOR shall conduct an inspection of all work areas to verify that the entire work is clean.

3.2 METHODS OF CONDUCTING WORK - RESTORATIONS

- A. General: All existing structures, unpaved areas and paved areas disturbed or damaged during the work under this Contract shall be restored or replaced to a condition at least equal to that existing prior to beginning work, or as otherwise specified. The methods of the following Sections of the Standard Specifications.
- B. For pavement and concrete restorations, use the following methods. All methods shall conform to the applicable Sections of the Standard Specifications.
 1. Bituminous pavement restoration: All methods shall conform to the Standard Specifications.
 2. Concrete curb restoration: All methods shall conform to Specification Section entitled "Concrete for Sitework".
- C. For temporary and permanent vegetative restoration, use the following methods. All methods shall conform to the applicable Sections of the New Jersey Soil Conservation Service (NJSCS) Standards for Soil Erosion and Sediment Control, and the applicable Sections of the Standard Specifications.
 1. Soil Erosion and Sediment Control Measures: All materials shall conform to Specification Section entitled "Temporary Soil Erosion and Sediment Control."
- D. Restorations of curbs and other concrete structures:
 1. Curbs: Section 607 of the Standard Specifications.
 2. Other concrete structures: Restore in accordance with applicable Articles of the Standard Specifications.
- E. All other restorations: Restore in accordance with applicable Articles of the Standard Specifications, or as approved by the ARCHITECT or authorities having jurisdiction.

END OF SECTION

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 INFORMATIONAL SUBMITTALS

- A. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- B. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Hazardous Waste: Remove, package, transport and dispose of all mercury thermostats, fluorescent light fixture ballasts containing polychlorinated biphenyls (PCBs), fluorescent light bulbs and all items containing lead cadmium batteries (such as exit signs and emergency lighting fixtures) and any other items classified as universal waste in accordance with the provisions of the regulations promulgated by the United States Environmental Protection Agency (40 CFR 273) and the New Jersey Department of Environmental Protection (N. J. A. C. 7:26A-7).

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas off Owner's property.
- C. Burning: Do not burn waste materials.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Submittals.
 - 2. Substantial Completion procedures.
 - 3. Final completion procedures.
 - 4. Punch lists.
 - 5. Warranties.
 - 6. Final cleaning.
 - 7. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
 - 5. Submit testing, adjusting, and balancing records.
 - 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.
 3. The Architect and their Consultants have in their Basic Scope of Services one punch list visit and one Final Completion inspection. If all outstanding work is not completed at the time of the Final Completion inspection, the Owner has the right to back charge the Contractor for their Professionals additional time.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
 5. Submit final completion photographic documentation.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 2. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
 - 3. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit by email to Architect.
- D. Warranties in Paper Form:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Remove snow and ice to provide safe access to building.
- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- h. Sweep concrete floors broom clean in unoccupied spaces.
- i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- k. Remove labels that are not permanent.
- l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with NADCA ACR. Provide written report on completion of cleaning.
- p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
- q. Leave Project clean and ready for occupancy.

- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 017710 - PROJECT CLOSEOUT SUBMITTALS

Submit one copy of the following to the Architect prior to Project closeout. This form is an internal form used by REGAN YOUNG ENGLAND BUTERA and shall be used only as a guide for submissions by the Contractor. Additional items not included on this list may be required at the discretion of the Architect or as referenced in their individual sections.

CONTRACTOR: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

| <u>ITEM</u> | <u>DATE RECEIVED</u> |
|--|----------------------|
| 1. P Cert. of Substantial Completion (G704)..... | _____ |
| 2. O/P Final App. For Payments (G702 & G703)..... | _____ |
| 3. O/P Affid. of Paymts. of Debts & Claims (G706) | _____ |
| 4. O/P Affid. of Release of Liens (G706A)..... | _____ |
| 5. O/P Consent of Surety to Final Payment (G707) | _____ |
| 6. O/P Maintenance Bond (Section 017721)..... | _____ |
| 7. O/P Subcontractor Guaranty (Section 017722). One for every sub- Contractor used on the Project..... | _____ |
| 8. O/P Statement on Business letterhead that all Monthly Workforce Tracking Reports and Weekly-Certified Payroll Records have been submitted to the Owner and the proper agencies..... | _____ |
| 9. O/P Certificate of Compliance on Business letterhead stating that materials and products meet specified standards or that work was done in compliance with approved construction documents..... | _____ |
| 10. P Operation & Maintenance Manuals. Manuals for each Trade, i.e. GC, Plumbing, HVAC, etc. shall have its own folder. Within that folder each Manual shall be titled w/ the "Item Name" and Manu- facturer's Name. Also provide an O&M Index, listing the Trade folder and what is in it by spec Division No. & item name..... | _____ |
| 11. P Copies of All Manufacturer Warranties (Refer to spec sections). Warranties for each Trade, i.e. GC, Plumbing, HVAC, etc. shall have its own folder. Within that folder each Warranty shall be titled w/ the "Item Name" & Manufacturers Name. Also provide an | _____ |

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

O&M Index, listing the Trade folder & what is in it by spec
Division No. and item name..... _____

12. P Extra "Attic Stock" Provide copy of transmittal to Owner
(see Project Manual Sections with ● adjacent to page # _____

13. P Certificate of Occupancy/Certificate of Approval _____

14. P Resolution of Punch List Items _____

O – Original paper copy required: These items shall be submitted together at one time.
P – PDF copy required: Submit one pdf copy of all closeout documentation as per the Section 017700 of the Project Manual on either a CD or thumb drive. Each item listed above shall be a separate pdf using the titles above.

Provide separate folders for each of the following on the CD or thumb drive:

- a. Close Out documents: 01 thru 09 of the attached Section 017710;
- b. Architectural O&Ms, warranties & record documents;
- c. HVAC O&Ms, warranties & record documents;
- d. Plumbing O&Ms, warranties & record documents; and
- e. Electrical O&Ms, warranties & record documents.

Final payment will not be made until all required closeout submittals have been received.

END OF SECTION 017710

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 017721 - MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned

as principal, and a _____

Corporation organized and existing under the laws of the

State of _____ and
duly authorized to do business in the State of New Jersey, as Surety, are held and firmly bound
unto the

as Owner, in the penal sum of _____

(10%) of the Final Contract Amount)

for payment of which, well and truly to be made, we hereby, jointly, and severally, bind
ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That whereas

the above named principal did on the _____ day of, _____

20_____, enter into a Contract with the Owner for

(Project Name)

which said Contract is made a part of this bond the same as though set forth herein.

NOW, if the said principal shall remedy without cost to the Owner any defects which may
develop during the TWO (2) year(s) guarantee period of the work performed under the said
Contract, provided such defects, in the judgment of the Owner are caused by defective or inferior
materials or workmanship, then this obligation shall be void, otherwise it shall be and remain in
full force and effect.

IT IS FURTHER AGREED that any alterations which may be made in the terms of the Contract
or in the work to be done or materials to be furnished or labor to be supplied or performed under
it, or the giving by the Owner of any extension of time for the performance of the Contract, or
any other forbearance on the part of either the Owner or the Principal to the other, shall not in
any way release the Principal and the Surety or Sureties, or either or any of them, their heirs,
executors, administrators, successors or assigns, from their liability hereunder, notice to the
Surety or Sureties of any such alterations, extension or forbearance being hereby waived.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under seal
the day and year written below.

BOND NUMBER: _____

Signed and sealed this _____ day of _____, 20_____.

(Principal) (Seal)

(Witness)

(Title)

(Surety) (Seal)

(Witness)

(Title)

END OF SECTION 017721

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 017722 – SUBCONTRACTOR GUARANTY

WHEREAS:

The Contractor, _____
has entered into a Contract with the Owner, _____
_____ for the construction of _____
_____ at _____

the Work.

AND WHEREAS:

The Subcontractor, _____
has entered into an agreement with the Contractor for the performance of a portion of said work.

NOW THEREFORE:

Pursuant to the terms of the Contract, the Contractor and the Subcontractor, for their heirs, executors, administrators, successors and assigns, jointly and severally guaranty

_____, the Item, as
described in the Specifications, Page(s) _____ through _____ for TWO (2) year(s), the
period, starting from _____ (date indicated in the Certificate of Substantial
Completion).

FURTHERMORE:

In addition to the requirements of the Conditions of the Contract requiring correction of the work within a period of TWO (2) year(s) from Date of Substantial Completion, the Contractor and the Subcontractor do hereby guaranty and warrant that they will make good and replace, at their own cost and expense, all defects appearing in the Item during the Period and be responsible for all damage caused to the Owner by such defects or by the work required to remedy such defects. All corrections to defective work shall be made at the convenience of the Owner and shall be performed in a good workmanlike manner.

IT IS UNDERSTOOD THAT:

This Guaranty shall in no way be construed to affect, in any manner, any of the provisions of the Contract or to modify or limit any of the obligations, liabilities or duties of the Contractor or Subcontractor.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

IT IS FURTHER UNDERSTOOD THAT:

This Guaranty shall remain binding and irrevocable during the Period and that the Contractor and the Subcontractor shall not contest the validity of, or in any way attempt to revoke or withdraw from this Guaranty for any cause whatsoever, whether arising before or after the execution of the Contract or this Guaranty.

IN WITNESS WHEREOF:

The undersigned Contractor and Subcontractor have caused this

Instrument to be signed and executed this _____ day

Of _____, 20_____.

Subcontractor

WITNESS:

BY: _____

TITLE: _____

Contractor

WITNESS:

BY: _____

TITLE: _____

END OF SECTION 017722

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit by email to Architect. Enable reviewer comments on draft submittals.
 - 2. Submit three paper copies. Architect will return two copies.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
 - 1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 - 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 - 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

E. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Product Data.
 - 3. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
 - 2. Number of Copies: Submit copies of record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files of scanned record prints and one of file prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned record prints and three set(s) of prints.
 - 2) Print each drawing, whether or not changes and additional information were recorded.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

c. Final Submittal:

- 1) Submit one paper-copy set(s) of marked-up record prints.
- 2) Submit record digital data files and three set(s) of record digital data file plots.
- 3) Plot each drawing file, whether or not changes and additional information were recorded.

B. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

C. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

D. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect.
- C. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
 1. Format: Annotated PDF electronic file with comment function enabled.
 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 3. Refer instances of uncertainty to Architect for resolution.
 4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- d. Name of Architect.
- e. Name of Contractor.

1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- C. Format: Submit record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.6 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up miscellaneous record submittals.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.7 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Attendance Record: For each training module, submit list of participants and length of instruction time.
- C. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.6 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
- d. Instructions for identifying parts and components.
- e. Review of spare parts needed for operation and maintenance.

1.7 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.8 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Owner will furnish an instructor to describe Owner's operational philosophy.
 - 2. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

SECTION 023000 - SUBSURFACE INVESTIGATION

PART 1 GENERAL

1.1 DESCRIPTION

- A. Subsurface investigation includes the excavation of test pits to ascertain the location of buried utilities or surface conditions.
- B. Before laying pipes or constructing any structure, the CONTRACTOR shall ascertain the location and grade of utility pipes and other subsurface structures which may interfere with such construction. Test pits shall be excavated wherever necessary to obtain the required information, subject to the approval of the ARCHITECT.

PART 2 PRODUCTS

No products are involved.

PART 3 EXECUTION

3.1 METHODS OF WORK

- A. The approximate location of known utility structures and facilities that may be encountered within and adjacent to the limits of the work are shown on the plans. The accuracy and completeness of this information is not guaranteed by the ARCHITECT, and the bidder is advised to ascertain for himself all the facts concerning the location of these utilities.
- B. The CONTRACTOR shall adhere to Section 105.07, Cooperation with Utilities, of the Standard Specifications regarding location of and construction around public utilities.
- C. All tests pits shall be backfilled with the material excavated. All backfill shall be thoroughly compacted in accordance with Specification Section entitled Site Excavation, Filling and Grading.
- D. The CONTRACTOR shall permit the owners of the utilities of their agents, access to the site of the work at all times, in order to relocate or protect their facilities, and he shall cooperate with them in performing this work.
- E. The CONTRACTOR shall cooperate with the utility owners concerned and shall notify them not less than ten (10) days in advance of the time he proposes to perform any work that will endanger or affect their facilities.

- F. The CONTRACTOR shall call 1-800-272-1000 for a utility mark-out prior to any excavation activities.

END OF SECTION

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

SECTION 024113 - SELECTIVE SITE DEMOLITION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications, apply to this section.
- B. Refer to Division 02 section "Selective Site Demolition" for demolition and removal of selected site improvements.

1.2 DESCRIPTION

- A. The work of this section includes:
 - 1. Demolition, removal and/or disposal of selected site elements as shown on the Plans including, but not limited to, buildings, bituminous and concrete pavement, concrete curb, structures and all other obstructions .
 - 2. Patching and repairs.

1.3 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the OWNER's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the OWNER's property. Remove, clean, and pack or create items to protect against damage. Identify contents of containers and deliver to OWNER's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the ARCHITECT, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in the original and/or new locations.

1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the OWNER's property, demolished materials shall become the

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

CONTRACTOR's property and shall be removed from the site with further disposition at the CONTRACTOR's option.

- B. Historical items indicated remain the OWNER's property. Carefully remove and salvage each item in a manner to prevent damage and deliver promptly to the OWNER.
- C. Historical items, relics, and similar objects including, but not limited to, cornerstones, and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to the OWNER, which may be encountered during selective demolition, remain the OWNER's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to the OWNER.

1.5 QUALITY ASSURANCE

- A. Engage an experienced firm that has successfully completed selective demolition work similar to that indicated for this project.
- B. Comply with governing NJDEP notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.6 PROJECT CONDITIONS

- A. The OWNER and the ARCHITECT assumed no responsibility for actual condition of site elements to be selectively demolished.
- B. Storage or sale of removed items or materials on-site will not be permitted.

1.7 SCHEDULING

- A. Arrange demolition schedule so as not to interfere with OWNER's on-site operations. Coordinate with schedule and phasing indicated elsewhere.

PART 2 PRODUCTS

2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

3.2 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
- B. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by OWNER and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to OWNER and to governing authorities. Provide not less than 48 hours' notice to OWNER if shutdown of service is required during changeover.
- C. Locate, identify, disconnect, and seal or cap off indicated utility services to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.

3.3 PREPARATION

- A. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.
 - 1. Erect temporary protection, such as walks, fences, railing, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 2. Protect existing site improvement, appurtenances, and landscaping to remain.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

3. Erect a plainly visible fence around drip line of individual trees of around perimeter drip line of groups of trees to remain.

3.4 POLLUTION CONTROLS

- A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

3.5 SELECTIVE DEMOLITION

- A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete work within limitation of governing regulation and as follows:
 1. Proceed with selective demolition systematically.
 2. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.
 3. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.
- B. Demolish concrete and masonry in smaller sections. Cut concrete and masonry at juncture with construction to remain, using power-driven saw or hand tools; do not use power-driven impact tools.
- C. Break up and remove concrete slabs on grade, unless otherwise shown to remain.
- D. Saw cut asphalt paving at juncture with construction to remain, using power driven asphalt saw.

3.6 PATCHING AND REPAIRS

- A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

MAINTENANCE & OPERATIONS BUILDING
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5561Aa

- B. Where repairs to existing surface are required, patch to produce surfaces suitable for new materials.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Do not burn demolished materials.
- C. Transport demolished materials off OWNER's property and legally dispose of them.

END OF SECTION

SECTION 024116 - STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Demolition and removal of buildings and site improvements.
2. Removing below-grade construction.
3. Disconnecting, capping or sealing, and removing site utilities.

- B. Related Requirements:

1. Section 011000 "Summary" for use of the premises.
2. Section 013200 "Construction Progress Documentation" for preconstruction photographs taken before building demolition.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be demolished.
 2. Review structural load limitations of existing structures.
 3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review and finalize protection requirements.
 5. Review procedures for noise control and dust control.
 6. Review procedures for protection of adjacent buildings.
 7. Review items to be salvaged and returned to Owner.

1.6 INFORMATIONAL SUBMITTALS

- A. Schedule of Building Demolition Activities: Indicate the following:
1. Detailed sequence of demolition work, with starting and ending dates for each activity.
 2. Temporary interruption of utility services.
 3. Shutoff and capping or re-routing of utility services.
 4. HAZMAT removal and disposal.
- B. Predemolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before the Work begins.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 FIELD CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before building demolition, Owner will remove the following items:
 - a. Stored Equipment.
- D. OSHA Respirable Crystalline Silica Standard for Construction: Contractor shall fully comply with OSHA Standard 29 CFR 1926.1153, which requires employer to limit worker exposure to respirable crystalline silica and to take other steps to protect workers.
- E. Hazardous Materials: Hazardous materials are not expected to be encountered within the building.
- F. On-site storage or sale of removed items or materials is not permitted.

1.9 COORDINATION

- A. Arrange demolition schedule so as not to interfere with Owner's on-site operations or operations of adjacent occupied buildings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Utilities to be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.
1. Owner will arrange to shut off utilities when requested by Contractor.
 2. Arrange to shut off utilities with utility companies.
 3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
 4. Cut off pipe or conduit a minimum of 24 inches (610 mm) below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
 5. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of demolition.
- C. Existing Utilities to Remain: Maintain utility services to remain and protect from damage during demolition operations.
1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
 2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- D. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways.
1. Protect adjacent buildings and facilities from damage due to demolition activities.
 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
- E. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.4 DEMOLITION, GENERAL

- A. General: Demolish indicated buildings, all foundations and site improvements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 2. Maintain fire watch during and for at least hours after flame-cutting operations.
 3. Maintain adequate ventilation when using cutting torches.
 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 5. Follow asbestos abatement specification.
- B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

- C. Explosives: Use of explosives is not permitted.

3.5 DEMOLITION BY MECHANICAL MEANS

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Below-Grade Construction: Demolish foundation walls and other below-grade construction.
1. Remove below-grade construction, including basements, foundation walls, and footings, completely.
- D. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within 5 feet (1.5 m) outside footprint indicated for new construction. Abandon utilities outside this area.
1. Fill abandoned utility structures with satisfactory soil materials.
- E. Existing Utilities: Demolish and remove existing utilities and below-grade utility structures.

3.6 SITE RESTORATION

- A. Fill below grade areas with suitable bearing materials in lifts not to exceed 6-inches per lift and compact each lift to meet soil bearing capacity of new facility.
- B. Below-Grade Areas: Rough grade below-grade areas ready for further excavation or new construction.
- C. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Section 312000 "Earth Moving."
- D. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.7 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn demolished materials.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3.9 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.
 - 1. Clean roadways of debris caused by debris transport.

END OF SECTION 024116

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete Subcontractor.
 - 2. Review special inspection and testing and inspecting agency procedures for field quality control, cold- and hot-weather concreting procedures and concrete protection.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
- C. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- D. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- E. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 1. Location of construction joints is subject to approval of the Architect.
- F. Samples: For vapor retarder retarder.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Material Certificates: For each of the following, signed by manufacturers:
 1. Cementitious materials.
 2. Admixtures.
 3. Form materials and form-release agents.
 4. Steel reinforcement and accessories.
 5. Fiber reinforcement.
 6. Waterstops.
 7. Curing compounds.
 8. Floor and slab treatments.
 9. Bonding agents.
 10. Adhesives.
 11. Repair materials.
- C. Material Test Reports: For the following, from a qualified testing agency:
 1. Aggregates: Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing fabrication, assembly, and support of formwork.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
 - E. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
 - F. Field quality-control reports.
 - G. Minutes of preinstallation conference.
- 1.7 QUALITY ASSURANCE
- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
 - B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
 - C. Testing Agency Qualifications: Contractor to provide an independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- 1.8 PRECONSTRUCTION TESTING
- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.
- 1.9 DELIVERY, STORAGE, AND HANDLING
- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.
- 1.10 FIELD CONDITIONS
- A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301 (ACI 301M).
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and as follows:
1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301 (ACI 301M).
 2. ACI 117 (ACI 117M).

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
1. Plywood, metal, or other approved panel materials.
 2. Overlaid Finnish birch plywood.
- B. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- C. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- D. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that leave no corrodible metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, Grade 60, deformed bars, assembled with clips.

2.4 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
 - 2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
 - 3. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

2.5 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M.
- C. Normal-Weight Aggregates: ASTM C 33/C 33M, coarse aggregate or better, graded. Provide aggregates from a single source.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch (19 mm) nominal.
- D. Air-Entraining Admixture: ASTM C 260/C 260M.

- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- F. Water: ASTM C 94/C 94M and potable.

2.6 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.

2.7 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.8 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork]
- B. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- C. Reglets: Fabricate reglets of not less than 0.022-inch- (0.55-mm-) thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.

2.9 REPAIR MATERIALS

- A. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6.4 mm) and that can be filled in over a scarified surface to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
 - 4. Compressive Strength: Not less than [5000 psi (34.5 MPa)] <Insert strength> at 28 days when tested according to ASTM C 109/C 109M.

2.10 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M) and as shown on the structural drawings.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

2.11 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Slabs-on-Grade: Normal-weight concrete.
 - 1. Minimum Compressive Strength: 3,000 psi (31 MPa) at 28 days.
 - 2. Slump Limit: 4 inches.

2.12 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.13 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
 - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces.
 - 2. Class C, 1/2 inch (13 mm) for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 1. Install keyways, reglets, recesses, and the like, for easy removal.
 - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Do not chamfer exterior corners and edges of permanently exposed concrete.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of walls, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 - 1. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 5. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 6. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.7 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
 - 1. Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M), for a randomly trafficked floor surface:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. Specified overall values of flatness, F(F) 45; and of levelness, F(L) 35; with minimum local values of flatness, F(F) 30; and of levelness, F(L) 24.
2. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- (3.05-m-) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).

3.8 MISCELLANEOUS CONCRETE ITEM INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.9 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.
- D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies does not interfere with bonding of floor covering used on Project.

2. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 LIQUID FLOOR TREATMENT APPLICATION

- A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment according to manufacturer's written instructions.
 1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
 2. Do not apply to concrete that is less than 14 days' old unless otherwise recommended by the manufacturer.
 3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water; remove excess material until surface is dry. Apply a second coat in a similar manner if surface is rough or porous.
- B. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer's written instructions.

3.11 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension to solid concrete. Limit cut depth to 3/4 inch (19 mm). Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- B. Inspections:
 - 1. Steel reinforcement placement.
 - 2. Verification of use of required design mixture.
 - 3. Concrete placement, including conveying and depositing.
 - 4. Curing procedures and maintenance of curing temperature.
 - 5. Verification of concrete strength before removal of shores and forms from slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
 - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 - 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 - 3. Air Content: ASTM C 231/C 231M, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
 - 5. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 - 6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 - 7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
 9. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
 11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
 12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- D. Measure floor and slab flatness and levelness according to ASTM E 1155 (ASTM E 1155M) within 48 hours of finishing.

3.14 PROTECTION OF LIQUID FLOOR TREATMENTS

- A. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

END OF SECTION 033000

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 033053 - CONCRETE FOR SITEWORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all non-reinforced and reinforced cast-in-place concrete, complete in place as indicated on the Plans and Specifications.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cement used shall conform to the following requirements of the ASTM as amended and revised to date.
- B. Standard Portland Cement ASTM Designation C-150, Type 3.
- C. High Early Strength Portland Cement ASTM Designation C-150, Type 3.
- D. Air Entraining Portland Cement ASTM Designation C-150, Type 1A.
- E. Air Entraining Admixtures ASTM Designation C-260.
- F. Water Reducing Admixtures ASTM Designation C-494, Type A, shall be proportioned in accordance with A.G.I. 211.1-77 in order to obtain the requirements of ASTM Designation C-494. Use shall be in accordance with A.C.I. recommendations for water reducing agents, and shall be as manufactured by Masterbuilders, Euclid, Sika or approved equal.
- G. Curing Compounds ASTM Designation C-390 for Liquid Membrane-forming Compounds.
- H. Joint Material ASTM Designation D-994 for Bituminous Type material or ASTM Designation D-1751 for Non-extruding and Resilient Bituminous Type material.
- I. Aggregates, both fine and coarse, shall conform to the requirements therefore of ASTM Designation C-33. Standard size number of the coarse aggregate shall be in conformance with Article 4.1.2 of Addenda A, and aggregate gradation requirements therefore shall conform to ASTM Designation C-33. The maximum coarse aggregate shall be not more than one-fourth the smallest clearance between forms, reinforcement or any exposed surfaces, in any combination thereon.
- J. Water shall be clean, fresh and free of oils, acids, salts, organic matter or other injurious substances.

2019 PAVING PROJECT
LINDENWOLD MIDDLE SCHOOL & LINDENWOLD SCHOOL #5
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5563D

- K. Unless otherwise provided, all concrete shall be air entrained having 6% of entrained air with a tolerance of $\pm 1\frac{1}{2}\%$, and shall be produced by using Standard Portland Cement with additive or Air Entraining Portland Cement with or without additional additive as may be required.
- L. Except where otherwise specifically provided or indicated on Plans, concrete shall be Class 4000 PSI for all surface structures, and Class 3000 PSI for all subsurface structures, and have a three inch (3") slump with a tolerance of $\pm 1"$.
 - 1. Concrete curb at driveways shall attain a strength of not less than 3000 PSI in 3 days.
- M. Cement, aggregates, water and air entrainment methods and materials shall also conform to Section 903 of the Standard Specifications.

PART 3 EXECUTION

3.1 METHODS OF CONSTRUCTION

- A. Reference standards included in this section:
 - 1. Section 405 of the Standard Specifications: Concrete Surface Course
 - 2. Section 607 of the Standard Specifications: Curbs
 - 3. Section 903.10 of the Standard Specifications: Curing Materials for Concrete
 - 4. Section 914 of the Standard Specifications: Joint Filler, Preformed
- B. Submittals:

Certificates: All deliveries of concrete shall be accomplished by delivery slips, copies of which shall be provided to ARCHITECT by the CONTRACTOR.
- C. Environmental requirements:
 - 1. Allowable concrete temperatures:
 - a. Cold weather: 60 degrees F Fahrenheit (60°F) when discharged from the mixer.
 - b. Hot weather: Maximum concrete temperature is 80 degrees Fahrenheit (80°F).

2019 PAVING PROJECT
LINDENWOLD MIDDLE SCHOOL & LINDENWOLD SCHOOL #5
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5563D

2. Do not place concrete during rain, when atmospheric temperature is at or below 40 degrees Fahrenheit (40°F), or when conditions are otherwise unfavorable as determined by the ARCHITECT.
- D. Protection:
1. When directed by ARCHITECT, protect new concrete curb from traffic for a minimum of seven (7) days.
 2. Method of protection shall be approved by ARCHITECT prior to beginning work.
- E. Only enough water shall be added to make concrete workable for its intended use. The ARCHITECT will determine the slump ranges within which the CONTRACTOR must work. Ready mix or transit mix concrete may be used if obtained from sources approved by the ARCHITECT. Equipment used to proportion and mix concrete on the job shall be subject to the approval of the ARCHITECT.
- F. Forms shall conform to the shapes, lines, dimensions, and grades shown on the Plans. They shall be firmly braced, tight and sufficiently substantial to prevent movement, bulging, or mortar leakage. Wherever concrete will be exposed to view the form therefore shall be smooth and clean. Forms for footings may be omitted wherever soil conditions and workmanship permit accurate excavation to size. All forms shall be completely removed.
- G. Reinforcement shall be accurately cut, bent and placed in accordance with the Plans. It shall be free of excessive scale or any foreign material that would tend to reduce bond. It shall be securely supported, tied and fastened to prevent movement while concrete is being placed.
- H. Subgrades, excavations and soil bases for all concrete work shall be properly finished to the prescribed lines, grades and dimensions, and shall be approved by the ARCHITECT before concrete is placed. All areas to receive concrete shall be free of frost, foreign matter and excessive water, provided however, that forms and soil surfaces shall be uniformly damp when the concrete is placed.
- I. Concrete shall be handled and placed so as to avoid any segregation. Concrete which has begun to set or which has been contaminated with foreign materials or to which too much water has been added shall not be used. Pouring of concrete shall generally be a continuous operation until the placing of individual section has been completed. Concrete shall be thoroughly compacted with vibrators or by other suitable means. Ready mixed concrete hauled in truck mixers or truck agitators shall be placed within ninety (90) minutes from the time water was added.

2019 PAVING PROJECT
LINDENWOLD MIDDLE SCHOOL & LINDENWOLD SCHOOL #5
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5563D

- J. Concrete shall not be poured when the atmospheric temperature is below forty degrees (40°F) or when there is any precipitation, unless precautions satisfactory to the ARCHITECT have been taken to prevent any damage to the work; however, this shall not, in any way, relax the performance and appearance requirements of the work.
 - 1. When the ambient temperature is expected to fall below 40 degrees Fahrenheit (40°F), the concrete shall be cured and protected in accordance with Subsection 504.03.02, Subpart (b), of the Standard Specifications.
- K. All concrete shall be finished, and the CONTRACTOR shall provide a curing environment as directed by the ARCHITECT. Curing shall be by keeping the concrete surfaces wetted for a period not less than three (3) days. When directed to do so by the ARCHITECT, the CONTRACTOR shall apply a curing compound. No additional compensation shall be made when a curing compound is required.
- L. Expansion joints, dummy joints, construction joints and other appurtenances shall be provided as shown on the Plans or otherwise specified. Expansion joints shall be joint filler of the thickness indicated which shall conform to the requirements of these Specifications.
- M. After removal of forms all permanently exposed surfaces shall be cleaned of stains and dirt, and all surface defects which do not impair structural strength shall be repaired by cutting and patching in a manner satisfactory to the ARCHITECT.

END OF SECTION

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Penetrations in fire-resistance-rated walls.
 - 2. Penetrations in horizontal assemblies.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.
 - 1. Engineering Judgments: Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping system, submit illustration, with modifications marked, approved by penetration firestopping system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly. Obtain approval of authorities having jurisdiction prior to submittal.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.7 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:
 - 1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
 - 2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."
 - 2) Intertek Group in its "Directory of Listed Building Products."
 - 3) FM Global in its "Building Materials Approval Guide."

2.2 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- a. 3M Fire Protection Products.
 - b. A/D Fire Protection Systems Inc.
 - c. Construction Solutions.
 - d. Hilti, Inc.
 - e. NUCO Inc.
 - f. Passive Fire Protection Partners.
 - g. Specified Technologies, Inc.
 - h. Tremco, Inc.
- B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).
1. F-Rating: Not less than the fire-resistance rating of constructions penetrated-1 hour rated assemblies.
- C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).
1. F-Rating: At least two hours, but not less than the fire-resistance rating of constructions penetrated.
- D. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.
1. Permanent forming/damming/backing materials.
 2. Substrate primers.
 3. Collars.
 4. Steel sleeves.
- 2.3 FILL MATERIALS
- A. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.
- B. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- C. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- D. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- E. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- F. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- G. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.
- H. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- I. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.4 MIXING

- A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

- A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.
- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.
1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- C. Install fill materials by proven techniques to produce the following results:
1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

- A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," using lettering not less than 3 inches (76 mm) high and with minimum 0.375-inch (9.5-mm) strokes.
1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 feet (4.57 m) from end of wall and at intervals not exceeding 30 feet (9.14 m).
- B. Penetration Identification: Identify each penetration firestopping system with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.
5. Manufacturer's name.
6. Installer's name.

3.5 FIELD QUALITY CONTROL

- A. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- B. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

3.7 PENETRATION FIRESTOPPING SYSTEM SCHEDULE

- A. Penetration Firestopping Systems with No Penetrating Items:
 1. F-Rating: Walls: 2 hours.
 2. Type of Fill Materials: As required to achieve rating.
- B. Penetration Firestopping Systems for Metallic Pipes, Conduit, or Tubing:
 1. F-Rating: Walls: 2 hours.
 2. Type of Fill Materials: As required to achieve rating.
- C. Penetration Firestopping Systems for Nonmetallic Pipe, Conduit, or Tubing:
 1. F-Rating: Walls: 2 hours.
 2. Type of Fill Materials: As required to achieve rating.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

D. Penetration Firestopping Systems for Electrical Cables:

1. F-Rating: Walls: 2 hours.
2. Type of Fill Materials: As required to achieve rating.

Penetration Firestopping Systems for Insulated Pipes:

3. F-Rating: Walls: 2 hours.
4. Type of Fill Materials: As required to achieve rating.

E. Penetration Firestopping Systems for Miscellaneous Electrical Penetrants:

1. F-Rating: Walls: 2 hours.
2. Type of Fill Materials: As required to achieve rating.

F. Penetration Firestopping Systems for Miscellaneous Mechanical Penetrants:

1. F-Rating: Walls: 2 hours.
2. Type of Fill Materials: As required to achieve rating.

END OF SECTION 078413

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Latex joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.
- B. Preconstruction Laboratory Test Schedule: Include the following information for each joint sealant and substrate material to be tested:
 - 1. Joint-sealant location and designation.
 - 2. Manufacturer and product name.
 - 3. Type of substrate material.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

4. Proposed test.
5. Number of samples required.

C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

D. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

E. Field-Adhesion-Test Reports: For each sealant application tested.

F. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with masonry substrates.
4. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
5. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
6. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.

B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each kind of sealant and joint substrate.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.7 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 LATEX JOINT SEALANTS

- A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Everkem Diversified Products, Inc.
 - b. Franklin International.
 - c. May National Associates, Inc.; a subsidiary of Sika Corporation.
 - d. Pecora Corporation.
 - e. Sherwin-Williams Company (The).
 - f. Tremco Incorporated.

2.3 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance).

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.

3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
4. Provide flush joint profiles.

3.4 FIELD QUALITY CONTROL

1. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 2. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 3. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
 4. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 088810 - FIRE RATED GLASS & FRAMING SYSTEM

PART 1 GENERAL

1.01 SUMMARY

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section Includes: Fire resistive framing system.
 - 1. Fire resistive, temperature rise, framing system with aluminum 120-minute fire-rated interior applications.
 - 2. Applications of fire rated framing includes:
 - a. Vision lites in fire rated doors, full vision fire rated doors, and sidelites, with fire rating requirement as specified.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM E119 Methods for Fire Tests of Building Construction and Materials.
 - 2. ASTM E152 Methods of Fire Tests of Door Assemblies.
 - 3. ASTM E163 Methods for Fire Tests of Window Assemblies.
 - 4. ASTM E2074: Standard Test Method for Fire Tests of Door Assemblies, including Positive Pressure Testing of Side-hinged and Pivoted Swinging Door Assemblies.
 - 5. ASTM E2110-1: Standard Test for Positive Pressure of Fire Tests of Window Assemblies.
- B. National Fire Protection Association (NFPA):
 - 1. NFPA 80: Fire Doors and Windows.
 - 2. NFPA 251: Fire Tests of Building Construction and Materials.
 - 3. NFPA 252: Fire Tests of Door Assemblies.
 - 4. NFPA 257: Fire Tests of Window Assemblies.
- C. Underwriters Laboratories, Inc. (UL):
 - 1. UL 9: Standard for Safety of Fire Tests of Window Assemblies.
 - 2. UL 10B: Standard for Safety of Fire Tests of Door Assemblies.
 - 3. UL 10C: Standard for Safety of Positive Pressure Fire Tests of Door Assemblies.
 - 4. UL 263: Fire Tests of Building Construction and Materials.
- E. Consumer Product Safety Commission (CPSC):
 - 1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.

- F. American National Standards Institute (ANSI):
 - 1. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.
- G. Glass Association of North America (GANA)
 - 1. GANA – Glazing Manual.
 - 2. FGMA – Sealant Manual.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Fire Rating for Walls: 120 minutes as specified.
 - 2. Fire Rating for Doors: 90 minutes as specified.
 - 3. Fire Resistive Wall Assembly Certifications: must meet 120 minute fire resistive wall assemblies tested in accordance with ASTM E119, NFPA 251, UL 263 and ULC-S101.
 - 4. Forced Entry Resistance: must meet ASTM F588 Type D.
 - 5. Testing Laboratory: Fire test must be conducted by a nationally recognized independent testing laboratory.
 - 6. Glazing: Fire protective glazing in 90-minute fire protective doors and openings up to the maximum size tested. Fire resistive glazing that meets ASTM E-119/UL 263/ULC-S101 up to the max. size tested. All glazing used in doors, sidelites or any hazardous location must meet CPSC Cat. I or II impact safety.
- B. Listings and Labels:
 - 1. Fire resistive framing system shall be under current follow-up service by a nationally recognized independent laboratory approved by OSHA and maintain a current listing or certification. Assemblies shall be labeled in accordance with limits of listings.
- C. Appearance:
 - 1. Fire rated wall/door assembly shall have a neat finished appearance with minimum joints at decorative cover intersections.

1.04 SUBMITTALS

- A. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedure Section.
 - 1. Shop Drawings: Submit shop drawings showing layout, profiles and product components.
 - 2. Samples: Submit samples for finishes, colors and textures.
 - 3. Technical Information: Submit latest edition of manufacturer's product data providing product descriptions, technical data and installation instructions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.05 DELIVERY, STORAGE AND HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Delivery: Deliver materials to specified destinations in manufacturer's or distributor's packaging undamaged, complete with installation instructions.
- C. Storage and Protection: Store off ground, under cover, protected from weather and construction activities and at temperature conditions recommended by manufacturer.

1.06 FABRICATION DIMENSIONS

- A. Field Measurements: Verify actual measurements for openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is not intended to limit other rights that the Owner may have under the Contract Documents.
 - 1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS – FIRE RATED DOOR AND WALL ASSEMBLY

- A. Basis-of-Design Manufacturer of Framing System: GPX Architectural Series Framing as manufactured by SAFTI *FIRST*TM Fire Rated Glazing Solutions.
- B. Basis-of-Design Manufacturer of Glazing Material: SuperLiteTM II-XL as manufactured by SAFTI *FIRST*TM Fire Rated Glazing Solutions.
- C. Basis-of-Design Manufacturer of Door: GPX Builders Series, full vision, as manufactured by SAFTI *FIRST*TM Fire Rated Glazing Solutions. Door shall be factory-finished to match the framing.
- D. Acceptable Alternate Manufacturers: Subject to compliance with the specifications, the following manufacturers might be deemed acceptable:
 - 1. Alufam North America.
 - 2. Technical Glass Products/Pilkington Group.
 - 3. Architect-approved equivalent.

2.02 MATERIALS – FRAMING

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- A. Fire resistive, temperature rise framing system rated for 120 minutes.

Properties:

1. Window/Wall Frame thickness: 4-1/8-inch. Door profile thickness: 5" Standard.
2. Internal framing: Internal tube steel framing shall conform to ASTM A501. Formed steel retainers shall be galvanized conforming to ASTM A527.
3. Insulation: The framing system shall insulate against the effects of fire, smoke and heat transfer from either side. The perimeter of the framing system to the rough opening shall be firmly packed with mineral wool fire stop insulation or appropriately rated intumescent sealant.
4. Fasteners: Type recommended by manufacturer. No exposed fasteners allowed.
5. Glazing accessories: The glazing material perimeter shall be separated from the perimeter framing system with approved flame-retardant glazing tape. The glazing panel shall be caulked continuously around the edge to the tube steel frame utilizing neutral cure silicone. Silicone setting blocks recommended.

2.03 MATERIALS – GLASS

- A. Assemblies shall be glazed with SuperLite™ II-XL or Architect-approved equivalent to meet the specified fire-ratings.

B. Properties:

1. Individual Lites shall be permanently identified with a listing mark.
2. Glazing material installed in "Hazardous Locations" (subject to human impact) shall be certified to meet the applicable requirements for fire rated assemblies referenced in ANSI Z97.1 Standard for Safety Glazing Materials Used In Buildings and/or CPSC 16 CFR 1201 Safety Standard for Architectural Glazing Materials.
3. Pressure glazing is acceptable.

- C. Logo: Each piece of fire rated glazing shall be labeled with a permanent logo.

2.04 FABRICATION

- A. Assemblies shall be furnished knocked down for field assembly and will be glazed in the field or unitized (should configurations and job site conditions allow).
- B. Door assemblies shall be factory prepared for field mounting of hardware.
- C. Fabrication Dimensions: Fabricate to approved dimensions. The general contractor shall guarantee dimensions within required tolerance. Obtain approved shop drawings prior to fabrication.

2.05 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.

SECURITY OFFICE & EXTERIOR BOLLARDS
 SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
 REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Covers shall be chemically cleaned and pretreated; then, finished with:
 - 1. High Performance Fluoropolymer Finish. Solid color to be selected by Architect from manufacturer’s standard color chart.
- C. Protect finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.
- D. Variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in the same piece are not acceptable.

2.05 DOOR HARDWARE FOR SINGLE DOORS

- A. Hardware shall be supplied with the fire door. Hardware selection shall be from door manufacturer’s standard recommended hardware groups as specified below or Architect-approved equivalent.
- B. Contractor shall verify the compatibility of all specified or selected door hardware with fire-rated glass and framing system manufacturer to ensure compatibility between the hardware and the door/framing system. Submit acceptance letter from door/frame manufacturer.
- C. Basis of Design operating hardware for single doors.

| Quantity | Item | Description | Basis-of-Design Manufacturer | Finish |
|----------|-------------------|-----------------|------------------------------|--------|
| 3 | Hinges | TA2714 | MK | US26D |
| 1 | Office Lock | DG160 8205LNJ | SA | US26D |
| 1 | Door Closer | R7500 or PR7500 | NO | 689 |
| 1 | Cylinder Core | DG1 6300 | Sargent | US15 |
| 1 | Door Stop | 403 or 441CU | RO | US26D |
| 1 | Gasketing | S44BL | Pemko | |
| 3 | Silencers | 608 or 609 | RO | |
| | Auto Door Bottoms | 420APKL | Pemko | |

PART 3 EXECUTION

3.01 MANUFACTURER’S INSTRUCTIONS

- A. Compliance: Comply with manufacturer’s product data including product technical bulletins and installation instructions.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, have been previously installed under other sections, and are acceptable for product installation in accordance with manufacturer’s instructions. Openings shall be plumb, square and within allowable tolerances. The Architect shall

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

be notified of any conditions that jeopardize the integrity of the proposed fire wall/door framing system. Do not proceed until such conditions are corrected.

3.03 INSTALLATION

- A. Fire wall/door installation shall be in strict accordance with the approved shop drawings.

3.04 CLEANING AND PROTECTION

- A. Protect glass from contact with contaminating substances resulting from construction operations. Remove such substances by method approved by manufacturer.
- B. Wash glass on both faces not more than four days prior to date schedule for inspections intended to establish date of Substantial Completion. Wash glass by method recommended by glass manufacturer.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Remove construction debris from project site and legally dispose of debris.

END OF SECTION 088810

| ROOM FINISH SCHEDULE | | | | | | | | | | |
|-----------------------------|-----------------|-----|------|-------|------|-------|------|-------|----------|---------|
| RM # | ROOM NAME | FLR | BASE | WALLS | | | | CLG | CLG. HT. | REMARKS |
| | | | | NORTH | EAST | SOUTH | WEST | | | |
| 100 | SECURITY OFFICE | CPT | RWB | PT | PT | PT | PT | APC-1 | 9'-6" | Note 1 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

FINISH SCHEDULE KEY

APC-# Acoustical Panel Ceiling. Refer to Section 09511 - Acoustical Panel Ceilings for panel types.
 CPT Carpet Tiles
 PT Paint
 RWB Rubber Wall Base - see details for sizes.

NOTES

1. Paint all newly constructed walls on both sides to match adjacent color/conditions.

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior partitions.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of code-compliance certification for studs and tracks.

1.5 QUALITY ASSURANCE

- A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, or the Steel Stud Manufacturers Association.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- B. Horizontal Deflection: For wall assemblies, limited to 1/360 of the wall height based on horizontal loading of 5 lbf/sq. ft. (239 Pa).

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 2. Protective Coating: Coating with equivalent corrosion resistance of ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized unless otherwise indicated.
 3. Embossed Steel Studs and Tracks: Roll-formed and embossed with surface deformations to stiffen the framing members so that they are structurally equivalent to conventional ASTM C 645 steel studs and tracks.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) CEMCO; California Expanded Metal Products Co.
 - 2) ClarkDietrich.
 - 3) MarinoWARE.
 - 4) Phillips Manufacturing Co.
 - 5) SCAFCO Steel Stud Company.
 - b. Minimum Base-Metal Thickness: 20-gage (.0205),
 - c. Depth: 3-5/8 inches (92 mm).
 - d. Spacing: 16-inches on center.
- B. Slip-Type Head Joints: Provide one of the following:
1. Clip System: Clips designed for use in head-of-wall deflection conditions that provide a positive attachment of studs to tracks while allowing 1-1/2-inch (38-mm) minimum vertical movement.
 2. Deflection Track: Steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
- C. Cold-Rolled Channel Bridging: Steel, 0.0538-inch (1.367-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.

2.3 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide the following:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.3 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 1. Single-Layer Application: 16- inches (610 mm) o.c. unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural floor decking above. Continue framing around ducts that penetrate partitions above ceiling.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Interior gypsum board.

- B. Related Requirements:

- 1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

- C. Do not install panels that are wet, moisture damaged, and mold damaged.

- 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. Georgia-Pacific Gypsum LLC.
 - d. National Gypsum Company.
 - e. PABCO Gypsum.
 - f. USG Corporation.
 - 2. Core: 5/8 inch (15.9 mm), Type X.
 - 3. Long Edges: Tapered.
 - 4. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 - 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 1.25-inch thick.
- C. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
- D. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- H. Acoustical: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- I. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints[, rounded or beveled edges,] and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for interior ceilings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, 6 inches (150 mm) in size.
- C. Samples for Initial Selection: For components with factory-applied finishes.
- D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
 - 1. Acoustical Panels: Set of 6-inch- (150-mm-) square Samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch- (150-mm-) long Samples of each type, finish, and color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.
- B. Evaluation Reports: For each acoustical panel ceiling suspension system and anchor and fastener type, from ICC-ES.
- C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.
 - 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Class A according to ASTM E 1264.
 - 2. Smoke-Developed Index: 50 or less.
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Indicate design designations from UL or from the listings of another qualified testing agency.

2.3 ACOUSTICAL PANELS APC-1

- A. Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E 1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
- B. Manufacturer: Armstrong Tegular, item #3250 Optima or Architect's approved equivalent by USG Ceilings.
- C. Classification: Provide fire-resistance-rated panels as follows:
 1. Type and Form: Type XII, Form 2, Pattern E.
- D. Color: White.
- E. Light Reflectance (LR): Not less than 0.90.
- F. Articulation Class (AC): Not less than 190.
- G. Noise Reduction Coefficient (NRC): Not less than 0.95.
- H. Manufacturer Guarantee of Availability: Manufacturer's standard 10-year availability warranty.
- I. Thickness: 1- inch.
- J. Modular Size: 24 by 24 inches.
- K. Sag Resistance: Manufacturer's standard formula.
- L. Antimicrobial Treatment: Manufacturer's standard broad spectrum, antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273, ASTM D 3274, or ASTM G 21 and evaluated according to ASTM D 3274 or ASTM G 21.
- M. Warranty: Manufacturer's standard 30-year systems warranty against visible sag, mold/mildew and bacterial growth.

2.4 METAL SUSPENSION SYSTEM

- A. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C 635/C 635M and designated by type, structural classification, and finish indicated.
- B. Wide-Face, Capped, Double-Web, Fire-Rated, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

dip galvanized, G30 (Z90) coating designation; with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.

1. Prelude 15/16", Armstrong Ceiling Systems or equivalent by USG.
2. Structural Classification: Intermediate-duty system.
3. End Condition of Cross Runners: butt-edge type.
4. Face Design: Flat, flush.
5. Cap Material: Cold-rolled steel.
6. Cap Finish: Painted white.
7. Manufacturer: Same manufacturer as the acoustical panel ceiling tiles.

2.5 ACCESSORIES

- A. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - a. Corrosion Protection: Stainless-steel components complying with ASTM F 593 and ASTM F 594, Group 1 Alloy 304 or 316.
- B. Wire Hangers, Braces, and Ties: Provide wires as follows:
 1. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
 2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.106-inch- (2.69-mm) diameter wire.
- C. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.
- D. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch- (1-mm-) thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation; with bolted connections and 5/16-inch- (8-mm-) diameter bolts.
- E. Seismic Clips: Manufacturer's standard seismic clips designed to secure acoustical panels in place during a seismic event.
- F. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
- G. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.

2.6 METAL EDGE MOLDINGS AND TRIM

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.

1. Edge moldings shall fit acoustical panel edge details and suspension systems indicated and match width and configuration of exposed runners unless otherwise indicated.
2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

2.7 ACOUSTICAL SEALANT

- A. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

- A. Install acoustical panel ceilings according to ASTM C 636/C 636M, seismic design requirements, and manufacturer's written instructions.
 1. Fire-Rated Assembly: Install fire-rated ceiling systems according to tested fire-rated design.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Suspend ceiling hangers from building's structural members and as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 8. Do not attach hangers to steel deck tabs.
 9. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
 10. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends. Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- D. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
3. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.
4. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
5. Protect lighting fixtures and air ducts according to requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet (3 mm in 3.6 m), non-cumulative.
- B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3 mm in 3.6 m), non-cumulative.

3.5 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Rubber Moulding Accessories.
 - 2. Thermoplastic-rubber base.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches (300 mm) long.
- C. Samples for Initial Selection: For each type of product indicated.
- D. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches (300 mm) long.
- E. Product Schedule: For resilient base and accessory products.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish not less than 10 linear feet (3 linear m) for every 500 linear feet (150 linear m) or fraction thereof, of each type, color, pattern, and size of resilient product installed.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C).

1.6 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C) in spaces to receive resilient products during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC-RUBBER BASE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Allstate Rubber Corp.
 - 2. Armstrong World Industries, Inc.
 - 3. Burke Mercer Flooring Products; a division of Burke Industries Inc.
 - 4. Flexco.
 - 5. Johnsonite; a Tarkett company.
 - 6. Nora Systems, Inc.
 - 7. Roppe Corporation, USA.
- B. Product Standard: ASTM F 1861, Type TP (rubber, thermoplastic).
 - 1. Group: I (solid, homogeneous).
 - 2. Style and Location:
 - a. Style B, Cove: Provide in areas with resilient floor coverings.
- C. Thickness: 0.125 inch (3.2 mm).

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- D. Height: 4 inches and 6-inches where noted.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Preformed.
- G. Inside Corners: Preformed.
- H. Colors: As selected by Architect from full range of manufacturers colors.

2.2 RUBBER MOULDING ACCESSORY (RA-1)

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Roppe Corporation, USA.
 - 2. VPI Corporation.
- B. Description: Rubber carpet edge for glue-down applications, joiner for tile and carpet transition strips.
- C. Profile and Dimensions: As indicated.
- D. Locations: Provide rubber molding accessories in areas indicated.
- E. Colors and Patterns: As indicated by manufacturer's designations.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
- C. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

C. Do not install resilient products until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.

D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
 - 1. Remove adhesive and other blemishes from surfaces.
 - 2. Sweep and vacuum horizontal surfaces thoroughly.
 - 3. Damp-mop horizontal surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, adhesive, and blemishes from resilient stair treads before applying liquid floor polish.
 - 1. Apply two coat(s).
- E. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes modular carpet tile.
- B. Related Requirements:
 - 1. Section 024119 "Selective Demolition" for removing existing floor coverings.
 - 2. Section 096513 "Resilient Base and Accessories", Section 096519 "Resilient Tile Flooring" for resilient wall base and accessories installed with carpet tile.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to carpet tile installation including, but not limited to, the following:
 - a. Review delivery, storage, and handling procedures.
 - b. Review ambient conditions and ventilation procedures.
 - c. Review subfloor preparation procedures.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
 - 2. Include manufacturer's written installation recommendations for each type of substrate.
- B. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1. Carpet Tile: Full-size Sample.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.

C. Samples for Initial Selection: For each type of carpet tile.

1. Include Samples of exposed edge, transition, and other accessory stripping involving color or finish selection.

D. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.

E. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.
- C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI's "CRI Carpet Installation Standard."

1.10 FIELD CONDITIONS

- A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.

1.11 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, the following:
 - a. More than 10 percent edge raveling, snags, and runs.
 - b. Dimensional instability.
 - c. Excess static discharge.
 - d. Loss of tuft-bind strength.
 - e. Loss of face fiber.
 - f. Delamination.
 - 3. Wear Warranty Period: Manufacturers standard lifetime warranty against face wear, moisture barrier, delamination, tuft bind, unraveling and static protection.
 - 4. Bleach Resistant Warranty: Manufacturers standard 15-year warranty against color loss from bleach spills.
 - 5. Stain Resistant Warranty: Manufacturer's 15-year warranty against staining.

PART 2 - PRODUCTS

2.1 CARPET TILE (CPT-1)

- A. Manufacturer (District Standard): Interface FLOR, Geometry 11, or Architect-approved equal.
- B. Color: As selected by Architect from manufacturer's full range.
- C. Construction: Tufted Textured Loop.
- D. Dye Method: Solution/Yarn.
- E. Gauge: 1/12.
- F. Stitches per Inch: 8.0.
- G. Pile Thickness: 0.134 inches.
- H. Tufted Yarn Weight: 18 oz. per square yard.
- I. Density: Average Density=8,416.
- J. Size: 24 by 24 inches (610 by 610 mm).
- K. Backing System: ReadyBac for high moisture conditions. For protection up to 99% RH and pH of 8.0-12.0.
- L. Applied Treatments:
 - 1. Soil-Resistance Treatment: Manufacturer's standard treatment.
 - 2. Antimicrobial Treatment: Manufacturer's standard treatment.
- M. Warranty: 15-year manufacturer's standard warranty.
- N. Performance Characteristics:
 - 1. Smoke Density: Less than 450 according to ASTM E662
 - 2. Floor Radiant Panel: Passes ASTM E-648..

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and are recommended by carpet tile manufacturer for releasable installation.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

Adhesives shall be recommended by the manufacturer for high humidity, moist substrate conditions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
 - 1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m, and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours, or as indicated in manufacturer's literature (whichever is more stringent).
 - b. Relative Humidity Test: Using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement or as indicated in manufacturer's literature (whichever is more stringent).
 - c. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI's "Carpet Installation Standards" and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm) unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.

- D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

- A. General: Comply with CRI's "CRI Carpet Installation Standard," Section 18, "Modular Carpet" and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns recommended in writing by carpet tile manufacturer.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.
- I. Access Flooring: Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI's "Carpet Installation Standard," Section 20, "Protecting Indoor Installations."

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior substrates.
 - 1. Concrete masonry units (CMUs).
 - 2. Steel and iron.
 - 3. Gypsum board.

1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 2. Apply coats on Samples in steps to show each coat required for system.
 3. Label each coat of each Sample.
 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: 5 percent, but not less than 1 gal. (3.8 L of each material and color applied).

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Benjamin Moore & Co.
 2. Coronado Paint; Benjamin Moore Company.
 3. Kelly-Moore Paint Company Inc.
 4. PPG Paints.
 5. Sherwin-Williams Company (The).
 6. Valspar Corporation (The).

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range.
1. Twenty percent of surface area will be painted with deep tones.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Masonry (Clay and CMUs): 12 percent.
 2. Gypsum Board: 12 percent.

- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in equipment rooms:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 2. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Other items as directed by Architect.
 3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. CMU Substrates:
 - 1. High-Performance Architectural Latex System MPI INT 4.2D:
 - Block Filler: Block filler, latex, interior/exterior, MPI #4.
 - a. Prime Coat: Primer, alkali resistant, water based, MPI #3.
 - b. Topcoat: Latex, interior, high performance architectural (MPI Gloss Level 3), MPI #139.
- B. Gypsum Board, Primed Steel and Plaster Substrates:
 - 1. High-Performance Architectural Latex System MPI INT 9.2B:
 - a. Prime Coat: Primer sealer, latex, interior, MPI #50.
 - b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.
 - c. Topcoat: Latex, interior, high performance architectural (MPI Gloss Level 3), MPI #139.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

END OF SECTION 099123

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Joint-sealant backer materials.
 - 3. Primers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Paving-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of joint sealant and accessory.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.

1.6 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Self-Leveling, One Part, Elastomeric Joint Sealant: Federal Specification TT-S-00230C, Type I, Class A and meets ASTM C920, Type S, Grade P, Class 25 for uses TM, A, G and I.
1. Basis of Design Manufacturer: Sikaflex-1c SL, Sika Corporation; or an equivalent product from one the following.
 2. Alternative Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Crafcro Inc.
 - b. Pecora Corporation.
 - c. The Dow Chemical Company.

2.3 JOINT-SEALANT BACKER MATERIALS

- A. Joint-Sealant Backer Materials: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

- B. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: If required by the manufacturer for the condition indicated, ASTM D5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

2.4 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions.
- C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Do not leave gaps between ends of joint-sealant backings.
 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
1. Place joint sealants so they fully contact joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
1. Remove excess joint sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

- A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.
- B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

END OF SECTION 321373

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

SECTION 323300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel Pipe Bollards.
 - 2. Plastic Bollard Covers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For site furnishings to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 BOLLARDS

- A. Bollard Construction:
 - 1. Pipe OD: Not less than 8.625-inches.
 - a. Steel: Schedule 40 pipe.
 - 2. Overall Height: As indicated.
 - 3. Installation Method: Cast in concrete.

2.2 MATERIALS

- A. Steel and Iron: Free of surface blemishes and complying with the following:

SECURITY OFFICE & EXTERIOR BOLLARDS
SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

1. Steel Pipe: Standard-weight steel pipe complying with ASTM A53/A53M, or electric-resistance-welded pipe complying with ASTM A135/A135M.
- B. Plastic Bollard Covers: Color impregnated, color and UV-light stabilized, and mold resistant.
 1. Polyethylene: Fabricated from virgin plastic HDPE resin.
 2. Wall Thickness: .125-inches thick.
 3. Height: As shown on the drawings.
 4. Field Color: Manufacturer's Standard Green.
 5. Reflective Tape: Yellow.
 6. Warranty: Manufacturer's standard 5-year warranty.
 7. Installation Options: Manufacturer's adhesive-applied gripper tabs.
 8. Manufacturer: Bollardgard; Innoplast Polymer Products or architect-approved equivalent.
 9. Attic Stock: Provide eight unused covers for Owner's attic stock.
- C. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M; recommended in writing by manufacturer, for exterior applications.

2.3 GENERAL FINISH REQUIREMENTS

- A. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated.
- B. Install site furnishings level, plumb, true, and positioned at locations indicated on Drawings.
- C. Post Setting: Set cast-in support posts in concrete footing with flush top. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle

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SOUTHAMPTON TOWNSHIP SCHOOL DISTRICT
REGAN YOUNG ENGLAND BUTERA, PC PROJECT #5601A

and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

- D. Install plastic bollard covers on steel pipe, anchor per manufacturer's recommendations and trim to fit flush.

END OF SECTION 323300

CONTRACTOR'S USE OF APPENDIX AND/OR EXHIBIT DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. It shall be expressly understood that the documents and other information provided as part of the Appendix and/or Exhibits are to be considered helpful information, and have not been verified by the Owner and the Design Consultant(s).
- B. It is expressly understood and agreed that the Owner, the Design Consultant(s), assume no responsibility whatsoever in respect to the sufficiency or accuracy of the information, the records thereof or of the interpretations set forth therein or made by the Owner, or the Design Consultant(s), in its use thereof other than to establish a record of the visible conditions noted at the time the documents were produced.
- C. There is no warranty or guaranty either expressed or implied, that the conditions indicated are representative of those existing throughout such areas, or any part thereof, or that unlooked-for developments may not occur, or that conditions other than or in proportions different from those indicated may be encountered.
- D. Contractors may utilize these documents at their own risk and shall be fully responsible for the results obtained from the use of these documents.
- E. **As part of the Base-Bid, the Contractor shall be responsible to provide a GPR field-markout of the existing conditions related to the bollard construction prior to starting layout work for the bollards.**

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION CONTRACTOR'S USE OF APPENDIX AND/OR EXHIBIT DOCUMENTS



January 14, 2015

RYEBread
Attn: Scott England
456 High St
Mount Holly, NJ 08060

Subject: Ground Penetrating Radar (GPR) scanning for underground utilities and subsurface analysis of the Southampton Township Schools

Lead Technician: Daniel Slachta

Project Manager of Southern New Jersey and the Tri-State Region
Ground Penetrating Radar Systems, Inc.
New Jersey- (609) 350-9651
Daniel.Slachta@gp-radar.com

Table of Contents

1. Overview of GPR
2. Equipment & Capabilities
3. Site Description
4. Inspection Methods
5. Findings
6. Qualifications
7. Closing

1. Overview of GPR

Ground Penetrating Radar (GPR) is a non-destructive testing technology that sends a series of radar pulses into the surface which reflect back off of anomalies below. As the radar pulses through the ground, the waves bend slightly when encountering a material with differing physical properties, particularly density and conductivity. Thousands of pulses are sent and received in a small area, and the received signals are combined to form a real-time image of what is in the ground. The various places where the radar waves bend are displayed as anomalies which can be interpreted as reinforcing steel, steel pipes, PVC conduits, underground storage tanks, voids, foundations, etc. One of the many advantages of the technology is the ability to locate metal and non-metallic objects as well as determining depth to the object. GPR data acquisition is very fast and results are available immediately, allowing any discovered anomalies to be marked directly in the field. Although confused with X-Ray, GPR uses less than 1% of your cell phones radiation emissions and is safe to work with human presence in close proximity.

2. Equipment and Capabilities

Ground Penetrating Radar (GPR)

- **GSSI SIR-3000**

-GPRS uses a Geophysical Survey Systems Inc. (GSSI) SIR-3000 radar unit. This is the most advanced GPR available. It allows for on-site interpretation, as well as stored data for later processing. This equipment is self-calibrating, allowing more precise depth and location measurements.

-GSSI is the world's leading GPR designer and manufacturer. Information can be found at www.geophysical.com.

- **400 MHZ GSSI Antenna**

-For mid-range scans, we use a 400 MHz antenna with the SIR-3000 GPR head unit. This antenna allows data collection to a maximum depth of approximately 10' depending on soil conditions. Depending on soil conditions the average depth the 400MHz antenna penetrates in Tri-State Area around 5'-8'.

3. Site Description

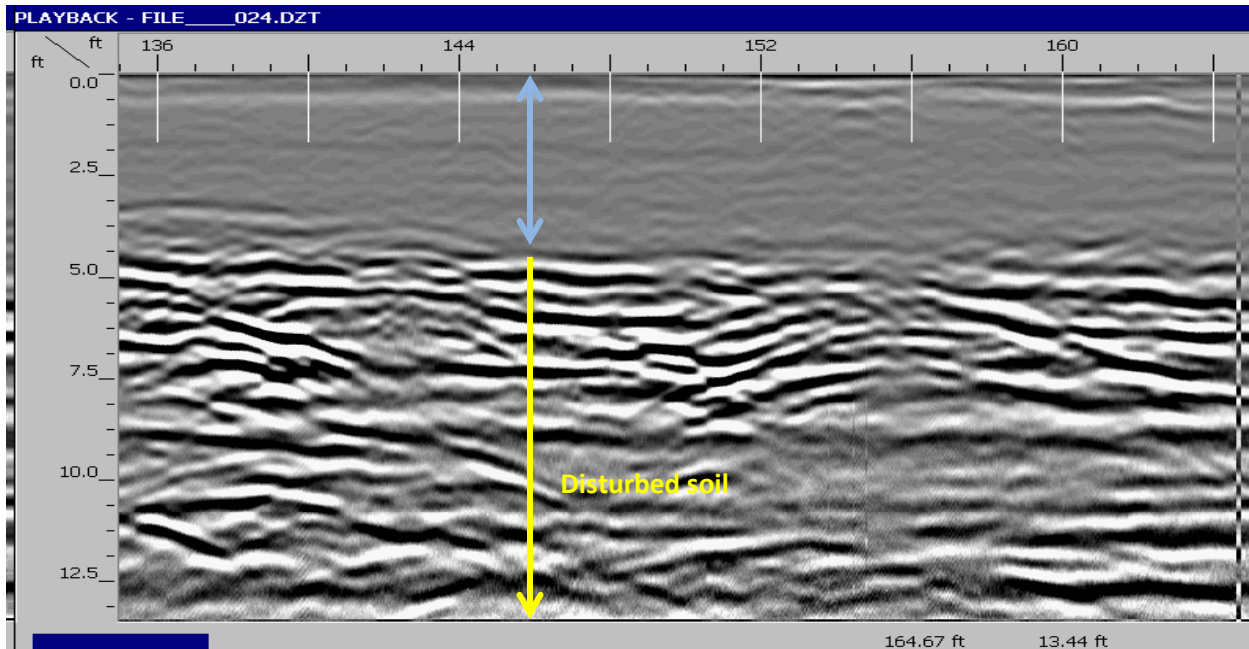
At this site our primary objective was to scan the proposed area for any utilities or other obstructions located beneath the surface. The area to be scanned was to provide as much of a complete utility mark out as possible within the scanning period, while paying close attention to any obstructions located in the proposed future construction areas. The scanned area was open and clear from any obstructions. The weather was clear and the data was clear and able to be interpreted on site.

4. Inspection Methods

The equipment used consisted of a SIR-3000 operating system along with the 400 MHz antenna. As the equipment is in active operation, real time data is displayed on the monitor that is interpreted by our trained and experienced technician. The images portrayed by the system will show underground utilities and voids if there are any in the concerned area. While in operation, no radioactive emissions are used.

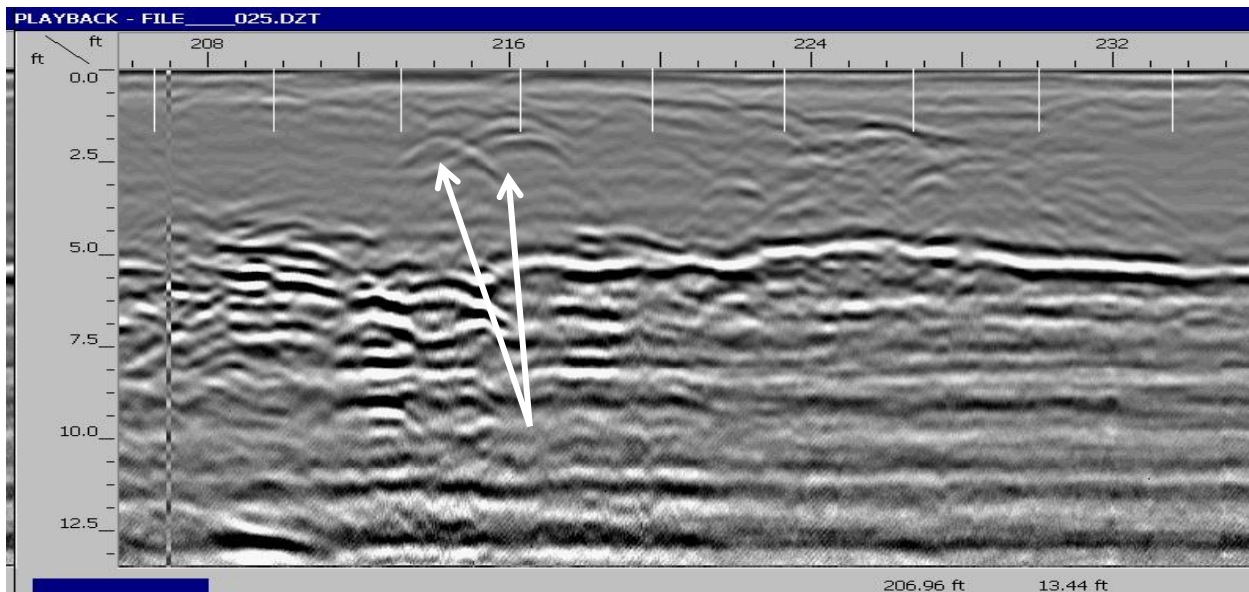
5. Findings

When looking for the utilities under the surface we are looking for a black-white-black image. North-south, and east-west scans were performed in a grid pattern throughout the site. After the first day of scanning most of the in-service utilities were able to be located between the three schools. Due to ground saturation from a prior rainstorm, the utilities and obstructions were unable to be detected throughout the grassy areas. The following day, I was able to scan the playground, and the area leading to school #1. Several anomalies were detected underground and findings were marked on the surface for review. The following data was collected at the site and included for a better understanding of the GPR imaging that was done. You will see true data scans taken in real time at the site.

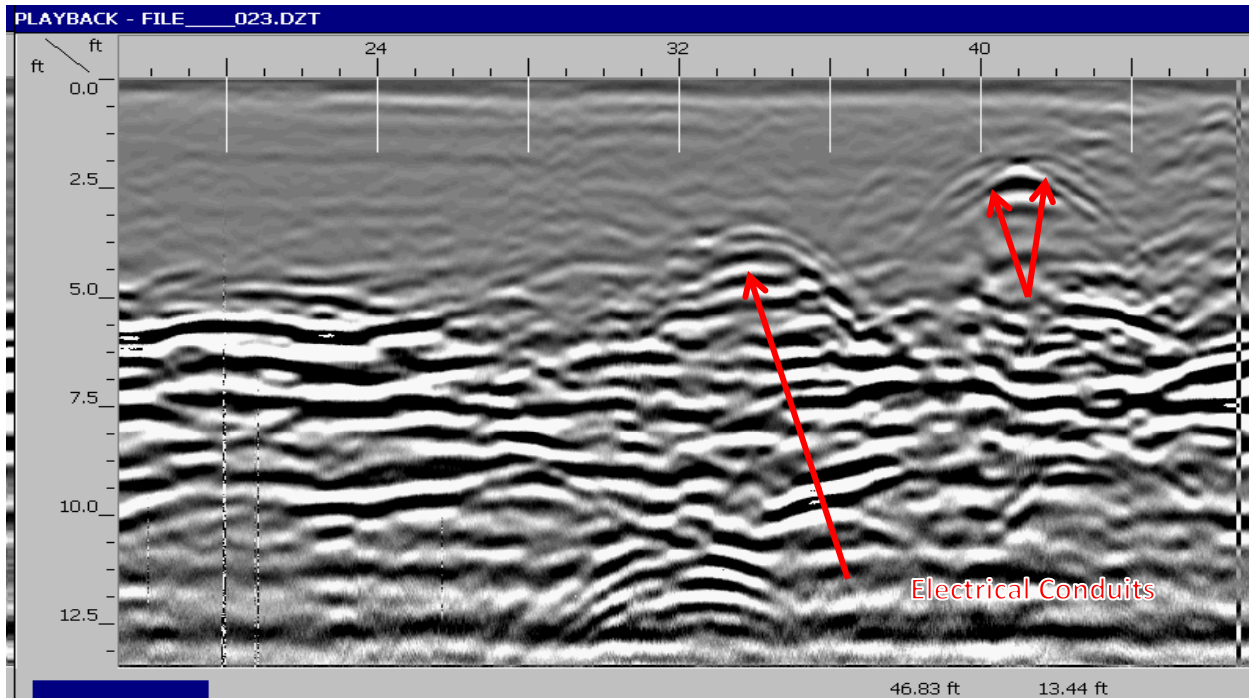


Overall the soil under the playground area didn't show an abundance of obstructions until around five feet in depth.

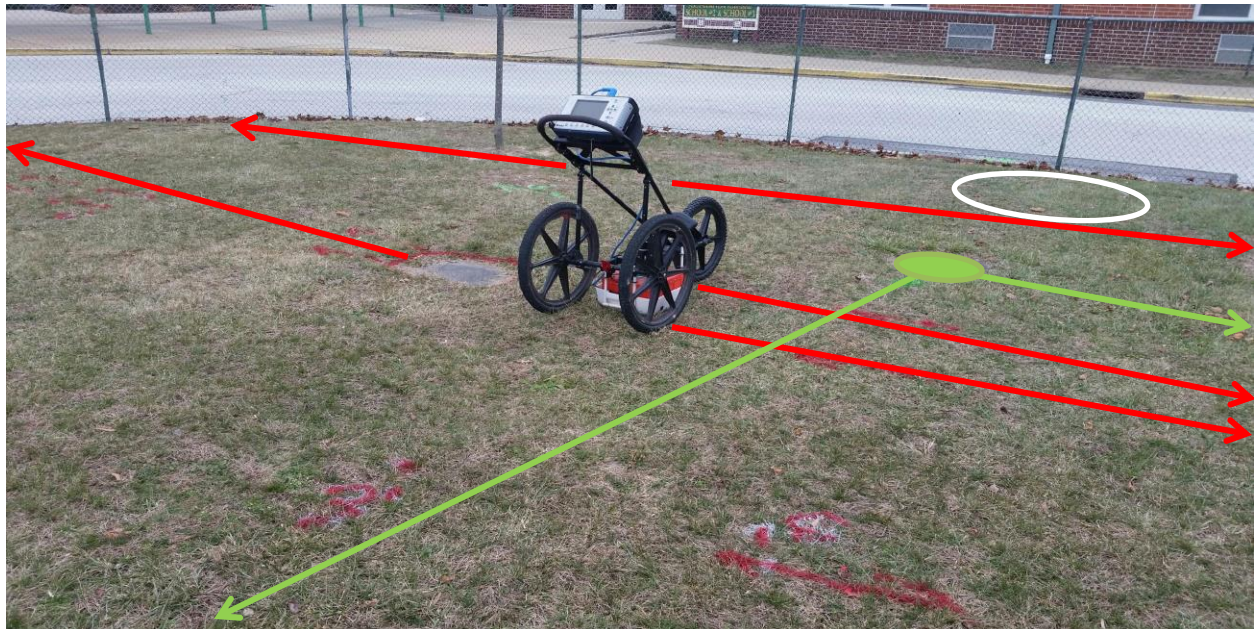
***There are two gauges in each screen shot. The left side (y axis) gives the technician the depth of the scan while the top (x axis) allows you to see the distance of each scan performed.*



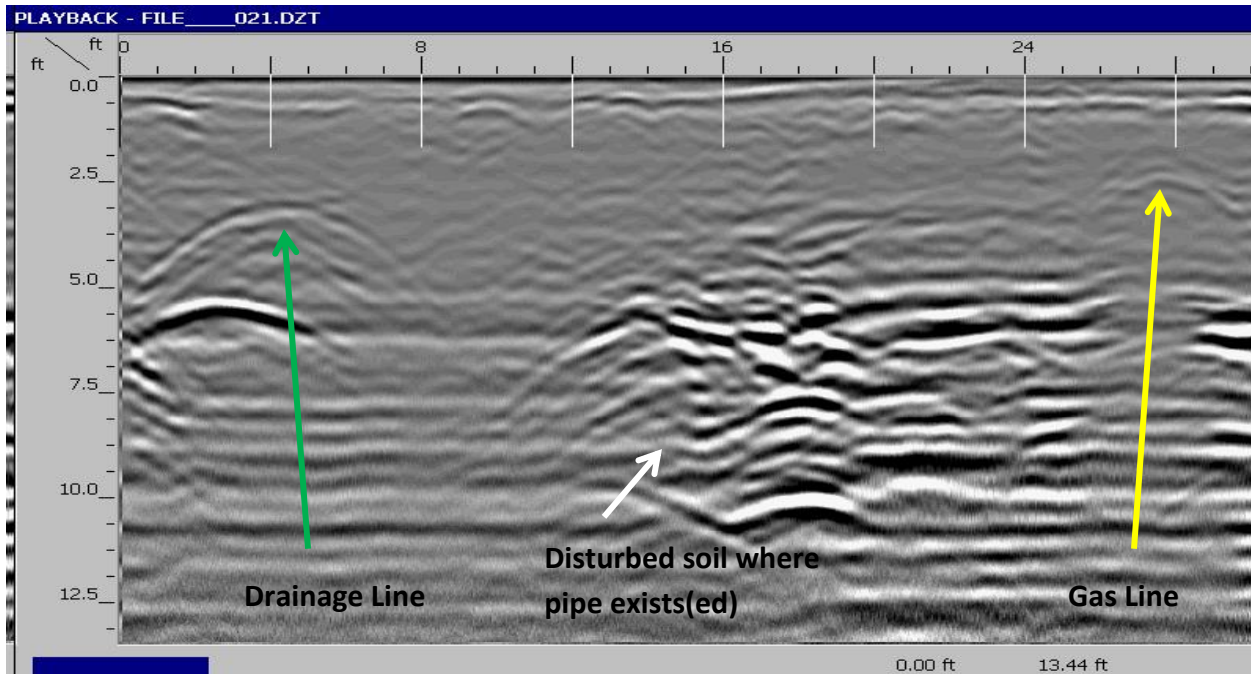
While scanning the grassy areas, anomalies similar to the ones shown above appeared throughout the site. These disturbances were indicated on the surface with white marking paint. Further investigation reveals if they extend as a pipe, and the direction of travel.



Live electrical current was detected while performing sweeps of the area with the RD7000. After scanning these areas with the 400MHz GPR antenna, the conduits was mapped out with their depths. The conduits located here show high current.

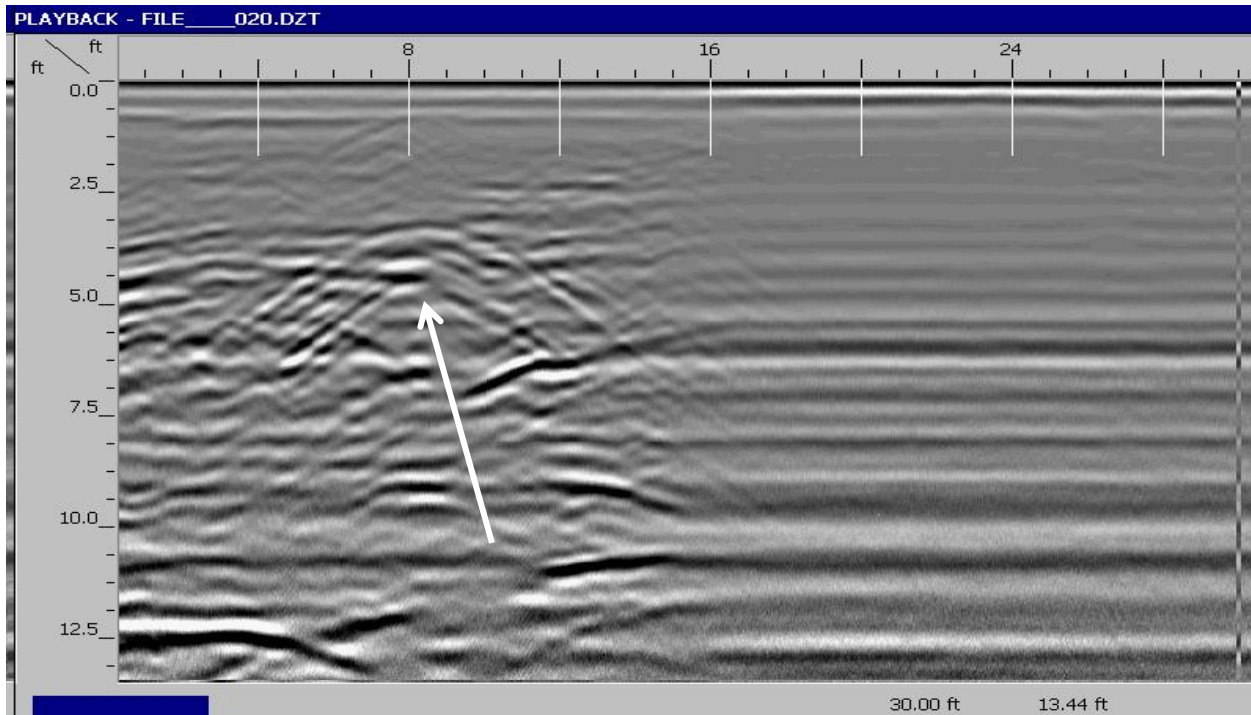


A fiberglass ring can be seen protruding from under the grass. After scanning over the area no evidence of attaching pipes were detected running into the structure.

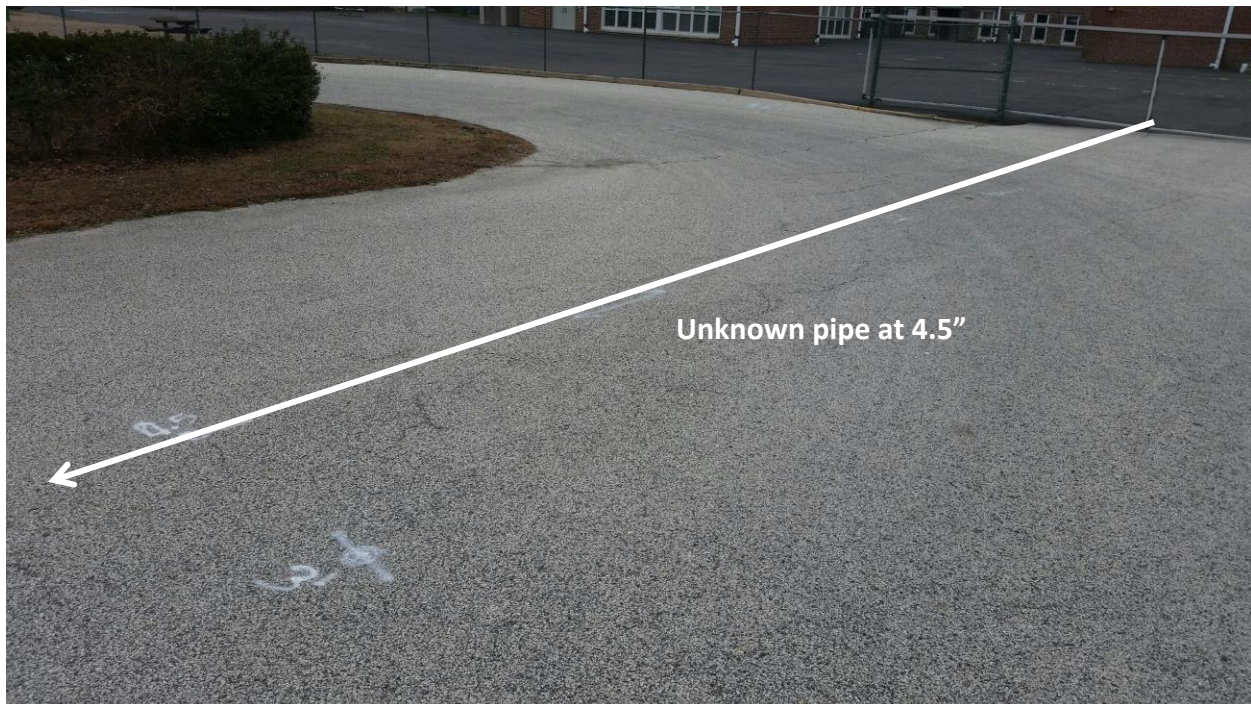


The locations of the drainage and gas lines indicated on the surface. The area between contained a lot of disturbed soil making it difficult to tell if the pipe was still present across the whole area.

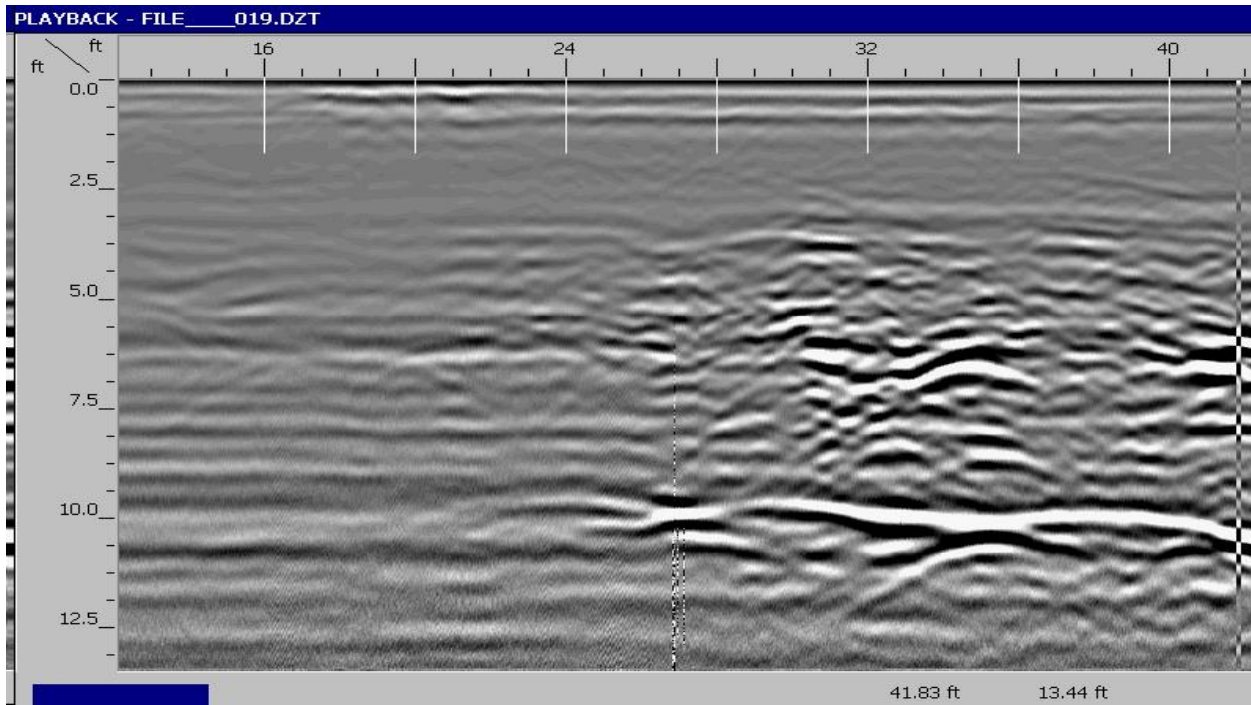




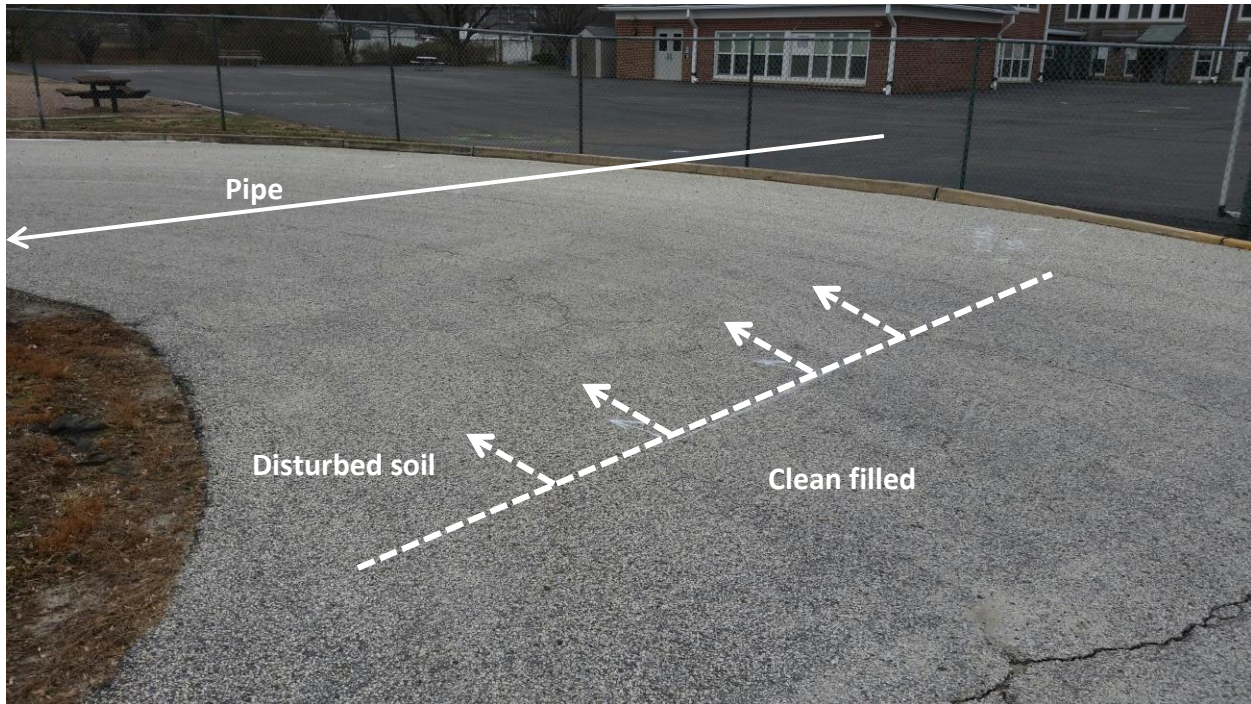
One of the anomalous features discovered beneath the surface in the roundabout.

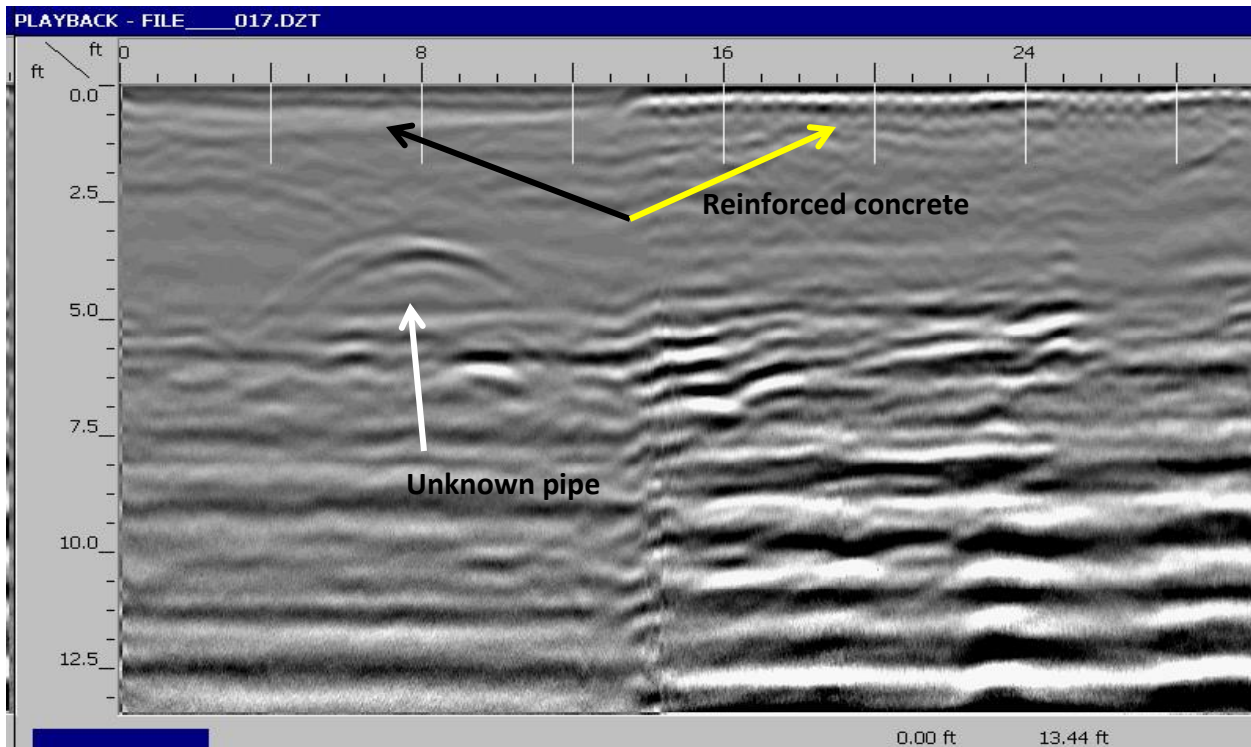


Though this area showed generally few reactions, the GPR antenna did detect several anomalies under the surface. The findings were marked on the surface and recorded.



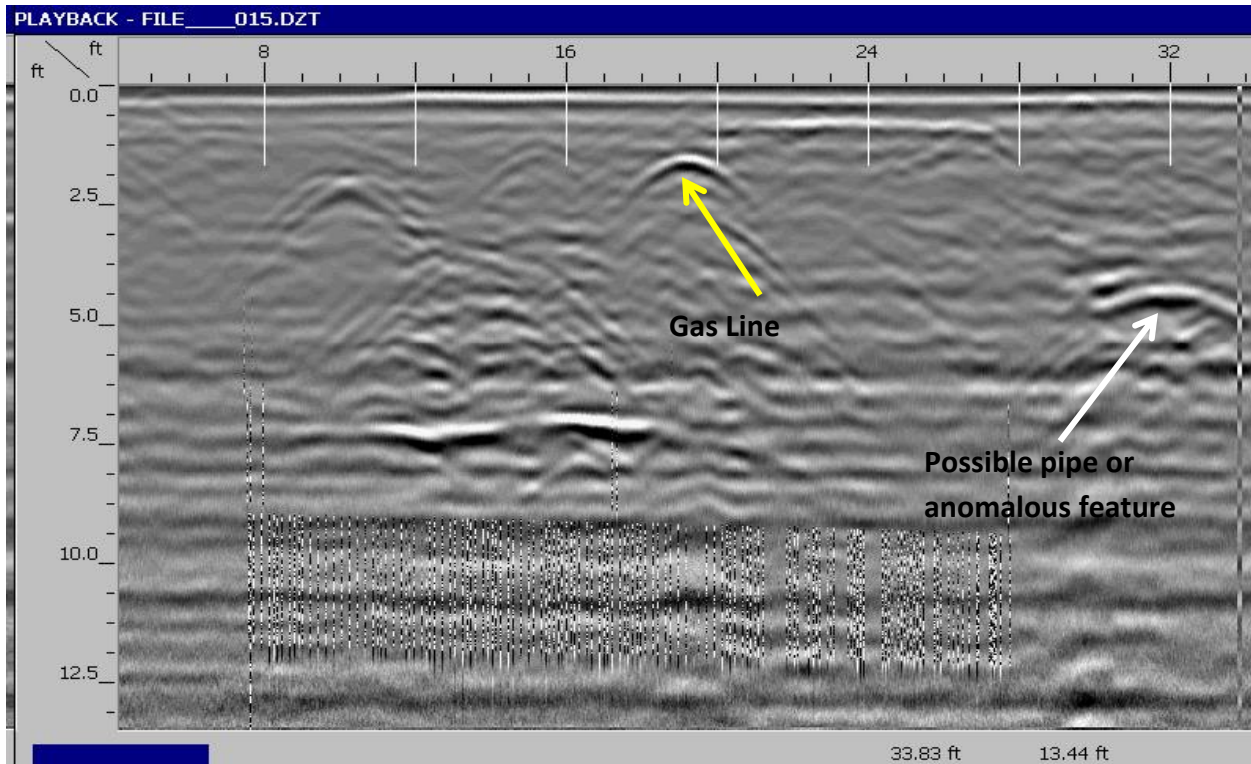
Disturbed soil appeared heavily throughout the area under the paved turnabout area





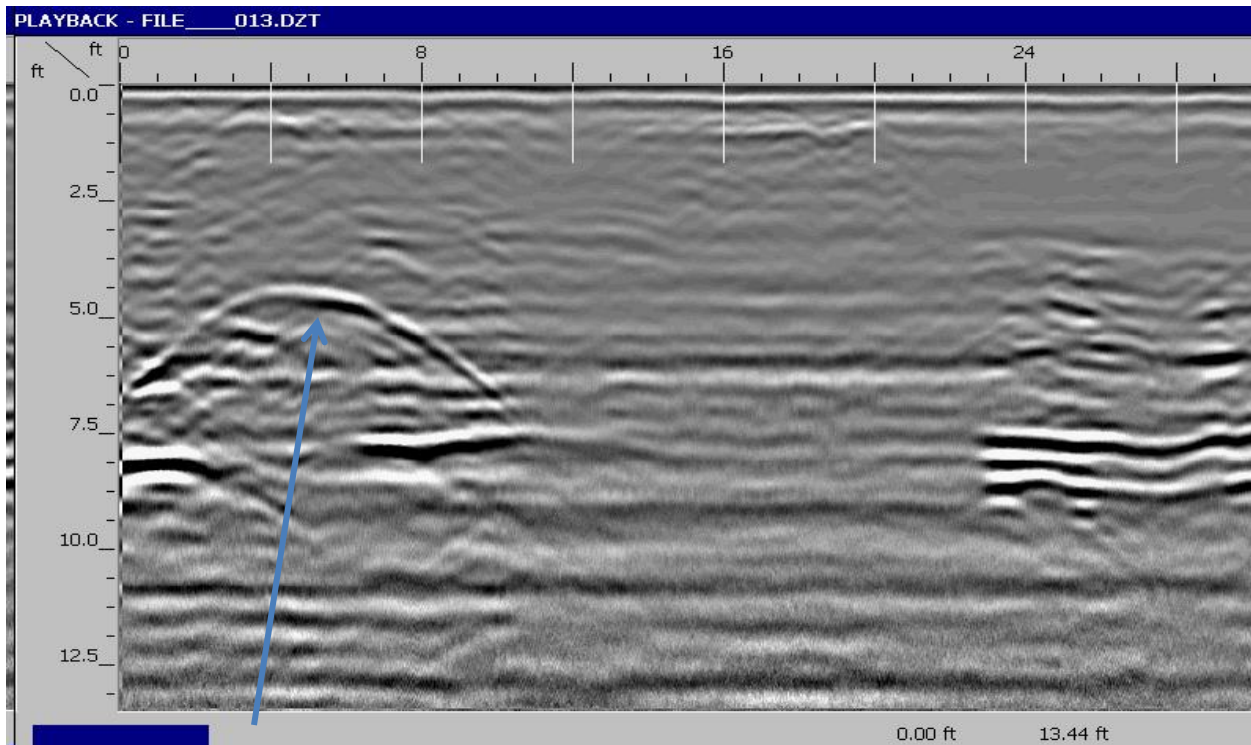
Anomalies located under and near the covered walkway. The portion of the concrete running under the roof is reinforced with rebar or wire mesh





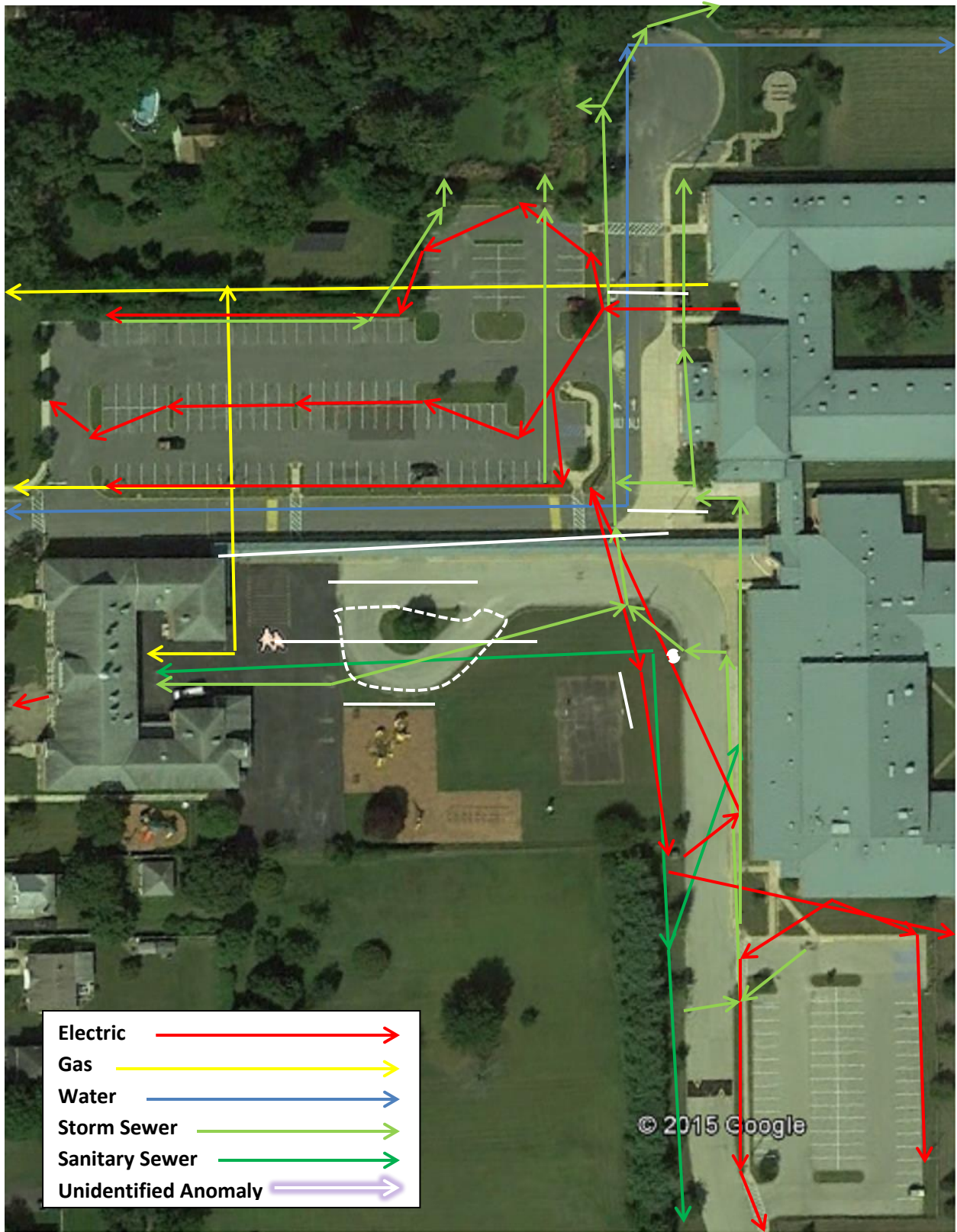
Scanning in front of the school #2 near the area where the proposed installations will be located.





The waterline as it appears under the blacktop





6. Qualifications

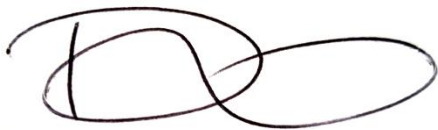
Ground Penetrating Radar Systems, Inc. (GPRS) was started in October 2001, by Matt Aston. The original intention in starting this business was to give contractors a reliable way to “see” into the concrete slabs in order to avoid cutting embedded electrical conduits and critical reinforcing steel. While GPRS performs this work on a regular basis, there are many other applications in which we use Ground Penetrating Radar to benefit our customer base.

Since our inception, GPRS has grown to be nationwide and has completed over five thousand projects. We are very proud of our ten years of zero recordables. We are very proud of our performance. We have had a reported incident of error on less than one percent of the projects we have completed. Our customers have expressed a high level of satisfaction, as evidenced by the fact that in 2010, nearly 80% of our business was either repeat or referred by our customers. GPRS has been involved on projects ranging from small residential jobs to major construction projects with values in excess of \$1 Billion.

7. Closing

Thank you for the opportunity to serve you on this project. I hope this report has answered all the questions you had regarding this survey. However if there is anything you have questions about or feel was omitted, please do not hesitate to contact me.

Thank you,

A handwritten signature in black ink, appearing to read 'Daniel Slachta', with a stylized, cursive script.

Daniel Slachta

Project Manager of Southern New Jersey and the Tri-State Region

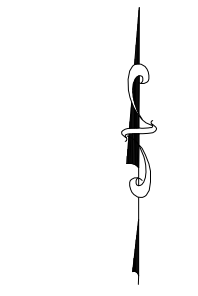
Ground Penetrating Radar Systems, Inc.

New Jersey- 609.350.9651

Daniel.Slachta@GP-Radar.com

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LEGEND

- x — BUILDING/FENCES
- DATA/COMMUNICATION
- E — ELECTRICAL
- W — WATER
- SD — STORM SEWER
- SAN — SANITARY SEWER
- GAS — GAS
- UNKNOWN
- ⊙ LP LIGHT POLE
- ⊙ ELEC MH
- ⊙ SAN SEWER MH
- ⊙ CB CATCH BASIN
- ⊙ STORM SEWER MH
- ⊙ VALVE
- ⊙ FH HYDRANT

GP8DS - SOUTHAMTON SCHOOL CHILLERS
GPRS SCAN RESULTS

PLAN - AERIAL

REVISIONS

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |

DRAWN BY

DAN KOLLAR

CHECKED BY

NAME

TECHNICIAN

DANIEL SLACHTA
DANIEL.SLACHTA@GP-RADAR.COM
609.350.9651

DATE 1/20/2015

DRAWING NO. 1



DAN KOLLAR

PLOT DATE: 1/21/2015

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- ⊕^{HY} HYDRANT

GP8DS - SOUTHAMTON SCHOOL CHILLERS
GPRS SCAN RESULTS

PLAN - LINEWORK

REVISIONS

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |

DRAWN BY

DAN KOLLAR

CHECKED BY

NAME

TECHNICIAN

DANIEL SLACHTA
DANIEL.SLACHTA@GP-RADAR.COM
609.350.9651

| | |
|-------------|-----------|
| DATE | 1/20/2015 |
| DRAWING NO. | 2 |

