DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 6 TO PROJECT NO. 45679

CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK
INDUSTRY SECURE CENTER
101 RYDER HILL ROAD
RUSH, NEW YORK 14543

October 6, 2017

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

SPECIFICATION GROUP

GENERAL REQUIREMENTS - CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK

1. 011000 SUMMARY OF THE WORK: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

2. 015000 CONSTRUCTION FACILITIES & TEMPORARY CONTROLS: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

3. 015123 CONSTRUCTION HEAT AND TEMPORARY HEAT: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

4. 019113 GENERAL COMMISSIONING REQUIREMENTS: Delete this Section in its entirety.

CONSTRUCTION WORK

5. 023313 UNDERGROUND UTILITY LOCATOR SERVICE: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

6. 072100 BUILDING INSULATION: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

7. 074646 MINERAL FIBER CEMENT SIDING: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

8. 088100 GLASS AND GLAZING: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

9. 099101 CONSTRUCTION PAINTING: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

10. 311000 SITE CLEARING: Delete this Section in its entirety.

11. 311300 SELECTIVE TREE REMOVAL: Delete this Section in its entirety.

12. 313119 VEGETATION CONTROL: Delete this Section in its entirety.

13. 320117 PAVEMENT REPAIR AND RESURFACING: Delete this Section in its entirety.

14. 323113 CHAIN LINK FENCE AND GATES: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

HVAC WORK

15. 078400 FIRESTOPPING: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

PLUMBING WORK

16. 221120 MIXING VALVES: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

17. 224223 SHOWERS: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

ELECTRICAL WORK

18. 078400 FIRESTOPPING: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

19. 263354 UNINTRRUPTIBLE POWER SUPPLY SYSTEM: Delete this Section in its entirety.

20. 265100 INTERIOR LIGHT FIXTURES: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

21. 265200 EMERGENCY LIGHTING UNIT EQUIPMENT: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

22. 265300 EXIT LIGHT FIXTURES: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

23. 275112 INTERCOM AND ZONE PAGING SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

24. 281354 METAL DETECTOR: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

25. 281604 MICROWAVE DETECTION SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

26. 281605 PERIMETER ALARM SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

27. 282304 VIDEO SURVEILLANCE SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

28. 283105 MODIFICATIONS TO FIRE ALARM SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

29. 284601 ELECTRONIC DOOR LOCKING AND MONITORING SYSTEM: Discard the section bound in the Project Manual and substitute the accompanying section noted "Revised 10/5/17".

DRAWINGS

CONSTRUCTION WORK DRAWINGS

30. Addendum Drawing:
    a. Drawing No. C-0506, noted "Addendum Drawing 10/05/17" accompanies this Addendum and forms part of the Contract Documents.

31. Drawing No. A-1502:
    a. GENERAL NOTES Column, add note:

        "5. Where full height wall is parallel to the roof slope, the bond beam is to be placed at the top course of CMU. Where a full height wall is perpendicular to the roof slope, the bond beam shall be staggered at the top of the wall. The bond beam to be the first non-tapered course with solid CMU above forming the tapered course. The staggered bond beam shall overlap by a horizontal distance of 2'-0"."

32. Drawing No. A-1600:
    a. GENERAL PARTITION NOTES Column, add note:

        "1. Where building structure penetrates rated construction or smoke barriers, penetrations should be firestopped in accordance with UL-W-J-7110."

33. Drawing No. A-2502:
    a. GENERAL NOTES Column, add note:

"5. Where full height wall is parallel to the roof slope, the bond beam is to be placed at the top course of CMU. Where a full height wall is perpendicular to the roof slope, the bond beam shall be staggered at the top of the wall. The bond beam to be the first non-tapered course with solid CMU above forming the tapered course. The staggered bond beam shall overlap by a horizontal distance of 2'-0"."

34. Drawing No. A-2600:
    a. GENERAL PARTITION NOTES Column, add note:

"1. Where building structure penetrates rated construction or smoke barriers, penetrations should be firestopped in accordance with UL-W-J-7110."

35. Revised Drawings:
    a. Drawings listed below, noted "ADDENDUM 6 10/05/17" accompany this Addendum and superseded the same numbered all previously issued versions.

Civil Drawings

C-0002	C-0112	C-0141	C-0500
C-0101	C-0121	C-0142	C-0501
C-0102	C-0122	C-0151	C-0504
C-0111	C-0131	C-0152	C-0506

Architectural Drawings

A-1005	A-2101	A-3101	A-6102
A-1101	A-2103	A-4101	A-6105
A-1103	A-2202	A-5101	A-6106
A-1202	A-2601	A-5605	A-6601
A-1601	A-2605	A-6101	A-6606
A-2005			

HVAC WORK DRAWINGS

36. Revised Drawings:
    a. Drawings listed below, noted "ADDENDUM 6 10/05/17" accompany this Addendum and superseded the same numbered all previously issued versions.

HVAC Drawings

M-1102	M-3601	M-4601	M-5601
M-2102	M-4101	M-5101	M-7502

PLUMBING WORK DRAWINGS

37. Revised Drawings:

a. Drawings listed below, noted "ADDENDUM 6 10/05/17" accompany this Addendum and superseded the same numbered all previously issued versions.

Plumbing Drawings

P-1105	P-2105	P-2503	P-4102
P-1106	P-2106	P-3102	P-5102
P-1503			

ELECTRICAL WORK DRAWINGS

38. Addendum Drawing:

a. Drawing No. E-3701, noted "Addendum Drawing 10/05/17" accompanies this Addendum and forms part of the Contract Documents.

39. Revised Drawings:

a. Drawings listed below, noted "ADDENDUM 6 10/05/17" accompany this Addendum and superseded the same numbered all previously issued versions.

Electrical Drawings

E-0002	E-1602	E-2602	E-6102
E-0003	E-1610	E-2610	E-6103
E-0004	E-1611	E-2611	E-6105
E-1001	E-2001	E-3501	E-6106
E-1003	E-2003	E-3701	E-6401
E-1102	E-2102	E-4101	E-6402
E-1103	E-2103	E-4501	E-6610
E-1401	E-2401	E-5501	E-6611
		E-6101	

Security Drawings

EY-0001	EY-1101	EY-6202	EY-7605
EY-0002	EY-2101	EY-6301	EY-7606
EY-0003	EY-4101	EY-6501	EY-7607
EY-0004	EY-6103	EY-6502	EY-7609
EY-0005	EY-6104	EY-6702	EY-7614
EY-0701	EY-6201	EY-7501	

END OF ADDENDUM

Margaret F. Larkin
Executive Director
Design and Construction

REVISED
10/4/17

SECTION 011000

SUMMARY OF THE WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The title and location of the Work is printed on the cover of this Project Manual.

B. Type of Contract: Fixed price.

1.02 RELATED CONTRACTS

A. The Project consists of the following separate contracts:

Construction Work	Project No. 45679-C
HVAC Work	Project No. 45679-H
Plumbing Work	Project No. 45679-P
Electrical Work	Project No. 45679-E

B. The suffix letter at the end of the project number distinguishes the separate Contracts. The Sections in Division 01 of the Specifications which have more than one suffix letter (such as this Section) are common to each related Contract.

1.03 SUBSTANTIAL AND PHYSICAL COMPLETION DATES

A. Substantially complete the Work by August 21, 2018.
   1. The time allocated for the performance of work under this contract includes 10 days for notification of the Contractor of the Comptroller's approval of the Agreement.
   2. The approval of the Agreement by the Comptroller constitutes the filing of the Contract Documents as a public record and notice to the Contractor that a fully executed contract exists between the Contractor and the State.

B. Physically complete the Work as outlined below:
   1. Complete Punch List items and vacate the site by September 28, 2018.
   2. Complete the remainder of Contract Closeout Documentation by November 2, 2018.

1.04 CONTRACT AWARD SUBMITTALS

A. Submittal No. 1: Submit the CONTRACTOR'S LIST OF SUBCONTRACTORS-SUPPLIERS information required in SCHEDULES AND RECORDS Article in Specification Section 013000 not later than 5 days after approval of the Contract by the Comptroller.

B. Submittal No. 2: Submit the Submittal Coordinator Qualifications not later than 5 days after Award. Include resume and references, and other certification, licenses, or other requested information

C. Submittal No. 3: Submit the SUBMITTALS and QUALITY ASSURANCE information required for Doors, Frames and Hardware as required by Specification Sections 081102, 082200 and 087100 not later than 20 work days after approval of the Contract by the Comptroller.

D. Submittal No. 4: Submit the Submittals and Quality Assurance submittals required for Steel Detention Windows as required by Specification Section 085662 not later than 20 work days after approval of the Contract by the Comptroller.

E. Submittal No.5: Submit the Submittals and Quality Assurance submittals as required by Specification Sections 323113 Chain Link Fence and Gates and 323114 Gate Systems not later than 20 work days after approval of the Contract by the Comptroller.

F. Submittal No. 6: Submit the Product Data, Samples and Quality Control submittals for Subbase Type 2 and Filter Fabric as required by Specification Section 310000 Earthwork, not later than 20 work days after approval of the Contract by the Comptroller.

G. Submittal No. 7: Submit the Product Data and Quality Control submittals required by Section 321216 Asphalt Concrete Paving, not later than 20 work days after approval of the Contract by the Comptroller.

H. Submittal No. 8: Submit the Submittal Package as required by Section 230923 1.08B Direct Digital Building Control System not later than 20 work days after approval of the Contract by the Comptroller.

I. Submittal No. 9: Submit the Metal Ductwork Shop Drawing Submittal as required by Section 233113 not later than 20 work days after approval of the Contract by the Comptroller.

J. Submittal No. 10: Submit the Submittals and Quality Assurance submittals for as required by Section 211300 Sprinkler Piping not later than 20 work days after approval of the Contract by the Comptroller.

K. Submittal No. 11: Submit the Submittals and Quality Assurance submittals for as required by Section 211313 Sprinkler Systems not later than 20 work days after approval of the Contract by the Comptroller.

L. Submittal No. 12: Submit the Submittals as required by Section 284601 Electronic Door Locking and Monitoring System not later than 20 work days after approval of the Contract by the Comptroller.

M. Submittal No. 13: Submit the Submittals and Quality Assurance documentation as required by Section 282304 Video Surveillance System not later than 20 work days after approval of the Contract by the Comptroller.

N. Submittal No.14: Submit the Submittals and Quality Assurance documentation as required by Section 281605 Perimeter Alarm System not later than 20 work days after approval of the Contract by the Comptroller.

O. Submittal No.15: Submit the Submittals and Quality Assurance documentation as required by Section 281604 Microwave Detection System not later than 20 work days after approval of the Contract by the Comptroller.

P. Submittal No.16: Submit the Submittals and Quality Assurance documentation as required by Section 283105 Modifications to Fire Alarm System not later than 20 work days after approval of the Contract by the Comptroller.

Q. Submittal No.17: Submit the Submittals for the Light Poles as required by Section 265629 Street Lighting and Grounds Lighting not later than 20 work days after approval of the Contract by the Comptroller.

R. Submit the remainder of all submittals (with the exception of Contract Closeout submittals) within 45 work days after approval of the Contract by the Comptroller.

1.06 RESTRICTED WORK PERIOD

A. Construction Work Contract: Do not perform the waterproofing and related Work on or after December 1st and up to, but not including April 1st unless approved otherwise, in writing, by the Director. During this period, clear the work area of materials, equipment, and debris.

B. Construction Work Contract: Do not perform the asphalt paving Work on or after November 15th and up to, but not including April 15th, unless approved otherwise, in writing, by the Director. During this period, leave the disturbed earthwork areas stabilized for winter shutdown and clear the Work area of materials, equipment, and debris.

C. HVAC Work Contract: Do not perform Work requiring shut off of active heating piping and equipment on or after October 15th and up to, but not including May 1st unless approved otherwise, in writing, by the Director.

1.07 ITEMS NOT INCLUDED

A. The following items shown on the Drawings are not included in the Contract:
   1. Items indicated "NIC" (Not in Contract).
   2. Existing construction, except where such construction is to be removed, replaced, or altered.

1.08 CONFINED SPACE

A. Comply with confined space and permit-required confined space as defined in Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

B. Comply with Safety Requirements for Confined Spaces (ANSI/ASSE Z117.1-2009).

C. All spaces shall be treated as permit-required confined spaces until the Contractor and/or subcontractors are able to re-classify the space to a non-permit confined space as per 29CFR 1910.146 and ANSI/ASSE Z117.1-2009.

D. Indicated confined spaces are not intended to limit or define Contractor's or subcontractors' regulatory compliance requirements. In addition to confined spaces indicated on the drawings, other confined spaces may be present or created by the work of this contract. Notify the Director's Representative, in writing, of confined spaces created or eliminated during execution of the Work.

E. For the purpose of inspecting ongoing work, furnish at no additional cost to the State, personnel, as directed, to allow the Director's Representative to enter confined space and permit-required confined space in compliance with Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

1.09 OCCUPANCY

A. This is an unoccupied Facility. However, portions of the site and Building 90 will be occupied and operational during execution of the Work for use as a Field Office by the Director's Representative. Ingress to and egress from Building 90 shall be maintained at all times.

1.10 CONTRACTOR USE OF PREMISES

A. Work hours shall be as established by the Facility authorities thru the Director's Representative.

B. Inform the Director's Representative of work area access requirements. The Director's Representative will coordinate and schedule the requirements with Facility staff to obtain and ensure timely availability of work areas.

C. Check in with the Facility Representative, as directed, at the beginning of each work day. Furnish information regarding where employees will be working during the day.

D. Comply with the Facility's Visitor Identification Policy. A copy of the current policy will be distributed at the initial job meeting.

E. The following items are not allowed on the Site or on Facility premises.
   1. Firearms, ammunition, weapons, and dangerous instruments (other than tools required for the Work).
   2. Alcoholic beverages and persons under the influence of same.
   3. Illegal controlled substances and persons under the influence of same.
   4. Cameras (except with written permission from the Director's Representative).

F. Comply with Facility policies relating to smoking at the Site.

G. Routes of ingress and egress within the building to the location of the Work shall be as directed by the Director's Representative.

H. Store materials and perform the Work so that pedestrian and vehicular traffic is not obstructed.

I. Do not diminish the level of life safety during performance of the Work.

J. Utility Outages and Shutdowns: Do not interrupt utility services or branch services within the building except for the time required to make new connections. Arrange with the Director's Representative for the time and duration of interruptions of services. Provide temporary services required to maintain building services at all times other than during scheduled interruptions.

K. Be responsible and accountable for employees, suppliers, subcontractors and their employees, with regard to their use of the premises. Direct them to comply with the Facility Regulations and with the security and traffic regulations.

L. Furnish Facility authorities with a telephone number or method to contact the supervisor for the Work in case of an emergency after work hours, including weekends and holidays.

M. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.
   1. Upload and maintain electronic SDS documents on the Submittals Website (SDS tab).
   2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
   3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility's Right-to-Know Information Officer.

N. Direct employees to be watchful for people in or near the work area where safety hazards may be present. Notify the Facility Safety/Security Department, if necessary, to remove them from the work area or Site.

O. Report fire and other emergency situations to the Facility Safety/Security Department immediately.

1.13 OPENINGS AND CHASES IN NEW CONSTRUCTION

A. Construction Work Contract:
   1. Unless specifically indicated otherwise, provide openings, chases, and similar items in new construction provided under this Contract, as required for items to be provided under related contracts.
   2. After the installation and completion of the items for which openings and chases have been provided, build in, over, around and finish the openings and chases to complete the Work.

3. Provide all cutting, patching, and refinishing resulting from failure to provide the required openings and chases, if the necessary information was furnished by the related contractor before 24 hours of start of the applicable part of the Work.
4. If related contractors fail to furnish drawings or written information covering the openings and chases they require in new construction at least 24 hours before installation of the Work affected by those items, the related contractors will be required to do all cutting, patching, and refinishing of the construction so affected, at their own expense.

B. HVAC Work, Plumbing Work, and Electrical Work Contracts:
1. Unless specifically indicated otherwise, furnish drawings or written information to the Construction Work Contractor covering the openings and chases required in new construction for the Work. If such information is not furnished at least 24 hours before start of the applicable part of the Construction Work Contractor's work, all necessary cutting, patching and refinishing will be included in the Contract at no additional cost to the State.

C. All Contracts: Locate and field drill or cut required openings under 10 inches (in diameter or on a side), which were not plant fabricated, in precast prestressed concrete units after the units have been installed. Such openings and/or cutting of prestressing strand shall be approved by the Design Engineer and prestressed Unit manufacturer before drilling or cutting.
1. Refinish exposed surfaces damaged during drilling or cutting operations (if unit is not structurally damaged) to match adjacent area.
2. Replace units structurally damaged during drilling or cutting operations.

1.14 REFERENCE SPECIFICATIONS AND STANDARDS

A. Comply with the requirements of the various specifications and standards referred to in these Specifications, except where they conflict with the requirements of these Specifications. Such reference specifications and standards shall be the date of latest revision in effect at the time of receiving bids, unless the date is given.

B. DOT Specifications: If the abbreviation DOT appears in these Specifications, it shall mean the most current edition of the New York State Department of Transportation, Office of Engineering specifications entitled "STANDARD SPECIFICATIONS - CONSTRUCTION AND MATERIALS", including all applicable Addenda in effect at the time of receipt of bids. The DOT specifications may be purchased from the Department of Transportation, Plan and Publication Sales, 50 Wolf Road, Albany, NY 12232, (518) 457-2124.

1.15 LAYING OUT

A. Examine the Contract Documents thoroughly and promptly report any errors or discrepancies to the Director's Representative before commencing the Work.

B. Lay out the Work in accordance with the Contract Documents.

1. Layouts which require the establishment of property lines or monuments shall be performed by a Land Surveyor licensed by New York State.

1.16 SPECIAL INSPECTIONS

A. Special Inspections and tests are required by Chapter 17 of the Building Code of New York State (BCNYS). Inspections & Testing Services will be provided by the state unless otherwise noted.

B. Contractors are responsible for notifying the Directors Representative regarding individual inspections listed in the **STATEMENT OF SPECIAL INSPECTIONS**. Contractors shall cooperate with the inspectors and testing agencies and sufficient notice and lead time (minimum 48 hours) must be allowed for inspection and testing to be performed.

C. Where deficiencies are identified, the contractor must take corrective actions to comply with the contract documents or remedy the deficiencies in accordance with Article 9 of the General Conditions.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

Revised 10-5-17

SECTION 015000

CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 GENERAL

1.01 DESCRIPTION

A. Provide the construction facilities and temporary controls necessary for the Work, unless otherwise indicated.
   1. The construction facilities and temporary controls specified to be provided by a particular Contract shall be kept operational by that Contractor for the Work of all related Contracts at all times Work is being performed by a Contractor.
   2. The construction facilities and temporary controls specified to be provided by a particular Contractor shall be installed as soon after award of the Contract as necessary to enable the Work of each Contract to proceed on schedule, and maintained until completion of the Work of all related contracts unless otherwise directed in writing.
   3. Any Contractor who requires additions to the construction facilities and temporary controls specified to be provided by another Contractor, shall provide and maintain them.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Construction Heat and Temporary Heat: Section 015123.

1.03 TEMPORARY LIGHT AND POWER

A. Electrical energy for temporary light and power will be made available without charge.

B. Extent of Temporary Wiring: Contractors may ascertain the extent of the temporary wiring provided under the Electrical Work Contract by examining the Electrical Drawings. Wiring for Contractor's trailers is not included.

C. Electrical Work Contract:
   1. Make necessary arrangements, through the Director’s Representative, for temporary electrical service at location indicated.

D. All Contracts:
   1. Any Contractor requiring additional lighting shall provide additional fluorescent fixtures or incandescent lampholders (with lamps), but in no case shall the load on any branch circuit or feeder exceed its rated capacity.
   2. Install materials for temporary light and power in conformance with the National Electrical Code.

3. Materials for temporary light and power need not be new if they are in satisfactory operating condition.
4. Provide ground-fault protection for personnel (such as portable plug-in type ground-fault circuit-interrupters) on single phase 15 and 20 ampere receptacle outlets which are in use.
5. Receptacle outlets, portable cord connectors and attachment plugs shall have standard NEMA configurations.
6. As the progress of the Work allows, and as approved, completed portions of the permanent wiring and electrical service may be utilized for temporary light and power.

1.04 TEMPORARY WATER

A. Water will be made available for the Work without charge at source or sources directed within the limits of the existing supply and usage.

B. All Contracts: Prevent waste of water.

1.05 TEMPORARY TOILETS

A. Construction Work Contract: Provide toilet facilities for Contractor's and subcontractors employees engaged on the Project, including employees of other contractors. Locate toilets where directed, and maintain them in a sanitary condition.

NUMBER OF EMPLOYEES	MINIMUM NUMBER OF FACILITIES
20 or less	1 toilet
20 or more	1 toilet and 1 urinal per 40 employees
200 or more	1 toilet and 1 urinal per 50 employees

*Toilet/Urinal Combinations shall count as only one facility.

1. Where water and sewer connections are available, provide water closets, otherwise provide approved chemical or electric toilets.
2. Locate toilet facilities no more than 1000 feet from any work location.
   a. Exception: Mobile crews having readily available transportation to nearby toilet facilities.

1.06 PROTECTION OF WORK AND EXISTING PROPERTY

A. Protect installed Work and existing property during performance of the Work.

B. Maintain the building in a watertight condition during performance of the Work.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at wall projections, jambs, sills, and soffit of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, and movement of heavy objects by covering them with durable sheet materials.

F. Protect smoke detectors from airborne dust and debris.
   1. At the beginning of each work day, provide protective coverings over smoke detectors in areas where airborne dust and debris will be generated by the Work.
   2. At the end of the work day, clean the areas in which the smoke detectors are located by whatever means necessary to assure that airborne dust and debris will not contaminate the smoke detectors, then remove protective coverings.
   3. Provide signs, instructions and alternate methods for reporting a fire during the periods that the smoke detectors are covered.
   4. Notify the Director's Representative and have procedures approved.

G. Prohibit traffic or storage upon waterproofed and roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

H. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants within the grading limit lines. Do not deposit excavated materials or store building materials around trees or plants. Do not attach guy wires to trees.

I. Prohibit traffic from landscaped areas.

J. Cleaning tools of cementitious and other insoluble materials:
   1. Do not wash tools in sinks or other sanitary drainage systems. Protect all drainage systems from debris that can clog or damage piping and fixtures.
   2. Take all precautions necessary to prevent cementitious and other insoluble materials from flowing into floor drains.
   3. Dispose of excess cementitious and other insoluble debris with the other rubbish.

1.07 BARRIERS AND ENCLOSURES

A. All Contracts: Provide barriers during performance of the Work to:
   1. Prevent unauthorized entry to work areas.
   2. Allow for State's occupancy of Site.
   3. Protect existing facilities and adjacent properties from damage.
   4. Protect vehicular and pedestrian traffic.

B. Construction Work Contract:
   1. Temporary Partitions: Provide temporary partitions to form fire resistive barriers between work areas and areas occupied by State personnel. Construct the partitions of 3-5/8 inch width steel framing or 2 x 4 wood framing, with 5/8 inch thick Type X (ASTM C 36) gypsum board on both sides of partition. Secure the partitions in place without damaging existing construction. Seal joints on the State occupied side with joint

tape and compound. Provide 1-3/4 inch thick solid core flush wood doors or 18 gage flush steel doors, and steel door frames. Equip doors with full mortise hinges and lockset. Furnish the Director's Representative with 2 keys for each lock.

1.08 SECURITY

A. Key Deposits: A $25 deposit will be required for each key issued by the Facility. Deposits will be refunded upon return of the keys.

B. Facility Key Regulations:
1. Sign Facility keys out and in on a daily basis unless otherwise directed.
2. Keep keys on person at all times while on the premises. Do not loan or give keys to other persons.
3. Do not remove keys from the premises without written permission from the Director's Representative.
4. Report lost, missing, or stolen keys immediately to the Facility Safety/Security Department. Assume responsibility for cost of necessary key and lock replacement as a result of lost, missing, or stolen keys.

C. Identification Cards:

D. Promptly relock doors and security screens located in access routes, storage areas, and work areas after use.

E. Restore, by the end of each work day, existing in place safety/security items such as doors, screens, alarm systems components, that required removal, replacement, or adjustment to perform the Work, unless otherwise authorized in writing by the Director's Representative.

F. Remove all tools and materials from patient occupied work areas when the work areas are not attended by employees and at the end of each work day. Store tools in a locked tool box, cabinet, or shed. Store materials where directed, in a location secure from access by patients and clients.

1.09 WATER CONTROLS

A. Provide and maintain pumping equipment necessary to keep the work areas free from water. Discharge water into existing storm drainage systems or otherwise disperse as directed.

1.10 FIRE PREVENTION

A. Take precautions necessary to prevent fires.

B. Fuel for cutting and heating torches shall be acetylene or LP-gas only, and shall be contained in Underwriters Laboratory or Federal Department of Transportation approved containers.

C. Furnish and maintain a currently inspected 20 pound capacity multi-class A:B:C fire extinguisher in the immediate vicinity where welding tools or torches are in use.

D. Furnish and maintain a currently inspected fire extinguisher of the appropriate class and size whenever the temporary storage of materials changes that areas classification of fire load or life safety.

E. Do not use flammable liquids, other than those specified, within a building without the written approval from the Director's Representative.

F. Tarpaulins shall be flameproof and shall be securely anchored when attached to scaffolding or when used to enclose any portion of a building.

G. If required by the nature of the work and facility regulations, the Contractor shall obtain from the facility and pay all costs associated with "Hot Work Permits" including fire watches to execute the work of its contract. Perform hot work in accordance with the Fire Code of New York State and the Hot Work Program approved for the work**.** Prior to, during and after performing hot work, inspect the hot work area for compliance with the requirements of the permitted Hot Work Program.

1. Post signage "Caution: Hot Work In Progress - Stay Clear" in conspicuous locations warning others before they enter a hot work area where the area is accessible to persons other than the operator of the hot work equipment.
2. See applicable facility permits and conditions bound in the Appendix.

1.11 TEMPORARY FIRE PROTECTION

A. If the existing building is to be partially occupied during the course of the project, all existing exits, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with the Fire Code of New York State. Comply with NFPA 241 for items not specifically addressed in the Fire Code of New York State.

B. Those portions occupied by the facility must be available for their use 24 hours a day, seven days a week during the contract period unless otherwise scheduled in these documents.

C. Prior to removal of existing fire walls, fire barriers and fire protection systems, if such removal is part of the work, install equivalent temporary fire walls, fire barriers and fire protection systems as defined in these documents and as approved by the Director's Representative and/or the facilities representative.

D. The cost of all labor, fire watches, variances, materials, installations, maintenance and removal of such temporary fire protection systems or modifications to the existing systems are the responsibility of the Contractor. Install permanent fire walls, fire barriers and fire protection systems, if provided

as part of the work, as soon as practical.

1.12 ACCESS ROADS

A. Routes of ingress and egress on the premises to the location of the Work shall be as directed.

B. Keep designated access roads clear of dirt and debris resulting from the Work.

C. Provide means of removing mud from vehicle wheels before entering paved roads.

D. Construction Work Contract:
   1. Continually maintain access roads for construction traffic use until no longer needed. Maintenance shall include removal of snow and ice.

1.13 TEMPORARY ROADS

A. Construction Work Contract:
   1. Provide and maintain temporary roads for the use of all persons lawfully frequenting the site.
   2. From the start of construction, provide and maintain adequate temporary roads which access all areas of the site requiring work under this and all related contracts. Provide a temporary road section sufficient to carry the heaviest construction traffic wheel loads resulting from this and all related contracts. Also provide an access spur from the nearest temporary road to State Field Office parking area(s).
   3. Crown or slope the surface of temporary roads for adequate drainage. Provide temporary drainage, including swales, ditches, culverts and pumps as required, to maintain the temporary roads and prevent ponding water on the roads or on the site.
   4. Permanent roads are not designed or intended for construction equipment use. Continually maintain temporary roads for construction traffic use until no longer needed. Maintenance shall include, but not be limited to, grading and compacting to remove ruts and depressions, removal of snow and ice, and measures to control dust.
   5. Prior to placing the permanent asphalt concrete and/or Portland cement concrete paving required by this Contract, provide uncontaminated specified materials necessary to meet full sections and grades.

1.14 PARKING

A. All Contracts:
   1. Park vehicles in areas where directed.
   2. Keep designated parking areas clear of dirt and debris resulting from the Work.
   3. If requested, register vehicles which are to be parked at the Facility with the Facility Safety/Security Department.
   4. Remove ignition key from unattended vehicles and lock doors.

B. Construction Work Contract: Remove snow from parking areas allocated to all Contractors.

1.15 RUBBISH REMOVAL

A. Clean up and containerize the rubbish (refuse, debris, waste materials, and removed materials and equipment) resulting from the Work at least once a day and more often if the rubbish interferes with the work of others or presents a hazard. Leave work areas broom clean, except where more stringent cleaning is specified, at the end of each day. Locate containerized rubbish on the Site where directed.

B. Remove rubbish from State property at least once a week and more often if the rubbish presents a hazard. Properly dispose of rubbish.

C. Burning of rubbish will not be permitted.

D. Also comply with the requirements of Section 017419.

1.16 RELOCATION AND REMOVALS

A. Should a change in location of any construction facilities and temporary controls be necessary in order to progress the Work properly, remove and relocate such items as directed.
   1. Electrical Work Contract: Frequently relocate/revise the temporary lighting as Contractors progress the Work of their contracts causing changes to the condition of the building (installation or relocation of walls, partitions, ceilings, equipment, etc.). Keep pace with the changes and maintain a minimum of 10 foot candles in each recomposed work area.

B. Remove the construction facilities and temporary controls when they are no longer required. Restore permanent facilities used for or connected to temporary facilities to their original condition or better.

1.17 GENERAL CLEANING

A. Construction Work Contract:
   1. Provide general cleansing services to the State Field Office at a frequency of two (2) times per week for the duration of this Contract. Cleaning to include the following at a minimum:
      a. Cleaning of toilet rooms, including plumbing fixtures. Replenish toilet room supplies as needed.
      b. Sweeping and mopping of floors.
      c. Dusting of all rooms.
      d. Removal and proper disposal of trash from all trash receptacles.
      e. Clearing and removal of mud, snow and ice at all entrances, including steps and walkways to parking areas between the work hours of 6:00 am to 5:00 pm.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

Revised 10-5-17

SECTION 015123

CONSTRUCTION HEAT AND TEMPORARY HEAT

PART 1 GENERAL

1.01 CONSTRUCTION HEAT - ALL CONTRACTS

A. Prior to the time the building or any major part of the building is enclosed, provide construction heat (as differentiated from temporary heat), of a nature as required and approved to accomplish the following:
   1. Protect materials and equipment being installed as part of the Contract from freezing.
   2. Enable workers to accomplish their respective tasks in a satisfactory manner.
   3. Maintain construction schedules.

B. Do not use electric heaters.

1.02 TEMPORARY HEAT - BUILDING ENCLOSED

A. Construction Work Contract:
   1. Temporary heat shall be provided under the Construction Work Contract for all Contracts related to the Project.
   2. Provide temporary heat for all buildings, starting at such time as directed, when in the opinion of the Director's Representative, the building or any major part of it is enclosed.
      a. The building, or any part of it, shall be considered enclosed when the exterior walls and roof deck or overhead closures are sufficiently completed to exclude the elements, except for windows, doors, ventilators and similar openings which shall be temporarily sealed weathertight with suitable closures.
      b. In the event a building under construction is of window wall design, and the window walls are not installed as scheduled, provide temporary weathertight wall closures in sufficient time so as not to delay construction of the building.
   3. Include in the contract sum the cost of providing temporary heat for 160 days for all buildings concurrently. Heating shall be maintained 24 hours a day, including weekends.
      a. The actual number of days required for temporary heat shall be as determined by the Director's Representative.
      b. In the event such determination results in more or less than the specified number of days, the contract sum will be adjusted by Order on Contract.
      c. Applicable daily charges for price adjustment (if any) shall be the average daily rate paid during the period of temporary heat, i.e. (total cost of providing temporary heat divided by the

number of days). Furnish daily records of temporary heat costs to the Director's Representative, so that necessary price adjustments may be calculated.

4. Temporary heat consists of, but is not limited to, the following:
   a. Trailer mount force air gas fired heater.
      1. Make/Model: GENERAC MAC400G or equal.
      2. Quantity: As required to meet the requirements of section part 4.e below.
   b. Furnishing and operating a sufficient number of temporary heating units to maintain required temperatures.
   c. Furnishing units of approved manufacture, complete with a combustion chamber and a smoke flue outlet, so designed that all products of combustion are vented through smoke flue piping to the exterior of the building. Do not use electric heaters.
   d. Furnishing fuel for maintaining temporary heat.
   e. Maintaining building temperature between 45 and 55 degrees F, unless higher temperatures are required for the installation of specified materials.
   f. Moving, relocating, and adjusting heating units as required or directed, to protect the Work of all Contracts.
   g. Taking precautions necessary to protect all portions of the building from smoke or gas damage and to prevent hazardous conditions which could result in damage to property or injury to persons.
5. In addition:
   a. Provide and maintain 2 eight inch scale direct reading thermometers in each building, at locations directed.
   b. Provide where directed in each building, 2 seven day, self contained recording thermometers, for the purpose of recording air temperatures in the building.
      1) Thermometers: Model SL4100 by Dickson Data, 920 S. Westwood Ave., Addison, IL 60101, (800) 757-3747, www.dicksondata.com.
      2) Charts: Furnish and deliver to the Director's Representative at the site, a supply of charts and ink, in quantity as required for the duration of temporary heat. Furnish charts of the 7 day type, designed for working temperatures from 0 degrees F to 100 degrees F (Dickson Model 2012).
      3) The Director's Representative will maintain operation of the thermometers.
      4) Recording thermometers and charts shall become the property of the State.
6. Building 77 and 78:
   a. Temporary heat for building 77 and 78 is to be provided by the use of roll up trailer mount forced air gas fired heater.
   b. Any forced air routing into the building shall be made using existing building openings/penetration, operable windows, or new louver opening prior to installation of louvers.

c. When applicable, contractor can utilize existing natural gas supply line within the mechanical room if gas service can be made available the entire heating season without major service outages.

1.03 RESPONSIBILITY

A. Construction Work Contract:

1. Assume responsibility for damage due to frost and freezing during the period when temporary heat is required to be provided. Repair damage due to improper equipment, such as stains, smudges, soot or fire.

B. All Contracts:

1. Progress the Work so that temporary heat can be provided as and when specified, and directed.

1.04 TEMPORARY HEAT - OPERATION BY STATE PERSONNEL

A. When, in the opinion of the Director's Representative, the permanent heating system is completed, the Director's Representative will arrange for operation of the heating system in accordance with the provisions of Article 20 of the General Conditions concerning State occupation and operation. At such time, Contractor will be relieved of responsibility for temporary heat.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 017423

PRE-OCCUPANCY CLEANING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Final Cleaning: Section 017716.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 PRE-OCCUPANCY CLEANING

A. Perform the pre-occupancy cleaning when directed by the Director's Representative.

B. Sequence: Begin pre-occupancy cleaning operations at the top floor and proceed down to the lowest floor. Complete the cleaning required on each floor before proceeding to the next floor.

C. Perform the pre-occupancy cleaning within the minimum standards specified, including but not limited to the following requirements.

1. Floor Maintenance:
    a. Do not splash, disfigure, or damage baseboards, walls, stair risers, furniture or equipment during these operations.
    b. Take proper precautions to advise building occupants of wet and/or slippery floor conditions during the cleaning operations.
    c. Be responsible for the security of equipment, materials, tools, etc. The Director's Representative (if space is available) will assign storage area(s) for the neat storage of tools and equipment.
    d. Sweeping and Damp Mopping:
        1) Thoroughly sweep the floors to remove visible dirt and debris. Remove all visible paint marks, wads of gum, tar and similar substances from the floor surface.
        2) After sweeping and damp mopping operations, all floors shall be clean and free of dirt streaks; no dirt shall be left in corners, behind radiators, under furniture, behind doors, on stair landings and treads. Entrances and all similar areas shall be swept clean of all dirt and trash. No dirt shall be left where sweepings have been picked up. There shall be no dirt, trash or foreign matter under desks, tables, chairs, etc.
    e. Wet Mopping and Scrubbing:

1) Properly prepare the floors, thoroughly sweep to remove all visible dirt and debris. Remove all paint spots, wads of gum, tar and similar substances from the floor surface. On completion of the mopping and scrubbing, the floors shall be clean and free of dirt, water streaks, mop marks, string, etc., properly rinsed, and dry mopped to present an overall appearance of cleanliness. All surfaces shall be dry and corners and cracks clean after the wet mopping or scrubbing. Scrubbing shall be accomplished by machine or by hand with a brush.

f. Floor Finishing:

1) Proper preparation of a floor, prior to refinishing, is considered the most important procedure in floor maintenance. Therefore, special attention must be given to the following requirements: Sweep entire floor area with treated dust cloth to control airborne dust and apply the proper stripping solution or synthetic disinfectant detergents to the floor; scrub with a floor scrubbing machine or agitate with a mop to remove old finish and/or old wax, soap film, dirt and stains; pick up dirty solution with a mop, squeegee or wet vacuum and thoroughly rinse with clean water and dry.

2) Apply floor finish in even coats. The number of coats applied will depend on the type and condition of the floor, but shall not be less than 2 coats.

3) Take special care when applying the floor finish, do not splash or coat the baseboard, walls, furniture or equipment.

g. Machine scrub concrete floors and wash with a germicidal cleaner, finish with 2 coats of sealer.

h. Machine scrub vinyl floor tile and wash and strip and refinish with 2 coats of sealer and 2 coats of finish as per EPA guidelines on asbestos hazard reduction.

i. Machine scrub ceramic and quarry tile flooring and wash with a germicidal type cleaner, rinse with clean water and wipe with a well-wrung mop.

j. Vacuum carpeting thoroughly.

k. Coat vinyl floors in Geriatric program and living areas with a floor finish that is slip resistant and that results in little or no shine when dry, such as Johnson's complete or equivalent.

l. Use Hilliard 341 on non-conductive floors, or equivalents.

2. Dusting: Do not move dust from spot to spot, but remove directly from the areas in which it lies by the most effective means such as appropriately treated dusting cloths, vacuum tools, etc. When doing high cleaning, dust shall not be allowed to fall from high areas onto furniture and equipment below. The following conditions shall exist after the completion of each dusting task:

a. There shall be no dust streaks.

b. Corners, crevices, moldings, and ledges shall be free of all dust.

c. There shall be no oils, spots or smudges on dusted surfaces caused by dusting tools.
d. When inspected by a flashlight, there shall be few traces of dust on any surface.

3. Damp Wiping: Use a clean damp cloth or sponge to remove all dirt, spots, streaks and smudges from walls, doors (both wood and metal), glass and other specified surfaces. When dry, the surfaces shall have a polished appearance. The wetting solution shall contain an appropriate cleaning agent. When damp wiping in toilet areas, a multi-purpose (disinfectant-deodorizer) cleaner shall be used.
4. Bright Metal Polishing: Polish bright metal by damp wiping and drying with a suitable cloth. If a polished appearance is not thereby produced, apply the appropriate metal polish.
5. Windows and Glass:
   a. Wash and clean all interior and exterior glass, with the inside and outside cleaning of windows to be performed on the same day.
   b. After each washing operation, all glass shall be clean and free of dirt, grime, streaks, excessive moisture and shall not be cloudy.
   c. Window sills, sash and woodwork about interior glass and other such surroundings shall be thoroughly wiped free of drippings and other water marks.
   d. Cleaners shall use pads to protect window sills when placing cleaning materials on them and all such pads and/or cloths necessary to protect the property shall be furnished by the Contractor. Window sills are not be to utilized in lieu of ladders and/or step ladders.
   e. Extreme care shall be taken in opening any and all windows, when opening them for cleaning, assume full responsibility for damage to glass and painted surfaces.
6. Spot Cleaning: Following this operation, smudges, marks or spots shall have been removed from the designated areas without causing unsightly discoloration.
7. Trash Removal:
   a. Collect and remove all refuse, debris, rubbish and trash throughout the entire building. Unless otherwise directed by the Director's Representative all collected matter shall be deposited in dumpsters of sanitation trucks provided by the Contractor, and removed from the site.
   b. Collect and remove all refuse, debris, rubbish and trash from the interior of the air handling unit enclosures under each window or wherever located. Vacuum the interior of each unit. This will require the removal and replacement of cover plates. Personnel will be made available to demonstrate the proper procedure for the removal and replacement of the cover plates.
8. Ceilings: Vacuum acoustic ceilings, taking care not to damage them. Vacuum painted plaster ceilings and spot clean where required. Wash entire ceiling if stain results.
9. Fixtures and Equipment:

a. Thoroughly scour, wash and disinfect all equipment and fixtures, including, but not limited to toilet bowls, seats, urinals, wash basins, mirrors, shelving, dispensers, receptors, slop sinks, water fountains, kitchen equipment, refrigerators and booth partitions, various dispensers, walk-in refrigerators, and lockers.

b. Plumbing fixtures (drinking fountains, wash basins, urinals, toilets, etc.) shall be thoroughly washed, using a germicidal solution, and dried, leaving no dust, spots, streaks or stains, rust, mold, encrustation or excess moisture. The walls and floor adjacent to fixtures shall be free of spots, drippings and water marks. Drinking fountains shall be kept free of trash, ink, coffee grounds, etc., and nozzles free from encrustation.

c. Light fixtures, including glass and plastic lenses, ceiling and wall-mounted lights, cover panels, side panels, louvers, fixture frames and lamps, shall be vacuumed and cleaned with a damp cloth.

d. Supply vents, exhaust grilles and room fan coil units shall be thoroughly vacuumed and cleaned.

10. Walls:

a. Dust and spot clean painted and vinyl-covered walls. In areas where spot cleaning will produce color differences, the entire wall shall be washed, cleaned and wiped dry.

b. Scrub ceramic tile walls with a germicidal cleaner, rinse and wipe dry.

c. Vacuum brick and concrete interior walls and all adhered debris shall be removed in accordance with guidelines established by the Structural Clay Products Institute, the National Concrete Institute and the National Concrete Masonry Association.

11. Wood and Metal Doors: Remove protective tape from doors, frames and signage and kickplates. Remove all tape and adhesive residues. Clean and polish all unpainted metal on doors, including, but not limited to, trim, hardware, kickplates, handplates and door knobs. Wood doors shall be thoroughly cleaned and oiled and wiped dry.

12. Elevators: Clean all surfaces in the interior of the car including hoistway doors and services of the corridors on the side of the elevator and all bright metal surfaces polished. All resilient tiles shall be cleaned and spray buffed. Dust and damp wipe elevator cab doors, wall and bright work. Scrub and wash elevator cab floors using germicidal detergent.

13. Stairwells: Sweep all stairs clean. Remove all paint spots, wads of gum, tar and similar substances and wash with a germicidal cleaner. Vacuum brick and/or concrete block walls, remove spots, stains, etc. and wash and dry (wipe or blow dry).

14. Porches/Entrances: Thoroughly sweep, vacuum and wash porches and entrances with a germicidal cleaner.

15. Other:

a. Overhead items, such as louvers, grilles, pipes, molding, etc., shall be dusted, vacuumed and spot cleaned.

b. Metal surfaces such as hardware, frames, cover plates, stainless steel counters and sinks, corner guards, conveyors, etc., shall be cleaned with a damp cloth and polished where required.

c. Furniture and equipment shall be wiped clean using special care, be responsible for damage to this equipment. Where the workers see a piece of equipment too delicate or have doubt regarding how to proceed, they will request further instructions from the Director's Representative.

d. For all operations where furniture or equipment is moved, no chairs, waste baskets or other similar items shall be stacked on desks, tables or window sills. Upon completion of work, all furniture and equipment must be returned to its original position.

e. Under no circumstances shall any product or procedure be used that may leave a non-conductive film.

f. Notify the Facility Safety Department prior to entering the building(s) and immediately following leaving the building(s) each work day, in order to deactivate and re-activate any building alarm systems.

16. Safety Standards: Conform to all Federal, State and Local Codes and Safety Standards and to the best practices of the trade.

END OF SECTION

Revised 10-5-17

SECTION 023313

UNDERGROUND UTILITY LOCATOR SERVICE

PART 1 GENERAL

1.01 REFERENCES

A. American Society of Civil Engineers, CI/ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

B. American Public Works Association, Uniform Color Code."

1.02 DEFINITIONS

A. Utility Quality Levels:

1. Level A: Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner.
2. Level B: Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.

1.03 DESCRIPTION

A. Retain an independent utility locator service company to field locate and mark existing underground utilities and service connections. The word "independent" as used above means a person not in the regular employment of the Contractor or having any vested interest in the Contractor's business.

1. Level B locator service shall be performed in all project areas where excavations, regrading of the ground surface, and penetrations of the ground surface are to be performed.
   a. Contractor shall include a minimum of 16 hours of Level A locator service to locate underground utilities as identified on the contract drawings or as identified during the Level B investigation that require more specific location, invert

elevation, size, etc. Level A investigation shall only be performed at locations where shown or as directed.

b. In heavy metal areas, such as near perimeter fences, ground penetrating radar shall be used to determine the location of underground utilities. The use of equipment that induce a tracing signal along the utility path (such as a Metrotech unit) can cause false readings, shall not be used within five feet of fences.

2. The Level A investigation shall be performed as follows:
   a. Hand excavation may be performed for depths of three feet or less.
   b. Vacuum excavation shall be performed at depths greater than three feet.
   c. All excavation test pits shall be backfilled by close of business that day.
3. Support and protect all utilities and service connections to remain in place.
4. The locator service shall field locate and mark underground utilities and service connections prior to excavation.
5. The contractor shall be responsible for coordinating the extent of the areas of subsurface investigation required to locate all underground utilities and service connections in the areas of excavation.
6. All costs associated with the repair of underground utilities and service connections hit/damaged during the investigative work shall be the responsibility of the contractor.
7. Utility location services shall be in accordance with the provisions of CIASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

1.04 SUBMITTALS

A. Quality Control Submittals:
   1. Submit detailed experience and qualification information about the underground utility locator service company and the persons that will be performing the Work. Detailed experience and qualification information shall include:
      a. Minimum of five (5) years experience in field locating, marking and staking out of existing underground utilities and service connections.
         1) Qualifying Experience: Project information of 5 similar projects, which the locator service company, had worked on during the past 5 years. Information shall include for each project:
            a) Name and Address of project.
            b) Dates worked on project.
            c) Name and telephone Number of contact person at the project site for which the locator service was performed.
      b. Description of types of utility locator equipment (investigation equipment) that company will utilize to perform the underground utility investigation.

c. Names of persons that the persons that will be performing the Work, including the number of years of experience and training that the persons have in the use of the equipment. Include copy of training certificates for locator equipment proving the person performing the locator service are trained on the equipment being used.

2. Submit Quality Control Submittals within 10 days of contract award.

B. Investigative Report:

1. Submit detailed written report and scaled drawings of the subsurface investigation, documenting all underground utilities and service connections located and identified.
   a. All documentation shall be referenced to existing data (horizontal and vertical) previously established.
   b. Provide three (3) paper copies and one (1) electronic copy of detailed written report and drawings.
2. Submit Investigative Report at least two weeks prior to advancing construction within the scheduled areas of excavation within the project site.

1.05 COORDINATION AND SCHEDULING

A. Coordinate the Work to determine the extent of the areas of subsurface investigation required to locate all underground utilities and service connections in the areas of excavation.

B. Coordinate the Work with the Director's Representative to minimize utility disruptions and facility operations. Provide a schedule for the Work required to the Director's Representative for approval. Upon approval of the schedule, notify the Director's Representative a minimum of three (3) working days prior to performing the Work.

C. Within the areas of excavation, all underground utilities and service connections shall be field located and their locations marked at least two (2) weeks prior to the performance of the required excavation work.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 WORK AREAS AND PERFORMANCE

A. If any underground utilities and service connections are hit or damaged during the Work, immediately inform the Director's Representative for directions on how to proceed.

B. The utility locator service investigative work, field location and marking of underground utilities and service connections and submission of the investigative report must be completed before any excavation work can begin.

1. Contractor shall maintain markings throughout the contract duration or until a time when directed (in writing) by the Director's Representative that maintaining of the markings are no longer required.

C. Provide subsurface investigation information, detailed written report and drawings of the subsurface investigation, documenting all underground utilities and service connections located and identified, prior to the performance of the required excavation work.

D. If during the Level B investigations, unknown underground utilities are discovered, the Director's Representative shall be notified as soon as possible or before the close of that business day.

E. Field Marking of underground utilities shall follow the American Public Works Association (APWA) uniform color code:

White: Proposed Excavation.
Pink: Temporary Survey Markings.
Red: Electric power lines, cables, conduit and lighting cables.
Yellow: Gas, oil, steam, petroleum and gaseous material.
Orange: Communications, alarm, signal lines, cables or conduit.
Blue: Potable water.
Purple: Reclaimed water, irrigation and slurry lines.
Green: Sewer and drain lines.

END OF SECTION



NEW YORK STATE OF OPPORTUNITY. **Office of General Services**

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 – C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
STAGING, STORAGE AND LOGISTICS PLAN

DRAWING NUMBER:
C–0002

SHEET OF

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6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
EXISTING CONDITIONS PLAN AREA B

DRAWING NUMBER:
C-0101

SHEET OF

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NEW YORK STATE OF OPPORTUNITY. Office of General Services

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Engineering and Land Surveying, P.C.

WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER: 45679 - C

DESIGNED BY:

DRAWN BY:

FIELD CHECK:

APPROVED:

SHEET TITLE:
EXISTING CONDITIONS PLAN AREA C

DRAWING NUMBER:
C-0102

SHEET OF

MATCHLINE C-0110

LEGEND:

- FULL DEPTH ASPHALT REMOVAL
- CONCRETE SIDEWALK REMOVAL
- SUBBASE REMOVAL
- GRAVEL DRIVEWAY REMOVAL
- ASPHALT RUBBLE REMOVAL
- MISCELLANEOUS LINEAR REMOVAL
- XXXXXXXXXXXXXXX - ABANDON UTILITY PIPE
- MISCELLANEOUS OBJECT REMOVAL

REMOVAL KEY NOTES:

1. REMOVE ASPHALT ROADWAY. ASSUME 5" OF ASPHALT AND 12" OF SUBBASE. SAWCUT IN STRAIGHT LINES FOR PAVEMENT TO REMAIN.
2. REMOVE ASPHALT SIDEWALK. ASSUME 3" OF ASPHALT AND 12" OF SUBBASE. SAWCUT IN STRAIGHT LINES FOR PAVEMENT TO REMAIN.
3. REMOVE CONCRETE SIDEWALK. ASSUME 4" OF REINFORCED CONCRETE AND 12" OF SUBBASE. REMOVE TO NEAREST JOINT.
4. REMOVE 12" OF SUBBASE.
5. REMOVE EXISTING 30" COIL ON SOUTH SIDE OF FENCE.
6. REMOVE STONE FROM DIVOTS IN SPLASH PADS.
7. LIGHT POLE, FIXTURE AND POLE BASE REMOVALS BY E-CONTRACT.
8. ELECTRICAL CONDUIT REMOVALS BY E-CONTRACT.
9. REMOVE 12" CIPP STORM LINE.
10. REMOVE 12" CMP STORM LINE.
11. REMOVE DRAINAGE STRUCTURE.
12. REMOVE GRAVEL ROAD. ASSUME DEPTH OF 12".
13. CONDENSING UNIT AND CONCRETE PAD REMOVAL BY H CONTRACT.
14. REMOVE GENERATOR PAD. GENERATOR SHALL BE REMOVED UNDER THE E CONTRACT.
15. REMOVE GRAVEL ROAD AND PAVEMENT RUBBLE.
16. REMOVE END SECTION, CUT & CAP ENDS AND FILL WITH FLOWABLE FILL TO ABANDON IN PLACE.

NOTES:

1. CONFIRM WITH E CONTRACTOR THAT AREA IS DE-ENERGIZED PRIOR TO REMOVALS IMPACTING ELECTRICAL EQUIPMENT.

SAWCUT IN STRAIGHT LINE AT CONC. TO REMAIN

HOOP/POLE TO REMAIN

CONC. LANDING TO REMAIN

1 STORY MASONARY BLDG #77

HOUSING COTTAGE BLDG #82

HOUSING COTTAGE BLDG #81

1 STORY MASONARY COTTAGE BLDG #80

BLDG #90

CONC PAD W/ TRANSF

DIESEL-ALTERNATOR UNIT

RECREATIONAL COURT

ATHLETIC FIELD

HOOP

TRAIL

WALKWAY

MATCHLINE C-0112

30' 15' 0 30'

File: F:\MJ\350 OGS DOSB544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-110-113 REM.DWG Saved: 10/4/2017 10:13:46 AM Plotted: 10/4/2017 10:46:23 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONSTRUCTION

TITLE:
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LOCATION:
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375 RUSH-SCOTTSVILLE ROAD
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MARK	DATE	DESCRIPTION
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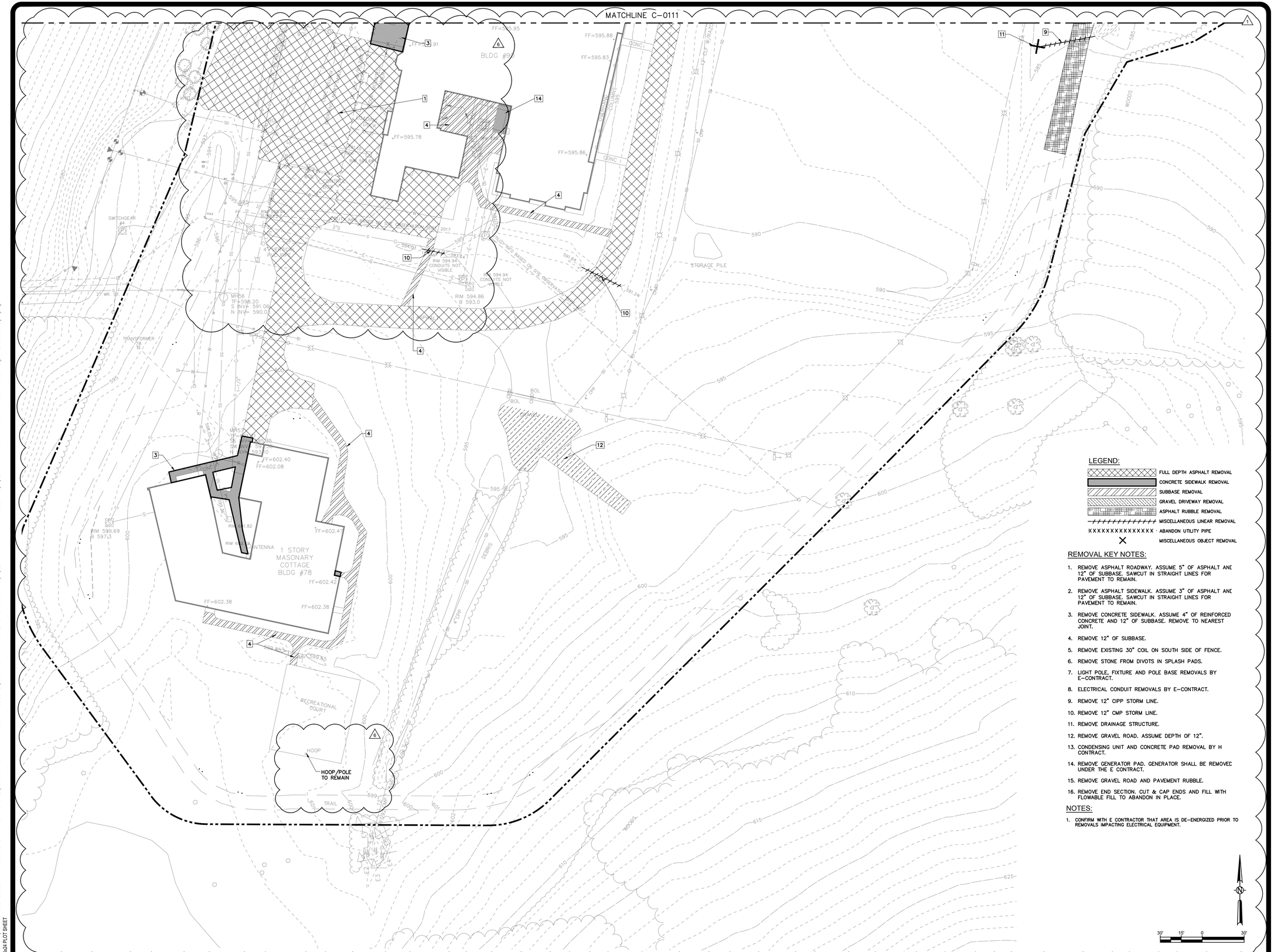
PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
REMOVALS PLAN
AREA B

DRAWING NUMBER:
C-0111

SHEET OF

MATCHLINE C–0111



LEGEND:

- FULL DEPTH ASPHALT REMOVAL
- CONCRETE SIDEWALK REMOVAL
- SUBBASE REMOVAL
- GRAVEL DRIVEWAY REMOVAL
- ASPHALT RUBBLE REMOVAL
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30' 15' 0 30'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

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TITLE:
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LOCATION:
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	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 – C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
REMOVALS PLAN
AREA C

DRAWING NUMBER:
C–0112

SHEET OF

File: F:\MJ\350 OGS DOSB544 – OCFS SITE INFRASTRUCTURE\350.04 45679 RFA INDUSTRY SECURE\45679 C–110–113 REM.DWG Saved: 10/4/2017 10:13:46 AM Plotted: 10/4/2017 10:46:40 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

POINT #	NORTHING	EASTING
6	1,092,132.26	732,358.96
7	1,092,107.00	732,474.26
8	1,092,086.06	732,484.67
9	1,092,062.42	732,468.88
10	1,092,074.51	732,499.85
11	1,092,176.19	732,224.23
12	1,092,173.14	732,250.03
13	1,092,033.52	732,237.36
14	1,091,993.33	732,291.79
15	1,091,990.14	732,297.38
16	1,092,070.98	732,504.54
17	1,092,062.99	732,566.41
18	1,091,954.73	732,717.49
19	1,091,907.86	732,744.72
20	1,091,775.22	732,757.53
21	1,091,727.26	732,762.15
22	1,091,660.91	732,758.75
37	1,091,529.34	732,134.98
38	1,091,557.88	732,151.11
39	1,091,577.35	732,173.21
40	1,091,591.33	732,168.61
41	1,091,592.19	732,158.52
42	1,091,591.41	732,155.45
43	1,091,977.95	732,188.55
44	1,091,977.78	732,191.55
45	1,091,976.67	732,204.48
46	1,091,981.24	732,209.89
47	1,091,964.67	732,245.90
48	1,091,943.72	732,231.05
49	1,091,925.22	732,229.70
50	1,091,919.85	732,234.26
51	1,091,918.85	732,246.72
52	1,091,918.68	732,248.71
53	1,091,918.51	732,250.70
54	1,091,542.23	732,214.46
55	1,091,530.08	732,215.43
56	1,091,530.07	732,201.73
57	1,091,532.08	732,190.09
58	1,091,517.64	732,187.06
59	1,091,509.68	732,213.24
60	1,091,522.82	732,216.06
61	1,091,920.01	732,250.83
62	1,091,963.00	732,255.33
63	1,092,066.39	732,520.33
64	1,092,063.81	732,548.26
65	1,091,940.10	732,720.85
66	1,091,911.59	732,734.31
67	1,091,709.30	732,753.84
68	1,091,682.17	732,752.40
101	1,091,493.89	732,428.80
102	1,091,500.75	732,439.53
103	1,091,612.41	732,463.98
104	1,091,613.78	732,462.93
105	1,091,621.70	732,456.83
106	1,091,628.59	732,458.42
107	1,091,634.03	732,468.81
108	1,091,647.17	732,471.66
109	1,091,657.90	732,464.79
110	1,091,670.39	732,467.53
111	1,091,663.85	732,485.02
112	1,091,668.88	732,486.20
113	1,091,675.32	732,468.62
114	1,091,685.44	732,462.64
115	1,091,728.35	732,455.37
116	1,091,817.59	732,400.29
117	1,091,819.08	732,408.77
118	1,091,825.28	732,405.07
119	1,091,868.51	732,386.63
120	1,091,919.44	732,388.08
121	1,091,986.21	732,466.01
122	1,091,984.71	732,479.32
123	1,091,978.05	732,512.29
124	1,091,967.08	732,526.41
125	1,091,960.76	732,521.50
126	1,091,973.40	732,531.32
127	1,092,009.85	732,520.11
128	1,092,037.85	732,533.41
129	1,092,046.43	732,515.34
130	1,092,017.66	732,501.67
131	1,092,001.82	732,473.57
132	1,091,854.15	732,379.28
133	1,091,847.87	732,380.23
134	1,091,777.15	732,415.85
135	1,091,763.12	732,424.51
136	1,091,679.90	732,453.23
137	1,091,674.04	732,451.94
138	1,091,646.75	732,445.62
139	1,091,597.24	732,435.01
140	1,091,587.96	732,427.68
141	1,091,582.18	732,426.34
142	1,091,583.03	732,422.48
143	1,091,568.72	732,419.25
144	1,091,575.16	732,390.45
145	1,091,573.54	732,388.39
146	1,091,574.21	732,384.23
147	1,091,566.41	732,382.40
148	1,091,558.90	732,411.97
149	1,091,554.69	732,417.93
150	1,091,546.76	732,424.02
151	1,091,540.67	732,416.09
152	1,091,530.35	732,420.42
157	1,091,503.70	732,236.71
158	1,091,517.16	732,239.35
159	1,091,541.39	732,304.39
160	1,091,539.20	732,314.23
161	1,091,541.34	732,323.01
162	1,091,539.63	732,330.95
163	1,091,555.42	732,307.53
164	1,091,558.82	732,315.09
165	1,091,561.29	732,308.60
166	1,091,567.94	732,318.79
167	1,091,570.42	732,331.84
168	1,091,576.33	732,337.33
169	1,091,578.92	732,320.92

POINT #	NORTHING	EASTING
170	1,091,571.65	732,360.35
171	1,091,580.50	732,362.55
172	1,091,594.67	732,335.34
173	1,091,612.53	732,351.20
174	1,091,621.14	732,341.44
175	1,091,632.09	732,290.26
176	1,091,616.33	732,286.85
177	1,091,617.32	732,281.93
178	1,091,633.10	732,285.36
179	1,091,635.79	732,272.77
180	1,091,646.66	732,275.04
181	1,091,642.55	732,294.41
182	1,091,644.57	732,294.77
183	1,091,643.64	732,298.73
184	1,091,635.76	732,297.00
185	1,091,626.02	732,342.56
186	1,091,668.83	732,341.98
187	1,091,667.75	732,346.86
188	1,091,664.24	732,362.62
189	1,091,669.97	732,363.89
190	1,091,674.77	732,363.51
191	1,091,676.88	732,353.73
192	1,091,688.51	732,385.25
193	1,091,685.53	732,397.82
194	1,091,698.24	732,397.56
195	1,091,696.53	732,394.76
196	1,091,666.59	732,393.71
197	1,091,663.50	732,393.07
198	1,091,658.88	732,413.93
199	1,091,661.95	732,414.58
200	1,091,648.64	732,437.00
201	1,091,647.89	732,440.81
202	1,091,652.77	732,441.87
203	1,091,681.51	732,418.79
204	1,091,687.38	732,420.05
205	1,091,683.70	732,436.36
206	1,091,677.85	732,435.04
207	1,091,712.01	732,413.25
208	1,091,729.26	732,401.97
209	1,091,740.93	732,348.55
210	1,091,712.66	732,356.85
211	1,091,718.68	732,343.72
212	1,091,718.90	732,328.93
213	1,091,713.99	732,328.02
214	1,091,726.35	732,308.16
215	1,091,742.13	732,311.04
236	1,091,737.28	732,333.73
237	1,091,744.28	732,334.95
238	1,091,754.05	732,290.05
239	1,091,778.35	732,295.51
240	1,091,768.31	732,345.68
241	1,091,761.82	732,370.56
242	1,091,786.03	732,376.21
243	1,091,850.89	732,364.03
244	1,091,853.66	732,349.23
245	1,091,855.13	732,341.41
246	1,091,860.47	732,324.80
247	1,091,865.97	732,320.41
248	1,091,839.22	732,413.43
249	1,091,841.42	732,408.80
250	1,091,860.54	732,423.75
251	1,091,857.47	732,427.69
252	1,091,864.95	732,426.04
253	1,091,860.73	732,431.45
254	1,091,879.78	732,407.10
255	1,091,877.85	732,401.58
256	1,091,966.50	732,420.18
257	1,091,970.40	732,426.15
258	1,091,963.45	732,424.65
259	1,091,965.08	732,427.15
260	1,091,958.61	732,443.48
261	1,091,966.40	732,445.26
262	1,091,965.17	732,451.12
263	1,091,957.27	732,449.33
264	1,091,957.35	732,462.51
265	1,091,960.47	732,470.66
266	1,091,962.12	732,464.14
267	1,091,982.10	732,468.61
268	1,091,981.01	732,473.49
269	1,091,952.83	732,468.96
270	1,091,940.94	732,466.30
271	1,091,939.89	732,471.74
272	1,091,938.67	732,471.47
273	1,091,936.45	732,481.34
274	1,091,934.02	732,484.51
275	1,091,916.28	732,460.35
276	1,091,913.41	732,488.87
277	1,091,920.76	732,479.38
278	1,091,913.94	732,472.80
279	1,091,893.37	732,473.49
280	1,091,895.55	732,468.84
281	1,091,890.05	732,464.52
282	1,091,930.67	732,546.26
283	1,091,927.71	732,550.30
284	1,091,938.23	732,552.14
285	1,091,938.49	732,559.95
286	1,091,935.16	732,556.08
287	1,091,912.13	732,559.73
288	1,091,909.08	732,563.69
289	1,091,897.02	732,548.07
290	1,091,892.70	732,551.05
291	1,091,894.28	732,537.73
292	1,091,891.58	732,537.70
293	1,091,885.66	732,530.09
294	1,091,886.88	732,531.58
295	1,091,886.80	732,540.51
296	1,091,882.59	732,545.51
297	1,091,883.35	732,557.72
298	1,091,879.73	732,559.33
299	1,091,895.29	732,605.73
300	1,091,892.44	732,612.82
301	1,091,903.86	732,603.32
302	1,091,925.87	732,663.41
303	1,091,858.26	732,688.18

POINT #	NORTHING	EASTING
304	1,091,836.25	732,628.08
305	1,091,874.04	732,547.97
306	1,091,873.29	732,552.98
307	1,091,842.43	732,537.88
308	1,091,840.91	732,542.65
309	1,091,834.01	732,538.91
310	1,091,831.75	732,530.59
311	1,091,835.90	732,533.80
312	1,091,844.07	732,523.22
313	1,091,840.33	732,520.12
314	1,091,820.00	732,521.01
315	1,091,825.41	732,514.39
316	1,091,828.57	732,510.51
317	1,091,824.70	732,507.36
318	1,091,821.54	732,511.23
319	1,091,816.13	732,517.85
320	1,091,811.20	732,520.28
321	1,091,806.46	732,538.24
322	1,091,770.28	732,508.61
323	1,091,811.86	732,494.18
324	1,091,807.92	732,491.11



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SHEET TITLE:

LAYOUT PLAN
AREA B

DRAWING NUMBER:

C-0121

SHEET OF

File: F:\MJ\350 OGS DOS\8544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-120-123 LOUT.DWG Saved: 10/4/2017 10:05:03 AM Plotted: 10/4/2017 10:47:55 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

MATCHLINE C-0121

BLDG #90

1 STORY MASONARY COTTAGE BLDG #78

WOODS

WOODS

4 C-0505 PROVIDE INTERIOR 30" DIA. SECURITY COIL

1 C-0504 GATE G-1

1 C-0504 GATE G-5

1 C-0504 GATE G-6

3 S-7001 14'X5' EXTERIOR CONC DOOR PAD

PROVIDE INTERIOR 30" DIA. SECURITY COIL 4 C-0505

3 S-7001 14'X8' EXTERIOR CONC DOOR PAD

GATE G-90-1 1 C-0504

PROVIDE EXTERIOR 30" DIA. SECURITY COIL 4 C-0505

GATE G-2 1 C-0504

1,2 C-0505 16' HIGH EXTERIOR FENCE

12 C-0500 CONCRETE SIDEWALK, TYP.

3 S-7001 6'X8' EXTERIOR CONC DOOR PAD

1 C-0504 GATE G-78-1

ASPHALT ROADWAY, TYP. 1 C-0500

TYPE "B-1" PEDESTRIAN GATE G-78-4 4 C-0504

GATE G-78-5 1 C-0504

TYPE "B-1" PEDESTRIAN GATE G-78-2 4 C-0504

GATE G-7 1 C-0504

BOLLARDS (TYP. OF 2) 13 C-0500

12' HIGH ZONE FENCE 2 C-0504

ACCU ENCLOSURE BY H-CONTRACT, TYP.

7.5'X5' EXTERIOR CONC DOOR PAD 3 S-7001

5'X5' EXTERIOR CONC DOOR PAD 3 S-7001

4'x4'CONCRETE SPLASH PAD FOR FIRE PROTECTION. COORDINATE EXACT LOCATION WITH P CONTRACT 10 C-0500

PROVIDE NEW MESH AND WIRE TO EXISTING FENCE FRAME. 2 C-0504

2 C-0500 ASPHALT SIDEWALK, TYP.

TYPE "B" MANUAL GATE G-78-3 1 C-0504

RECREATIONAL COURT STRIPING 16 C-0500

12' HIGH ZONE FENCE 2 C-0504

14 C-0500 ASPHALT RECREATIONAL COURT

12' TO 16' FENCE TRANSITION 3 C-0505

8 C-0500 10' WIDE PERIMETER PATROL ROAD REQUIRING STRUCTURAL FILL

1,2 C-0505 16' HIGH PERIMETER FENCE

1 C-0505 REFER TO E CONTRACT FOR FENCE LIGHT POST LOCATIONS. POSTS IN C-CONTRACT, AND LIGHT HEAD IN E-CONTRACT (TYP.)

7 C-0500 10' WIDE ASPHALT PERIMETER PATROL ROAD, TYP.

LEGEND:

- ASPHALT ROADWAY
- ASPHALT SIDEWALK
- ASPHALT PARKING
- PERIMETER PATROL ROAD
- PERIMETER PATROL ROAD REQUIRING STRUCTURAL FILL
- ASPHALT RECREATIONAL COURT
- CONCRETE SIDEWALK
- GRAVEL OVERFLOW PARKING
- ZONE FENCE
- PERIMETER FENCE
- EXIST. FENCE MODIFICATION

POINT #	NORTHING	EASTING
23	1,091,431.85	732,704.46
24	1,091,346.64	732,684.64
25	1,091,315.71	732,667.60
26	1,090,983.21	732,336.59
27	1,090,964.19	732,290.38
28	1,090,964.90	732,132.72
29	1,090,994.68	732,078.40
30	1,091,105.23	732,007.13
31	1,091,168.47	732,003.12
32	1,091,406.63	732,116.35
33	1,091,428.92	732,123.56
34	1,091,449.16	732,135.64
35	1,091,450.48	732,132.78
36	1,091,455.70	732,121.54
58	1,091,517.64	732,187.06
59	1,091,509.68	732,213.24
60	1,091,522.82	732,216.06
69	1,091,345.74	732,674.17
70	1,091,313.76	732,651.65
71	1,090,988.24	732,327.49
72	1,090,974.15	732,297.99
73	1,090,974.94	732,120.41
74	1,090,990.63	732,092.90
75	1,091,114.35	732,013.14
76	1,091,153.31	732,006.96
77	1,091,293.91	732,073.75
78	1,091,303.12	732,120.64
79	1,091,422.75	732,153.42
80	1,091,367.18	732,140.68
81	1,091,348.45	732,141.09
82	1,091,323.35	732,142.06
83	1,091,226.07	732,120.76
84	1,091,227.52	732,138.67
85	1,091,232.19	732,139.72
86	1,091,248.53	732,161.92
87	1,091,248.07	732,169.50
88	1,091,266.31	732,173.56
89	1,091,268.82	732,165.70
90	1,091,308.34	732,172.67
91	1,091,306.79	732,211.71
92	1,091,306.59	732,216.74
93	1,091,310.87	732,310.36

POINT #	NORTHING	EASTING
94	1,091,317.28	732,362.93
95	1,091,320.11	732,367.06
96	1,091,304.28	732,372.34
97	1,091,308.74	732,375.29
98	1,091,297.27	732,403.45
99	1,091,302.15	732,404.54
100	1,091,376.02	732,394.75
101	1,091,493.89	732,428.80
102	1,091,500.75	732,439.53
153	1,091,323.69	732,189.97
154	1,091,353.95	732,156.03
155	1,091,382.29	732,185.26
156	1,091,414.34	732,192.07
157	1,091,503.70	732,236.71
158	1,091,517.18	732,239.35
325	1,091,283.70	732,207.49
326	1,091,282.40	732,213.35
327	1,091,215.15	732,197.69
328	1,091,214.06	732,202.57
329	1,091,210.23	732,196.58
330	1,091,193.53	732,192.58
331	1,091,178.62	732,184.40
332	1,091,167.28	732,177.80
333	1,091,165.73	732,185.55
334	1,091,171.89	732,186.73
335	1,091,166.33	732,201.48
336	1,091,159.60	732,205.28
337	1,091,159.97	732,210.80
338	1,091,144.49	732,209.07
339	1,091,143.40	732,213.95
340	1,091,123.97	732,204.46
341	1,091,126.91	732,191.38
342	1,091,106.29	732,192.03
343	1,091,107.01	732,187.08
344	1,091,102.86	732,186.22
345	1,091,101.39	732,191.03
346	1,091,099.60	732,198.99
347	1,091,093.32	732,202.70
348	1,091,094.42	732,197.82
349	1,091,082.08	732,179.81
350	1,091,076.99	732,181.12
351	1,091,079.22	732,170.12

POINT #	NORTHING	EASTING
352	1,091,073.52	732,161.82
353	1,091,064.43	732,160.30
354	1,091,065.50	732,155.51
355	1,091,071.93	732,149.67
356	1,091,006.55	732,135.05
357	1,090,993.72	732,192.64
358	1,091,059.04	732,207.24
359	1,091,074.71	732,157.56
360	1,091,082.93	732,152.12
361	1,091,098.65	732,100.88
362	1,091,101.73	732,101.49
363	1,091,103.22	732,094.75
364	1,091,100.16	732,094.15
365	1,091,104.85	732,072.32
366	1,091,100.63	732,068.18
367	1,091,193.81	732,051.36
368	1,091,197.53	732,045.35
369	1,091,203.08	732,069.03
370	1,091,198.21	732,070.17
371	1,091,195.39	732,070.84
372	1,091,204.45	732,074.87
373	1,091,196.76	732,076.68
374	1,091,201.17	732,095.34
375	1,091,208.93	732,093.49
376	1,091,202.93	732,100.51
377	1,091,214.84	732,118.19
378	1,091,206.79	732,116.67
379	1,091,190.05	732,103.68
380	1,091,192.07	732,113.89
381	1,091,174.20	732,133.74
382	1,091,176.91	732,120.17
383	1,091,149.35	732,128.33
384	1,091,141.91	732,121.64
385	1,091,149.12	732,123.18
386	1,091,167.73	732,117.67
387	1,091,164.63	732,103.46
388	1,091,170.21	732,102.29
389	1,091,261.67	732,306.33
390	1,091,190.72	732,290.18

30' 15' 0 30'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

LAYOUT PLAN
AREA C

DRAWING NUMBER:

C-0122

SHEET OF

File: F:\MJ\1350 OGS DOSB544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-120-123 LOUT.DWG Saved: 10/4/2017 10:05:03 AM Plotted: 10/4/2017 10:48:13 AM Current User: Jared Fagan LastSavedBy: jfagan

36x24 PLOT SHEET

MATCHLINE C-0130

MATCHLINE C-0132

LEGEND:
- UD — STORM UNDERDRAIN
- ST — STORM SEWER
- RD — ROOF DRAIN
- W — WATER PIPE
- PIV — POST INDICATOR VALVE
- DH — DRY HYDRANT
- CB — CATCH BASIN
- ST — STORM MANHOLE
- FLARED END SECTION W/ RIP RAP
- FLARED END SECTION W/ OUT RIP RAP
- CO — STORM CLEANOUT
- ROOF DOWNSPOUT

ES 2 (8 / C-0502) INV: 575.00
INV: 568.25
70 LF 18" HDPE @ 3.43%
INV: 568.25
CB 2 TF: 582.50 INV. IN(N): 577.53 INV. IN (S): 577.53 INV. OUT: 577.40 (2 / C-0501)
ES 3 (8 / C-0502) INV: 566.00
CB 3 TF: 572.50 INV. IN(N): 567.90 INV. IN(S): 567.90 INV. OUT: 567.00 (2 / C-0501)
INV: 577.75
25 LF 18" HDPE @ 4.00%
ES 4 (8 / C-0502) INV: 575.00
INV: 568.25
45 LF 12" HDPE @ 13.89%
CB 4 TF: 585.77 INV. IN: 582.87 INV. OUT: 581.25 (2 / C-0501)
STORMWATER DRAINAGE PIPE, TYP. (1 / C-0501)
176 LF 12" HDPE @ 1.00%
DMH 1 TF: 590.70 INV. IN: MATCH EXISTING INV. OUT: 584.59 (3 / C-0501)
DMH 2 TF: 591.17 INV. IN: 588.37 INV. OUT: 588.27 (3 / C-0501)
ES 5 (8 / C-0502) INV: 587.50
25 LF 12" HDPE @ 3.08%
DRY HYDRANT CONNECTION (5 / C-0501)
6" CL52 DIP
DRY HYDRANT CONNECTION (5 / C-0501)
FERNCO COUPLING EXISTING 8" CONC. TO 8" HDPE PIPE
INV: 594.91 (9 / C-0502)
11.25° BEND
22.5° BEND
6" PIV (5 / C-0501)
ES 12 (NO STONE APRON) INV: 593.65 (8 / C-0502)
45° BEND (TYP.)
50 LF 8" HDPE @ 1.00%
REFER TO P CONTRACT FOR CONNECTION
PIPE CONNECTIONS TO EXISTING DRAINAGE STRUCTURE INVERTS: 596.37 (9 / C-0502)
INV: 596.62
INV: 596.00
INV: 597.00
ROOF DOWNSPOUT (TYP.)
INV: 594.99
STORM SEWER CLEANOUT (TYP.) (4 / C-0502)
8" SDR35 PVC (TYP.)
INV: 597.00
INV: 596.00
INV: 595.53
INV: 597.00
INV: 597.00
INV: 594.34
ROOF DOWNSPOUT (TYP.)
8" SDR35 PVC (TYP.)
INV: 593.94
INV: 592.63
INV: 592.92
ES 10 INV: 592.00 (8 / C-0502)
REFER TO E CONTRACT DOCUMENTS FOR PEDESTRIAN WALKWAY LIGHTING.
HOUSING COTTAGE BLDG #82
HOUSING COTTAGE BLDG #81
1 STORY MASONARY COTTAGE BLDG #80
1 STORY MASONARY BLDG #77
DIESEL-ALTERNATOR UNIT
ATHLETIC FIELD
HOOP
DAYLIGHT BUILDING DOWNSPOUT (TYP.) (6 / C-0502)
STORM SEWER CLEANOUT (TYP.) (4 / C-0502)
PIPE CONNECTION TO EXISTING DRAINAGE STRUCTURE INVERTS: 591.00 (9 / C-0502)
INV: 592.00
INV: 591.35
INV: 590.50
INV: 592.00
INV: 591.00
INV: 592.00
INV: 592.00
INV: 591.00
INV: 592.00
INV: 592.02
8" SDR35 PVC (TYP.)
ROOF DOWNSPOUT (TYP.)
8" SDR35 PVC (TYP.)
INV: 588.50 (9 / C-0502)
8" SDR35 PVC (TYP.)
CONNECT BUILDING DOWNSPOUT INTO 8" SDR35 PVC HEADER PIPE (TYP.) (4 / C-0501)
ES 9 INV: 580.75 (8 / C-0502)
22 LF 12" HDPE @ 1.14%
ES 8 INV: 581.00 (9 / C-0502)
ES 6 INV: 581.20 (8 / C-0502)
40 LF 24" HDPE @ 0.50%
CB 6 TF: 584.90 INV. OUT: 581.40 (2 / C-0501)
ES 7 INV: 582.00 (8 / C-0502)

30' 15' 0 30'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
Engineering and Land Surveying, P.C.

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CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER: 45679 - C
DESIGNED BY:
DRAWN BY:
FIELD CHECK:
APPROVED:

SHEET TITLE: UTILITY PLAN AREA B

DRAWING NUMBER: C-0131

SHEET OF

File: F:\MJ\350 OGS DOS\45644 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-130-133 UTIL.DWG Saved: 10/4/2017 10:18:08 AM Plotted: 10/4/2017 10:49:05 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

MATCHLINE C-0140

MATCHLINE C-0142

LEGEND:

603	CONTOUR LINE
598.60	SPOT ELEVATION
ME	MATCH EXISTNG
LP: 597.50	LOW POINT
HP: 599.50	HIGH POINT

BIORETENTION POND 1 — 2 / C-0502

BIORETENTION POND 2 — 2 / C-0502

GRASS LINED SWALE, TYP. — 7 / C-0502

CONC. PAD SHALL BE FLUSH WITH EXISTING ENTRANCE PAD

1 STORY MASONARY BLDG #77

HOUSING COTTAGE BLDG #82

HOUSING COTTAGE BLDG #81

1 STORY MASONARY COTTAGE BLDG #80

BLDG #90

DIESEL-ALTERNATOR UNIT

PAVEMENT TO BE FLUSH WITH EXISTING CONC. DOOR PADS 595.23±

PAVEMENT TO BE FLUSH WITH EXISTING CONC. DOOR PAD 595.82±

CONCRETE SITE STAIRS. REFER TO STRUCTURAL PLANS.

CONC. TO BE FLUSH WITH EXISTING DOOR THRESHOLDS

MATCH EXISTING FINISH FLOOR

ATHLETIC FIELD

DETENTION POND

WALKWAY

ASPHALT

CONC. PAD W/TRANS.

OVERHANG

WIRE FENCE

8"-12" SPRUCE

W. BEAM GUARDRAIL

BOL

CONC.

ME

CB

UD

ST

SS

WV

HP

LP

30' 15' 0 30'

N

1 — 10/05/2017 — ADDENDUM NO. 6

1 — 09/25/2017 — ADDENDUM NO. 1

08/07/2017 — FINAL SUBMISSION

MARK	DATE	DESCRIPTION

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE: GRADING PLAN AREA B

DRAWING NUMBER: C-0141

SHEET OF

File: F:\MJ\350 OGS DOS\45644 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-140-143 GRAD.DWG Saved: 10/4/2017 10:26:43 AM Plotted: 10/4/2017 10:50:16 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

File: F:\MJ\350 OGS DOS\5544 - OGFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-140-143 GRAD.DWG Saved: 10/4/2017 10:26:43 AM Plotted: 10/4/2017 10:50:36 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

MATCHLINE C-0141

MATCH EXISTING FINISH FLOOR

CONC. TO BE FLUSH WITH EXISTING DOOR THRESHOLDS

BLDG #90

1 STORY MASONRY COTTAGE BLDG #78

7 C-0502 GRASS LINED SWALE, TYP.

GRASS LINED SWALE WITH UNDERDRAIN, TYP. 1 C-0502

LEGEND:

603	CONTOUR LINE
598.60	SPOT ELEVATION
ME	MATCH EXISTING
LP: 597.50	LOW POINT
HP: 599.50	HIGH POINT

30' 15' 0 30'

NEW YORK STATE OF OPPORTUNITY. **Office of General Services**

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
GRADING PLAN
AREA C

DRAWING NUMBER:
C-0142

SHEET OF

MATCHLINE C-0150

MATCHLINE C-0152

LEGEND:
- SF — SILT FENCE
- ENVIRONMENTALLY SENSITIVE AREA PROTECTION FENCE
- IN-PAVEMENT INLET PROTECTION
- OUT-OF-PAVEMENT INLET PROTECTION
- TEMPORARY STONE CHECK DAM
- EROSION CONTROL BLANKET
- GRAVEL STAGING AREA AND CONSTRUCTION ENTRANCE

3 C-0502 EROSION CONTROL BLANKET, TYP.

1 C-0503 STABILIZED CONSTRUCTION ENTRANCE PROVIDED BY OWNER. REPLENISH CONSTRUCTION ENTRANCE WITH STONE AS NECESSARY DURING CONSTRUCTION.

4 C-0503 STONE CHECK DAM, TYP.

7 C-0503 SILT FENCE, TYP.

IN PAVEMENT INLET PROTECTION, TYP. 7 C-0503

OUT OF PAVEMENT INLET PROTECTION, TYP. 8 C-0503

ENVIRONMENTALLY SENSITIVE AREA PROTECTION FENCE, TYP. 5 C-0503

1 STORY MASONARY BLDG #77

HOUSING COTTAGE BLDG #82

HOUSING COTTAGE BLDG #81

1 STORY MASONARY COTTAGE BLDG #80

BLDG #90

ATHLETIC FIELD

HOOP

DIESEL-ALTERNATOR UNIT

AIR CONDITIONER

WALKWAY

ASPHALT

CONC.

RD

SF

ST

UD

CO

CB

DH

PIV

WIRE

OVERHANG

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER: 45679 - C

DESIGNED BY:

DRAWN BY:

FIELD CHECK:

APPROVED:

SHEET TITLE: EROSION AND SEDIMENT CONTROL PLAN AREA B

DRAWING NUMBER: C-0151

SHEET OF

30' 15' 0 30'

File: F:\MJ\350 OGS DOS\5544 - OGFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-150-153 E&Sc.DWG Saved: 10/4/2017 10:23:40 AM Plotted: 10/4/2017 10:51:30 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

File: F:\WJ\350 OGS D05B544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-150-153 EASC.DWG Saved: 10/4/2017 10:23:40 AM Plotted: 10/4/2017 10:51:46 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

MATCHLINE C-0151

BLDG #90

2 C-0503 SILT FENCE, TYP.

4 C-0503 STONE CHECK DAM, TYP.

OUT OF PAVEMENT INLET PROTECTION, TYP. 8 C-0503

STONE CHECK DAM, TYP. 4 C-0503

SILT FENCE, TYP. 2 C-0503

ENVIRONMENTALLY SENSITIVE AREA PROTECTION FENCE, TYP. 5 C-0503

1 STORY MASONRY COTTAGE BLDG #78

CONTROL BOX

LOADING DOCK

S INV= 591.06
N INV= 590.03

RIM 594.86
@ 593.0

RIM 599.69
@ 593.13

SE INV= 592.50
SW INV= 592.50
N INV= 593.10

RIM 601.48

LEGEND:

- SF — SILT FENCE
- ENVIRONMENTALLY SENSITIVE AREA PROTECTION FENCE
- IN-PAVEMENT INLET PROTECTION
- OUT-OF-PAVEMENT INLET PROTECTION
- TEMPORARY STONE CHECK DAM
- EROSION CONTROL BLANKET

30' 15' 0 30'

NEW YORK STATE OF OPPORTUNITY. | Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER: 45679 - C

DESIGNED BY:

DRAWN BY:

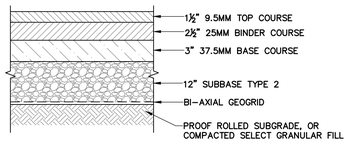
FIELD CHECK:

APPROVED:

SHEET TITLE:
EROSION AND SEDIMENT CONTROL PLAN
AREA C

DRAWING NUMBER:
C-0152

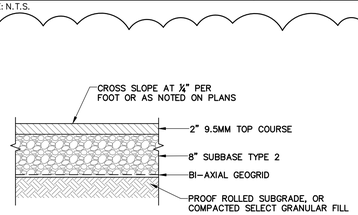
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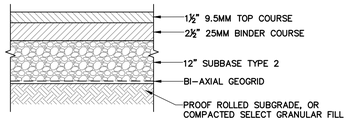
NOTES:

1. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR WHEN PAVEMENT COURSES ARE NOT INSTALLED IMMEDIATELY AFTER ONE ANOTHER.

1 ASPHALT PAVEMENT SECTION (ROADS)
SCALE: N.T.S.



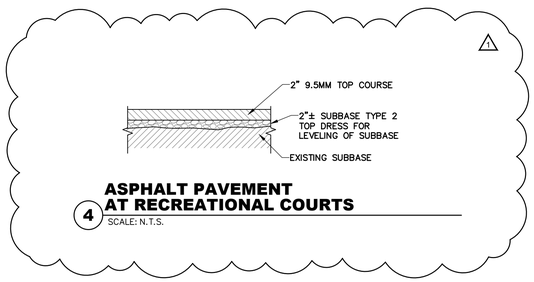
2 ASPHALT PAVEMENT SECTION (SIDEWALKS)
SCALE: N.T.S.



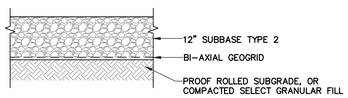
NOTES:

1. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR WHEN PAVEMENT COURSES ARE NOT INSTALLED IMMEDIATELY AFTER ONE ANOTHER.

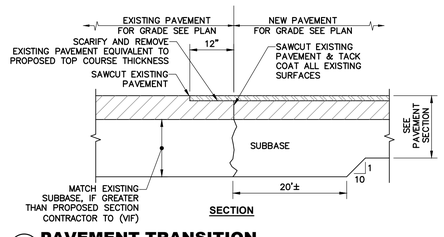
3 ASPHALT PAVEMENT SECTION (PARKING)
SCALE: N.T.S.



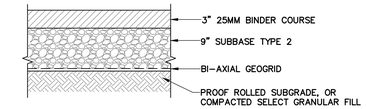
4 ASPHALT PAVEMENT AT RECREATIONAL COURTS
SCALE: N.T.S.



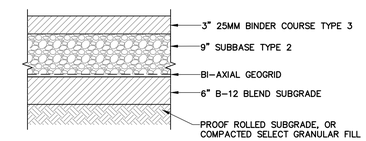
5 GRAVEL OVERFLOW PARKING/ STAGING & STORAGE AREA
SCALE: N.T.S.



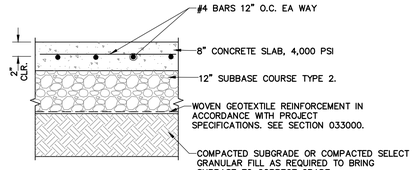
6 PAVEMENT TRANSITION
SCALE: N.T.S.



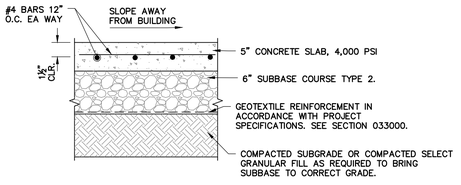
7 PERIMETER PATROL ROAD SECTION
SCALE: N.T.S.



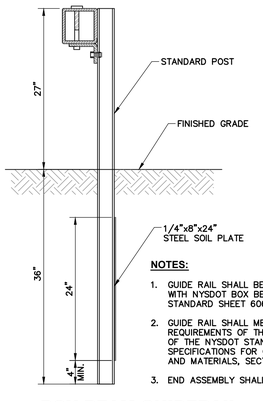
8 PERIMETER PATROL ROAD SECTION (STRUCTURAL FILL REQUIRED)
SCALE: N.T.S.



9 DUMPSTER PAD SECTION
SCALE: N.T.S.



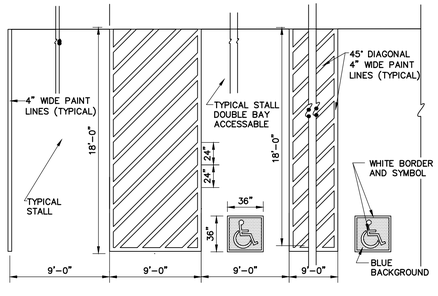
10 CONCRETE SPLASH PAD SECTION
SCALE: N.T.S.



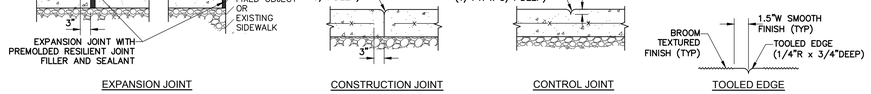
NOTES:

1. GUIDE RAIL SHALL BE IN ACCORDANCE WITH NYSDOT BOX BEAM GUIDE RAIL STANDARD SHEET 606-04.
2. GUIDE RAIL SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITION OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 710-21.
3. END ASSEMBLY SHALL BE TYPE 1 OR 2

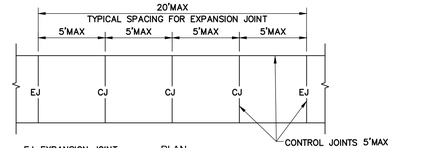
11 BOX BEAM GUIDERAIL
SCALE: N.T.S.



15 PARKING LOT STRIPING
SCALE: N.T.S.



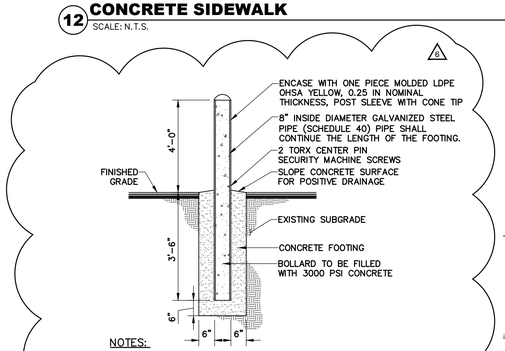
EXPANSION JOINT | CONSTRUCTION JOINT | CONTROL JOINT | TOOLED EDGE



NOTES:

1. ALL CONCRETE SHALL BE 4000 PSI CONCRETE. CONCRETE MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SPECIFICATION SECTION 321300.
2. ALL EXPOSED SURFACED SHALL HAVE A BROOM TEXTURED FINISH & TOOLED EDGES. PROVIDE MAX 1.5" WIDE SMOOTH TROWEL FINISH AT JOINT.
3. EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20' ON CENTER, OR AS INDICATED ON PLANS.
4. SUBBASE MATERIAL SHALL CONFORM WITH SPECIFICATION SECTION 310000.

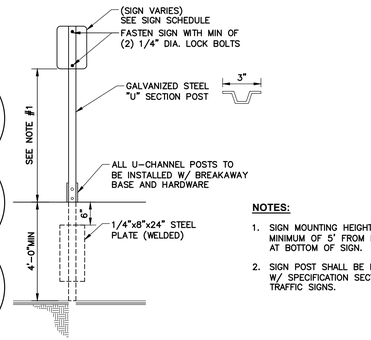
12 CONCRETE SIDEWALK
SCALE: N.T.S.



NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1").
3. ALL CONCRETE SHALL HAVE A 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260.

13 BOLLARD WITH COVER DETAIL
SCALE: N.T.S.



NOTES:

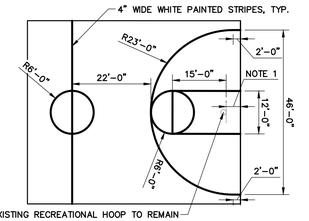
1. SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 5' FROM FINISH GRADE AT BOTTOM OF SIGN.
2. SIGN POST SHALL BE IN ACCORDANCE W/ SPECIFICATION SECTION 344113 - TRAFFIC SIGNS.

SIGN SCHEDULE

MUTCD SIGNAGE

SIGN NO.	SIGN FACE	MUTCD NUMBER	MIN SIZE	COLORS	
				BCK GRND	LEGEND
①	STOP	R1-1	24"x24"	RED	WHITE
②	RESERVED PARKING	R7-8(MOD.)	12"x18"	WHITE	GREEN/ BLUE
③	NO PARKING ANY TIME	R7-1	12"x18"	WHITE	RED

14 SINGLE POST SIGN MOUNTING DETAILS
SCALE: N.T.S.



NOTE:

1. MIN. 4'-0" BETWEEN EDGE OF ASPHALT AND BACKBOARD FOR RELOCATED RECREATIONAL HOOP NEAR BUILDING 80.

16 RECREATIONAL COURT STRIPING DETAIL
SCALE: N.T.S.

File: F:\MJ\350 OGS DOS8544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-500 DETL.DWG Saved: 10/4/2017 10:00:26 AM Plotted: 10/4/2017 10:51:59 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

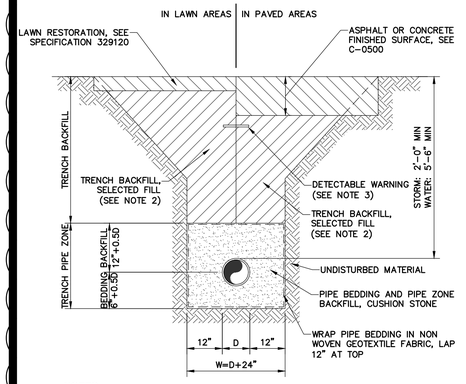
MARK	DATE	DESCRIPTION
②	10/05/2017	ADDENDUM NO. 6
①	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE: TYPICAL SITE DETAILS

DRAWING NUMBER: C-0500

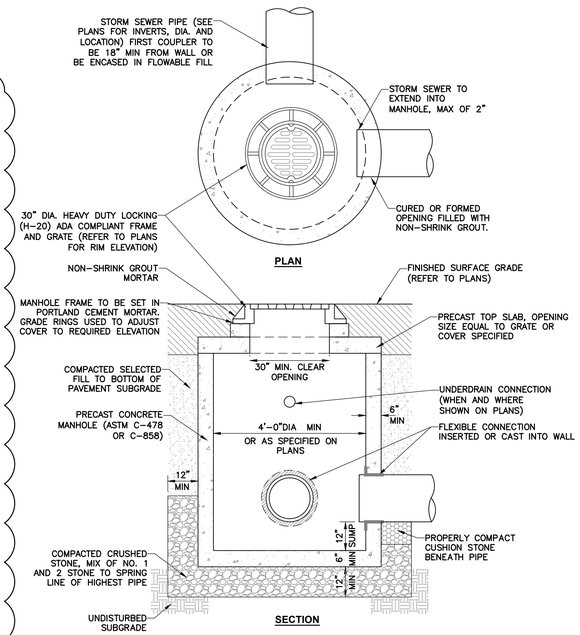
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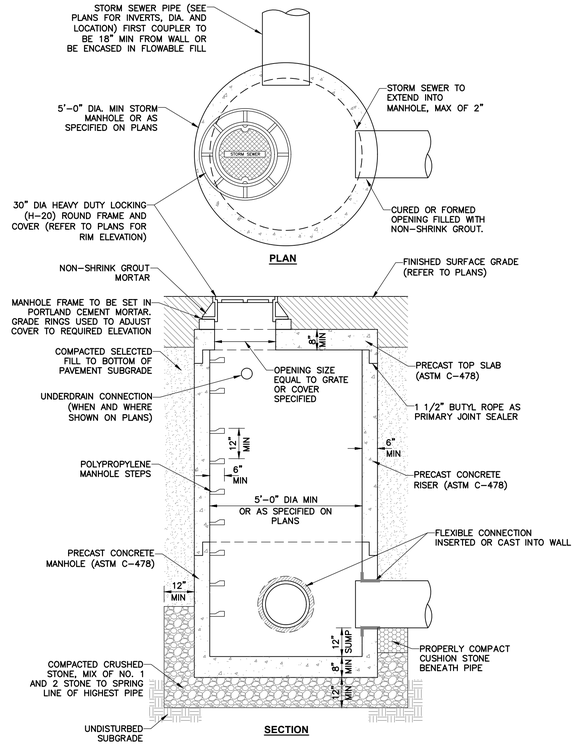
NOTES:

1. D=OUTSIDE PIPE DIAMATER.
2. ON-SITE EXCAVATED TRENCH MATERIAL MAY BE USED FOR TRENCH BACKFILL IF MEETING THE REQUIREMENTS OF SELECTED FILL MATERIAL.
3. PLACE DETECTABLE WARNING TAPE 6" BELOW SUBBASE IN PAVED AREAS AND 12" BELOW FINISHED GRADE IN LAWN OR LANDSCAPING AREAS.
4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
5. REFER TO SPECIFICATION SECTION 310000 FOR TRENCH BACKFILL, PIPE BEDDING AND PIPE ZONE BACKFILL GRADATION AND COMPACTION REQUIREMENTS.

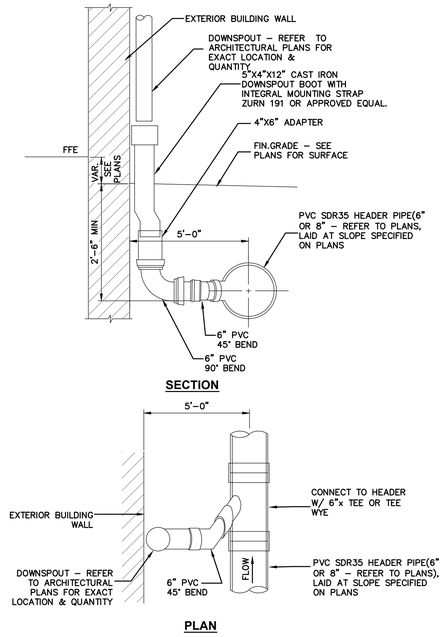
1 PIPE TRENCH AND BEDDING
SCALE: N.T.S.



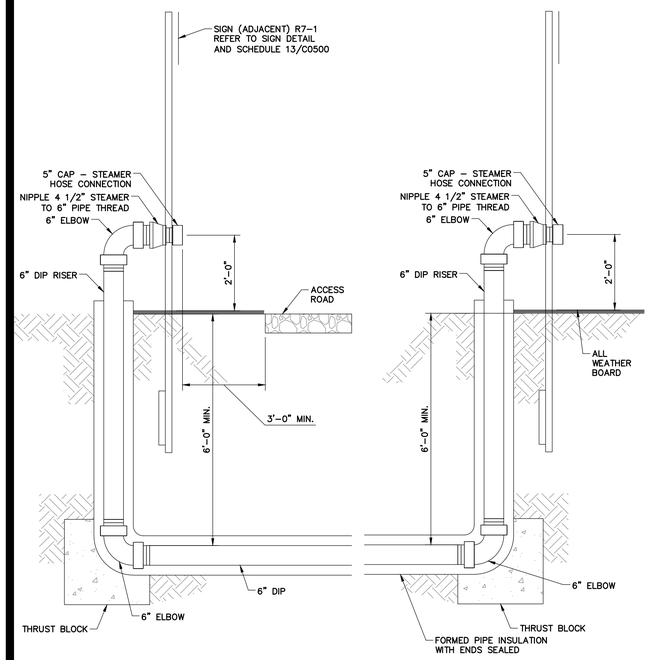
2 STORM CATCH BASIN (ROUND)
SCALE: N.T.S.



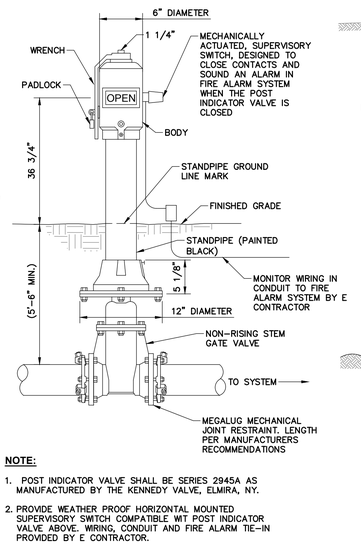
3 STORM SEWER MANHOLE
SCALE: N.T.S.



4 BUILDING DOWNSPOUT CONNECTION (PIPED)
SCALE: N.T.S.



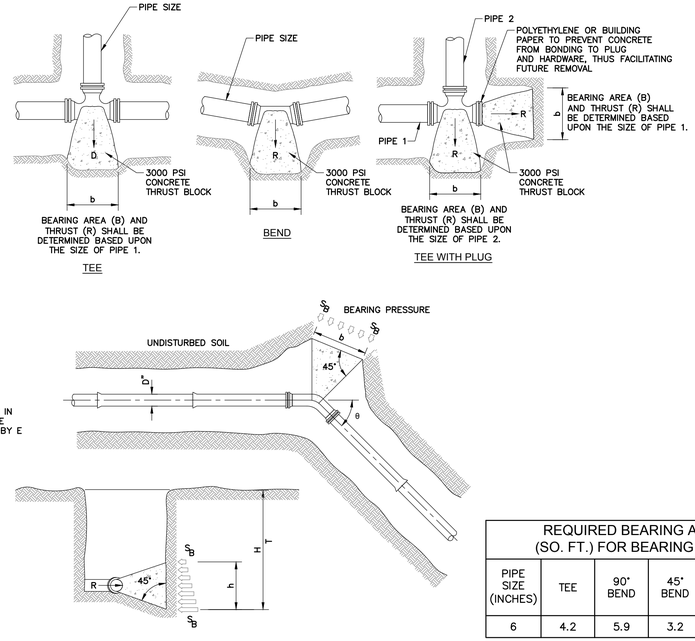
5 DRY HYDRANT INSTALLATION
SCALE: N.T.S.



NOTE:

1. POST INDICATOR VALVE SHALL BE SERIES 2945A AS MANUFACTURED BY THE KENNEDY VALVE, ELMIRA, NY.
2. PROVIDE WEATHER PROOF HORIZONTAL MOUNTED SUPERVISORY SWITCH COMPATIBLE WIT POST INDICATOR VALVE ABOVE. WIRING, CONDUIT AND FIRE ALARM TIE-IN PROVIDED BY E CONTRACTOR.

6 SUPERVISED POST INDICATOR VALVE
SCALE: N.T.S.



7 THRUST BLOCK
SCALE: N.T.S.

NOTES:

1. CONCRETE SHALL NOT OVERLAP ANY JOINT.
2. THRUST BLOCKS SHALL BE CONFIGURED IN A MANNER THAT DOES NOT INTERFERE WITH REMOVAL OR INSTALLATION OF ANY JOINTING COMPONENTS.
3. FOR REDUCERS, USE MECHANICAL JOINT FITTINGS WITH RETAINER GLANDS.
4. BEARING SURFACE SHALL, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE THAT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
5. BLOCK HEIGHT (h) SHALL BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (HT), BUT NOT LESS THAN THE PIPE DIAMETER (D).
6. BLOCK HEIGHT (h) SHALL BE ESTABLISHED SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.
7. VALUES FOR TEES APPLY TO TEES, END PLUGS, CAPS, AND TAPPING SLEEVES.

BEARING STRENGTH	SOIL	S (LB/SQ FT)
	MUCK	0
	SOFT CLAY	1,000
	SILT	1,500
	SANDY SILT	3,000
	SAND	4,000
	SANDY CLAY	6,000
	HARD CLAY	9,000

8. REQUIRED BEARING AREAS ARE DEVELOPED TO RESIST THRUSTS RESULTING FROM 150 PSI WORKING PRESSURE PLUS 50%(75 PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE. REQUIRED BEARING AREAS ARE BASED UPON AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 POUNDS PER SQUARE FOOT. IN RESPONSE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS REQUIRED MAY BE MODIFIED BY THE ENGINEER.IN MUCK, PEAT, OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES OR TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS; ALL AS REQUIRED BY THE ENGINEER.

REQUIRED BEARING AREAS -b (SO. FT.) FOR BEARING BLOCKS*					
PIPE SIZE (INCHES)	TEE	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
6	4.2	5.9	3.2	1.6	0.8

*FACTOR OF SAFETY=1.5
SOIL BEARING OF 3,000 PSF
225 PSI DESIGN PRESSURE

*BEARING AREA (B) = bxh

THRUST REACTIONS-R(LB) PER 100PSI INTERNAL PRESSURE						
NOM. PIPE DIA (IN)	DEAD END	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
6	3,739	5,288	2,862	1,459	733

NEW YORK STATE OF OPPORTUNITY. **Office of General Services**

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER: 45679 - C

DESIGNED BY:
DRAWN BY:
FIELD CHECK:
APPROVED:

SHEET TITLE:
TYPICAL SITE DETAILS

DRAWING NUMBER:
C-0501

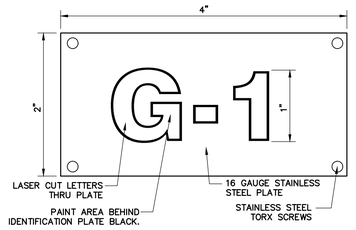
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36x24 PLOT SHEET

GATE SCHEDULE

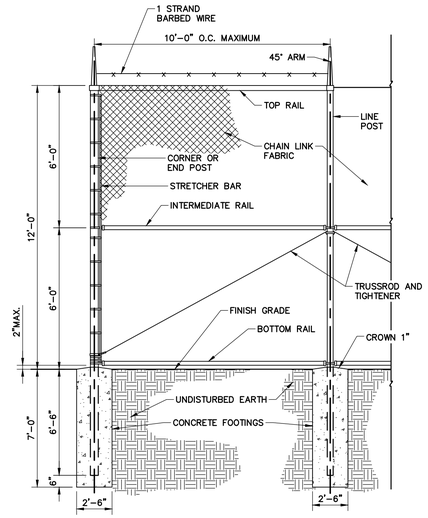
GATE NO.	DETAIL	EXISTING/NEW	DESCRIPTION	OPERATION	LOCATION
G-1	NOTE 1	EXISTING	20' WIDE VEHICLE SLIDE GATE (CURRENTLY G-1)	CONSOLE	VEHICULE COMPOUND
G-2	NOTE 1	EXISTING	20' WIDE VEHICLE SLIDE GATE (CURRENTLY G-2)	CONSOLE	VEHICULE COMPOUND
G-3	NOTE 1	EXISTING	5'-0" WIDE TYPE "A" GATE (CURRENTLY G-5)	CONSOLE	PEDESTRIAN COMPOUND
G-4	NOTE 1	EXISTING	5'-0" WIDE TYPE "A" GATE (CURRENTLY G-6)	CONSOLE	PEDESTRIAN COMPOUND
G-5	NOTE 1	EXISTING	5'-0" WIDE TYPE "A" GATE (CURRENTLY G-4)	CONSOLE	VEHICULE COMPOUND
G-6	NOTE 1	EXISTING	5'-0" WIDE TYPE "A" GATE (CURRENTLY G-3)	CONSOLE	VEHICULE COMPOUND
G-7	NOTE 1	EXISTING	20' WIDE VEHICLE SLIDE GATE	CONSOLE	ACCESS TO NO-MANS LAND SOUTH SIDE OF SITE
G-78-1	NOTE 1	EXISTING	20' WIDE DOUBLE SWING GATE	MANUAL	BUILDING 78
G-78-2	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	BUILDING 78
G-78-3	3/C0504	NEW	5'-0" WIDE TYPE "B" GATE	MANUAL	BUILDING 78
G-78-4	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	RECREATIONAL YARD - SOUTH
G-78-5	NOTE 1	EXISTING	10' WIDE VEHICLE SWING GATE	MANUAL	RECREATIONAL YARD - SOUTH
G-80-1	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	BUILDING 80 WEST SIDE
G-80-2	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	BUILDING 80 EAST SIDE
G-80-3	5/C0504	NEW	16'-0" WIDE TYPE "C" DOUBLE SWING GATE	MANUAL	BUILDING 80 EAST SIDE
G-80-4	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	RECREATIONAL YARD - NORTH
G-80-5	NOTE 1	EXISTING	20' WIDE DOUBLE SWING GATE	MANUAL	RECREATIONAL YARD - NORTH
G-90-1	NOTE 1	EXISTING	6'-0" WIDE TYPE "C" GATE	MANUAL	BUILDING 90 WEST SIDE
G-90-2	NOTE 1	EXISTING	6'-0" WIDE TYPE "C" GATE	MANUAL	BUILDING 90 NORTH SIDE
G-81-1	NOTE 1	EXISTING	6'-0" WIDE TYPE "C" GATE	MANUAL	BUILDING 81 NORTH SIDE
G-77-1	NOTE 1	EXISTING	20' WIDE DOUBLE SWING GATE	MANUAL	BUILDING 77
G-77-2	4/C0504	NEW	3'-8" WIDE TYPE "B-1" GATE	PLC	BUILDING 77
G-77-3	3/C0504	NEW	5'-0" WIDE TYPE "B" GATE	MANUAL	BUILDING 77

1 GATE IDENTIFICATION SCHEDULE AND PLATE
SCALE: N.T.S.

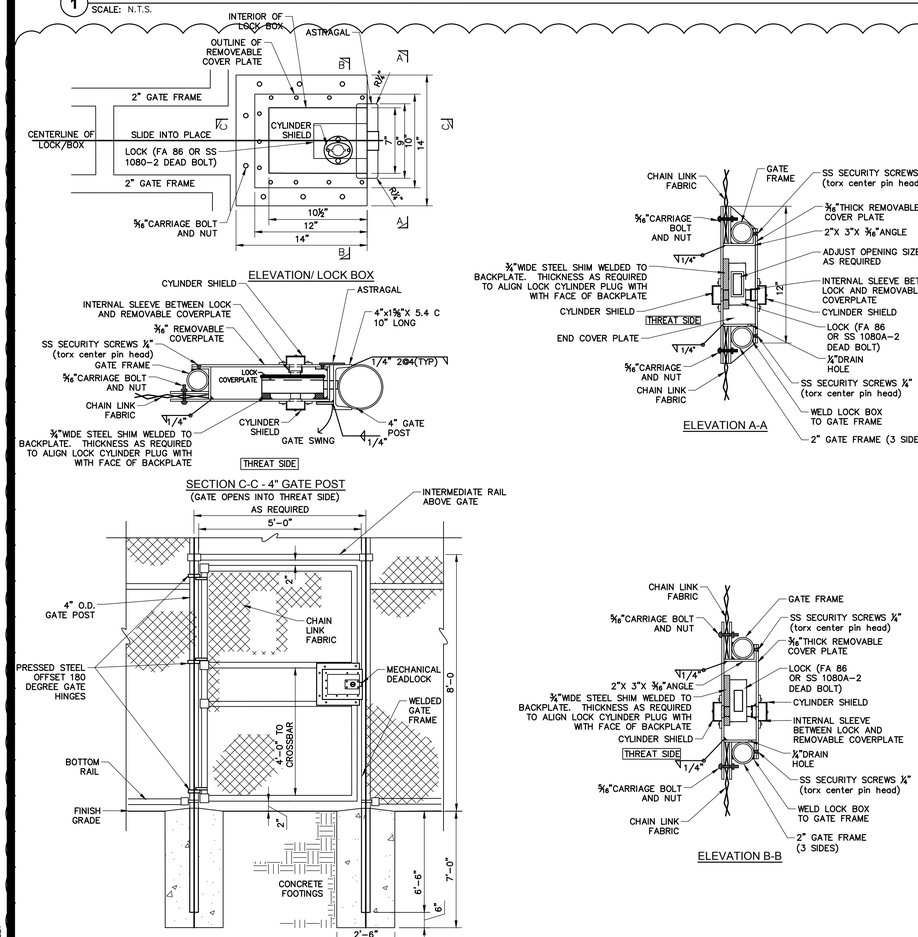


GENERAL NOTES:

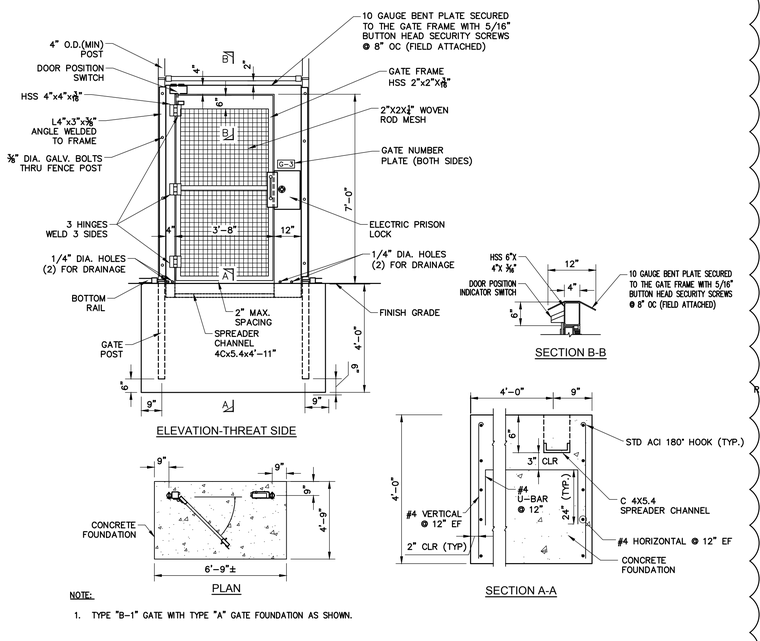
1. EXISTING GATES REQUIRE CHANGING OF NAME PLATES ONLY. NO OTHER MODIFCATIONS TO GATE ARE REQUIRED.
2. TWO NAME PLATES PER DOOR (BOTH SIDES).



2 12'-0" HIGH ZONE FENCE
SCALE: N.T.S.

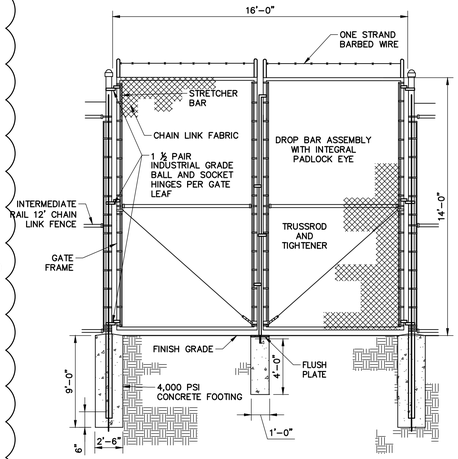


3 8' HIGH 5' WIDE TYPE "B" PEDESTRIAN GATE AND LOCK IN 12' HIGH ZONE FENCE
SCALE: N.T.S.



NOTE:
1. TYPE "B-1" GATE WITH TYPE "A" GATE FOUNDATION AS SHOWN.

4 PERSONNEL GATE - TYPE "B-1" WITH ELECTRIC LOCK
SCALE: N.T.S.



5 16' WIDE DOUBLE SWING GATE - TYPE C
SCALE: N.T.S.

File: F:\MJ\1350 OGS DOS\DOS544 - OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C-500 DETL.DWG Saved: 10/4/2017 10:00:26 AM Plotted: 10/4/2017 10:52:05 AM Current User: Jared Fagan LastSavedBy: jfagan
36x24 PLOT SHEET

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DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

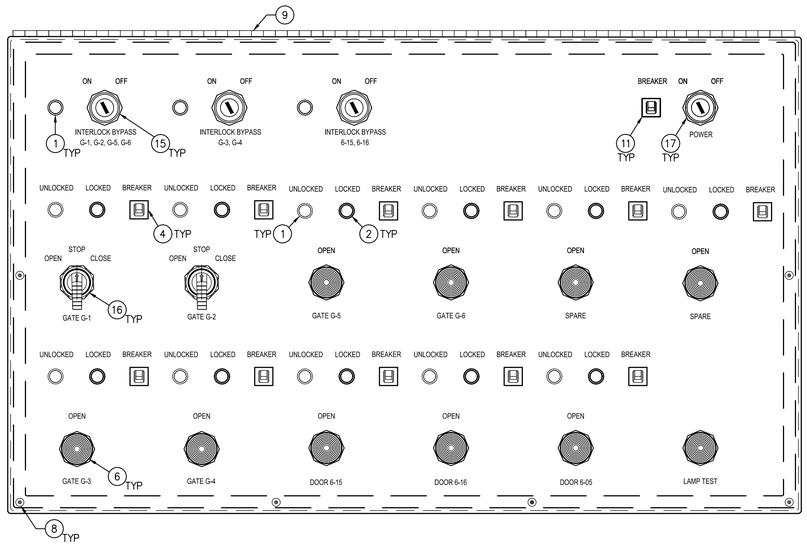
MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

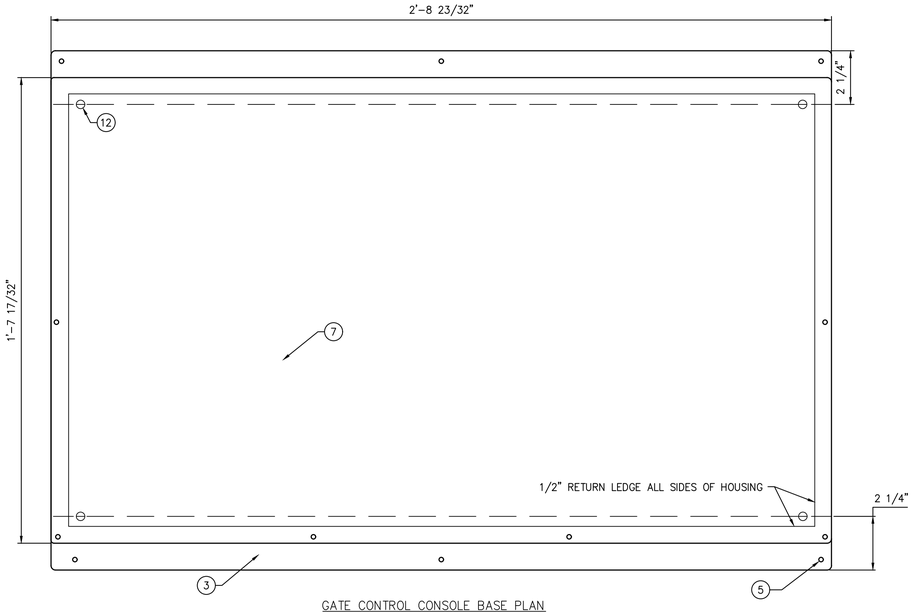
SHEET TITLE:
SECURITY FENCE DETAILS

DRAWING NUMBER:
C-0504

SHEET OF



GATE CONTROL CONSOLE PANEL



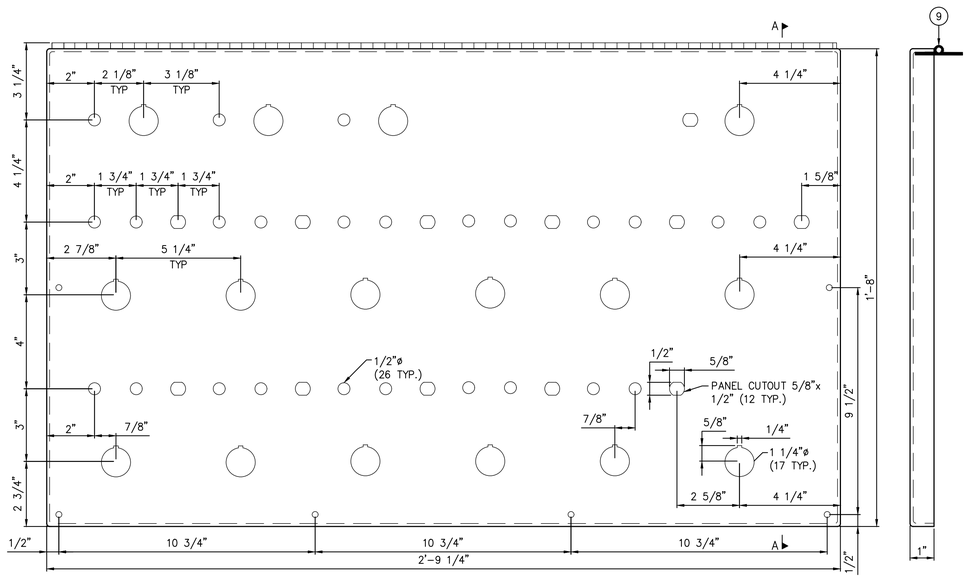
GATE CONTROL CONSOLE BASE PLAN

GENERAL NOTES

1. CONTROLS OF ALL GATES SHALL BE INTERLOCKED AS SPECIFIED IN SECTION 323114 OF THE PROJECT MANUAL.
2. FACE PLATE TO BE FABRICATED FROM 11 GAUGE STAINLESS STEEL.
3. BASE TO BE FABRICATED FROM 10 GAUGE MILDSTEEL WITH HAMMER TONE GRAY FINISH.
4. CONTROL CONSOLE PANEL KNOCKOUTS FOR THE FLUSH MOUNTED CIRCUIT BREAKERS SHALL BE SO CONFIGURED AS TO PREVENT THE CIRCUIT BREAKER FROM ROTATING. (FLAT BOTTOM OR SQUARE PROPERLY SIZED ONLY) ROUND HOLED KNOCKOUTS ARE NOT ACCEPTABLE.
5. PROVIDE LEGEND PLATES AS INDICATED ON DRAWING.
6. INTERLOCK BYPASS KEYS SHALL INCORPORATE A CONTROL SEAL WHICH IS TO BE ATTACHED TO SIDE OF CONSOLE PANEL. SEAL MUST BE BROKEN IN ORDER TO UTILIZE BYPASS KEYS.

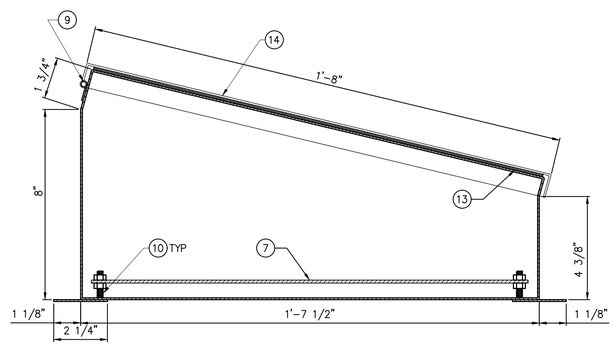
CODED NOTES

(1) INDICATOR LIGHT – RED.
(2) INDICATOR LIGHT – GREEN.
(3) 10 GA. x 2 1/4" MOUNTING FLANGE (WELDED TO BASE).
(4) 5 AMP CIRCUIT BREAKER.
(5) 1/4" MOUNTING HOLES IN FLANGE TYPICAL FOR "8".
(6) MOMENTARY CONTACT PUSHBUTTON.
(7) PROVIDE 1/8" ALUMINUM PLATE FOR ELECTRONICS MOUNTING.
(8) PROVIDE TAMPER PROOF "TORX CENTER PIN SCREWS" FOR ALL EXPOSED FASTENING HARDWARE ON CONTROL PANELS. (COVER SCREWS 1/4"–20, DEVICE MOUNTING SCREWS ETC.)
(9) CONTINUOUS STAINLESS STEEL HINGE. .120 THK, 2" WIDE w/.25"ø (NON REMOVABLE WELDED) PIN. RETURN EDGE 1" ON ALL SIDES OF CONTROL CONSOLE PANEL.
(10) MOUNTING STUD WELDED TO BASE.
(11) 30 AMP CIRCUIT BREAKER.
(12) 1/4" MOUNTING POST TYPICAL FOR "4".
(13) PROVIDE CONTINUOUS WEATHER STRIP.
(14) FACE PLATE OF GATE CONTROL CONSOLE TO BE FABRICATED FROM 11 GAUGE STAINLESS STEEL.
(15) KEYED INTERLOCK BYPASS.
(16) 3–POSITION SWITCH.
(17) KEYED POWER SWITCH.



GATE CONTROL CONSOLE PANEL DIMENSIONS

SECTION A–A



GATE CONTROL CONSOLE BASE SECTION – LEFT VIEW

1 GATE CONTROL CONSOLE
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT

CHA
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375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
	10/05/2017	ADDENDUM DRAWING

PROJECT NUMBER:	45679 – C
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
GATE CONTROL CONSOLE DETAILS

DRAWING NUMBER:
C–0506

SHEET OF

File: F:\Ut\350 OGS DOSB544 – OCFS SITE INFRASTRUCTURE\1350.04 45679 RTA INDUSTRY SECURE\45679 C–506 CONSOLE.DWG Saved: 10/4/2017 10:59:19 AM Plotted: 10/4/2017 10:59:26 AM Current User: dared Fagan LastSavedBy: jFagan
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INTERNATIONAL EXISTING BUILDING CODE (IEBC 2015)

CHAPTER		REQUIRED	PROVIDED
3	**PROVISIONS FOR ALL COMPLIANCE METHODS**		
301.2	COMPLIANCE METHOD	WORK AREA COMPLIANCE METHOD; COMPLY WITH APPLICABLE CHAPTERS 5-13	CHAPTERS 5-9 APPLY, CHAPTER 10-13 DO NOT APPLY (CHANGE OF OCCUPANCY, ADDITIONS, HISTORIC BUILDINGS AND RELOCATED OR MOVED BUILDINGS)
5	**CLASSIFICATION OF WORK**		
505.1	LEVEL 3 ALTERATION	COMPLY WITH CHAPTERS 7-8-9	
7	**ALTERATIONS LEVEL 1**		
702.1.1	INTERIOR FINISHES	COMPLY WITH IBC CHAPTER 8	SEE IBC 803.11, FINISH SCHEDULE AND PROJECT MANUAL
702.2	INTERIOR FLOOR FINISH	COMPLY WITH IBC SECTION 804	SEE IBC 804.2.2, SEE FINISH SCHEDULE AND PROJECT MANUAL
702.3	INTERIOR TRIM	COMPLY WITH IBC SECTION 806	SEE FINISH SCHEDULE AND PROJECT MANUAL FOR COMPLIANCE
702.5	EMERGENCY ESCAPE AND RESCUE WINDOWS	REQUIRED AT R-2 AND R-3	NA - I-3 OCCUPANCY
702.6	MATERIALS AND METHODS	NEW WORK SHALL COMPLY WITH THE MATERIALS AND METHODS REQUIREMENTS IN THE IBC, IECC, IMC AND IPC	
703	FIRE PROTECTION	SHALL BE DONE IN A MANNER THAT MAINTAINS THE LEVEL OF FIRE PROTECTION PROVIDED	SEE 803
704	MEANS OF EGRESS	ALTERATIONS SHALL BE DONE IN A MANNER THAT MAINTAINS THE LEVEL OF PROTECTION PROVIDED FOR THE MEANS OF EGRESS	SEE 804
705.1.7	ACCESSIBLE SLEEPING UNITS (CELLS)	IBC 1107 SHALL APPLY TO THOSE BEING ALTERED. 3% OR 1 WHICH EVER IS GREATER ARE REQUIRED TO BE ACCESSIBLE	5 CELLS CONSIDERED RECONFIGURED, 1 WILL BE ACCESSIBLE (ROOM -107)
705.1.9	ACCESSIBLE TOILET ROOMS (1)	REQUIRES ACCESSIBLE TOILETS COMPLYING WITH IBC 1109 UNLESS TECHNICALLY INFEASIBLE. IBC 1109.2 PARAGRAPH 3 STATES "WHERE SINGLE USER TOILETS ARE CLUSTERED, MINIMUM OF OF 50%, BUT NOT LESS THAN 1 SHALL BE ACCESSIBLE"	AT NEW RECONFIGURED BATHROOM LOCATIONS IN SLEEPING AREAS - 2 REQUIRED, 2 PROVIDED. AT REMAINDER OF BUILDING, IT IS TECHNICALLY INFEASIBLE TO MAKE ALL TOILET ROOMS ACCESSIBLE DUE TO AREA RESTRICTIONS AND PROGRAM REQUIREMENTS,
705.2	ALTERATION AFFECTING AREA CONTAINING PRIMARY FUNCTION	WHERE ALTERATION AFFECTS THE ROUTE TO PRIMARY FUNCTION SHALL, IT SHALL BE ACCESSIBLE	NO CHANGE TO ROUTES TO PRIMARY FUNCTION
706	REROOFING	COMPLY WITH IBC CHAPTER 15,	WORK COMPLETED UNDER SEPARATE EMERGENCY PROJECT, DOES NOT ALTER CLASSIFICATION LEVEL
707.3.2	ROOF DIAPHRAGMS IN HIGH WIND AREAS	WHEN REROOFING AND V_{ult} >115 MPH (DETERMINED IN ACCORDANCE WITH FIGURE 1609.3(1) OF THE IBC), AND GREATER THAN 50% REROOFING, REINFORCEMENT REQUIRED	V_{ult} IS NOT GREATER THAN 115 MPH ACCORDING TO FIGURE 1609.3(1) OF THE IBC
708.1	ENERGY CONSERVATION	NEW ELEMENTS TO COMPLY WITH 2015 IECC	ROOF WORK COMPLETED UNDER SEPARATE EMERGENCY PROJECT, EXTERIOR WALL WORK WILL COMPLY, DOES NOT ALTER CLASSIFICATION LEVEL
8	**ALTERATIONS LEVEL 2**		
801.2	ALTERATIONS LEVEL 1	COMPLY WITH IEBC CHAPTER 7	SEE ABOVE
802	SPECIAL USES AND OCCUPANCIES	COMPLY WITH THIS CHAPTER	I-3 OCCUPANCY IS A SPECIAL USE, BUT NO EXTRA REQUIREMENTS SEE 902
803.2	VERTICAL OPENINGS	1 HOUR ENCLOSURE	NA - ONE STORY BUILDING
803.3	SMOKE COMPARTMENTS	REQUIRED AT I-2 OCCUPANCIES	NA FOR I-3 OCCUPANCIES
803.4.1	SUPPLEMENTAL INTERIOR FINISHES REQUIRED	WHERE WORK AREA EXCEEDS 50% OF A FLOOR, COMPLY WITH 803.4	ALL FINISHES WILL BE NEW AND MEET CURRENT INTERIOR FINISH REQUIREMENTS, SEE FINISH SCHEDULE AND PROJECT MANUAL FOR COMPLIANCE
803.6	EXISTING FIRE RESISTANCE RATINGS	WHERE SPRINKLERS ARE ADDED THROUGHOUT, FIRE RESISTANCE RATINGS OF BUILDING ELEMENTS AND MATERIALS SHALL BE PERMITTED TO MEET THE REQUIREMENTS OF THE CURRENT BUILDING CODE.	EXISTING CORRIDORS AT SLEEPING AREAS WILL BE REDUCED TO SMOKE TIGHT PERMITTED UNDER IBC 408.8.2
804.2.3	AUTOMATIC SPRINKLERS AT WINDOWLESS BUILDINGS	IBC408.9 CONSIDERS A BUILDING WINDOWLESS IF THE WINDOWS ARE NONOPERABLE AND NON BREAKABLE	WINDOWS ARE FIXED AND LAMINATED SECURITY GLAZING; A SPRINKLER SYSTEM WILL BE ADDED
804.3	STANDPIPES	WHERE THE WORK AREA INCLUDES EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT AND IS LOCATED MORE THAN 50 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS, A STANDPIPE SYSTEM SHALL BE PROVIDED.	NR - SINGLE TENANT AND WORK AREA LESS THAN 50 ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS
804.1	CORRIDOR RATINGS	WHERE AN AUTOMATIC SPRINKLER SYSTEM IS INSTALLED THROUGHOUT THE STORY, THE REQUIRED FIRE-RESISTANCE RATING FOR ANY CORRIDOR LOCATED ON THE STORY SHALL BE PERMITTED TO BE REDUCED IN ACCORDANCE WITH THE IBC	EXISTING CORRIDORS AT SLEEPING AREAS WILL BE REDUCED TO SMOKE TIGHT PERMITTED UNDER IBC 408.8.2
804.4.1.4	FIRE ALARM AND DETECTION - I-3 OCCUPANCY	A FIRE ALARM SYSTEM SHALL BE INSTALLED IN WORK AREAS OF GROUP I-3 OCCUPANCIES AS REQUIRED BY THE INTERNATIONAL FIRE CODE.	MANUAL ALARM SYSTEM AND SMOKE DETECTION SYSTEM IS PROVIDED - SEE DRAWING E-1102. SMOKE DETECTION IS PROVIDED THROUGHOUT, EXCEPT SLEEPING ROOMS AS PERMITTED BY IFC 907.2.6.3.3. EXCEPTION 3.
805.1	MEANS OF EGRESS	REQUIREMENTS OF THIS SECTION SHALL BE LIMITED TO WORK AREAS THAT INCLUDE EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT WITHIN THE WORK AREA IN WHICH LEVEL 2 ALTERATIONS ARE BEING PERFORMED	PARAGRAPH 901.2 REQUIRES COMPLIANCE WITH SECTION 805 REGARDLESS OF ONE TENANT OCCUPANCY. EXISTING MEANS OF EGRESS COMPLIES WITH NUMBER OF REQUIRED EXITS, EXIT WIDTHS, AND CORRIDOR OPENINGS.
805.3	NUMBER OF EXITS (2)	EVERY STORY WHERE A WORK AREA INCLUDES EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT WITHIN THE WORK AREA SHALL BE PROVIDED WITH THE MINIMUM NUMBER OF EXITS BASED ON THE OCCUPANCY AND THE OCCUPANT LOAD IN ACCORDANCE WITH THE IBC	PARAGRAPH 901.2 REQUIRES COMPLIANCE WITH SECTION 805 REGARDLESS OF ONE TENANT OCCUPANCY. EXISTING MEANS OF EGRESS COMPLIES WITH NUMBER OF REQUIRED EXITS, EXIT WIDTHS. SIX BUILDING EXITS PROVIDED.
805.4.1.1	TWO EGRESS DOORWAYS	IN ANY WORK AREA, ALL ROOMS AND SPACES HAVING AN OCCUPANT LOAD GREATER THAN 50 OR IN WHICH THE TRAVEL DISTANCE TO AN EXIT EXCEEDS 75 FEET SHALL HAVE A MINIMUM OF TWO EGRESS DOORWAYS.	TRAVEL DISTANCE GREATER THAN 50' AT MAIN ACTIVITY ROOM WITH 60 OCCUPANTS, 2 EGRESS DOORS PROVIDED, SEE CODE COMPLIANCE DRAWINGS
805.4.2	DOOR SWING	ALL EGRESS DOORS SERVING AN OCCUPANT LOAD GREATER THAN 50 SHALL SWING IN THE DIRECTION OF EXIT TRAVEL.	NO DOOR HAS AN OCCUPANT LOAD GREATER THAN 50, SEE CODE COMPLIANCE DRAWINGS
805.4.3	DOOR CLOSING	EXIT PASSAGEWAY AND STAIR DOORS SHALL BE SELF CLOSING	NA - NO STAIRS OR EXIT PASSAGEWAYS IN PROJECT
805.4.5	EMERGENCY POWER SOURCE IN GROUP I-3 DOOR HARDWARE	POWER OPERATED LOCKS FOR SWINGING DOORS SHALL BE OPERABLE BY A MANUAL RELEASE MECHANISM AT THE DOOR, AND BE CONNECTED TO EMERGENCY POWER SYSTEM	DOORS ON EMERGENCY POWER SYSTEM
805.5	CORRIDOR DOORS	CORRIDOR DOORS IN THE WORK AREA SHALL NOT BE CONSTRUCTED OF HOLLOW CORE WOOD AND SHALL NOT CONTAIN LOUVERS.	CORRIDOR DOORS AT SLEEPING AREAS ARE STEEL AND WILL COMPLY WITH IBC SECTION 408.2.4 - SMOKE TIGHT WITH NO CLOSER OR LATCH
805.6	DEAD END CORRIDORS	SHALL NOT EXCEED 70 FEET FOR SPRINKLERED BUILDING	NO DEAD ENDS SEE CODE COMPLIANCE PLANS FOR COMPLIANCE
805.7	MEANS OF EGRESS LIGHTING	SHALL BE IN ACCORDANCE WITH THE IBC	ALL LIGHTING WILL BE NEW AND COMPLY WITH IBC, SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
805.8	EXIT SIGNS	SHALL BE IN ACCORDANCE WITH THE IBC	ALL EXIT SIGNS WILL BE NEW AND WILL COMPLY WITH IBC, SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
805.9	HANDRAILS	NEW HANDRAILS SHALL BE PROVIDED OR EXISTING HANDRAILS IN DANGER OF COLLAPSING REPLACED AT STAIRS	NA - NO STAIRS OR RAMPS
805.10	REFUGE AREA I-3 OCCUPANCIES (2)	THE REQUIRED CAPACITY OF THE REFUGE AREAS FOR SMOKE COMPARTMENTS IN ACCORDANCE WITH SECTION 408.6.2 OF THE IBC SHALL BE MAINTAINED	MAIN DAY ACTIVITY ROOMS AND CORRIDORS IN SLEEPING AREAS PROVIDE SAME AREAS AS PRIOR TO ALTERATIONS. 6 NSF PER PERSON REQUIRED AND PROVIDED. 1 HOUR FIRE RATED SMOKE BARRIER BETWEEN TWO SMOKE COMPARTMENTS REQUIRED AND PROVIDED.
805.11	GUARDS (FOR STAIRS AND RAMPS)	ANY ELEVATED SLAB GREATER THAN 30" OR ANY RISE >30" OR EXISTING GUARDS IN DANGER OF COLLAPSING REQUIRE REPLACEMENT OR ADDITION OF GUARDS	NA - NO STAIRS OR RAMPS
806.1	ACCESSIBILITY GENERAL	NEW OR ALTERED ELEMENTS SHALL COMPLY WITH 705	SEE 705
807.2	NEW STRUCTURAL ELEMENTS	SHALL COMPLY WITH IBC	NEW ELEMENTS COMPLY
807.3	MINIMUM DESIGN LOADS	EXISTING ELEMENTS NOT SUPPORTING ADDITIONAL LOADS SHALL BE THE LOADS APPLICABLE AT THE TIME THE BUILDING WAS CONSTRUCTED	NO CHANGE TO LOADS
807.4	EXISTING STRUCTURAL ELEMENTS CARRYING GRAVITY LOADS.	ALTERATIONS SHALL NOT REDUCE THE CAPACITY OF EXISTING GRAVITY LOAD-CARRYING STRUCTURAL ELEMENTS UNLESS DEMONSTRATED TO HAVE SUCH THE CAPACITY. EXISTING STRUCTURAL ELEMENTS SUPPORTING ANY ADDITIONAL GRAVITY LOADS DUE TO ALTERATIONS, INCLUDING THE EFFECTS OF SNOW DRIFT, SHALL COMPLY WITH THE IBC	EXISTING STRUCTURAL ELEMENTS THAT DO NOT MEET STRENGTH & DEFLECTION REQUIREMENTS WITH IBC SNOW DRIFT AS A RESULT OF NEW ROOF INSULATION HAVE BEEN REINFORCED TO COMPLY WITH IBC.
807.5	EXISTING STRUCTURAL ELEMENTS RESISTING LATERAL LOADS.	EXCEPT AS PERMITTED, WHERE ALTERATIONS INCREASES DESIGN LATER LOADS, OR WHERE ALTERATION RESULTS IN PROHIBITED STRUCTURAL IRREGULARITY AS DEFINED IN ASCE 7, OR WHERE THE ALTERATION DECREASES THE CAPACITY OF ANY EXISTING LATERAL LOAD-CARRYING STRUCTURAL ELEMENT, THE STRUCTURE OF THE ALTERED BUILDING OR STRUCTURE SHALL BE SHOWN TO MEET THE WIND AND SEISMIC PROVISIONS OF THE IBC.	ALTERATIONS DO NOT INCREASE DESIGN LATERAL LOADS OR REDUCE CAPACITY OF LATERAL RESTRAINT SYSTEM.
808.1	ELECTRICAL, ALL NEW INSTALLATIONS	SHALL COMPLY WITH NFPA 70 (NEC)	COMPLY, REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
808.2	ELECTRICAL, EXISTING INSTALLATIONS	EXISTING WIRING IN ALL WORK AREAS IN GROUP A-1, A-2, A-5, H AND I OCCUPANCIES SHALL BE UPGRADED TO MEET THE MATERIALS AND METHODS REQUIREMENTS OF CHAPTER 7.	COMPLY, REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
809.1	MECHANICAL	RECONFIGURED OR NEW ELEMENTS SHALL COMPLY WITH INTERNATIONAL MECHANICAL CODE	COMPLIES, REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
809.2	MECHANICAL, ALTERED EXISTING SYSTEMS	IN MECHANICALLY VENTILATED SPACES, EXISTING MECHANICAL VENTILATION SYSTEMS THAT ARE ALTERED, RECONFIGURED, OR EXTENDED SHALL PROVIDE NOT LESS THAN 5 CFM PER PERSON OF OUTDOOR AIR AND NOT LESS THAN 15 CFM OF VENTILATION AIR PER PERSON; OR NOT LESS THAN THE AMOUNT OF VENTILATION AIR DETERMINED BY THE INDOOR AIR QUALITY PROCEDURE OF ASHRAE 62.	COMPLIES, OUTDOOR AIR CFM IS CALCULATED PER ASHRAE 62.1 SEE MECHANICAL SCHEDULES AND ASHRAE 62.1 CALCULATIONS FOR COMPLIANCE
809.3	MECHANICAL, LOCAL EXHAUST	ALL NEWLY INTRODUCED DEVICES, EQUIPMENT, OR OPERATIONS THAT PRODUCE AIRBORNE PARTICULATE MATTER, ODORS, FUMES, VAPOR, COMBUSTION PRODUCTS, GASEOUS CONTAMINANTS, PATHOGENIC AND ALLERGENIC ORGANISMS, AND MICROBIAL CONTAMINANTS IN SUCH QUANTITIES AS TO AFFECT ADVERSELY OR IMPAIR HEALTH OR CAUSE DISCOMFORT TO OCCUPANTS SHALL BE PROVIDED WITH LOCAL EXHAUST.	COMPLIES, EXHAUST SYSTEMS ARE DESIGNED AND SPECIFIED IN ALL NEW TOILET ROOMS . SEE MECHANICAL DRAWINGS FOR COMPLIANCE
810.1	MINIMUM PLUMBING FIXTURES	WHERE OCCUPANT LOAD IS INCREASED BY MORE THAN 20%, PROVIDE FIXTURES PER IPC	COMPLIES, SAME NUMBER OF RESIDENTS AS PRIOR USE - NUMBER OF FIXTURES PER IPC, RECONFIGURED BATHROOMS EVALUATED FOR NUMBER OF FIXTURES SEE VALUATION THIS SHEET
811.1	NEW CONSTRUCTION ONLY SHALL COMPLY WITH IECC REQUIREMENTS	NEW ELEMENTS SHALL COMPLY WITH IECC REQUIREMENTS	NEW ELEMENTS COMPLY

INTERNATIONAL BUILDING CODE (IBC 2015)

CHAPTER		REQUIRED	PROVIDED
3	**USE AND OCCUPANCY CLASSIFICATION**		
308.5	OCCUPANCY GROUP	EXISTING I-3 INSTITUTIONAL	NOT ALTERED BY SCOPE
308.5.5	USE	EXISTING - CONDITION 5	CONDITION 5 - SAME USE
5	**GENERAL BUILDING HEIGHT AND AREAS**		
504.3	BUILDING HEIGHT - FEET	AVERAGE 19'-7" - EXISTING	NOT ALTERED BY SCOPE
504.4	BUILDING HEIGHT - STORIES	1 STORY - EXISTING	NOT ALTERED BY SCOPE
506	BUILDING AREA	11,343 SQ FT - EXISTING	NOT ALTERED BY SCOPE
6	**CONSTRUCTION TYPE**		
T 601	TYPE	IIB / EXISTING	NOT ALTERED BY SCOPE
	PRIMARY FRAME	0	NOT ALTERED BY SCOPE
	BEARING WALL - EXTERIOR	0	NOT ALTERED BY SCOPE
	BEARING WALL - INTERIOR	0	NOT ALTERED BY SCOPE
	NON BEARING WALL - EXTERIOR	0	NOT ALTERED BY SCOPE
	NON BEARING WALL - INTERIOR	0	FIRE RATED CORRIDOR PARTITIONS ARE BEING REDUCED TO SMOKE TIGHT PARTITIONS AS ALLOWED BY IEBC 805.5 AND IBC 408.8.2 SEE CODE COMPLIANCE PLANS FOR LOCATIONS
	FLOOR CONSTRUCTION	0	NOT ALTERED BY SCOPE
	ROOF CONSTRUCTION	0	NOT ALTERED BY SCOPE
T 602	FIRE SEPARATION DISTANCE > 30 FEET	REQUIRED 0 HOUR	NOT ALTERED BY SCOPE
602.2	TYPE I AND IIB	ALL MATERIALS MADE FROM NONCOMBUSTIBLE MATERIALS UNLESS ALLOWED BY 603	NONCOMBUSTIBLE MATERIALS PROVIDED, SEE DETAILS
7	**FIRE AND SMOKE PROTECTION FEATURES**		
707	FIRE BARRIERS	1 HOUR, REQUIRED AT MECHANICAL ROOM	EXISTING 1 HOUR RATED PARTITION SURROUNDING MECHANICAL ROOM TO REMAIN, SEE CODE COMPLIANCE PLANS FOR LOCATION.
708	FIRE PARTITIONS	PERMITTED TO BE SMOKE TIGHT PER IBC 408.8.2	SMOKE TIGHT WALLS UTILIZED IN LIEU OF FIRE PARTITIONS, SEE CODE COMPLIANCE PLANS
709	SMOKE BARRIERS (1)	1 HOUR SMOKE RATED IBC 408.8.2 STATES EACH SLEEPING AREA IN OCCUPANCY CONDITION 5 SHALL BE SEPARATED FROM ADJACENT SLEEPING AREAS, CORRIDORS, AND COMMON SPACES BY A SMOKETIGHT PARTITION.	SEE CODE COMPLIANCE PLANS FOR LOCATIONS OF EXISTING 45 MIN. PARTITIONS TO BE CLASSIFIED AS SMOKE TIGHT PARTITION SEPARATING SLEEPING AREAS.
716	OPENING PROTECTIVES	NOT REQUIRED ON I-3 CELLS (BEDROOMS), SMOKE TIGHT DOORS PERMITTED PER TABLE 1020.1 FOOTNOTE B, 408.8.2 AND 408.8.4 45 MINUTES REQUIRED AT 1 HOUR FIRE BARRIER 20 MINUTES REQUIRED AT SMOKE BARRIERS	PROVIDED - SEE DOOR SCHEDULE AND HARDWARE SCHEDULE
717.5.5	DUCTS AND AIR TRANSFER OPENINGS - SMOKE BARRIERS	SMOKE DAMPERS REQUIRED, EXCEPT WHERE THE OPENINGS IN DUCTS ARE LIMITED TO A SINGLE SMOKE COMPARTMENT AND THE DUCTS ARE CONSTRUCTED OF STEEL.	COMPLIES, DUCTS THAT CROSS SMOKE BARRIER DO NOT EXCHANGE AIR BETWEEN SMOKE COMPARTMENTS. OPENINGS ARE LIMITED TO 1 COMPARTMENT, PERIMETER OF DUCTS FIRESTOPPED, SEE MECHANICAL DRAWINGS FOR COMPLIANCE
717.5.7	DUCTS AND AIR TRANSFER OPENINGS - SMOKE TIGHT WALLS	SIMILAR TO A SMOKE PARTITION, NO FIRE RATING IS REQUIRED. DUCTS REQUIRE PERIMETER SEALED, TRANSFER OPENINGS REQUIRE SMOKE DAMPERS	COMPLIES, PERIMETER OF DUCTS SEALED, NO TRANSFER OPENINGS. ALL RETURNS ARE DUCTED, SEE MECHANICAL DRAWINGS FOR COMPLIANCE
720	EXPOSED OR CONCEALED INSULATION	FLAME SPREAD INDEX ≥25 SMOKE-DEVELOPED INDEX ≤450	COMPLIES - SEE SPECIFICATIONS
8	**INTERIOR FINISHES**		
T 803.11	FINISH REQUIREMENTS BY OCCUPANCY	GROUP I-3 (SPRINKLERED)	
	EXIT STAIRWAYS, RAMPS, AND PASSAGEWAYS	CLASS A	ALL FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
	CORRIDORS	CLASS A	ALL FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
	ROOMS / ENCLOSED SPACE	CLASS C	ALL FINISHES NEW AND SHALL COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
804.4.2	MINIMUM CRITICAL RADIANT FLUX	FLOOR FINISHES CLASS II (SPRINKLERED)	ALL FLOOR FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
806	INTERIOR TRIM	TRIM SHALL BE NON COMBUSTIBLE OR CLASS C NOT EXCEEDING 10% OF WALL	NO COMBUSTIBLE TRIM INDICATED

9	**FIRE PROTECTION SYSTEM**		
903	SPRINKLER SYSTEM	REQUIRED, SHALL BE NFPA 13 SYSTEM	PROVIDED SEE PLUMBING DRAWINGS
906	PORTABLE FIRE EXTINGUISHER SYSTEMS	REQUIRED; PERMITTED TO BE LOCATED IN STAFF AREAS;	PROVIDE IN GROUP I-3, SPACING INDICATED IN NFPA 10; MAXIMUM SPACING 75' - SEE CODE COMPLIANCE PLANS FOR LOCATIONS
907	FIRE ALARM AND DETECTION SYSTEMS	MANUAL ALARM AND SMOKE DETECTION REQUIRED; SHALL COMPLY WITH NFPA 72	MANUAL ALARM SYSTEM AND SMOKE DETECTION SYSTEM PROVIDED - SEE ELECTRICAL DRAWINGS. SMOKE DETECTION IS PROVIDED THROUGHOUT, EXCEPT SLEEPING ROOMS AS PERMITTED BY IBC 907.2.6.3.3. EXCEPTION 3.
11	**ACCESSIBILITY**		
1104	ROUTE	ACCESSIBLE ROUTE TO BE MAINTAINED	ROUTE MAINTAINED SEE DRAWINGS
1104.3.1	EMPLOYEE WORK AREAS (OVER 1000 SF)	ACCESSIBLE	COMPLY, FURNITURE LAYOUT BY OTHERS
1105	ENTRANCES	ACCESSIBLE	EXISTING TO REMAIN
1107.5.5	GROUP I-3 SLEEPING UNITS (CELLS)	3% ACCESSIBLE OR MINIMUM OF 1	1 REQUIRED; 1 PROVIDED
1109.2	TOILET FACILITIES	ACCESSIBLE	RECONFIGURED BATHROOMS PROVIDED PER CODE; SEE EVALUATION THIS SHEET
1109.5	DRINKING FOUNTAINS	ACCESSIBLE	COMPLY, SEE PLUMBING DRAWINGS FOR COMPLIANCE
1110	SIGNAGE	ACCESSIBLE	COMPLY, SEE SIGNAGE DRAWINGS FOR COMPLIANCE
12	**INTERIOR ENVIRONMENT**		
1203	VENTILATION	REQUIRES NATURAL OR MECHANICAL VENTILATION	MECHANICAL VENTILATION PROVIDED, SEE MECHANICAL DRAWINGS
1204	TEMPERATURE CONTROL	REQUIRES HEATING SYSTEM CAPABLE OF MAINTAINING 68 DEG F AT 3' AFF	PROVIDED, SEE MECHANICAL DRAWINGS
1205.3	LIGHTING	REQUIRES NATURAL LIGHT - 8% NET FLOOR ARTIFICIAL LIGHT OR 10FC OVER THE AREA OF THE ROOM 30" AFF	10 FC PROVIDED, SEE ELECTRICAL DRAWINGS
1205.5	EMERGENCY LIGHTING	REQUIRES EMERGENCY LIGHTING	PROVIDED, SEE ELECTRICAL DRAWINGS
1208.1	MINIMUM ROOM WIDTH	7'-0" FOR HABITABLE SPACES	COMPLIES, 7'-8" EXISTING AND 7'-10" FOR RECONFIGURED BEDROOMS, SEE PLANS
1208.2	CEILING HEIGHTS	7'-6" MINIMUM	IF CEILING HEIGHT PROVIDED, SEE CEILING PLANS
1208.2	CEILING HEIGHTS (KITCHEN, BATH, STORAGE)	7'-6" MINIMUM	IF CEILING HEIGHT PROVIDED, SEE CEILING PLANS
13	**ENERGY EFFICIENCY**		
	REQUIRES DESIGN AND COMPLIANCE WITH INTERNATIONAL ENERGY CODE		
14	**EXTERIOR WALLS**		
1404.10	FIBER CEMENT SIDING	COMPLY WITH ASTM C 1186 TYPE A	PROVIDED, SPECIFICATIONS REQUIRE COMPLIANCE WITH ASTM C 1186 TYPE A
1405.16	FIBER CEMENT SIDING	PERMITTED ON EXTERIOR WALLS OF TYPE I, II, III, IV AND V CONSTRUCTION.	COMPLIES
1406.2	COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS	COMBUSTIBLE EXTERIOR WALL COVERINGS (SHEATHING) CONSTRUCTED OF FIRE-RETARDANT TREATED WOOD ARE NOT LIMITED IN UP TO 60 FEET IN HEIGHT ABOVE GRADE PLANE	FR TREATED SHEATHING AND CEMENT BOARD SIDING PERMITTED

INTERNATIONAL ENERGY CONSERVATION CODE (IECC 2015)

CHAPTER		REQUIRED	PROVIDED
3	**GENERAL REQUIREMENTS**		
C301.1	CLIMATE ZONES	SHALL COMPLY WITH FIGURE C301.1	ZONE 5
5	**EXISTING BUILDINGS**		
C503.1	ALTERATIONS	ALTERATIONS SHALL BE SUCH THAT THE EXISTING BUILDING IS NO LESS CONFORMING TO THE PROVISIONS OF THIS CODE THAN THE EXISTING BUILDING WAS PRIOR TO THE ALTERATION.	NOT ALTERED BY SCOPE
		THE FOLLOWING ALTERATIONS NEED NOT COMPLY WITH THE REQUIREMENTS FOR NEW CONSTRUCTION, PROVIDED THE ENERGY USE OF THE BUILDING IS NOT INCREASED: 3. EXISTING CEILING, WALL OR FLOOR CAVITIES EXPOSED DURING CONSTRUCTION, PROVIDED THAT THESE CAVITIES ARE FILLED WITH INSULATION. 4. CONSTRUCTION WHERE THE EXISTING ROOF, WALL OR FLOOR CAVITY IS NOT EXPOSED. 6. AIR BARRIERS SHALL NOT BE REQUIRED FOR ROOF RECOVER AND ROOF REPLACEMENT WHERE THE ALTERATIONS OR RENOVATIONS TO THE BUILDING DO NOT INCLUDE ALTERATIONS, RENOVATIONS OR REPAIRS TO THE REMAINDER OF THE BUILDING ENVELOPE.	
C503.3	BUILDING ENVELOPE	NEW BUILDING ENVELOPE ASSEMBLIES THAT ARE PART OF THE ALTERATION SHALL COMPLY WITH SECTIONS C402.1 THROUGH C402.5.	
	MASS WALLS	CMU WALLS WITH NEW EXTERIOR SIDING AND INSULATION - R-11.4 CI OR U< 0.090 REQUIRED	COMPLIES - R 16.25 CI PROVIDED
T402.1.3	METAL FRAMED WALLS	METAL FRAMED WALLS WITH NEW EXTERIOR SIDING AND INSULATION - R-13 IN FRAMED CAVITY AND R-7.5 CI OR U< 0.064 REQUIRED	COMPLIES - U-VALUE=0.049
C503.3.1	ROOF REPLACEMENT	WHERE INSULATION IS ENTIRELY ABOVE DECK COMPLY WITH TABLE C402.1.3, R-30 REQUIRED	COMPLIES, R-30 PROVIDED
C503.3.2	VERTICAL FENESTRATION	THE ADDITION OF VERTICAL FENESTRATION THAT RESULTS IN A TOTAL BUILDING FENESTRATION AREA LESS THAN OR EQUAL TO THAT SPECIFIED IN SECTION C402.4.1 SHALL COMPLY WITH SECTION C402.4	NO ADDITIONAL FENESTRATION AREA; TOTAL GLAZED AREA REDUCED

PLUMBING FIXTURE COUNT

REQUIRED PLUMBING FIXTURES Use group	# Occ	# ea. Sex		Water Closets		Lavatories		Drinking Fountains	Serv. Sink
		M	F	M	F	M	F		
I 3 Employess (1/25)		1/2	1/2	1/25	1/25			1/100	
(Employee waterclosets)	**22**	**11**	**11**	**0.44**	**0.44**			**0.22**	
I3 employee (1/35)		1/2	1/2			1/35	1/35		
(Employee lavatories)	**0**	**11**	**11**			**0.31**	**0.31**		
Educational		1/2	1/2	1/50	1/50	1/50	1/50	1/100	
(Classroom)	**8**	**4**	**4**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	
Assembly (Activity rooms, Education fixture requirement used as more conservative)	**114**	1/2 **57**	1/2 **57**	1/50 **1.14**	1/50 **1.14**	1/50 **1.14**	1/50 **1.14**	1/500 **0.23**	
1-3 Instutional sleeping		1/2	1/2	1/15	1/15	1/15	1/15	1/100	
(Resident sleeping, treatment, support area)	**45**	**23**	**23**	**1.50**	**1.50**	**0.10**	**0.10**	**0.45**	
Storage/Mechanical		1/2	1/2	1/100	1/100	1/100	1/100	1/1000	
	14	**7**	**7**	**0.07**	**0.07**	**0.07**	**0.07**	**0.01**	**1**
Total Occupants	203								
Total Required Fixtures				**3.23**	**3.23**	**1.60**	**1.60**	**0.99**	**1.00**
Provided				9		9		2	1

Watercloset Fixture breakdown:		
Staff	3 waterclosets	(1 ADA)
Activity/ Classroom	2 waterclosets	
Sleeping/ treatment area	4 waterclosets	(2 ADA)
Total waterclosets	9	
Additional waterclosets in Wet rooms not included in Total above	3	

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DESIGN & CONSTRUCTION

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REGISTERED ARCHITECT DAVID L. CLEVENGER 031179 STATE OF NEW YORK

CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

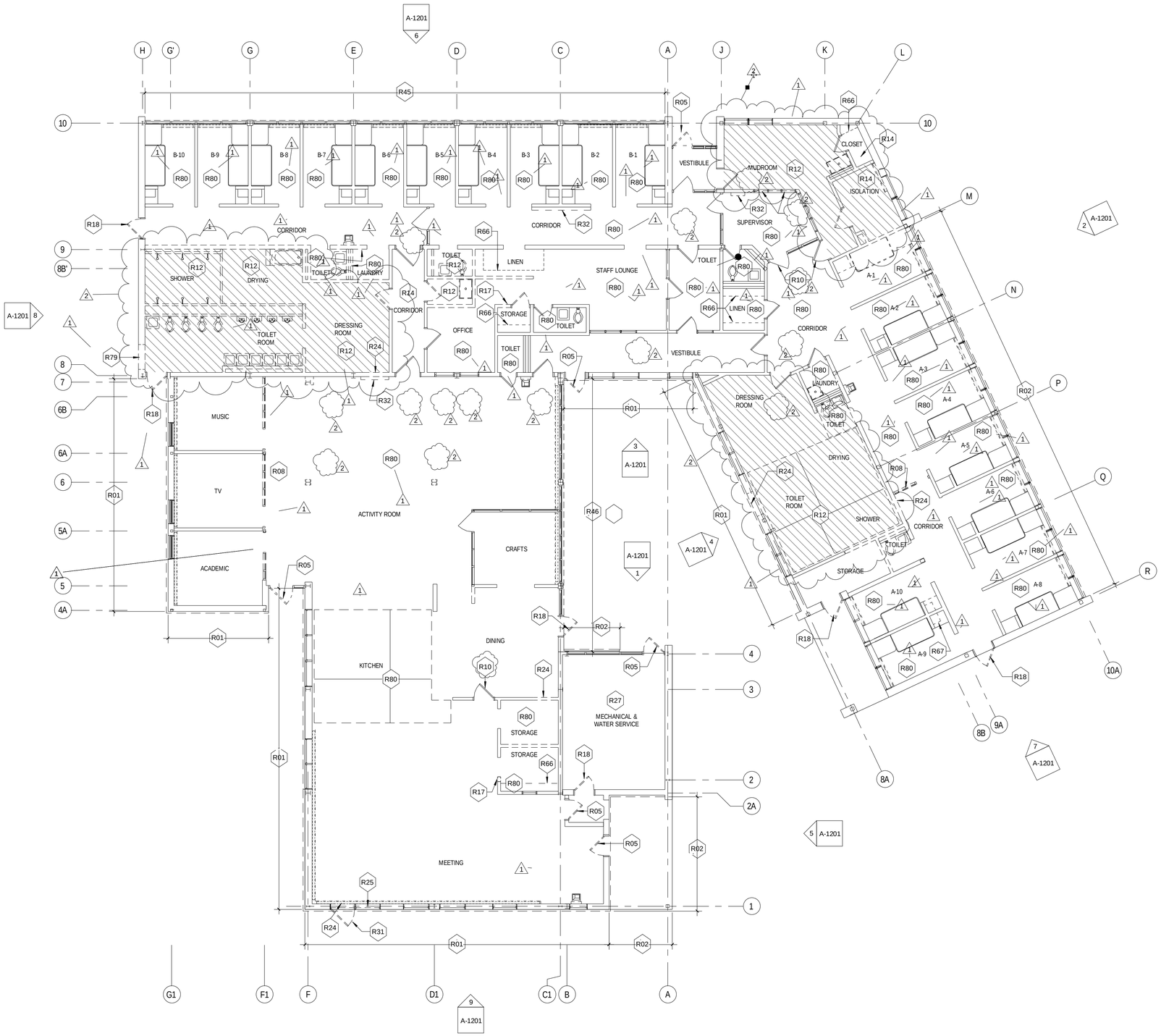
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	Designer	
DRAWN BY:	Author	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:

BUILDING 77
CODE COMPLIANCE

DRAWING NUM



1 AD-1101 - REMOVAL PLAN
1/8" = 1'-0"

BUILDING DESIGNATION

BUILDING 77 = 1

BUILDING DESIGNATOR
1-100 BUILDING 77 ROOM NUMBERS
1-100 BUILDING 77 DOOR NUMBERS

1. INTERIOR FINISHES TO BE REMOVED IN THEIR ENTIRETY. GRIND FLUSH SMALL IMPERFECTIONS IN SLAB AND USE SELF-LEVELING CEMENT TO PROVIDE A LEVEL FLOOR SLAB.

2. REMOVE TOILET PARTITON SYSTEMS

3. REMOVE CEMENTITIOUS LEVELING TOPPER FLUSH WITH EXISTING FLOOR SLAB IN AREA IDENTIFIED WITH HATCH.

4. GRIND SMOOTH & PATCH EXISTING CONCRETE FLOOR TO RECEIVE FLOORING. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR FLOOR PREPARATION REQUIREMENTS.

REMOVAL SYMBOLS LEGEND

- EXISTING CMU WALL TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 17)
- EXISTING DOOR AND FRAME SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 18), COORDINATE DOOR AND FRAME REMOVALS W DOOR SCHEDULE
- EXISTING WINDOW SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 25)
- EXISTING CASEWORK AND/OR MILLWORK TO BE REMOVED (REFER TO REMOVAL KEYNOTE R22)
- AREA OF CEMENTITIOUS LEVELING TOPPER
- EXIST WALL TO REMAIN
- EXIST DOOR TO REMAIN
- EXIST WINDOW TO REMAIN

REMOVAL KEYNOTE LEGEND	
Key Value	Keynote Text
R01	REMOVE EXISTING VINYL SIDING SYSTEM BACK TO THE CMU SUBSTRATE.
R02	REMOVE EXISTING WOOD SIDING SYSTEM INCLUDING BUT NOT LIMITED TO VINYL SIDING, WOOD COMPOSITE SIDING, FURRING, METAL FRAMING, AND INSULATION BACK TO CMU SUBSTRATE.
R05	REMOVE EXISTING EXTERIOR STEEL DOOR AND ALL ASSOCIATED HARDWARE
R08	REMOVE EXISTING INTERIOR STEEL DOOR AND SIDELIGHT SYSTEM AND ALL ASSOCIATED HARDWARE IN THEIR ENTIRETY.
R10	EXISTING DOOR OR WINDOW FRAME TO REMAIN, REMOVE WIRE GLASS.
R12	REMOVE EXISTING TILE AND GROUT. SANDBLAST CMU WALL. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED TO ENSURE GROUT IS REMOVED
R14	REMOVE EXISTING VCT AND MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED
R17	REMOVE PORTION OF INTERIOR CMU WALL TO THE EXTENT SHOWN. GRIND AND GROUT EXPOSED CMU EDGES FLUSH.
R18	REMOVE EXISTING DOOR AND FRAME AND ALL ASSOCIATED HARDWARE IN ITS ENTIRETY.
R24	REMOVE MASONRY WALL AS REQUIRED FOR DOOR & LINTELED FRAME.
R25	REMOVE EXISTING STEEL WINDOW SYSTEM.
R27	REMOVE EXISTING CEILING SYSTEM IN ITS ENTIRETY.
R31	REMOVE EXISTING ACCESS DOOR.
R32	REMOVE EXISTING CHALK BOARD. WHITE MARKER, OR TACK BOARD FROM WALL.
R45	REMOVE 3/8" T-111 WOOD SIDING, 2 1/2" METAL STUDS, BATT INSULATION, AND 5/8" GYPSUM SHEATHING FROM EXTERIOR SIDE OF EXISTING WALL. STOREFRONT SYSTEM, WINDOW, AND METAL PANEL INFILL BELOW WINDOW TO REMAIN.
R46	REMOVE VINYL SIDING, 3/8" T-111 WOOD SIDING UNDERNEATH, 2 1/2" METAL STUDS, BATT INSULATION, AND 5/8" GYPSUM SHEATHING, FLASHINGS AND ASSOCIATED FASTNERS FROM EXTERIOR SIDE OF EXISTING WALL. STOREFRONT SYSTEM, WINDOW, AND METAL PANEL INFILL BELOW WINDOW TO REMAIN.
R66	REMOVE EXISTING SHELVING IN ITS ENTIRETY
R67	REMOVE EXISTING METAL SHELVING UNIT AND ALL ASSOCIATED HARDWARE IN ITS ENTIRETY
R79	REMOVE MASONRY WALL AS REQUIRED FOR DOOR AND LINTELED FRAME.SALVAGE MASONRY VENEER FOR REUSE IN CREATING DOOR OPENING
R80	REMOVE EXISTING MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED

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CONTRACT:
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RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

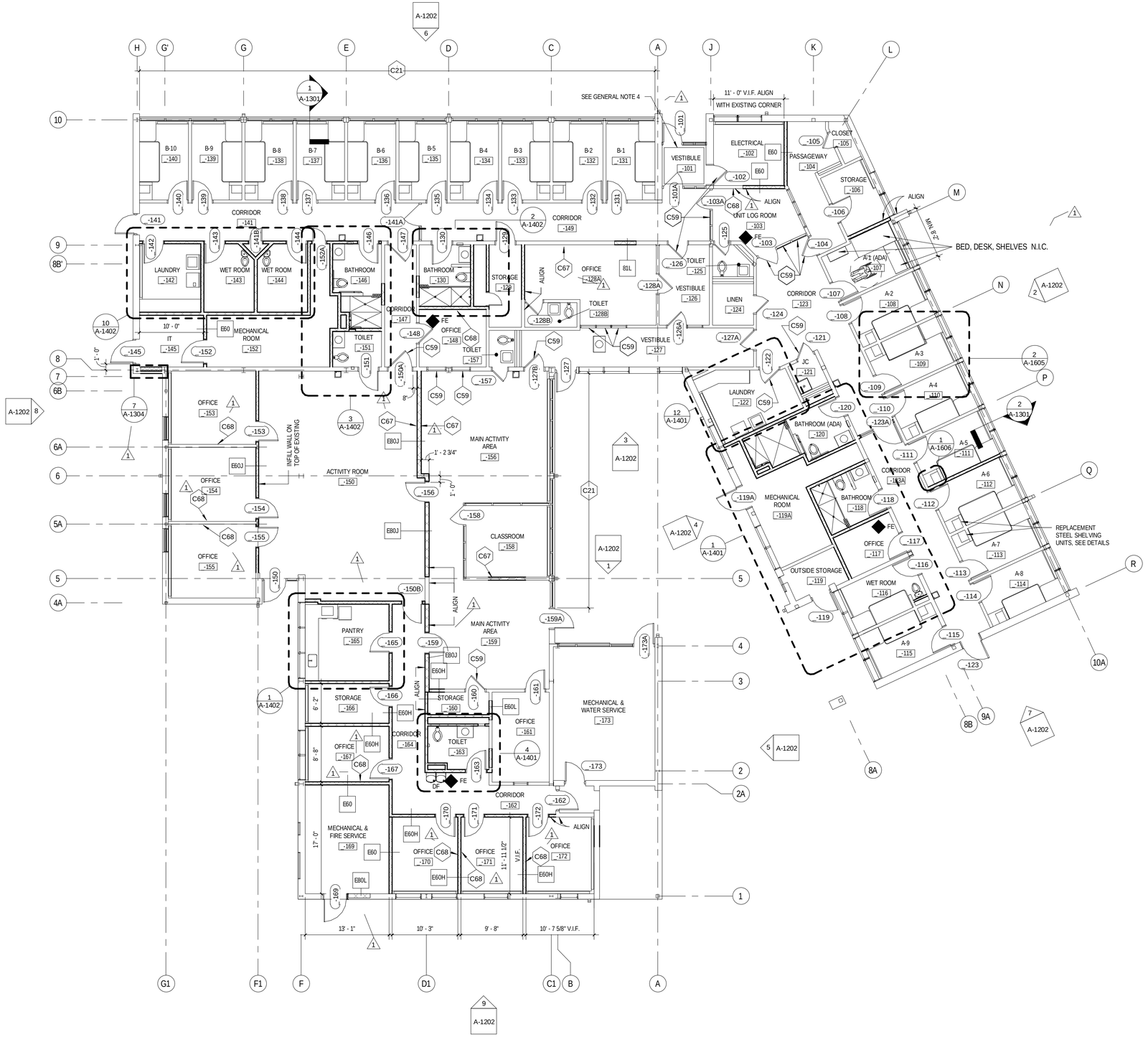
MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	HCE	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 77
REMOVAL PLAN

DRAWING NUMBER:
A - 1101

SHEET OF

36x24 PLOT SHEET



1 A01 - LEVEL 1
1/8" = 1'-0"

BUILDING DESIGNATION

BUILDING 77 = 1

1-100 BUILDING DESIGNATOR
1-100 BUILDING 77 ROOM NUMBERS
1-100 BUILDING 77 DOOR NUMBERS

GENERAL NOTES

1. UNLESS OTHERWISE NOTED ALL PARTITIONS TO BE 6" CMU TERMINATING AT 8'-0" A.F.F., NOT RATED.

2. SAND AND REPAINT ALL EXISTING METAL SHELVING UNITS TO REMAIN IN BEDROOMS. REFER TO REMOVAL PLAN FOR UNIT TO BE REMOVED AND REPLACED.

3. PATCH AND PAINT EXISTING WALLS ABOVE WINDOW OPENINGS AT BEDROOMS. REFER TO FINISH PLAN FOR PAINT COLORS/TYPE DESIGNATIONS.

4. PROVIDE SURFACE MOUNTED WALK OFF MAT, 6' - 2"± X 5' - 8"±. MAINTAIN APPROXIMATLY 4" SPACE BETWEEN MAT AND ADJACENT WALLS, FIELD VERIFY.

5. PROVIDE 1000 SF OF MASONRY WALL PATCHING FOLLOWING COMPLETION OF REMOVAL WORK.

KEYNOTE LEGEND	
Key Value	Keynote Text
C21	EXTERIOR WALL SECTION AT EXISTING STEEL STOREFRONT - SEE WALL SECTION
C59	PROVIDE S-4 GLAZING IN EXISTING DOOR OR WINDOW OPENING
C67	PROVIDE 4'x8' MARKER BOARD AND 4'x4' TACK BOARD IN CLASSROOMS. MOUNT BOTTOM 2'-8" AFF.
C68	PROVIDE 4'x4' MARKER BOARD AND 2'x4' TACK BOARD IN OFFICES. MOUNT BOTTOM AT 2'-8" AFF.

NEW WORK SYMBOLS LEGEND

EXIST WALL TO REMAIN

EXIST DOOR TO REMAIN

EXIST WINDOW TO REMAIN

NEW WALL

NEW DOOR AND FRAME SYSTEM

FE WALL MOUNTED FIRE EXTINGUISHER

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MARK	DATE	DESCRIPTION

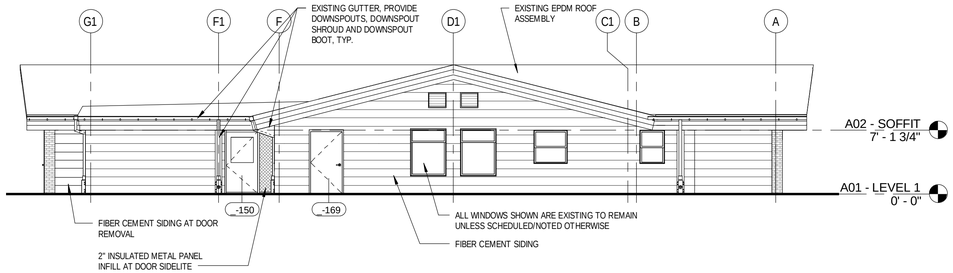
PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	HCE
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77
FLOOR PLAN

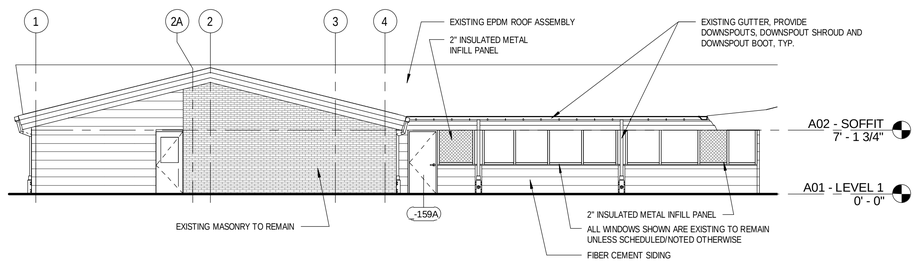
DRAWING NUMBER:
A - 1103

SHEET OF

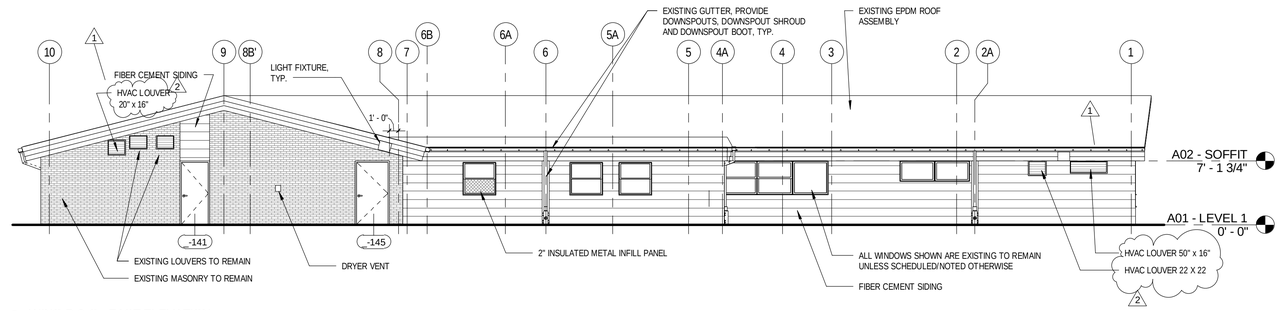
36x24 PLOT SHEET



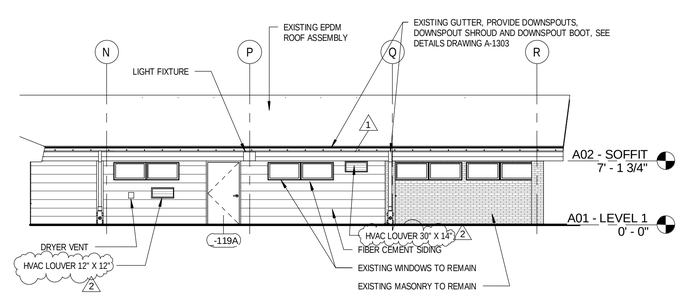
9 WING B & C - NORTH ELEVATION
1/8" = 1'-0"



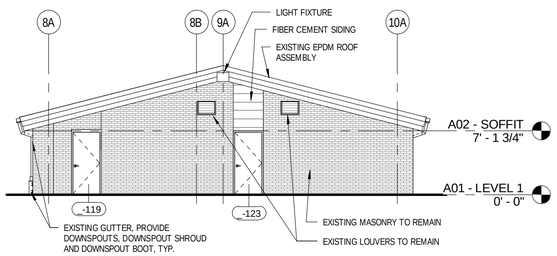
5 WING B & C - WEST ELEVATION
1/8" = 1'-0"



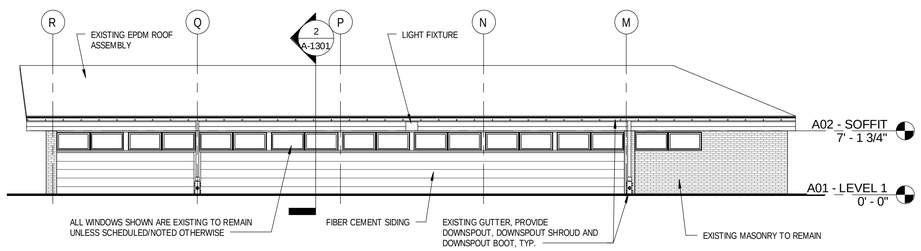
8 WING B & C - EAST ELEVATION
1/8" = 1'-0"



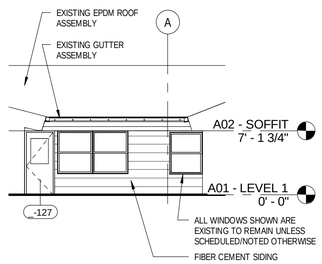
4 WING A - EAST ELEVATION
1/8" = 1'-0"



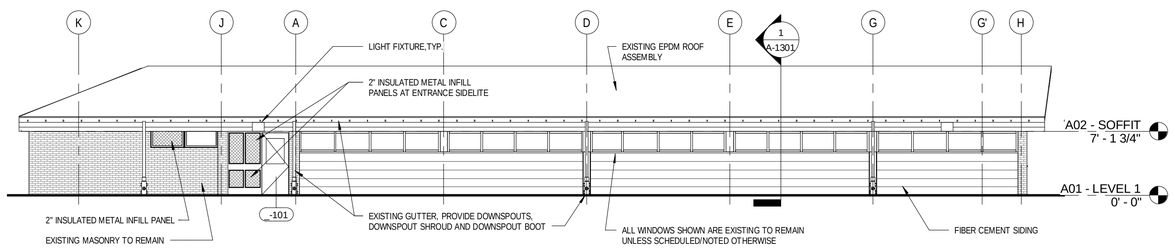
7 WING A - NORTH ELEVATION
1/8" = 1'-0"



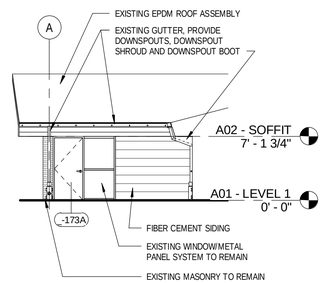
2 WING A - WEST ELEVATION
1/8" = 1'-0"



3 WING B - NORTH ELEVATION
1/8" = 1'-0"



6 WING B - SOUTH ELEVATION
1/8" = 1'-0"



1 WING C - SOUTH ELEVATION
1/8" = 1'-0"

BUILDING DESIGNATION

BUILDING 77 = 1

BUILDING DESIGNATOR
1-100 BUILDING 77 ROOM NUMBERS
1-100 BUILDING 77 DOOR NUMBERS

ELEVATION NOTES

1. ALL EXISTING EXTERIOR BRICK MASONRY TO REMAIN IS TO BE CLEANED. REFER TO SPEC SECTION FOR ADDITIONAL INFO.

2. MECHANICALLY FASTEN EXISTING OPERABLE WINDOWS AT BEDROOMS IN THE CLOSED POSITION WITH (2) EXPOSED FASTENERS ANCHORED INTO WINDOW FRAME.

3. ALL EXTERIOR WINDOWS TO RECEIVE A BEAD OF TYPE 1 SEALANT AROUND THE PERIMETER OF THE OPENING.

4. PROVIDE PREFINISHED ALUMINUM DOWNSPOUTS, DOWNSPOUT SHROUDS AND DOWNSPOUT BOOTS AT GRADE WHERE INDICATED. SEE DRAWING A-1303 FOR DETAILS.

5. ROOF, FASCIA, SOFFITS, & GUTTERS ARE BEING COMPLETED UNDER SEPERATE CONTRACT. COORDINATE WORK DEFINED HERE AS REQUIRED.

6. PAINT ALL EXISTING LOUVERS, WINDOW FRAMES, SASHES AND ASSOCIATED METAL TRIM.

7. PROVIDE 2" INSULATED METAL PANEL AT WINDOW INFILL LOCATIONS INDICATED ON ELEVATIONS. METAL PANEL TO BE PLACED IN WINDOW FRAME IN SAME PLANE AS SASH. PROVIDE METAL STOP WITH SEALANT AROUND ENTIRE PERIMETER OF PANEL.

8. PROVIDE 1/8" THICK PAINTED ALUMINUM TRIM PLATE WITH EASED EDGES FOR TERMINATION OF FIBER CEMENT SIDING AT JAMBS OF DOORS OR PUNCHED WINDOW OPENINGS. SEE SIMILAR DETAIL 11/A-1602.

1

9. PROVIDE METAL FLASHING AT HEAD OF EXISTING WINDOWS AT WALL ASSEMBLY W1. SEE SIMILAR DETAIL 5/A-1602.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

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WARNING

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	HCE	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 77
EXTERIOR ELEVATIONS

DRAWING NUMBER:
A - 1202

SHEET OF

36x24 PLOT SHEET

DOOR SCHEDULE

V	ROOM NAME	DOOR							FRAME					DETAILS			GLASS TYPE	FIRE RATING	HARDWARE		REMARKS	DOOR NO.
		EXISTING	SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	TYPE	MATERIAL	FINISH	EXISTING	TYPE	MATERIAL	FINISH	ANCHORS	HEAD	JAMB	SILL			SET NO.	HAND		
01 - LEVEL 1																						
_101	VESTIBULE		3'-0"	7'-0"	1 3/4"	NV-M	STEEL	PTD	X			PTD	CEO	5/A-1602	8/A-1602	13/A-1602	M		2	RHR	MONITORED BY SECURITY	_101
_101A	VESTIBULE	X						PTD	X	F9		PTD					S-4		3	RHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	_101A
_102	ELECTRICAL	X						PTD	X			PTD					S-4		3	LH	REPLACE EXISTING 24" X 24" VISION PANEL	_102
_103	CORRIDOR	X						PTD	X	F3		PTD					S-4		10	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	_103
_103A	UNIT LOG ROOM	X						PTD	X	F9		PTD					S-4		10	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	_103A
_104	CORRIDOR	X						PTD	X	F11		PTD					S-4		3	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	_104
_105	PASSAGEWAY	X						PTD	X			PTD		2/A-1501					3	LHR		_105
_106	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD	X			PTD		2/A-1501					14	LH		_106
_107	A-1 (ADA)		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_107
_108	A-2		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_108
_109	A-3		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_109
_110	A-4		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_110
_111	A-5		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_111
_112	A-6		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_112
_113	A-7		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_113
_114	A-8		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_114
_115	A-9		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_115
_116	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_116
_117	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602	1	S-4		9	LH		_117
_118	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		7	LH		_118
_119	OUTSIDE STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD	CEO	9/A-1602	12/A-1602	13/A-1602			19	RHR		_119
_119A	MECHANICAL ROOM		3'-6"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		10/A-1602	11/A-1602	13/A-1602			19	LHR		_119A
_120	BATHROOM (ADA)		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		7	RH		_120
_121	CORRIDOR	X						PTD	X			PTD		2/A-1501			S-4		3	RHR	REPLACE EXISTING 24" X 24" VISION PANEL	_121
_122	LAUNDRY	X						PTD	X			PTD		2/A-1501			S-4		10	LH	REPLACE EXISTING 24" X 24" VISION PANEL	_122
_123	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD	CEO	5/A-1602	8/A-1602	13/A-1602	M		1	RHR	CONTROLLED BY SECURITY	_123
_123A	CORRIDOR		3'-4"	7'-0"	1 3/4"	HV	STEEL	PTD		F3	STEEL	PTD		3/A-1602	1/A-1602	1	S-4		13	LH		_123A
_124	CORRIDOR	X						PTD	X			PTD		2/A-1501					10	LHR		_124
_125	TOILET	X						PTD	X			PTD		2/A-1501					3	RH		_125
_126	VESTIBULE	X						PTD	X			PTD		2/A-1501			S-4		3	RH	REPLACE TWO EXISTING 24" X 30" VISION PANELS	_126
_126A	VESTIBULE	X						PTD	X 1			PTD							3	LH		_126A
_127	VESTIBULE		3'-0"	7'-0"	1 3/4"	NV-M	STEEL	PTD	X	F1	STEEL	PTD	CEO				S-4		2	RHR	MONITORED BY SECURITY	_127
_127A	VESTIBULE	X						PTD	X			PTD							3	RH		_127A
_127B	VESTIBULE	X						PTD	X			PTD		3/A-1602			G	45 MIN.	3	RHR	REPLACE TWO EXISTING 24" X 30" VISION PANELS	_127B
_128A	VESTIBULE	X						PTD	X		STEEL	PTD		3/A-1602					14	RHR		_128A
_128B	TOILET	X						PTD	X			PTD		3/A-1602				1	3	RH		_128B
_129	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602				14	RHR		_129
_129A	STORAGE		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602				23	LHR		_129A
_130	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		7	RH	REVERSE EXISTING SWING	_130
_131	B-1		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	LH	REVERSE EXISTING SWING	_131
_132	B-2		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_132
_133	B-3		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	LH	REVERSE EXISTING SWING	_133
_134	B-4		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_134
_135	B-5		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_135
_136	B-6		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_136
_137	B-7		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	LH	REVERSE EXISTING SWING	_137
_138	B-8		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_138
_139	B-9		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	LH	REVERSE EXISTING SWING	_139
_140	B-10		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-1501			S-4		6	RH	REVERSE EXISTING SWING	_140
_141	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD	CEO				M		1	RHR	CONTROLLED BY SECURITY	_141
_141A	CORRIDOR	X						PTD	X	F10		PTD					S-4		3	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	_141A
_141B	CHASE		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1		PTD		3/A-1602	1/A-1602				23	RHR		_141B
_142	LAUNDRY		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		9	RH	2	_142
_143	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL	PTD		F1	STEEL	PTD				1	S-4		6A	RH		_143
_144	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL	PTD		F1	STEEL			3/A-1602	1/A-1602		S-4		6A	LH		_144
_145	IT		3'-6"	7'-0"	1 3/4"	F-M	STEEL	PTD		F1	STEEL			6/A-1602	7/A-1602	13/A-1602			20	RHR	MONITORED BY SECURITY	_145
_146	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL			3/A-1602	1/A-1602		S-4		7	LH		_146
_147	CORRIDOR	X						PTD	X					2/A-1501			S-4		3	RH	REPLACE EXISTING 24" X 24" VISION PANEL	_147
_148	OFFICE	X						PTD	X			PTD		2/A-1501				1	3	RH		_148
_150	ACTIVITY ROOM		3'-6"	7'-0"	1 3/4"	NV-M	STEEL	PTD	X		STEEL	PTD	CEO				M		2	LHR	MONITORED BY SECURITY	_150
_150A	CORRIDOR	X						PTD	X			PTD		2/A-1501			G	45 MIN.	3	RHR	REPLACE EXISTING 24" X 24" VISION PANEL	_150A
_150B	ACTIVITY ROOM		3'-0"	7'-0"	1 3/4"	F		PTD		F1	STEEL	PTD		3/A-1602	1/A-1602				23	LH		_150B
_151	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-1602	1/A-1602		G	45 MIN.	7B	RHR		_151
_152	MECHANICAL ROOM		3'-8"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602			1	14A	LHR		_152
_152A	MECHANICAL ROOM		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602				23			_152A
_153	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		9	LHR		_153
_154	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		9	LHR		_154
_155	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		9	RHR		_155
_156	MAIN ACTIVITY AREA		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		13	LHR		_156
_157	TOILET		3'-0"	7'-0"	1 3/4"	F	FRP	FF	X					2/A-1501				45 MIN.	7A	LHR	NEW FRP DOOR IN EXISTING FRAME	_157
_158	CLASSROOM	X						PTD	X			PTD		2/A-1501				1	10	LHR		_158
_159	MAIN ACTIVITY AREA		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		13	LHR		_159
_159A	MAIN ACTIVITY AREA		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X		STEEL						M		2	LHR	MONITORED BY SECURITY	_159A
_160	STORAGE	X							X					2/A-1501					10	LHR		_160
_161	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		9	LHR		_161
_162	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-M	STEEL	PTD		F1	STEEL	PTD	CEO	3/A-1602	1/A-1602		M		2	LHR	MONITORED BY SECURITY	_162
_163	TOILET		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		11	RH		_163
_165	PANTRY		3'-0"	7'-0"	1 3/4"	HG	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		14	LH		_165
_166	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602				14	RH		_166
_167	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		14	LH		_167
_169	MECHANICAL & FIRE SERVICE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD							19	LHR		_169
_170	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		14	LH		_170
_171	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4	1	14	RH		_171
_172	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602		S-4		14	RH		_172
_173	MECHANICAL & WATER SERVICE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-1602	1/A-1602			45 MIN.	19A	LH		_173
_173A	MECHANICAL & WATER SERVICE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD	X	F1	STEEL	PTD							20	LHR		_173A

BUILDING DESIGNATION

BUILDING 77 = 1

BUILDING DESIGNATOR

1-100 BUILDING 77 ROOM NUMBERS

1-100 BUILDING 77 DOOR NUMBERS

DOOR SCHEDULE ABBREVIATIONS

DOOR MATERIALS

AL:	ALUMINUM
FRP:	FIBERGLASS RE-INFORCED PLASTIC
STL:	STEEL
SS:	STAINLESS STEEL
STL PLT:	STEEL PLATE
WD:	WOOD

FRAME MATERIALS

AL:	ALUMINUM
CI:	CHANNEL IRON
STL:	STEEL
SS:	STAINLESS STEEL
WD:	WOOD

DOOR TYPES

DA:	DOUBLE ACTING
F:	FLUSH
FG:	FULL GLASS
HG:	HALF GLASS
LVR:	LOUVER
NV:	NARROW VISION
V:	VISION

ANCHOR TYPES

M:	ADJUSTABLE YOKE & STRAP WELDED-IN
EWA:	EXISTING WALL ANCHOR WELDED-IN
MS:	METAL STUD ANCHOR WELDED-IN
WS:	WOOD STUD ANCHOR WELDED-IN
IMBED:	MASONRY DETENTION ANCHOR
CEO:	CONCEALED EXISTING OPENING

GLASS TYPE

D:	TEMPERED
I:	LAMINATED SAFETY
M:	INSULATED
S-1:	1/2" MONOLITHIC POLYCARBONATE
S-3:	1-5/16" GLASS CLAD POLYCARBONATE LAMINATE
S-4:	9/16" GLASS CLAD POLYCARBONATE LAMINATE
S-5:	1" LAMINATED POLYCARBONATE
S-6:	1-1/4" LAMINATED POLYCARBONATE
S-7:	7/8" GLASS CLAD POLYCARBONATE
S-9:	1/2" LAMINATED POLYCARBONATE

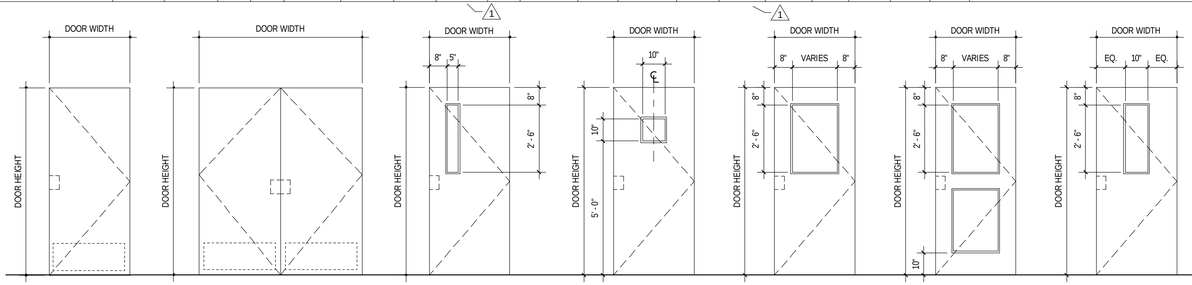
HAND TYPE

LH:	LEFT HAND
LHR:	LEFT HAND REVERSE
LHRA:	LEFT HAND REVERSE ACTION
LHRA (PAIR):	LEFT HAND REVERSE ACTION PAIR
RH:	RIGHT HAND
RHR:	RIGHT HAND REVERSE
RHRA:	RIGHT HAND REVERSE ACTION
RHRA (PAIR):	RIGHT HAND REVERSE ACTION PAIR

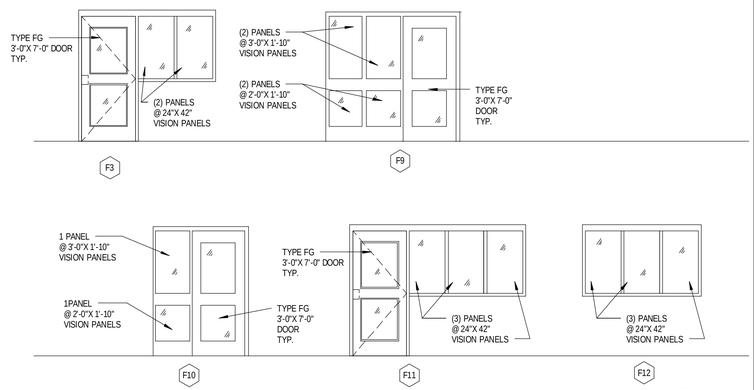
FINISHES

IAL-4:	INTERIOR STEEL DOORS & FRAMES
FF:	FACTORY FINISH
EAL-3:	EXTERIOR STEEL DOORS & FRAMES

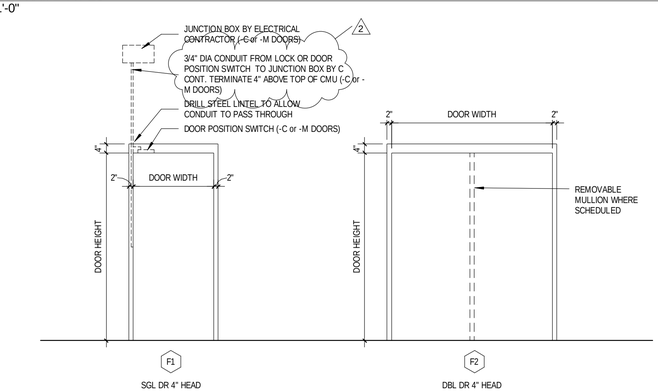
GENERAL NOTES:
1. FF= FACTORY FINISH
2. ALL NEW AND EXISTING DOORS AND FRAMES TO BE PAINTED UNLESS NOTED AS FF (FACTORY FINISH), COLOR BY DIRECTORS REPRESENTATIVE
3. AT ALL DOORS AND SIDELIGHTS TO RECIEVE VISION PANEL REPLACEMENT, VERIFY EXISTING VISION PANEL OPENINGS.
4. PROVIDE NEW GLAZING KIT AT ALL VISION PANEL REPLACEMENTS IN DOORS AND SIDELIGHTS.
5. AT ALL EXISTING FRAMES TO RECEIVE NEW DOORS, FIELD VERIFY EXISTING FRAME OPENINGS.



2 INTERIOR DOOR PANEL TYPES
3/8" = 1'-0"



INTERIOR FRAME TYPES
1/4" = 1'-0"



1 HOLLOW METAL FRAME TYPES - CMU
3/8" = 1'-0"

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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EYP/

WARNING

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

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TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
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375 RUSH - SCOTTSVILLE ROAD
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	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	HCE
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77
DOOR SCHEDULE, FRAMES, & TYPES

DRAWING NUMBER:
A - 1601

SHEET OF

INTERNATIONAL EXISTING BUILDING CODE (IEBC 2015)

CHAPTER		REQUIRED	PROVIDED
3	**PROVISIONS FOR ALL COMPLIANCE METHODS**		
301.2	COMPLIANCE METHOD	WORK AREA COMPLIANCE METHOD, COMPLY WITH APPLICABLE CHAPTERS 5-13	CHAPTERS 5-9 APPLY, CHAPTER 10-13 DO NOT APPLY (CHANGE OF OCCUPANCY, ADDITIONS, HISTORIC BUILDINGS AND RELOCATED OR MOVED BUILDINGS)
5	**CLASSIFICATION OF WORK**		
505.1	LEVEL 3 ALTERATION	COMPLY WITH CHAPTERS 7-8-9	
7	**ALTERATIONS LEVEL 1**		
702.1.1	INTERIOR FINISHES	COMPLY WITH IBC CHAPTER 8	SEE IBC 803.11, FINISH SCHEDULE AND PROJECT MANUAL
702.2	INTERIOR FLOOR FINISH	COMPLY WITH IBC SECTION 804	SEE IBC 804.2.2, SEE FINISH SCHEDULE AND PROJECT MANUAL
702.3	INTERIOR TRIM	COMPLY WITH IBC SECTION 806	SEE FINISH SCHEDULE AND PROJECT MANUAL FOR COMPLIANCE
702.5	EMERGENCY ESCAPE AND RESCUE WINDOWS	REQUIRED AT R-2 AND R-3	NA - I-3 OCCUPANCY
702.6	MATERIALS AND METHODS	NEW WORK SHALL COMPLY WITH THE MATERIALS AND METHODS REQUIREMENTS IN THE IBC, IECC, IMC AND IPC	
703	FIRE PROTECTION	SHALL BE DONE IN A MANNER THAT MAINTAINS THE LEVEL OF FIRE PROTECTION PROVIDED	SEE 803
704	MEANS OF EGRESS	ALTERATIONS SHALL BE DONE IN A MANNER THAT MAINTAINS THE LEVEL OF PROTECTION PROVIDED FOR THE MEANS OF EGRESS	SEE 804
705.1.7	ACCESSIBLE SLEEPING UNITS (CELLS)	IBC 1107 SHALL APPLY TO THOSE BEING ALTERED. 3% OR 1 WHICH EVER IS GREATER ARE REQUIRED TO BE ACCESSIBLE	5 CELLS CONSIDERED RECONFIGURED, 1 WILL BE ACCESSIBLE (ROOM -107)
705.1.9	ACCESSIBLE TOILET ROOMS 1	REQUIRES ACCESSIBLE TOILETS COMPLYING WITH IBC 1109 UNLESS TECHNICALLY INFEASIBLE. IBC 1109.2 PARAGRAPH 3.5 STATES "WHERE SINGLE USER TOILETS ARE CLUSTERED, MINIMUM OF OF 50%, BUT NOT LESS THAN 1 SHALL BE ACCESSIBLE"	AT NEW RECONFIGURED BATHROOM LOCATIONS IN SLEEPING AREAS - 2 REQUIRED, 2 PROVIDED. AT REMAINDER OF BUILDING, IT IS TECHNICALLY INFEASIBLE TO MAKE ALL TOILET ROOMS ACCESSIBLE DUE TO AREA RESTRICTIONS AND PROGRAM REQUIREMENTS;
705.2	ALTERATION AFFECTING AREA CONTAINING PRIMARY FUNCTION	WHERE ALTERATION AFFECTS THE ROUTE TO PRIMARY FUNCTION SHALL, IT SHALL BE ACCESSIBLE	NO CHANGE TO ROUTES TO PRIMARY FUNCTION
706	REROOFING	COMPLY WITH IBC CHAPTER 15;	WORK COMPLETED UNDER SEPARATE EMERGENCY PROJECT, DOES NOT ALTER CLASSIFICATION LEVEL
707.3.2	ROOF DIAPHRAGMS IN HIGH WIND AREAS	WHEN REROOFING AND V_{ULT} >115 MPH (DETERMINED IN ACCORDANCE WITH FIGURE 1609.3(1) OF THE IBC), AND GREATER THAN 50% REROOFING, REINFORCEMENT REQUIRED	V_{ULT} IS NOT GREATER THAN 115 MPH ACCORDING TO FIGURE 1609.3(1) OF THE IBC
708.1	ENERGY CONSERVATION	NEW ELEMENTS TO COMPLY WITH 2015 IECC	ROOF WORK COMPLETED UNDER SEPARATE EMERGENCY PROJECT, EXTERIOR WALL WORK WILL COMPLY, DOES NOT ALTER CLASSIFICATION LEVEL
8	**ALTERATIONS LEVEL 2**		
801.2	ALTERATIONS LEVEL 1	COMPLY WITH IEBC CHAPTER 7	SEE ABOVE
802	SPECIAL USES AND OCCUPANCIES	COMPLY WITH THIS CHAPTER	I-3 OCCUPANCY IS A SPECIAL USE, BUT NO EXTRA REQUIREMENTS SEE 902
803.2	VERTICAL OPENINGS	1 HOUR ENCLOSURE	NA - ONE STORY BUILDING
803.3	SMOKE COMPARTMENTS	REQUIRED AT I-2 OCCUPANCIES	NA FOR I-3 OCCUPANCIES
803.4.1	SUPPLEMENTAL INTERIOR FINISHES REQUIRED	WHERE WORK AREA EXCEEDS 50% OF A FLOOR, COMPLY WITH 803.4	ALL FINISHES WILL BE NEW AND MEET CURRENT INTERIOR FINISH REQUIREMENTS, SEE FINISH SCHEDULE AND PROJECT MANUAL FOR COMPLIANCE
803.6	EXISTING FIRE RESISTANCE RATINGS	WHERE SPRINKLERS ARE ADDED THROUGHOUT, FIRE RESISTANCE RATINGS OF BUILDING ELEMENTS AND MATERIALS SHALL BE PERMITTED TO MEET THE REQUIREMENTS OF THE CURRENT BUILDING CODE.	EXISTING CORRIDORS AT SLEEPING AREAS WILL BE REDUCED TO SMOKE TIGHT PERMITTED UNDER IBC 408.8.2
804.2.3	AUTOMATIC SPRINKLERS AT WINDOWLESS BUILDINGS	IBC408.9 CONSIDERS A BUILDING WINDOWLESS IF THE WINDOWS ARE NONOPERABLE AND NON BREAKABLE	WINDOWS ARE FIXED AND LAMINATED SECURITY GLAZING; A SPRINKLER SYSTEM WILL BE ADDED
804.3	STANDPIPES	WHERE THE WORK AREA INCLUDES EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT AND IS LOCATED MORE THAN 50 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS, A STANDPIPE SYSTEM SHALL BE PROVIDED	NR - SINGLE TENANT AND WORK AREA LESS THAN 50 ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS
804.1	CORRIDOR RATINGS	WHERE AN AUTOMATIC SPRINKLER SYSTEM IS INSTALLED THROUGHOUT THE STORY, THE REQUIRED FIRE-RESISTANCE RATING FOR ANY CORRIDOR LOCATED ON THE STORY SHALL BE PERMITTED TO BE REDUCED IN ACCORDANCE WITH THE IBC	EXISTING CORRIDORS AT SLEEPING AREAS WILL BE REDUCED TO SMOKE TIGHT PERMITTED UNDER IBC 408.8.2
804.4.1.4	FIRE ALARM AND DETECTION - I-3 OCCUPANCY	A FIRE ALARM SYSTEM SHALL BE INSTALLED IN WORK AREAS OF GROUP I-3 OCCUPANCIES AS REQUIRED BY THE INTERNATIONAL FIRE CODE.	MANUAL ALARM SYSTEM AND SMOKE DETECTION SYSTEM IS PROVIDED - SEE DRAWING E-1102. SMOKE DETECTION IS PROVIDED THROUGHOUT, EXCEPT SLEEPING ROOMS AS PERMITTED BY IFC 907.2.6.3.3. EXCEPTION 3
805.1	MEANS OF EGRESS	REQUIREMENTS OF THIS SECTION SHALL BE LIMITED TO WORK AREAS THAT INCLUDE EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT WITHIN THE WORK AREA IN WHICH LEVEL 2 ALTERATIONS ARE BEING PERFORMED	PARAGRAPH 901.2 REQUIRES COMPLIANCE WITH SECTION 805 REGARDLESS OF ONE TENANT OCCUPANCY. EXISTING MEANS OF EGRESS COMPLIES WITH NUMBER OF REQUIRED EXITS, EXIT WIDTHS, AND CORRIDOR OPENINGS.
805.3	NUMBER OF EXITS	EVERY STORY WHERE A WORK AREA INCLUDES EXITS OR CORRIDORS SHARED BY MORE THAN ONE TENANT WITHIN THE WORK AREA SHALL BE PROVIDED WITH THE MINIMUM NUMBER OF EXITS BASED ON THE OCCUPANCY AND THE OCCUPANT LOAD IN ACCORDANCE WITH THE IBC 2	PARAGRAPH 901.2 REQUIRES COMPLIANCE WITH SECTION 805 REGARDLESS OF ONE TENANT OCCUPANCY. EXISTING MEANS OF EGRESS COMPLIES WITH NUMBER OF REQUIRED EXITS, EXIT WIDTHS. SIX BUILDING EXITS PROVIDED.
805.4.1.1	TWO EGRESS DOORWAYS	IN ANY WORK AREA, ALL ROOMS AND SPACES HAVING AN OCCUPANT LOAD GREATER THAN 50 OR IN WHICH THE TRAVEL DISTANCE TO AN EXIT EXCEEDS 75 FEET SHALL HAVE A MINIMUM OF TWO EGRESS DOORWAYS.	TRAVEL DISTANCE GREATER THAN 75' AT MAIN ACTIVITY ROOM WITH 60 OCCUPANTS, 2 EGRESS DOORS PROVIDED, SEE CODE COMPLIANCE DRAWINGS
805.4.2	DOOR SWING	ALL EGRESS DOORS SERVING AN OCCUPANT LOAD GREATER THAN 50 SHALL SWING IN THE DIRECTION OF EXIT TRAVEL.	NO DOOR HAS AN OCCUPANT LOAD GREATER THAN 50, SEE CODE COMPLIANCE DRAWINGS
805.4.3	DOOR CLOSING	EXIT PASSAGEWAY AND STAIR DOORS SHALL BE SELF CLOSING	NA - NO STAIRS OR EXIT PASSAGEWAYS IN PROJECT
805.4.5	EMERGENCY POWER SOURCE IN GROUP I-3 DOOR HARDWARE	POWER OPERATED LOCKS FOR SWINGING DOORS SHALL BE OPERABLE BY A MANUAL RELEASE MECHANISM AT THE DOOR, AND BE CONNECTED TO EMERGENCY POWER SYSTEM	DOORS ON EMERGENCY POWER SYSTEM
805.5	CORRIDOR DOORS	CORRIDOR DOORS IN THE WORK AREA SHALL NOT BE CONSTRUCTED OF HOLLOW CORE WOOD AND SHALL NOT CONTAIN LOUVERS.	CORRIDOR DOORS AT SLEEPING AREAS ARE STEEL AND WILL COMPLY WITH IBC SECTION 408.2.4 - SMOKE TIGHT WITH NO CLOSER OR LATCH
805.6	DEAD END CORRIDORS	SHALL NOT EXCEED 70 FEET FOR SPRINKLERED BUILDING	NO DEAD ENDS SEE CODE COMPLIANCE PLANS FOR COMPLIANCE
805.7	MEANS OF EGRESS LIGHTING	SHALL BE IN ACCORDANCE WITH THE IBC	ALL LIGHTING WILL BE NEW AND COMPLY WITH IBC, SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
805.8	EXIT SIGNS	SHALL BE IN ACCORDANCE WITH THE IBC	ALL EXIT SIGNS WILL BE NEW AND WILL COMPLY WITH IBC, SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
805.9	HANDRAILS	NEW HANDRAILS SHALL BE PROVIDED OR EXISTING HANDRAILS IN DANGER OF COLLAPSING REPLACED AT STAIRS	NA - NO STAIRS OR RAMPS
805.10	REFUGE AREA I-3 OCCUPANCIES	THE REQUIRED CAPACITY OF THE REFUGE AREAS FOR SMOKE COMPARTMENTS IN ACCORDANCE WITH SECTION 408.6.2 OF THE IBC SHALL BE MAINTAINED 2	MAIN DAY ACTIVITY ROOMS AND CORRIDORS IN SLEEPING AREAS PROVIDE SAME AREAS AS PRIOR TO ALTERATIONS. 6 NSF PER PERSON REQUIRED AND PROVIDED; 1 HOUR FIRE RATED SMOKE BARRIER BETWEEN TWO SMOKE COMPARTMENTS REQUIRED AND PROVIDED.
805.11	GUARDS (FOR STAIRS AND RAMPS)	ANY ELEVATED SLAB GREATER THAN 30" OR ANY RISE >30" OR EXISTING GUARDS IN DANGER OF COLLAPSING REQUIRE REPLACEMENT OR ADDITION OF GUARDS	NA - NO STAIRS OR RAMPS
806.1	ACCESSIBILITY GENERAL	NEW OR ALTERED ELEMENTS SHALL COMPLY WITH 705	SEE 705
807.2	NEW STRUCTURAL ELEMENTS	SHALL COMPLY WITH IBC	NEW ELEMENTS COMPLY
807.3	MINIMUM DESIGN LOADS	EXISTING ELEMENTS NOT SUPPORTING ADDITIONAL LOADS SHALL BE THE LOADS APPLICABLE AT THE TIME THE BUILDING WAS CONSTRUCTED	NO CHANGE TO LOADS
807.4	EXISTING STRUCTURAL ELEMENTS CARRYING GRAVITY LOADS.	ALTERATIONS SHALL NOT REDUCE THE CAPACITY OF EXISTING GRAVITY LOAD-CARRYING STRUCTURAL ELEMENTS UNLESS DEMONSTRATED TO HAVE SUCH THE CAPACITY. EXISTING STRUCTURAL ELEMENTS SUPPORTING ANY ADDITIONAL GRAVITY LOADS DUE TO ALTERATIONS, INCLUDING THE EFFECTS OF SNOW DRIFT, SHALL COMPLY WITH THE IBC	EXISTING STRUCTURAL ELEMENTS THAT DO NOT MEET STRENGTH & DEFLECTION REQUIREMENTS WITH IBC SNOW DRIFT AS A RESULT OF NEW ROOF INSULATION HAVE BEEN REINFORCED TO COMPLY WITH IBC.
807.5	EXISTING STRUCTURAL ELEMENTS RESISTING LATERAL LOADS.	EXCEPT AS PERMITTED, WHERE ALTERATIONS INCREASES DESIGN LATER LOADS, OR WHERE ALTERATION RESULTS IN PROHIBITED STRUCTURAL IRREGULARITY AS DEFINED IN ASCE 7, OR WHERE THE ALTERATION DECREASES THE CAPACITY OF ANY EXISTING LATERAL LOAD-CARRYING STRUCTURAL ELEMENT, THE STRUCTURE OF THE ALTERED BUILDING OR STRUCTURE SHALL BE SHOWN TO MEET THE WIND AND SEISMIC PROVISIONS OF THE IBC.	ALTERATIONS DO NOT INCREASE DESIGN LATERAL LOADS OR REDUCE CAPACITY OF LATERAL RESTRAINT SYSTEM
808.1	ELECTRICAL, ALL NEW INSTALLATIONS	SHALL COMPLY WITH NFPA 70 (NEC)	COMPLY, REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
808.2	ELECTRICAL, EXISTING INSTALLATIONS	EXISTING WIRING IN ALL WORK AREAS IN GROUP A-1, A-2, A-5, H AND I OCCUPANCIES SHALL BE UPGRADED TO MEET THE MATERIALS AND METHODS REQUIREMENTS OF CHAPTER 7.	COMPLY, REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
809.1	MECHANICAL	RECONFIGURED OR NEW ELEMENTS SHALL COMPLY WITH INTERNATIONAL MECHANICAL CODE	COMPLIES, REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR COMPLIANCE
809.2	MECHANICAL, ALTERED EXISTING SYSTEMS.	IN MECHANICALLY VENTILATED SPACES, EXISTING MECHANICAL VENTILATION SYSTEMS THAT ARE ALTERED, RECONFIGURED, OR EXTENDED SHALL PROVIDE NOT LESS THAN 5 CFM PER PERSON OF OUTDOOR AIR AND NOT LESS THAN 15 CFM OF VENTILATION AIR PER PERSON, OR NOT LESS THAN THE AMOUNT OF VENTILATION AIR DETERMINED BY THE INDOOR AIR QUALITY PROCEDURE OF ASHRAE 62.	COMPLIES, OUTDOOR AIR CFM IS CALCULATED PER ASHRAE 62.1. SEE MECHANICAL SCHEDULES AND ASHRAE 62.1 CALCULATIONS FOR COMPLIANCE
809.3	MECHANICAL, LOCAL EXHAUST	ALL NEWLY INTRODUCED DEVICES, EQUIPMENT, OR OPERATIONS THAT PRODUCE AIRBORNE PARTICULATE MATTER, ODORS, FUMES, VAPOR, COMBUSTION PRODUCTS, GASEOUS CONTAMINANTS, PATHOGENIC AND ALLERGENIC ORGANISMS, AND MICROBIAL CONTAMINANTS IN SUCH QUANTITIES AS TO AFFECT ADVERSELY OR IMPAIR HEALTH OR CAUSE DISCOMFORT TO OCCUPANTS SHALL BE PROVIDED WITH LOCAL EXHAUST.	COMPLIES, EXHAUST SYSTEMS ARE DESIGNED AND SPECIFIED IN ALL NEW TOILET ROOMS. SEE MECHANICAL DRAWINGS FOR COMPLIANCE
810.1	MINIMUM PLUMBING FIXTURES	WHERE OCCUPANT LOAD IS INCREASED BY MORE THAN 20%, PROVIDE FIXTURES PER IPC	COMPLIES, SAME NUMBER OF RESIDENTS AS PRIOR USE - NUMBER OF FIXTURES PER IPC; RECONFIGURED BATHROOMS EVALUATED FOR NUMBER OF FIXTURES SEE VALUATION THIS SHEET
811.1	NEW CONSTRUCTION ONLY SHALL COMPLY WITH IECC REQUIREMENTS	NEW ELEMENTS SHALL COMPLY WITH IECC REQUIREMENTS	NEW ELEMENTS COMPLY

INTERNATIONAL BUILDING CODE (IBC 2015)

CHAPTER		REQUIRED	PROVIDED
3	**USE AND OCCUPANCY CLASSIFICATION**		
308.5	OCCUPANCY GROUP	EXISTING I-3 INSTITUTIONAL	NOT ALTERED BY SCOPE
308.5.5	USE	EXISTING - CONDITION 5	CONDITION 5 - SAME USE
5	**GENERAL BUILDING HEIGHT AND AREAS**		
504.3	BUILDING HEIGHT - FEET	AVERAGE 19'-7" - EXISTING	NOT ALTERED BY SCOPE
504.4	BUILDING HEIGHT - STORIES	1 STORY - EXISTING	NOT ALTERED BY SCOPE
506	BUILDING AREA	11,343 SQ FT - EXISTING	NOT ALTERED BY SCOPE
6	**CONSTRUCTION TYPE**		
T.601	TYPE	8B / EXISTING	NOT ALTERED BY SCOPE
	PRIMARY FRAME	0	NOT ALTERED BY SCOPE
	BEARING WALL - EXTERIOR	0	NOT ALTERED BY SCOPE
	BEARING WALL - INTERIOR	0	NOT ALTERED BY SCOPE
	NON BEARING WALL - EXTERIOR	0	NOT ALTERED BY SCOPE
	NON BEARING WALL - INTERIOR	0	FIRE RATED CORRIDOR PARTITIONS ARE BEING REDUCED TO SMOKE TIGHT PARTITIONS AS ALLOWED BY IEBC 805.5 AND IBC 408.8.2 SEE CODE COMPLIANCE PLANS FOR LOCATIONS
	FLOOR CONSTRUCTION	0	NOT ALTERED BY SCOPE
	ROOF CONSTRUCTION	0	NOT ALTERED BY SCOPE
T.602	FIRE SEPARATION DISTANCE > 30 FEET	REQUIRED 0 HOUR	NOT ALTERED BY SCOPE
602.2	TYPE I AND IIB	ALL MATERIALS MADE FROM NONCOMBUSTIBLE MATERIALS UNLESS ALLOWED BY 603	NONCOMBUSTIBLE MATERIALS PROVIDED, SEE DETAILS
7	**FIRE AND SMOKE PROTECTION FEATURES**		
707	FIRE BARRIERS	1 HOUR, REQUIRED AT MECHANICAL ROOM	EXISTING 1 HOUR RATED PARTITION SURROUNDING MECHANICAL ROOM TO REMAIN, SEE CODE COMPLIANCE PLANS FOR LOCATION
708	FIRE PARTITIONS	PERMITTED TO BE SMOKE TIGHT PER IBC 408.8.2	SMOKE TIGHT WALLS UTILIZED IN LIEU OF FIRE PARTITIONS, SEE CODE COMPLIANCE PLANS
709	SMOKE BARRIERS 1	1 HOUR SMOKE RATED IBC 408.8.2 STATES EACH SLEEPING AREA IN OCCUPANCY CONDITION 5 SHALL BE SEPARATED FROM ADJACENT SLEEPING AREAS, CORRIDORS, AND COMMON SPACES BY A SMOKETIGHT PARTITION.	SEE CODE COMPLIANCE PLANS FOR LOCATIONS OF EXISTING 45 MIN. PARTITIONS TO BE CLASSIFIED AS SMOKE TIGHT PARTITION SEPARATING SLEEPING AREAS.
716	OPENING PROTECTIVES	NOT REQUIRED ON I-3 CELLS (BEDROOMS), SMOKE TIGHT DOORS PERMITTED PER TABLE 1020.1 FOOTNOTE 8, 408.8.2 AND 408.8.4 45 MINUTES REQUIRED AT 1 HOUR FIRE BARRIER 20 MINUTES REQUIRED AT SMOKE BARRIERS	PROVIDED - SEE DOOR SCHEDULE AND HARDWARE SCHEDULE
717.5.5	DUCTS AND AIR TRANSFER OPENINGS - SMOKE BARRIERS	SMOKE DAMPERS REQUIRED, EXCEPT WHERE THE OPENINGS IN DUCTS ARE LIMITED TO A SINGLE SMOKE COMPARTMENT AND THE DUCTS ARE CONSTRUCTED OF STEEL.	COMPLIES, DUCTS THAT CROSS SMOKE BARRIER DO NOT EXCHANGE AIR BETWEEN SMOKE COMPARTMENTS, OPENINGS ARE LIMITED TO 1 COMPARTMENT; PERIMETER OF DUCTS FIRESTOPPED, SEE MECHANICAL DRAWINGS FOR COMPLIANCE
717.5.7	DUCTS AND AIR TRANSFER OPENINGS - SMOKE TIGHT WALLS	SIMILAR TO A SMOKE PARTITION, NO FIRE RATING IS REQUIRED. DUCTS REQUIRE PERIMETER SEALED; TRANSFER OPENINGS REQUIRE SMOKE DAMPERS	COMPLIES; PERIMETER OF DUCTS SEALED, NO TRANSFER OPENINGS, ALL RETURNS ARE DUCTED, SEE MECHANICAL DRAWINGS FOR COMPLIANCE
720	EXPOSED OR CONCEALED INSULATION	FLAME SPREAD INDEX >25 SMOKE-DEVELOPED INDEX <450	COMPLIES - SEE SPECIFICATIONS
8	**INTERIOR FINISHES**		
T.803.11	FINISH REQUIREMENTS BY OCCUPANCY	GROUP I-3 (SPRINKLERED)	
	EXIT STAIRWAYS, RAMPS, AND PASSAGEWAYS	CLASS A	ALL FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
	CORRIDORS	CLASS A	ALL FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
	ROOMS / ENCLOSED SPACE	CLASS C	ALL FINISHES NEW AND SHALL COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
804.4.2	MINIMUM CRITICAL RADIANT FLUX	FLOOR FINISHES CLASS II (SPRINKLERED)	ALL FLOOR FINISHES NEW AND COMPLY, SEE FINISH SCHEDULE AND PROJECT MANUAL
806	INTERIOR TRIM	TRIM SHALL BE NON COMBUSTIBLE OR CLASS C NOT EXCEEDING 10% OF WALL	NO COMBUSTIBLE TRIM INDICATED

9	**FIRE PROTECTION SYSTEM**		
903	SPRINKLER SYSTEM	REQUIRED, SHALL BE NFPA 13 SYSTEM	PROVIDED SEE PLUMBING DRAWINGS
906	PORTABLE FIRE EXTINGUISHER SYSTEMS	REQUIRED; PERMITTED TO BE LOCATED IN STAFF AREAS;	PROVIDE IN GROUP I-3, SPACING INDICATED IN NFPA 10; MAXIMUM SPACING 75' - SEE CODE COMPLIANCE PLANS FOR LOCATIONS
907	FIRE ALARM AND DETECTION SYSTEMS	MANUAL ALARM AND SMOKE DETECTION REQUIRED; SHALL COMPLY WITH NFPA 72	MANUAL ALARM SYSTEM AND SMOKE DETECTION SYSTEM PROVIDED - SEE ELECTRICAL DRAWINGS. SMOKE DETECTION IS PROVIDED THROUGHOUT, EXCEPT SLEEPING ROOMS AS PERMITTED BY IBC 907.2.6.3.3. EXCEPTION 3.
11	**ACCESSIBILITY**		
1104	ROUTE	ACCESSIBLE ROUTE TO BE MAINTAINED	ROUTE MAINTAINED SEE DRAWINGS
1104.3.1	EMPLOYEE WORK AREAS (OVER 1000 SF)	ACCESSIBLE	COMPLY, FURNITURE LAYOUT BY OTHERS
1105	ENTRANCES	ACCESSIBLE	EXISTING TO REMAIN
1107.5.5	GROUP I-3 SLEEPING UNITS (CELLS)	3% ACCESSIBLE OR MINIMUM OF 1	1 REQUIRED, 1 PROVIDED
1109.2	TOILET FACILITIES	ACCESSIBLE	RECONFIGURED BATHROOMS PROVIDED PER CODE; SEE EVALUATION THIS SHEET
1109.5	DRINKING FOUNTAINS	ACCESSIBLE	COMPLY, SEE PLUMBING DRAWINGS FOR COMPLIANCE
1110	SIGNAGE	ACCESSIBLE	COMPLY, SEE SIGNAGE DRAWINGS FOR COMPLIANCE
12	**INTERIOR ENVIRONMENT**		
1203	VENTILATION	REQUIRES NATURAL OR MECHANICAL VENTILATION	MECHANICAL VENTILATION PROVIDED, SEE MECHANICAL DRAWINGS
1204	TEMPERATURE CONTROL	REQUIRES HEATING SYSTEM CAPABLE OF MAINTAINING 68 DEG F AT 3' AFF	PROVIDED, SEE MECHANICAL DRAWINGS
1205.3	LIGHTING	REQUIRES NATURAL LIGHT - 8% NET FLOOR ARTIFICIAL LIGHT OR 10FC OVER THE AREA OF THE ROOM 30" AFF	10 FC PROVIDED, SEE ELECTRICAL DRAWINGS
1205.5	EMERGENCY LIGHTING	REQUIRES EMERGENCY LIGHTING	PROVIDED, SEE ELECTRICAL DRAWINGS
1208.1	MINIMUM ROOM WIDTH	7'-0" FOR HABITABLE SPACES	COMPLIES, 7'-8" EXISTING AND 7'-10" FOR RECONFIGURED BEDROOMS, SEE PLANS
1208.2	CEILING HEIGHTS	7'-6" MINIMUM	8' CEILING HEIGHT PROVIDED, SEE CEILING PLANS
1208.2	CEILING HEIGHTS (KITCHEN, BATH, STORAGE)	7'-6" MINIMUM	8' CEILING HEIGHT PROVIDED, SEE CEILING PLANS
13	**ENERGY EFFICIENCY**		
	REQUIRES DESIGN AND COMPLIANCE WITH INTERNATIONAL ENERGY CODE		
14	**EXTERIOR WALLS**		
1404.10	FIBER CEMENT SIDING	COMPLY WITH ASTM C 1186 TYPE A	PROVIDED, SPECIFICATIONS REQUIRE COMPLIANCE WITH ASTM C 1186 TYPE A
1405.16	FIBER CEMENT SIDING	PERMITTED ON EXTERIOR WALLS OF TYPE I, II, III, IV AND V CONSTRUCTION	COMPLIES
1406.2	COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS	COMBUSTIBLE EXTERIOR WALL COVERINGS (SHEATHING) CONSTRUCTED OF FIRE-RETARDANT TREATED WOOD ARE NOT LIMITED IN UP TO 60 FEET IN HEIGHT ABOVE GRADE PLANE	FR TREATED SHEATHING AND CEMENT BOARD SIDING PERMITTED

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CHAPTER		REQUIRED	PROVIDED
3	**GENERAL REQUIREMENTS**		
C301.1	CLIMATE ZONES	SHALL COMPLY WITH FIGURE C301.1	ZONE 5
5	**EXISTING BUILDINGS**		
C503.1	ALTERATIONS	ALTERATIONS SHALL BE SUCH THAT THE EXISTING BUILDING IS NO LESS CONFORMING TO THE PROVISIONS OF THIS CODE THAN THE EXISTING BUILDING WAS PRIOR TO THE ALTERATION.	NOT ALTERED BY SCOPE
		THE FOLLOWING ALTERATIONS NEED NOT COMPLY WITH THE REQUIREMENTS FOR NEW CONSTRUCTION, PROVIDED THE ENERGY USE OF THE BUILDING IS NOT INCREASED: 3. EXISTING CEILING, WALL OR FLOOR CAVITIES EXPOSED DURING CONSTRUCTION, PROVIDED THAT THESE CAVITIES ARE FILLED WITH INSULATION. 4. CONSTRUCTION WHERE THE EXISTING ROOF, WALL OR FLOOR CAVITY IS NOT EXPOSED. 6. AIR BARRIERS SHALL NOT BE REQUIRED FOR ROOF RECOVER AND ROOF REPLACEMENT WHERE THE ALTERATIONS OR RENOVATIONS TO THE BUILDING DO NOT INCLUDE ALTERATIONS, RENOVATIONS OR REPAIRS TO THE REMAINDER OF THE BUILDING ENVELOPE.	
C503.3	BUILDING ENVELOPE	NEW BUILDING ENVELOPE ASSEMBLIES THAT ARE PART OF THE ALTERATION SHALL COMPLY WITH SECTIONS C402.1 THROUGH C402.5.	
	MASS WALLS	CMU WALLS WITH NEW EXTERIOR SIDING AND INSULATION - R-11.4 CI OR U< 0.090 REQUIRED	COMPLIES - R 16.25 CI PROVIDED
T402.1.3	METAL FRAMED WALLS	METAL FRAMED WALLS WITH NEW EXTERIOR SIDING AND INSULATION - R-13 IN FRAMED CAVITY AND R-7.5 CI OR U-0.064 REQUIRED	COMPLIES - U-VALUE=0.049
C503.3.1	ROOF REPLACEMENT	WHERE INSULATION IS ENTIRELY ABOVE DECK COMPLY WITH TABLE C402.1.3; R-30 REQUIRED	COMPLIES, R-30 PROVIDED
C503.3.2	VERTICAL FENESTRATION	THE ADDITION OF VERTICAL FENESTRATION THAT RESULTS IN A TOTAL BUILDING FENESTRATION AREA LESS THAN OR EQUAL TO THAT SPECIFIED IN SECTION C402.4.1 SHALL COMPLY WITH SECTION C402.4	NO ADDITIONAL FENESTRATION AREA; TOTAL GLAZED AREA REDUCED

PLUMBING FIXTURE COUNT

REQUIRED PLUMBING FIXTURES Use group	# Occ	# ea. Sex M	# ea. Sex F	Water Closets M	Water Closets F	Lavatories M	Lavatories F	Drinking Fountains	Serv. Sink
I 3 Employees (1/25)		1/2	1/2	1/25	1/25			1/100	
(Employee waterclosets)	22	11	11	0.44	0.44			0.22	
I3 employee (1/35)		1/2	1/2			1/35	1/35		
(Employee lavatories)	0	11	11			0.31	0.31		
Educational		1/2	1/2	1/50	1/50	1/50	1/50	1/100	
(Classroom)	8	4	4	0.08	0.08	0.08	0.08	0.08	
Assembly (Activity rooms, Education fixture requirement used as more conservative)	114	1/2 57	1/2 57	1/50 1.14	1/50 1.14	1/50 1.14	1/50 1.14	1/500 0.23	
1-3 Instutional sleeping		1/2	1/2	1/15	1/15	1/15	1/15	1/100	
(Resident sleeping, treatment, support area)	45	23	23	1.50	1.50	0.10	0.10	0.45	
Storage/Mechanical		1/2	1/2	1/100	1/100	1/100	1/100	1/1000	
	14	7	7	0.07	0.07	0.07	0.07	0.01	1
Total Occupants	203								
Total Required Fixtures				3.23	3.23	1.60	1.60	0.99	1.00
Provided				9		9		2	1

Watercloset Fixture breakdown:		
Staff	3 waterclosets	(1 ADA)
Activity/ Classroom	2 waterclosets	
Sleeping/ treatment area	4 waterclosets	(2 ADA)
Total waterclosets	9	
Additional waterclosets in Wet rooms not included in Total above	3	

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

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WARNING

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REGISTERED ARCHITECT DAVID L. CLEVENGER 031179 STATE OF NEW YORK

CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

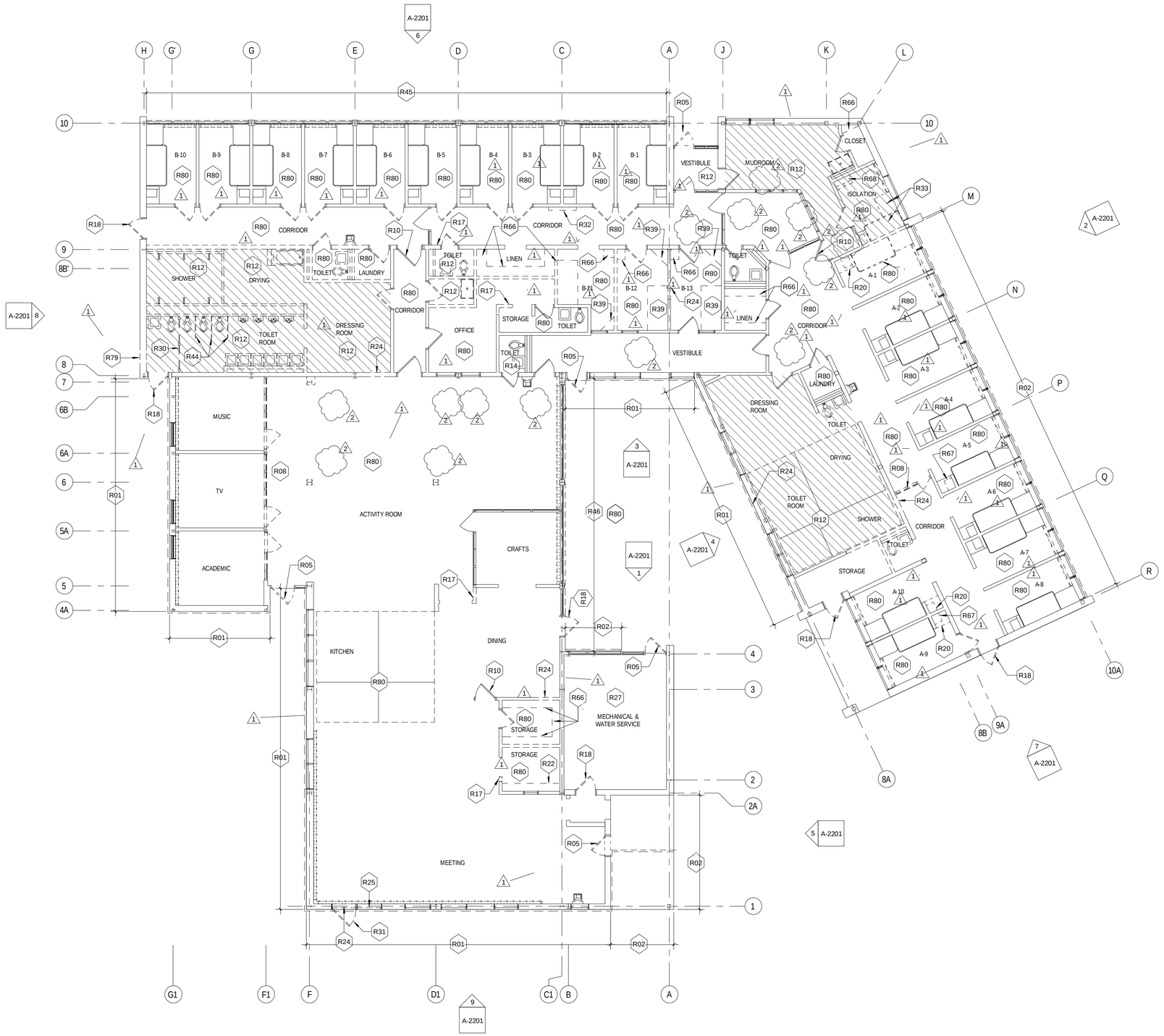
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	Designer	
DRAWN BY:	Author	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:

BUILDING 78

CODE COMPLIANCE

DRAWING



1 AD-2101 - REMOVAL PLAN
1/8" = 1'-0"

BUILDING DESIGNATION

BUILDING 78 = 2

- BUILDING DESIGNATOR
- 2-100 BUILDING 78 ROOM NUMBERS
- (2-100) BUILDING 78 DOOR NUMBERS

REMOVAL NOTES

1. INTERIOR FINISHES TO BE REMOVED IN THEIR ENTIRETY. GRIND FLUSH SMALL IMPERFECTIONS IN SLAB AND USE SELF-LEVELING CEMENT TO PROVIDE A LEVEL FLOOR SLAB.

3. REMOVE TOILET PARTITON SYSTEMS

5. REMOVE CEMENTITIOUS LEVELING TOPPER FLUSH WITH EXISTING FLOOR SLAB.

6. GRIND SMOOTH & PATCH EXISTING CONCRETE FLOOR TO RECEIVE FLOORING. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR FLOOR PREPARATION REQUIREMENTS.

REMOVAL SYMBOLS LEGEND

- EXISTING CMU WALL TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 17)
- EXISTING DOOR AND FRAME SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 18), COORDINATE DOOR AND FRAME REMOVALS W/ DOOR SCHEDULE
- EXISTING WINDOW SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 25)
- EXISTING CASEWORK AND/OR MILLWORK TO BE REMOVED (REFER TO REMOVAL KEYNOTE R22)
- AREA OF CEMENTITIOUS LEVELING TOPPER
- EXIST WALL TO REMAIN
- EXIST DOOR TO REMAIN
- EXIST WINDOW TO REMAIN

REMOVAL KEYNOTE LEGEND	
Key Value	Keynote Text
R01	REMOVE EXISTING VINYL SIDING SYSTEM BACK TO THE CMU SUBSTRATE.
R02	REMOVE EXISTING WOOD SIDING SYSTEM INCLUDING BUT NOT LIMITED TO VINYL SIDING, WOOD COMPOSITE SIDING, FURRING, METAL FRAMING, AND INSULATION BACK TO CMU SUBSTRATE.
R05	REMOVE EXISTING EXTERIOR STEEL DOOR AND ALL ASSOCIATED HARDWARE
R08	REMOVE EXISTING INTERIOR STEEL DOOR AND SIDELIGHT SYSTEM AND ALL ASSOCIATED HARDWARE IN THEIR ENTIRETY.
R10	EXISTING DOOR OR WINDOW FRAME TO REMAIN, REMOVE WIRE GLASS.
R12	REMOVE EXISTING TILE AND GROUT. SANDBLAST CMU WALL, GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED TO ENSURE GROUT IS REMOVED
R14	REMOVE EXISTING VCT AND MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED
R17	REMOVE PORTION OF INTERIOR CMU WALL TO THE EXTENT SHOWN. GRIND AND GROUT EXPOSED CMU EDGES FLUSH.
R18	REMOVE EXISTING DOOR AND FRAME AND ALL ASSOCIATED HARDWARE IN ITS ENTIRETY.
R20	REMOVE EXISTING METAL SHELVING UNIT AND ALL ASSOCIATED HARDWARE. RETURN TO DIRECTOR'S REPRESENTATIVE FOR REUSE/REINSTALLATION ELSEWHERE IN PROJECT.
R22	REMOVE EXISTING CASEWORK AND/OR COUNTERTOP IN ITS ENTIRETY. EXISTING ROLLING DOOR TO REMAIN.
R24	REMOVE MASONRY WALL AS REQUIRED FOR DOOR & LINTELED FRAME.
R25	REMOVE EXISTING STEEL WINDOW SYSTEM.
R27	REMOVE EXISTING CEILING SYSTEM IN ITS ENTIRETY.
R30	REMOVE EXISTING METAL MESH PARTITION SYSTEM AND ALL ASSOCIATED STEEL FRAMING IN ITS ENTIRETY.
R31	REMOVE EXISTING ACCESS DOOR.
R32	REMOVE EXISTING CHALK BOARD, WHITE MARKER, OR TACK BOARD FROM WALL.
R33	REMOVE EXISTING CONCRETE DESK AND PLATFORM BED IN THEIR ENTIRETY.
R39	REMOVE EXISTING WOOD PLATFORM BED AND SHELVING UNIT IN THEIR ENTIRETY.
R44	REMOVE EXISTING TOILET PARTITIONS IN THEIR ENTIRETY.
R45	REMOVE 3/8" T-111 WOOD SIDING, 2 1/2" METAL STUDS, BATT INSULATION, AND 5/8" GYPSUM SHEATHING FROM EXTERIOR SIDE OF EXISTING WALL. STOREFRONT SYSTEM, WINDOW, AND METAL PANEL INFILL BELOW WINDOW TO REMAIN.
R46	REMOVE VINYL SIDING, 3/8" T-111 WOOD SIDING UNDERNEATH, 2 1/2" METAL STUDS, BATT INSULATION, AND 5/8" GYPSUM SHEATHING, FLASHINGS AND ASSOCIATED FASTNERS FROM EXTERIOR SIDE OF EXISTING WALL. STOREFRONT SYSTEM, WINDOW, AND METAL PANEL INFILL BELOW WINDOW TO REMAIN.
R66	REMOVE EXISTING SHELVING IN ITS ENTIRETY
R67	REMOVE EXISTING METAL SHELVING UNIT AND ALL ASSOCIATED HARDWARE IN ITS ENTIRETY
R68	REMOVE EXISTING WOOD WARDROBE UNIT IN ITS ENTIRETY
R79	REMOVE MASONRY WALL AS REQUIRED FOR DOOR AND LINTELED FRAME.SALVAGE MASONRY VENEER FOR REUSE IN CREATING DOOR OPENING
R80	REMOVE EXISTING MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

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MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	HCE
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

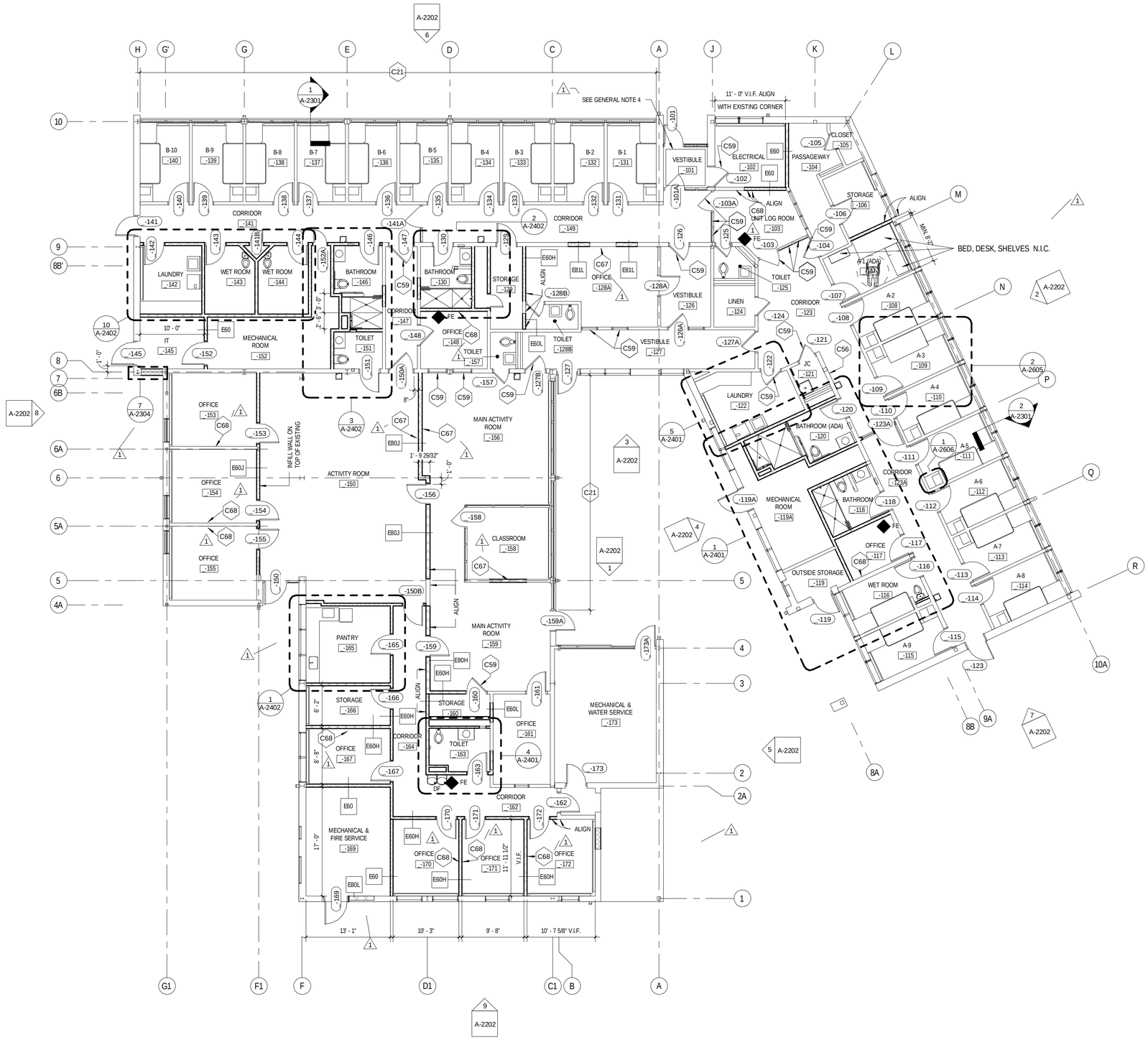
BUILDING 78
REMOVAL PLAN

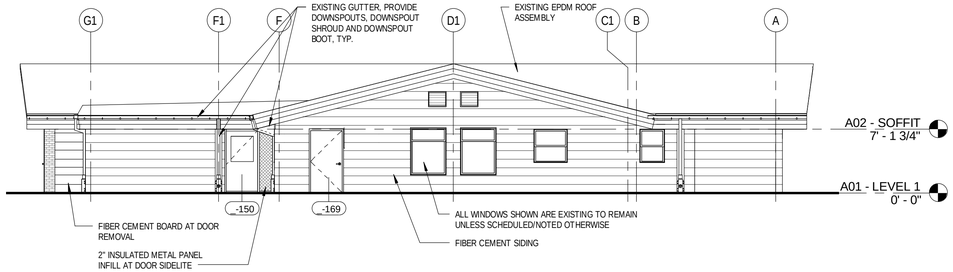
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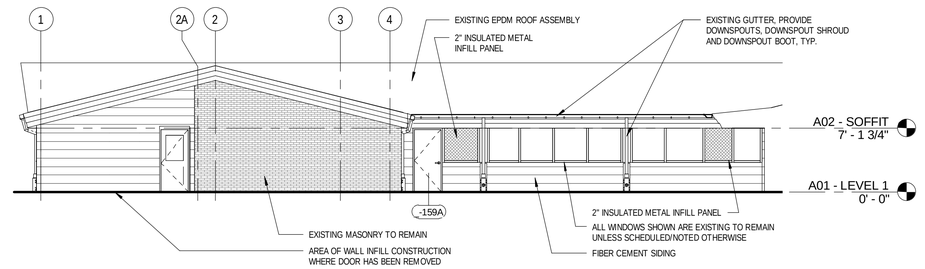
SHEET OF

36x24 PLOT SHEET

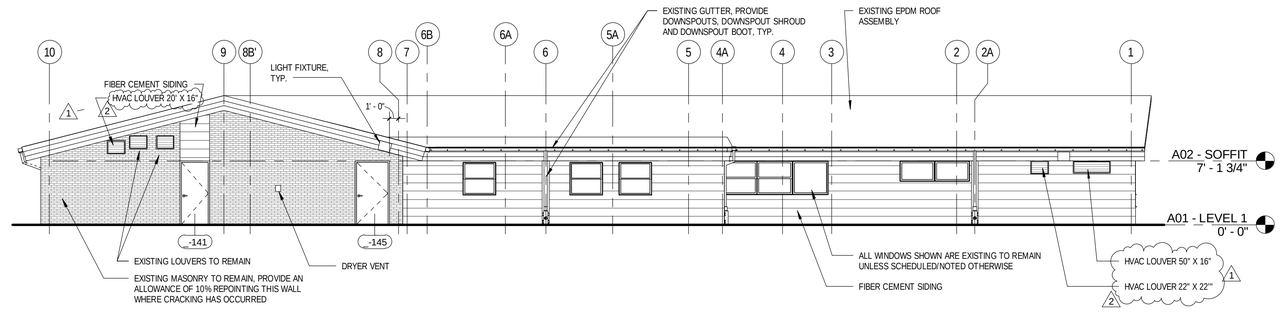

A-2202
6
C21
1
A-2301
SEE GENERAL NOTE 4
11' - 0" V.I.F. ALIGN
WITH EXISTING CORNER
B-10 -140
B-9 -139
B-8 -138
B-7 -137
B-6 -136
B-5 -135
B-4 -134
B-3 -133
B-2 -132
B-1 -131
VESTIBULE -101
-101A
-101
CORRIDOR -141
-141A
2
A-2402
CORRIDOR -149
-142
-143
-144
-145
-146
-147
-148
-150
-150A
-150B
-151
-152
-152A
-153
-154
-155
-156
-157
-158
-159
-159A
-160
-161
-162
-163
-164
-165
-166
-167
-169
-170
-171
-172
-173
-173A
-102
-103
-103A
-104
-105
-106
-107
-108
-109
-110
-111
-112
-113
-114
-115
-116
-117
-118
-119
-119A
-120
-121
-122
-123
-123A
-124
-125
-126
-127
-127A
-127B
-128A
-128B
-129
-130
-131
-132
-133
-134
-135
-136
-137
-138
-139
-140
LAUNDRY -142
WET ROOM -143
WET ROOM -144
BATHROOM -146
BATHROOM -130
STORAGE -129
CORRIDOR -147
OFFICE -148
TOILET -151
MECHANICAL ROOM -152
10' - 0"
IT
OFFICE -153
INFILL WALL ON TOP OF EXISTING
ACTIVITY ROOM -150
OFFICE -154
OFFICE -155
MAIN ACTIVITY ROOM -156
TOILET -157
CLASSROOM -158
MAIN ACTIVITY ROOM -159
STORAGE -160
OFFICE -161
TOILET -163
CORRIDOR -164
PANTRY -165
STORAGE -166
OFFICE -167
MECHANICAL & FIRE SERVICE -169
OFFICE -170
OFFICE -171
OFFICE -172
MECHANICAL & WATER SERVICE -173
CORRIDOR -162
ALIGN
VESTIBULE -126
LINEN -124
CORRIDOR -123
TOILET -125
ELECTRICAL -102
PASSAGEWAY -104
CLOSET -105
STORAGE -106
UNIT LOG ROOM -103
CORRIDOR -107
CORRIDOR -108
A-1 (ADA) -107A
A-2 -108
A-3 -109
A-4 -110
A-5 -111
A-6 -112
A-7 -113
A-8 -114
A-9 -115
OFFICE -117
BATHROOM -118
OUTSIDE STORAGE -119
MECHANICAL ROOM -119A
BATHROOM (ADA) -120
LAUNDRY -122
JC -121
CORRIDOR -123A
OFFICE -117
WET ROOM -116
VESTIBULE -127
TOILET -128B
OFFICE -128A
VESTIBULE -101
ELECTRICAL -102
UNIT LOG ROOM -103
TOILET -125
LAUNDRY -122
BATHROOM (ADA) -120
MECHANICAL ROOM -119A
BATHROOM -118
OFFICE -117
OUTSIDE STORAGE -119
WET ROOM -116
A-9 -115
BED, DESK, SHELVES N.I.C.
MIN. 6'-0"
ALIGN
FE
DF
E60
E60H
E60L
E80J
E80H
E80L
C59
C67
C68
EB1L
EB0L
C56
13' - 1"
10' - 3"
9' - 8"
10' - 7 5/8" V.I.F.
17' - 0"
8' - 8"
6' - 2"
2' - 6"
3' - 0"
1' - 9 29/32"
1' - 0"
8'
11' - 11 1/2" V.I.F.
A-2202 8
7
A-2304
6B
6A
6
5A
5
4A
4
3
2
2A
1
G1
F1
F
D1
C1
B
A
H
G'
G
E
D
C
A
J
K
L
M
N
P
Q
R
10A
9A
8B
8A
10
9
8B'
8
7
A-2202 2
A-2605
A-2301
A-2606
A-2401
A-2202 4
A-2202 5
A-2202 7
A-2202 9
A-2202 10
A-2202 3
A-2202 1
A-2202 2
A-2202 3
A-2202 4
A-2202 5
A-2202 1
A-2202 1
A-2202 1



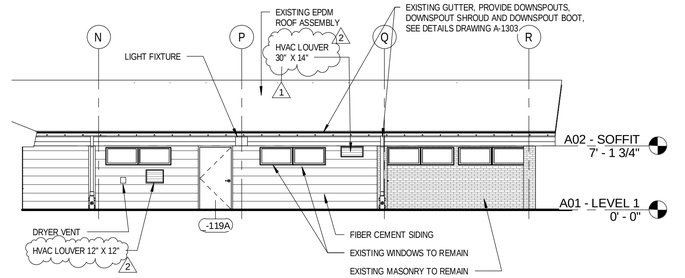
9 WING B & C - NORTH ELEVATION
1/8" = 1'-0"



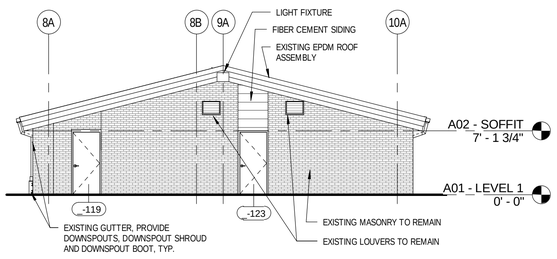
5 WING B & C - WEST ELEVATION
1/8" = 1'-0"



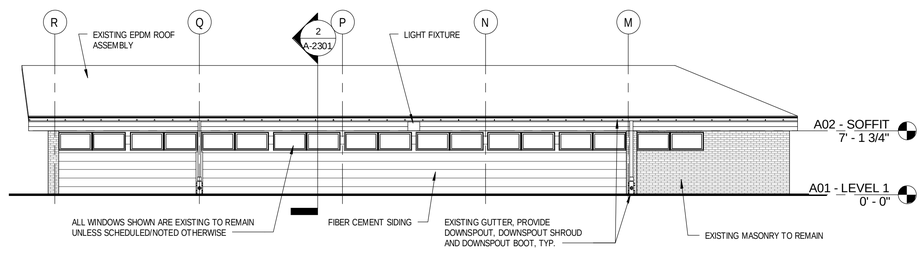
8 WING B & C - EAST ELEVATION
1/8" = 1'-0"



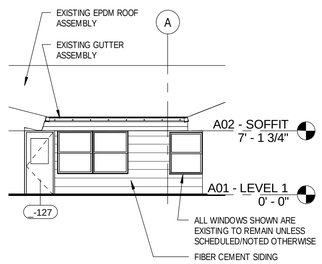
4 WING A - EAST ELEVATION
1/8" = 1'-0"



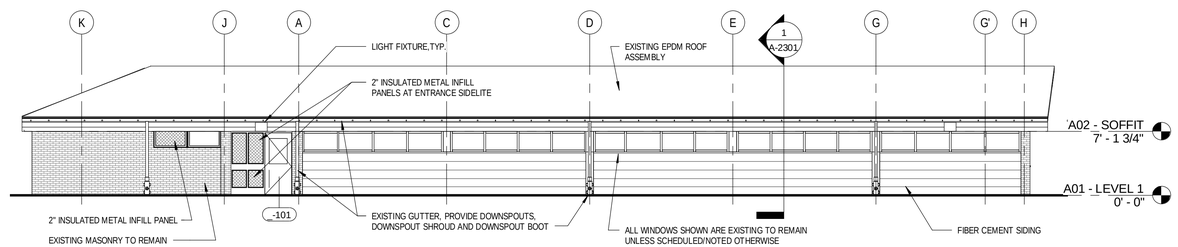
7 WING A - NORTH ELEVATION
1/8" = 1'-0"



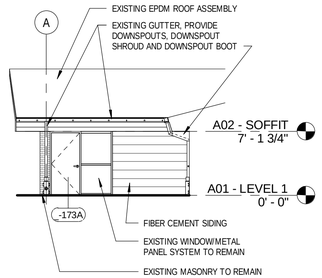
2 WING A - WEST ELEVATIONr
1/8" = 1'-0"



3 WING B - NORTH ELEVATION
1/8" = 1'-0"



6 WING B - SOUTH ELEVATION
1/8" = 1'-0"



1 WING C - SOUTH ELEVATION
1/8" = 1'-0"

BUILDING DESIGNATION

BUILDING 78 = 2 — BUILDING DESIGNATOR

2-100 — BUILDING 78 ROOM NUMBERS

2-100 — BUILDING 78 DOOR NUMBERS

ELEVATION NOTES

1. ALL EXISTING EXTERIOR BRICK MASONRY TO REMAIN IS TO BE CLEANED. REFER TO SPEC SECTION FOR ADDITIONAL INFO.

2. MECHANICALLY FASTEN EXISTING OPERABLE WINDOWS AT BEDROOMS IN THE CLOSED POSITION WITH (2) EXPOSED FASTENERS ANCHORED INTO WINDOW FRAME.

3. ALL EXTERIOR WINDOWS TO RECEIVE A BEAD OF TYPE 1 SEALANT AROUND THE PERIMETER OF THE OPENING.

4. PROVIDE PREFINISHED ALUMINUM DOWNSPOUTS, DOWNSPOUT SHROUDS AND DOWNSPOUT BOOTS AT GRADE WHERE INDICATED. SEE DRAWING A-1303 FOR DETAILS

5. ROOF, FASCIA, SOFFITS, & GUTTERS ARE BEING COMPLETED UNDER SEPERATE CONTRACT. COORDINATE WORK DEFINED HERE AS REQUIRED.

6. PAINT ALL EXISTING LOUVERS, WINDOW FRAMES, SASHES, AND ASSOCIATED METAL TRIM.

7. PROVIDE 2" INSULATED METAL PANEL AT WINDOW INFILL LOCATIONS INDICATED ON ELEVATIONS. METAL PANEL TO BE PLACED IN WINDOW FRAME IN SAME PLANE AS SASH. PROVIDE METAL STOP WITH SEALANT AROUND ENTIRE PERIMETER OF PANEL.

1 8. PROVIDE 1/8" THICK PAINTED ALUMINUM TRIM PLATE WITH EASED EDGES FOR TERMINATION OF FIBER CEMENT SIDING AT JAMBS OF DOORS OR PUNCHED WINDOW OPENINGS. SEE SIMILAR DETAIL 11/A-2602.

9. PROVIDE METAL FLASHING AT HEAD OF EXISTING WINDOWS AT WALL ASSEMBLY W1. SEE SIMILAR DETAIL 5/A-2602.

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

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2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	HCE	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:

BUILDING 78

EXTERIOR ELEVATIONS

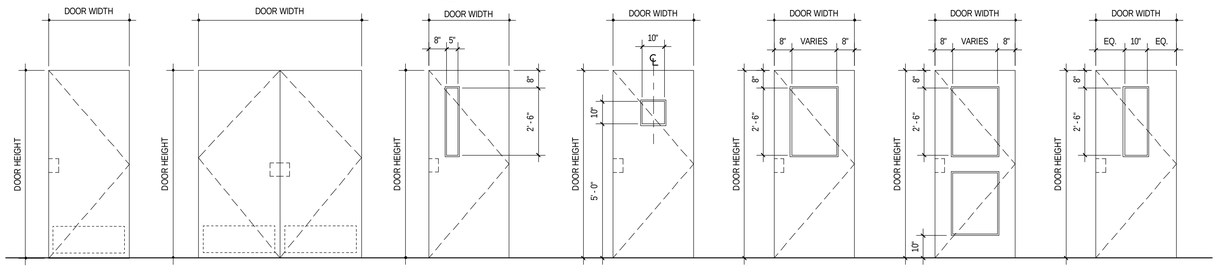
DRAWING NUMBER:

A - 2202

SHEET OF

DOOR SCHEDULE

DOOR NO.	ROOM NAME	DOOR							FRAME					DETAILS			GLASS TYPE	FIRE RATING	HARDWARE		REMARKS	DOOR NO.
		EXISTING	SIZE			TYPE	MATERIAL	FINISH	EXISTING	TYPE	MATERIAL	FINISH	ANCHORS	HEAD	JAMB	SILL			SET NO.	HAND		
			WIDTH	HEIGHT	THICKNESS																	
01 - LEVEL 1																1						
-101	VESTIBULE		3'-0"	7'-0"	1 3/4"	NV-C	STEEL		X			PTD	CEO	5/A-2602	8/A-2602	13/A-2602	M		2	RHR	MONITORED BY SECURITY	-101
-101A	VESTIBULE	X							X	F9		PTD					S-4		3	RHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	-101A
-102	ELECTRICAL	X							X			PTD					S-4		3	RH	REPLACE 24' X 24" VISION PANEL	-102
-103	CORRIDOR	X							X	F3		PTD					S-4		10	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	-103
-103A	UNIT LOG ROOM	X							X	F9		PTD			1		S-4		10	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	-103A
-104	CORRIDOR	X							X	F11		PTD					S-4		3	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	-104
-105	PASSAGEWAY	X							X			PTD		2/A-2501					3	LHR		-105
-106	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL				STEEL	PTD		2/A-2501					14	LH		-106
-107	A-1 (ADA)		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-107
-108	A-2		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-108
-109	A-3		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-109
-110	A-4		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-110
-111	A-5		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-111
-112	A-6		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-112
-113	A-7		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-113
-114	A-8		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-114
-115	A-9		3'-0"	7'-0"	1 3/4"	NV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-115
-116	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL		X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-116
-117	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL			F1	STEEL	PTD		3/A-2602	1/A-2602	1	S-4		9	LH		-117
-118	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		7	LH		-118
-119	OUTSIDE STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD	CEO	9/A-2602	12/A-2602	13/A-2602			19	RHR		-119
-119A	MECHANICAL ROOM		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		10/A-2602	11/A-2602	13/A-2602			19	LHR		-119A
-120	BATHROOM (ADA)		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD					S-4		7	RH		-120
-121	CORRIDOR	X						PTD	X			PTD		2/A-2501		1	S-4		3	RHR	REPLACE 24' X 24" VISION PANEL	-121
-122	LAUNDRY	X						PTD	X			PTD		2/A-2501			S-4		10	LH	REPLACE 24' X 24" VISION PANEL	-122
-123	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD	CEO	5/A-2602	8/A-2602	13/A-2602	M		1	RHR	CONTROLLED BY SECURITY	-123
-123A	CORRIDOR	X						PTD		F10	STEEL	PTD		3/A-2602	1/A-2602		S-4		13	LH		-123A
-124	CORRIDOR	X						PTD	X			PTD		2/A-2501					10	LHR		-124
-125	TOILET	X						PTD	X			PTD		2/A-2501					3	RH		-125
-126	VESTIBULE	X						PTD	X			PTD		2/A-1501			S-4		3	RH	REPLACE TWO EXISTING 24" X 30" VISION PANELS	-126
-126A	VESTIBULE	X						PTD	X	1		PTD		2/A-2501					3	LH		-126A
-127	VESTIBULE		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD	X	F1	STEEL	PTD	CEO	3/A-2602	1/A-2602		M		2	RHR	MONITORED BY SECURITY	-127
-127A	VESTIBULE	X						PTD	X			PTD							3	RH		-127A
-127B	VESTIBULE	X						PTD	X			PTD		3/A-2602			G	45 MIN.	3	RHR	REPLACE TWO EXISTING 24" X 30" VISION PANELS	-127B
-128A	VESTIBULE		3'-0"	7'-0"	1 3/4"	HG	STEEL	PTD	X		STEEL	PTD					S-4	1	14	RHR		-128A
-128B	TOILET	X						PTD	X			PTD		3/A-2602					3	RH		-128B
-129	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602				14	RHR		-129
-129A	STORAGE		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602				23	LHR		-129A
-130	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		7	RH	REVERSE EXISTING SWING	-130
-131	B-1		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	LH	REVERSE EXISTING SWING	-131
-132	B-2		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-132
-133	B-3		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	LH	REVERSE EXISTING SWING	-133
-134	B-4		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-134
-135	B-5		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-135
-136	B-6		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-136
-137	B-7		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	LH	REVERSE EXISTING SWING	-137
-138	B-8		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-138
-139	B-9		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	LH	REVERSE EXISTING SWING	-139
-140	B-10		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD		2/A-2501			S-4		6	RH	REVERSE EXISTING SWING	-140
-141	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD	CEO				M		1	RHR	CONTROLLED BY SECURITY	-141
-141A	CORRIDOR	X						PTD	X	F10		PTD					S-4		3	LHR	REPLACE VISION PANELS IN DOOR AND SIDELIGHTS	-141A
-141B	CHASE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602				23	RHR		-141B
-142	LAUNDRY		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		9	RH		-142
-143	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL	PTD		F1	STEEL	PTD				1	S-4		6A	RH		-143
-144	WET ROOM		3'-0"	7'-0"	1 3/4"	HV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		6A	LH		-144
-145	IT		3'-6"	7'-0"	1 3/4"	F-M	STEEL	PTD		F1	STEEL	PTD		6/A-2602	7/A-2602	13/A-2602			20	RHR	MONITORED BY SECURITY 2	-145
-146	BATHROOM		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		7	LH		-146
-147	CORRIDOR	X						PTD	X			PTD		2/A-2501			S-4		3	RH	REPLACE 24' X 24" VISION PANEL	-147
-148	OFFICE	X						PTD	X			PTD		2/A-2501					3	RH		-148
-149	TOILET											PTD						1				-149
-150	ACTIVITY ROOM		3'-6"	7'-0"	1 3/4"	NV-C	STEEL	PTD			STEEL	PTD	CEO				M		2	LHR	MONITORED BY SECURITY	-150
-150A	CORRIDOR	X							X			PTD		2/A-2501			G	45 MIN.	3	RHR	REPLACE 24' X 24" VISION PANEL	-150A
-150B	ACTIVITY ROOM		3'-0"	7'-0"	1 3/4"	F		PTD		F1	STEEL	PTD		3/A-2602	1/A-2602				23	LH		-150B
-151	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	PTD		3/A-2602	1/A-2602		G	45 MIN.	7B	RHR		-151
-152	MECHANICAL ROOM		3'-8"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602			1	14A	LHR		-152
-152A	MECHANICAL ROOM		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602			1	23			-152A
-153	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		9	LHR		-153
-154	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		9	LHR		-154
-155	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4	1	9	RHR		-155
-156	MAIN ACTIVITY ROOM		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		13	LHR		-156
-157	TOILET		3'-0"	7'-0"	1 3/4"	F	FRP	FF	X			PTD		2/A-2501				45 MIN.	7A	LHR	NEW FRP DOOR IN EXISTING FRAME	-157
-158	CLASSROOM	X						PTD	X			PTD		2/A-2501					10	LHR		-158
-159	MAIN ACTIVITY ROOM		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1		PTD		3/A-2602	1/A-2602		S-4		13	LHR		-159
-159A	MAIN ACTIVITY ROOM		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X			PTD					M		2	LHR	MONITORED BY SECURITY	-159A
-160	STORAGE	X						PTD	X			PTD		2/A-2501					10	LHR		-160
-161	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		9	LHR		-161
-162	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD	CEO	3/A-2602	1/A-2602		M		2	LHR	MONITORED BY SECURITY	-162
-163	TOILET		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD			STEEL	PTD		3/A-2602	1/A-2602				11	RH		-163
-165	PANTRY		3'-0"	7'-0"	1 3/4"	HG	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		14	LH		-165
-166	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602				14	RH		-166
-167	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		14	LH		-167
-169	MECHANICAL & FIRE SERVICE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD							19	LHR		-169
-170	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		14	LH		-170
-171	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602		S-4	1	14	RH		-171
-172	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	1	F1	STEEL	PTD		3/A-2602	1/A-2602		S-4		14	RH		-172
-173	MECHANICAL & WATER SERVICE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		3/A-2602	1/A-2602	1		45 MIN.	19A	LH	2	-173
-173A	MECHANICAL & WATER SERVICE		3'-0"	7'-0"	1 3/4"	F-M	STEEL	PTD	X	F1	STEEL	PTD				1			20	LHR	MONITORED BY SECURITY	-173A



2 INTERIOR DOOR PANEL TYPES
3/8" = 1'-0"

BUILDING DESIGNATION
BUILDING 78 = 2

BUILDING DESIGNATOR
2-100 BUILDING 78 ROOM NUMBERS
2-100 BUILDING 78 DOOR NUMBERS

DOOR SCHEDULE ABBREVIATIONS

DOOR MATERIALS

AL:	ALUMINUM
FRP:	FIBERGLASS RE-INFORCED PLASTIC
STL:	STEEL
SS:	STAINLESS STEEL
STL PLT:	STEEL PLATE
WD:	WOOD

FRAME MATERIALS

AL:	ALUMINUM
CI:	CHANNEL IRON
STL:	STEEL
SS:	STAINLESS STEEL
WD:	WOOD

DOOR TYPES

DA:	DOUBLE ACTING
F:	FLUSH
FG:	FULL GLASS
HG:	HALF GLASS
LVR:	LOUVER
NV:	NARROW VISION
V:	VISION

ANCHOR TYPES

M:	ADJUSTABLE YOKE & STRAP WELDED-IN
EWA:	EXISTING WALL ANCHOR WELDED-IN
MS:	METAL STUD ANCHOR WELDED-IN
WS:	WOOD STUD ANCHOR WELDED-IN
IMBED:	MASONRY DETENTION ANCHOR
CEO:	CONCEALED EXISTING OPENING

GLASS TYPE

D:	TEMPERED
I:	LAMINATED SAFETY
M:	INSULATED
S-1:	1/2" MONOLITHIC POLYCARBONATE
S-3:	1-5/16" GLASS CLAD POLYCARBONATE LAMINATE
S-4:	9/16" GLASS CLAD POLYCARBONATE LAMINATE
S-5:	1" LAMINATED POLYCARBONATE
S-6:	1-1/4" LAMINATED POLYCARBONATE
S-7:	7/8" GLASS CLAD POLYCARBONATE
S-9:	1/2" LAMINATED POLYCARBONATE

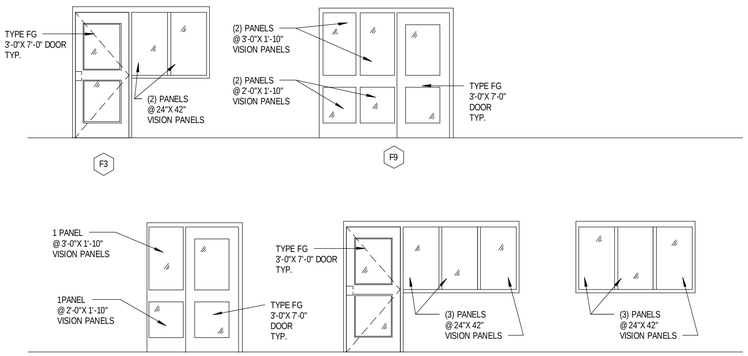
HAND TYPE

LH:	LEFT HAND
LHR:	LEFT HAND REVERSE
LHRA:	LEFT HAND REVERSE ACTION
LHRA (PAIR):	LEFT HAND REVERSE ACTION PAIR
RH:	RIGHT HAND
RHR:	RIGHT HAND REVERSE
RHRA:	RIGHT HAND REVERSE ACTION
RHRA (PAIR):	RIGHT HAND REVERSE ACTION PAIR

FINISHES

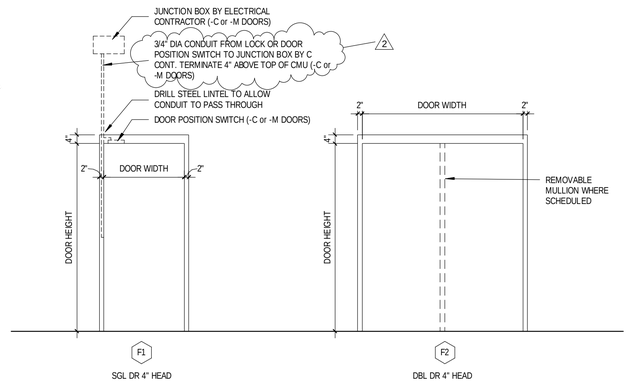
IAL-4:	INTERIOR STEEL DOORS & FRAMES
FF:	FACTORY FINISH
EAL-3:	EXTERIOR STEEL DOORS & FRAMES

GENERAL NOTES:
1. FF= FACTORY FINISH
2. ALL NEW AND EXISTING DOORS AND FRAMES TO BE PAINTED UNLESS NOTED AS FF (FACTORY FINISH), COLOR BY DIRECTORS REPRESENTATIVE
3. AT ALL DOORS AND SIDELIGHTS TO RECIEVE VISION PANEL REPLACEMENT, VERIFY EXISTING VISION PANEL OPENINGS.
4. PROVIDE NEW GLAZING KIT AT ALL VISION PANEL REPLACEMENTS IN DOORS AND SIDELIGHTS.
5. AT ALL EXISTING FRAMES TO RECEIVE NEW DOORS, FIELD VERIFY EXISTING FRAME OPENINGS.



WINDOW FRAME AT OFFICE _128A

INTERIOR DOOR FRAMES
1/4" = 1'-0"



DOUBLE RABBET FRAMES OR SINGLE RABBET FRAMES VIEWED FROM THE RABBET SIDE

1 HOLLOW METAL FRAME TYPES - CMU
3/8" = 1'-0"

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA

EYP/

WARNING

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

REGISTERED ARCHITECT
DAVID L. CLEMENTI
031179
STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF
CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	HCE	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 78
DOOR SCHEDULE,
FRAMES, & TYPES

DRAWING NUMBER:
A - 2601

SHEET OF



BUILDING DESIGNATION

BUILDING 78 = 2

BUILDING DESIGNATOR

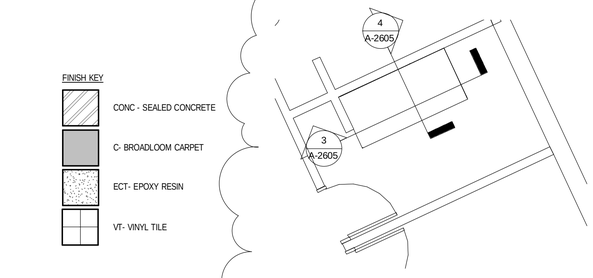
2-100 BUILDING 78 ROOM NUMBERS

2-100 BUILDING 78 DOOR NUMBERS

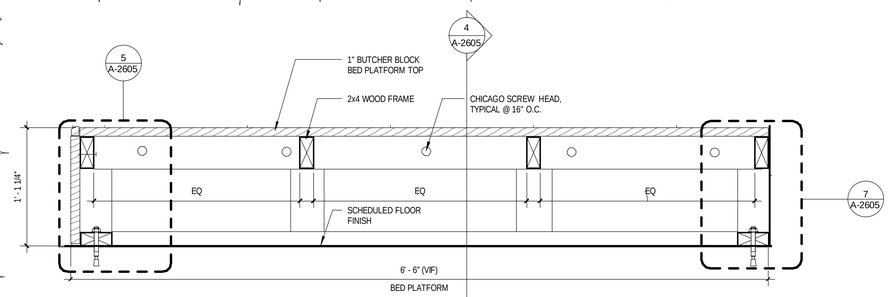
FINISH KEY

- CONC - SEALED CONCRETE
- C- BROADLOOM CARPET
- ECT- EPOXY RESIN
- VT- VINYL TILE

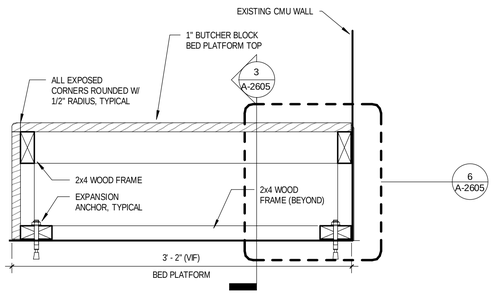
1 FLOOR FINISH PLAN
1/8" = 1'-0"



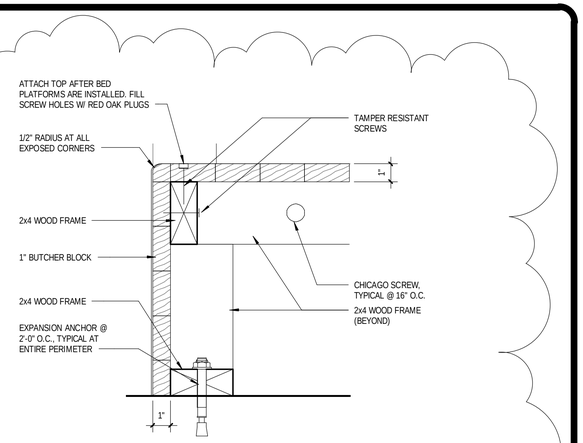
2 TYPICAL BED PLATFORM
1/4" = 1'-0"



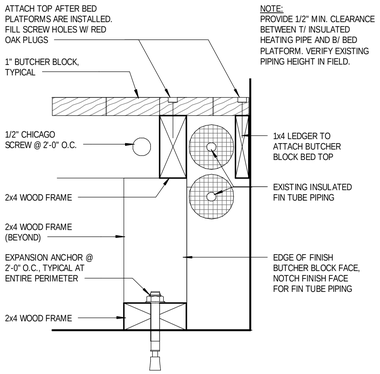
3 BED SECTION
1 1/2" = 1'-0"



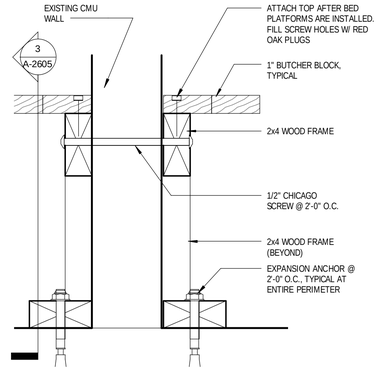
4 BED CROSS SECTION
1 1/2" = 1'-0"



5 TYPICAL BED CORNER DETAIL
3" = 1'-0"



7 BED DETAIL AT FINTUBE
3" = 1'-0"



6 TYPICAL BED ATTACHMENT TO WALL
3" = 1'-0"

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA

EYP/

WARNING

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REGISTERED ARCHITECT DAVID L. CLEMENS 031179 STATE OF NEW YORK

CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

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375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	HCE
FIELD CHECK:	
APPROVED:	

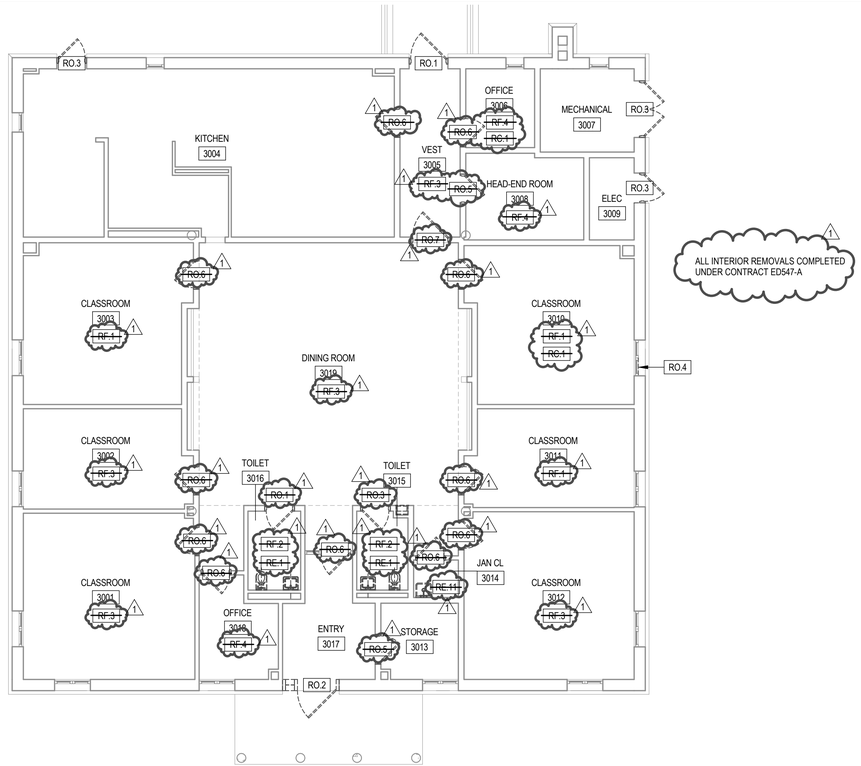
SHEET TITLE:

BUILDING 78
FLOOR FINISH PLAN

DRAWING NUMBER:

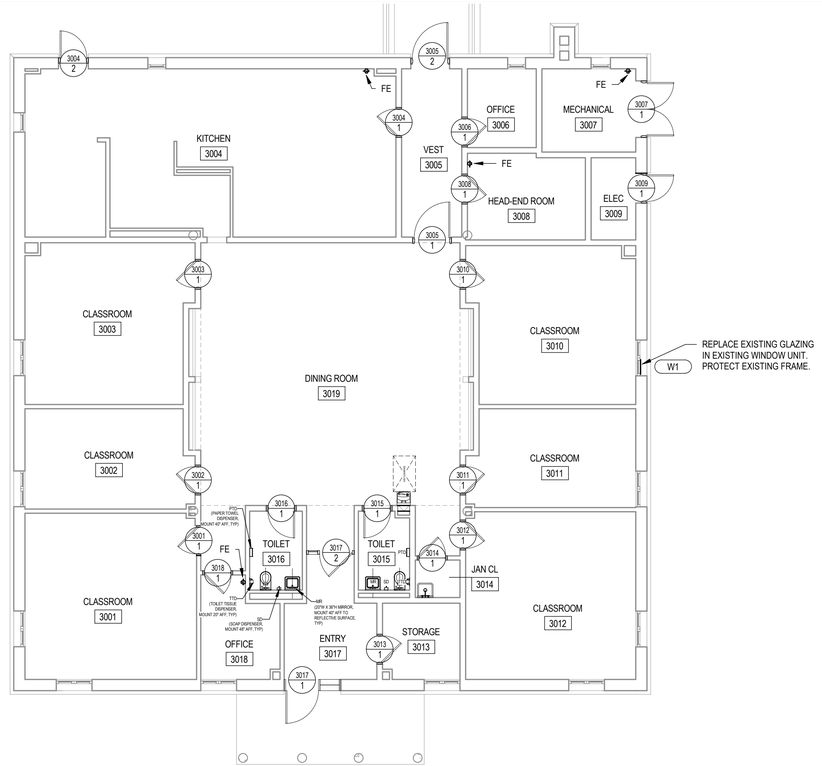
A - 2605

SHEET OF

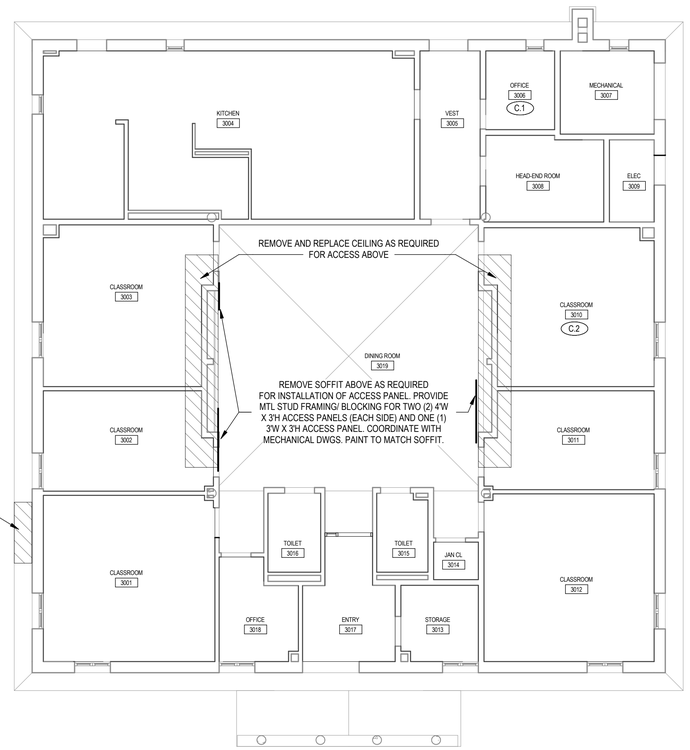


ALL INTERIOR REMOVALS COMPLETED UNDER CONTRACT ED547-A

1 FLOOR PLAN - REMOVALS - BLDG 80
1/8" = 1'-0"



2 FLOOR PLAN - BLDG 80
1/8" = 1'-0"



3 REFLECTIVE CEILING PLAN - BLDG 80
1/8" = 1'-0"

KEYED NOTES

KEYED NOTES LOCATED WITHIN A SPACE SHALL APPLY THROUGHOUT THE SPACE UNLESS OTHERWISE INDICATED.

Rx = REMOVAL KEYNOTE	F = FLOORING	R = ROOFING
C = CEILING	M = MILLWORK	S = STAIRS / RAMPS
E = EQUIPMENT / FIXTURES	O = OPENING	W = WALL / STRUCTURE

NO.	DESCRIPTION
C.1	MOLD IDENTIFIED ON SMALL PORTION OF EXISTING GWB CEILING. REMOVE AND REPLACE PORTION OF CEILING; GC TO VERIFY LOCATION IN THE FIELD & COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
C.2	MOLD IDENTIFIED ON MULTIPLE AREAS OF EXISTING GWB CEILING. REMOVE AND REPLACE PORTIONS OF CEILING; GC TO VERIFY LOCATIONS IN THE FIELD & COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
RC.1	REMOVE PORTION OF CEILING. COORDINATE WITH RCP.
RE.1	W/C & LAV FIXTURES REMOVED BY PLUMBING CONTRACTOR. COORDINATE W/ PLUMBING DWGS.
RE.11	UTILITY SINK REMOVED BY PLUMBING CONTRACTOR
RF.1	REMOVE CARPET SYSTEM. INCLUDING BUT NOT LIMITED TO CARPET, PADDING, TACK STRIP, ADHESIVE, AND ALL HARDWARE AND ACCESSORIES.
RF.2	REMOVE AND SALVAGE CARPET. TURN SALVAGED CARPET OVER TO DIRECTOR'S REPRESENTATIVE.
RF.3	REMOVE VINYL TILE INCLUDING BUT NOT LIMITED TO MASTIC/ADHESIVE, AND ALL HARDWARE AND ACCESSORIES.
RF.4	REMOVE LINOLEUM FLOORING INCLUDING BUT NOT LIMITED TO MASTIC/ADHESIVE, AND ALL HARDWARE AND ACCESSORIES.
RO.1	~~DOOR, STL FRAME AND ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR.~~ REMOVAL OF DOOR AND HARDWARE COMPLETED UNDER SEPARATE CONTRACT. STL FRAME LEFT IN PLACE TO BE REMOVED.
RO.2	DOOR, STL FRAME, ALL HARDWARE AND ACCESSORIES, SIDELIGHT AND TRANSOM TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR.
RO.3	REMOVE DOOR, STL FRAME AND HARDWARE.
RO.4	WINDOW GLAZING TO BE REMOVED BY ABATEMENT CONTRACTOR, FRAME TO REMAIN.
RO.5	REMOVE DOOR, ALL HARDWARE AND ALL ACCESSORIES, REFINISH EXISTING DOOR; FRAME TO REMAIN. REFER TO DOOR SCHEDULE FOR DOOR REFINISH SCOPE.
RO.6	DOOR, ALL HARDWARE AND ACCESSORIES TO BE REMOVED BY ABATEMENT CONTRACTOR AND CLEARED OF HAZARDOUS MATERIALS PRIOR TO TURNING OVER DOOR TO GC. EXISTING FRAME TO REMAIN. COORDINATE EXTENT OF ABATEMENT WITH HAZARDOUS MATERIAL SURVEY REPORT. REFER TO DOOR SCHEDULE FOR DOOR REFINISH SCOPE.
RO.7	DOOR, ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR; FRAME TO REMAIN.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

ASHLEY MCGRAW

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REGISTERED ARCHITECT ANDREW M. SCHUSTER 036192 STATE OF NEW YORK

CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER 375 RUSH-SCOTTSVILLE ROAD RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDERN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/17	ADDENDUM 6
1	09/25/17	ADDENDUM 1
	08/07/17	FINAL SUBMISSION

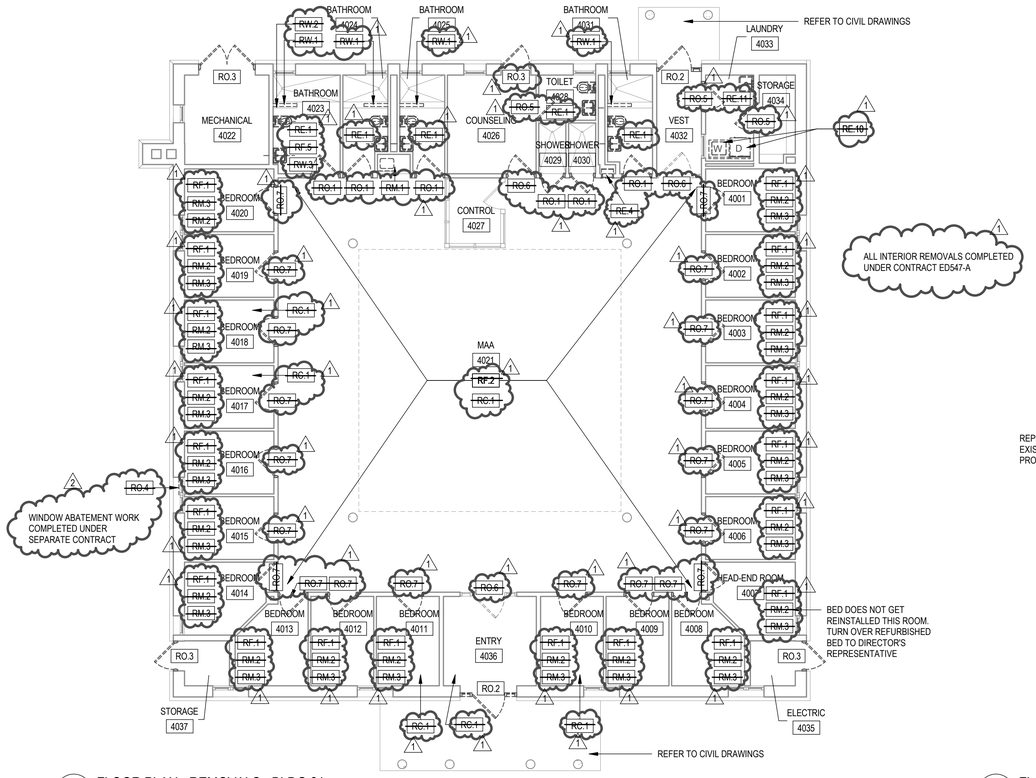
PROJECT NUMBER:	45679 - C
DESIGNED BY:	RB
DRAWN BY:	BD
FIELD CHECK:	
APPROVED:	

SHEET TITLE: BUILDING 80 REMOVAL PLAN, FLOOR PLAN, REFLECTED CEILING PLAN

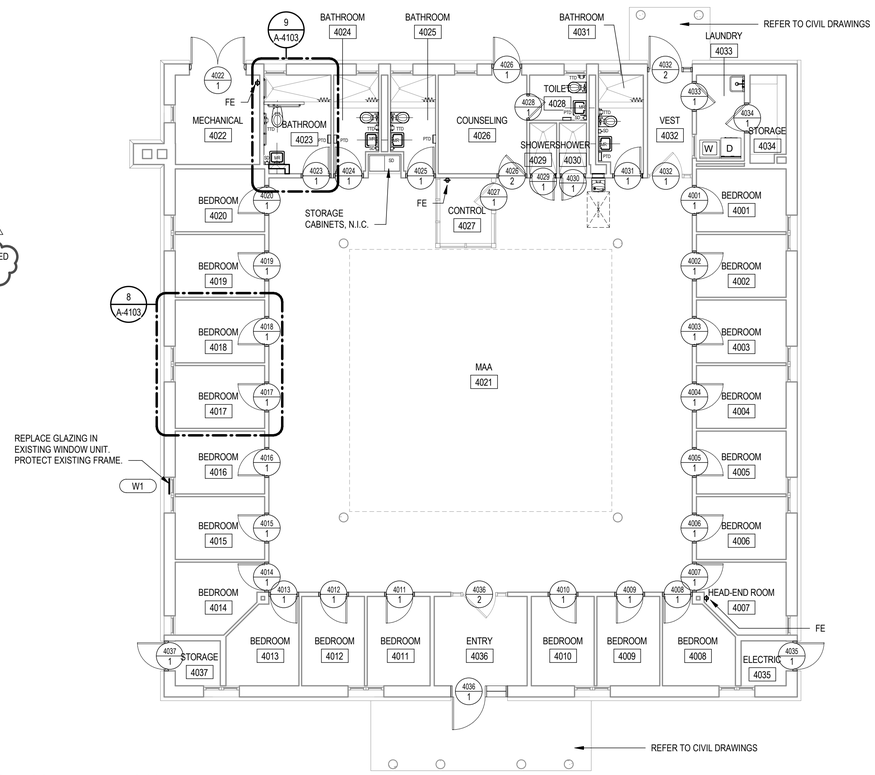
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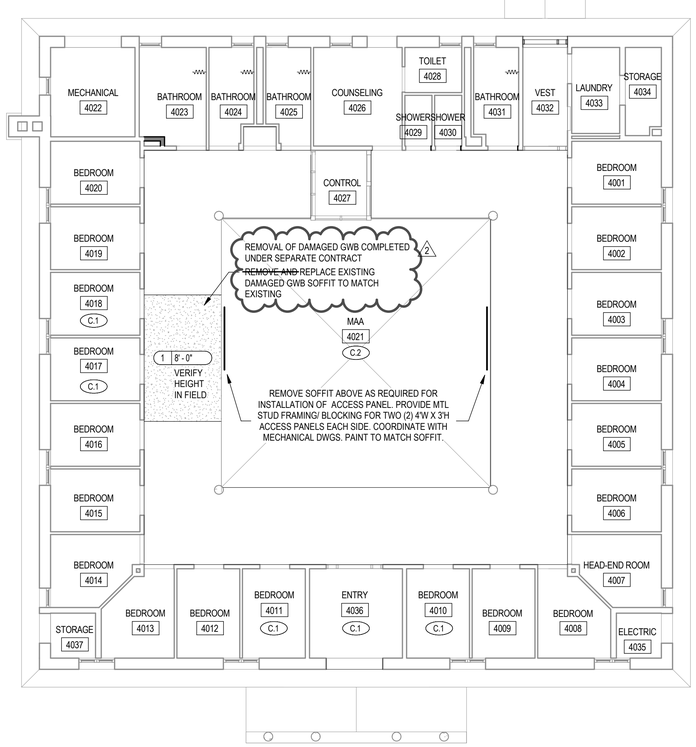
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36x24 PLOT SHEET



1 FLOOR PLAN - REMOVALS - BLDG 81
1/8" = 1'-0"



2 FLOOR PLAN - BLDG 81
1/8" = 1'-0"



3 REFLECTED CEILING PLAN - BLDG 81
1/8" = 1'-0"

CEILING TYPE SCHEDULE

MARK	SUBSTRATE	FINISH	DESCRIPTION
1			5/8" GYPSUM WALL BOARD ON METAL SUSPENSION SYSTEM STANDARDS

KEYED NOTES

KEYED NOTES LOCATED WITHIN A SPACE SHALL APPLY THROUGHOUT THE SPACE UNLESS OTHERWISE INDICATED.

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NO.	DESCRIPTION
C.1	MOLD IDENTIFIED ON SMALL PORTION OF EXISTING GWB CEILING. REMOVE AND REPLACE PORTION OF CEILING; GC TO VERIFY LOCATION IN THE FIELD & COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
C.2	MOLD IDENTIFIED ON MULTIPLE AREAS OF EXISTING GWB CEILING. REMOVE AND REPLACE PORTIONS OF CEILING; GC TO VERIFY LOCATIONS IN THE FIELD & COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
RC.1	REMOVE PORTION OF CEILING. COORDINATE WITH RCP.
RE.1	W/C & LAV FIXTURES REMOVED BY PLUMBING CONTRACTOR. COORDINATE W/ PLUMBING DWGS.
RE.4	DRINKING FOUNTAIN REMOVED BY PLUMBING CONTRACTOR. INFILL WALL TO MATCH EXISTING CONSTRUCTION.
RE.10	REMOVE LAUNDRY EQUIPMENT, WATER LINES, AND ALL HARDWARE AND ACCESSORIES.
RE.11	UTILITY SINK REMOVED BY PLUMBING CONTRACTOR
RF.1	REMOVE CARPET SYSTEM. INCLUDING BUT NOT LIMITED TO CARPET, PADDING, TACK STRIP, ADHESIVE, AND ALL HARDWARE AND ACCESSORIES.
RF.2	REMOVE AND SALVAGE CARPET. TURN SALVAGED CARPET OVER TO DIRECTOR'S REPRESENTATIVE.
RF.5	REMOVE CERAMIC FLOOR TILE AND MUD SET. PREP SLAB.
RM.1	REMOVE BASE CABINET, SINK AND FAUCET, COMPLETE. REPAIR WALLS AND FLOOR AT REMOVALS.
RM.2	EXISTING BED TO BE REMOVED AND REFURBISHED (OR NEWLY CONSTRUCTED). CONTRACTOR TO ASSUME 7 TOTAL NEWLY CONSTRUCTED BEDS AND INCLUDE $30,000 FOR REFURBISHMENT OF THE REMAINING 31 BEDS IN BUILDINGS 81 & 82.

KEYED NOTES

KEYED NOTES LOCATED WITHIN A SPACE SHALL APPLY THROUGHOUT THE SPACE UNLESS OTHERWISE INDICATED.

Rx = REMOVAL KEYNOTE; F = FLOORING; R = ROOFING; C = CEILING; M = MILLWORK; S = STAIRS / RAMPS; E = EQUIPMENT / FIXTURES; O = OPENING; W = WALL / STRUCTURE

NO.	DESCRIPTION
RM.3	REMOVE DESK AND ALL SHELVING.
RO.1	~~DOOR, STL FRAME AND ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR.~~ REMOVAL OF DOOR AND HARDWARE COMPLETED UNDER SEPARATE CONTRACT. STL FRAME LEFT IN PLACE TO BE REMOVED.
RO.2	DOOR, STL FRAME, ALL HARDWARE AND ACCESSORIES, SIDELIGHT AND TRANSOM TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR.
RO.3	REMOVE DOOR, STL FRAME AND HARDWARE.
RO.4	WINDOW GLAZING TO BE REMOVED BY ABATEMENT CONTRACTOR, FRAME TO REMAIN.
RO.5	REMOVE DOOR, ALL HARDWARE AND ALL ACCESSORIES, REFINISH EXISTING DOOR; FRAME TO REMAIN. REFER TO DOOR SCHEDULE FOR DOOR REFINISH SCOPE.
RO.6	DOOR, ALL HARDWARE AND ACCESSORIES TO BE REMOVED BY ABATEMENT CONTRACTOR AND CLEARED OF HAZARDOUS MATERIALS PRIOR TO TURNING OVER DOOR TO GC. EXISTING FRAME TO REMAIN. COORDINATE EXTENT OF ABATEMENT WITH HAZARDOUS MATERIAL SURVEY REPORT. REFER TO DOOR SCHEDULE FOR DOOR REFINISH SCOPE.
RO.7	DOOR, ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR. FRAME TO REMAIN.
RW.1	REMOVE 4" GLASS BLOCK WALL.
RW.2	REMOVE SHOWER CURB. REPAIR SLAB AT CURB REMOVAL.
RW.3	REMOVE CERAMIC WALL TILE BACK TO EXIST CONCRETE. PREP CONCRETE WALL TO RECEIVE SCHEDULED FINISH.

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36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

ASHLEY MCGRAW

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REGISTERED ARCHITECT ANDREW M. SCHUSTER 036192 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDERN AND FAMILY SERVICES

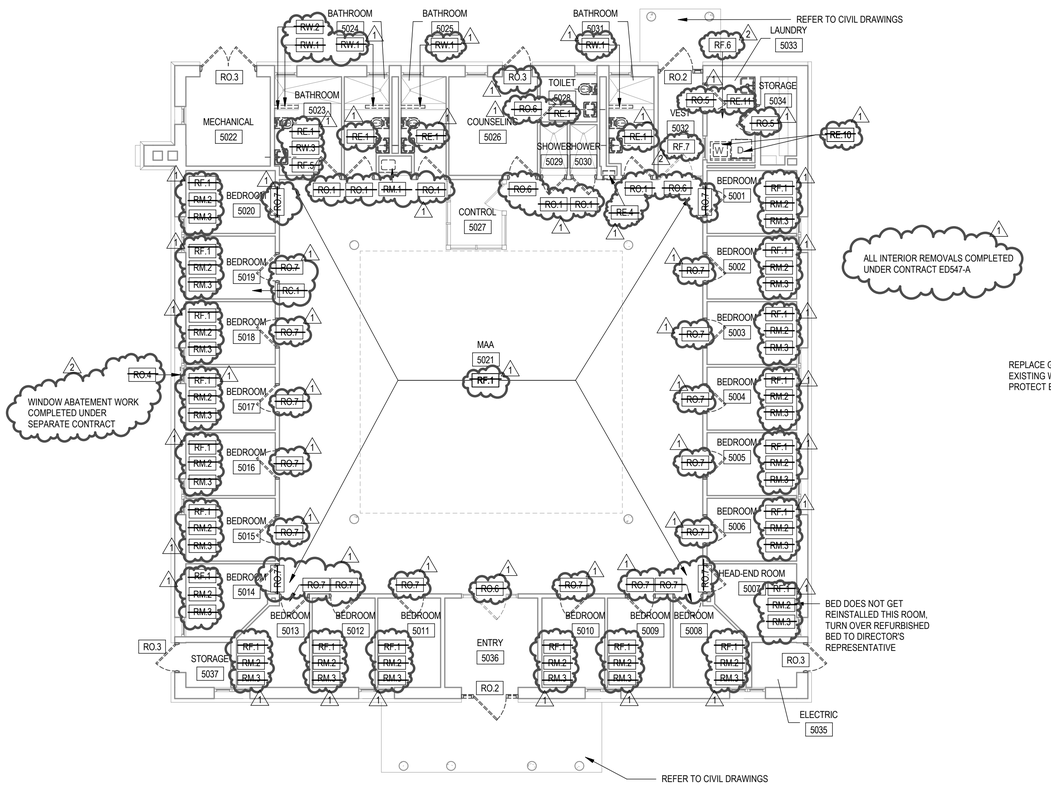
MARK	DATE	DESCRIPTION
3	10/05/17	ADDENDUM 6
1	09/25/17	ADDENDUM 1
	08/07/17	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	RB
DRAWN BY:	BD
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 81
REMOVAL PLAN, FLOOR PLAN, REFLECTED CEILING PLAN

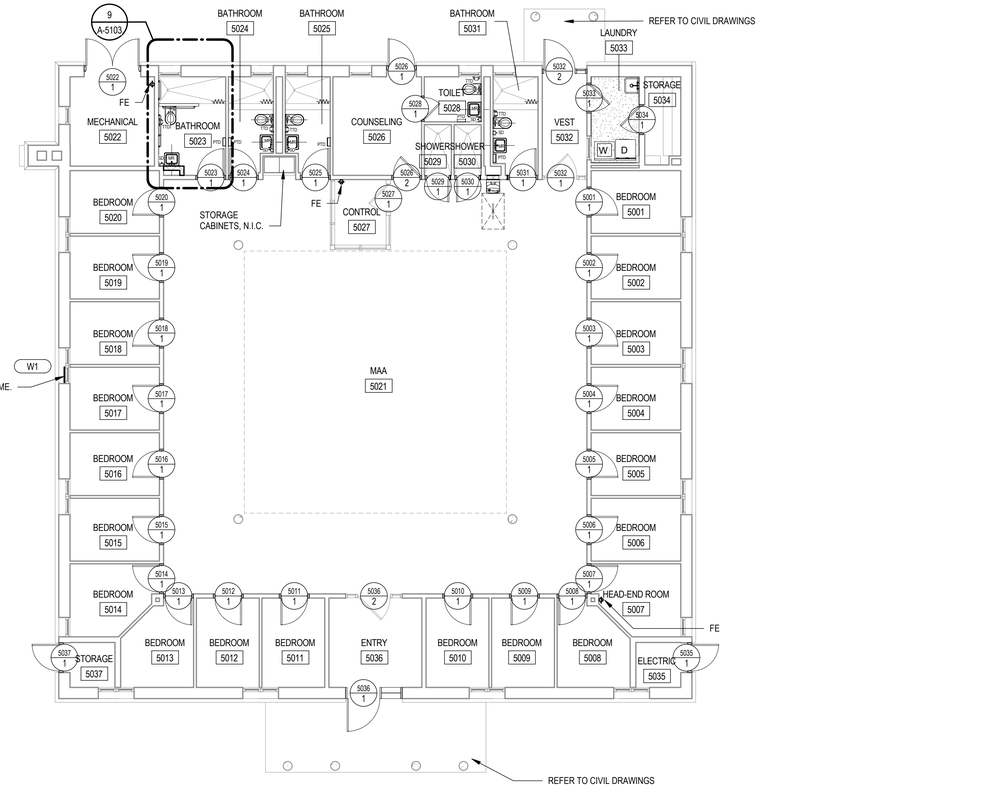
DRAWING NUMBER:
A-4101

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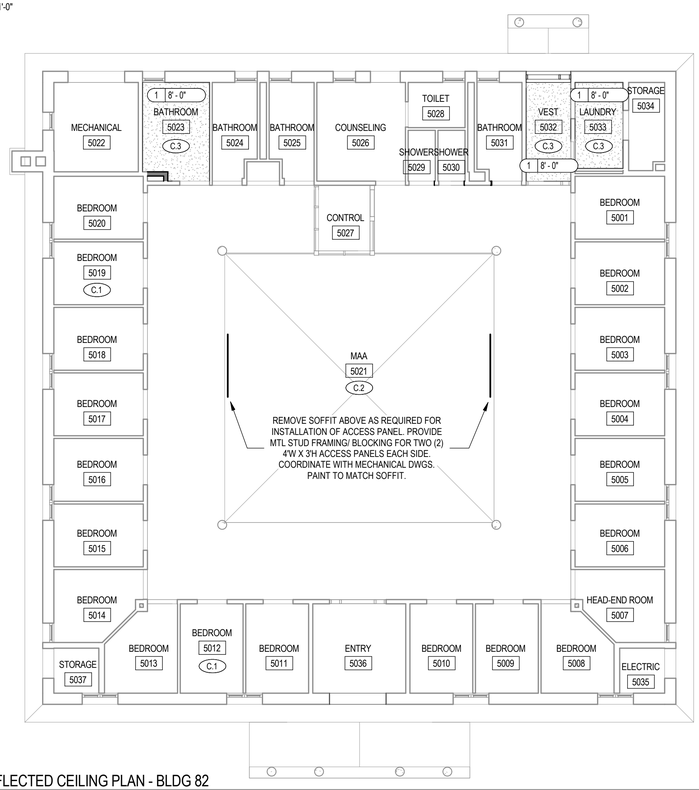
1 FLOOR PLAN - REMOVALS - BLDG 82

1/8" = 1'-0"



2 FLOOR PLAN - BLDG 82

1/8" = 1'-0"



3 REFLECTED CEILING PLAN - BLDG 82

1/8" = 1'-0"

CEILING TYPE SCHEDULE

MARK	SUBSTRATE	FINISH	DESCRIPTION
1			5/8" GYPSUM WALL BOARD ON METAL SUSPENSION SYSTEM STANDARDS

KEYED NOTES

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NO.	DESCRIPTION
C.1	MOLD IDENTIFIED ON SMALL PORTION OF EXISTING GWB CEILING. REMOVE AND REPLACE PORTION OF CEILING; GC TO VERIFY LOCATION IN THE FIELD & COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
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C.3	MOLD IDENTIFIED ON LARGE PORTION OF EXISTING GWB CEILING. REMOVE AND REPLACE ENTIRE CEILING; COORDINATE WITH HAZARDOUS MATERIAL SURVEY REPORT.
RC.1	REMOVE PORTION OF CEILING. COORDINATE WITH RCP.
RE.1	W/C & LAV FIXTURES REMOVED BY PLUMBING CONTRACTOR. COORDINATE W/ PLUMBING DWGS.
RE.4	DRINKING FOUNTAIN REMOVED BY PLUMBING CONTRACTOR. INFILL WALL TO MATCH EXISTING CONSTRUCTION.
RE.10	REMOVE LAUNDRY EQUIPMENT, WATER LINES, AND ALL HARDWARE AND ACCESSORIES.
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RF.1	REMOVE CARPET SYSTEM. INCLUDING BUT NOT LIMITED TO CARPET, PADDING, TACK STRIP, ADHESIVE, AND ALL HARDWARE AND ACCESSORIES.
RF.5	REMOVE CERAMIC FLOOR TILE AND MUD SET. PREP SLAB.
RF.6	SHEET VINYL REMOVED UNDER SEPARATE CONTRACT.
RF.7	VINYL TILE REMOVED UNDER SEPARATE CONTRACT.
RM.1	REMOVE BASE CABINET, SINK AND FAUCET, COMPLETE. REPAIR WALLS AND FLOOR AT REMOVALS.
RM.2	EXISTING BED TO BE REMOVED AND REFURBISHED (OR NEWLY CONSTRUCTED). CONTRACTOR TO ASSUME 7 TOTAL NEWLY CONSTRUCTED BEDS AND INCLUDE $30,000 FOR REFURBISHMENT OF THE REMAINING 31 BEDS IN BUILDINGS 81 & 82.

KEYED NOTES

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NO.	DESCRIPTION
RM.3	REMOVE DESK AND ALL SHELVING.
RO.1	~~DOOR, STL FRAME AND ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR~~ REMOVAL OF DOOR AND HARDWARE COMPLETED UNDER SEPARATE CONTRACT, STL FRAME LEFT IN PLACE TO BE REMOVED.
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RO.3	REMOVE DOOR, STL FRAME AND HARDWARE.
RO.4	WINDOW GLAZING TO BE REMOVED BY ABATEMENT CONTRACTOR, FRAME TO REMAIN.
RO.5	REMOVE DOOR, ALL HARDWARE AND ALL ACCESSORIES, REFINISH EXISTING DOOR; FRAME TO REMAIN. REFER TO DOOR SCHEDULE FOR DOOR REFINISH SCOPE.
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RO.7	DOOR, ALL HARDWARE AND ACCESSORIES TO BE REMOVED AND DISPOSED OF BY ABATEMENT CONTRACTOR; FRAME TO REMAIN.
RW.1	REMOVE 4" GLASS BLOCK WALL.
RW.2	REMOVE SHOWER CURB. REPAIR SLAB AT CURB REMOVAL.
RW.3	REMOVE CERAMIC WALL TILE BACK TO EXIST CONCRETE. PREP CONCRETE WALL TO RECEIVE SCHEDULED FINISH.

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DESIGN & CONSTRUCTION
CONSULTANT
Engineering and Land Surveying, P.C.
ASHLEY MCGRAW

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REGISTERED ARCHITECT ANDREW M. SCHUSSLER 036192 STATE OF NEW YORK

CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER 375 RUSH-SCOTTSVILLE ROAD RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDERN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/17	ADDENDUM 6
1	09/25/17	ADDENDUM 1
	08/07/17	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	RB
DRAWN BY:	BD
FIELD CHECK:	
APPROVED:	

SHEET TITLE: BUILDING 82 REMOVAL PLAN, FLOOR PLAN, REFLECTED CEILING PLAN

DRAWING NUMBER: A-5101

SHEET OF

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36x24 PLOT SHEET

82 - ROOM FINISH SCHEDULE

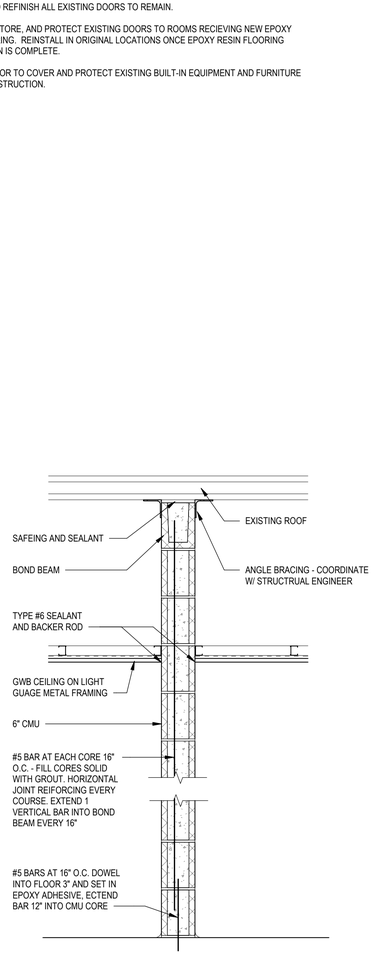
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5001	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5001
5002	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5002
5003	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5003
5004	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5004
5005	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5005
5006	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5006
5007	HEAD-END ROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5007
5008	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5008
5009	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5009
5010	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5010
5011	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5011
5012	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5012
5013	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5013
5014	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5014
5015	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5015
5016	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5016
5017	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5017
5018	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5018
5019	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5019
5020	BEDROOM	EXIST CONC	ECT-1	EXIST CMU	* ECT-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5020
5021	MAA	EXIST CONC	* CPT-1 / VT-1	EXIST CMU	RB-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1	* REFER TO FINISH FLOOR PLAN FOR LOCATIONS	5021
5022	MECHANICAL	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5022
5023	BATHROOM	EXIST CONC	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1	* PATCH CERAMIC TILE FLOOR AT AREAS OF REMOVAL AND/OR AT CRACKED,DAMAGED OR MISSING TILE LOCATIONS	5023
5024	BATHROOM	EXIST CONC	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1	* PATCH CERAMIC TILE FLOOR AT AREAS OF REMOVAL AND/OR AT CRACKED,DAMAGED OR MISSING TILE LOCATIONS	5024
5025	BATHROOM	EXIST CONC	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1	* PATCH CERAMIC TILE FLOOR AT AREAS OF REMOVAL AND/OR AT CRACKED,DAMAGED OR MISSING TILE LOCATIONS	5025
5026	COUNSELING	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5026
5027	CONTROL	EXIST CONC	VT-1	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5027
5028	TOILET	EXIST CONC	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1	* PATCH CERAMIC TILE FLOOR AT AREAS OF REMOVAL AND/OR AT CRACKED,DAMAGED OR MISSING TILE LOCATIONS	5028
5029	SHOWER	EXIST CONC	-	EXIST CMU	-	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1		5029
5030	SHOWER	EXIST CONC	-	EXIST CMU	-	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1		5030
5031	BATHROOM	EXIST CONC	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST CMU	* CT-1	EXIST GWB	IAL-1	* PATCH CERAMIC TILE FLOOR AT AREAS OF REMOVAL AND/OR AT CRACKED,DAMAGED OR MISSING TILE LOCATIONS	5031
5032	VEST	EXIST CONC	VT-1	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5032
5033	LAUNDRY	EXIST CONC	ECT-1	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5033
5034	STORAGE	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5034
5035	ELECTRIC	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5035
5036	ENTRY	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5036
5037	STORAGE	EXIST CONC	EXIST	EXIST CMU	EXIST	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST CMU	IAL-1	EXIST GWB	IAL-1		5037

GENERAL NOTES:

1. CLEAN AND REFINISH ALL EXISTING DOORS TO REMAIN.

2. REMOVE, STORE, AND PROTECT EXISTING DOORS TO ROOMS RECIEVING NEW EPOXY RESIN FLOORING. REINSTALL IN ORIGINAL LOCATIONS ONCE EPOXY RESIN FLOORING INSTALLATION IS COMPLETE.

3. CONTRACTOR TO COVER AND PROTECT EXISTING BUILT-IN EQUIPMENT AND FURNITURE DURING CONSTRUCTION.



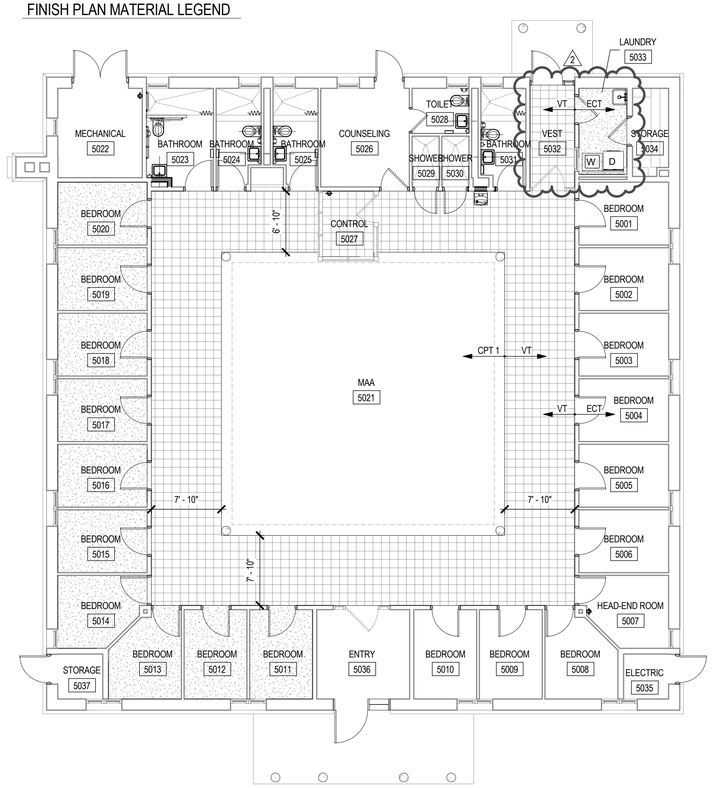
1 82 - CMU-1 WALL TYPE
1" = 1'-0"

VINYL TILE FLOORING (VT-1)

EPOXY RESIN FLOORING (ECT-1)

CARPET (CPT-1)

FINISH PLAN MATERIAL LEGEND



2 BUILDING 82 - FLOOR FINISH PLAN
1/8" = 1'-0"

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

ASHLEY MCGRAW

WARNING:

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REGISTERED ARCHITECT ANDREW M. SCHUSTER 036192 STATE OF NEW YORK

CONTRACT: CONSTRUCTION

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER 375 RUSH-SCOTTSVILLE ROAD RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDERN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/17	ADDENDUM 6
1	09/25/17	ADDENDUM 1
	08/07/17	FINAL SUBMISSION

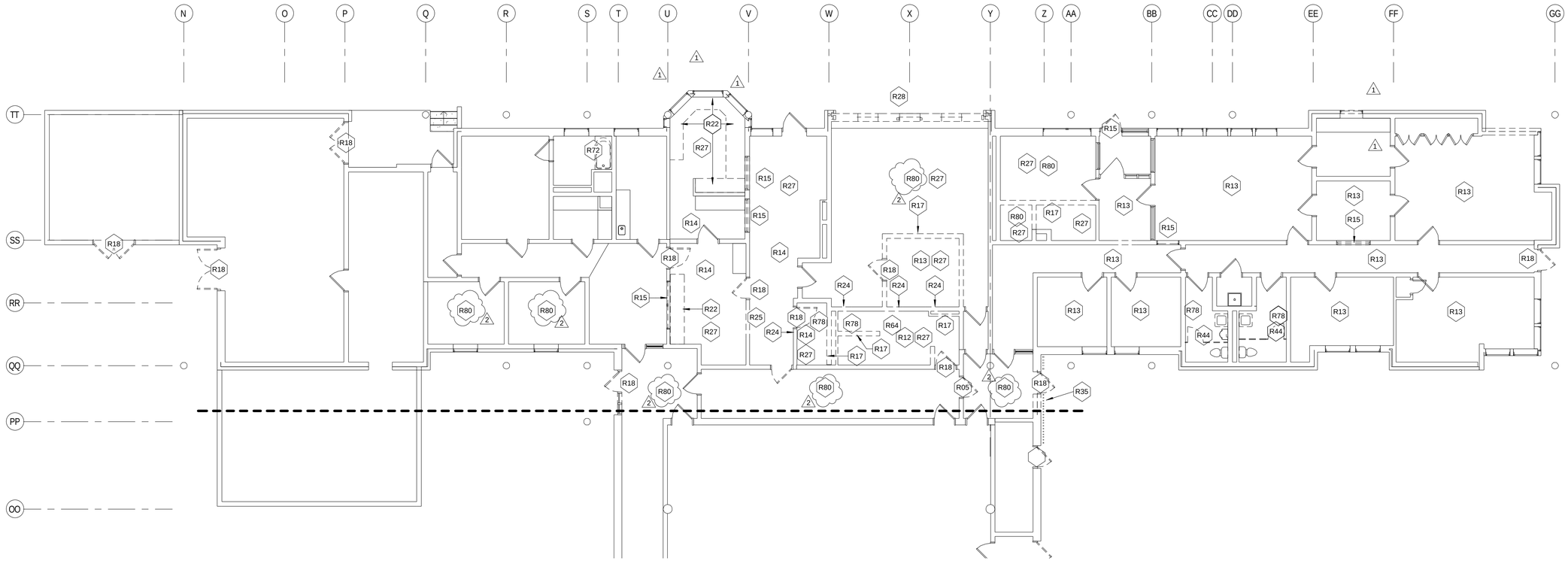
PROJECT NUMBER:	45679 - C
DESIGNED BY:	RB
DRAWN BY:	BD
FIELD CHECK:	
APPROVED:	

SHEET TITLE: BUILDING 82 FINISH SCHEDULE AND DETAILS

DRAWING NUMBER: A-5605

SHEET OF

10/4/2017 12:23:16 PM
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36x24 PLOT SHEET



1 LEVEL 1 REMOVAL PLAN - WEST
1/8" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
R05	REMOVE EXISTING EXTERIOR STEEL DOOR AND ALL ASSOCIATED HARDWARE
R10	EXISTING DOOR OR WINDOW FRAME TO REMAIN, REMOVE WIRE GLASS.
R12	REMOVE EXISTING TILE AND GROUT. SANDBLAST CMU WALL, GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED TO ENSURE GROUT IS REMOVED
R13	REMOVE EXISTING CARPET AND MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED
R14	REMOVE EXISTING VCT AND MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED
R15	REMOVE WINDOW AND ALL ASSOCIATED HARDWARE IN THEIR ENTIRETY.
R17	REMOVE PORTION OF INTERIOR CMU WALL TO THE EXTENT SHOWN. GRIND AND GROUT EXPOSED CMU EDGES FLUSH.
R18	REMOVE EXISTING DOOR AND FRAME AND ALL ASSOCIATED HARDWARE IN ITS ENTIRETY.
R20	REMOVE EXISTING METAL SHELVING UNIT AND ALL ASSOCIATED HARDWARE. RETURN TO DIRECTOR'S REPRESENTATIVE FOR REUSE/REINSTALLATION ELSEWHERE IN PROJECT.
R22	REMOVE EXISTING CASEWORK AND/OR COUNTERTOP IN ITS ENTIRETY. EXISTING ROLLING DOOR TO REMAIN.
R24	REMOVE MASONRY WALL AS REQUIRED FOR DOOR & LINTELED FRAME.
R25	REMOVE EXISTING STEEL WINDOW SYSTEM.
R26	REMOVE EXISTING RAISED SLAB. GRIND FLUSH WITH EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM.
R27	REMOVE EXISTING CEILING SYSTEM IN ITS ENTIRETY.
R28	REMOVE EXISTING EXTERIOR WALL ASSEMBLY IN ITS ENTIRETY INCLUDING EXISTING DOOR & FRAME AND WINDOW SYSTEMS.
R35	REMOVE EXISTING PLYWOOD SIDING AND ALL FASTNERS OR ATTACHMENT DEVICES. WOOD FRAMING AND SUBSTRATE TO REMAIN.
R43	REMOVE EXISTING WALL MATS AND ALL ASSOCIATED ANCHORING DEVICES.
R44	REMOVE EXISTING TOILET PARTITIONS IN THEIR ENTIRETY.

1

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
R64	REMOVE EXISTING WALL TILE IN ITS ENTIRETY. DO NOT DAMAGE EXISTING WALL SURFACE OR SUBSTRATE TO REMAIN.
R70	REMOVE DOOR AND HARDWARE, RETAIN EXISTING FRAME
R71	REMOVE EXISTING METAL STUD AND GWB PARTITION IN ITS ENTIRETY.
R72	REMOVE BATHTUB AND CERAMIC TILE SURROUND
R73	REMOVE DESK
R78	REMOVE EXITING TOILET FIXTURES INCLUDING GRAB BARS, TISSUE DISPENSERS, PAPER DISPENSERS, MIRRORS, HAND DRYERS
R80	REMOVE EXISTING MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED

1

GENERAL REMOVAL NOTE:

1. REMOVE GLAZING IN DOORS, SIDELIGHTS, AND WINDOWS WHERE GLAZING REPLACEMENT IS IDENTIFIED IN DOORS SCHEDULE ON SHEET A-6601 AND WINDOW SCHEDULE ON SHEET A-6611

2. REMOVE ALL MARKER BOARDS AND TACK BOARDS FROM WALLS. ASSUME (22) 4'x8' MARKER BOARDS AND (22) 4'x4' TACKBOARDS

REMOVAL SYMBOLS LEGEND

EXISTING CMU WALL TO BE REMOVED U.N.O.
(REFER TO REMOVAL KEYNOTE 17)

EXISTING DOOR AND FRAME SYSTEM TO BE REMOVED U.N.O.
(REFER TO REMOVAL KEYNOTE 18)

EXISTING WINDOW SYSTEM TO BE REMOVED U.N.O.
(REFER TO REMOVAL KEYNOTE 25)

EXISTING CASEWORK AND/OR MILLWORK TO BE REMOVED
(REFER TO REMOVAL KEYNOTE R22)

EXIST WALL TO REMAIN

WALL

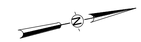
EXIST DOOR TO REMAIN

DOOR AND FRAME SYSTEM

EXIST WINDOW TO REMAIN

WINDOW SYSTEM





36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

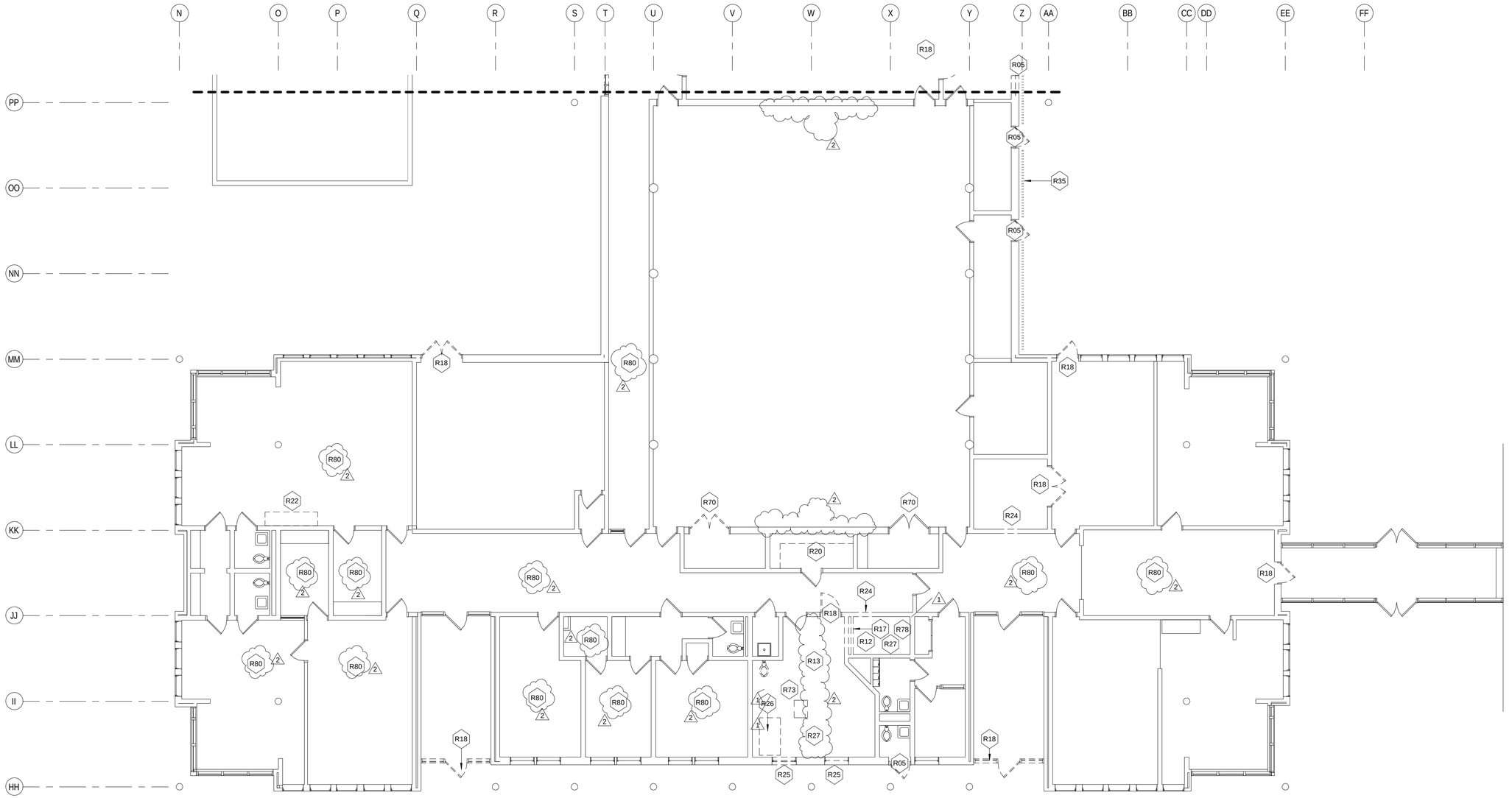
CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	RM	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 90
LEVEL 1 REMOVAL PLAN - WEST

DRAWING NUMBER:
A - 6101

SHEET OF



1 LEVEL 1 REMOVAL PLAN - EAST
1/8" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
R05	REMOVE EXISTING EXTERIOR STEEL DOOR AND ALL ASSOCIATED HARDWARE
R10	EXISTING DOOR OR WINDOW FRAME TO REMAIN, REMOVE WIRE GLASS.
R12	REMOVE EXISTING TILE AND GROUT. SANDBLAST CMU WALL, GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED TO ENSURE GROUT IS REMOVED
R13	REMOVE EXISTING CARPET AND MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED
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R22	REMOVE EXISTING CASEWORK AND/OR COUNTERTOP IN ITS ENTIRETY. EXISTING ROLLING DOOR TO REMAIN.
R24	REMOVE MASONRY WALL AS REQUIRED FOR DOOR & LINTELED FRAME.
R25	REMOVE EXISTING STEEL WINDOW SYSTEM.
R26	REMOVE EXISTING RAISED SLAB. GRIND FLUSH WITH EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM.
R27	REMOVE EXISTING CEILING SYSTEM IN ITS ENTIRETY.
R28	REMOVE EXISTING EXTERIOR WALL ASSEMBLY IN ITS ENTIRETY INCLUDING EXISTING DOOR & FRAME AND WINDOW SYSTEMS.
R35	REMOVE EXISTING PLYWOOD SIDING AND ALL FASTNERS OR ATTACHMENT DEVICES. WOOD FRAMING AND SUBSTRATE TO REMAIN.
R43	REMOVE EXISTING WALL MATS AND ALL ASSOCIATED ANCHORING DEVICES.
R44	REMOVE EXISTING TOILET PARTITIONS IN THEIR ENTIRETY.

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
R64	REMOVE EXISTING WALL TILE IN ITS ENTIRETY. DO NOT DAMAGE EXISTING WALL SURFACE OR SUBSTRATE TO REMAIN.
R70	REMOVE DOOR AND HARDWARE, RETAIN EXISTING FRAME
R71	REMOVE EXISTING METAL STUD AND GWB PARTITION IN ITS ENTIRETY.
R72	REMOVE BATHTUB AND CERAMIC TILE SURROUND
R73	REMOVE DESK
R78	REMOVE EXITING TOILET FIXTURES INCLUDING GRAB BARS, TISSUE DISPENSERS, PAPER DISPENSERS, MIRRORS, HAND DRYERS
R80	REMOVE EXISTING MASTIC. GRIND AND PREPARE EXISTING CONCRETE SLAB THROUGHOUT THE ENTIRE ROOM FOR FINISH AS SCHEDULED

GENERAL REMOVAL NOTE:

1. REMOVE GLAZING IN DOORS, SIDELIGHTS, AND WINDOWS WHERE GLAZING REPLACEMENT IS IDENTIFIED IN DOORS SCHEDULE ON SHEET A-6601 AND WINDOW SCHEDULE ON SHEET A-6611

2. REMOVE ALL MARKER BOARDS AND TACK BOARDS FROM WALLS. ASSUME (22) 4'x8' MARKER BOARDS AND (22) 4'x4' TACKBOARDS

REMOVAL SYMBOLS LEGEND

- EXISTING CMU WALL TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 17)
- EXISTING DOOR AND FRAME SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 18)
- EXISTING WINDOW SYSTEM TO BE REMOVED U.N.O. (REFER TO REMOVAL KEYNOTE 25)
- EXISTING CASEWORK AND/OR MILLWORK TO BE REMOVED (REFER TO REMOVAL KEYNOTE R22)

EXIST WALL TO REMAIN
WALL
EXIST DOOR TO REMAIN
DOOR AND FRAME SYSTEM
EXIST WINDOW TO REMAIN
WINDOW SYSTEM

36x24 PLOT SHEET

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DESIGN & CONSTRUCTION

CONSULTANT

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

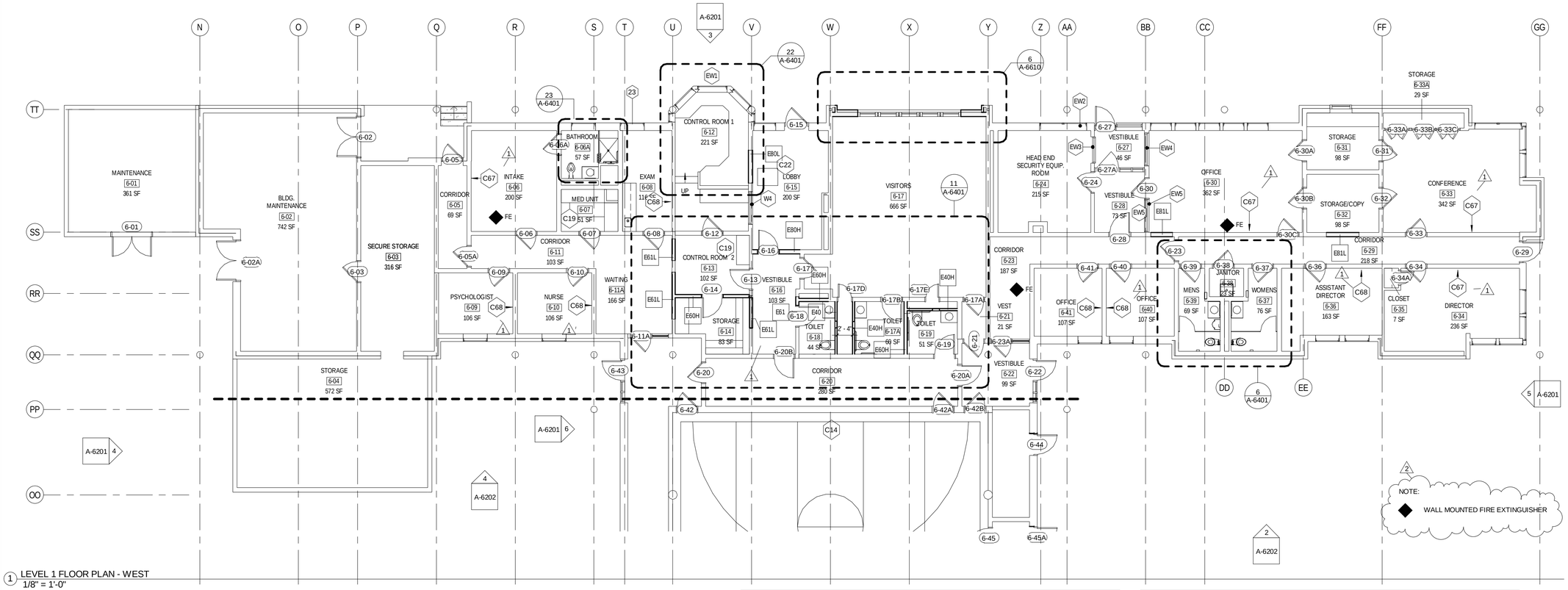
MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	RM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90
LEVEL 1 REMOVAL PLAN - EAST

DRAWING NUMBER:
A - 6102

SHEET OF

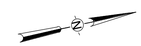


1 LEVEL 1 FLOOR PLAN - WEST
1/8" = 1'-0"

CONSTRUCTION KEYNOTE LEGEND	
Key Value	Keynote Text
C01	REPAIR CONCRETE SLAB CRACK AND FILL VOID PRIOR TO INSTALLATION OF FINISH FLOOR MATERIAL. CRACK APPROXIMATELY 50 FT. IN LENGTH.
C04	REFINISH WOOD FLOORS AND PROVIDE STRIPING PATTERN TO MATCH EXISTING
C05	INFILL MATCHING WOOD LAMINATE FLOOR MATERIAL
C10	REPLACE GLAZING IN EXISTING WINDOW FRAME TYPE S-4 9 (NON-FIRE RATED)
C13	ENSURE DOOR SWING CLEARANCE BY RECONFIGURING ALUMINUM FRAMING OF GREENHOUSE

CONSTRUCTION KEYNOTE LEGEND	
Key Value	Keynote Text
C14	WALL MATS BEHIND BASKETBALL GOAL. (24 UNITS TOTAL, EACH 24" X 84"). RECESS IN PANELS TO ACCOMMODATE UP T O 4 ELECTRICAL RECEPTACLES.
C15	CLEAN MASONRY TO REMOVE MOSS, MOLD AND EFFLORESCENCE ON MASONRY
C19	SOLID SURFACE COUNTERTOP
C22	WALK THROUGH METAL DETECTOR, REFER TO E CONTRACT
C23	SECURE STAINLESS STEEL PANELS, APPROX. AREA 12'-0" LONG X 6'-0" HIGH. REPLACE STAINLESS STEEL TRIM AT BULKHEAD, APPROX. 12'-0" LONG X 1'-0" WIDE.
C67	PROVIDE 4'x8' MARKER BOARD AND 4'x4' TACK BOARD IN CLASSROOMS. MOUNT BOTTOM 2'-8" AFF.
C68	PROVIDE 4'x4' MARKER BOARD AND 2'x4' TACK BOARD IN OFFICES. MOUNT BOTTOM AT 2'-8" AFF.





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NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

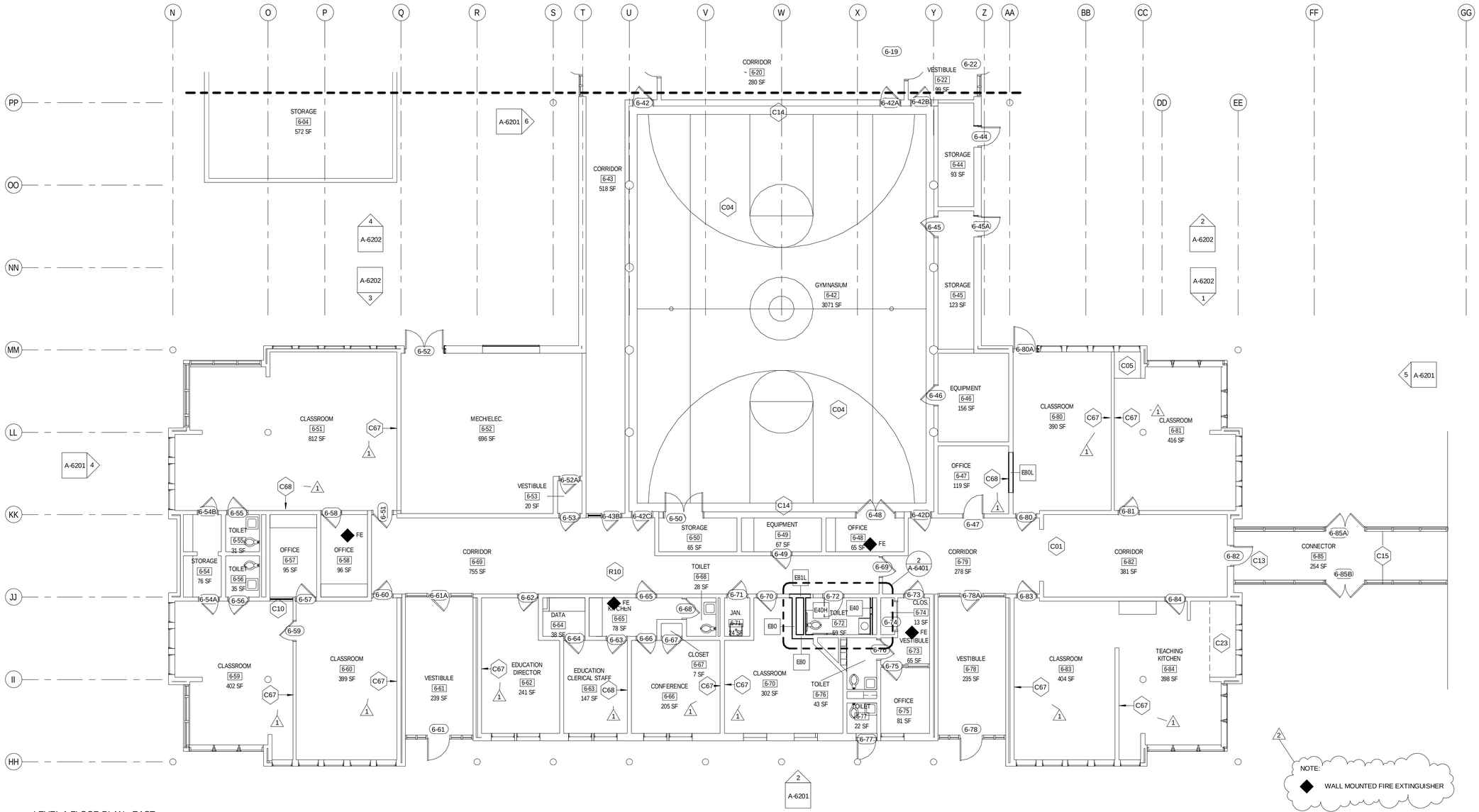
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	RM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90
LEVEL 1 FLOOR PLAN - WEST

DRAWING NUMBER:
A - 6105

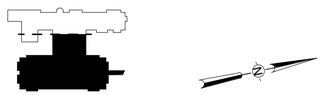
SHEET OF



1 LEVEL 1 FLOOR PLAN - EAST
1/8" = 1'-0"

CONSTRUCTION KEYNOTE LEGEND	
Key Value	Keynote Text
C01	REPAIR CONCRETE SLAB CRACK AND FILL VOID PRIOR TO INSTALLATION OF FINISH FLOOR MATERIAL. CRACK APPROXIMATELY 50 FT. IN LENGTH.
C04	REFINISH WOOD FLOORS AND PROVIDE STRIPING PATTERN TO MATCH EXISTING
C05	INFILL MATCHING WOOD LAMINATE FLOOR MATERIAL
C10	REPLACE GLAZING IN EXISTING WINDOW FRAME TYPE S-4 9 (NON-FIRE RATED)
C13	ENSURE DOOR SWING CLEARANCE BY RECONFIGURING ALUMINUM FRAMING OF GREENHOUSE

CONSTRUCTION KEYNOTE LEGEND	
Key Value	Keynote Text
C14	WALL MATS BEHIND BASKETBALL GOAL. (24 UNITS TOTAL, EACH 24" X 84"). RECESS IN PANELS TO ACCOMMODATE UP T O 4 ELECTRICAL RECEPTACLES.
C15	CLEAN MASONRY TO REMOVE MOSS, MOLD AND EFFLORESCENCE ON MASONRY
C19	SOLID SURFACE COUNTERTOP
C22	WALK THROUGH METAL DETECTOR, REFER TO E CONTRACT
C23	SECURE STAINLESS STEEL PANELS, APPROX. AREA 12'-0" LONG X 6'-0" HIGH. REPLACE STAINLESS STEEL TRIM AT BULKHEAD, APPROX. 12'-0" LONG X 1'-0" WIDE.
C67	PROVIDE 4'x8' MARKER BOARD AND 4'x4' TACK BOARD IN CLASSROOMS. MOUNT BOTTOM 2'-8" AFF.
C68	PROVIDE 4'x4' MARKER BOARD AND 2'x4' TACK BOARD IN OFFICES. MOUNT BOTTOM AT 2'-8" AFF.



NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA

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WARNING

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:

CONSTRUCTION

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM NO. 6
1	09/25/2017	ADDENDUM NO. 1
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - C
DESIGNED BY:	LF
DRAWN BY:	RM
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90

LEVEL 1 FLOOR PLAN - EAST

DRAWING NUMBER:

A - 6106

SHEET OF

36x24 PLOT SHEET

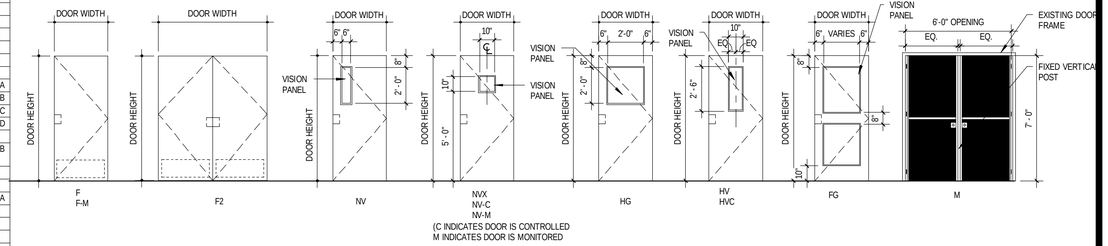
DOOR SCHEDULE

VV	ROOM NAME	DOOR							FRAME					DETAILS			GLASS TYPE	FIRE RATING	HARDWARE		REMARKS	DOOR NO.
		EXISTING	SIZE			TYPE	MATERIAL	FINISH	EXISTING	TYPE	MATERIAL	FINISH	ANCHORS	HEAD	JAMB	SILL			SET NO.	HAND		
			WIDTH	HEIGHT	THICKNESS																	
6-01	MAINTENANCE		5'-8"	7'-0"	1 3/4"	F	STEEL	PTD		EX2	STEEL	PTD	CEO	8/A6411	7/6411	12/6411			17	RHRA		6-01
6-02	BLDG. MAINTENANCE		6'-0"	7'-0"	1 3/4"	F	STEEL	PTD		EX2	STEEL	PTD	CEO	9/A6411 SM	2/6411 SM	1/6411			17	RHRA		6-02
6-02A	BLDG. MAINTENANCE		6'-0"	7'-0"	1 3/4"	F	STEEL	PTD		EX2	STEEL	PTD	CEO	9/A6411 SM	2/6411 SM	1/6411			17	RHRA		6-02A
6-03	BLDG. MAINTENANCE	X																				6-03
6-05	CORRIDOR	X																		-		6-05
6-05A	CORRIDOR	X															S-4				REPLACE EXISTING 6"X 24" VISION PANEL	6-05A
6-06	CORRIDOR	X																				6-06
6-06A	INTAKE	X																				6-06A
6-07	MED UNIT	X																				6-07
6-08	EXAM	X																				6-08
6-09	PSYCHOLOGIST	X																				6-09
6-10	NURSE	X																				6-10
6-11A	WAITING	X								F4							G				REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-11A
6-12	CONTROL ROOM 1	X																	3	RH	CONTROLLED BY SECURITY	6-12
6-13	CONTROL ROOM 2	X	3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	FF	CEO	2/A6602	1/A6602		G	1 HR	16	RH	CONTROLLED BY SECURITY	6-13
6-14	STORAGE		3'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	FF		4/A6602	3/A6602				14	RH			6-14
6-15	LOBBY	X																	3	LHR	CONTROLLED BY SECURITY	6-15
6-16	VESTIBULE		3'-0"	7'-0"	1 3/4"	NVX	STEEL	PTD		F1	STEEL	FF		4/A6602	3/A6602		G		2	RHR	CONTROLLED BY SECURITY	6-16
6-17	VISITORS	X																	7B	LH	CONTROLLED BY SECURITY	6-17
6-17A	VEST	X															G				REPLACE EXISTING 10"X 10" VISION PANEL	6-17A
6-17B	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	FF	CEO	2/A6602	1/A6602		G	2 HR	7	LH		6-17B
6-17D	VISITORS		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		4/A6602	3/A6602			2 HR	23			6-17D
6-17E	VISITORS		2'-0"	7'-0"	1 3/4"	F	STEEL	PTD		F1	STEEL	PTD		4/A6602	3/A6602			2 HR	23			6-17E
6-18	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	FF	CEO	4/A6602	1,3/A6602			1 HR	7B	RH		6-18
6-19	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	FF	CEO	2/A6602	1/A6602			1 HR	7B	RH		6-19
6-20	CORRIDOR	X															G				REPLACE EXISTING 6" X 4" VISION PANEL	6-20
6-20A	VESTIBULE		3'-0"	7'-0"	1 3/4"	NV 4	STEEL	PTD	X		STEEL						G	1 HR	14A	RHR	1	6-20A
6-20B	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-C	STEEL	PTD		F1	STEEL	PTD		2/A6601	1/A6601		G	1 HR			CONTROLLED BY SECURITY 7	6-20B
6-21	VESTIBULE	X															G				REPLACE EXISTING 6" X 4" VISION PANEL	6-21
6-22	VESTIBULE		3'-6"	7'-0"	1 3/4"	FG	STEEL	PTD		EX4	STEEL	PTD	CEO	9,11/A6411	10/6411	1/6411	S10		1	RHR	CONTROLLED BY SECURITY	6-22
6-23	CORRIDOR	X																				6-23
6-23A	CORRIDOR	X								F4							G				REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-23A
6-24	HEAD END SECURITY EQUIP. ROOM	X																			MONITORED BY SECURITY 1	6-24
6-27	VESTIBULE		3'-0"	7'-0"	1 3/4"	FG	STEEL	PTD		EX5	STEEL	PTD		9,11/A6411	4/6411	1/6411	S10				MONITORED BY SECURITY 1	6-27
6-27A	VESTIBULE	X							X	F9									3	RHR	REPLACE VISION PANELS. REPLACE IN DOORS & SIDE LIGHTS	6-27A
6-28	VESTIBULE																					6-28
6-29	CORRIDOR		3'-0"	7'-0"	1 3/4"	NV-M	STEEL	PTD		EX2	STEEL	PTD		9/A6411	3/6411	1/6411	S10		2	LHR	MONITORED BY SECURITY	6-29
6-30	VESTIBULE	X															S-4				REPLACE EXISTING 22" X 30" VISION PANEL	6-30
6-30A	OFFICE	X																				6-30A
6-30B	OFFICE	X																				6-30B
6-30C	OFFICE	X																				6-30C
6-31	CONFERENCE	X																				6-31
6-32	CONFERENCE	X																				6-32
6-33	CONFERENCE	X																				6-33
6-33A	CONFERENCE	X																				6-33A
6-33B	CONFERENCE	X																				6-33B
6-33C	CONFERENCE	X																				6-33C
6-34	DIRECTOR	X																				6-34
6-34A	DIRECTOR	X																				6-34A
6-36	ASSISTANT DIRECTOR	X																				6-36
6-37	WOMENS	X																				6-37
6-38	JANITOR	X																				6-38
6-39	MENS	X																				6-39
6-40	OFFICE	X															G				REPLACE EXISTING 6" X 4" VISION PANEL	6-40
6-41	OFFICE	X																				6-41
6-42	CORRIDOR	X															G				REPLACE EXISTING 6" X 4" VISION PANEL	6-42
6-42A	CORRIDOR	X															G				REPLACE EXISTING 24" X 36" VISION PANEL	6-42A
6-42B	VESTIBULE	X															G				REPLACE EXISTING 6"X 24" VISION PANEL	6-42B
6-42C	CORRIDOR	X															G				REPLACE EXISTING 6"X 24" VISION PANEL	6-42C
6-42D	CORRIDOR	X																				6-42D
6-43	CORRIDOR		3'-6"	7'-0"	1 3/4"	FG	STEEL	PTD		EX4	STEEL	PTD	CEO	9,11/6411	10/6411	1/6411	S10		2	LHR	MONITORED BY SECURITY 1	6-43
6-43B	CORRIDOR	X							F5								G				REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-43B
6-44	STORAGE		3'-0"	7'-0"	1 3/4"	F-M	STEEL	PTD	X	EX1	STEEL	PTD		6/6411	5/6411	1/6411			13	RHR			6-44
6-45	GYMNASIUM	X															G				REPLACE EXISTING 6"X 24" VISION PANEL	6-45
6-45A	STORAGE		3'-0"	7'-0"	1 3/4"	F-M	STEEL	PTD	X	EX1	STEEL	PTD		6/6411	5/6411	1/6411			2	RHR	MONITORED BY SECURITY	6-45A
6-46	EQUIPMENT	X																	10A	LHR		6-46
6-47	OFFICE		3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD		F1	STEEL	PTD		2/A6602	1/A6602		G	1 HR	14A	RH		6-47
6-48	GYMNASIUM																		22	LHR		6-48
6-49	EQUIPMENT	X																			MONITORED BY SECURITY 4	6-49
6-50	STORAGE		6'-0"	7'-0"	2"		MESH	PTD			STEEL	PTD		6/6602	5/6602	5/6602					MESH DOORS	6-50
6-51	CLASSROOM	X															G				REPLACE EXISTING 24" X 24" VISION PANEL	6-51
6-52	MECH/ELEC.		6'-0"	7'-0"	1 3/4"	F-M	STEEL	PTD		EX2	STEEL	PTD	CEO	9/6411 SM	2/6411 SM	1/6411			12	RHRA	MONITORED BY SECURITY	6-52

DOOR SCHEDULE

VV	ROOM NAME	DOOR							FRAME					DETAILS			GLASS TYPE	FIRE RATING	HARDWARE		REMARKS	DOOR NO.
		EXISTING	SIZE			TYPE	MATERIAL	FINISH	EXISTING	TYPE	MATERIAL	FINISH	ANCHORS	HEAD	JAMB	SILL			SET NO.	HAND		
			WIDTH	HEIGHT	THICKNESS																	
6-52A	MECH/ELEC.	X																				6-52A
6-53	CORRIDOR	X																				6-53
6-54A	CLASSROOM	X																				6-54A
6-54B	CLASSROOM	X																				6-54B
6-55	CLASSROOM	X																				6-55
6-56	CLASSROOM	X																				6-56
6-57	OFFICE	X																				6-57
6-58	OFFICE	X								F7									S4		REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-58
6-59	CLASSROOM	X								F7									S4		REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-59
6-60	CORRIDOR	X																	G		REPLACE EXISTING 24" X 24" VISION PANEL	6-60
6-61	VESTIBULE		3'-6"	7'-0"	1 3/4"	FG	STEEL	PTD		EX3	STEEL	PTD	CEO	9,11/6411	10/6411	1/6411				1	LHR	CONTROLLED BY SECURITY	6-61
6-61A	CORRIDOR	X								F8									S4	3	LHR	REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-61A
6-62	EDUCATION DIRECTOR	X																	G		REPLACE EXISTING 24" X 24" VISION PANEL	6-62
6-63	EDUCATION CLERICAL STAFF	X																	S4		REPLACE EXISTING 6"X 24" VISION PANEL	6-63
6-64	EDUCATION CLERICAL STAFF	X																	S4		REPLACE EXISTING 24" X 24" VISION PANEL	6-64
6-65	CORRIDOR	X																				6-65
6-66	CONFERENCE	X																	S4		REPLACE EXISTING 6"X 24" VISION PANEL	6-66
6-67	CONFERENCE	X																				6-67
6-68	TOILET	X																				6-68
6-69	CORRIDOR	X								F6									S4		REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-69
6-70	CLASSROOM	X																	G	23	REPLACE EXISTING 6"X 24" VISION PANEL	6-70
6-71	CORRIDOR	X																				6-71
6-72	TOILET		3'-0"	7'-0"	1 3/4"	HV	FRP	FF		F1	STEEL	FF	CEO	2/A6602	1/A6602				G	1 HR	7B	RH		6-72
6-73	VESTIBULE	X																				6-73
6-74	CLOS.	X																				6-74
6-75	OFFICE	X								F3									S4		REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-75
6-75x	CORRIDOR		3'-6"	7'-0"	1 3/4"	NV-C	STEEL	PTD			STEEL	PTD	CEO							1	LHR	CONTROLLED BY SECURITY	6-75x
6-76	TOILET	X																				6-76
6-77	TOILET		2'-8"	7'-0"	1 3/4"	HV	FRP	FF	X	EX2		FF		9/6411	2/6411	1/6411				15	LHR		6-77
6-78	VESTIBULE		3'-6"	7'-0"	1 3/4"	FG	STEEL	PTD		EX3	STEEL	PTD	CEO	9,11/6411	10/6411	1/6411				1	RHR	CONTROLLED BY SECURITY	6-78
6-78A	CORRIDOR	X								F8									S4	3	RHR	REPLACE VISION PANELS IN DOORS & SIDE LIGHTS	6-78A
6-80	CORRIDOR	X																	G		REPLACE EXISTING 24" X 24" VISION PANEL	6-80
6-80A	CLASSROOM		3'-8"	7'-0"	1 3/4"	NV-M	STEEL	PTD		EX2	STEEL	PTD	CEO	9/6411	2/6411	1/6411				2	RHR	MONITORED BY SECURITY	6-80A
6-81	CLASSROOM	X																	G		REPLACE EXISTING 17" X 31" VISION PANEL	6-81
6-82	CONNECTOR		3'-4"	6'8"	1 3/4"	NV-C	STEEL	PTD			STEEL	PTD	CEO	8/A6602	7/A6602					1	LHR	CONTROLLED BY SECURITY	6-82
6-83	CORRIDOR	X	3'-0"	7'-0"	1 3/4"	NV	STEEL	PTD	X		STEEL	PTD								14	LH		6-83
6-84	TEACHING KITCHEN	X																	G		REPLACE EXISTING 17" X 31" VISION PANEL	6-84
6-85A	CONNECTOR	X							X											5	LHR/RH R	MONITORED BY SECURITY	6-85A
6-85B	CONNECTOR	X							X											5	LHR/RH R	MONITORED BY SECURITY	6-85B

GENERAL NOTES:
1. FF= FACTORY FINISH
2. ALL NEW AND EXISTING DOORS AND FRAMES TO BE PAINTED UNLESS NOTED AS FF (FACTORY FINISH), COLOR BY DIRECTORS REPRESENTATIVE
3. AT ALL DOORS AND SIDELIGHTS TO RECIEVE VISION PANEL REPLACEMENT, VERIFY EXISTING VISION PANEL OPENINGS.
4. PROVIDE NEW GLAZING KIT AT ALL VISION PANEL REPLACEMENTS IN DOORS AND SIDELIGHTS.
5. AT ALL EXISTING FRAMES TO RECEIVE NEW DOORS, FIELD VERIFY EXISTING FRAME OPENINGS.



3 TYPICAL NTERIOR DOOR PANEL TYPES
1/4" = 1'-0"

DOOR SCHEDULE ABBREVIATIONS

DOOR MATERIALS

FRP:	FIBERGLASS RE-INFORCED PLASTIC
STL:	STEEL
SS:	STAINLESS STEEL

FRAME MATERIALS

STL:	STEEL
SS:	STAINLESS STEEL

DOOR TYPES

F:	FLUSH
FG:	FULL GLASS
HG:	HALF GLASS
LVR:	LOUVER
NV:	NARROW VISION
NVX:	VISION
M:	MESH DOORS

ANCHOR TYPES

CEO:	CONCEALED EXISTING OPENING

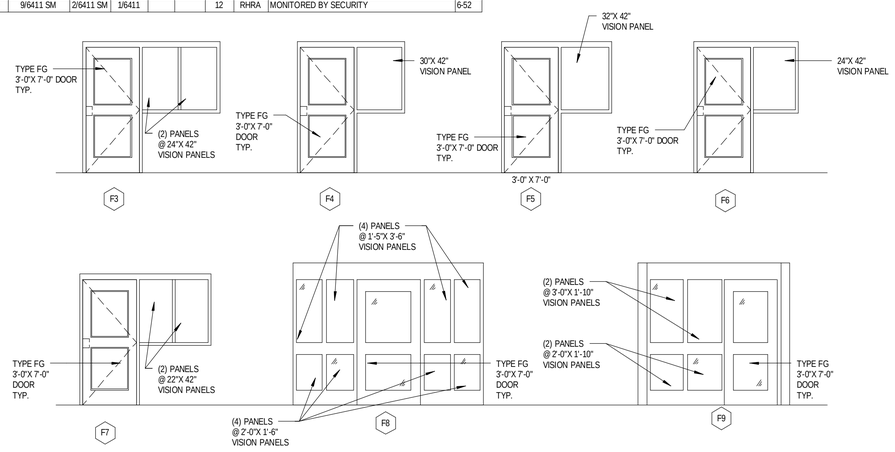
GLASS TYPE

G:	GLASS CLAD POLYCARBONATE LAMINATE SHEET
S-4:	9/16" GLASS CLAD POLYCARBONATE LAMINATE
S10	INSULATED SECURITY GLAZING

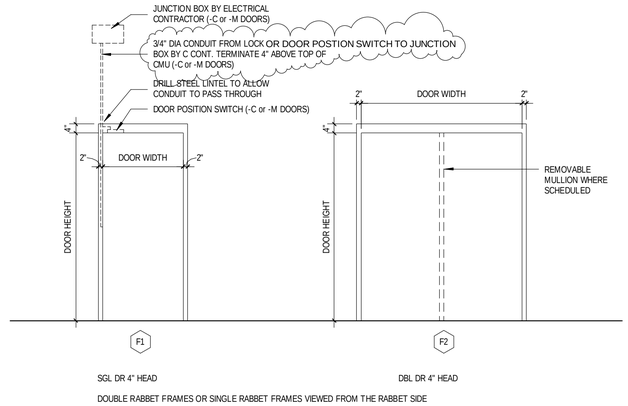
HAND TYPE

LH:	LEFT HAND
LHR:	LEFT HAND REVERSE
LHRA:	LEFF HAND REVERSE ACTIVE
LHRA (PAIR):	LEFT HAND REVERSE ACTIVE PAIR
RH:	RIGHT HAND
RHR:	RIGHT HAND REVERSE
RHRA:	RIGHT HAND REVERSE ACTIVE
RHRA (PAIR):	RIGHT HAND REVERSE ACTIVE PAIR

DOOR SCHEDULE ABBREVIATIONS
3/4" = 1'-0"



INTERIOR FRAME TYPES
1/4" = 1'-0"



2 STEEL FRAME TYPES
3/8" = 1'-0"

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA

EYP/

WARNING

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REGISTERED ARCHITECT DAVID L. CLEMENS 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

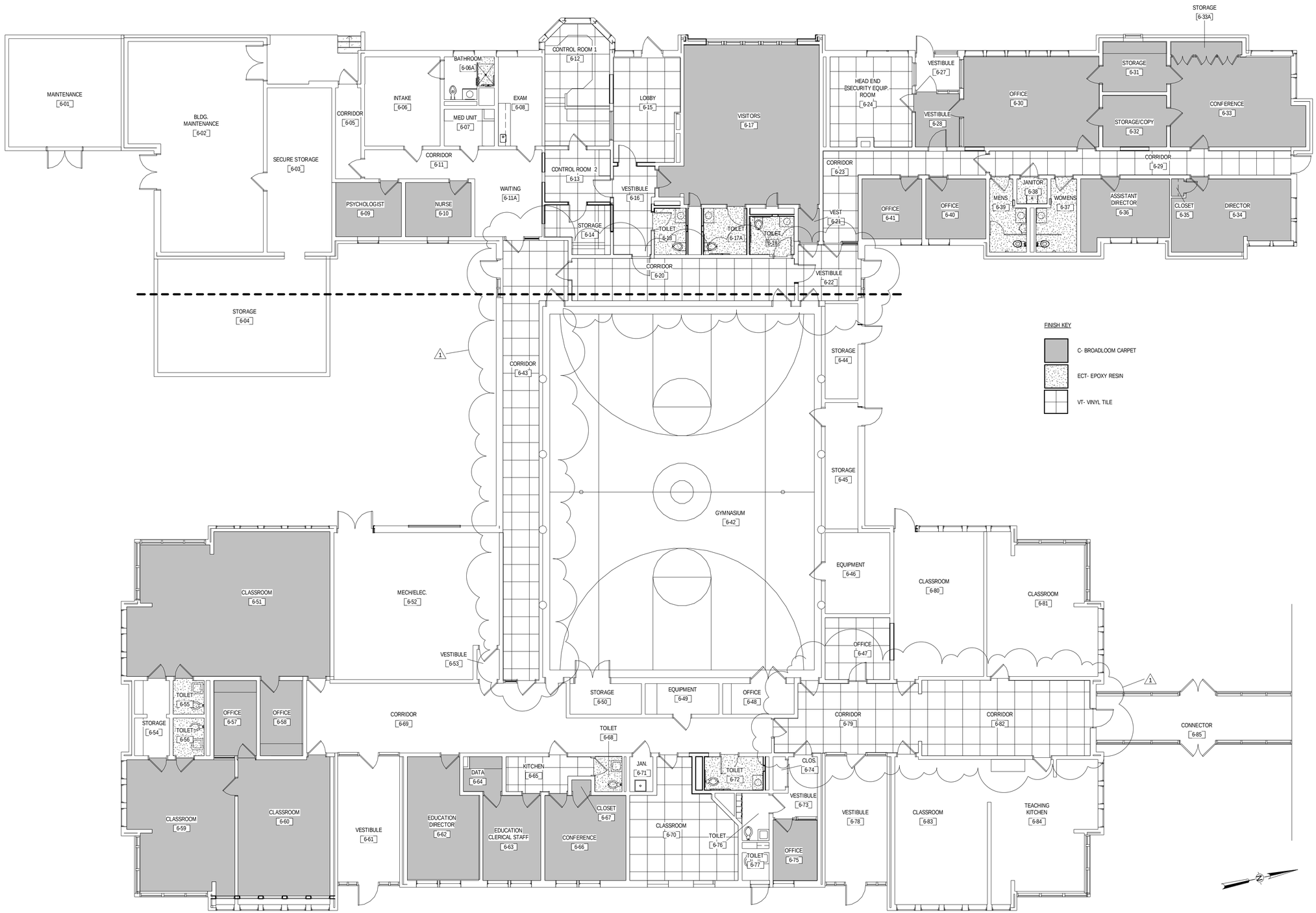
CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	AS/ORS	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 90
DOOR SCHEDULE

DRAWING NUMBER:
A - 6601

SHEET OF



1 FLOOR FINISH PLAN
1/8" = 1'-0"

36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

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REGISTERED ARCHITECT DAVID L. CLEMENTI 031179 STATE OF NEW YORK

CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH - SCOTTSVILLE ROAD
RUSH, NY 14543

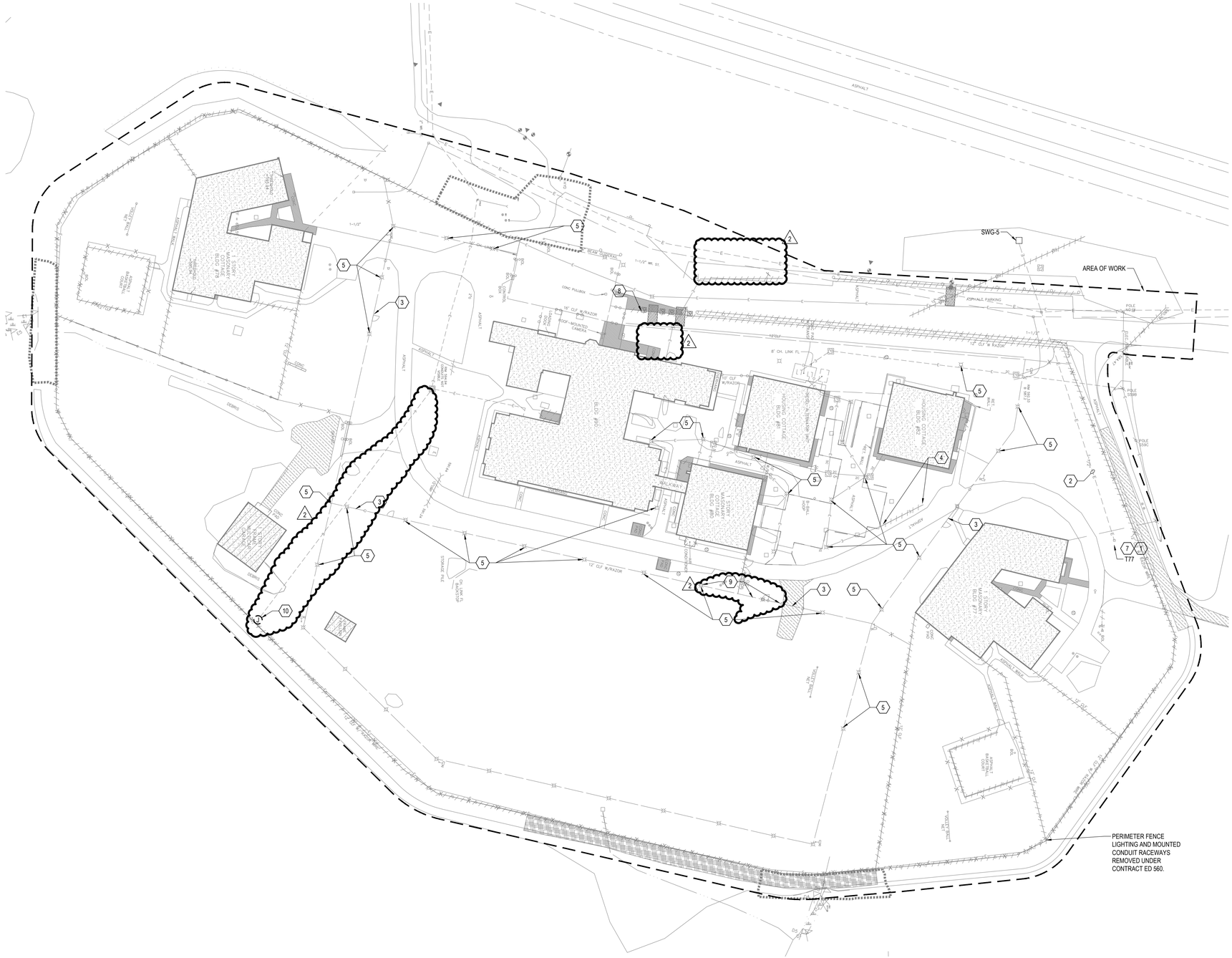
CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

1	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	45679 - C	
DESIGNED BY:	LF	
DRAWN BY:	CN	
FIELD CHECK:		
APPROVED:		

SHEET TITLE:
BUILDING 90
FLOOR FINISH PLAN

DRAWING NUMBER:
A - 6606

SHEET OF



SITE ELECTRICAL REMOVAL PLAN

SCALE: 1" = 50'

GENERAL NOTES

1. REFER TO SECURITY DRAWINGS FOR ADDITIONAL INFORMATION.

KEYED NOTES

1. UTILIZE EXISTING TRANSFORMER FOR TEMPORARY POWER OF CONSTRUCTION TRALERS IN LAYDOWN YARD. DO NOT REMOVE TRANSFORMER UNTIL TEMPORARY POWER IS NO LONGER REQUIRED.
2. REMOVE MEDIUM VOLTAGE CABLE BETWEEN SWG-5 AND PRIMARY SIDE OF TRANSFORMER T-77. REFER TO RISER DIAGRAM ON DRAWING E-1601 FOR ADDTIONAL INFORMATION.
3. REMOVE FENCE MOUNTED CONDUITS IN LOCATIONS WHERE PEDESTRIAN GATES ARE BEING ADDED. PROVIDE JUNCTION BOXES ON EACH SIDE OF THE GATE. SPLICE CONDUCTORS AND EXTEND CIRCUITS ABOVE PEDESTRIAN GATE.
4. REMOVE PEDESTRIAN WALKWAY POLES AND FIXTURES. REMOVE POWER CONDUCTORS BACK TO NEAREST REMAINING SITE FIXTURE.
5. REMOVE SITE LIGHTING FIXTURE HEADS. CIRCUITING AND POLE TO REMAIN FOR REUSE WITH REPLACEMENT FIXTURE.
6. REMOVE SITE LIGHTING POLE, FIXTURE AND BASE. REMOVE CONDUCTORS BACK TO POWER SOURCE AND DISCONNECT. ABANDON UNDERGROUND CONDUIT.
7. DISCONNECT AND REMOVE 50KVA, 7.62KV-240/120 VOLT, SINGLE PHASE PAD MOUNTED TRANSFORMER AND ASSOCIATED CONCRETE PAD. REFER TO BUILDING 77 SITE ELECTRICAL REMOVALS PLAN FOR ADDITIONAL INFORMATION.
8. FOR FENCE BEING REMOVED UNDER THE C-CONTRACT, REMOVE FENCE LIGHTING CIRCUITS BACK TO POWER SOURCE.
9. REMOVE EXISTING CONDUIT FROM STUB UP ON THE SOUTH SIDE OF THE VEHICLE GATE TO THE FIRST CONDUIT COUPLING SOUTH OF THE PEDESTRIAN GATE. PULL BACK EXISTING CONDUCTORS TO JUNCTION BOX AT LIGHT POLE AND REMOVE.
10. REMOVE EXISTING ABANDONED ABOVE GRADE JUNCTION BOX.

(2)

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/5/2017	ADDENDUM #6
1	09/25/2017	ADDENDUM #1
	08/07/2017	FINAL SUBMISSION

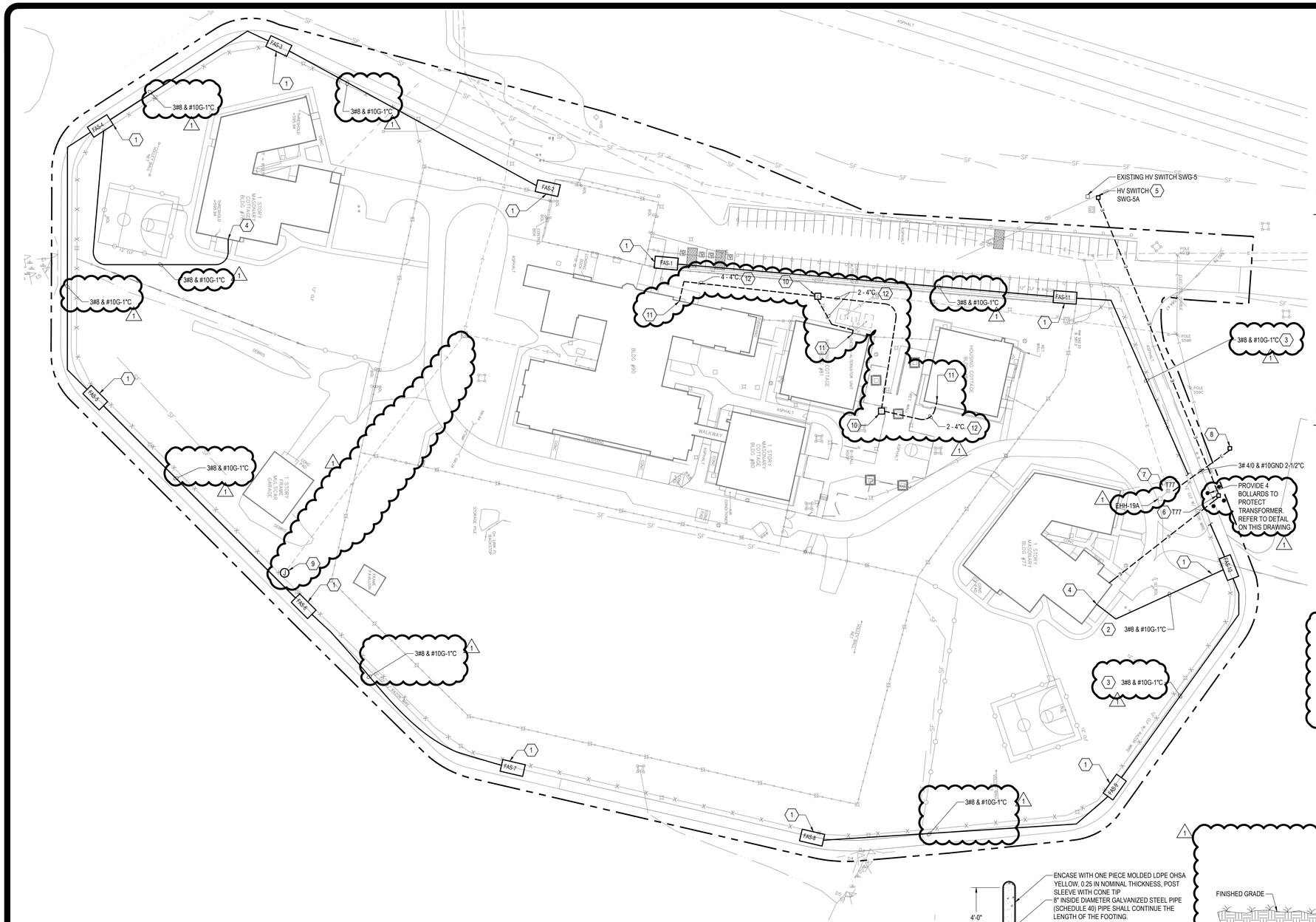
PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
SITE ELECTRICAL REMOVAL PLAN

DRAWING NUMBER:
E–0002

SHEET OF

FILE: R:\PROJECTS\7824 - OGS - INDUSTRY SECURE RESIDENTIAL FACILITY_CAD\7824 - E-A002.DWG
SAVED: 10/3/2017 9:32:51 AM PLOTTED: 10/3/2017 3:55:24 PM USER: NICHOLAS DELPRADO
36x24 PLOT SHEET



SITE POWER PLAN

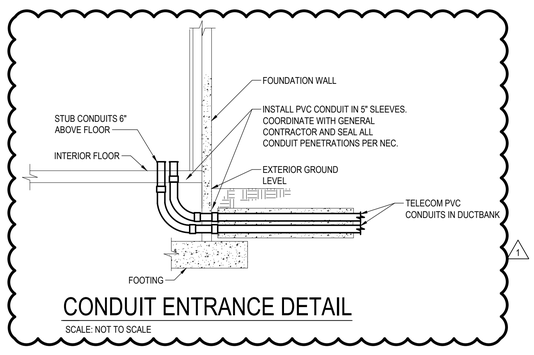
SCALE: 1" = 50'

GENERAL NOTES

1. REFER TO SECURITY DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL CONDUIT FOR LIGHTING AND SECURITY POWER SHALL BE ROUTED ON THE FENCE.
3. REFER TO SITE DETAIL DRAWING FOR ADDITIONAL INFORMATION.

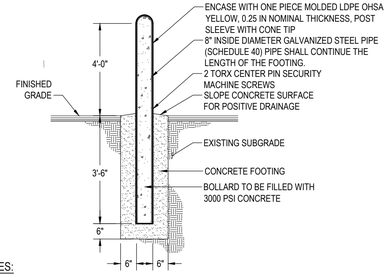
KEYED NOTES

1. PROVIDE 1KVA, 208/120V TRANSFORMER IN EACH FAS BOX. REFER TO FAS BOX DETAIL FOR ADDITIONAL INFORMATION.
2. PROVIDE UNDERGROUND CONDUIT RUN FROM BUILDING TO FIRST FAS BOX.
3. ROUTE POWER & SECURITY CONDUITS ON FENCE.
4. REFER TO BUILDING POWER PLANS FOR CIRCUIT HOMERUN INFORMATION.
5. PROVIDE HV SWITCH SWG-5A AND ASSOCIATED PAD. REFER TO BUILDING 77 ONE-LINE DIAGRAM FOR CIRCUITING INFORMATION.
6. PROVIDE 150KVA, 13.2KV-208/120V PAD MOUNTED TRANSFORMER. REFER TO BUILDING 77 ONE-LINE DIAGRAM FOR CIRCUITING INFORMATION.
7. UTILIZE EXISTING 120/240 TRANSFORMER 77 TO PROVIDE TEMPORARY POWER TO LAYDOWN AREA CONSTRUCTION TRAILERS.
8. PROVIDE 225A, SINGLE PHASE, 240/120V 30 POLE, NEMA 3R PANELBOARD WITH MAIN BREAKER MOUNTED ON PRESSURE TREATED 4"x4"s FOR TEMPORARY CONSTRUCTION TRAILER POWER. PROVIDE BRANCH CIRCUIT BREAKERS AS REQUIRED TO CONNECT 4 CONSTRUCTION TRAILERS.
9. EXTEND EXISTING UNDERGROUND CONDUIT TO BOX LOCATED ON THE FENCE. EXTEND UNDERGROUND CONDUIT AS REQUIRED. PROVIDE WEATHERPROOF JUNCTION BOX FOR FUTURE USE.
10. PROVIDE COMMUNICATION HANDHOLE FOR ROUTING OF FIRE ALARM FIBER CABLES.
11. PROVIDE UNDERGROUND CONDUIT PENETRATIONS INTO BUILDING HEAD END ROOMS. PENETRATE BUILDING FOUNDATIONS AND STUB CONDUITS UP WITHIN ROOMS.
12. PROVIDE UNDERGROUND PVC CONDUITS. REFER TO DETAIL ON THIS DRAWING.



CONDUIT ENTRANCE DETAIL

SCALE: NOT TO SCALE

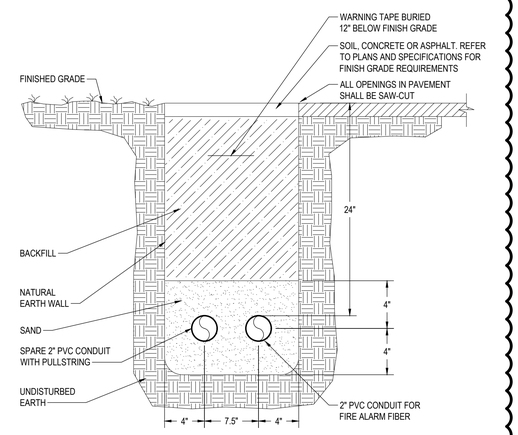


NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1").
3. ALL CONCRETE SHALL HAVE A 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260.

BOLLARD WITH COVER DETAIL

SCALE: NOT TO SCALE



CONDUIT TRENCH DETAIL

SCALE: NOT TO SCALE

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DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

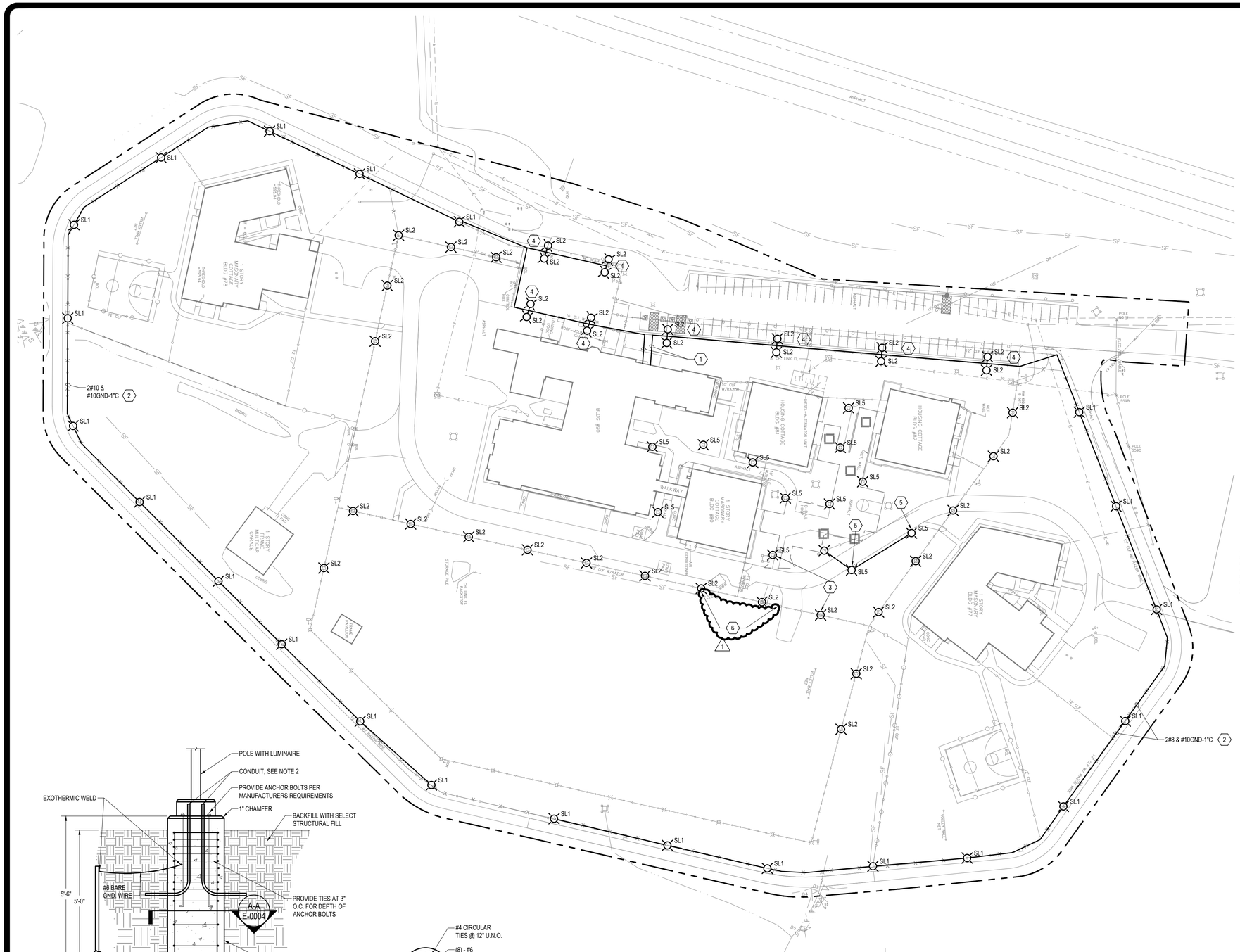
SITE POWER PLAN

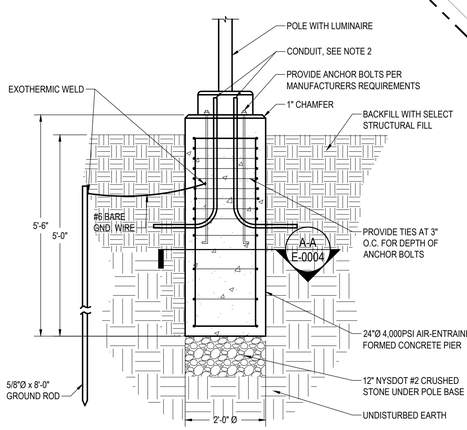
DRAWING NUMBER:

E–0003

SHEET OF

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36x24 PLOT SHEET

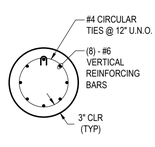




NOTE:
1. FOR POLE LOCATIONS REFER TO CIVIL AND ELECTRICAL DRAWINGS.
2. PROVIDE CONDUITS STUBBED UP WITHIN POLE BASE PLATE, FOR POWER (2 CONDUITS) AND POLE BASE GROUND (1 CONDUIT), UNLESS NOTED OTHERWISE. COORDINATE WITH ELECTRICAL CONTRACTOR.

LIGHT POLE FOUNDATION

SCALE: NOT TO SCALE



VIEW A-A

SITE LIGHTING PLAN

SCALE: 1" = 50'

GENERAL NOTES

1. REFER TO SITE DETAILS DRAWING FOR ADDITIONAL INFORMATION.

KEYED NOTES

1. PROVIDE SITE LIGHTING CIRCUITS TO BUILDING 90 FOR POWER AND CONTROLS. CONNECT TO PANEL SP-1, CIRCUITS 17/19 AND 18/18. ROUTE CONDUCTORS THROUGH TIME CLOCK FOR LIGHTING CONTROL. REFER TO BUILDING 90 DRAWINGS FOR ADDITIONAL INFORMATION.
2. ROUTE SITE LIGHTING CONDUITS ON FENCE FROM POLE TO POLE.
3. MOUNT FIXTURES ON EXISTING POLES TO REMAIN. RE-USE EXISTING BRANCH CIRCUIT WIRING, TYPICAL FOR ALL SL2 & SL5 FIXTURES, UNLESS OTHERWISE NOTED.
4. PROVIDE DUAL HEADED FIXTURE.
5. REMOVE EXISTING LIGHT POLE AND POLE BASE AND RELOCATE EXISTING POLE TO LOCATION INDICATED. PROVIDE FIXTURE AS INDICATED ON DRAWING ON EXISTING POLE. PROVIDE POLE BASE AS DETAILED ON THIS DRAWING. EXTEND EXISTING CONDUIT/CONDUCTORS TO LOCATION INDICATED.
6. PROVIDE WEATHERPROOF JUNCTION BOX ON STUB UP ON SOUTH SIDE OF VEHICLE GATE. PROVIDE APPROXIMATELY 25'-0" OF NEW CONDUIT BETWEEN JUNCTION BOX AND CONDUIT COUPLING SOUTH OF PEDESTRIAN GATE. PROVIDE APPROXIMATELY 70'-0" OF NEW CONDUCTORS FROM EXISTING JUNCTION BOX ON LIGHT POLE TO JUNCTION BOX ON STUB UP ON THE SOUTH SIDE OF THE VEHICLE GATE.

1

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

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	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
SITE LIGHTING PLAN

DRAWING NUMBER:
E–0004

SHEET OF

FILE: R:\PROJECTS\7824 - OGS - INDUSTRY SECURE RESIDENTIAL FACILITY_CAD\7824 - E-0004.DWG
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36x24 PLOT SHEET

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFF/G	ABOVE FINISHED FLOOR/GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
AUX	AUXILIARY
A/V	AUDIBLE/VISUAL
AWG	AMERICAN WIRE GAUGE
BB	BACKBOARD
BCW	BARE COPPER WIRE
BATT	BATTERY
BTM	BOTTOM
BKR	BREAKER
BLDG	BUILDING
BFG	BELOW FINISHED GRADE
C	CONDUIT
CAB	CABINET
CATV	COMMUNITY ACCESS TELEVISION (CABLE TELEVISION)
CB	CIRCUIT BREAKER
CIR	CIRCUIT
CKT	CIRCUIT
℄	CENTER LINE
CO	COMPANY
COMM	COMMUNICATIONS
CONN	CONNECTION, CONNECT
CUH	CABINET UNIT HEATER
CT	CURRENT TRANSFORMER
CU	COPPER
CWA	CONSTANT WATTAGE AUTOTRANSFORMER
△	DELTA CONNECTION
D	DEEP
DB	DECIBEL
DET	DETECTOR
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC(AL)
EMER	EMERGENCY
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXT	EXTERIOR
F	FUSE(D)
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLES
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FT	FOOT (FEET)
FUT	FUTURE
FO	FIBER OPTIC
G, GND	GROUND
GALV	GALVANIZE(D)
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HD	HEAVY DUTY
HGT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HW	HOT WATER
ID	IDENTIFY, IDENTIFICATION
INCAND	INCANDESCENT
J-BOX	JUNCTION BOX
J.C.	JANITOR CLOSET
JCT	JUNCTION
KCM/Kcmil	THOUSAND CIRCULAR MILS
KVA	KILO VOLT AMPERE
KW	KILOWATT
LGT	LIGHTING
LT(S)	LIGHT(S)
LED	LIGHT EMITTING DIODE
L	LOUVER
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MC	METAL CLAD CABLE
MFR	MANUFACTURER
MH	METAL HALIDE
MECH	MECHANICAL
MIN	MINIMUM
ML	MOTORIZED LOUVER
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTR	MOTOR
N	NORTH
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NL	NIGHT LIGHT
No/#	NUMBER
OC	OVER COUNTER
OL	OVERLOAD
P	POLE(S)
PA	PUBLIC ADDRESS
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PWR	POWER
ø	PHASE
PT	PRESSURE TREATED
RECEPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SEC	SECONDARY
SH	SHIELDED
SPKR	SPEAKER
SW	SWITCH
TEMP	TEMPORARY/TEMPERATURE
T-STAT	THERMOSTAT
TB	TERMINAL BOARD
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLT, VOLTS
VA	VOLT-AMPERES
W	WATT, WIRE
W/	WITH
WP	WEATHERPROOF
XFMR/T	TRANSFORMER
Y	WYE CONNECTION

LIGHTING

REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE, LAMP, BALLAST, POWER REQUIREMENTS, MOUNTING HEIGHT AND MANUFACTURER.

$ — SINGLE POLE LIGHT SWITCH, SUBSCRIPT DENOTES:
- -3=3 WAY SWITCH
- -4=4 WAY SWITCH
- -O=OCCUPANCY WALL SWITCH
- -D=DIMMER SWITCH
- -a=LOWER CASE LETTER DENOTES CONTROL OF FIXTURE(S) AND/OR LAMPS WITH MATCHING LETTER

$$ — INSTALL SWITCHES IN THE SAME BOX WITH A MULTI-GANG COVER

#/X, a — TYPICAL LIGHTING FIXTURE,
- X-INDICATES FIXTURE TAG INDENTIFICATION
- a-INDICATES BALLAST CONTROL SWITCHING
- #-INDICATES BRANCH CIRCUIT DESIGNATION

SHADING INDICATES EMERGENCY BALLAST OR GENERATOR CONNECTION

2X4 LIGHT FIXTURE

1X4 LIGHT FIXTURE

1X4 WALL MOUNTED LIGHT FIXTURE

2X2 LIGHT FIXTURE

STRIP TYPE FIXTURE

WALL MOUNTED STRIP TYPE FIXTURE

CEILING MOUNTED DOWN LIGHT

WALL MOUNTED LIGHT FIXTURE

WALL PACK

EXIT SIGN

EMEGENCY WALL PACK

PC — PHOTOCELL

TC — TIME CLOCK

S — STROBE LIGHT

RACEWAYS

CONDUIT CONCEALED AS SPECIFIED

CONDUIT TURNING UP

CONDUIT TURNING DOWN

PP-1 / 1/3/5 — HOMERUN BACK TO PANEL (PANEL AND CIRCUITS INDICATED)

CIRCUIT CONTINUED OR CONNECTED TO EQUIPMENT AS INDICATED

UNDERGROUND CONDUIT

GROUND CONDUCTOR

GROUNDING CONDUCTOR TERMINATION POINT AT SERVICE EQUIPMENT

INDICATES EXISTING DEVICES OR EQUIPMENT

DEVICES AND APPURTENANCES

$M — SINGLE POLE TOGGLE SWITCH

WP — DUPLEX RECEPTACLE, SUBSCRIPT DENOTES:
- -WP=WEATHER PROOF
- -OC=OVER COUNTER
- -E=UTILIZE EXISTING RACEWAY
- -S=SURFACE MOUNTED
- -42=MOUNTING HEIGHT OF 42 INCHES
- ~~-GFI=GROUND FAULT INTERRUPTER~~
- -WC=WATER COOLER

2 — TWO - 20 AMP DUPLEX RECEPTACLES UNDER SINGLE COVER

FLUSH FLOOR BOX BARRIERED COMPARTMENTS FOR POWER OUTLET; DATA OUTLET AND TELEPHONE OUTLET. PROVIDE BASE WITH BRASS COVER.

FLUSH FLOOR BOX w/POWER OUTLET & BRASS COVER

HARDWARE EQUIPMENT CONNECTION

GROUND ROD

SINGLE RECEPTACLE

J — JUNCTION BOX

CEILING FAN

MH — MANHOLE

HH — HANDHOLE

UH — UNIT HEATER

HD — HAND DRYER

ONE LINE DIAGRAMS

POWER TRANSFORMER

AMPS FRAME → 400AF
AMPS TRIP → 400AT
NR. of POLES → 3P
GFP — MOLDED CASE CIRCUIT BREAKER W/GROUND FAULT PROTECTION

AUTOMATIC TRANSFER SWITCH (ATS)

SAFETY DISCONNECT SWITCH - UNFUSED

NORMALLY OPEN CONTACT/RELAY

NORMALLY CLOSED CONTACT/RELAY

G — GENERATOR

CURRENT TRANSFORMER

FUSE

1 — CIRCUIT TAG REFER TO CONDUIT AND CONDUCTOR SCHEDULE

GROUNDING CONNECTION

POTENTIAL TRANSFORMER

M — MOTOR

INDICATES EQUIPMENT ENCLOSURE

V — VARIABLE FREQUENCY DRIVE

TELECOMMUNICATIONS

COMBINATION DATA/TELEPHONE OUTLET BOX. MOUNT AT 18" AFF UON. PROVIDE WITH TWO GANG RECESSED BOX WITH SINGLE GANG MUD RING, 1" CONDUIT UP TO ACCESSIBLE CEILING SPACE, AND (2) CAT 6 CABLES BACK TO NEAREST DATA RACK. PROVIDE OUTLET WITH (2) CAT 6 DATA JACKS AND COVER PLATE.

MICROPHONE OR HEADSET/MICROPHONE OUTLET

MICROPHONE

WALL MOUNTED IT EQUIPMENT RACK AND IT EQUIPMENT

— FLOOR MOUNTED SECURITY EQUIPMENT RACK. DOOR INDICATES FRONT OF RACK
- INDICATES SECURITY EQUIPMENT RACK NUMBER.

FIRE ALARM SYMBOLS

FACP — FIRE ALARM CONTROL PANEL

FAAP — FIRE ALARM ANNUNCIATOR PANEL

F — MANUAL FIRE ALARM STATION (45" AFF)

B — FIRE ALARM BELL

F — FIRE COMBINATION HORN/STROBE ALARM

F — VISUAL ALARM APPLIANCE (15 CANDELA STROBE UON BY SUBSCRIPT NUMBER)

S — SMOKE DETECTOR

D — DUCT SMOKE DETECTOR WITH SAMPLING TUBE, REMOTE INDICATOR, AUXILIARY CONTACTS AND REMOTE KEY OPERATED RESET SWITCH

H — HEAT DETECTOR: 135° FIXED TEMPERATURE U.O.N. BY SUBSCRIPT NUMBER; ROR = RATE OF RISE

SV — FIRE SUPRESSION SOLENOID RELEASE VALVE

AIR ASPIRATION SMOKE DETECTOR PORT

PS — PRESSURE SWITCH

TS — TAMPER SWITCH

FS — FLOW SWITCH

END OF LINE RESISTOR

KB — KNOX BOX

VEA — MULTI-PORT ADDRESSABLE AIR ASPIRATION SMOKE DETECTOR

POST INDICATOR VALVE

D — OVERHEAD DOOR CLOSING DEVICE

CO — CARBON MONOXIDE DETECTOR

POWER DISTRIBUTION EQUIPMENT

SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD 208/120V, 3ø, 4W, UON

RECESSED BRANCH CIRCUIT PANELBOARD 208/120V, 3ø, 4W, UON

DISTRIBUTION PANEL

30/3 — NON-FUSED SAFETY SWITCH DISCONNECT RATING/POLES

30/3/15 — FUSIBLE SAFETY SWITCH DISCONNECT RATING/POLES/FUSE RATING

T — TRANSFORMER

MOTOR STARTER

COMBINATION MOTOR STARTER

UH — UNIT HEATER

M — MOTORIZED DAMPER

$M — MANUAL STARTER WITH OVERLOAD RELAY, POLES AND VOLTAGE AS REQUIRED

GENERAL

— NUMBER IN CIRCLE, WITH OR WITHOUT ARROW OR LEADER, REFER TO MATCHING NUMBERED CODED NOTE

— NUMBER IN DIAMOND, WITH OR WITHOUT ARROW OR LEADER; REFER TO THE DEMOLITION CODED NOTE WITH THE MATCHING NUMBER

X / XXX — DETAIL CALLOUT

GENERAL NOTES

1. REFER TO CONSTRUCTION, ELECTRICAL, HVAC AND PLUMBING CONTRACT DRAWINGS FOR SYMBOLS ASSOCIATED WITH WORK, EQUIPMENT, ETC. BY OTHER(S).

2. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC UON. DETERMINE EXACT LOCATION OF ALL CONDUIT RUNS IN THE FIELD. COORDINATE INSTALLATIONS AND AVOID CONFLICT WITH PIPING, DUCTWORK, ACCESS DOORS AND WORK BY OTHER TRADES.

3. CONCEAL ALL CONDUITS AND/OR WIRING WITHIN WALLS, UNDERFLOORS AND/OR ABOVE SUSPENDED CEILINGS.

ENERGY CODE COMPLIANCE STATEMENT:

THE DESIGN PROFESSIONAL WHO SIGNED AND SEALED THESE DOCUMENTS STATES THAT, TO THE BEST OF THEIR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, SUCH DOCUMENTS COMPLY WITH THE ENERGY CODE.

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DESIGN & CONSTRUCTION

CONSULTANT
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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

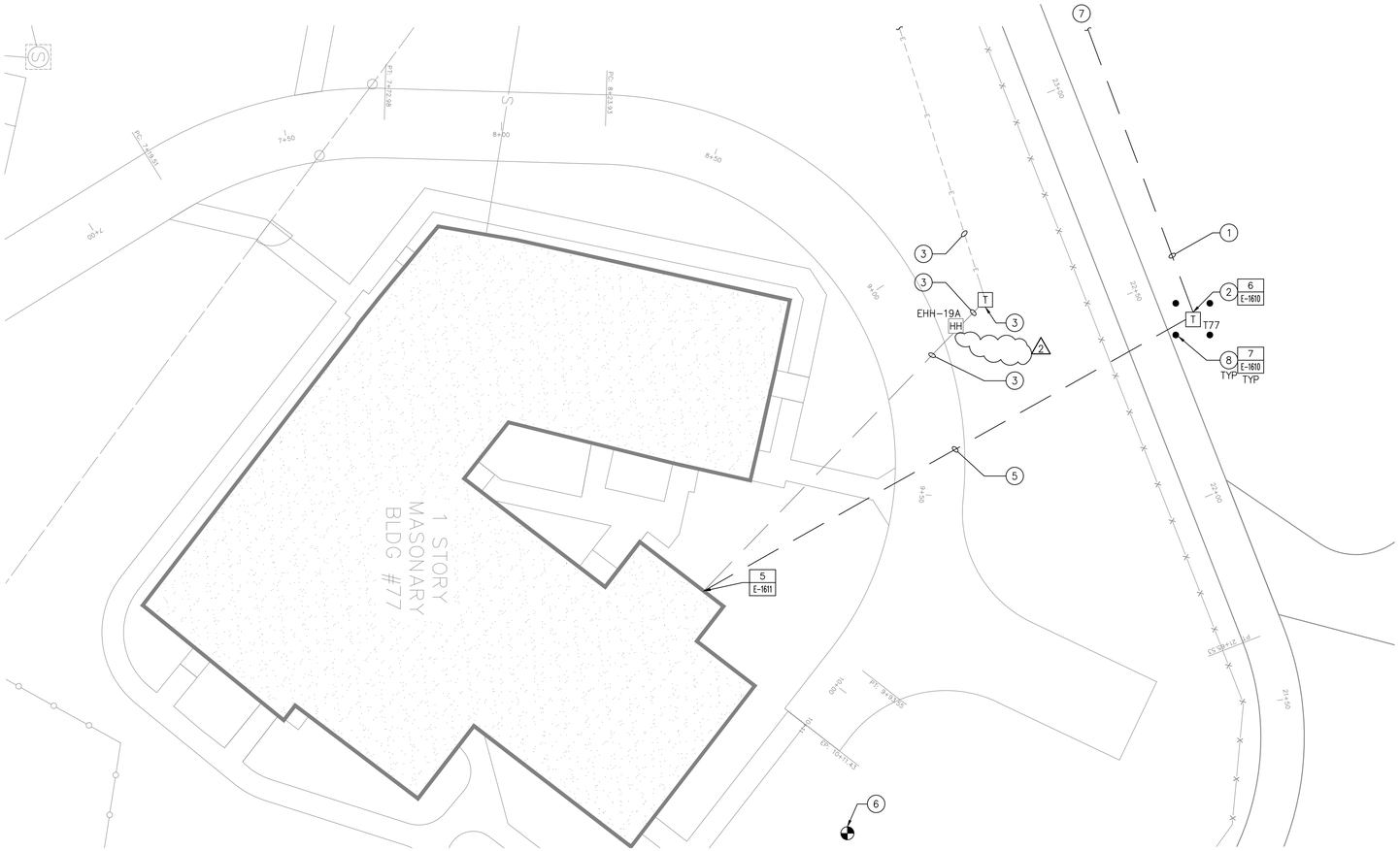
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 ELECTRICAL LEGEND AND ABBREVIATIONS

DRAWING NUMBER:
E-1001

SHEET OF

File: V:\PROJECTS\ANY\K4\32908\CADD_ACAD\E-1001-32908.DWG Saved: 10/4/2017 9:45:52 AM Plotted: 10/4/2017 12:52:29 PM Current User: Sumner Jr, David LastSavedBy: 3924
36x24 PLOT SHEET



BUILDING 77 PARTIAL SITE ELECTRICAL PLAN
1" = 16'

GENERAL NOTES

1. REFER TO DRAWING E-1602 FOR ADDITIONAL INFORMATION.
2. UNDERGROUND CONDUIT UNDER ROADWAYS AND PARKING LOTS SHALL BE CONCRETE ENCASED PVC SCHEDULE 80. ALL OTHER UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 80. (2)

CODED NOTES

(1) PROVIDE 15KV FEEDER BETWEEN SWG-5 AND PRIMARY SIDE OF TRANSFORMER T77. SEE ONE-LINE DRAWING E-1602.

(2) PROVIDE 150 KVA, 13.2kV PRIMARY, 208/120 VOLT SECONDARY 3 PHASE TRANSFORMER IN NEMA 3R ENCLOSURE. PROVIDE CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS.

(3) MAINTAIN BUILDING 77 SERVICE ENTRANCE FEEDER, PAD MOUNTED TRANSFORMER AND TRANSFORMER PRIMARY FEEDER UNTIL REPLACEMENT ENTRANCE FEEDERS AND TRANSFORMER ARE INSTALLED AND TESTED. REMOVE EXISTING TRANSFORMER, PRIMARY, AND SECONDARY FEEDERS COMPLETELY ONCE REPLACEMENT SERVICE IS OPERATIONAL (2)

(4) NOTE NOT USED

(5) PROVIDE SECONDARY FEEDER TO BUILDING 77. REFER TO DRAWING E-1602 FOR ADDITIONAL INFORMATION.

(6) PROVIDE 3/4" CONDUIT AND WIRING FROM POST INDICATOR VALVE TO FIRE ALARM CONTROL PANEL (FACP) IN BUILDING 77.

(7) REFER TO DRAWING E-0003 FOR CONTINUATION.

(8) PROVIDE BOLLARD. COORDINATE EXACT LOCATION WITH DIRECTOR'S REPRESENTATIVE.

GRAPHIC SCALE (FEET)
1"=16' 0' 16' 32' 48' 64' 80'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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RUSH, NY 14543

CLIENT:
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MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

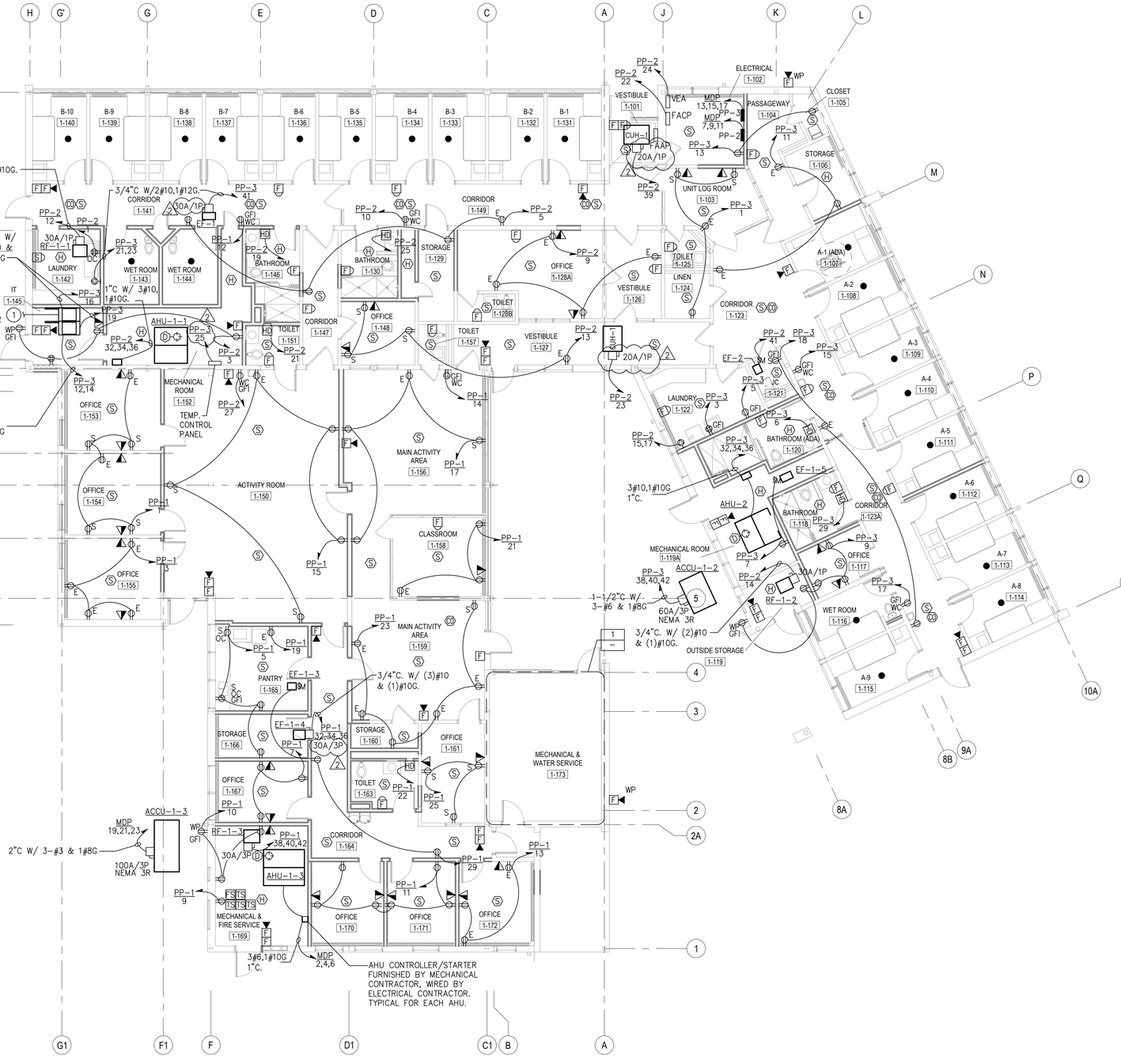
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 PARTIAL SITE ELECTRICAL PLAN

DRAWING NUMBER:
E-1003

SHEET OF

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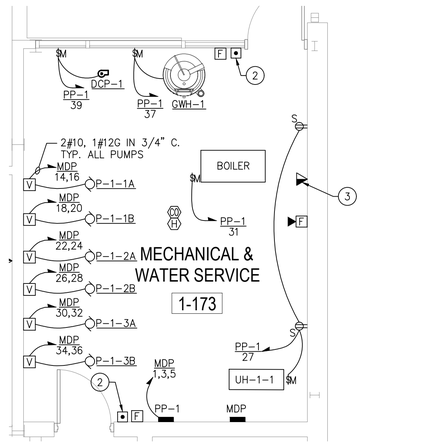


GENERAL NOTES

1. EACH RECEPTACLE TAGGED WITH SUBSCRIPT 'E' WILL UTILIZE RECESSED JUNCTION BOX AND CONDUIT TO ABOVE CEILING.
2. WHERE EXISTING RECESSED RACEWAYS ARE UTILIZED, CONNECT CONDUIT CARRYING BRANCH CIRCUITS WITH COUPLINGS ABOVE CEILING.
3. REFER TO MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS OF MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT.
4. WHERE EXISTING CONDUITS CAN NOT BE UTILIZED AND CONDUIT/WIRE CANNOT BE RECESSED, CONDUIT TO BE SURFACE MOUNTED.

CODED NOTES

1. CONDUIT AND WIRE FOR POWER TO FAS ENCLOSURE. REFER TO DRAWING E-0003 FOR CONTINUATION.
2. PROVIDE EMERGENCY BOILER SHUT OFF SWITCH 54" ABOVE FINISHED FLOOR. WIRE TO BOILER TO SHUT DOWN ALL BOILER OPERATIONS WHEN SWITCHED.
3. PROVIDE DATA DROP AND CONNECTION FROM BOILER TO BUILDING MANAGEMENT SYSTEM.



1 – 1/4" = 1'

ENLARGED MECHANICAL AND WATER SERVICE ROOM

BUILDING 77 POWER & SYSTEMS PLAN
1/8" = 1'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
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III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 POWER & SYSTEMS PLAN

DRAWING NUMBER:
E-1102

SHEET OF

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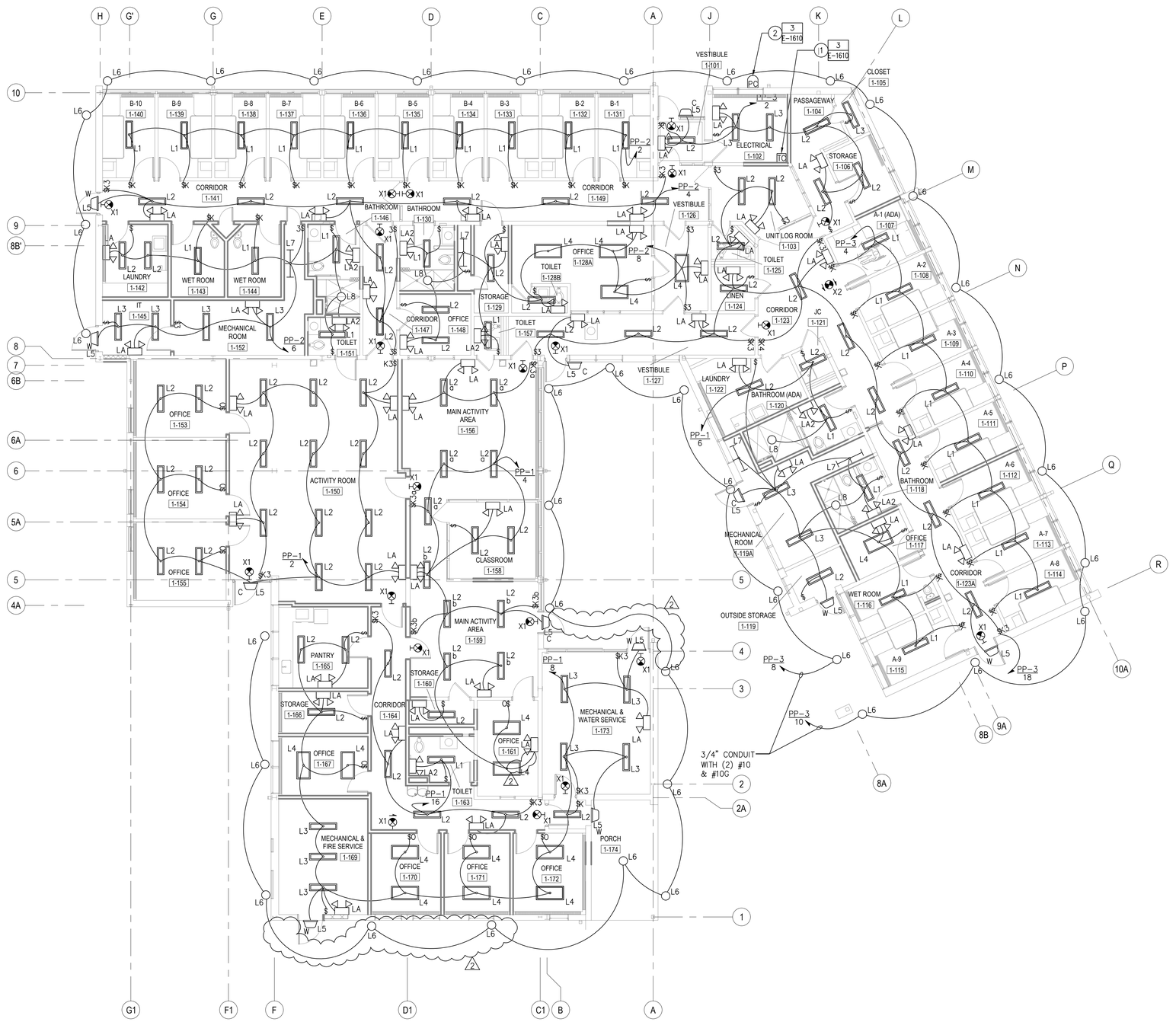
GENERAL NOTE

1. WIRE ALL EXIT SIGNS TO PANEL PP-2, CIRCUIT 11, WITH 2#10, 1#10G IN 3/4"C.

CODED NOTES

(1) PROVIDE TIME CLOCK FOR EXTERIOR BUILDING MOUNTED SOFFIT LIGHTS.

(2) PROVIDE PHOTOCELL AND MOUNT TO BUILDING EXTERIOR. WIRE PHOTOCELL TO TIME CLOCK IN ELECTRICAL ROOM 1-102.



BUILDING 77 LIGHTING PLAN
1/8" = 1'

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 LIGHTING PLAN

DRAWING NUMBER:
E-1103

SHEET OF

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LOCATION: MECHANICAL RM 1–172
MOUNTING: SURFACE
SOURCE: XFMR–77

PANEL ID: MDP

VOLTS, PHASE, WIRE: 208/120V, 3ø, 4W
MAINS: 400A MCB
SHORT CIRCUIT RATING: 42KAIC

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	PANEL PP–1	125/3	6.88			2.33			50/3	AHU–1–3 BLOWER UNIT	2
3				6.88			2.33				4
5					6.88			2.33			6
7	PANEL PP–2	125/3	12.29						60/3	SPARE	8
9				12.29							10
11					12.29						12
13	PANEL PP–3	125/3	13.43			.78			30/2	PUMP P–1–1A	14
15				13.43			.78				16
17					13.43			.78	30/2	PUMP P–1–1B	18
19	ACCU–1–3 CONDENSING UNIT	90/3	7.93			.78					20
21				7.93			.78		30/2	PUMP P–1–2A	22
23					7.93			.78			24
25	SPARE	50/3				.78			30/2	PUMP P–1–2B	26
27							.78				28
29								.78	30/2	PUMP P–1–3A	30
31	PREPARED SPACE	20/1				.78					32
33	PREPARED SPACE	20/1					.78		30/2	PUMP P–1–3B	34
35	PREPARED SPACE	20/1						.78			36
37	PREPARED SPACE	20/1							20/1	PREPARED SPACE	38
39	PREPARED SPACE	20/1							20/1	PREPARED SPACE	40
41	PREPARED SPACE	20/1							20/1	PREPARED SPACE	42
			40.53	40.53	40.53	5.45	5.45	5.45			

TOTAL kVA
137.94

2

LOCATION: MECHANICAL RM 1–172
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP–1

VOLTS, PHASE, WIRE: 208/120V, 3ø, 4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: OFFICE 1–153, OFFICE 1–154	20/1	1.08			.53			20/1	LGT: 1–150, 153, 154, 155	2
3	REC: OFFICE 1–155	20/1		.72			.465		20/1	LGT: 1–156, 158, 159, 160, 161	4
5	REC: OFFICE 1–165, STORAGE 1–166	20/1			.72			.524	20/1	LGT: 1–115 THRU 1–122	6
7	REC: OFFICE 1–167	20/1	.54			.624			20/1	LGT: 1–174 THRU 169, 167 THRU 165	8
9	REC: MECH. AND FIRE SERVICE 1–169	20/1		.18			.54		20/1	MECH. RM. 1–169 REC.	10
11	REC: OFFICE 1–170, OFFICE 1–171	20/1			1.08			.26	20/1	WATER COOLER 1–141	12
13	REC: OFFICE 1–172	20/1	.54			.37			20/1	WATER COOLER 1–156	14
15	REC: ACTIVITY ROOM 1–150	20/1		.9			.174		20/1	LGT: CORRIDOR 1–164, TOILET 1–163	16
17	REC: MAIN ACTIVITY AREA 1–156	20/1			.72				25/2	SPARE	18
19	REC: PANTRY 1–165	20/1	.18								20
21	REC: CLASSROOM 1–158	20/1		.54			1		20/1	HAND DRYER RM. 1–163	22
23	REC: MAIN ACTIVITY AREA 1–159, STORAGE 1–160	20/1			1.08				20/1	SPARE	24
25	REC: OFFICE 1–161	20/1	.54						20/1	SPARE	26
27	REC: MECH. ROOM 1–173, UH–1–1	20/1		.38					20/1	SPARE	28
29	REC: EF–1–3, CORRIDOR 1–164	20/1			.89				20/1	SPARE	30
31	MECHANICAL ROOM BOILER	20/1	1.2			.3			25/3	EF–1–4 CORRIDOR 1–164	32
33	PREPARED SPACE						.3				34
35	PREPARED SPACE							.3			36
37	MECHANICAL ROOM GWH–1	20/1	.6			.936			15/3	RF–1–3	38
39	MECHANICAL ROOM DCP–1	20/1		.53			.936				40
41	SPARE	20/1						.936			42
			4.68	3.25	4.49	2.76	3.42	2.02			

TOTAL kVA
20.62

2

LOCATION: ELECTRICAL RM 1–102
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP–2

VOLTS, PHASE, WIRE: 208/120V, 3ø, 4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: LAUNDRY 1–142	20/1	.36			.5			20/1	LGT: BEDROOMS B–1 THRU B–10	2
3	REC: MECHANICAL ROOM 1–152, IT 1–145	20/1		.9			.262		20/1	LGT: CORRIDORS 1–141, 1–147, AND 1–149	4
5	REC: CORRIDOR 1–149, 1–141, 1–147, STOR 1–129	20/1			.72			.434	20/1	LGT: 1–152,1–142,1–143,1–144,1–146 1–151	6
7	SPARE	20/1							20/1	SPARE	8
9	REC: OFFICE 1–128A, VESTIBULE 1–126	20/1		.72			.26		20/1	WATER COOLER 1–149	10
11	LGT: EXIT SIGNS	20/1			.02			1.92	20/1	RF–1–1	12
13	REC: CORRIDOR 1–127, OFFICE 1–148	20/1	.72			1.92			20/1	RF–1–2	14
15	LAUNDRY 1–122 DRYER	30/2		2						PREPARED SPACE	16
17					2					PREPARED SPACE	18
19	HAND DRYER RM. 1–146	20/1	1							PREPARED SPACE	20
21	HAND DRYER RM. 1–151	20/1		1			.96		20/1	FACP	22
23	CUH–1 1–127	20/1			.34			.64	20/1	VESDA POWER SUPPLY	24
25	HAND DRYER RM. 1–130	20/1	1						20/1	SPARE	26
27	WATER COOLER RM. 1–150	20/1		.26					20/1	SPARE	28
29	PREPARED SPACE								20/1	SPARE	30
31	PREPARED SPACE					1.35			20/3	AHU–1–1 BLOWER UNIT #1	32
33	PREPARED SPACE						1.35				34
35	PREPARED SPACE							1.35			36
37	PREPARED SPACE					4.67			50/3	ACCU–1–1 CONDENSING UNIT	38
39	CUH–1 1–101	20/1		.34			4.67				40
41	EF–2 EAST WING	25/1			.53			4.67			42
			3.08	5.22	3.61	8.44	7.50	9.01			

TOTAL kVA
36.87

2

LOCATION: ELECTRICAL RM 1–102
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP–3

VOLTS, PHASE, WIRE: 208/120V, 3ø, 4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: ROOM 1–103, 1–125, 1–124	20/1	.72			.235			20/1	LGT: 1–101, 102, 104, 105, 106	2
3	REC: LAUNDRY 1–122	20/1		.36			.4		20/1	LGT: BEDROOMS A–1 THRU A–8	4
5	REC: LAUNDRY 1–122 GFI	20/1			.18			1	20/1	HAND DRYER RM. 1–120	6
7	REC: MECH. ROOM1–119, EF–5	20/1	.71			.361			20/1	LGT: SOFFIT LIGHTS	8
9	REC: OFFICE 1–117, STORAGE 1–119	20/1		.9			.38		20/1	LGT: SOFFIT LIGHTS	10
11	REC: 1–104, 1–106, 1–123	20/1			.54			1.5	40/2	FAS UPS	12
13	REC: ELECTRICAL 1–102, CLO. 1–105	20/1	.36			1.5					14
15	WATER COOLER 1–123	20/1		.26			3		30/1	SECURITY EQUIPMENT RACK #2	16
17	WATER COOLER 1–123A	20/1			.26			.54	20/1	REC: JC 1–121, CORRIDOR 123A	18
19	SECURITY EQUIPMENT RACK #1	30/1	3						20/1	SPARE	20
21	DRYER LAUNDRY 1–142	30/2		2					20/1	SPARE	22
23					2				20/1	SPARE	24
25	TEMP. CONT. PNL	20/1	.5						30/2	PREPARED SPACE	26
27	SPARE	20/1								PREPARED SPACE	28
29	HAND DRYER RM. 1–118	20/1			1				30/2	PREPARED SPACE	30
31	PREPARED SPACE					1.35			20/3	AHU–2 BLOWER UNIT#1	32
33	PREPARED SPACE						1.35				34
35	PREPARED SPACE							1.35			36
37	PREPARED SPACE					4.67			50/3	ACCU–1–2 CONDENSING UNIT	38
39	SPARE	20/1					4.67				40
41	EF–1–1 NORTH WING	25/1			.53			4.67			42
			5.29	3.52	4.51	8.12	9.80	9.06			

TOTAL kVA
40.30

2

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DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

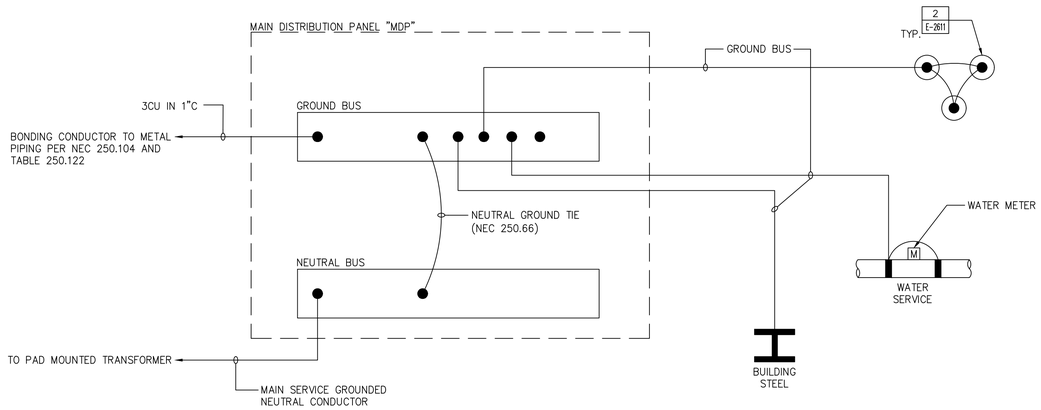
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 PANEL SCHEDULES

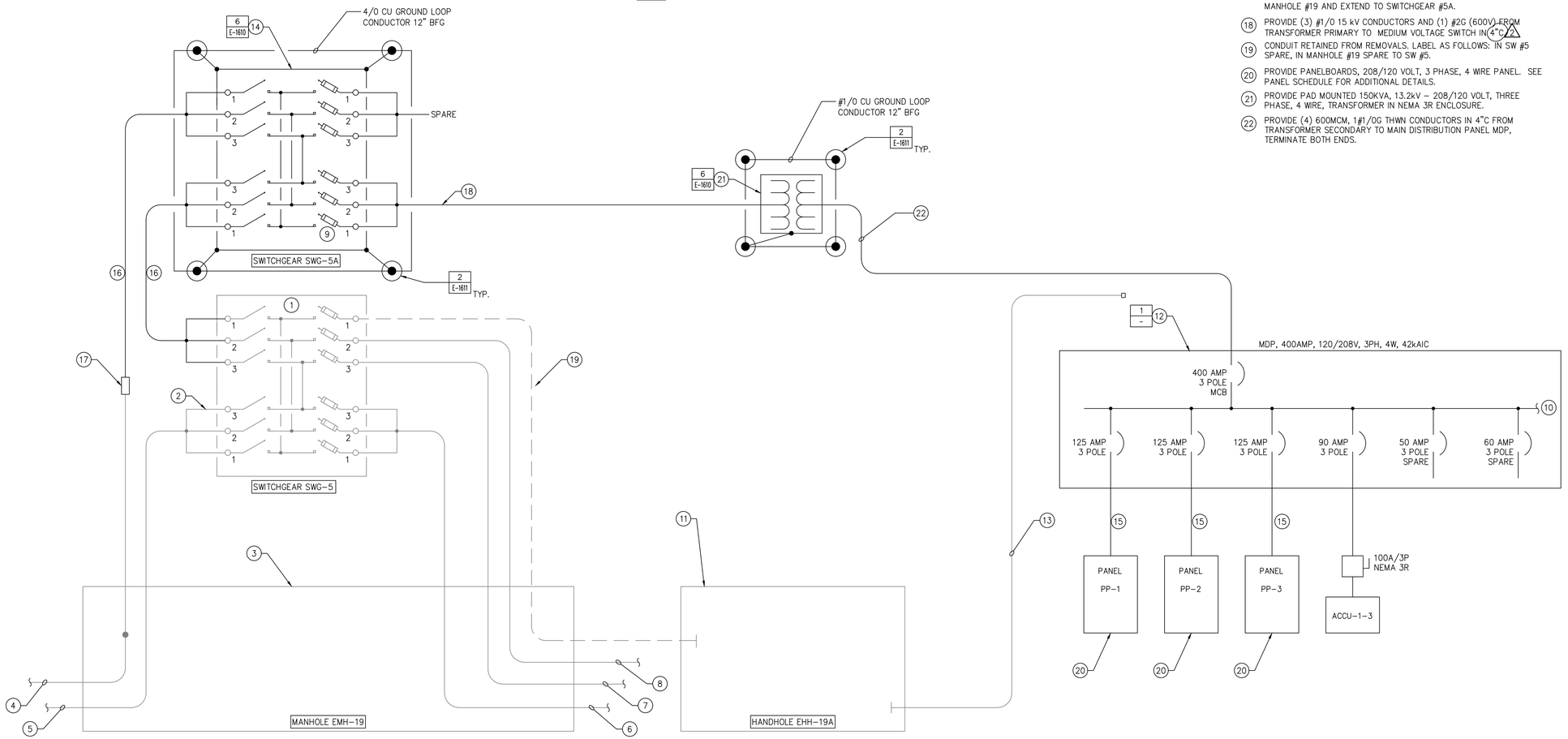
DRAWING NUMBER:
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1 – GROUNDING DETAIL
NOT TO SCALE



2 – BUILDING 77 PROPOSED ONE LINE DIAGRAM
NOT TO SCALE

CODED NOTES

1. PAD MOUNTED SWITCHGEAR #5.
2. MEDIUM VOLTAGE SWITCH #210.
3. ELECTRICAL MANHOLE #19.
4. INCOMING CONDUCTORS FROM SWITCHGEAR ENCLOSURE #4 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
5. INCOMING CONDUCTORS FROM SWITCHGEAR ENCLOSURE #6 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
6. OUTGOING CONDUCTORS TO SWITCHGEAR ENCLOSURE #211 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
7. OUTGOING CONDUCTORS TO TRANSFORMER #63 (1 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
8. OUTGOING CONDUCTORS TO TRANSFORMER AT WATER TOWER (1 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
9. PROVIDE 15kV, 10A FUSES SUITABLE FOR INSTALLATION IN 15kV PAD MOUNTED SITCHGEAR SW #5A.
10. REFER TO PANEL SCHEDULE FOR ADDITIONAL BRANCH BREAKERS.
11. ELECTRICAL HANDHOLE #19A.
12. PROVIDE 400 AMP, 208/120 VOLT, 3 PHASE, 4 WIRE, 42kAIC MAIN DISTRIBUTION PANEL (MDP).
13. EXISTING 2" CONDUIT FROM HANDHOLE #19A TO EXISTING MAIN DISTRIBUTION PANEL.
14. PROVIDE PAD MOUNTED MEDIUM VOLTAGE SWITCH GEAR #5A SIMILAR TO S&C PMH–9. REFER TO DRAWING E–0003 AND E–1003 FOR ADDITIONAL INFORMATION.
15. PROVIDE 4#1, 1#6G IN 1 1/2" C.
16. PROVIDE 3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2G, 600 V RATED IN 4"C.
17. INTERCEPT EXISTING CONDUIT AND EXTEND TO PAD MOUNTED HIGH VOLTAGE SWITCH. SPLICE EXTENSION CONDUCTORS IN ELECTRICAL MANHOLE #19 AND EXTEND TO SWITCHGEAR #5A.
18. PROVIDE (3) #1/0 15 kV CONDUCTORS AND (1) #2G (600V) FROM TRANSFORMER PRIMARY TO MEDIUM VOLTAGE SWITCH IN 4"C. 2
19. CONDUIT RETAINED FROM REMOVALS. LABEL AS FOLLOWS: IN SW #5 SPARE, IN MANHOLE #19 SPARE TO SW #5.
20. PROVIDE PANELBOARDS, 208/120 VOLT, 3 PHASE, 4 WIRE PANEL. SEE PANEL SCHEDULE FOR ADDITIONAL DETAILS.
21. PROVIDE PAD MOUNTED 150KVA, 13.2kV – 208/120 VOLT, THREE PHASE, 4 WIRE, TRANSFORMER IN NEMA 3R ENCLOSURE.
22. PROVIDE (4) 600MCM, 1#1/0G THWN CONDUCTORS IN 4"C FROM TRANSFORMER SECONDARY TO MAIN DISTRIBUTION PANEL MDP, TERMINATE BOTH ENDS.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
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375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
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MARK	DATE	DESCRIPTION
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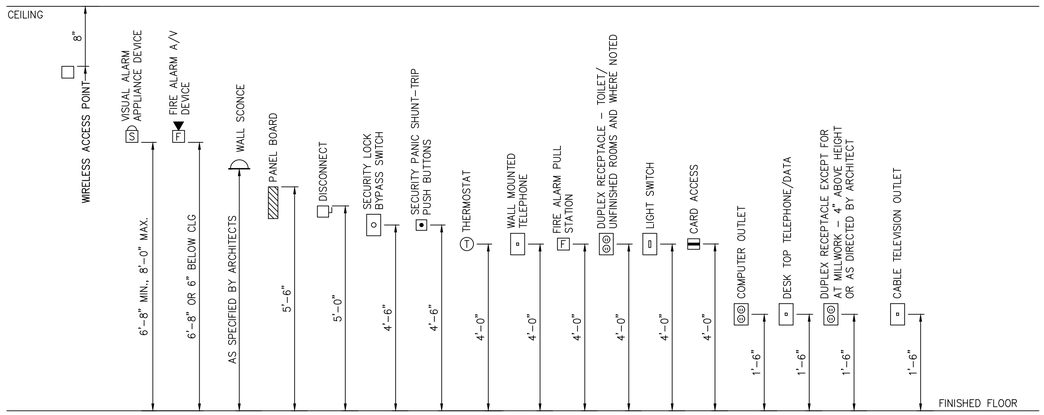
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 ONE LINE DIAGRAM

DRAWING NUMBER:
E–1602

SHEET OF

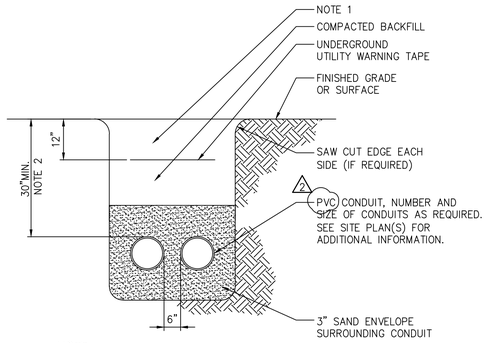
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MOUNTING ELEVATIONS NOTES:

1. COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS, ELEVATIONS AND CASEWORK DETAILS.
2. IN LOCATIONS WHERE DEVICES ARE MOUNTED AT THE SAME HEIGHT, PROPERLY "GANG" DEVICES WHEN FEASIBLE AND PROVIDE A SINGLE COVER PLATE.
3. IN LOCATIONS WHERE DIFFERENT DEVICES ARE MOUNTED AT DIFFERENT HEIGHTS WITHIN FOUR FEET OF ONE ANOTHER, MOUNT DEVICES SUCH THAT THEY HAVE A COMMON CENTERLINE. IF THERE ARE THREE OR MORE DEVICES, THE CONTRACTOR SHALL REQUEST A DETAIL FROM THE ARCHITECT.
4. THE MOUNTING HEIGHT 1'-6" FOR OUTLETS IS NOT APPLICABLE IN CASE FIN TUBE RADIATORS ARE TO BE INSTALLED IN THE PROJECT. COORDINATE MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
5. ELEVATIONS SHOWN ARE TYPICAL, EXCEPTIONS ARE NOTED ON PLANS.

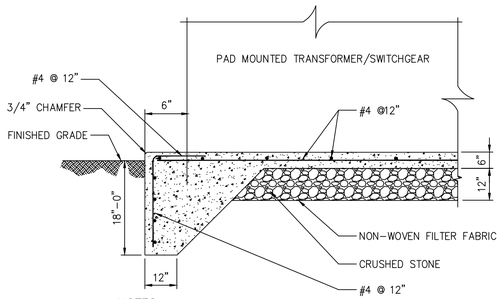
1 TYPICAL DEVICE MOUNTING ELEVATIONS
– NOT TO SCALE



NOTE

1. REPLACE SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL AND GRASS.
2. 30"MIN. OR 6" BELOW BOTTOM OF FROST LINE, WHICHEVER IS DEEPER.

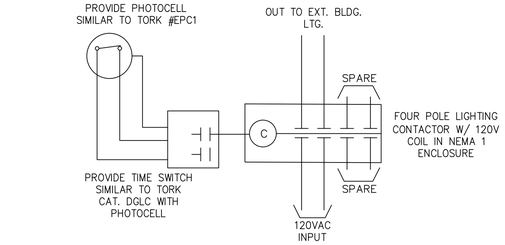
2 TYPICAL DIRECT BURIED CONDUIT(S) DETAIL
– NOT TO SCALE



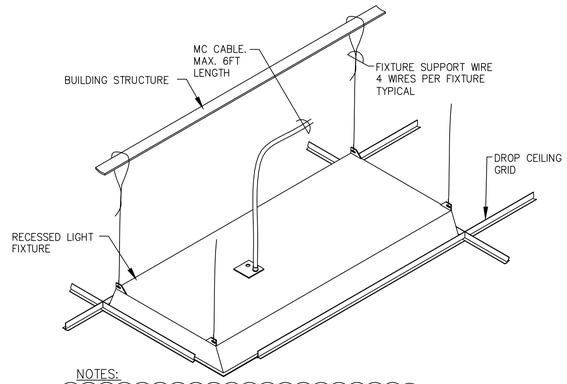
NOTES

1. CONCRETE MUST HAVE 3,000 PSI MINIMUM 28-DAY COMPRESSIVE STRENGTH. THE AIR ENTRAINMENT TO BE A MINIMUM OF 3% TO 5%.
2. CONCRETE TO CURE FOR MINIMUM OF 30 DAYS PRIOR TO PLACEMENT OF GENERATOR SET AND FUEL STORAGE TANK.

6 CONCRETE PAD – DETAIL
– NOT TO SCALE



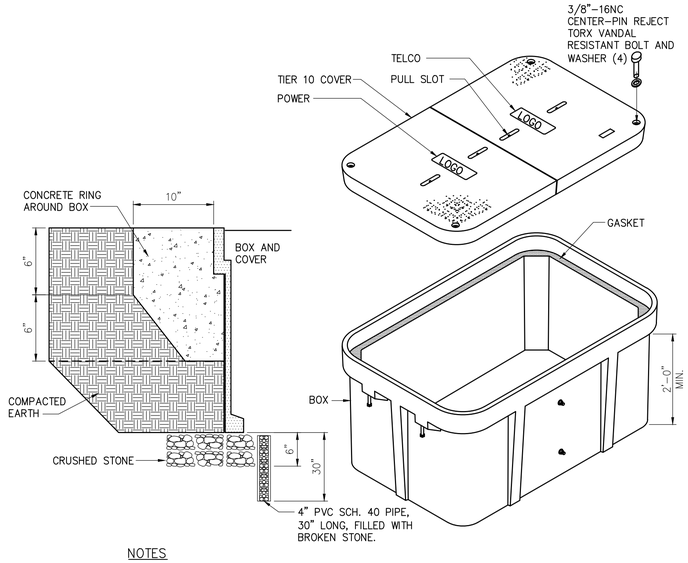
3 TIMECLOCK WITH PHOTOCELL
– NOT TO SCALE



NOTES:

1. MC CABLE SHALL BE SUPPORTED BY J-HOOKS EVERY 4'-0".

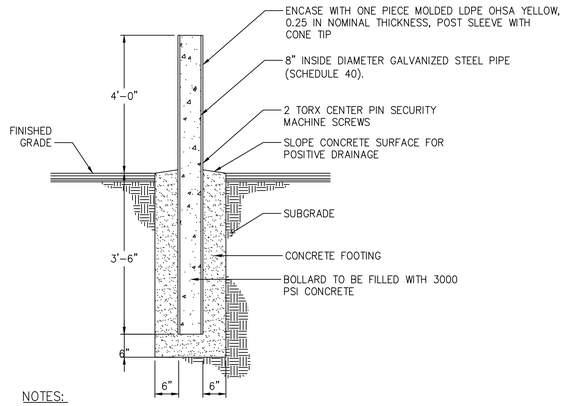
4 FIXTURE SUPPORT
– NOT TO SCALE



NOTES

1. SIZE HANDHOLE AT EACH LOCATION PER NEC. MINIMUM ACCEPTABLE SIZE IS 18"x18"x24".
2. PROVIDE ALL CONDUITS WITH A PULL ROPE.
3. REPLACE SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT CONCRETE, TOPSOIL AND GRASS.
4. INSTALL HANDHOLE BOX AT DEPTH REQUIRED TO BRING TOP OF HANDHOLE BOX COVER 2" ABOVE FINISHED GRADE IN LAWNS AND FLUSH WITH PAVED SURFACES OF WALKWAY, ROADS, PARKING SPACES, ETC.

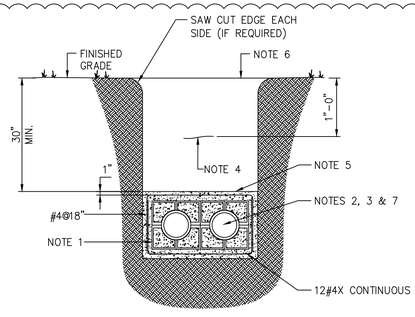
5 PRECAST HANDHOLE
– NOT TO SCALE



NOTES:

1. MINIMUM COMPRESSIVE STRENGTH OF ALL CONCRETE IS 3,000 PSI @ 28 DAYS.
2. SLUMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1") FOR ALL CONCRETE.
3. 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260 FOR ALL CONCRETE.

7 PIPE BOLLARD
– NOT TO SCALE



DUCT NOTES

1. PROVIDE BASE SPACERS AND INTERMEDIATE SPACERS AT 5'-0" ON CENTER.
2. PROVIDE WIRING IN CONDUITS AS INDICATED ON PLANS AND/OR ON FEEDER SCHEDULE AND PROVIDE PULL WIRE IN EACH SPARE CONDUIT.
3. MINIMUM 48" RADIUS FOR CONDUIT BENDS.
4. PROVIDE RED 6" WIDE CONDUCTIVE MARKING TAPE LABELED: 'DANGER- BURIED HIGH VOLTAGE CABLE', AND BLUE MARKING TAPE LABELED: 'COMMUNICATION CONDUITS' (INSTALL ABOVE THE ENTIRE LENGTH OF THE DUCTBANK).
5. UNDER PAVED AREAS ENCASE CONDUITS WITH 3" COVER, ALL SIDES 4000 PSI CONCRETE. THE SLOPE OF DUCTBANK SHALL BE LIMITED TO 5% MAXIMUM. SAND ENVELOPE MAY BE USE IN LIEU OF CONCRETE UNDER NON-PAVED AREAS. DUCTBANK SHALL BE SLOPED TOWARDS MANHOLE FOR DRAINAGE.
6. REPLACE EXISTING SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL, GRASS, ETC. REPLACE SELECT BACKFILL IN 6" LIFTS, COMPACT EACH PLACEMENT.
7. PVC CONDUIT. SIZE AND QUANTITY AS INDICATED ON PLAN(S) AND/OR ON SCHEDULES.

8 TYPICAL CONCRETE ENCASED DUCTBANK DETAIL
– NOT TO SCALE

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DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

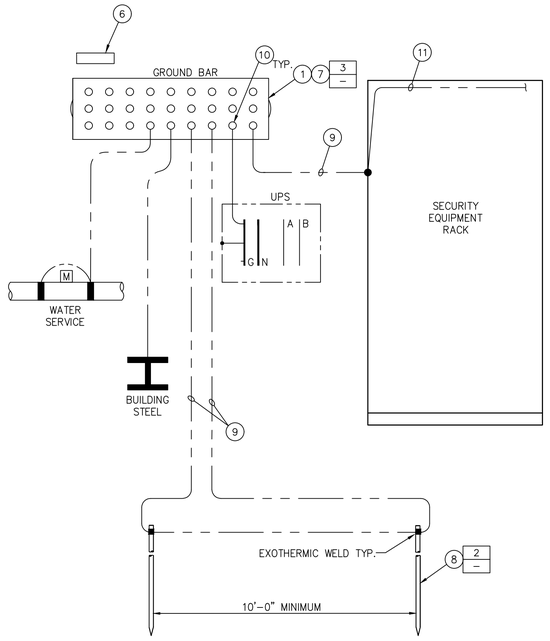
BUILDING 77 ELECTRICAL DETAILS

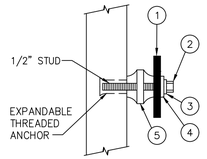
DRAWING NUMBER:

E-1610

SHEET OF

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36x24 PLOT SHEET





GROUND BUS BAR – SIDE VIEW

NOTES

1. UNLESS OTHERWISE NOTED, UTILIZE #6AWG FOR ALL GROUNDING CONDUCTORS.
2. UNLESS OTHERWISE NOTED, PROVIDE INSULATED GROUNDING CONDUCTORS.
3. PROVIDE GROUNDING SYSTEM AS INDICATED, PER NEC REQUIREMENTS.

GROUNDING DIAGRAM CODED NOTES

(1) COPPER GROUND BAR.

(2) CAP SCREW 1/2"–13x1.

(3) LOCK WASHER.

(4) INSULATED WASHER.

(5) FIBERGLASS REINFORCED POLYESTER INSULATED WITH 1/2"–13 THREADED HOLE BOTH ENDS.

(6) ENGRAVED PHENOLIC PERMANENTLY ATTACHED LABEL READING "ELECTRICAL EQUIPMENT GROUND BUS".

(7) PROVIDE BUILDING GROUND BAR LOCATED IN IT ROOM 1–145 ON EQUIPMENT BACKBOARD ON DRAWING EY–1101. INSTALL ON WALL WITH INSULATING STAND OFF. SEE SIDE VIEW.

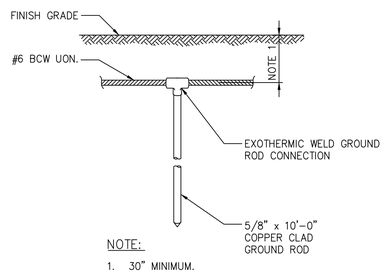
(8) PROVIDE DRIVEN GROUND ROD AND/OR GROUNDING PLATE ON BUILDING EXTERIOR (TYP. OF 2).

(9) PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION.

(10) PROVIDE (2) HOLE COMPRESSION LUG CONNECTION.

(11) PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION BONDED TO EACH SECURITY EQUIPMENT RACK.

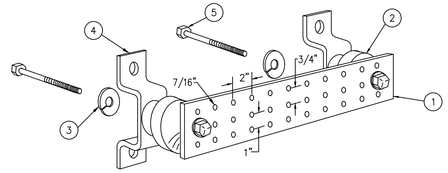
1 GROUNDING SYSTEM – SCHEMATIC DIAGRAM
– NOT TO SCALE



NOTE:

1. 30" MINIMUM.

2 GROUND ROD DETAIL
– NOT TO SCALE



CODED NOTES

(1) COPPER GROUND BAR, 1/4"x4"x20", SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. B–6142. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.

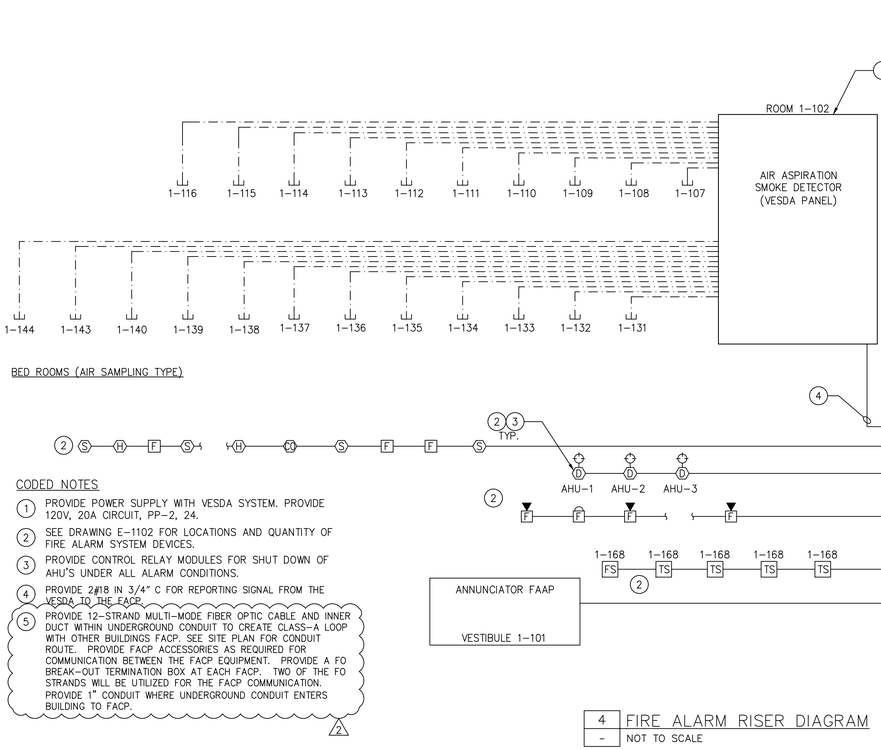
(2) INSULATORS, SIMILAR TO NEWTON INSTRUMENT CAT. NO. 3061–4

(3) 5/8" LOCKWASHERS, SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. 3015–8

(4) WALL MOUNTING BRACKET, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. A–6056

(5) 5/8–11 x 1" H.H.C.S.BOLTS, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. 3012–1

3 GROUND BAR DETAIL
– NOT TO SCALE



CODED NOTES

(1) PROVIDE POWER SUPPLY WITH VESDA SYSTEM. PROVIDE 120V, 20A CIRCUIT, PP–2, 24.

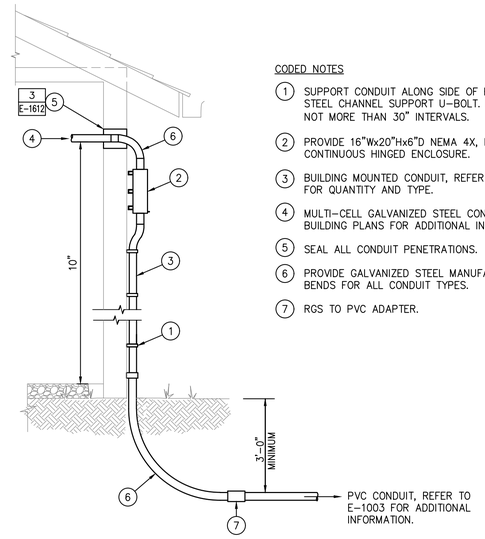
(2) SEE DRAWING E–1102 FOR LOCATIONS AND QUANTITY OF FIRE ALARM SYSTEM DEVICES.

(3) PROVIDE CONTROL RELAY MODULES FOR SHUT DOWN OF AHU'S UNDER ALL ALARM CONDITIONS.

(4) PROVIDE 2#18 IN 3/4" C FOR REPORTING SIGNAL FROM THE VESDA TO THE FACP.

(5) PROVIDE 12–STRAND MULTI–MODE FIBER OPTIC CABLE AND INNER DUCT WITHIN UNDERGROUND CONDUIT TO CREATE CLASS–A LOOP WITH OTHER BUILDINGS FACP. SEE SITE PLAN FOR CONDUIT ROUTE. PROVIDE FACP ACCESSORIES AS REQUIRED FOR COMMUNICATION BETWEEN THE FACP EQUIPMENT. PROVIDE A FO BREAK–OUT TERMINATION BOX AT EACH FACP. TWO OF THE FO STRANDS WILL BE UTILIZED FOR THE FACP COMMUNICATION. PROVIDE 1" CONDUIT WHERE UNDERGROUND CONDUIT ENTERS BUILDING TO FACP.

4 FIRE ALARM RISER DIAGRAM
– NOT TO SCALE



CODED NOTES

(1) SUPPORT CONDUIT ALONG SIDE OF BUILDING WITH STEEL CHANNEL SUPPORT U–BOLT. RISER SUPPORTS NOT MORE THAN 30" INTERVALS.

(2) PROVIDE 16"Wx20"Hx6"D NEMA 4X, LOCKABLE WITH CONTINUOUS HINGED ENCLOSURE.

(3) BUILDING MOUNTED CONDUIT, REFER TO SITE PLANS FOR QUANTITY AND TYPE.

(4) MULTI–CELL GALVANIZED STEEL CONDUIT, REFER TO BUILDING PLANS FOR ADDITIONAL INFORMATION.

(5) SEAL ALL CONDUIT PENETRATIONS.

(6) PROVIDE GALVANIZED STEEL MANUFACTURED FIXED BENDS FOR ALL CONDUIT TYPES.

(7) RGS TO PVC ADAPTER.

NOTE

1. ROUTE CONDUIT HIGH, TO CEILING. COORDINATE CEILING HEIGHT IN FIELD.

5 BUILDING ENTERANCE CONDUIT ROUTING
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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2	10/05/2017	ADDENDUM 6
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	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 77 ELECTRICAL DETAILS

DRAWING NUMBER:

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SHEET OF

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36x24 PLOT SHEET

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFF/G	ABOVE FINISHED FLOOR/GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
AUX	AUXILIARY
A/V	AUDIBLE/VISUAL
AWG	AMERICAN WIRE GAUGE
BB	BACKBOARD
BCW	BARE COPPER WIRE
BATT	BATTERY
BTM	BOTTOM
BKR	BREAKER
BLDG	BUILDING
BFG	BELOW FINISHED GRADE
C	CONDUIT
CAB	CABINET
CATV	COMMUNITY ACCESS TELEVISION (CABLE TELEVISION)
CB	CIRCUIT BREAKER
CIR	CIRCUIT
CKT	CIRCUIT
℄	CENTER LINE
CO	COMPANY
COMM	COMMUNICATIONS
CONN	CONNECTION, CONNECT
CUH	CABINET UNIT HEATER
CT	CURRENT TRANSFORMER
CU	COPPER
CWA	CONSTANT WATTAGE AUTOTRANSFORMER
△	DELTA CONNECTION
D	DEEP
DB	DECIBEL
DET	DETECTOR
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC(AL)
EMER	EMERGENCY
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXT	EXTERIOR
F	FUSE(D)
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLES
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FT	FOOT (FEET)
FUT	FUTURE
FO	FIBER OPTIC
G, GND	GROUND
GALV	GALVANIZE(D)
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HD	HEAVY DUTY
HGT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HW	HOT WATER
ID	IDENTIFY, IDENTIFICATION
INCAND	INCANDESCENT
J-BOX	JUNCTION BOX
J.C.	JANITOR CLOSET
JCT	JUNCTION
KCM/Kcmil	THOUSAND CIRCULAR MILS
KVA	KILO VOLT AMPERE
KW	KILOWATT
LGT	LIGHTING
LT(S)	LIGHT(S)
LED	LIGHT EMITTING DIODE
L	LOUVER
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MC	METAL CLAD CABLE
MFR	MANUFACTURER
MH	METAL HALIDE
MECH	MECHANICAL
MIN	MINIMUM
ML	MOTORIZED LOUVER
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTR	MOTOR
N	NORTH
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NL	NIGHT LIGHT
No/#	NUMBER
OC	OVER COUNTER
OL	OVERLOAD
P	POLE(S)
PA	PUBLIC ADDRESS
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PWR	POWER
ø	PHASE
PT	PRESSURE TREATED
RECEPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SEC	SECONDARY
SH	SHIELDED
SPKR	SPEAKER
SW	SWITCH
TEMP	TEMPORARY/TEMPERATURE
T-STAT	THERMOSTAT
TB	TERMINAL BOARD
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLT, VOLTS
VA	VOLT-AMPERES
W	WATT, WIRE
W/	WITH
WC	WATER COOLER
WP	WEATHERPROOF
XFMR/T	TRANSFORMER
Y	WYE CONNECTION

LIGHTING

REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE, LAMP, BALLAST, POWER REQUIREMENTS, MOUNTING HEIGHT AND MANUFACTURER.

SINGLE POLE LIGHT SWITCH, SUBSCRIPT DENOTES:
- -3=3 WAY SWITCH
- -4=4 WAY SWITCH
- -O=OCCUPANCY WALL SWITCH
- -D=DIMMER SWITCH
- -a=LOWER CASE LETTER DENOTES CONTROL OF FIXTURE(S) AND/OR LAMPS WITH MATCHING LETTER

INSTALL SWITCHES IN THE SAME BOX WITH A MULTI-GANG COVER

TYPICAL LIGHTING FIXTURE,
- X-INDICATES FIXTURE TAG INDENTIFICATION
- a-INDICATES BALLAST CONTROL SWITCHING
- #-INDICATES BRANCH CIRCUIT DESIGNATION

SHADING INDICATES EMERGENCY BALLAST OR GENERATOR CONNECTION

2X4 LIGHT FIXTURE

1X4 LIGHT FIXTURE

1X4 WALL MOUNTED LIGHT FIXTURE

2X2 LIGHT FIXTURE

STRIP TYPE FIXTURE

WALL MOUNTED STRIP TYPE FIXTURE

CEILING MOUNTED DOWN LIGHT

WALL MOUNTED LIGHT FIXTURE

WALL PACK

EXIT SIGN

EMEGENCY WALL PACK

PHOTOCELL

TIME CLOCK

STROBE LIGHT

RACEWAYS

CONDUIT CONCEALED AS SPECIFIED

CONDUIT TURNING UP

CONDUIT TURNING DOWN

PP-1 1/3/5 HOMERUN BACK TO PANEL (PANEL AND CIRCUITS INDICATED)

CIRCUIT CONTINUED OR CONNECTED TO EQUIPMENT AS INDICATED

UNDERGROUND CONDUIT

GROUND CONDUCTOR

GROUNDING CONDUCTOR TERMINATION POINT AT SERVICE EQUIPMENT

INDICATES EXISTING DEVICES OR EQUIPMENT

F FENCE MOUNTED CONDUIT

DEVICES AND APPURTENANCES

SINGLE POLE TOGGLE SWITCH

DUPLEX RECEPTACLE, SUBSCRIPT DENOTES:
- -WP=WEATHER PROOF
- -OC=OVER COUNTER
- -E=UTILIZE EXISTING RACEWAY
- -S=SURFACE MOUNTED
- -42=MOUNTING HEIGHT OF 42 INCHES
- ~~GFI=GROUND FAULT INTERRUPTER~~
- -WC=WATER COOLER

TWO - 20 AMP DUPLEX RECEPTACLES UNDER SINGLE COVER

FLUSH FLOOR BOX BARRIERED COMPARTMENTS FOR POWER OUTLET; DATA OUTLET AND TELEPHONE OUTLET. PROVIDE BASE WITH BRASS COVER.

FLUSH FLOOR BOX w/POWER OUTLET & BRASS COVER

HARDWARE EQUIPMENT CONNECTION

GROUND ROD

SINGLE RECEPTACLE

JUNCTION BOX

CEILING FAN

MH MANHOLE

HH HANDHOLE

UH UNIT HEATER

HD HAND DRYER

ONE LINE DIAGRAMS

POWER TRANSFORMER

AMPS FRAME → 400AF
AMPS TRIP → 400AT
NR. of POLES → 3P
GFP MOLDED CASE CIRCUIT BREAKER W/GROUND FAULT PROTECTION

AUTOMATIC TRANSFER SWITCH (ATS)

SAFETY DISCONNECT SWITCH - UNFUSED

NORMALLY OPEN CONTACT/RELAY

NORMALLY CLOSED CONTACT/RELAY

G GENERATOR

CURRENT TRANSFORMER

FUSE

CIRCUIT TAG REFER TO CONDUIT AND CONDUCTOR SCHEDULE

GROUNDING CONNECTION

POTENTIAL TRANSFORMER

M MOTOR

INDICATES EQUIPMENT ENCLOSURE

V VARIABLE FREQUENCY DRIVE

TELECOMMUNICATIONS

COMBINATION DATA/TELEPHONE OUTLET BOX. MOUNT AT 18" AFF UON. PROVIDE WITH TWO GANG RECESSED BOX WITH SINGLE GANG MUD RING, 1" CONDUIT UP TO ACCESSIBLE CEILING SPACE, AND (2) CAT 6 CABLES BACK TO NEAREST DATA RACK. PROVIDE OUTLET WITH (2) CAT 6 DATA JACKS AND COVER PLATE.

MICROPHONE OR HEADSET/MICROPHONE OUTLET

MICROPHONE

WALL MOUNTED IT EQUIPMENT RACK AND IT EQUIPMENT

FLOOR MOUNTED SECURITY EQUIPMENT RACK. DOOR INDICATES FRONT OF RACK
- INDICATES SECURITY EQUIPMENT RACK NUMBER.

FIRE ALARM SYMBOLS

FACP FIRE ALARM CONTROL PANEL

FAAP FIRE ALARM ANNUNCIATOR PANEL

F MANUAL FIRE ALARM STATION (45" AFF)

B FIRE ALARM BELL

F FIRE COMBINATION HORN/STROBE ALARM

F VISUAL ALARM APPLIANCE (15 CANDELA STROBE UON BY SUBSCRIPT NUMBER)

S SMOKE DETECTOR

D DUCT SMOKE DETECTOR WITH SAMPLING TUBE, REMOTE INDICATOR, AUXILIARY CONTACTS AND REMOTE KEY OPERATED RESET SWITCH

H HEAT DETECTOR: 135° FIXED TEMPERATURE U.O.N. BY SUBSCRIPT NUMBER; ROR = RATE OF RISE

SV FIRE SUPRESSION SOLENOID RELEASE VALVE

AIR ASPIRATION SMOKE DETECTOR PORT

PS PRESSURE SWITCH

TS TAMPER SWITCH

FS FLOW SWITCH

END OF LINE RESISTOR

KB KNOX BOX

VEA MULTI-PORT ADDRESSABLE AIR ASPIRATION SMOKE DETECTOR

POST INDICATOR VALVE

D OVERHEAD DOOR CLOSING DEVICE

CO CARBON MONOXIDE DETECTOR

POWER DISTRIBUTION EQUIPMENT

SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD 208/120V, 3ø, 4W, UON

RECESSED BRANCH CIRCUIT PANELBOARD 208/120V, 3ø, 4W, UON

DISTRIBUTION PANEL

30/3 NON-FUSED SAFETY SWITCH DISCONNECT RATING/POLES

30/3/15 FUSIBLE SAFETY SWITCH DISCONNECT RATING/POLES/FUSE RATING

T TRANSFORMER

MOTOR STARTER

COMBINATION MOTOR STARTER

UH UNIT HEATER

M MOTORIZED DAMPER

MANUAL STARTER WITH OVERLOAD RELAY, POLES AND VOLTAGE AS REQUIRED

GENERAL

(#) NUMBER IN CIRCLE, WITH OR WITHOUT ARROW OR LEADER, REFER TO MATCHING NUMBERED CODED NOTE

◇# NUMBER IN DIAMOND, WITH OR WITHOUT ARROW OR LEADER; REFER TO THE DEMOLITION CODED NOTE WITH THE MATCHING NUMBER

X / XXX DETAIL CALLOUT

GENERAL NOTES

1. REFER TO CONSTRUCTION, ELECTRICAL, HVAC AND PLUMBING CONTRACT DRAWINGS FOR SYMBOLS ASSOCIATED WITH WORK, EQUIPMENT, ETC. BY OTHER(S).

2. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC UON. DETERMINE EXACT LOCATION OF ALL CONDUIT RUNS IN THE FIELD. COORDINATE INSTALLATIONS AND AVOID CONFLICT WITH PIPING, DUCTWORK, ACCESS DOORS AND WORK BY OTHER TRADES.

3. CONCEAL ALL CONDUITS AND/OR WIRING WITHIN WALLS, UNDERFLOORS AND/OR ABOVE SUSPENDED CEILINGS.

ENERGY CODE COMPLIANCE STATEMENT:

THE DESIGN PROFESSIONAL WHO SIGNED AND SEALED THESE DOCUMENTS STATES THAT, TO THE BEST OF THEIR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, SUCH DOCUMENTS COMPLY WITH THE ENERGY CODE.

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

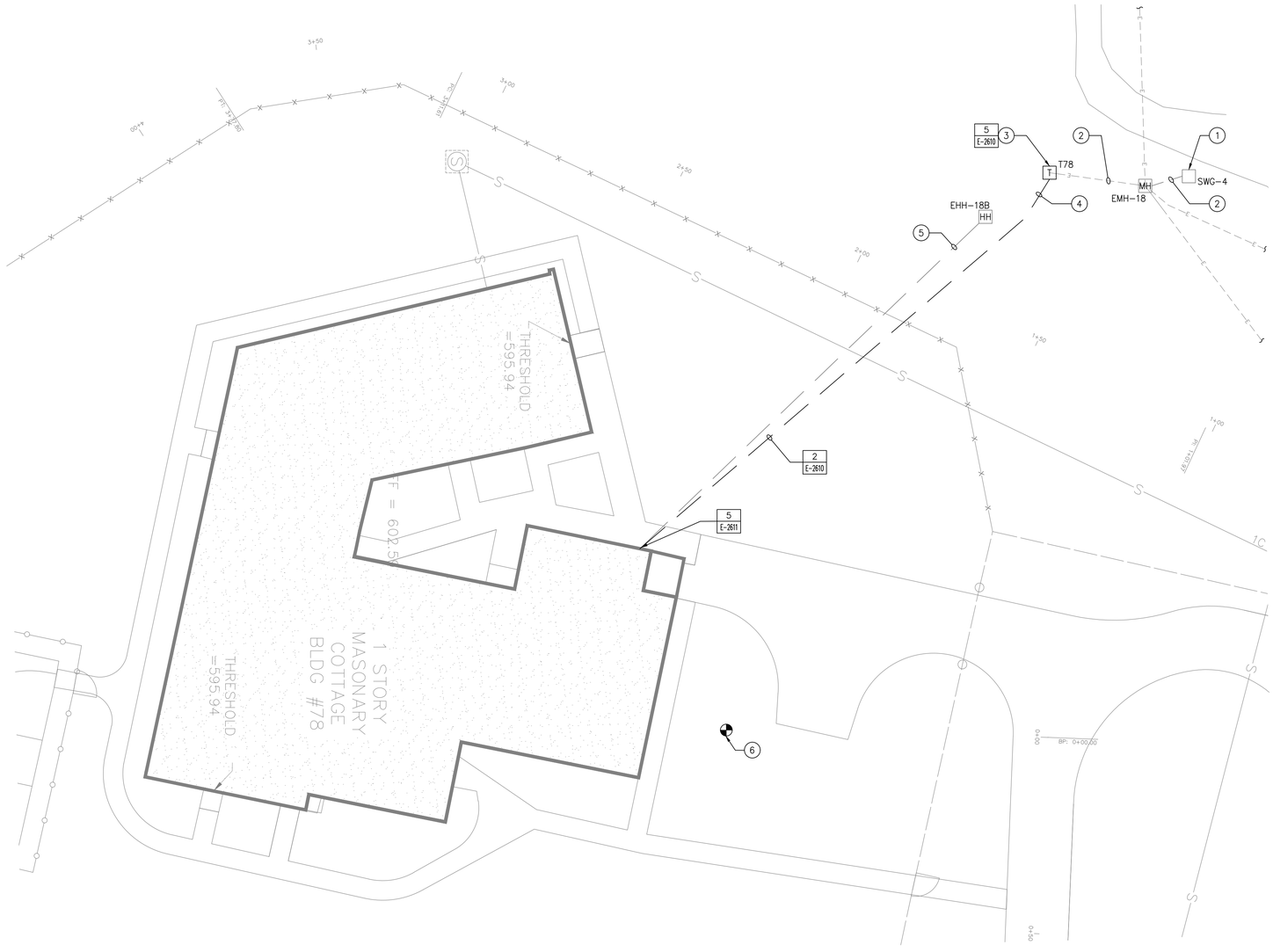
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 ELECTRICAL LEGEND AND ABBREVIATIONS

DRAWING NUMBER:
E-2001

SHEET OF

File: V:\PROJECTS\ANY\K4\32908\CADD_ACAD\E-2001-32908.DWG Saved: 10/4/2017 9:47:11 AM Plotted: 10/4/2017 1:13:57 PM Current User: Summer Jr, David LastSavedBy: 3924
36x24 PLOT SHEET



GENERAL NOTES

1. REFER TO DRAWING E-2602 FOR ADDITIONAL INFORMATION.
2. UNDERGROUND CONDUIT UNDER ROADWAYS AND PARKING LOTS SHALL BE CONCRETE ENCASED PVC SCHEDULE 80. ALL OTHER UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 80.

CODED NOTES

1. APPROXIMATE LOCATION OF EXISTING MEDIUM VOLTAGE SWITCH SWG-4.
2. PROVIDE MEDIUM VOLTAGE CONDUCTORS BETWEEN SWG-4 AND PRIMARY SIDE OF TRANSFORMER T78. REFER TO DRAWING E-2602 FOR FEEDER SIZE.
3. PROVIDE 150 KVA, 13.2kV PRIMARY, 208/120 VOLT SECONDARY 3 PHASE TRANSFORMER IN NEMA 3R ENCLOSURE. MOUNT ON CONCRETE PAD PER MANUFACTURER'S REQUIREMENTS.
4. PROVIDE 4" PVC CONDUIT. ROUTE NEW CONDUCTORS BETWEEN TRANSFORMER SECONDARY AND BUILDING MDP IN NEW CONDUIT. REFER TO DRAWING E-2602 FOR FEEDER SIZE.
5. 2" CONDUIT RETAINED FROM REMOVALS.
6. PROVIDE 3/4" CONDUIT AND WIRING FROM POST INDICATOR VALVE TO FIRE ALARM CONTROL PANEL (FACP) IN BUILDING 78.

BUILDING 78 PARTIAL SITE ELECTRICAL PLAN
1" = 16'

GRAPHIC SCALE (FEET)
1"=16' 0' 16' 32' 48' 64' 80'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

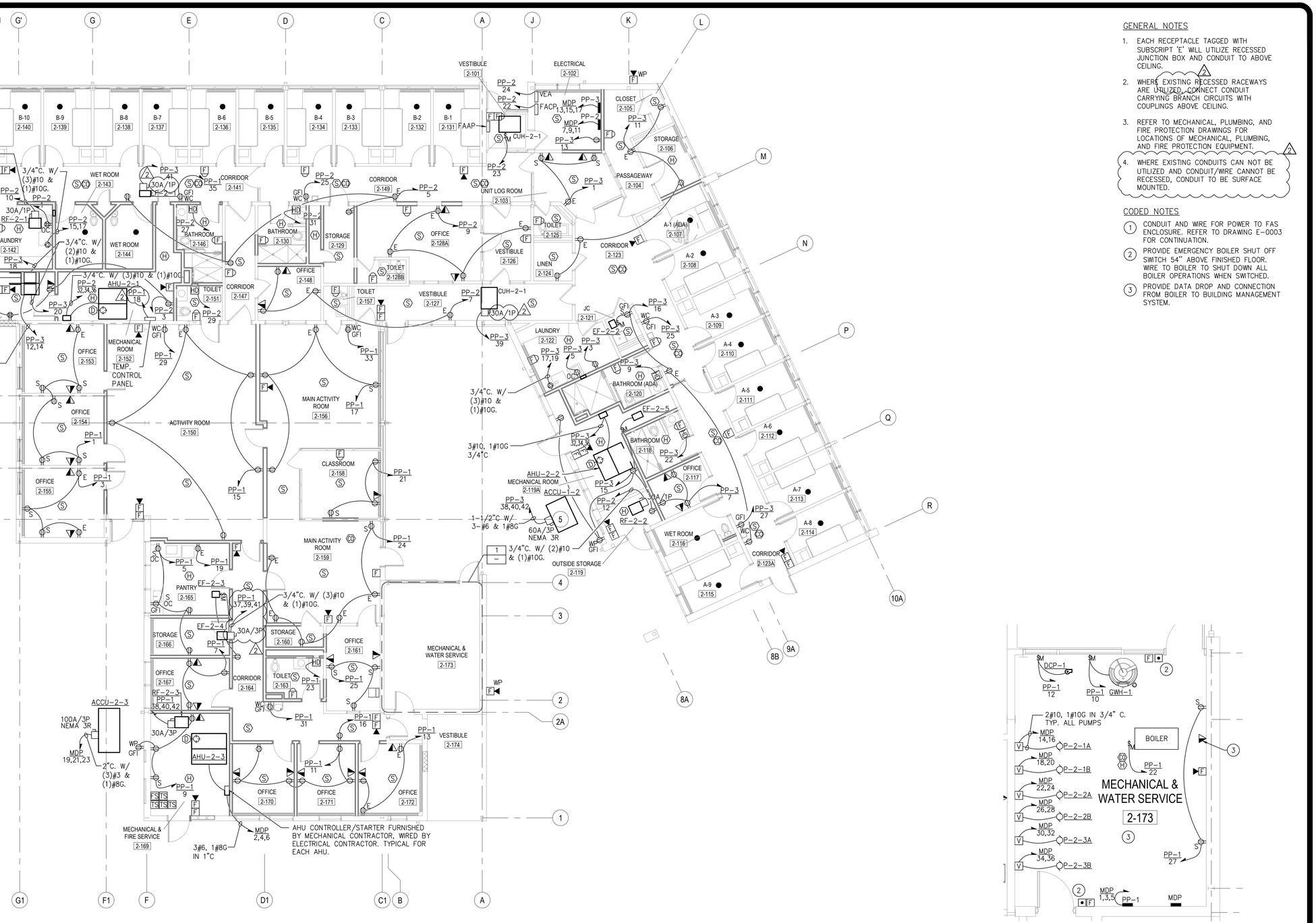
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 PARTIAL SITE ELECTRICAL PLAN

DRAWING NUMBER:
E-2003

SHEET OF

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36x24 PLOT SHEET



GENERAL NOTES

1. EACH RECEPTACLE TAGGED WITH SUBSCRIPT 'E' WILL UTILIZE RECESSED JUNCTION BOX AND CONDUIT TO ABOVE CEILING.
2. WHERE EXISTING RECESSED RACEWAYS ARE UTILIZED, CONNECT CONDUIT CARRYING BRANCH CIRCUITS WITH COUPLINGS ABOVE CEILING.
3. REFER TO MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS OF MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT.
4. WHERE EXISTING CONDUITS CAN NOT BE UTILIZED AND CONDUIT/WIRE CANNOT BE RECESSED, CONDUIT TO BE SURFACE MOUNTED.

CODED NOTES

1. CONDUIT AND WIRE FOR POWER TO FAS ENCLOSURE. REFER TO DRAWING E-0003 FOR CONTINUATION.
2. PROVIDE EMERGENCY BOILER SHUT OFF SWITCH 54" ABOVE FINISHED FLOOR. WIRE TO BOILER TO SHUT DOWN ALL BOILER OPERATIONS WHEN SWITCHED.
3. PROVIDE DATA DROP AND CONNECTION FROM BOILER TO BUILDING MANAGEMENT SYSTEM.

1 – ENLARGED MECHANICAL AND WATER SERVICE ROOM
1/4" = 1'

BUILDING 78 POWER & SYSTEMS PLAN
1/8" = 1'

GRAPHIC SCALE (FEET) 1/4"=1' 0' 4' 8' 12' 16' 20'

GRAPHIC SCALE (FEET) 1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 78 POWER & SYSTEMS PLAN

DRAWING NUMBER:

E-2102

SHEET OF

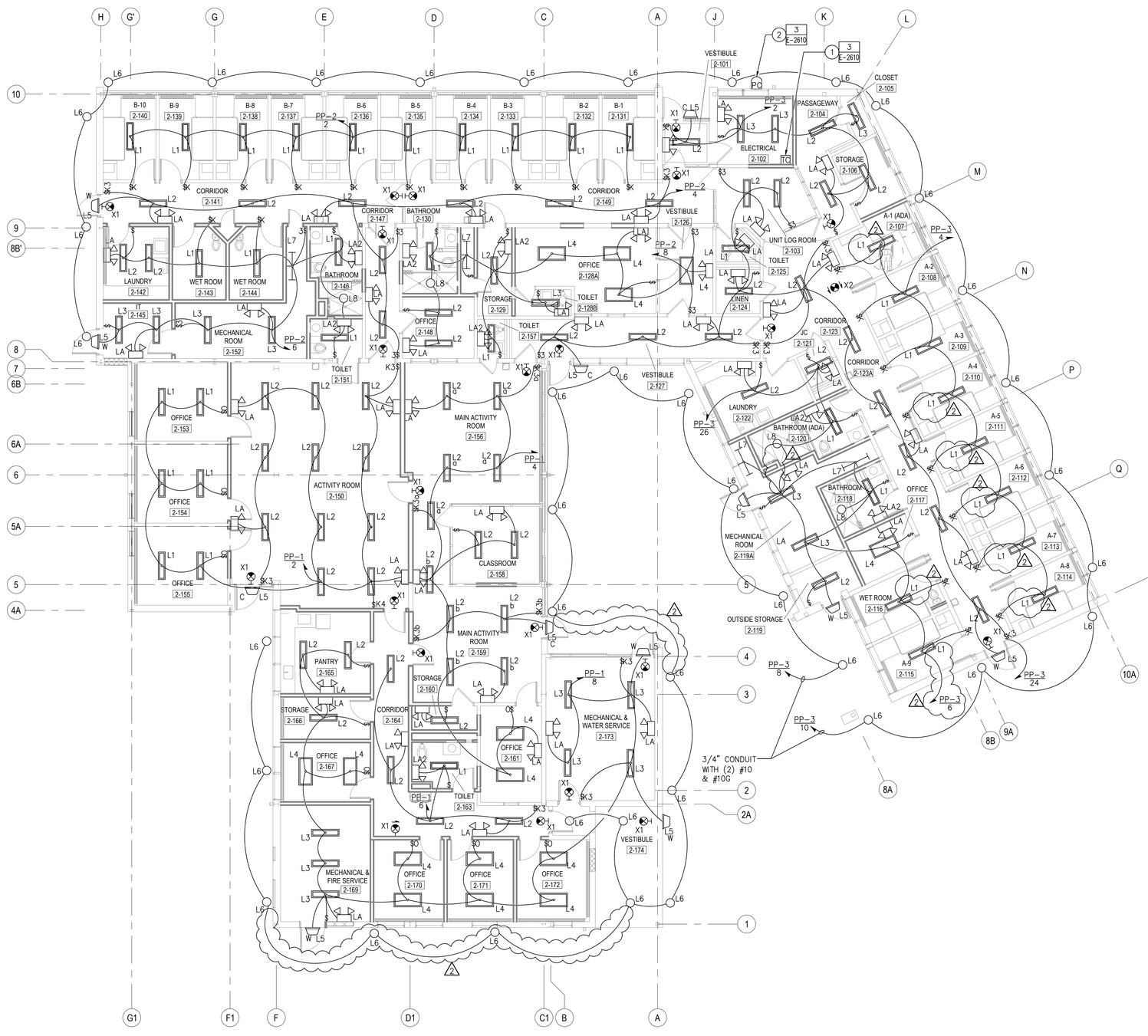
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36x24 PLOT SHEET

GENERAL NOTE

1. WIRE ALL EXIT SIGNS TO PANEL PP-2, CIRCUIT 11, WITH 2#10, 1#10G IN 3/4"C.

CODED NOTES

1. PROVIDE TIME CLOCK FOR EXTERIOR BUILDING MOUNTED SOFFIT LIGHTS.
2. PROVIDE PHOTOCELL AND MOUNT TO BUILDING EXTERIOR. WIRE PHOTOCELL TO TIME CLOCK IN ELECTRICAL ROOM 2-102.



BUILDING 78 LIGHTING PLAN
1/8" = 1'

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

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TITLE:
PROVIDE BUILDING UPGRADES

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375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

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NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

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2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 LIGHTING PLAN

DRAWING NUMBER:
E-2103

SHEET OF

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36x24 PLOT SHEET

LOCATION: MECHANICAL RM 2-172
MOUNTING: SURFACE
SOURCE: XFMR-78

PANEL ID: MDP

VOLTS, PHASE, WIRE: 280/120V,3ø,4W
MAINS: 400A MCB
SHORT CIRCUIT RATING: 42KAIC
SERVICE RATED: YES

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	PANEL PP-1	125/3	6.86			2.33			50/3	AHU-2-3 BLOWER UNIT #1	2
3	↓	↓		6.86			2.33		↓	↓	4
5	↓	↓			6.86			2.33	↓	↓	6
7	PANEL PP-2	125/3	12.03						60/3	SPARE	8
9	↓	↓		12.03					↓	↓	10
11	↓	↓			12.03				↓	↓	12
13	PANEL PP-3	125/3	14.39			.78			30/2	PUMP P-2-1A	14
15	↓	↓		14.39			.78		↓	↓	16
17	↓	↓			14.39			.78	30/2	PUMP P-2-1B	18
19	ACCU-AHU-2-3	90/3	7.93			.78			↓	↓	20
21	↓	↓		7.93			.78		30/2	PUMP P-2-2A	22
23	↓	↓			7.93			.78	↓	↓	24
25	SPARE	50/3				.78			30/2	PUMP P-2-2B	26
27	↓	↓					.78		↓	↓	28
29	↓	↓						.78	30/2	PUMP P-2-3A	30
31	PREPARED SPACE	20/1				.78			↓	↓	32
33	PREPARED SPACE	20/1					.78		30/2	PUMP P-2-3B	34
35	PREPARED SPACE	20/1						.78	↓	↓	36
37	PREPARED SPACE	20/1							20/1	PREPARED SPACE	38
39	PREPARED SPACE	20/1							20/1	PREPARED SPACE	40
41	PREPARED SPACE	20/1							20/1	PREPARED SPACE	42
			41.21	41.21	41.21	5.45	5.45	5.45			
			TOTAL kVA								
			139.98								

2

LOCATION: MECHANICAL RM 2-172
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP-1

VOLTS, PHASE, WIRE: 280/120V,3ø,4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC
SERVICE RATED: YES

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: OFFICE 2-153, OFFICE 2-154	20/1	1.08			.65			20/1	LGT: ACTIVITY RM 2-150,ADJ OFFICES	2
3	REC: OFFICE 2-155	20/1		.72			.464		20/1	LGT: MAIN ACT RM 2-156,2-159, CLASSROOM 2-158	4
5	REC: PANTRY 2-165, STORAGE 2-166	20/1			.72			.174	20/1	LGT: CORRIDOR 2-164, TOILET 2-163	6
7	REC: OFFICE 2-166, OFFICE 2-167	20/1	.54			.551			20/1	LGT: 2-173, 2-172, 2-171, 2-170, 2-169, 2-167. 2-166, 2-165	8
9	REC: MECH. & FIRE SERVICE 2-169	20/1		.72			.6		20/1	GAS GWH-1	10
11	REC: OFFICE 2-170, OFFICE 2-171	20/1			1.08			.53	20/1	PUMP DCP-1	12
13	REC: OFFICE 2-172, 2-174	20/1	.54						20/1	SPARE	14
15	REC: ACTIVITY ROOM 2-150	20/1		.9			.71		20/1	EF-2-3 & CORR. 2-164 REC.	16
17	REC: MAIN ACTIVITY ROOM 2-156	20/1			.72			.5	20/1	TEMPERATURE CONTROL PANEL	18
19	REC: PANTRY 2-165	20/1	.18						20/1	SPARE	20
21	REC: CLASSROOM 2-158	20/1		.54			1.2		20/1	BOILER	22
23	HAND DRYER RM. 2-163	20/1			1			1.08	20/1	REC: MAIN ACTIVITY RM. 2-159, STORAGE 2-160	24
25	REC: OFFICE 2-161	20/1	.54						20/3	SPARE	26
27	REC: MECHANICAL ROOM 2-173	20/1		.36					↓	↓	28
29	WATER COOLER 2-150	20/1			.26				↓	↓	30
31	WATER COOLER 2-164	20/1	.37						20/1	SPARE	32
33	WATER COOLER 2-156	20/1		.26					20/1	SPARE	34
35	WATER COOLER 2-141	20/1			.26				20/1	SPARE	36
37	EF-2-4	30/1	.173			.936			15/3	RF-2-3	38
39	↓	↓		.173			.936		↓	↓	40
41	↓	↓			.173			.936	↓	↓	42
			3.42	3.67	4.21	2.14	3.91	3.22			
			TOTAL kVA								
			20.58								

2

LOCATION: ELECTRICAL RM 2-102
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP-2

VOLTS, PHASE, WIRE: 280/120V,3ø,4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC
SERVICE RATED: YES

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: LAUNDRY 2-142	20/1	.36			.5			20/1	LGT: BEDROOMS	2
3	REC: STORAGE 2-152, IT RM 2-145	20/1		.9			.2		20/1	LGT: CORR 2-141, CORR 2-149	4
5	REC: CORR 2-149,2-147,2-141, STOR 2-129	20/1			.72			.464	20/1	LGT: 2-152,2-145,2-142,WETROOMS,BATHROOMS	6
7	REC: OFFICE 2-148, VEST 2-127	20/1	.72			.386			20/1	LGT: OFFICE 2-128A, VESTIBULE 2-126	8
9	REC: OFFICE 2-128A, VEST. 2-126	20/1		.72			1.92		20/1	RF-2-1	10
11	LGT: EXIT SIGNS	20/1			.023			1.92	20/1	RF-2-2	12
13	SPARE	20/1								PREPARED SPACE	14
15	DRYER	30/2		2						PREPARED SPACE	16
17	↓	↓			2					PREPARED SPACE	18
19	SPARE	25/2								PREPARED SPACE	20
21	↓	↓					.96		20/1	FACP	22
23	CUH-2-1	20/1			.34			.64	20/1	VESDA POWER SUPPLY	24
25	WATER COOLER 2-149	20/1	.26						20/1	SPARE	26
27	HAND DRYER RM. 2-146	20/1		1					20/1	SPARE	28
29	HAND DRYER RM. 2-151	20/1			1				20/1	SPARE	30
31	HAND DRYER RM. 2-130	20/1	1			1.35			20/3	AHU-2-1 BLOWER UNIT #1	32
33	PREPARED SPACE	20/1					1.35		↓	↓	34
35	PREPARED SPACE	20/1						1.35	↓	↓	36
37	PREPARED SPACE	20/1				4.67			50/3	AHU-2-1 CONDENSING UNIT	38
39	PREPARED SPACE	20/1					4.67		↓	↓	40
41	PREPARED SPACE	20/1						4.67	↓	↓	42
			2.34	4.62	4.08	6.91	9.10	9.04			
			TOTAL kVA								
			36.09								

2

LOCATION: ELECTRICAL RM 2-102
MOUNTING: SURFACE
SOURCE: MDP

PANEL ID: PP-3

VOLTS, PHASE, WIRE: 280/120V,3ø,4W
MAINS: 125A MCB
SHORT CIRCUIT RATING: 42KAIC
SERVICE RATED: YES

CKT	LOAD DESCRIPTION	CB AMPS/POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/POLE	LOAD DESCRIPTION	CKT
1	REC: UNIT LOG ROOM 2-103	20/1	.54			.235			20/1	LGT: 2-106, 2-105, 2-104, 2-102, 2-101	2
3	REC: LAUNDRY 2-122	20/1		.18			.4		20/1	LGT: BEDROOMS	4
5	REC: LAUNDRY 2-122 WASHER	20/1			.5			.332	20/1	LGT: 2-115, 2-116, 2-117, 2-118, 2-119, 2-119A	6
7	REC: OFFICE 2-117	20/1	.54			.4			20/1	LGT: SOFFIT LIGHTS	8
9	HAND DRYER RM. 2-120	20/1		1			.38		20/1	LGT: SOFFIT LIGHTS	10
11	REC: 2-104, 2-105, 2-106, 2-123, 2-124	20/1			.9			1.5	40/2	FAS UPS	12
13	REC: ELECTRICAL 2-102	20/1	.18			1.5			↓	↓	14
15	EF-2-5, REC: MECH RM 2-119A, OUTSIDE STOR 2-119	20/1		1.07			1.07		20/1	EF-2-2, REC: CORRIDOR 2-123A, JC 2-121	16
17	DRYER	30/2			2			3	30/1	SECURITY EQUIPMENT RACK #1	18
19	↓	↓	2			3			30/1	SECURITY EQUIPMENT RACK #2	20
21	SPARE	20/1					1		20/1	HAND DRYER RM. 2-118	22
23	SPARE	20/1						.96	20/1	LGT: 2-123A, 2-123, 2-127, 2-103, 2-124, 2-125	24
25	WATER COOLER 2-123	20/1	.26			.144			20/1	LGT: 2-122, 2-121, 2-120	26
27	WATER COOLER 2-123A	20/1		.26					20/1	PREPARED SPACE	28
29	PLC NORMAL POWER	20/1			1.2				20/1	PREPARED SPACE	30
31	PREPARED SPACE	20/1				1.35			20/3	AHU-2-2 BLOWER UNIT#1	32
33	PREPARED SPACE	20/1					1.35		↓	↓	34
35	PREPARED SPACE	20/1						1.35	↓	↓	36
37	PREPARED SPACE	20/1				4.67			50/3	AHU-2-2 CONDENSING UNIT	38
39	UH-2-1	20/1		.02			4.67		↓	↓	40
41	EF-2-1 NORTH WING	20/1			.53			4.67	↓	↓	42
			3.52	2.53	5.13	11.30	8.87	11.81			
			TOTAL kVA								
			43.16								

2

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CONTRACT:
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TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
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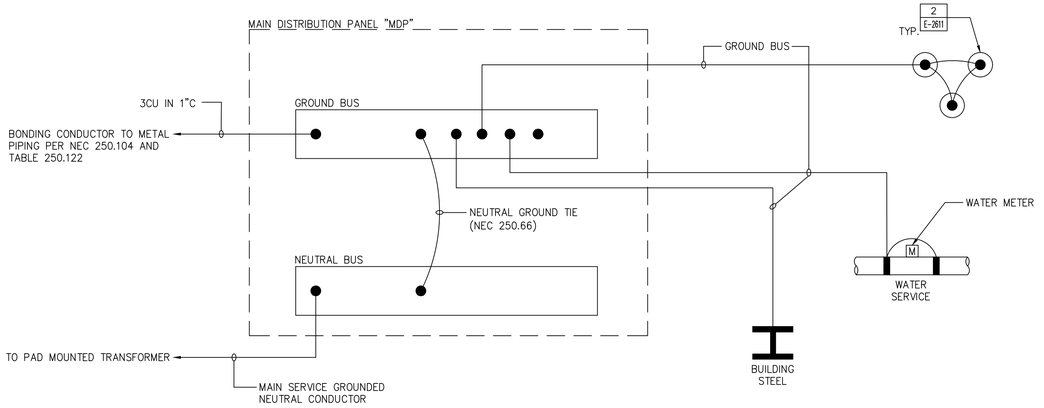
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 PANEL SCHEDULES

DRAWING NUMBER:
E-2401

SHEET OF

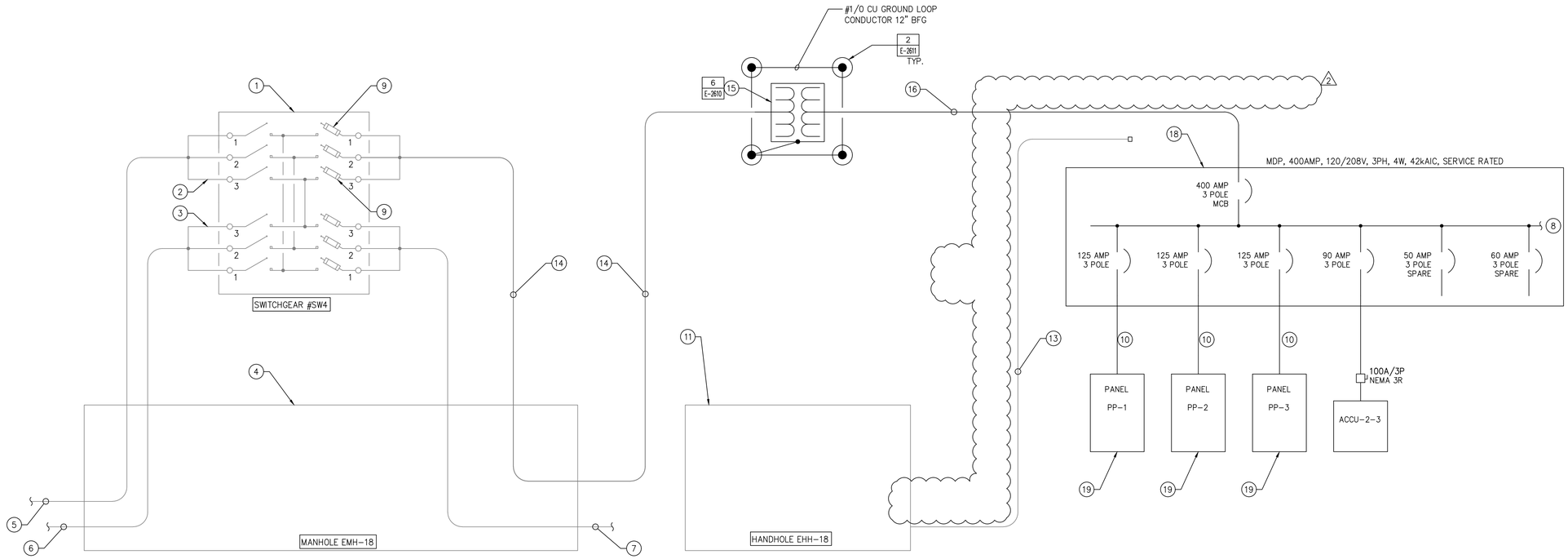
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36x24 PLOT SHEET



1 GROUNDING DETAIL
– NOT TO SCALE

CODED NOTES

1. SWITCHGEAR ENCLOSURE #4.
2. MEDIUM VOLTAGE SWITCH #207.
3. MEDIUM VOLTAGE SWITCH #208.
4. ELECTRICAL MANHOLE #12.
5. INCOMING CONDUCTORS FROM SWITCHGEAR ENCLOSURE #3 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
6. INCOMING CONDUCTORS FROM SWITCHGEAR ENCLOSURE #5 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
7. OUTGOING CONDUCTORS TO TRANSFORMER #90 (3 – 1/0 CONDUCTORS, 15kV RATED & 1 – #2 GROUND, 600 V RATED).
8. REFER TO DRAWING E–2401 FOR ADDITIONAL BRANCH BREAKERS.
9. PROVIDE 15 KV, 10A FUSE SUITABLE FOR INSTALLATION IN 15KV PAD MOUNTED SWITCHGEAR #4.
10. PROVIDE 4#1, 1#6G IN 1 1/2" C.
11. ELECTRICAL HANDHOLE #18.
12. 4" CONDUIT FROM TRANSFORMER TO HANDHOLE #18.
13. 2" CONDUIT FROM HANDHOLE #18 TO MAIN DISTRIBUTION PANEL.
14. PROVIDE (3) #1/0 15 kV CONDUCTORS AND (1) #2G (600V) FROM TRANSFORMER PRIMARY TO MEDIUM VOLTAGE SWITCH. ROUTE IN CONDUIT RETAINED FROM REMOVALS.
15. PROVIDE 150 KVA,13.2 kV – 208/120 VOLT, THREE PHASE, 4 WIRE, TRANSFORMER IN NEMA 3R ENCLOSURE.
16. PROVIDE 4 – 600MCM THWN CONDUCTORS & 1 – 3 THWN GROUND IN 4" C. FROM TRANFORMER SECONDARY TO NEW MAIN DISTRIBUTION PANEL, TERMINATE BOTH ENDS.
17. NOT USED. (2)
18. PROVIDE 400 AMP, 208/120 VOLT, 3 PHASE, 4 WIRE, 42kAIC MAIN DISTRIBUTION PANEL MDP.
19. PROVIDE 125AMP, 208/120 VOLT, 3 PHASE, 4 WIRE PANELBOARD. SEE PANEL SCHEDULE FOR ADDITIONAL DETAILS.



2 BUILDING 78 PROPOSED ONE LINE DIAGRAM
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

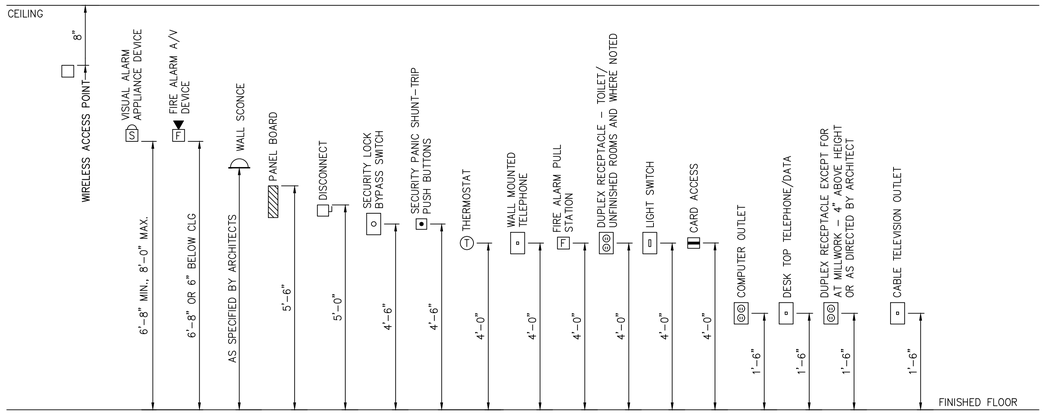
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 ONE LINE DIAGRAM

DRAWING NUMBER:
E–2602

SHEET OF

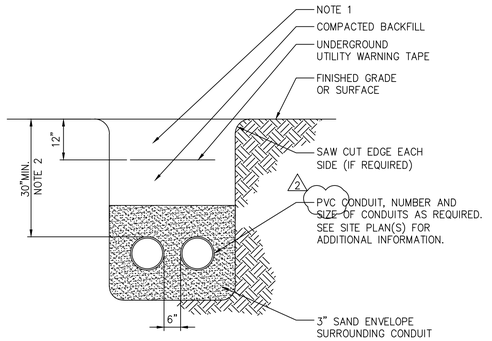
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36x24 PLOT SHEET



MOUNTING ELEVATIONS NOTES:

1. COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS, ELEVATIONS AND CASEWORK DETAILS.
2. IN LOCATIONS WHERE DEVICES ARE MOUNTED AT THE SAME HEIGHT, PROPERLY "GANG" DEVICES WHEN FEASIBLE AND PROVIDE A SINGLE COVER PLATE.
3. IN LOCATIONS WHERE DIFFERENT DEVICES ARE MOUNTED AT DIFFERENT HEIGHTS WITHIN FOUR FEET OF ONE ANOTHER, MOUNT DEVICES SUCH THAT THEY HAVE A COMMON CENTERLINE. IF THERE ARE THREE OR MORE DEVICES, THE CONTRACTOR SHALL REQUEST A DETAIL FROM THE ARCHITECT.
4. THE MOUNTING HEIGHT 1'-6" FOR OUTLETS IS NOT APPLICABLE IN CASE FIN TUBE RADIATORS ARE TO BE INSTALLED IN THE PROJECT. COORDINATE MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
5. ELEVATIONS SHOWN ARE TYPICAL, EXCEPTIONS ARE NOTED ON PLANS.

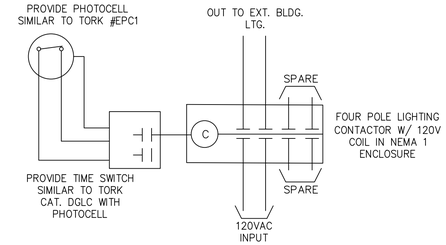
1 TYPICAL DEVICE MOUNTING ELEVATIONS
– NOT TO SCALE



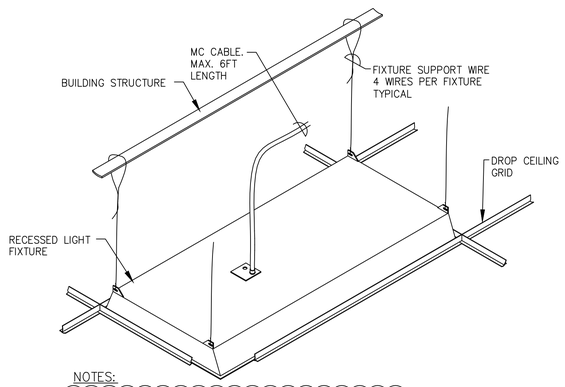
NOTE

1. REPLACE SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL AND GRASS.
2. 30"MIN. OR 6" BELOW BOTTOM OF FROST LINE, WHICHEVER IS DEEPER.

2 TYPICAL DIRECT BURIED CONDUIT(S) DETAIL
– NOT TO SCALE



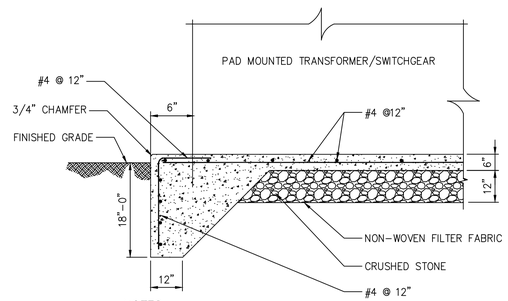
3 TIMECLOCK WITH PHOTOCELL
– NOT TO SCALE



NOTES:

1. MC CABLE SHALL BE SUPPORTED BY J-HOOKS EVERY 4'-0".

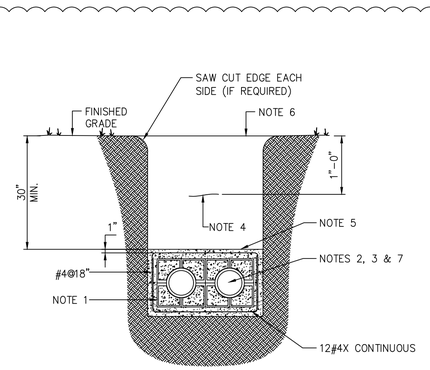
4 FIXTURE SUPPORT 2
– NOT TO SCALE



NOTES

1. CONCRETE MUST HAVE 3,000 PSI MINIMUM 28-DAY COMPRESSIVE STRENGTH. THE AIR ENTRAINMENT TO BE A MINIMUM OF 3% TO 5%.
2. CONCRETE TO CURE FOR MINIMUM OF 30 DAYS PRIOR TO PLACEMENT OF GENERATOR SET AND FUEL STORAGE TANK.

5 TRANSFORMER CONCRETE PAD
– NOT TO SCALE



DUCT NOTES

1. PROVIDE BASE SPACERS AND INTERMEDIATE SPACERS AT 5'-0" ON CENTER.
2. PROVIDE WIRING IN CONDUITS AS INDICATED ON PLANS AND/OR ON FEEDER SCHEDULE AND PROVIDE PULL WIRE IN EACH SPARE CONDUIT.
3. MINIMUM 48" RADIUS FOR CONDUIT BENDS.
4. PROVIDE RED 6" WIDE CONDUCTIVE MARKING TAPE LABELED: 'DANGER- BURIED HIGH VOLTAGE CABLE', AND BLUE MARKING TAPE LABELED: 'COMMUNICATION CONDUITS' (INSTALL ABOVE THE ENTIRE LENGTH OF THE DUCTBANK).
5. UNDER PAVED AREAS ENCASE CONDUITS WITH 3" COVER, ALL SIDES 4000 PSI CONCRETE. THE SLOPE OF DUCTBANK SHALL BE LIMITED TO 5% MAXIMUM. SAND ENVELOPE MAY BE USE IN LIEU OF CONCRETE UNDER NON-PAVED AREAS. DUCTBANK SHALL BE SLOPED TOWARDS MANHOLE FOR DRAINAGE.
6. REPLACE EXISTING SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL, GRASS, ETC. REPLACE SELECT BACKFILL IN 6" LIFTS, COMPACT EACH PLACEMENT.
7. PVC CONDUIT. SIZE AND QUANTITY AS INDICATED ON PLAN(S) AND/OR ON SCHEDULES.

6 TYPICAL CONCRETE ENCASED DUCTBANK DETAIL
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

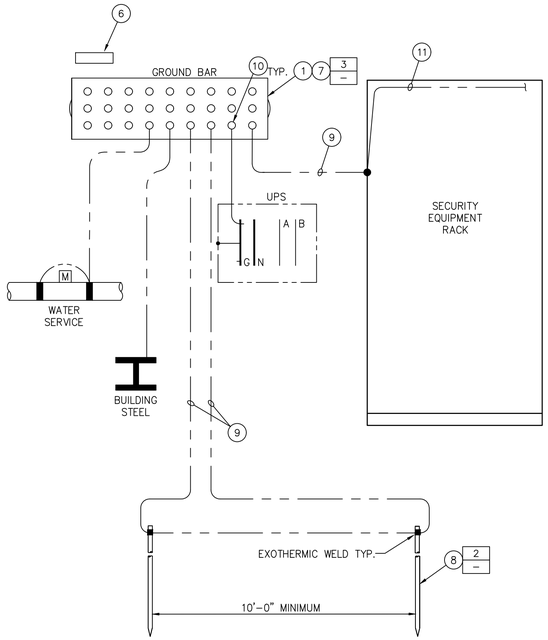
BUILDING 78 ELECTRICAL DETAILS

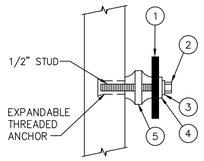
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36x24 PLOT SHEET





GROUND BUS BAR – SIDE VIEW

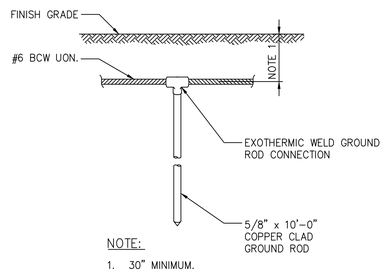
NOTES

1. UNLESS OTHERWISE NOTED, UTILIZE #6AWG FOR ALL GROUNDING CONDUCTORS.
2. UNLESS OTHERWISE NOTED, PROVIDE INSULATED GROUNDING CONDUCTORS.
3. PROVIDE GROUNDING SYSTEM AS INDICATED, PER NEC REQUIREMENTS.

GROUNDING DIAGRAM CODED NOTES

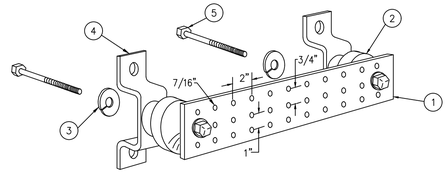
1. COPPER GROUND BAR.
2. CAP SCREW 1/2"–13x1.
3. LOCK WASHER.
4. INSULATED WASHER.
5. FIBERGLASS REINFORCED POLYESTER INSULATED WITH 1/2"–13 THREADED HOLE BOTH ENDS.
6. ENGRAVED PHENOLIC PERMANENTLY ATTACHED LABEL READING "ELECTRICAL EQUIPMENT GROUND BUS".
7. PROVIDE BUILDING GROUND BAR LOCATED IN IT ROOM 2–145 ON EQUIPMENT BACKBOARD ON DRAWING EY–2101. INSTALL ON WALL WITH INSULATING STAND OFF. SEE SIDE VIEW.
8. PROVIDE DRIVEN GROUND ROD AND/OR GROUNDING PLATE ON BUILDING EXTERIOR (TYP. OF 2).
9. PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION.
10. PROVIDE (2) HOLE COMPRESSION LUG CONNECTION.
11. PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION BONDED TO EACH SECURITY EQUIPMENT RACK.

1 GROUNDING SYSTEM – SCHEMATIC DIAGRAM
– NOT TO SCALE



NOTE:
1. 30" MINIMUM.

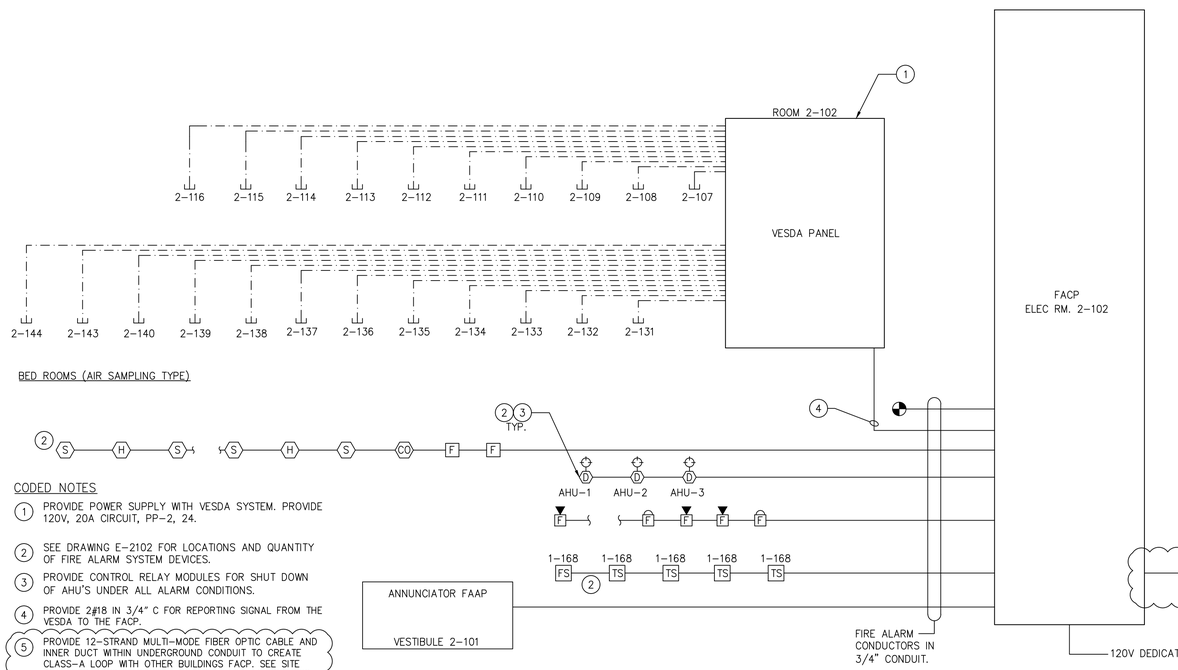
2 GROUND ROD DETAIL
– NOT TO SCALE



CODED NOTES

1. COPPER GROUND BAR, 1/4"x4"x20", SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. B–6142. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, SIMILAR TO NEWTON INSTRUMENT CAT. NO. 3061–4
3. 5/8" LOCKWASHERS, SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. 3015–8
4. WALL MOUNTING BRACKET, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. A–6056
5. 5/8–11 x 1" H.H.C.S.BOLTS, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. 3012–1

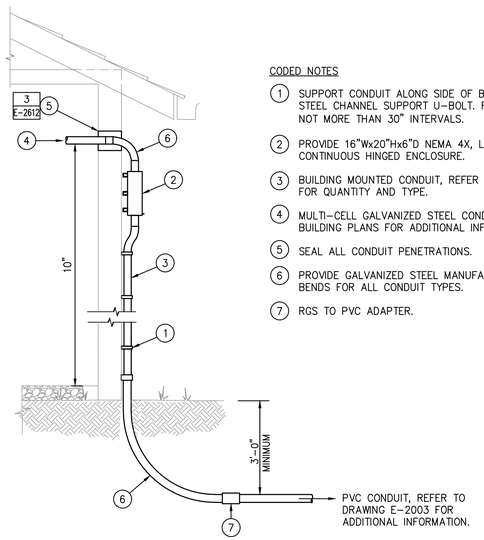
3 GROUND BAR DETAIL
– NOT TO SCALE



CODED NOTES

1. PROVIDE POWER SUPPLY WITH VESDA SYSTEM. PROVIDE 120V, 20A CIRCUIT, PP–2, 24.
2. SEE DRAWING E–2102 FOR LOCATIONS AND QUANTITY OF FIRE ALARM SYSTEM DEVICES.
3. PROVIDE CONTROL RELAY MODULES FOR SHUT DOWN OF AHU'S UNDER ALL ALARM CONDITIONS.
4. PROVIDE 2#18 IN 3/4" C FOR REPORTING SIGNAL FROM THE VESDA TO THE FACP.
5. PROVIDE 12–STRAND MULTI–MODE FIBER OPTIC CABLE AND INNER DUCT WITHIN UNDERGROUND CONDUIT TO CREATE CLASS–A LOOP WITH OTHER BUILDINGS FACP. SEE SITE PLAN FOR CONDUIT ROUTE. PROVIDE FACP ACCESSORIES AS REQUIRED FOR COMMUNICATION BETWEEN THE FACP EQUIPMENT. PROVIDE A FO BREAK–OUT TERMINATION BOX AT EACH FACP. TWO OF THE FO STRANDS WILL BE UTILIZED FOR THE FACP COMMUNICATION. PROVIDE 1" CONDUIT WHERE UNDERGROUND CONDUIT ENTERS BUILDING TO FACP. (2)

4 FIRE ALARM RISER DIAGRAM
– NOT TO SCALE



CODED NOTES

1. SUPPORT CONDUIT ALONG SIDE OF BUILDING WITH STEEL CHANNEL SUPPORT U–BOLT. RISER SUPPORTS NOT MORE THAN 30" INTERVALS.
2. PROVIDE 16"Wx20"Hx6"D NEMA 4X, LOCKABLE WITH CONTINUOUS HINGED ENCLOSURE.
3. BUILDING MOUNTED CONDUIT, REFER TO SITE PLANS FOR QUANTITY AND TYPE.
4. MULTI–CELL GALVANIZED STEEL CONDUIT, REFER TO BUILDING PLANS FOR ADDITIONAL INFORMATION.
5. SEAL ALL CONDUIT PENETRATIONS.
6. PROVIDE GALVANIZED STEEL MANUFACTURED FIXED BENDS FOR ALL CONDUIT TYPES.
7. RGS TO PVC ADAPTER.

NOTE

1. ROUTE CONDUIT HIGH, TO CEILING. COORDINATE CEILING HEIGHT IN FIELD.

5 BUILDING ENTRANCE CONDUIT ROUTING
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

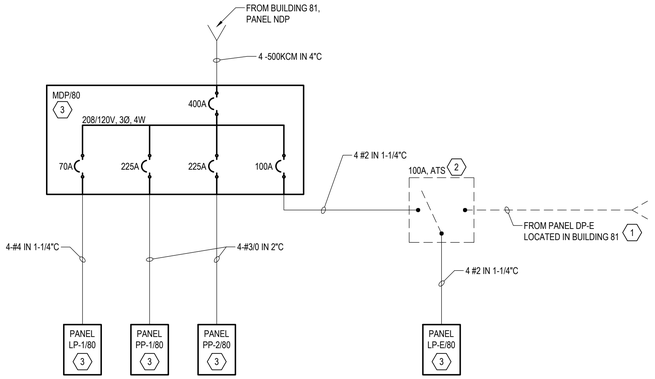
BUILDING 78 ELECTRICAL DETAILS

DRAWING NUMBER:

E–2611

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36x24 PLOT SHEET

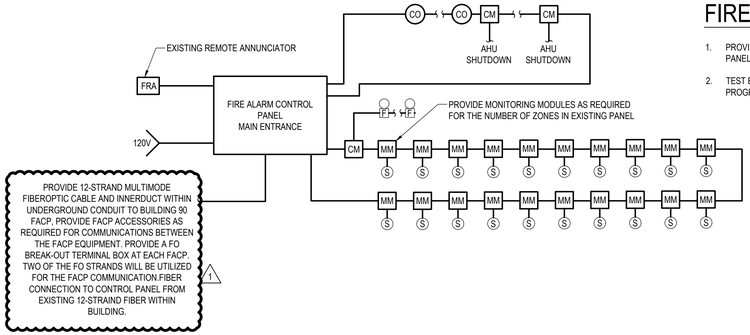


BUILDING 80 - ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

KEYED NOTES

1. REMOVE CONDUCTORS FROM EXISTING UNDERGROUND CONDUIT. ABANDON CONDUIT IN PLACE.
2. REMOVE ATS AND PROVIDE SPLICE BOX TO CONNECT CABLES FROM MDP/80 DIRECTLY TO PANEL LP-E/80.
3. EXISTING PANEL SHALL BE REMOVED AND REPLACED. RECONNECT EXISTING FEEDER AND BRANCH CIRCUITS. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.



BUILDING 80 - FIRE ALARM RISER DIAGRAM

SCALE: NOT TO SCALE

FIRE ALARM GENERAL NOTES:

1. PROVIDE ALL PROGRAMMING AS REQUIRED TO ADD CARBON MONOXIDE DETECTORS TO THE FIRE ALARM PANEL.
2. TEST EACH EXISTING DEVICE AFTER CONNECTED TO FIRE ALARM CONTROL PANEL PROVIDE ALL PROGRAMMING REQUIRED FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
BUILDING 80 ONE–LINE DIAGRAM & FIRE ALARM RISER DIAGRAM

DRAWING NUMBER:
E–3501

SHEET OF

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36x24 PLOT SHEET

PANEL "PP-1/80" SCHEDULE				208/120 3Ø 4W, SURFACE NEMA 1 225A MAIN BKR, 1-30 POS SECTION, 10K AIC *=GROUND FAULT INTERRUPTER			
1	-			2	-		
3	-	90/3	AC UNIT (1)	4	-	20/3	AC UNIT (1)
5	-			6	-		
7	-			8	-	20/1	WATER DETECTION SYSTEM
9	-	20/3	SPARE	10	-	20/1	EF-3-6
11	-			12	-	20/1	UH-3-1
13	-	20/1	EAST ATTIC ROOF EX. (1)	14	-	20/1	SECURITY EQUIPMENT RACK
15	-	20/1	HOT WATER HEATER (1)	16	-	20/1	SPARE
17	-	20/1	EX FANS (1)	18	-	20/1	SPARE
19	-	20/1	HOT WATER TANK (1)	20	-	20/1	SPARE
21	-	20/1	CAMERA POWER (1)	22	-	20/1	SPARE
23	-	30/1	RACK RECEPTACLE	24	-	20/1	SPARE
25	-	20/1	RACK RECEPT	26	-	20/1	SPARE
27	-	20/1	RACK RECEPT	28	-	20/1	SPARE
29	-	20/1	RACK RECEPT	30	-	20/1	SPARE
EXISTING LOAD TO BE RECONNECTED TO PANEL. (1)							

PANEL "PP-2/80" SCHEDULE				208/120 3Ø 4W, SURFACE NEMA 1 225A MAIN BKR, 1-42 POS SECTION 10K AIC * = GROUND FAULT INTERRUPTER			
1	-			2	-	20/1	SPARE
3	-	60/3	FRYER (1)	4	-	20/1	SPARE
5	-			6	-	20/1	SPARE
7	-			8	-		
9	-	20/3	SINK HEATER (1)	10	-	30/3	HOT WATER BOOSTER (1)
11	-			12	-		
13	-			14	-	20/1	FREEZER LTG. (1)
15	-	20/3	DISHWASHER (1)	16	-	20/1	REFRIGERATOR LTG. (1)
17	-			18	-	20/1	RECEPTACLE KITCHEN (1)
19	-	20/1	ICE MACHINE (1)	20	-	20/1	RECEPTACLE KITCHEN (1)
21	-	20/1	REFRIGERATOR (1)	22	-	20/2	SERV. COUNTER HOT (1)
23	-	20/1	SERV. COUNTER COLD (1)	24	-		
25	-	20/1	SHUNT TRIP (1)	26	-	20/1	RECEPTACLE REFRIGERATOR (1)
27	-	20/1	SPARE	28	-	20/1	MIXER (1)
29	-	20/1	SPARE	30	-	20/1	MIXER (1)
31	-			32	-		
33	-	30/3	MICROWAVE (1)	34	-	60/3	FRYER (1)
35	-			36	-		
37	-	20/1	SPARE	38	-	20/1	SPARE
39	-	20/1	SPARE	40	-	20/1	SPARE
41	-	20/1	SPARE	42	-	20/1	SPARE
EXISTING LOAD TO BE RECONNECTED TO PANEL. (1)							

PANEL "MDP/80" SCHEDULE				208/120 3Ø 4W, SURFACE NEMA 1 400A MAIN BKR, 1-24 POS SECTION, 22K AIC * = GROUND FAULT INTERRUPTER			
1	-			2	-		
3	-	100/3P	(1) LP-E/80	4	-	70/3	(1) LP-1/80
5	-			6	-		
7	-			8	-	-/-	SPACE
9	-	225/3	(1) PP-1/80	10	-	-/-	SPACE
11	-			12	-	-/-	SPACE
13	-			14	-	-/-	SPACE
15	-	225/3	(1) PP-2/80	16	-	-/-	SPACE
17	-			18	-	-/-	SPACE
19	-	-/-	SPACE	20	-	-/-	SPACE
21	-	-/-	SPACE	22	-	-/-	SPACE
23	-	-/-	SPACE	24	-	-/-	SPACE
EXISTING LOAD TO BE RECONNECTED TO PANEL. (1)							

PANEL "LP-1/80" SCHEDULE				208/120 3Ø 4W, SURFACE NEMA 1 70A MAIN CIRCUIT BKR, 1-42 POS SECTION, 22K AIC * = GROUND FAULT INTERRUPTER			
1	-	20/1	LTG. RMS 5 - 9 (1)	2	-	20/1	LTG. KITCHEN HOOD (1)
3	-	20/1	LTG. HIGH BAY (1)	4	-	20/1	LTG. RM 10 (1)
5	-	20/1		6	-	20/1	LTG. RM 12 (1)
7	-	20/1	SPARE	8	-	20/1	LTG. RM 13 - 18 (1)
9	-	20/1	LTG. RM 3 (1)	10	-	20/1	LTG. LOW BAY (1)
11	-	20/1	LTG. RM 1 & 2 (1)	12	-	20/1	LTG. LOW BAY (1)
13	-	20/1	RECEPTACLE RMS 5 - 9 (1)	14	-	20/1	RECEPTACLE RMS 10 - 12 (1)
15	-	20/1	RECEPTACLE RMS 2 & 3 (1)	16	-	20/1	RECEPTACLE RMS 10, 11 (1)
17	-	20/1	RECEPTACLE RMS 1 & 18 (1)	18	-	20/1	RECEPTACLE RMS 11, 19 (1)
19	-	20/1	RECEPTACLE RMS 15, 17, 2 (1)	20	-	20/1	SPARE
21	-	20/1	SPARE	22	-	20/1	SPARE
23	-	20/1	SPARE	24	-	20/1	SPARE
25	-	20/1	SPARE	26	-	20/2	POLE LTG. (1)
27	-	20/1	SPARE	28	-		
29	-	20/1	SPARE	30	-	30/1	UPS POWER PANTRY (1)
31	-	20/1	SPARE	32	-	20/1	SPARE
33	-	20/1	SPARE	34	-	20/1	SPARE
35	-	20/1	SPARE	36	-	20/1	SPARE
37	-	20/1	SPARE	38	-	20/1	SPARE
39	-	20/1	SPARE	40	-	20/1	SPARE
41	-	20/1	SPARE	42	-	20/1	SPARE
EXISTING LOAD TO BE RECONNECTED TO PANEL. (1)							

PANEL "LP-E/80" SCHEDULE				208/120 3Ø 4W, SURFACE NEMA 1 100A MAIN BKR, 1-42 POS SECTION, 22K AIC * = GROUND FAULT INTERRUPTER			
1	-			2	-		
3	-	25/3	AC-B (1)	4	-	25/3	(1) (2)
5	-			6	-		
7	-			8	-		
9	-	15/3	UB-1 BLAST FAN (1)	10	-	15/3	(1) (2)
11	-			12	-		
13	-	20/1	EM LTG. (1)	14	-	20/1	FREEZER DEFROST CLOCK (1)
15	-	20/1	EM LTG. (1)	16	-	20/1	TIMER ABOVE DOOR (1)
17	-	20/1	EXIT LTG. (1)	18	-	20/1	SPARE
19	-	20/1	PRV-1 (1)	20	-	15/3	(1) (2)
21	-	20/2	WALK-IN COOLER (1)	22	-		
23	-			24	-		
25	-	20/1	HEAT TAPE (1)	26	-	20/1	SPARE
27	-	20/1	FIRE ALARM (1)	28	-	20/1	FRIDGE (1)
29	-	20/1	CONTROL PANEL (1)	30	-	20/1	BOILER (1)
31	-	15/3	CIRC. PUMP #4 (1)	32	-	20/1	WEST SIDE ATTIC EXHAUST (1)
33	-			34	-	30/1	LTG. KITCHEN (1)
35	-			36	-	20/1	TELEPHONE (1)
37	-	15/3	CIRC. PUMP (1)	38	-	20/1	SPARE
39	-			40	-	20/1	SPARE
41	-			42	-	20/1	SPARE
EXISTING LOAD TO BE RECONNECTED TO PANEL. (1)							
CONTRACTOR SHALL TRACE EXISTING CIRCUIT AND IDENTIFY LOAD SERVED ON PANEL SCHEDULE (2)							

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFRET L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
	10/5/2017	ADDENDUM DRAWING

PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

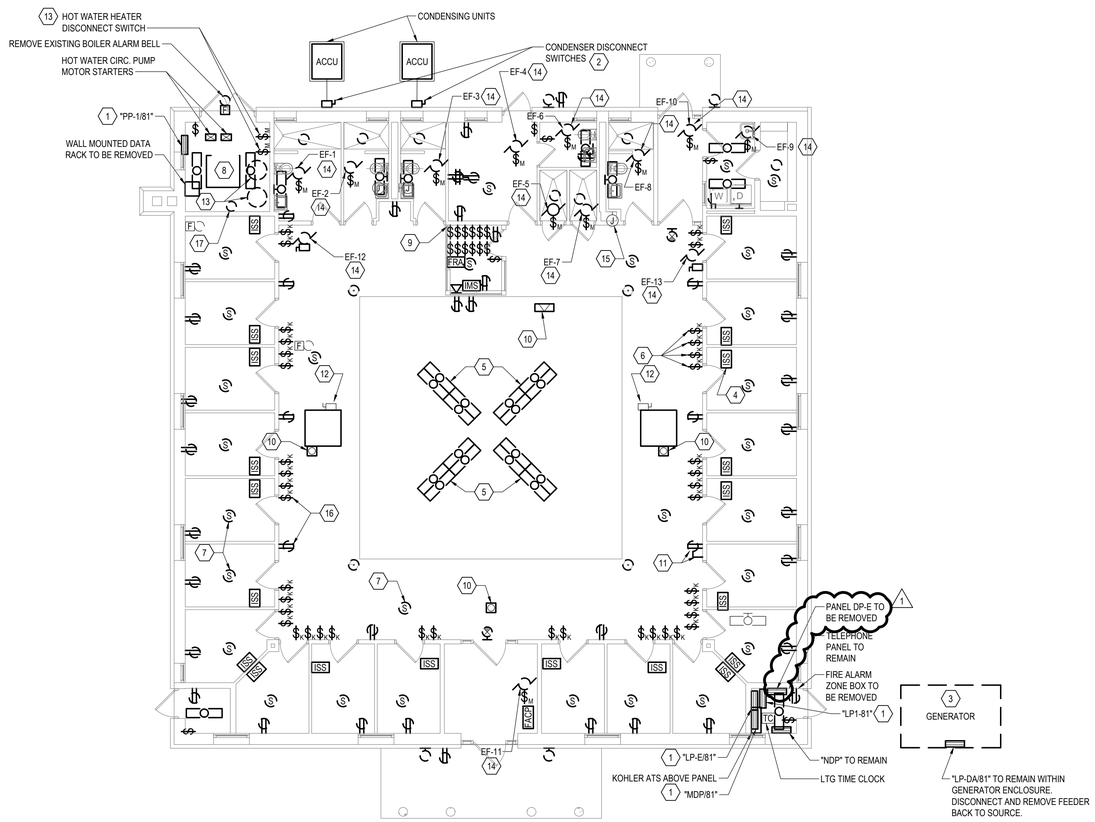
BUILDING 80 PANEL SCHEDULES

DRAWING NUMBER:

E–3701

SHEET OF

FILE R:\PROJECTS\7824 - OGS - INDUSTRY SECURE RESIDENTIAL FACILITY_CAD\7824 - E-3701.DWG
SAVED: 8/23/2017 9:01:24 AM PLOTTED: 8/23/2017 10:20:09 AM USER: NICHOLAS DELPRADO
36x24 PLOT SHEET



BUILDING 81 ELECTRICAL REMOVAL PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REMOVE ALL ELECTRICAL DEVICES SHOWN WITH THE EXCEPTION OF LIGHT FIXTURES. WHICH WILL REMAIN AND BE UPGRADED WITH LED RETROFIT KITS UNLESS NOTED OTHERWISE.
2. ALL POWER & LIGHTING BRANCH CIRCUITING SHALL REMAIN AND BE REUSED UNLESS NOTED OTHERWISE.
3. REMOVE ALL FIRE ALARM DEVICES AND WIRING. CONDUIT RACEWAYS WILL REMAIN FOR INSTALLATION OF NEW FIRE ALARM WIRING.
4. EVERY EFFORT HAS BEEN MADE TO INDICATE ALL EQUIPMENT THAT IS TO BE REMOVED THOUGH FIELD OBSERVATIONS. HOWEVER, THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS, DIMENSIONS, AND SCOPE OF ELECTRICAL WORK.
5. ALL INTERRUPTIONS OF POWER DEMOLITION SHALL BE SCHEDULED AND COORDINATED WITH DIRECTOR'S REPRESENTATIVE. ELECTRICAL CIRCUITS FEEDING FROM OR THROUGH THE CONTRACT AREA SHALL BE MAINTAINED CIRCUITS.
6. CUTTING AND PATCHING OF BUILDING FINISHES AND ELEMENTS TO FACILITATE ELECTRICAL REMOVAL WORK, SHALL BE THE RESPONSIBILITY OF THIS CONTRACT. METHOD OF PATCHING SHALL BE APPROVED BY THE DIRECTOR'S REPRESENTATIVE.

KEYED NOTES

1. PANELBOARD TO BE REMOVED AND REPLACED.
2. REMOVE CONDENSING UNIT DISCONNECT SWITCH AND CIRCUIT FROM DISCONNECT SWITCH TO CONDENSING UNIT. BRANCH CIRCUIT SHALL REMAIN FOR RE-USE.
3. REMOVE GENERATOR AND WEATHERPROOF ENCLOSURE. TRANSPORT GENERATOR TO FACILITIES MAINTENANCE YARD FOR FUTURE USE.
4. REMOVE WALL MOUNTED INTERCOM STATION AND PROVIDE WITH BLANK COVER 51/2"X 71/2" PLATE WITH TAMPERPROOF SCREWS. PROVIDE CLEAR CALK AROUND EDGE OF COVER PLATE TO SEAL TIGHT TO WALL. TYPICAL FOR ALL RESIDENT ROOMS. REMOVE EXISTING WIRING BACK TO SOURCE.
5. REMOVE LIGHT FIXTURES AT PEAK OF DAYROOM, AND ASSOCIATED SWITCHES. PROVIDE BLANK COVER PLATES FOR UNUSED JUNCTION BOXES.
6. REMOVE KEY OPERATED SWITCHES FOR RESIDENT ROOM LIGHTING CONTROL. DISCONNECT WIRING TO UNUSED NIGHTLIGHT FIXTURE LOCATIONS. TYPICAL FOR ALL RESIDENT ROOMS.
7. REMOVE WIRE MESH SMOKE DETECTOR COVERS AND RETURN TO DIRECTOR'S REPRESENTATIVE. SMOKE DETECTORS TO REMAIN. PATCH CEILING AND PREP FOR PAINT. TYPICAL FOR ALL SMOKE DETECTORS SHOWN.
8. REMOVE POWER CIRCUITS, MOTOR STARTERS AND DISCONNECT SWITCHES TO ALL MECHANICAL EQUIPMENT BEING REMOVED.
9. REMOVE WINDOW CONTROL SWITCHES, BACK TO SOURCE. PROVIDE COVER PLATES AS REQUIRED.
10. REMOVE PA SPEAKERS INCLUDING BACK BOXES AND WIRING BACK TO SOURCE.
11. REMOVE EXISTING SURFACE RACEWAY, INCLUDING SURFACE BOXES, AND CONDUCTORS AS REQUIRED.
12. REMOVE EXISTING ELECTRICAL CONNECTION TO EXISTING AHU UNIT BEING REMOVED. COIL & PROTECT EXISTING BRANCH CIRCUIT FOR RECONNECTION TO AHU UNIT.
13. REMOVE EXISTING ELECTRICAL CONNECTIONS TO WATER HEATERS. REMOVE EXISTING MOTOR RATED SWITCHES. COIL AND PROTECT EXISTING BRANCH CIRCUIT FOR RE-CONNECTION TO WATER HEATERS.
14. REMOVE ELECTRICAL CONNECTION TO EXISTING EXHAUST FANS BEING REMOVED. COIL & PROTECT EXISTING BRANCH CIRCUIT FOR RE-CONNECTION TO EXHAUST.
15. DISCONNECT EXISTING ELECTRICAL CONNECTION TO EXISTING WATER COOLER BEING REMOVED. COIL AND PROTECT EXISTING BRANCH CIRCUIT FOR RECONNECTION TO WATER COOLER.
16. ELECTRICAL DEVICES SHALL BE REMOVED AND REPLACED. TYPICAL FOR ALL DEVICES SHOWN UNLESS NOTED OTHERWISE.
17. REMOVE ELECTRICAL CONNECTION TO EXISTING HOT WATER RETURN PUMP BEING REMOVED. COIL & PROTECT EXISTING BRANCH CIRCUIT FOR RE-CONNECTION TO PUMP.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

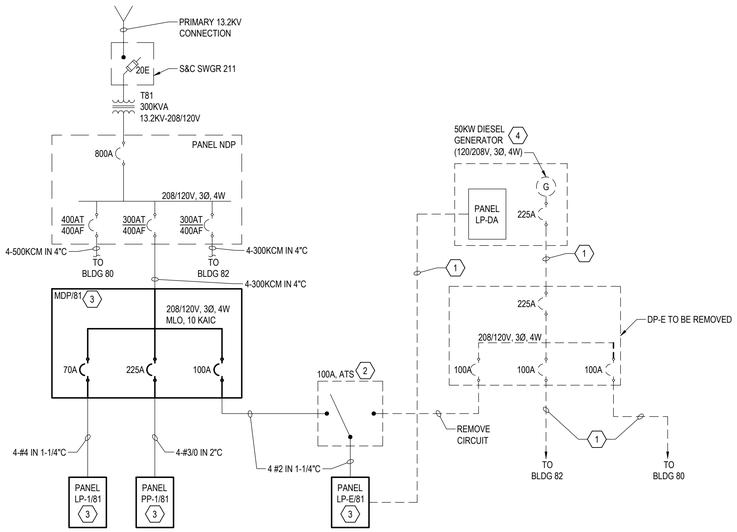
PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
BUILDING 81
ELECTRICAL
REMOVAL PLAN

DRAWING NUMBER:
E–4101

SHEET OF

FILE: R:\PROJECTS\7824 - OGS - INDUSTRY SECURE RESIDENTIAL FACILITY_CAD\7824 - E-4101.DWG
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36x24 PLOT SHEET

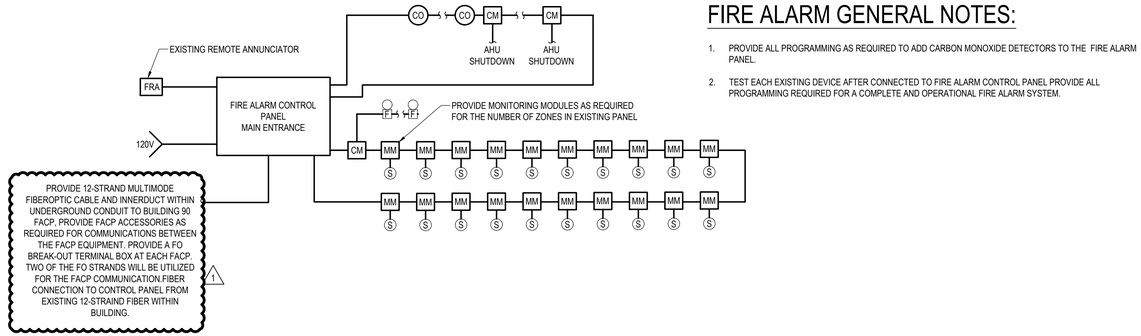


BUILDING 81 - ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

KEYED NOTES

1. REMOVE CONDUCTORS FROM EXISTING UNDERGROUND CONDUIT. ABANDON CONDUIT IN PLACE.
2. REMOVE ATS AND PROVIDE SPICE BOX TO CONNECT CABLES FROM MDP/81 DIRECTLY TO PANEL LP-E/81.
3. EXISTING PANEL TO BE REMOVED AND REPLACED. RECONNECT EXISTING FEEDER AND BRANCH CIRCUITS. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
4. REMOVE GENERATOR AND WEATHERPROOF ENCLOSURE. TRANSPORT GENERATOR TO FACILITIES MAINTENANCE YARD FOR FUTURE USE. PANEL LP-DA SHALL REMAIN WITHIN GENERATOR ENCLOSURE.



BUILDING 81 - FIRE ALARM RISER DIAGRAM

SCALE: NOT TO SCALE

FIRE ALARM GENERAL NOTES:

1. PROVIDE ALL PROGRAMMING AS REQUIRED TO ADD CARBON MONOXIDE DETECTORS TO THE FIRE ALARM PANEL.
2. TEST EACH EXISTING DEVICE AFTER CONNECTED TO FIRE ALARM CONTROL PANEL PROVIDE ALL PROGRAMMING REQUIRED FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.

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DESIGN & CONSTRUCTION

CONSULTANT

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

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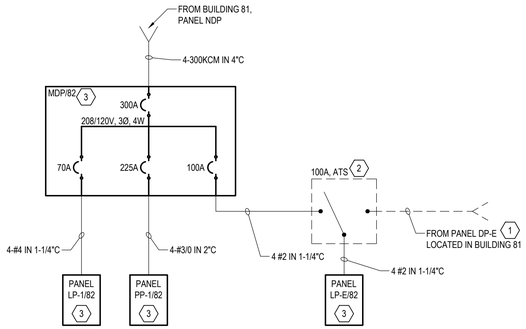
BUILDING 81 ONE–LINE DIAGRAM & FIRE ALARM RISER DIAGRAM

DRAWING NUMBER:

E–4501

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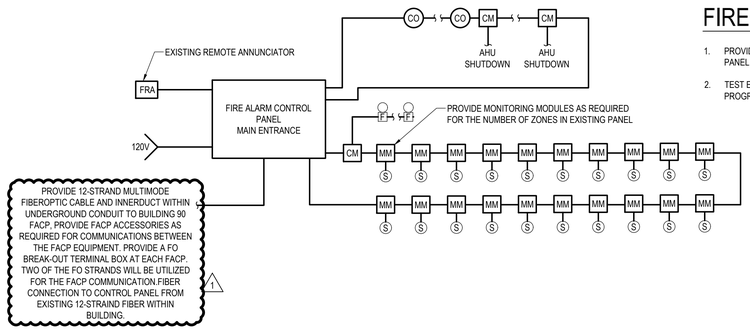


BUILDING 82 - ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

KEYED NOTES

1. REMOVE CONDUITS FROM EXISTING UNDERGROUND CONDUIT. ABANDON CONDUIT IN PLACE.
2. REMOVE ATS AND PROVIDE SPLICE BOX TO CONNECT CABLES FROM MDP/82 DIRECTLY TO PANEL LP-E/82.
3. EXISTING PANEL TO BE REMOVED AND REPLACED. RECONNECT EXISTING FEEDER AND BRANCH CIRCUITS. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.



BUILDING 82 - FIRE ALARM RISER DIAGRAM

SCALE: NOT TO SCALE

FIRE ALARM GENERAL NOTES:

1. PROVIDE ALL PROGRAMMING AS REQUIRED TO ADD CARBON MONOXIDE DETECTORS TO THE FIRE ALARM PANEL.
2. TEST EACH EXISTING DEVICE AFTER CONNECTED TO FIRE ALARM CONTROL PANEL PROVIDE ALL PROGRAMMING REQUIRED FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

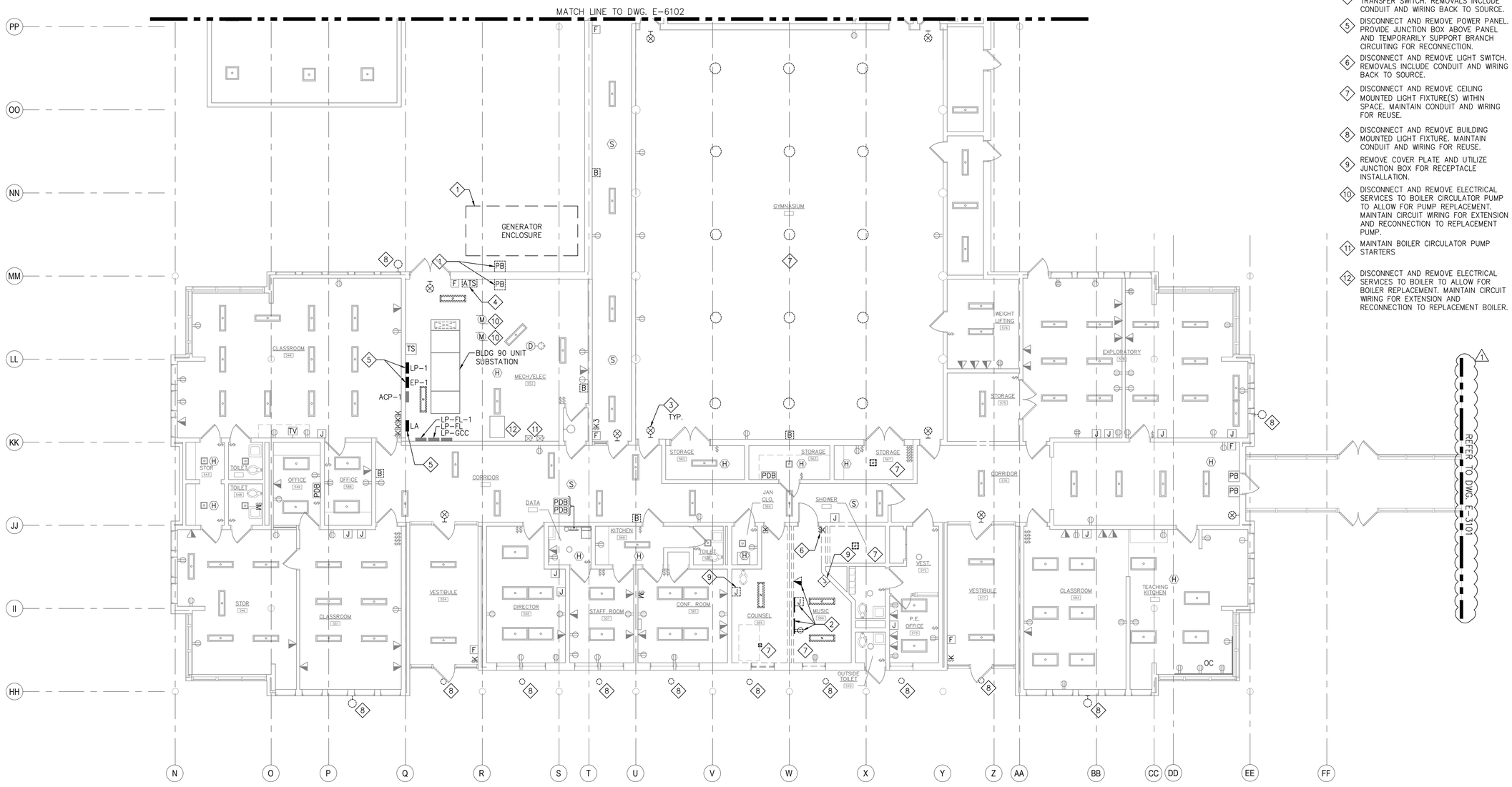
PROJECT NUMBER:	45679 - E
DESIGNED BY:	MLS
DRAWN BY:	MLS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
BUILDING 82
ONE–LINE DIAGRAM
& FIRE ALARM
RISER DIAGRAM

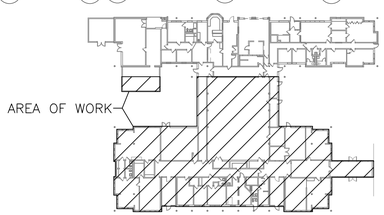
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E–5501

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SAVED: 10/3/2017 9:30:53 AM PLOTTED: 10/3/2017 3:53:05 PM USER: NICHOLAS DELPRADO
36x24 PLOT SHEET



BUILDING 90 ELECTRICAL REMOVALS PLAN
1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

GENERAL NOTES

1. SCHEDULE AND COORDINATE ALL INTERRUPTIONS OF POWER FOR DEMOLITION WITH THE DIRECTOR'S REPRESENTATIVE. MAINTAIN ELECTRICAL CIRCUITS FEEDING FROM OR THROUGH THE CONTRACT AREA.
2. THIS CONTRACT IS RESPONSIBLE FOR CUTTING AND PATCHING OF BUILDING FINISHES AND ELEMENTS TO FACILITATE ELECTRICAL REMOVAL WORK. ACQUIRE APPROVAL FOR METHOD OF PATCHING FROM DIRECTOR'S REPRESENTATIVE.

REMOVAL CODED NOTES

1. DISCONNECT AND REMOVE 3ø, 208V, 150KW DIESEL GENERATOR. REMOVALS INCLUDE ENCLOSURE, DAY TANK, BELLY TANK, WIRING, PULL BOXES AND ASSOCIATED PIPING BACK TO SOURCE. CAP AND SEAL CONDUIT FLUSH WITH CONCRETE PAD.
2. DISCONNECT AND REMOVE JUNCTION BOX, DATA DROP AND RECEPTACLE FROM WALL. REMOVALS INCLUDE CONDUIT, SURFACE RACEWAYS AND WIRING BACK TO SOURCE.
3. DISCONNECT AND REMOVE WALL MOUNTED EXIT SIGN. MAINTAIN CONDUIT AND WIRING FOR REUSE.
4. DISCONNECT AND REMOVE AUTOMATIC TRANSFER SWITCH. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
5. DISCONNECT AND REMOVE POWER PANEL. PROVIDE JUNCTION BOX ABOVE PANEL AND TEMPORARILY SUPPORT BRANCH CIRCUITING FOR RECONNECTION.
6. DISCONNECT AND REMOVE LIGHT SWITCH. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
7. DISCONNECT AND REMOVE CEILING MOUNTED LIGHT FIXTURE(S) WITHIN SPACE. MAINTAIN CONDUIT AND WIRING FOR REUSE.
8. DISCONNECT AND REMOVE BUILDING MOUNTED LIGHT FIXTURE. MAINTAIN CONDUIT AND WIRING FOR REUSE.
9. REMOVE COVER PLATE AND UTILIZE JUNCTION BOX FOR RECEPTACLE INSTALLATION.
10. DISCONNECT AND REMOVE ELECTRICAL SERVICES TO BOILER CIRCULATOR PUMP TO ALLOW FOR PUMP REPLACEMENT. MAINTAIN CIRCUIT WIRING FOR EXTENSION AND RECONNECTION TO REPLACEMENT PUMP.
11. MAINTAIN BOILER CIRCULATOR PUMP STARTERS
12. DISCONNECT AND REMOVE ELECTRICAL SERVICES TO BOILER TO ALLOW FOR BOILER REPLACEMENT. MAINTAIN CIRCUIT WIRING FOR EXTENSION AND RECONNECTION TO REPLACEMENT BOILER.

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 ELECTRICAL REMOVALS PLAN

DRAWING NUMBER:
E-6101

SHEET OF

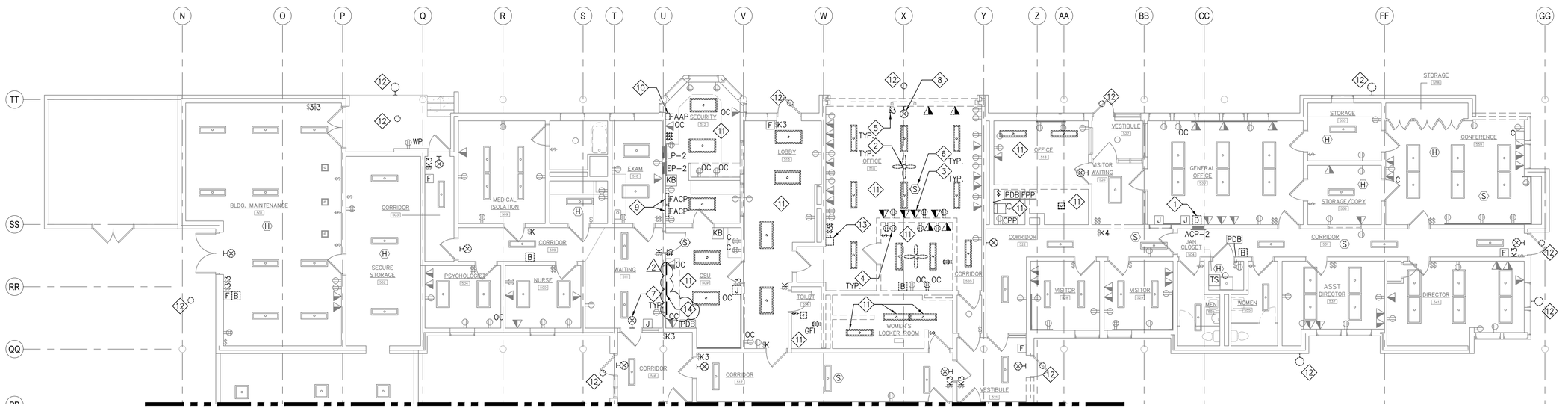
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36x24 PLOT SHEET

GENERAL NOTES

1. SCHEDULE AND COORDINATE ALL INTERRUPTIONS OF POWER FOR DEMOLITION WITH THE DIRECTOR'S REPRESENTATIVE. MAINTAIN ELECTRICAL CIRCUITS FEEDING FROM OR THROUGH THE CONTRACT AREA.
2. THIS CONTRACT IS RESPONSIBLE FOR CUTTING AND PATCHING OF BUILDING FINISHES AND ELEMENTS TO FACILITATE ELECTRICAL REMOVAL WORK. ACQUIRE APPROVAL FOR METHOD OF PATCHING FROM DIRECTOR'S REPRESENTATIVE.

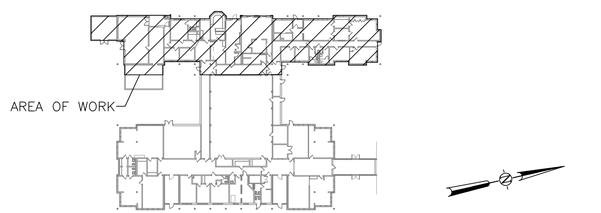
REMOVAL CODED NOTES

1. DISCONNECT AND REMOVE OVERHEAD DOOR CLOSING DEVICE. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
2. DISCONNECT AND REMOVE CEILING FAN. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
3. DISCONNECT AND REMOVE DATA DROP. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
4. DISCONNECT AND REMOVE RECEPTACLE. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
5. DISCONNECT AND REMOVE LIGHT SWITCH. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
6. DISCONNECT AND REMOVE SMOKE DETECTOR. CUT BACK CONDUIT AND WIRING TO NEAREST SMOKE DETECTOR. MODIFY WIRING TO MAINTAIN FIRE ALARM ZONE OPERATION.
7. DISCONNECT AND REMOVE WALL MOUNTED EXIT SIGN. MAINTAIN CONDUIT AND WIRING FOR REUSE.
8. DISCONNECT AND REMOVE EXIT SIGN. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
9. DISCONNECT AND REMOVE ZONED FIRE ALARM CONTROL PANEL (FACP). MAINTAIN CIRCUITING FOR RECONNECTION TO ADDRESSABLE FIRE ALARM CONTROL PANEL.
10. DISCONNECT AND REMOVE FIRE ALARM ANNUNCIATOR PANEL. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
11. DISCONNECT AND REMOVE CEILING MOUNTED LIGHT FIXTURE(S) WITHIN SPACE. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
12. DISCONNECT AND REMOVE BUILDING MOUNTED LIGHT FIXTURE. MAINTAIN CONDUIT AND WIRING FOR REUSE.
13. DISCONNECT AND REMOVE DISCONNECT SWITCH. REMOVALS INCLUDE CONDUIT, WIRING, AND JUNCTION BOXES BACK TO SOURCE.
14. (2) DISCONNECT AND RELOCATE WIRE MOLD AS REQUIRED FOR INSTALLATION OF WALL.



BUILDING 90 ELECTRICAL REMOVALS PLAN

1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1'
0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

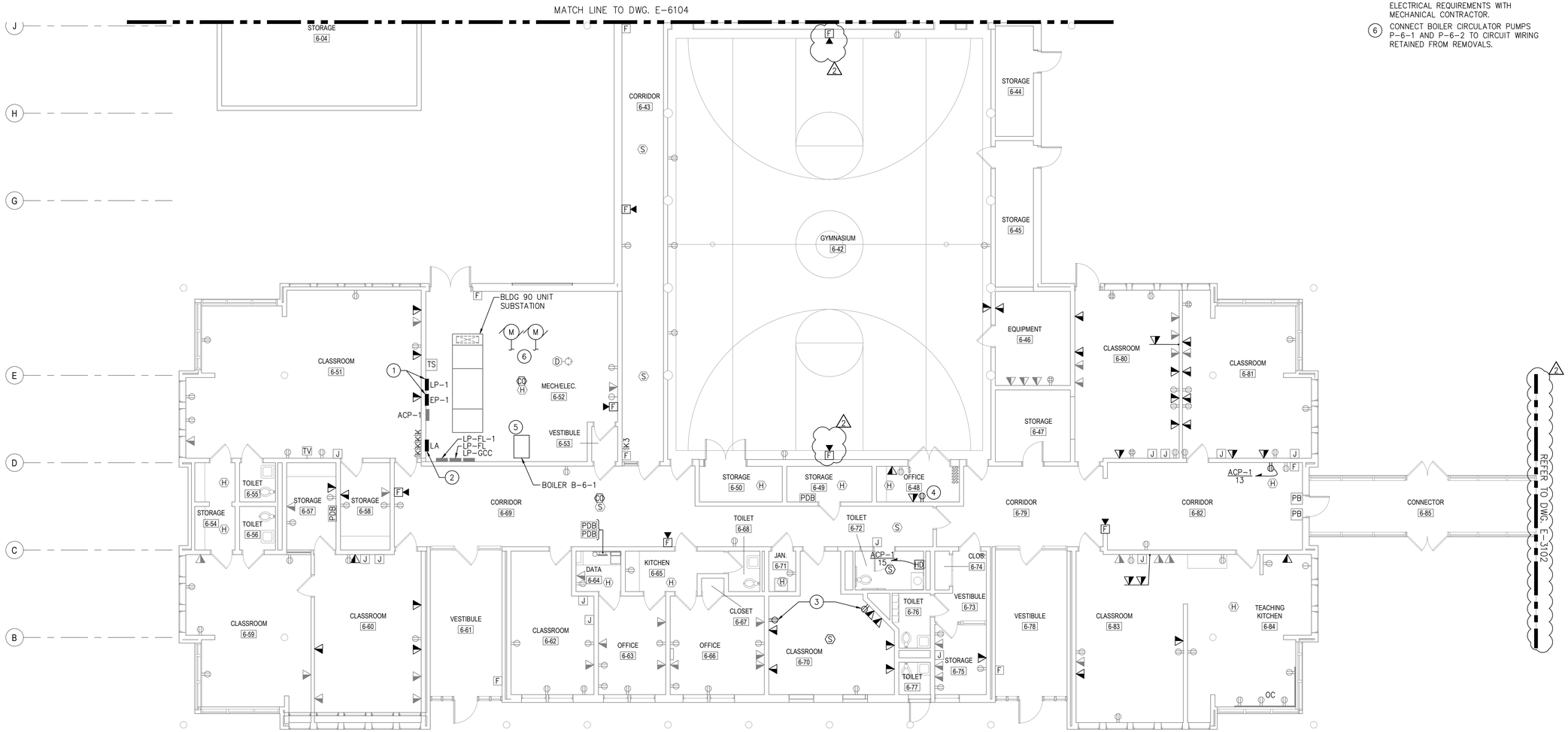
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 ELECTRICAL REMOVALS PLAN

DRAWING NUMBER:
E-6102

SHEET OF

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36x24 PLOT SHEET

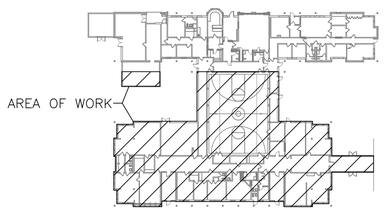


CODED NOTES

1. PROVIDE 208/120V, 3ϕ, 4W, 42 CIRCUIT, 225A MLO POWER PANEL AND RECONNECT BRANCH CIRCUITING MAINTAINED IN JUNCTION BOX.
2. PROVIDE 208/120V, 3ϕ, 4W, 42 CIRCUIT, 100A MLO POWER PANEL AND RECONNECT BRANCH CIRCUITING MAINTAINED IN JUNCTION BOX.
3. PROVIDE RECEPTACLE AND WIRING IN RECESSED JUNCTION BOX. CONNECT TO POWER CIRCUIT WITHIN ROOM.
4. CONNECT RECEPTACLE TO POWER CIRCUIT WITHIN ROOM.
5. RECONNECT BOILER CIRCUIT WIRING RETAINED FROM REMOVALS TO REPLACEMENT BOILER. COORDINATE ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR.
6. CONNECT BOILER CIRCULATOR PUMPS P-6-1 AND P-6-2 TO CIRCUIT WIRING RETAINED FROM REMOVALS.

BUILDING 90 POWER & SYSTEMS PLAN

1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1'
0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 POWER & SYSTEMS PLAN

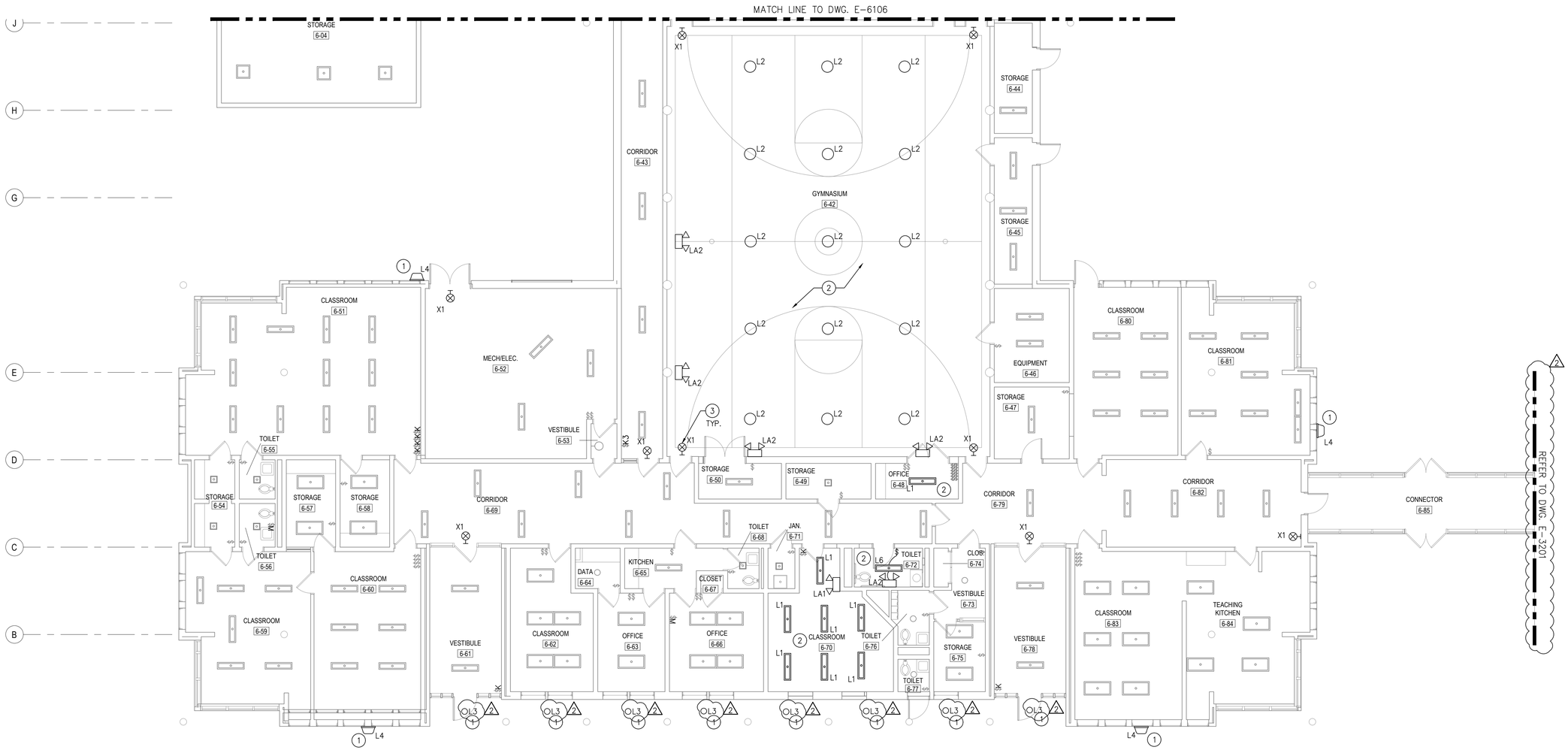
DRAWING NUMBER:
E-6103

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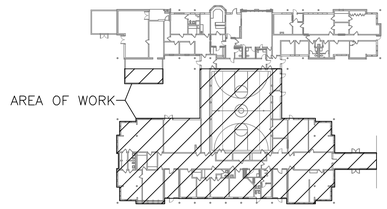
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36x24 PLOT SHEET

CODED NOTES

1. PROVIDE SURFACE MOUNTED LIGHT FIXTURE AND CONNECT TO MAINTAINED CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
2. PROVIDE LIGHT FIXTURE(S) AS INDICATED AND CONNECT TO CIRCUIT WIRING RETAINED FROM REMOVALS. EXTEND CONDUIT AND WIRING AS REQUIRED.
3. PROVIDE WALL MOUNTED EXIT SIGN AND CONNECT TO MAINTAINED CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.



BUILDING 90 LIGHTING PLAN
1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90 LIGHTING PLAN

DRAWING NUMBER:

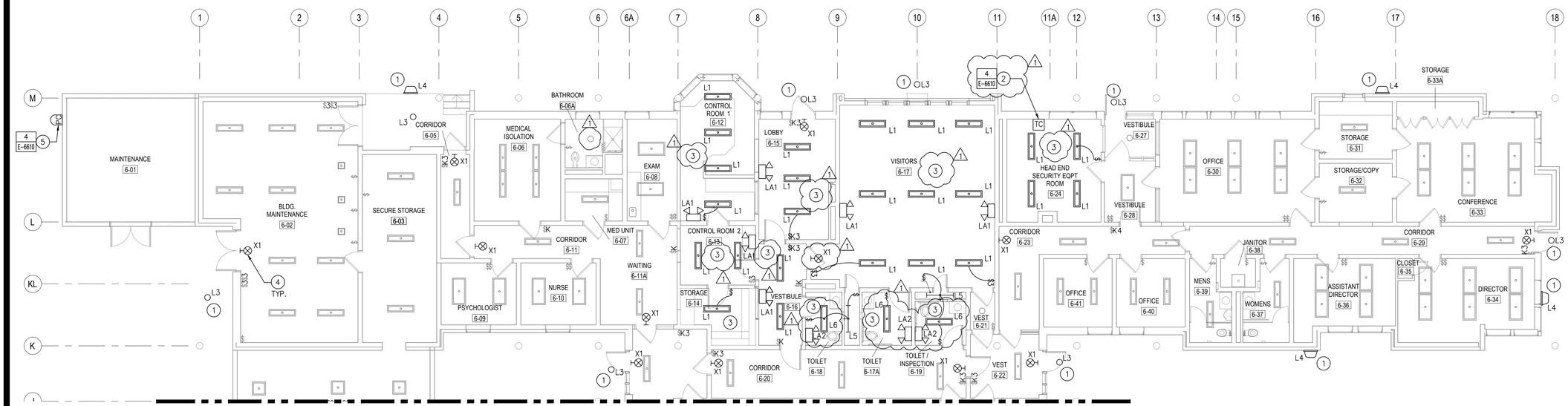
E-6105

SHEET OF

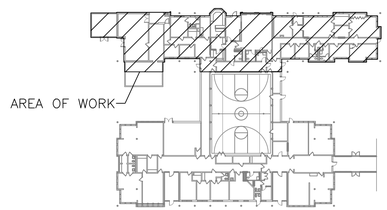
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36x24 PLOT SHEET

CODED NOTES

1. PROVIDE SURFACE MOUNTED LIGHT FIXTURE AND CONNECT TO MAINTAINED CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
2. PROVIDE TIME CLOCK IN HEAD END SECURITY EQUIPMENT ROOM 6-24 FOR EXTERIOR BUILDING MOUNTED LIGHTS.
3. PROVIDE LIGHT FIXTURE(S) AS INDICATED. UTILIZE MAINTAINED LIGHT CIRCUIT WITHIN SPACE. EXTEND CONDUIT AND WIRING AS REQUIRED.
4. PROVIDE WALL MOUNTED EXIT SIGN AND CONNECT TO MAINTAINED CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
5. PROVIDE PHOTOCELL AND MOUNT TO BUILDING EXTERIOR. WIRE PHOTOCELL TO TIME CLOCK IN HEAD-END SECURITY EQUIPMENT ROOM 6-24.



BUILDING 90 LIGHTING PLAN
1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 LIGHTING PLAN

DRAWING NUMBER:
E-6106

SHEET OF

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36x24 PLOT SHEET

LOCATION: CORRIDOR 6–29
MOUNTING: RECESSED
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID
ACP–2

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 100A MCB
SHORT CIRCUIT RATING: 65KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	BUSINESS OFFICE A/C	20/1	20/1	DISCIPLINARY REVIEW OFFICE A/C	2
3	COPIER RM A/C	20/1	20/1	SBMA OFFICE A/C	4
5	GENERAL OFFICE A/C	20/1	20/1	NURSE A/C	6
7	CONFERENCE RM A/C	20/1	20/1	PSYCHOLOGIST A/C	8
9	DIRECTOR'S OFFICE A/C	20/1	20/1	EXISTING LOAD	10
11	EDUCATION OFFICE A/C	20/1	20/1	EXISTING LOAD	12
* 13	ACCU–6–1, MS–6–1	20/2		SPACE	14
15	↓	↓		SPACE	16
17	SPACE			SPACE	18
19	SPACE			SPACE	20
21	SPACE			SPACE	22
23	SPACE			SPACE	24
25	SPACE			SPACE	26
27	SPACE			SPACE	28
29	SPACE			SPACE	30

* PROVIDE (1) 20A/2P BREAKER IN PANEL SPACES TO FEED NEW LOADS.

LOCATION: CSU1 6–12
MOUNTING: RECESSED
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID
EP–2

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 225A MLO
SHORT CIRCUIT RATING: 10KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	SPACE			SPACE	2
3	SPACE			SPACE	4
5	HALLWAY UNIT HEATERS	20/1		SPACE	6
7	PERSONAL OFFICE	20/1	20/1	BUS. OFFICE	8
9	EXISTING LOAD	20/1	20/1	BUS. OFFICE	10
11	F3	20/1	20/1	EXISTING LOAD	12
13	F5	20/1	30/2	EXISTING LOAD	14
15	UH 1–2–3	20/1	↓	↓	16
17	EXISTING LOAD	20/1	20/1	EXISTING LOAD	18
19	EXISTING LOAD	20/1	20/1	EXISTING LOAD	20
21	EXISTING LOAD	20/1	20/1	EXISTING LOAD	22
23	SPACE		30/2	EXISTING LOAD	24
25	SPACE		↓	↓	26
27	SPACE			SPACE	28
29	SPACE			SPACE	30
31	SPACE			SPACE	32
33	EXISTING LOAD	60/2	20/2	KITCHEN UNIT	34
35	↓	↓	↓	↓	36
37	EXISTING LOAD	15/3	15/3	S. GATE	38
39	↓	↓	↓	↓	40
41	↓	↓	↓	↓	42
43	EXISTING LOAD	20/1	2 30/1	EXISTING LOAD	44
45	EXISTING LOAD	20/1	20/1	N. GATE	46
47	SPACE			SPACE	48

LOCATION: MECH/ ELEC 6–52
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID
ACP–1

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 100A MCB
SHORT CIRCUIT RATING: 65KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	RM. 12–A A/C	20/1	20/1	MUSIC RM. A/C	2
3	RM. 11–B WEIGHT ROOM A/C	20/1	20/1	PHYSICIAN OFFICE A/C	4
5	RM. 11–A A/C	20/1	20/1	RM. 2 ARTS AND CRAFTS A/C	6
7	CONFERENCE ROOM	20/1	20/1	RM. 1 GAME ROOM A/C	8
9	DIRECTOR'S OFFICE A/C	20/1	20/1	RM. 13 A/C	10
11	EDUCATION OFFICE A/C	20/1	20/1	EXISTING LOAD	12
* 13	METAL DETECTOR	20/1		SPACE	14
* 15	HAND DRYER RM. 6–72	20/1		SPACE	16
17	SPACE			SPACE	18
19	SPACE			SPACE	20
21	SPACE			SPACE	22
23	SPACE			SPACE	24
25	SPACE			SPACE	26
27	SPACE			SPACE	28
29	SPACE			SPACE	30
31	SPACE			SPACE	32

* PROVIDE (1) 20A/1P BREAKER IN PANEL SPACE TO FEED NEW LOAD.

LOCATION: CSU1 6–12
MOUNTING: RECESSED
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID
LP–2

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 100A MLO
SHORT CIRCUIT RATING: FIELD VERIFY

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	REC. 510–512 (INTERCOM) (GATE SWITCHES)	20/1	20/1	LIGHTS 501,502	2
3	REC. 512–518 OUTSIDE WEST	20/1	20/1	LIGHTS 509,510,511,515,504,506	4
5	REC. 511	20/1	20/1	LIGHTS 512,513,518,526,528,529,532,533,519A	6
7	REC. 515,517,543	20/1	20/1	LIGHTS 517,522,531	8
9	REC. 531	20/1	20/1	LIGHTS 530,535,536,538	10
11	REC. 526,528,529,534 – TO EP–3	20/1	20/1	LIGHTS 537,540	12
13	REC. 530 – TO EP–9	20/1	20/1	LIGHTS 507,508,514,523,524,525,527,534	14
15	REC. 535,538 – TO EP–5	20/1	20/2	SITE LIGHTS	16
17	REC. 537,541 – EP EYELLOW	20/1	↓	↓	18
19	REC. 506,504	20/1	20/1	FIRE ALARM	20
21	REC. 508	20/1	20/1	FIRE ALARM	22
23	REC. 508	20/1	20/1	DOOR SECURITY	24
25	REC. 501,502	20/1	2 20/1	EXISTING LOAD	26
27	REC. 505 SOUTHWEST OUTSIDE	20/1	20/1	EXISTING LOAD	28
29	SPACE		20/1	EXISTING LOAD	30

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 PANEL SCHEDULES

DRAWING NUMBER:
E–6401

SHEET OF

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36x24 PLOT SHEET

LOCATION: MECH/ ELEC 6-52
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID: EP-1

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 225A MLO
SHORT CIRCUIT RATING: 10KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	EXISTING LOAD	20/3	15/3	EXISTING LOAD	2
3	↓	↓	↓	↓	4
5					6
7	EXISTING LOAD	15/3	15/3	EXISTING LOAD	8
9	↓	↓	↓	↓	10
11					12
13	EXISTING LOAD	15/3	15/3	EXISTING LOAD	14
15	↓	↓	↓	↓	16
17					18
19	EXISTING LOAD	50/2	30/2	EXISTING LOAD	20
21	↓	↓	↓	↓	22
23	EXISTING LOAD	20/1	20/1	EXISTING LOAD	24
25	EXISTING LOAD	20/1	20/1	EXISTING LOAD	26
27	EXISTING LOAD	20/1	20/1	EXISTING LOAD	28
29	EXISTING LOAD	20/1	20/1	EXISTING LOAD	30
31	EXISTING LOAD	20/1	20/1	EXISTING LOAD	32
33	EXISTING LOAD	20/1	20/1	EXISTING LOAD	34
35	EXISTING LOAD	30/1	20/1	EXISTING LOAD	36
37	SPACE			SPACE	38
39	SPACE			SPACE	40
41	SPACE			SPACE	42
43	SPACE			SPACE	44

LOCATION: MECH/ ELEC 6-52
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID: LP-1

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 225A MLO
SHORT CIRCUIT RATING: FIELD VERIFY

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	GYM	20/1	20/1	LIGHTS 44	2
3	REC. 78	20/1	20/1	LIGHTS 44	4
5	REC. 78,85	20/1	20/1	LIGHTS 51	6
7	REC. 85	20/1	20/1	LIGHTS 51	8
9	REC. 64,65,73	20/1	20/1	LIGHTS 49,50,52,53,54,77	10
11	REC. 76,79,80	20/1	20/1	LIGHTS 55,57,61	12
13	REC. 58	20/1	20/1	LIGHTS 65,66,71,73,74,79,80	14
15	REC. 58-61	20/1	20/1	LIGHTS 85	16
17	SIPLEX BELL SYSTEM	20/1	20/1	LIGHTS 85	18
19	REC. 77-54 OUTSIDE	20/1	20/1	LIGHTS 78	20
21	REC. 51	20/1	20/1	LIGHTS 78	22
23	HALLWAY	20/1	20/1	LIGHTS 62,63,67,69,70,71,81,82,83,84	24
25	REC. 21-44	20/1	20/1	LIGHTS 45,46,47,48,56,58,60,64	26
27	12A,12B	20/1	20/1	LIGHTS 43	28
29	GYM: SOUTH WALL	20/1	20/1	LIGHTS 43	30
31	MECH. RM REC., LEAK MONITORING CKT.	20/1	20/1	LIGHTS 43	32
33	100 AMP SUB-PANEL GENERATOR	30/2	20/1	LIGHTS 43	34
35	↓	↓	20/1	LIGHTS 43	36
37	LIGHTS ON EYE WEST, NW SIDES	20/1	20/1	SOFFIT ITS. - THRU TIME CLOCK	38
39	LGTS ON EYE EAST, S, NE SIDES	20/1	20/1	SOFFIT ITS. - THRU TIME CLOCK	40
41	SPACE		20/1	OPEN	42

LOCATION: MECH/ ELEC 6-52
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID: LP-FL-1

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 150A MCB
SHORT CIRCUIT RATING: 10KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	CAMERA'S - POWER EAST	30/2	20/1	CONTROL CIRCUIT/CONTRACTOR	2
3	↓	↓		SPACE	4
5	CAMERA'S - POWER WEST	30/2	20/1	CAMERA POWER SUPPLY	6
7	↓	↓	30/1	SECURITY EQUIP. RACK RM. 6-49	8
9	CAMERA'S - POWER CENTER	30/2		SPACE	10
11	↓	↓		SPACE	12
13	SPACE	20/1		SPACE	14
15	SPACE	20/1		SPACE	16
17	SPACE	20/1		SPACE	18
19	SPACE	20/1		SPACE	20
21	SPACE	20/1		SPACE	22
23	SPACE	20/1		SPACE	24
25	LP - GCC	60/3		SPACE	26
27	↓	↓		SPACE	28
29				SPACE	30

LOCATION: MECH/ ELEC 6-52
MOUNTING: SURFACE
SOURCE: LD-FL-1

PANEL ID: LP-GCC

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 100A MLO
SHORT CIRCUIT RATING: 10KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	VEHICLE GATE 1	20/3	20/3	VEHICLE GATE 2	2
3	↓	↓	↓	↓	4
5					6
7	VEHICLE GATE 13	20/3	20/1	G-3	8
9	↓	↓	20/1	G-4	10
11			20/1	G-5	12
13	E-54	20/1	20/1	G-6	14
15	E-53	20/1	20/1	E-515	16
17	MAIN POWER GCC	20/1	20/1	E-518	18
19	SPARE	20/1	20/1	FAS BOX FENCE ALARM POWER	20
21	G-1 HEATER	20/1	20/1	SECURITY RACK POWER	22
23	G-2 HEATER	20/1	20/1	SECURITY RACK POWER	24

LOCATION: MECH/ ELEC 6-52
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID: LA

VOLTS, PHASE, WIRE: 208/120V, 3Ø, 4W
MAINS: 100A MLO
SHORT CIRCUIT RATING: 10KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	PERIMETER LIGHTS	20/2	20/2	PERIMETER LIGHTS	2
3	↓	↓	↓	↓	4
5	PERIMETER LIGHTS	20/2	20/2	PERIMETER LIGHTS	6
7	↓	↓	↓	↓	8
9	SPARE	20/1	20/2	SPARE	10
11	SPARE	20/1	↓	↓	12
13	EXISTING LOAD	20/1	20/1	CONTROL CIRCUIT	14
15	CAMERAS	20/1	20/1	ZEZNICK FRIG	16
17	EXISTING LOAD	20/1	20/1	BOILER ROOM LIGHTS	18
19	GYM CENTER LIGHTS	20/1	20/1	CSU, MED, TEL HALLWAY/EXITS LGTS	20
21	EXISTING LOAD	20/1	20/1	HALLWAY/OFFICE/EXIT LIGHTS	22
23	SPACE			SPACE	24

LOCATION: SECURITY HEAD END RM 6-24
MOUNTING: SURFACE
SOURCE: BLDG 90 UNIT SUBSTATION

PANEL ID: SP-1

VOLTS, PHASE, WIRE: 280/120V,3ø,4W
MAINS: 225A MCB
SHORT CIRCUIT RATING: 22KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CONN LOAD KVA	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	EQUIPMENT RACK UPS	30/1	3			3			30/1	EQUIPMENT RACK UPS	2
3	EQUIPMENT RACK UPS	30/1		3			3		30/1	EQUIPMENT RACK UPS	4
5	EQUIPMENT RACK UPS	30/1			3			3	30/1	EQUIPMENT RACK UPS	6
7	ACCU-6-1, MS-6-1	20/2	1.46			.05			20/1	SF-6-1	8
9	↓	↓		1.46					20/1	SPARE	10
11	SPARE	20/1							20/1	SPARE	12
13	SPARE	20/1							20/1	SPARE	14
15	REC: SECURITY HEAD END	20/1		.36			1.64		30/2	LGT: SITE LIGHTING	16
17	LGT: SITE LIGHTING	30/2			1.64			1.64	↓	↓	18
19	↓	↓	1.64			.18			20/1	REC: METAL DETECTOR	20
21	ACCU REC	20/1		.18					30/1	FUTURE EQUIP. RACK UPS	22
23	FUTURE EQUIP. RACK UPS	30/1							20/1	SPARE	24
25	PLC NORMAL POWER	20/1	1.15						20/1	SPARE	26
27	SPARE	20/1							20/1	SPARE	28
29	SPARE	20/1						1.46	20/2	ACCU-6-2,MS-6-2	30
31	HAND DRYER RM. 6-17A	20/1	1			1.46			↓	↓	32
33	HAND DRYER RM. 6-18	20/1		1			1		20/1	HAND DRYER RM. 6-37	34
35	HAND DRYER RM. 6-19	20/1			1			1	20/1	HAND DRYER RM. 6-39	36
37	PREPARED SPACE									PREPARED SPACE	38
39	PREPARED SPACE									PREPARED SPACE	40
41	PREPARED SPACE									PREPARED SPACE	42
			8.25	6.00	5.64	4.69	5.64	7.10			

TOTAL kVA
37.32
2

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DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

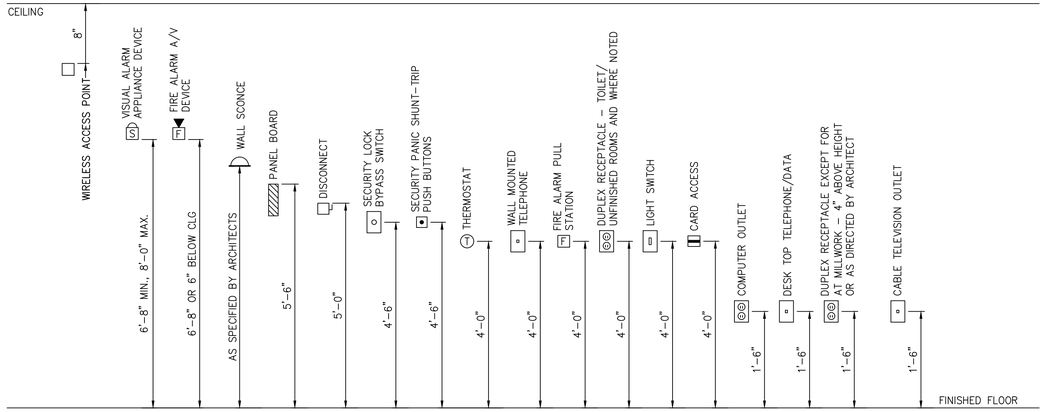
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 PANEL SCHEDULES

DRAWING NUMBER:
E-6402

SHEET OF

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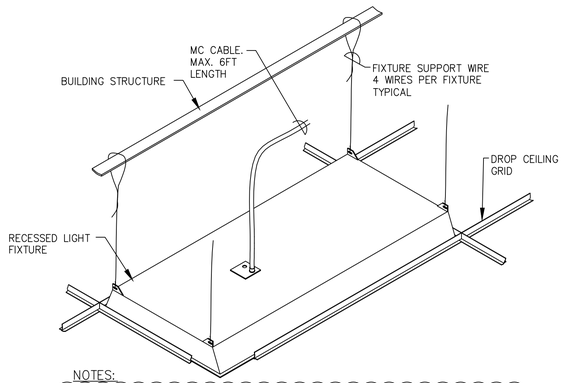
MOUNTING ELEVATIONS NOTES:

1. COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS, ELEVATIONS AND CASEWORK DETAILS.
2. IN LOCATIONS WHERE DEVICES ARE MOUNTED AT THE SAME HEIGHT, PROPERLY "GANG" DEVICES WHEN FEASIBLE AND PROVIDE A SINGLE COVER PLATE.
3. IN LOCATIONS WHERE DIFFERENT DEVICES ARE MOUNTED AT DIFFERENT HEIGHTS WITHIN FOUR FEET OF ONE ANOTHER, MOUNT DEVICES SUCH THAT THEY HAVE A COMMON CENTERLINE. IF THERE ARE THREE OR MORE DEVICES, THE CONTRACTOR SHALL REQUEST A DETAIL FROM THE ARCHITECT.
4. THE MOUNTING HEIGHT 1'-6" FOR OUTLETS IS NOT APPLICABLE IN CASE FIN TUBE RADIATORS ARE TO BE INSTALLED IN THE PROJECT. COORDINATE MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
5. ELEVATIONS SHOWN ARE TYPICAL, EXCEPTIONS ARE NOTED ON PLANS.

1 TYPICAL DEVICE MOUNTING ELEVATIONS
– NOT TO SCALE

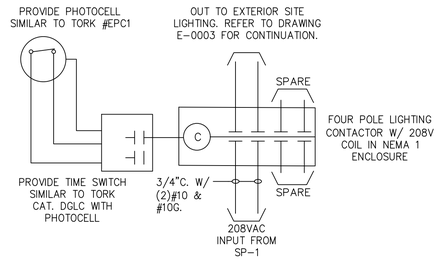
2 NOT USED
– NOT TO SCALE

3 NOT USED
– NOT TO SCALE



NOTES:
1. MC CABLE SHALL BE SUPPORTED BY J-HOOKS EVERY 4'-0".

4 FIXTURE SUPPORT
– NOT TO SCALE



5 TIMECLOCK WITH PHOTOCELL
– NOT TO SCALE

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

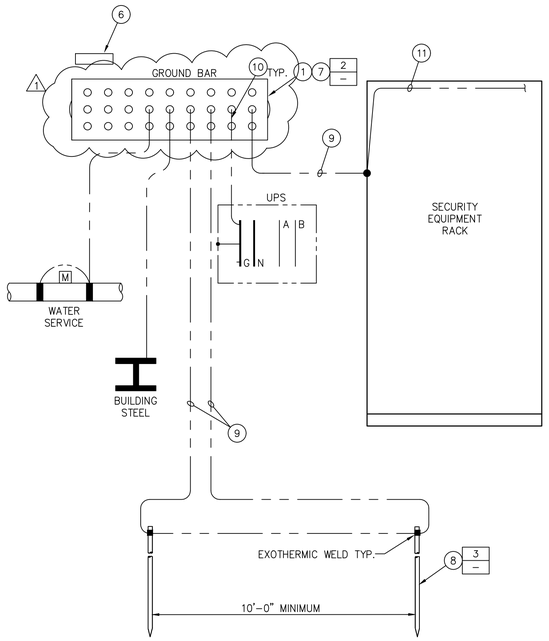
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

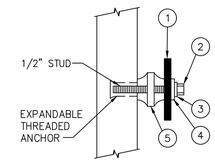
SHEET TITLE:
BUILDING 90 ELECTRICAL DETAILS

DRAWING NUMBER:
E-6610

SHEET OF

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GROUND BUS BAR – SIDE VIEW

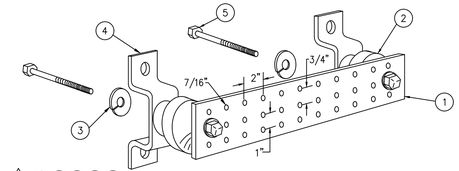
NOTES

1. UNLESS OTHERWISE NOTED, UTILIZE #6AWG FOR ALL GROUNDING CONDUCTORS.
2. UNLESS OTHERWISE NOTED, PROVIDE INSULATED GROUNDING CONDUCTORS.
3. PROVIDE GROUNDING SYSTEM AS INDICATED, PER NEC REQUIREMENTS.

GROUNDING DIAGRAM CODED NOTES

1. COPPER GROUND BAR. (1)
2. CAP SCREW 1/2"–13x1.
3. LOCK WASHER.
4. INSULATED WASHER.
5. FIBERGLASS REINFORCED POLYESTER INSULATED WITH 1/2"–13 THREADED HOLE BOTH ENDS.
6. ENGRAVED PHENOLIC PERMANENTLY ATTACHED LABEL READING "ELECTRICAL EQUIPMENT GROUND BUS".
7. PROVIDE BUILDING GROUND BAR, LOCATED IN HEAD END SECURITY EQPT ROOM 6–24 ON EQUIPMENT BACKBOARD ON DRAWING EY–6104. INSTALL ON WALL WITH INSULATING STAND OFF. SEE SIDE VIEW. (1)
8. PROVIDE DRIVEN GROUND ROD AND/OR GROUNDING PLATE ON BUILDING EXTERIOR (TYP. OF 2).
9. PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION.
10. PROVIDE (2) HOLE COMPRESSION LUG CONNECTION.
11. PROVIDE #6 BARE COPPER WIRE WITH GREEN, THWN INSULATION BONDED TO EACH SECURITY EQUIPMENT RACK.

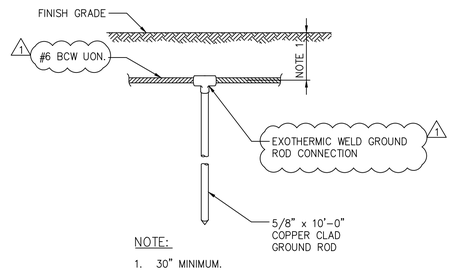
1 – GROUNDING SYSTEM – SCHEMATIC DIAGRAM
– NOT TO SCALE



(1) CODED NOTES

1. COPPER GROUND BAR, 1/4"x4"x20", SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. B–6142. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, SIMILAR TO NEWTON INSTRUMENT CAT. NO. 3061–4
3. 5/8" LOCKWASHERS, SIMILAR TO NEWTON INSTRUMENT CO. CAT. NO. 3015–8
4. WALL MOUNTING BRACKET, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. A–6056
5. 5/8–11 x 1" H.H.C.S.BOLTS, SIMILAR TO NEWTON INSTRUMENT CO. CAT NO. 3012–1

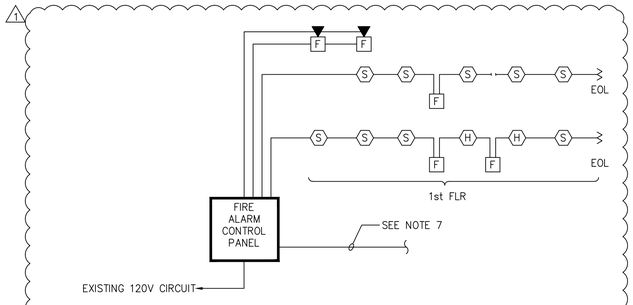
2 – GROUND BAR
– NOT TO SCALE



NOTE:

1. 30" MINIMUM.

3 – GROUND ROD DETAIL
– NOT TO SCALE



NOTES

1. FOR DEVICE QUANTITY AND LOCATION SEE FLOOR PLANS.
2. PROVIDE 3/4" C. WITH 2#14 FOR ALL CIRCUITS UNLESS OTHERWISE INDICATED AND AS PER MANUFACTURER'S RECOMMENDATIONS.
3. FOR NUMBER OF CIRCUITS, SEE SPECIFICATIONS.
4. WIRE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES SEPARATELY.
5. NOT ALL DEVICES AND APPLIANCES SHOWN FOR CLARITY.
6. PROVIDE REPLACEMENT FACP. DEVICES ARE EXISTING UON.
7. PROVIDE 12–STRAND MULTI–MODE FIBER OPTIC CABLE AND INNER DUCT WITHIN UNDERGROUND CONDUIT TO CREATE CLASS–A LOOP WITH OTHER BUILDINGS FACP. SEE SITE PLAN FOR CONDUIT ROUTE. PROVIDE FACP ACCESSORIES AS REQUIRED FOR COMMUNICATION BETWEEN THE FACP EQUIPMENT. PROVIDE A FO BREAK–OUT TERMINATION BOX AT EACH FACP. TWO OF THE FO STRANDS WILL BE UTILIZED FOR THE FACP COMMUNICATION. PROVIDE 1" CONDUIT WHERE UNDERGROUND CONDUIT ENTERS BUILDING TO FACP.

4 – FIRE ALARM RISER DIAGRAM
– NOT TO SCALE

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90 ELECTRICAL DETAILS

DRAWING NUMBER:

E–6611

SHEET OF

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36x24 PLOT SHEET

ELECTRICAL LEGEND

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
ACP	ALTERNATING CURRENT POWER CABLE
AF	AMPERE FRAME/FUSE
AFF/G	ABOVE FINISHED FLOOR/GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AIU	ALARM INTERFACE UNIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISH GRADE
BLDG	BUILDING
C	CONDUIT
CKT	CIRCUIT
℄	CENTER LINE
CO	COMPANY
CSU	CENTRAL SERVICE UNIT
CU	COPPER
Δ	DELTA
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
°	DEGREE
EA	EACH
EGC	EQUIPMENT GROUND CONDUCTOR
ELEC	ELECTRIC(AL)
EQUIP	EQUIPMENT
ES(ACS)	ETHERNET SWITCH (ACCESS CONTROL SYSTEM)
EXT	EXTERIOR
F	FUSE(D)
FPP	FIBER PATCH PANEL
FT	FOOT (FEET)
G, GND	GROUND
GALV	GALVANIZE(D)
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GPS	GLOBAL POSITIONING SYSTEM
GUI	GRAPHICAL USER INTERFACE
HP	HORSEPOWER
ID	IDENTIFY, IDENTIFICATION
IMS	INTERCOM MASTER STATION
IR	INTERCOM RELAY
ISS	INTERCOM SUB STATION
KB	KEYBOARD (USB)
KCM/Kcmil	THOUSAND CIRCULAR MILS
KCU	KEYBOARD CONTROL UNIT
KVM-E	KEYBOARD/VIDEO/MOUSE EXTENDER
KW	KILOWATT
MCB	MAIN CIRCUIT BREAKER
MCC	MULTICONDUCTOR CABLE
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTR	MOTOR
N	NORTH & NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIU	NETWORK INTERFACE UNIT
No./#	NUMBER
OC	OVER COUNTER
OCFS	OFFICE OF CHILDREN AND FAMILY SERVICES
P	POLE(S)
PA	PUBLIC ADDRESS
PB	PULL BOX
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PR	PAGING RELAY
PS	POWER SUPPLY
ø	PHASE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SM	SYSTEM MANAGER
SPB	SIGNAL PULLBOX
SPKR	SPEAKER
TEMP	TEMPORARY/TEMPERATURE
T-STAT	THERMOSTAT
TB	TERMINAL BOARD
TMP	TAMPER ALARM CABLE
TS	TAMPER SWITCH
TYP.	TYPICAL (2)
UDI	UNIVERSAL DEVICE INTERFACE
UPS	UNINTERRUPTED POWER SUPPLY
w/	WITH
WP	WEATHERPROOF
WS	WORKSTATION
XFMR/T	TRANSFORMER

GENERAL

- (#) — NUMBER IN CIRCLE, WITH OR WITHOUT ARROW OR LEADER: REFER TO THE CODED NOTE WITH THE MATCHING NUMBER.
- ◇# — NUMBER IN DIAMOND, WITH OR WITHOUT ARROW OR LEADER: REFER TO THE DEMOLITION CODED NOTE WITH THE MATCHING NUMBER.
- X / X — DETAIL / PLAN NUMBER; DRAWING NUMBER
- (#-#) / (#) — DOOR/GATE NUMBER
- # — CABLE SCHEDULE CALLOUT
- CS XXXX — CAMERA STATION No.

GROUNDING

- GROUND ROD
- GROUND BAR

RACEWAYS

- RACEWAYS WITH WIRING OR PULL ROPE AS INDICATED. 3/4" IS MINIMUM CONDUIT SIZE.
- EQUIPMENT RACK WIRING
- GROUNDING CONDUCTOR SIZE PER NEC OR LARGER WHERE INDICATED
- RACEWAYS WITH CAMERA STATION WIRING
- SC — SENSOR CABLE
- F — FENCE MOUNTED CONDUIT
- PP-1 / 1/3/5 — CIRCUIT HOMERUN BACK TO PANEL AS INDICATED. DASHED LINE INDICATES BELOW GROUND (OR BELOW FLOOR)
  #.#.# MULTIPLE SINGLE PHASE CIRCUITS
  #/#/# THREE PHASE CIRCUIT
  MINIMUM 3/4" CONDUIT WITH #12 AWG WIRE. WHERE LARGER WIRING IS INDICATED TO REDUCE VOLTAGE DROP, PROVIDE WIRING AS INDICATED TO THE LAST FIXTURE, DEVICE, EQUIPMENT, ETC. ON THE CIRCUIT.
- UNDERGROUND RACEWAY
- VERTICAL CONDUIT PENETRATION

DISTRIBUTION/DEVICES

- EXISTING PANELBOARD TO REMAIN
- BRANCH CIRCUIT PANELBOARD
  208/120V, 3ø, 4W, UNLESS OTHERWISE NOTED
- 20 AMP DUPLEX RECEPTACLE
  GFI – INDICATES GROUND FAULT INTERRUPTER DEVICE
  OC – INDICATES MOUNTED OVER COUNTER
- 20 AMP QUAD RECEPTACLE
- PB ## — PULL BOX, SIZE AT EACH LOCATION AS NOTED ON DRAWINGS
  SUBSCRIPT ## INDICATES PULLBOX NUMBER.
- COMBINATION DATA/TELEPHONE OUTLET BOX. MOUNT AT 18" AFF UON.
- S — STROBE LIGHT

SECURITY

- # / CS XXX — INDOOR FIXED FOCAL LENGTH LENS CAMERA STATION, WALL MOUNTED.
  SUBSCRIPT # INDICATES ASSOCIATED PULL BOX.
  SUBSCRIPT 90° INDICATES FIELD OF VIEW
- CP-XX / CS XXX — OUTDOOR FIXED FOCAL CAMERA/HOUSING ASSEMBLY CAMERA STATION, POLE MOUNTED WITH MOUNTING ARM.
  SUBSCRIPT "CP-XX" INDICATES CAMERA POLE No.
- CP-XX / CS XXX — OUTDOOR HIGH SPEED CAMERA/HOUSING ASSEMBLY CAMERA STATION, POLE MOUNTED WITH MOUNTING ARM.
  SUBSCRIPT "CP-XX" INDICATES CAMERA POLE No.
- # / CS XXX — INDOOR FIXED FOCAL LENGTH LENS CAMERA STATION.
  SUBSCRIPT # INDICATES ASSOCIATED PULL BOX.
- # / CS XXX — OUTDOOR FIXED FOCAL CAMERA/HOUSING ASSEMBLY CAMERA STATION.
  SUBSCRIPT # INDICATES ASSOCIATED PULL BOX.
- # — SECURITY EQUIPMENT AND SECURITY EQUIPMENT RACK. DOOR INDICATES FRONT OF EQUIPMENT RACK.
  # – INDICATES SECURITY EQUIPMENT RACK NUMBER
- WALL MOUNTED SECURITY EQUIPMENT RACK AND SECURITY EQUIPMENT
- ISS # — INTERCOM SUBSTATION
  SUBSCRIPT # INDICATES INTERCOM SUBSTATION ID NUMBER
  SUBSCRIPT EXT INDICATES EXTERIOR INTERCOM SUBSTATION
- IMS — INTERCOM MASTER SUBSTATION
- POE — POWER OVER ETHERNET SWITCH, 10/100/1000
- ES — ETHERNET SWITCH, 10/100/1000
  SUBSCRIPT ACS INDICATES ACCESS CONTROL SYSTEM NETWORK
  SUBSCRIPT FPS INDICATES FENCE PROTECTION SYSTEM
- UDI — UNIVERSAL DEVICE INTERFACE
  SUBSCRIPT FPS INDICATES FENCE PROTECTION SYSTEM
  SUBSCRIPT PLC INDICATES PROGRAMMABLE LOGIC CONTROLLER
- ELECTRO-MECHANICAL DOOR LOCKING HARDWARE WITH LATCH BOLT MONITORING (PROVIDED BY CONSTRUCTION CONTRACTOR)
- G — DOOR POSITION SWITCH – RECESSED (PROVIDED BY CONSTRUCTION CONTRACTOR)
  SUBSCRIPT G INDICATES GATE POSITION SWITCH (PROVIDED BY CONSTRUCTION CONTRACTOR)
- PRINTER P — PRINTER
  SUBSCRIPT P INDICATED PLC PRINTER
- PLC — PROGRAMMABLE LOGIC CONTROLLER (PLC)
- BOB IB16 — BREAK OUT BOARD
  SUBSCRIPT IB16 INDICATES NUMBER OF INPUTS
  SUBSCRIPT OB16 INDICATES NUMBER OF OUTPUTS
- NVT — MULTI-CHANNEL PASSIVE TRANSCEIVER
- POE-S — POWER OVER ETHERNET SURGE PROTECTOR

SECURITY CONTINUED

- CR / RB16 — CONTROL RELAYS
  SUBSCRIPT RB16 INDICATES NUMBER OF RELAYS
- IR / ARB16 — INTERCOM RELAYS
  SUBSCRIPT ARB16 INDICATES NUMBER OF RELAYS
- PR / ARB16 — PAGING RELAYS
  SUBSCRIPT ARB16 INDICATES NUMBER OF RELAYS
- CPU / T — CENTRAL PROCESSING UNIT
  SUBSCRIPT T INDICATES TOUCH SCREEN CPU
  SUBSCRIPT P INDICATES PROGRAMMING CPU
  SUBSCRIPT A INDICATES ADMIN CPU
  SUBSCRIPT FPS INDICATES FENCE PROTECTION SYSTEM
- IRA — INTERCOM REMOTE AMP
- RPS-# — RACK MOUNTED POWER SUPPLY
  SUBSCRIPT 1 INDICATES CLASS 1 POWER SUPPLY
  SUBSCRIPT 2 INDICATES CLASS 2 POWER SUPPLY
- RT — RACK MOUNTED TRANSFORMER CLASS 2
- UPS — ON-LINE UNINTERRUPTED POWER SUPPLY, PROVIDE POWER DISTRIBUTION UNIT AS REQUIRED
- NETCLOCK/GPS POLE MOUNTED ANTENNA
- NTP — NETCLOCK/GPS NETWORK TIME PROTOCOL TIME SERVER WITH FRONT PANEL DISPLAY
- DMF — DIN-RAIL MOUNTED FEEDER/DISTRIBUTION
- DMR — DIN-RAIL MOUNTED RECEPTACLE
- MON — INTERCOM CALL UP MONITOR
- KVM-E — KEYBOARD/VIDEO/MOUSE EXTENDER
- CES — CORE ETHERNET SWITCH
- FPP — FIBER PATCH PANEL
- KCU — KEYBOARD CONTROL UNIT
- ED — ENHANCED DECODER
- KB — USB KEYBOARD/MOUSE
- WS — SECURITY SYSTEM WORKSTATION
- CCTV — WORKSTATION AND MONITOR
  SUBSCRIPT CCTV INDICATES WORKSTATION
  SUBSCRIPT GT INDICATES GUARD TOUR PC, PRINTER AND CHARGE STATION
  SUBSCRIPT DCS INDICATES DOOR CONTROL PC, TOUCH SCREEN, AND MOUSE
- CPS — CAMERA POWER SUPPLY
- NSM — NETWORK STORAGE MANAGER, SIZED FOR 23 DAYS OF STORAGE
- UPS-BAT — EXTERNAL BATTERY PACK FOR UPS
- EAU — ENVIRONMENTAL ALARM UNIT
- TWO CHANNEL SURFACE MOUNTED STEEL RACEWAY
- OFMC — OPTICAL FIBER MEDIA CONVERTER
- OFTR — OPTICAL FIBER TERMINATION RACK
- GATE OPERATOR (PROVIDED BY CONSTRUCTION CONTRACT)
- MICROWAVE TRANSMITTER/RECEIVER
- RP — MICROWAVE REFLECTOR PANEL
- TC — SENSOR CABLE TERMINATION CONDULET
- SB — SPLICE BOX
- FSB — FIBER SPLICE BOX
- S — RECESSED CEILING MOUNTED SPEAKER
- S — RECESSED WALL MOUNTED SPEAKER
- GT — GUARD TOUR CHARGING STATION
- GUARD TOUR SYSTEM CHECK STATION
- (2) W — WATERBUG SENSOR
- NIU — NETWORK INTERFACE UNIT

ENERGY CODE COMPLIANCE STATEMENT:

THE DESIGN PROFESSIONAL WHO SIGNED AND SEALED THESE DOCUMENTS STATES THAT, TO THE BEST OF THEIR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, SUCH DOCUMENTS COMPLY WITH THE ENERGY CODE.

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SECURITY LEGEND AND ABBREVIATIONS

DRAWING NUMBER:
EY-0001

SHEET OF

File: V:\PROJECTS\ANY\K4\32908\CADD_ACAD\EY-0001-32908.DWG Saved: 10/2/2017 3:22:25 PM Plotted: 10/2/2017 4:09:43 PM Current User: Summer Jr, David LastSavedBy: 3924
36x24 PLOT SHEET

DEMOLITION GENERAL NOTES:

1. DISCONNECT AND REMOVE EXISTING INTERCOMS/PUSHBUTTONS AT LOCATIONS WITH PROPOSED INTERCOMS. REMOVAL TO INCLUDE INTERCOMS, PUSHBUTTONS, BACK BOXES, AND WIRING BACK TO SOURCE.

2. THIS CONTRACT IS RESPONSIBLE FOR CUTTING AND PATCHING OF BUILDING FINISHES AND ELEMENTS TO FACILITATE ELECTRICAL REMOVAL WORK. ACQUIRE APPROVAL FOR METHOD OF PATCHING FROM DIRECTOR'S REPRESENTATIVE.

3. EVERY EFFORT HAS BEEN MADE TO INDICATE ALL EQUIPMENT THAT IS TO BE REMOVED THROUGH FIELD OBSERVATIONS. HOWEVER, THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS, DIMENSIONS, AND SCOPE OF ELECTRICAL WORK.

4. REMOVE ALL CONDUIT AND WIRING BACK TO SOURCE PANEL UNLESS INDICATED OTHERWISE. CUT ANY CONDUITS BELOW SLAB AT FINISHED FLOOR AND GROUT OVER FLUSH TO FLOOR.

ELECTRICAL GENERAL NOTES:

1. PRIOR TO INSTALLATION OF ANY CONDUIT AND WIRING, CONDUCT A COORDINATED MEETING WITH OGS, OCFS AND DIRECTOR'S REPRESENTATIVE. EACH CAMERA STATION LOCATION MUST BE FINALIZED AND ROUTING AGREED PRIOR TO START OF CONSTRUCTION.

2. WHERE CONDUIT IS MOUNTED EXPOSED, PROVIDE SECURITY CAULK ALONG CEILING/WALL TO SEAL GAP BETWEEN CONDUIT AND CEILING/WALL.

3. PAINT ALL EXPOSED CONDUIT, FITTINGS AND PULL BOX TO MATCH EXISTING PAINT SURFACES.

4. TEST ALL CAT 6 CABLE AND TERMINATION FOR DEFECTS AND VERIFY CABLING SYSTEM PERFORMANCE UNDER INSTALLED CONDITIONS ACCORDING TO THE REQUIREMENTS OF ANSI/TIA/EIA-568-B.

5. INSTALL FIBER/CAT6 IN CONTINUOUS LENGTH FROM TERMINATION POINT TO TERMINATION POINT AND LABELED AT EACH END POINT PER ANSI/TIA/EIA-606-A.

6. SEPARATE ALL CAMERA STATION WIRING AND ROUTE TO APPROPRIATE SECURITY EQUIPMENT RACK. ALL CABLES TO BE LABELED WITH BRADY MARKERS OR EQUAL AND HOME RUN FROM CAMERA STATION BACK TO SECURITY EQUIPMENT RACK, NO SPLICES ALLOWED.

7. ALL CAMERA STATION CABLING TO BE NON-PLENUM RATED IN CONDUIT. ANY CABLE FOUND TO BE DEFECTIVE MUST BE REPLACED.

8. TEST AND CERTIFY ALL WIRES TO BE FREE OF SHORTS, OPENS OR GROUNDS.

9. CAMERA STATIONS MOUNTING: USE APPROPRIATE FASTENERS AND SUPPORTS TO MOUNT CAMERA STATION HOUSINGS WITH THE BUILDING STRUCTURES SO THAT THEY ARE SECURED.
   a. CEILING MOUNTED CAMERA STATION HOUSINGS MUST NOT BE SUPPORTED DIRECTLY FROM CEILINGS, SUPPORT CAMERA STATIONS HOUSING FROM STRUCTURAL MEMBERS FROM ABOVE THE CEILING USING HANGER RODS OR APPROVED METHODS.

10. PROVIDE A NAME PLATE AT EACH CAMERA STATION, INDICATE CAMERA STATION NUMBER.

11. PROVIDE TAMPER PROOF HARDWARE IN AREAS WHERE SECURITY EQUIPMENT, PULL BOXES, HOUSING AND RACEWAY SYSTEM ARE EXPOSED.

12. CAMERA STATION AIMING:
   a. LOCATE AND AIM CAMERA STATIONS IN ROOMS (OR AREAS) WHERE MULTIPLE CAMERA STATIONS ARE SHOWN SO THAT THE ENTIRE ROOM/AREA IS COMPLETELY COVERED BY THE CAMERA STATIONS.

   b. IN ROOMS WHERE A SINGLE CAMERA STATION IS SHOWN, LOCATE AND AIM CAMERA STATION TO PROVIDE AS MUCH SURVEILLANCE OF THE ROOM AS POSSIBLE WITHIN THE FIELD OF VIEW LIMITS OF THE CAMERA STATION LENS.

   c. PRIOR TO INSTALLATION, CONFIRM APPROPRIATE PLACEMENT OF EACH INTERIOR/EXTERIOR CAMERA STATION.

13. UPDATE PANELBOARD SCHEDULES FOR ALL EQUIPMENT ADDED, REMOVED, ABANDONED AND/OR RELOCATED. PROVIDE BLANK SPACES AS REQUIRED. UPDATE DIRECTORY CARD IN TYPE WRITTEN FORM FOR ALL EQUIPMENT.

14. RESTORE PAVEMENTS, WALK CURBS AND OTHER EXTERIOR SURFACES DAMAGED DURING PERFORMANCE OF THE WORK TO MATCH THE APPEARANCE AND PERFORMANCE OF EXISTING CORRESPONDING SURFACES AS CLOSELY AS PRACTICAL. TOPSOIL AND SEED OR SOD TO DAMAGED LAWN AREAS.

15. PROVIDE 5 FEET OF SLACK IN ALL CONDUCTORS IN EACH PULL BOX TO ALLOW FOR EXPANSION AND CONTRACTION OF THE CONDUIT SYSTEM.

16. CLEAR ALL CONDUITS OF ALL OBSTRUCTIONS TO PERMIT THE INSTALLATION OF THE FIBER OPTIC CABLES. A 3-3/4" DISC TYPE MANDREL WITH A 4" BRUSH ON BOTH ENDS WILL BE REQUIRED TO BE PULLED THROUGH ALL COMPLETED CONDUIT RUNS. AFTER THE MANDREL, INSTALL A NYLON FISH LINE FOR THE FUTURE CABLE PULLING. PLUG OR CAP THE CONDUITS.

17. INTERCOM SUBSTATION WIRING MUST REMAIN SEPARATED FROM DOOR CONTROL AND MONITORING WIRING.

18. PRIOR TO PROGRAMMING A COORDINATED MEETING WITH OGS, AND DIRECTOR'S REPRESENTATIVE IS REQUIRED TO COORDINATE FINAL CAMERA STATION NUMBERING AND LABELS.

19. PROVIDE ALL CONDUIT AND WIRING REQUIRED FOR CONNECTIONS BETWEEN EACH CAMERA STATION AND ITS ASSOCIATED SECURITY EQUIPMENT RACK.

21. CONCEAL CONDUITS AND WIRING WITHIN WALLS AND/OR ABOVE CEILING.

22. CAT 6 RUN WILL BE VERIFIED BY THE CONTRACTOR TO NOT EXCEED 300FT. IF SUCH RUN EXISTS CONTACT DIRECTOR'S REPRESENTATIVE IMMEDIATELY.

2 23. UNDERGROUND CONDUIT UNDER ROADWAYS AND PARKING LOTS SHALL BE CONCRETE ENCASED PVC SCHEDULE 80. ALL OTHER UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 80.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

SECURITY NOTES

DRAWING NUMBER:

EY-0002

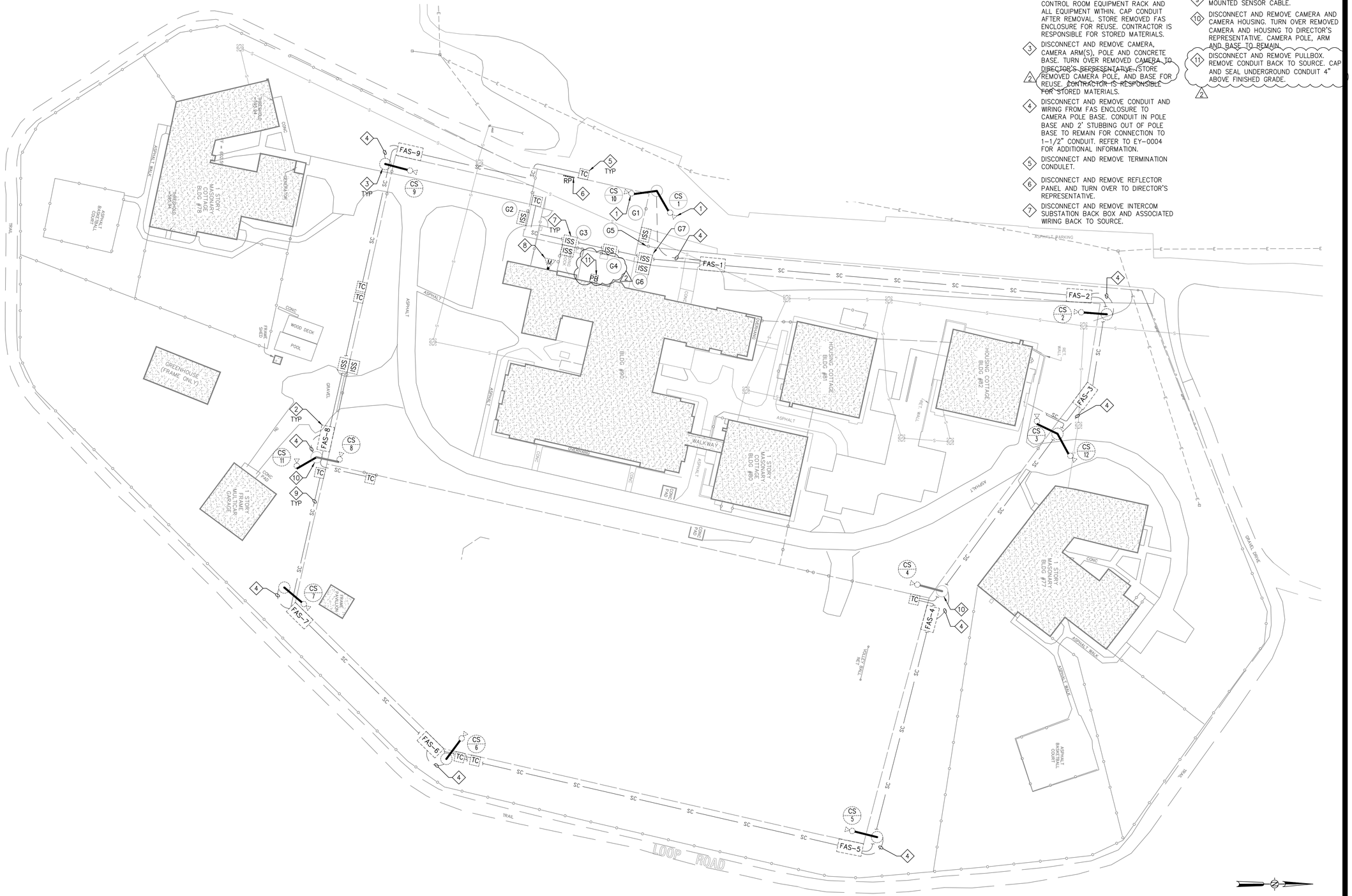
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36x24 PLOT SHEET

REMOVAL CODED NOTES

1. DISCONNECT AND REMOVE CAMERA, CAMERA ARM(S) AND HOUSING. TURN OVER REMOVED CAMERA AND HOUSING TO DIRECTOR'S REPRESENTATIVE. CAMERA POLE AND BASE TO REMAIN.
2. DISCONNECT AND REMOVE FENCE ACCESSORY STATION (FAS). REMOVAL INCLUDES WIRING BACK TO BLDG 90 CONTROL ROOM EQUIPMENT RACK AND ALL EQUIPMENT WITHIN. CAP CONDUIT AFTER REMOVAL. STORE REMOVED FAS ENCLOSURE FOR REUSE. CONTRACTOR IS RESPONSIBLE FOR STORED MATERIALS.
3. DISCONNECT AND REMOVE CAMERA, CAMERA ARM(S), POLE AND CONCRETE BASE. TURN OVER REMOVED CAMERA TO DIRECTOR'S REPRESENTATIVE. STORE REMOVED CAMERA POLE, AND BASE FOR REUSE. CONTRACTOR IS RESPONSIBLE FOR STORED MATERIALS.
4. DISCONNECT AND REMOVE CONDUIT AND WIRING FROM FAS ENCLOSURE TO CAMERA POLE BASE. CONDUIT IN POLE BASE AND 2' STUBBING OUT OF POLE BASE TO REMAIN FOR CONNECTION TO 1-1/2" CONDUIT. REFER TO EY-0004 FOR ADDITIONAL INFORMATION.
5. DISCONNECT AND REMOVE TERMINATION CONDULET.
6. DISCONNECT AND REMOVE REFLECTOR PANEL AND TURN OVER TO DIRECTOR'S REPRESENTATIVE.
7. DISCONNECT AND REMOVE INTERCOM SUBSTATION BACK BOX AND ASSOCIATED WIRING BACK TO SOURCE.
8. DISCONNECT AND REMOVE MICROWAVE TRANSMITTER/RECEIVER AND TURN OVER TO DIRECTOR'S REPRESENTATIVE. REMOVAL INCLUDES WIRING, CONDUIT AND JUNCTION BOXES BACK TO SOURCE. RETAIN ICE AND SNOW DEFLECTOR FOR REUSE.
9. DISCONNECT AND REMOVE FENCE MOUNTED SENSOR CABLE.
10. DISCONNECT AND REMOVE CAMERA AND CAMERA HOUSING. TURN OVER REMOVED CAMERA AND HOUSING TO DIRECTOR'S REPRESENTATIVE. CAMERA POLE, ARM AND BASE TO REMAIN.
11. DISCONNECT AND REMOVE PULLBOX. REMOVE CONDUIT BACK TO SOURCE. CAP AND SEAL UNDERGROUND CONDUIT 4" ABOVE FINISHED GRADE.



SITE SECURITY REMOVALS PLAN
1" = 40'

GRAPHIC SCALE (FEET)
1"=40'
0' 40' 80' 120' 160' 200'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE SECURITY REMOVALS PLAN

DRAWING NUMBER:
EY-0003

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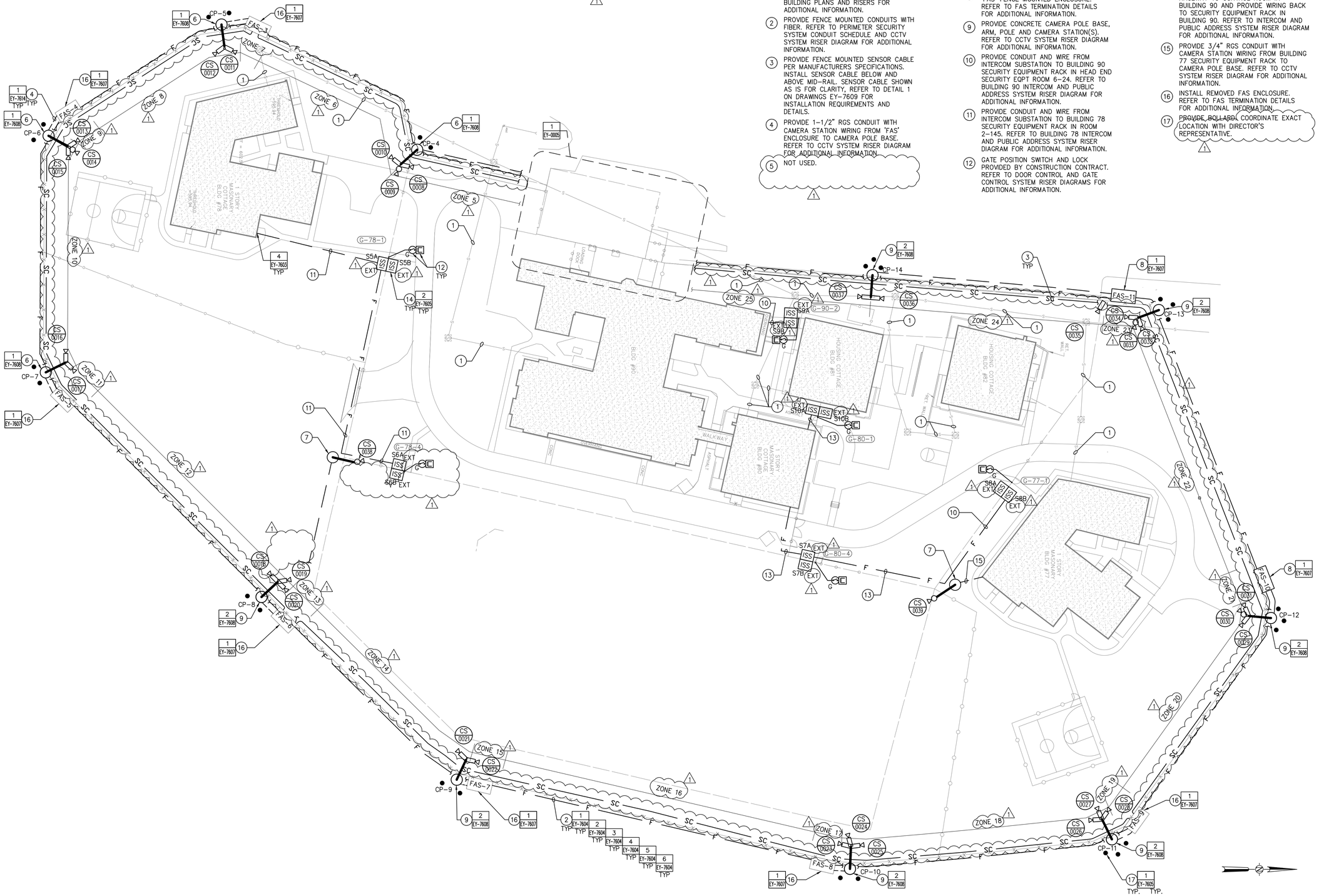
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36x24 PLOT SHEET

GENERAL NOTE

1. PROVIDE GUARD TOUR SYSTEM CHECK STATION ON FENCE POST (NON-SECURE SIDE) AT EVERY DIRECTION CHANGE IN FENCE LINE ALONG PERIMETER. SEE DETAIL 6 ON DRAWING EY-7606 FOR ADDITIONAL INFORMATION.

CODED NOTES

1. UTILIZE EXISTING UNDERGROUND TELE/DATA INFRASTRUCTURE FOR SINGLE-MODE FIBER OPTICS CABLE FOR CCTV SYSTEM AND 12-STRAND MULTIMODE FIBER OPTIC CABLE. ROUTE FIBER OPTIC CABLE TO CREATE A CLASS 'A' LOOP TO EACH FACP IN BUILDING 77, 78, 80, 81, 82 AND 90. REFER TO BUILDING PLANS AND RISERS FOR ADDITIONAL INFORMATION.
2. PROVIDE FENCE MOUNTED CONDUITS WITH FIBER. REFER TO PERIMETER SECURITY SYSTEM CONDUIT SCHEDULE AND CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
3. PROVIDE FENCE MOUNTED SENSOR CABLE PER MANUFACTURERS SPECIFICATIONS. INSTALL SENSOR CABLE BELOW AND ABOVE MID-RAIL. SENSOR CABLE SHOWN AS IS FOR CLARITY, REFER TO DETAIL 1 ON DRAWINGS EY-7609 FOR INSTALLATION REQUIREMENTS AND DETAILS.
4. PROVIDE 1-1/2" RGS CONDUIT WITH CAMERA STATION WIRING FROM 'FAS' ENCLOSURE TO CAMERA POLE BASE. REFER TO CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
5. NOT USED.
6. INSTALL REMOVED CAMERA POLE, CONCRETE BASE, CONDUIT STUB, AND PROVIDE 6' MOUNTING ARM, CONNECT TO 1-1/2" UNDERGROUND CONDUIT.
7. PROVIDE PTZ ON CAMERA POLE ARM. REFER TO CCTV RISER DIAGRAM FOR ADDITIONAL INFORMATION.
8. PROVIDE STAINLESS STEEL NEMA 4X 'FAS' FENCE MOUNTED ENCLOSURE. REFER TO FAS TERMINATION DETAILS FOR ADDITIONAL INFORMATION.
9. PROVIDE CONCRETE CAMERA POLE BASE, ARM, POLE AND CAMERA STATION(S). REFER TO CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
10. PROVIDE CONDUIT AND WIRE FROM INTERCOM SUBSTATION TO BUILDING 90 SECURITY EQUIPMENT RACK IN HEAD END SECURITY EQPT ROOM 6-24. REFER TO BUILDING 90 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
11. PROVIDE CONDUIT AND WIRE FROM INTERCOM SUBSTATION TO BUILDING 78 SECURITY EQUIPMENT RACK IN ROOM 2-145. REFER TO BUILDING 78 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
12. GATE POSITION SWITCH AND LOCK PROVIDED BY CONSTRUCTION CONTRACT. REFER TO DOOR CONTROL AND GATE CONTROL SYSTEM RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
13. PROVIDE CONDUIT AND WIRE FROM INTERCOM SUBSTATION TO BUILDING 80 SECURITY EQUIPMENT RACK LOCATED IN SECURITY RACK ROOM 3018. REFER TO BUILDING 80 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
14. PROVIDE EXTERIOR INTERCOM SUBSTATION JUNCTION BOX. UTILIZE RACEWAY TO CONTROL ROOM IN BUILDING 90 AND PROVIDE WIRING BACK TO SECURITY EQUIPMENT RACK IN BUILDING 90. REFER TO INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
15. PROVIDE 3/4" RGS CONDUIT WITH CAMERA STATION WIRING FROM BUILDING 77 SECURITY EQUIPMENT RACK TO CAMERA POLE BASE. REFER TO CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
16. INSTALL REMOVED FAS ENCLOSURE. REFER TO FAS TERMINATION DETAILS FOR ADDITIONAL INFORMATION.
17. PROVIDE BOLLARD. COORDINATE EXACT LOCATION WITH DIRECTOR'S REPRESENTATIVE.



SITE SECURITY PLAN
1" = 40'

GRAPHIC SCALE (FEET)
1"=40'
0' 40' 80' 120' 160' 200'

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36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

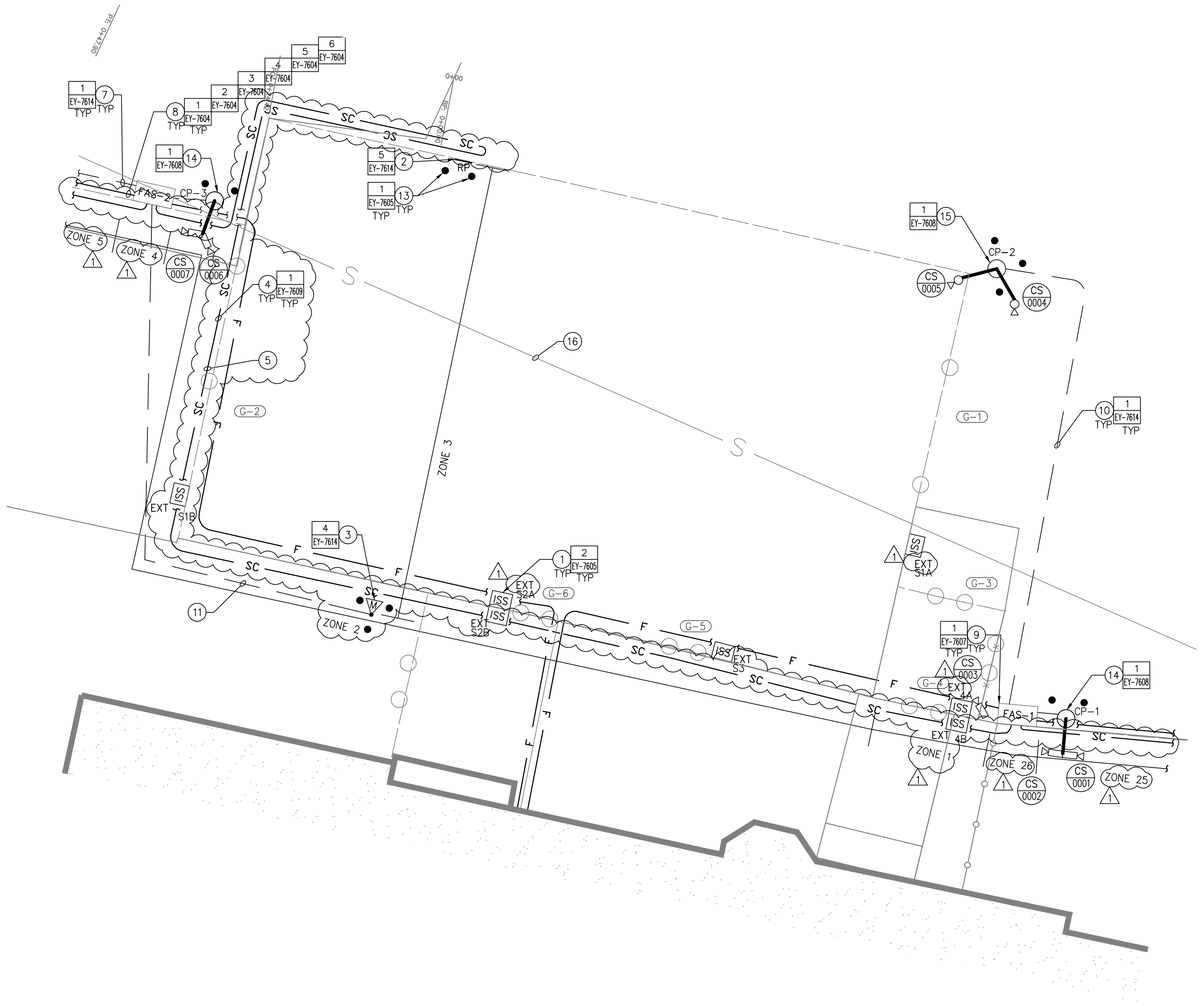
MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE SECURITY PLAN

DRAWING NUMBER:
EY-0004

SHEET OF



1 SITE SECURITY ENLARGED PLANS
– 1"=10'

GRAPHIC SCALE (FEET)
1"=10' 0' 10' 20' 30' 40' 50'

GENERAL NOTE

1. PROVIDE GUARD TOUR SYSTEM CHECK STATION ON FENCE POST (SECURE SIDE) WHERE FENCE CHANGES DIRECTION ALONG PERIMETER. SEE DETAIL 6 ON DRAWING EY-7606 FOR ADDITIONAL INFORMATION. (1)

CODED NOTES

(1) PROVIDE EXTERIOR INTERCOM SUBSTATION. UTILIZE RACEWAY AND PROVIDE WIRING BACK TO SECURITY EQUIPMENT RACK IN BUILDING 90. REFER TO INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(2) PROVIDE FENCE MOUNTED MICROWAVE REFLECTOR PANEL.

(3) PROVIDE MICROWAVE TRANSMITTER/RECEIVER. INSTALL ICE AND SNOW DEFLECTOR RETAINED DURING REMOVALS. EXACT LOCATION OF MICROWAVE TRANSMITTER/RECEIVER TO BE DETERMINED BY FIELD ADVISOR FOR MAXIMUM COVERAGE. (1)

(4) PROVIDE FENCE MOUNTED SENSOR CABLE PER MANUFACTURERS SPECIFICATIONS. SENSOR CABLE SHOWN AS IS FOR CLARITY, REFER TO DETAIL 1 ON DRAWINGS EY-7609 FOR INSTALLATION REQUIREMENTS AND DETAILS. (1)

(5) NOT USED.

(6) NOT USED.

(7) PROVIDE 1-1/2" RGS CONDUIT WITH CAMERA STATION WIRING FROM 'FAS' ENCLOSURE TO CAMERA POLE BASE. REFER TO CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(8) PROVIDE FENCE MOUNTED CONDUITS WITH FIBER. REFER TO PERIMETER SECURITY SYSTEM CONDUIT SCHEDULE AND CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(9) INSTALL REMOVED FAS ENCLOSURE. REFER TO FAS TERMINATION DETAILS FOR ADDITIONAL INFORMATION.

(10) PROVIDE 1-1/2" RGS CONDUIT WITH CAMERA STATION WIRING FROM 'FAS' ENCLOSURE TO CAMERA POLE BASE. REFER TO CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(11) PROVIDE 1-1/2" CONDUIT WITH CONTROL WIRING FROM FAS ENCLOSURE TO MICROWAVE POST.

(12) NOT USED. (1)

(13) PROVIDE BOLLARD. COORDINATE EXACT LOCATION WITH DIRECTOR'S REPRESENTATIVE.

(14) INSTALL REMOVED CAMERA POLE, CONCRETE BASE, AND CONDUIT STUB. CONNECT TO 1-1/2" UNDERGROUND CONDUIT.

(15) UTILIZE POLE AND PROVIDE CAMERA ARMS AND PTZ'S AS INDICATED. REFER TO CCTV RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(16) UTILIZE EXISTING UNDERGROUND TELE/DATA INFRASTRUCTURE FOR SINGLE-MODE FIBER OPTICS CABLE FOR CCTV SYSTEM AND 12-STRAND MULTIMODE FIBER OPTIC CABLE. ROUTE FIBER OPTIC CABLE TO CREATE A CLASS 'A' LOOP TO EACH FACP IN BUILDING 77, 78, 80, 81, 82 AND 90. REFER TO BUILDING PLANS AND RISERS FOR ADDITIONAL INFORMATION.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SITE SECURITY ENLARGED PLANS

DRAWING NUMBER:
EY-0005

SHEET OF

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36x24 PLOT SHEET

SITE CAMERA MATRIX SCHEDULE

CAMERA NUMBER	CAMERA CABLE/CONDUIT TYPE AND QUANTITY	CAMERA MOUNT ARM	INTERIOR/ EXTERIOR	CAMERA MOUNT TYPE	CAMERA PART NUMBER	CAMERA TYPE	CONSTRUCTION CEILING TYPE	GENERAL NOTES	GRID LOCATION/ DESCRIPTION	MOUNTING DETAIL CALLOUT	PULLBOX NUMBER
0001	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0002	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0003	3/4" CONDUIT WITH (1) CAT 6 CABLE	PP450	EXTERIOR	FENCE POST	IMP	FIXED	–	–	SITE PERIMETER	5/EY-7601	–
0004	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	1/EY-7608	–
0005	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	1/EY-7608	–
0006	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0007	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0008	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0009	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	1/EY-7608	–
0010	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0011	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0012	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/ET-7608	–
0013	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0014	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	1/EY-7608	–
0015	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0016	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0017	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	1/EY-7608	–
0018	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0019	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	2/EY-7608	–
0020	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0021	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0022	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0023	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0024	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0025	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0026	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0027	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0028	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0029	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0030	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	2/EY-7608	–
0031	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0032	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0033	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	2/EY-7608	–
0034	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0035	3/4" CONDUIT WITH (1) CAT 6 CABLE	PP450	EXTERIOR	FENCE POST	IMP	FIXED	–	–	SITE PERIMETER	5/EY-7601	–
0036	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0037	3/4" CONDUIT WITH (1) CAT 6 CABLE	IWM/IMPPM-1ER	EXTERIOR	6' ARM	IMP	FIXED	–	–	SITE PERIMETER	2/EY-7608	–
0038	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	2/EY-7608	–
0039	3/4" CONDUIT WITH (1) CAT 6 CABLE	–	EXTERIOR	6' ARM	S6230-EG1	PTZ	–	–	SITE PERIMETER	2/EY-7608	–

SITE DOOR-GATE CONTROLS / INTERCOM / CCTV SYSTEMS SCHEDULE

DOOR-GATE No.	CONTROL/ MONITOR STATION	CONSTRUCTION NOTES	ELECTRICAL NOTES	ASSOCIATED INTERCOM (ISS) Nos.	ASSOCIATED CAMERA STATION (CS) Nos.		
					UPPER LEFT	UPPER RIGHT	LOWER LEFT
G-1/G-3	CONTROL	EXTERIOR	1,C	ISS-S1A	CS-0004	CS-0003	CS-6073
G-2	CONTROL	EXTERIOR	1,C	ISS-S1B	CS-0008	CS-0005	CS-0006
G-6	CONTROL	EXTERIOR	1,C	ISS-S2A	CS-0005	CS-6071	CS-0006
	CONTROL	EXTERIOR	1,C	ISS-S2B	CS-6071	CS-0005	CS-0006
G-5	CONTROL	EXTERIOR	1,C	ISS-S3	CS-0005	–	CS-006
G-78-1	CONTROL	EXTERIOR	1,C	ISS-S5A	CS-0009	CS-0038	–
		EXTERIOR	1,C	ISS-S5B	CS-0038	CS-0009	–
G-78-4	CONTROL	EXTERIOR	1,C	ISS-S6A	CS-0038	–	–
		EXTERIOR	1,C	ISS-S6B	CS-0038	–	–
G-80-4	CONTROL	EXTERIOR	1,C	ISS-S7A	CS-0039	–	CS-0024
		EXTERIOR	1,C	ISS-S7B	CS-0039	–	CS-0024
G-77-1	CONTROL	EXTERIOR	1,C	ISS-S8A	CS-0039	CS-0035	CS-0033
		EXTERIOR	1,C	ISS-S8B	CS-0039	CS-0033	CS-0035
G-90-2	CONTROL	EXTERIOR	1,C	ISS-S9A	CS-6078	–	CS-0037
		EXTERIOR	1,C	ISS-S9B	CS-6078	–	CS-0037
G-80-1	CONTROL	EXTERIOR	1,C	ISS-S10A	CS-4011	–	CS-6078
		EXTERIOR	1,C	ISS-S10B	–	CS-4011	CS-6078
G-4	CONTROL	EXTERIOR	1,C	ISS-S4A	CS-0003	CS-6073	CS-0004
		EXTERIOR	1,C	ISS-S4B	CS-6073	CS-6003	CS-0004

NOTES:

1. UNLESS INDICATED OTHERWISE ALL INDOOR INTERCOM SUBSTATIONS ARE SURFACE MOUNTED 54" AFG. PROVIDE SURFACE MOUNTED BACKBOX AND SUBSTATION.

2. RE-AIM CAMERA FOR CAMERA CALL-UP AND FOR ORIGINAL INTENDED VIEWING.

3. NOTE 'M' INDICATES MONITORED ONLY. NOTE 'C' INDICATES MONITORED AND CONTROLLED. NOTE 'MM' INDICATES DOUBLE DOOR BEING MONITORED. NOTE 'CC' INDICATES DOUBLE DOOR BEING MONITORED AND CONTROLLED.

PERIMETER SECURITY SYSTEM CONDUIT SCHEDULE

FROM	TO	NUMBER SIZE	REMARKS
CONTROLS ROOM	PB	(2) 4"	
PB	FAS-1	(2) 4"	
FAS-1	FAS-2	(1) 4"	
FAS-2	FAS-3	(1) 4"	
FAS-3	FAS-4	(1) 3"	
FAS-4	FAS-5	(1) 3"	
FAS-5	FAS-6	(1) 2"	
FAS-6	FAS-7	(1) 2"	
FAS-7	FAS-8	(1) 2"	
FAS-8	FAS-9	(1) 3"	
FAS-9	FAS-10	(1) 3"	
FAS-10	FAS-11	(1) 4"	
FAS-11	PB	(1) 4"	

NOTE:

1. NUMBER AND SIZES OF CONDUITS SHOWN ARE MINIMUM ALLOWED. INCREASE CONDUIT SIZES AS REQUIRED SO THAT CONDUCTOR FILL DOES NOT EXCEED 40% OF THE CONDUIT CROSS-SECTIONAL AREA.
2. PROVIDE 3" 3-CELL MAXCELL INNERDUCT IN 4" AND 3" CONDUIT. PROVIDE (3) INNER DUCTS IN 4" CONDUIT AND (2) INNERDUCTS IN 3" CONDUIT.
4. PROVIDE (1) 2" 3-CELL MAXCELL INNERDUCT IN 2" CONDUIT.

PERIMETER ALARM SYSTEM/ CAMERA CALL-UP SCHEDULE

FAS DESIGNATION	ZONE MONITOR ZONE NO.	DESCRIPTION	CAMERA CALL-UP UPON ALARM			
FAS-01	01	ALARM/TAMPER - SENSOR CABLE ZONE 1	CS-0002	CS-6073	CS-0004	–
	25	ALARM/TAMPER - SENSOR CABLE ZONE 25	CS-0001	CS-0037	–	–
	02	ALARM/TAMPER - SENSOR CABLE ZONE 2	CS-0008	CS-0005	CS-0002	CS-0005
	24	ALARM/TAMPER - SENSOR CABLE ZONE 24	CS-0002	CS-6073	CS-0004	–
	23	ALARM/TAMPER - SENSOR CABLE ZONE 24	CS-0002	CS-6073	CS-0004	–
FAS-02	03	ALARM/TAMPER - MICROWAVE ZONE 3	CS-0006	CS-0005	–	–
FAS-03	05	ALARM/TAMPER - SENSOR CABLE ZONE 5	CS-0008	CS-0005	CS-0038	CS-0007
	06	ALARM/TAMPER - SENSOR CABLE ZONE 6	CS-0011	CS-0010	CS-0009	–
	07	ALARM/TAMPER - SENSOR CABLE ZONE 7	CS-0011	CS-0010	CS-0009	–
	08	ALARM/TAMPER - SENSOR CABLE ZONE 8	CS-0012	CS-0013	CS-0014	–
	09	ALARM/TAMPER - SENSOR CABLE ZONE 9	CS-0012	CS-0013	CS-0014	–
	10	ALARM/TAMPER - SENSOR CABLE ZONE 10	CS-0016	CS-0015	CS-0014	–
FAS-06	11	ALARM/TAMPER - SENSOR CABLE ZONE 11	CS-0017	CS-0018	CS-0038	–
	12	ALARM/TAMPER - SENSOR CABLE ZONE 12	CS-0017	CS-0018	CS-0038	–
	13	ALARM/TAMPER - SENSOR CABLE ZONE 13	CS-0021	CS-0020	CS-0038	–
	14	ALARM/TAMPER - SENSOR CABLE ZONE 14	CS-0021	CS-0020	CS-0038	–
	15	ALARM/TAMPER - SENSOR CABLE ZONE 15	CS-0022	CS-0023	CS-0039	–
FAS-09	16	ALARM/TAMPER - SENSOR CABLE ZONE 16	CS-0022	CS-0023	CS-0039	–
	17	ALARM/TAMPER - SENSOR CABLE ZONE 17	CS-0022	CS-0023	CS-0039	–
	18	ALARM/TAMPER - SENSOR CABLE ZONE 18	CS-0026	CS-0025	CS-0039	CS-0030
	19	ALARM/TAMPER - SENSOR CABLE ZONE 19	CS-0028	CS-0029	CS-0030	CS-0039
	20	ALARM/TAMPER - SENSOR CABLE ZONE 20	CS-0028	CS-0029	CS-0030	CS-0039
	21	ALARM/TAMPER - SENSOR CABLE ZONE 21	CS-0032	CS-0031	CS-0033	CS-0030
	22	ALARM/TAMPER - SENSOR CABLE ZONE 22	CS-0032	CS-0031	CS-0033	CS-0030

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DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

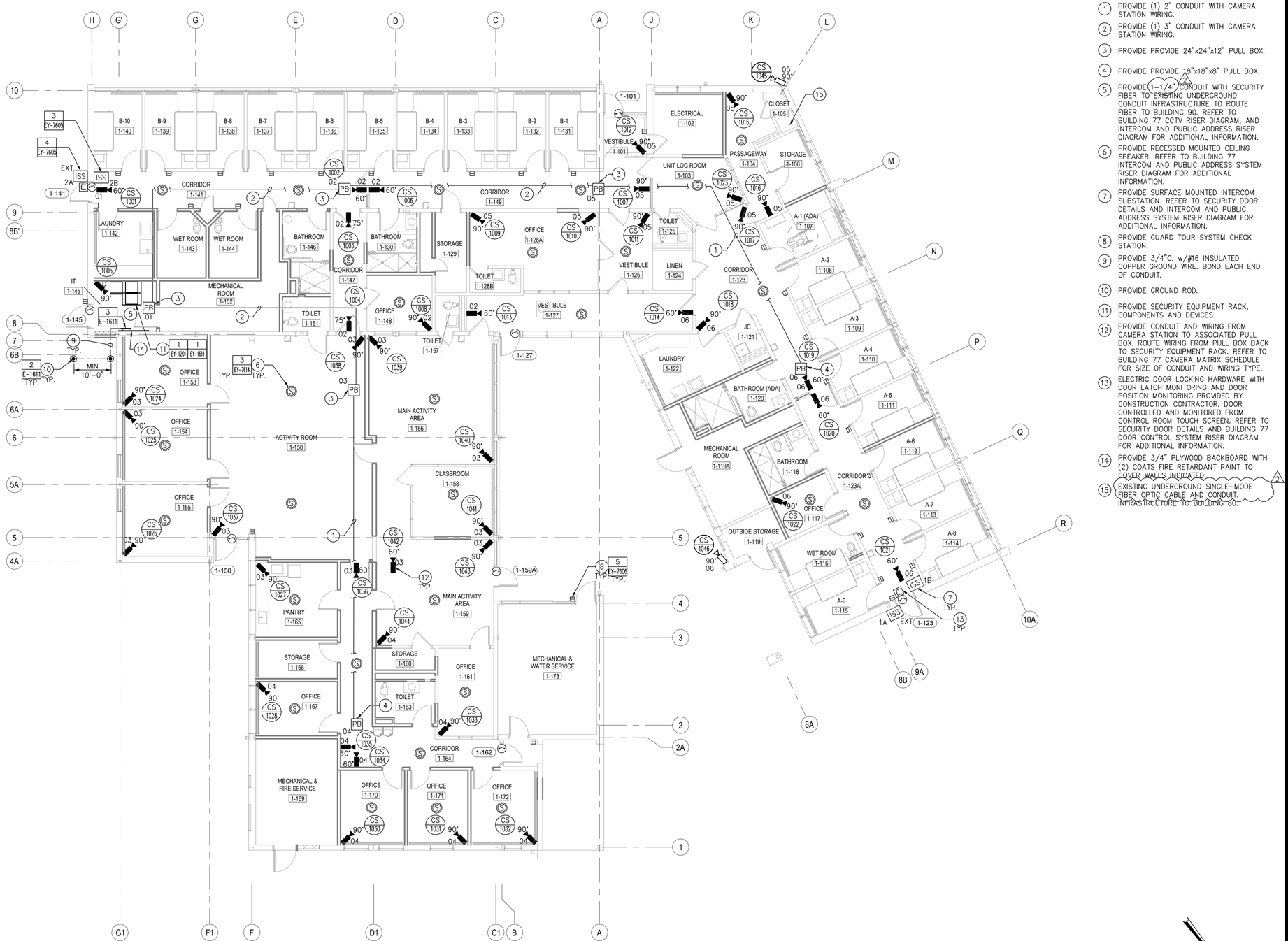
SITE SECURITY SCHEDULES

DRAWING NUMBER:

EY-0701

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36x24 PLOT SHEET



BUILDING 77 SECURITY PLAN
1/8" = 1'

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

GENERAL NOTE

1. REFER TO RACK ELEVATION, RISER DIAGRAMS AND DETAILS FOR ADDITIONAL INFORMATION.

CODED NOTES

1. PROVIDE (1) 2" CONDUIT WITH CAMERA STATION WIRING.
2. PROVIDE (1) 3" CONDUIT WITH CAMERA STATION WIRING.
3. PROVIDE PROVIDE 24"x24"x12" PULL BOX.
4. PROVIDE PROVIDE 18"x18"x8" PULL BOX.
5. PROVIDE (1-1/4" CONDUIT WITH SECURITY FIBER TO EXISTING UNDERGROUND CONDUIT INFRASTRUCTURE TO ROUTE FIBER TO BUILDING 90. REFER TO BUILDING 77 CCTV RISER DIAGRAM, AND INTERCOM AND PUBLIC ADDRESS RISER DIAGRAM FOR ADDITIONAL INFORMATION.
6. PROVIDE RECESSED MOUNTED CEILING SPEAKER. REFER TO BUILDING 77 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
7. PROVIDE SURFACE MOUNTED INTERCOM SUBSTATION. REFER TO SECURITY DOOR DETAILS AND INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
8. PROVIDE GUARD TOUR SYSTEM CHECK STATION.
9. PROVIDE 3/4"C. w/#16 INSULATED COPPER GROUND WIRE. BOND EACH END OF CONDUIT.
10. PROVIDE GROUND ROD.
11. PROVIDE SECURITY EQUIPMENT RACK, COMPONENTS AND DEVICES.
12. PROVIDE CONDUIT AND WIRING FROM CAMERA STATION TO ASSOCIATED PULL BOX. ROUTE WIRING FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK. REFER TO BUILDING 77 CAMERA MATRIX SCHEDULE FOR SIZE OF CONDUIT AND WIRING TYPE.
13. ELECTRIC DOOR LOCKING HARDWARE WITH DOOR LATCH MONITORING AND DOOR POSITION MONITORING PROVIDED BY CONSTRUCTION CONTRACTOR. DOOR CONTROLLED AND MONITORED FROM CONTROL ROOM TOUCH SCREEN. REFER TO SECURITY DOOR DETAILS AND BUILDING 77 DOOR CONTROL SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
14. PROVIDE 3/4" PLYWOOD BACKBOARD WITH (2) COATS FIRE RETARDANT PAINT TO COVER WALLS INDICATED.
15. EXISTING UNDERGROUND SINGLE-MODE FIBER OPTIC CABLE AND CONDUIT. INFRASTRUCTURE TO BUILDING 80. (2)

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DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

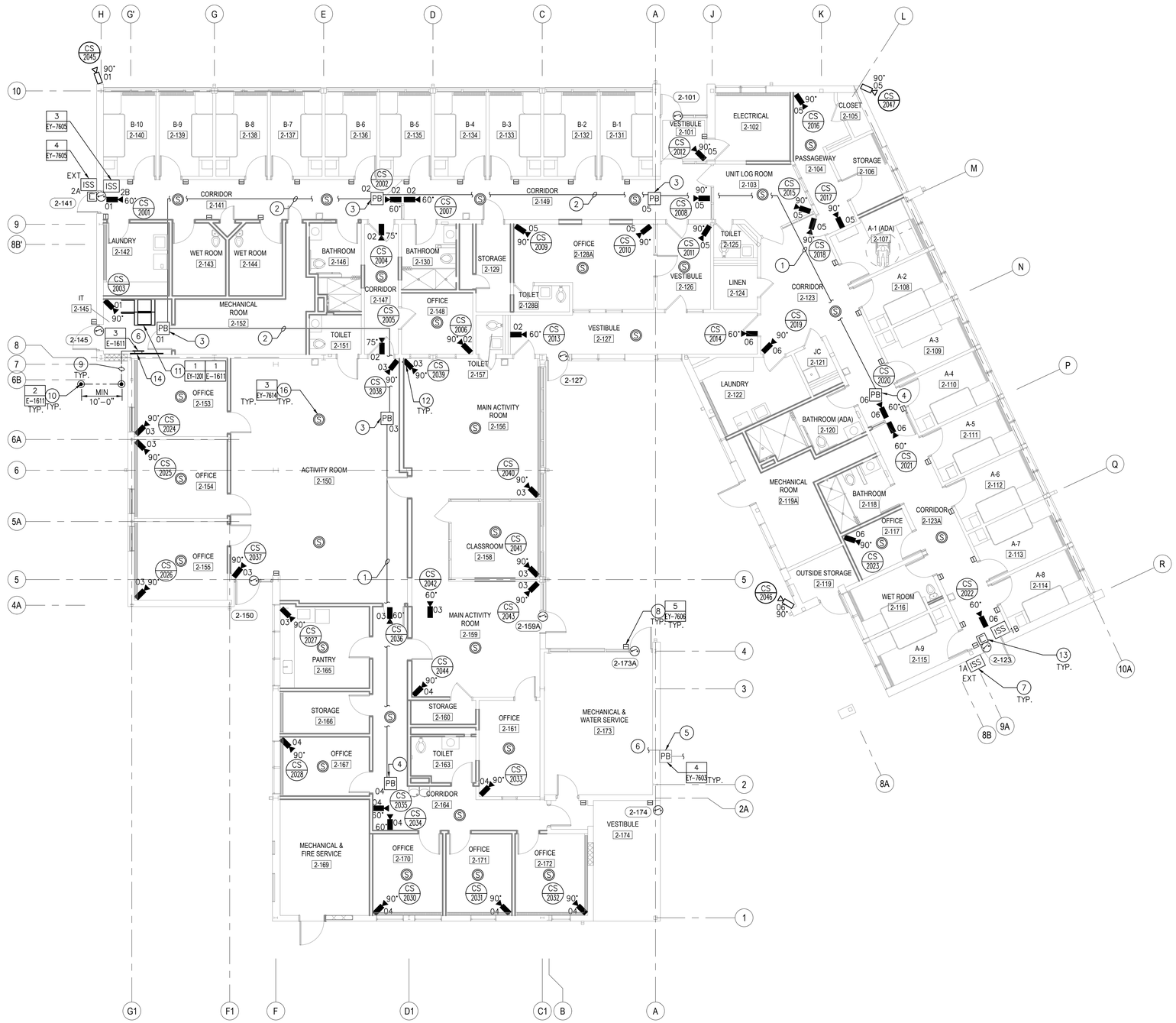
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 SECURITY PLAN

DRAWING NUMBER:
EY-1101

SHEET OF

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36x24 PLOT SHEET



BUILDING 78 SECURITY PLAN
1/8" = 1'

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

GENERAL NOTE

1. REFER TO RACK ELEVATION, RISER DIAGRAMS AND DETAILS FOR ADDITIONAL INFORMATION.

CODED NOTES

1. PROVIDE (1) 2" CONDUIT WITH CAMERA STATION WIRING.
2. PROVIDE (1) 3" CONDUIT WITH CAMERA STATION WIRING.
3. PROVIDE PROVIDE 24"x24"x12" PULL BOX.
4. PROVIDE PROVIDE 18"x18"x8" PULL BOX.
5. EXISTING (2) 4" CONDUITS EACH WITH (3) 1-1/2" INNER DUCTS AND PULL ROPE. UTILIZE SPARE INNER DUCT TO ROUTE SECURITY FIBER TO BUILDING 90 SECURITY HEAD-END ROOM. REFER TO ENLARGED SITE PLAN FOR ADDITIONAL INFORMATION.
6. PROVIDE 1-1/4" CONDUIT WITH SECURITY FIBER TO OFTR IN SECURITY EQUIPMENT RACK LOCATED IN IT ROOM 2-145. REFER TO BUILDING 78 CCTV SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
7. PROVIDE SURFACE MOUNTED INTERCOM SUBSTATION. REFER TO SECURITY DOOR DETAILS AND INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
8. PROVIDE GUARD TOUR SYSTEM CHECK STATION.
9. PROVIDE 3/4"C. w/1#6 INSULATED COPPER GROUND WIRE. BOND EACH END OF CONDUIT.
10. PROVIDE GROUND ROD.
11. PROVIDE SECURITY EQUIPMENT RACK, COMPONENTS AND DEVICES.
12. PROVIDE CONDUIT AND WIRING FROM CAMERA STATION TO ASSOCIATED PULL BOX. ROUTE WIRING FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK. REFER TO BUILDING 78 CAMERA MATRIX SCHEDULE FOR SIZE OF CONDUIT AND WIRING TYPE.
13. ELECTRIC DOOR LOCKING HARDWARE WITH DOOR LATCH MONITORING AND DOOR POSITION MONITORING PROVIDED BY CONSTRUCTION CONTRACTOR. DOOR CONTROLLED AND MONITORED FROM CONTROL ROOM TOUCH SCREEN. REFER TO SECURITY DOOR DETAILS AND BUILDING 78 DOOR CONTROL SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
14. PROVIDE 3/4" PLYWOOD BACKBOARD WITH (2) COATS FIRE RETARDANT PAINT TO COVER WALLS INDICATED.
15. PROVIDE RECESSED MOUNTED CEILING SPEAKER. REFER TO BUILDING 78 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

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DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:
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TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 SECURITY PLAN

DRAWING NUMBER:
EY-2101

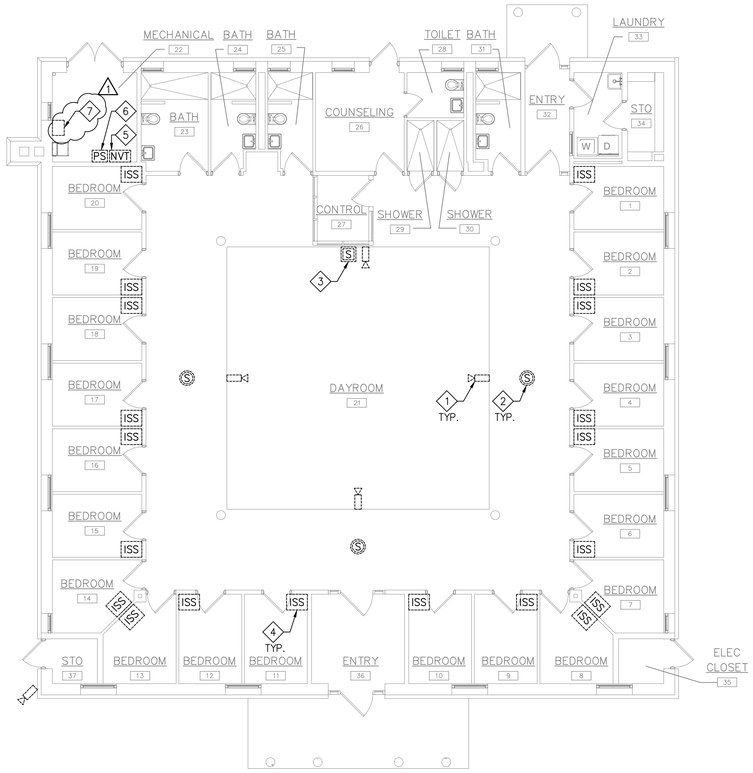
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36x24 PLOT SHEET

REMOVAL CODED NOTES

1. DISCONNECT AND REMOVE CAMERA STATION AND WIRING IN ITS ENTIRETY. REMOVAL TO INCLUDE WIRING BACK TO SOURCE. WIRING BACK TO SOURCE IS FREE AIR ABOVE CEILING. PATCH AND PAINT TO MATCH EXISTING CONDITIONS. TURN OVER REMOVED CAMERA TO DIRECTOR'S REPRESENTATIVE.
2. DISCONNECT AND REMOVE CEILING MOUNTED SPEAKER. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
3. DISCONNECT AND REMOVE WALL MOUNTED SPEAKER. REMOVALS INCLUDE CONDUIT AND WIRING BACK TO SOURCE.
4. DISCONNECT AND REMOVE INTERCOM SUBSTATION. REMOVALS INCLUDE WIRING BACK TO SOURCE AND ANCILLARY SUPPORTING EQUIPMENT. RACEWAY TO REMAIN. RIVET BLANK COVER TO EXISTING BACK BOX.
5. DISCONNECT AND REMOVE MULTI-CHANNEL PASSIVE TRANSCEIVER. REMOVALS INCLUDE WIRING BACK TO SOURCE IN BUILDING 90.
6. DISCONNECT AND REMOVE CAMERA POWER SUPPLY. REMOVALS INCLUDE WIRING BACK TO SOURCE.
7. DISCONNECT AND REMOVE INPUT/OUTPUT BOARDS FOR INTERCOMS. REMOVALS TO INCLUDE ALL ASSOCIATED WIRING.



BUILDING 81 SECURITY REMOVALS PLAN
1/8" = 1'

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

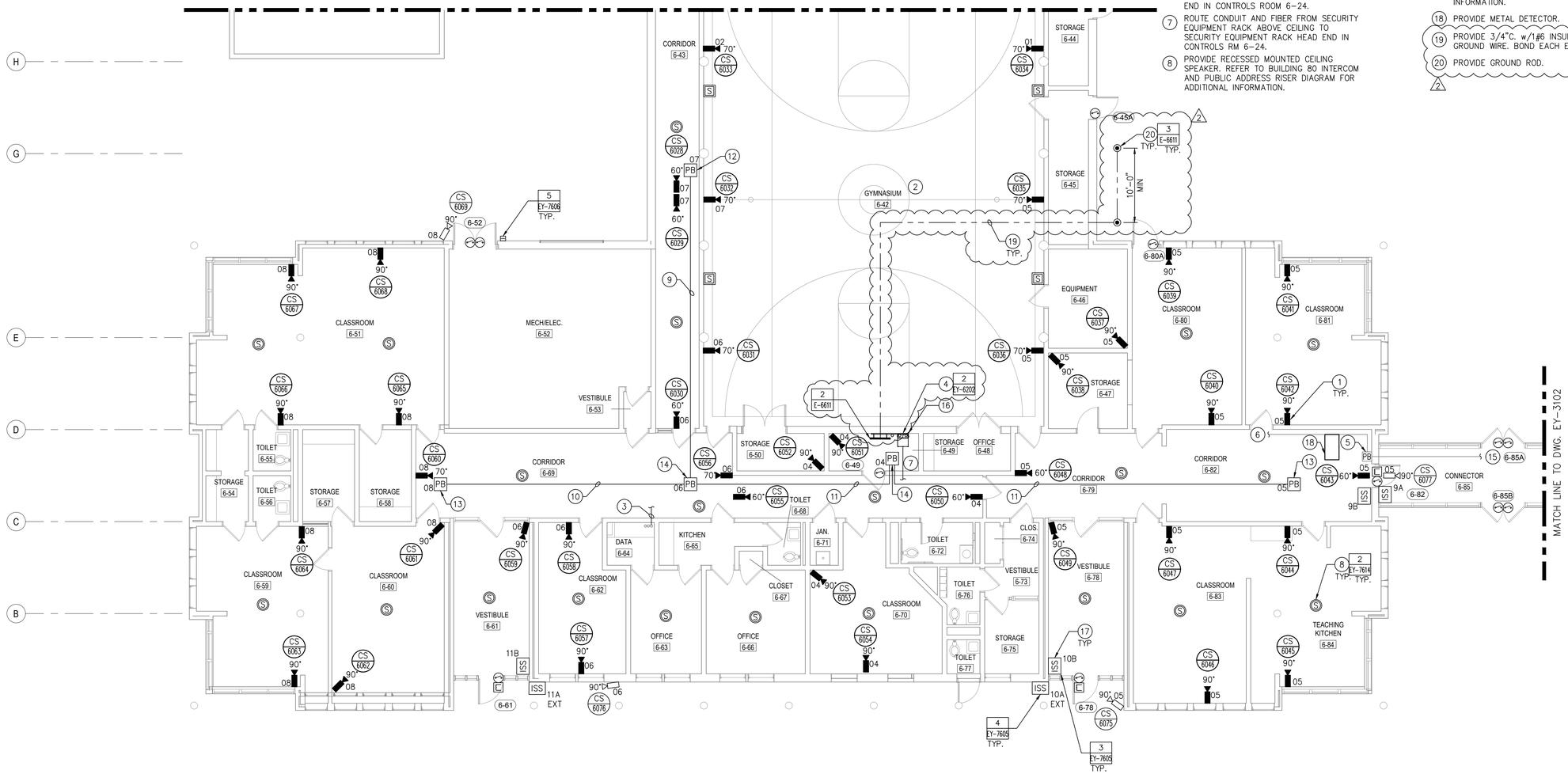
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 81 SECURITY REMOVALS PLAN

DRAWING NUMBER:
EY-4101

SHEET OF

MATCH LINE TO DWG. EY-6104

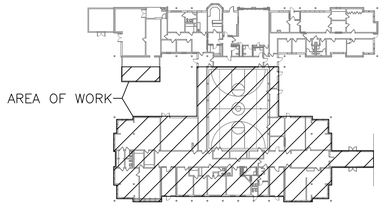


CODED NOTES

1. PROVIDE CONDUIT AND WIRING FROM CAMERA STATION TO ASSOCIATED PULL BOX. ROUTE WIRING FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK. REFER TO BUILDING 77 CAMERA MATRIX SCHEDULE FOR SIZE OF CONDUIT AND WIRING TYPE.
2. ALL CAMER STATION WIRING IN GYMNASIUM MUST BE IN RGS CONDUIT.
3. PROVIDE 2" CONDUIT WITH FIBER FROM BUILDINGS 77, 78, 80, 81, AND 82 TO SECURITY EQUIPMENT RACK IN CONTROLS ROOM 6-24 FROM EXISTING CONDUITS BELOW CEILING.
4. PROVIDE WALL MOUNTED SECURITY EQUIPMENT RACK AND SECURITY EQUIPMENT DEVICES. REFER TO BUILDING 90 SECURITY EQUIPMENT RACK DETAIL FOR ADDITIONAL INFORMATION.
5. PULL BOX TO REMAIN.
6. UTILIZE EXISTING CONDUIT TO DATA 6-64 TO ROUTE FIBER FROM BUILDINGS 77, 80, 81, AND 82 TO SECURITY EQUIPMENT RACK HEAD END IN CONTROLS ROOM 6-24.
7. ROUTE CONDUIT AND FIBER FROM SECURITY EQUIPMENT RACK ABOVE CEILING TO SECURITY EQUIPMENT RACK HEAD END IN CONTROLS RM 6-24.
8. PROVIDE RECESSED MOUNTED CEILING SPEAKER. REFER TO BUILDING 80 INTERCOM AND PUBLIC ADDRESS RISER DIAGRAM FOR ADDITIONAL INFORMATION.
9. PROVIDE (1) 2" CONDUIT WITH CAMERA STATION WIRING.
10. PROVIDE (1) 2-1/2" CONDUIT WITH CAMERA STATION WIRING.
11. PROVIDE (1) 3" CONDUIT WITH CAMERA STATION WIRING.
12. PROVIDE 18"x18"x8" PULL BOX.
13. PROVIDE 24"x24"x12" PULL BOX.
14. PROVIDE 30"x30"x12" PULL BOX.
15. UTILIZE EXISTING CONDUIT FROM PULL BOX IN VESTIBULE 3005 BUILDING 80 TO ROUTE FIBER FROM BUILDINGS 77, 80, 81, AND 82 TO SECURITY EQUIPMENT RACK HEAD END IN CONTROL ROOM 6-24.
16. PROVIDE 3/4" PLYWOOD BACKBOARD WITH (2) COATS FIRE RETARDANT PAINT TO COVER WALLS INDICATED.
17. PROVIDE SURFACE MOUNTED INTERCOM SUBSTATION. REFER TO SECURITY DOOR DETAILS RISER DIAGRAM FOR ADDITIONAL INFORMATION.
18. PROVIDE METAL DETECTOR.
19. PROVIDE 3/4"C. w/1#6 INSULATED COPPER GROUND WIRE. BOND EACH END OF CONDUIT.
20. PROVIDE GROUND ROD.

2

BUILDING 90 SECURITY PLAN
1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
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1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

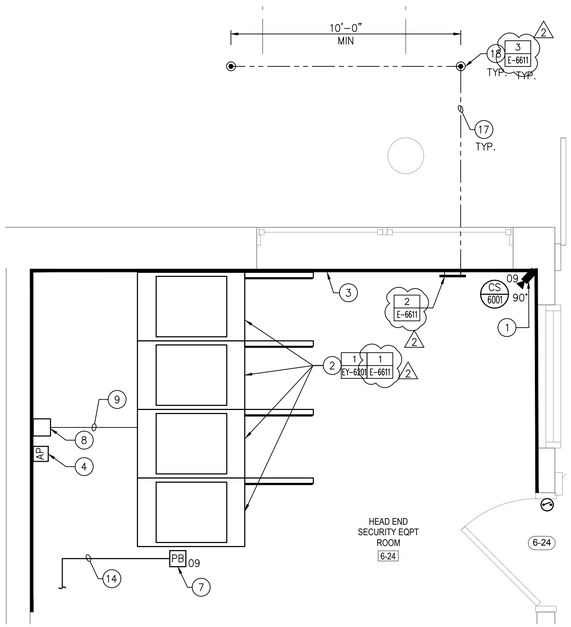
PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 SECURITY PLAN

DRAWING NUMBER:
EY-6103

SHEET OF

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36x24 PLOT SHEET



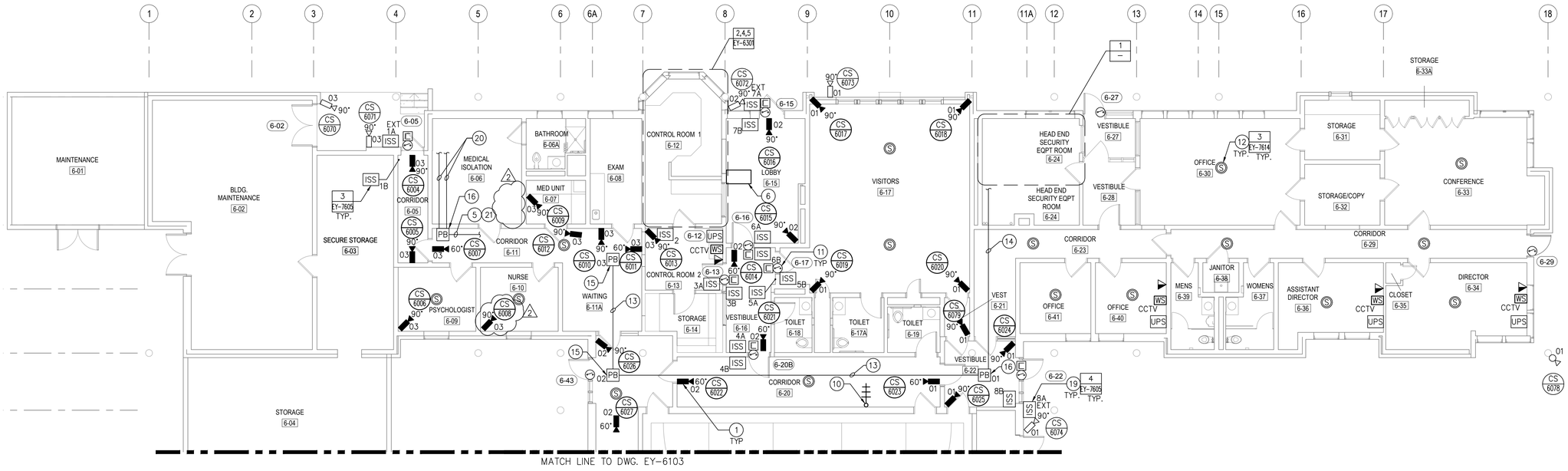
1 ENLARGED HEAD END SECURITY EQPT ROOM
– 1/2" = 1'

GENERAL NOTE

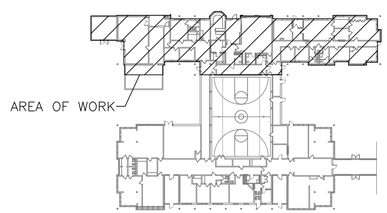
1. REFER TO RACK ELEVATION, RISER DIAGRAMS AND DETAILS FOR ADDITIONAL INFORMATION.

CODED NOTES

1. PROVIDE CONDUIT AND WIRING FROM CAMERA STATION TO ASSOCIATED PULL BOX. ROUTE WIRING FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK. REFER TO BUILDING 90 CAMERA MATRIX SCHEDULE FOR SIZE OF CONDUIT AND WIRING TYPE.
2. PROVIDE SECURITY EQUIPMENT RACK AND SECURITY EQUIPMENT DEVICES. REFER TO BUILDING 90 SECURITY EQUIPMENT RACK DETAIL FOR ADDITIONAL INFORMATION.
3. PROVIDE 3/4" PLYWOOD BACKBOARD WITH (2) COATS FIRE RETARDANT PAINT TO COVER WALLS INDICATED.
4. PROVIDE ALARM PANEL. PROVIDE 3/4"C w/ (4)#18AWG TO KEYPAD LOCATED IN CONTROL ROOM 1. PROVIDE 3/4" C. W/ 2#12, 1#12G TO POWER PANEL 'SP-1'. SHOW CKT IN PANEL SCHEDULE.
5. PROVIDE 4" CONDUIT WITH CAMERA FIBER TO SECURITY EQUIPMENT RACK LOCATED IN HEAD END SECURITY EQPT ROOM 6-24.
6. PROVIDE METAL DETECTOR.
7. REFER TO RACK ELEVATION FOR SIZE.
8. PROVIDE HINGED ENCLOSURE WITH PAD LOCK AND GROUND BAR FOR SURGE SUPPRESSION.
9. PROVIDE CONDUIT AND WIRING.
10. PROVIDE MOUNTING HARDWARE FOR MOUNTING OF NETCLOCK/GPS POLE MOUNTED ANTENNA. MOUNT ANTENNA TO ROOF OF GYMNASIUM.
11. ELECTRIC DOOR LOCKING HARDWARE WITH DOOR LATCH MONITORING AND DOOR POSITION MONITORING PROVIDED BY CONSTRUCTION CONTRACTOR. DOOR CONTROLLED AND MONITORED FROM CONTROL ROOM TOUCH SCREEN. REFER TO SECURITY DOOR DETAILS AND BUILDING 77 DOOR CONTROL SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
12. PROVIDE RECESSED MOUNTED CEILING SPEAKER. REFER TO BUILDING 80 INTERCOM AND PUBLIC ADDRESS RISER DIAGRAM FOR ADDITIONAL INFORMATION.
13. PROVIDE (1) 3" CONDUIT WITH CAMERA STATION WIRING.
14. PROVIDE (1) 4" CONDUIT WITH CAMERA STATION WIRING.
15. PROVIDE 24"x24"x12" PULL BOX.
16. PROVIDE 36"x36"x12" PULL BOX.
17. PROVIDE 3/4"C. w/1#6 INSULATED COPPER GROUND WIRE. BOND EACH END OF CONDUIT.
18. PROVIDE GROUND ROD.
19. PROVIDE SURFACE MOUNTED INTERCOM SUBSTATION. REFER TO SECURITY DOOR DETAILS RISER DIAGRAM FOR ADDITIONAL INFORMATION.
20. CONDUIT AND FIBER FROM FAS ENCLOSURE REFER TO SECURITY SITE PLAN FOR ADDITIONAL INFORMATION.
21. PROVIDE 2" CONDUIT TO PULL BOX LOCATED UNDER COUNTER IN CONTROL ROOM 1 6-12 FOR FENCE PROTECTION SYSTEM.



BUILDING 90 SECURITY PLAN
1/8" = 1'



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

GRAPHIC SCALE (FEET)
1/2"=1' 0' 5' 10'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

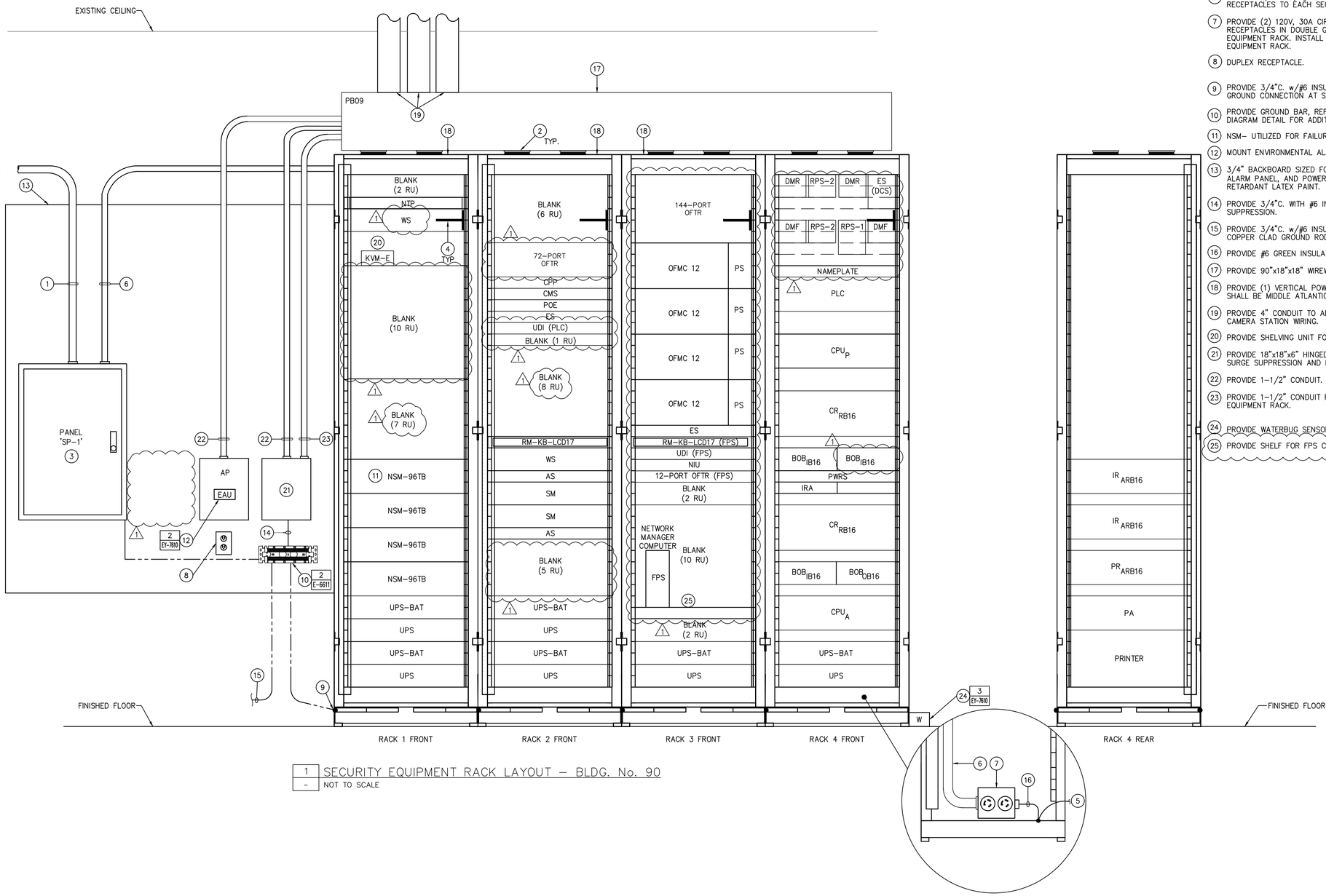
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 SECURITY PLAN

DRAWING NUMBER:
EY-6104

SHEET OF

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36x24 PLOT SHEET



1 SECURITY EQUIPMENT RACK LAYOUT – BLDG. No. 90
– NOT TO SCALE

GENERAL NOTES

1. PATCH AND FIREPROOF ALL CONDUIT PENETRATIONS.
2. TYPICAL EQUIPMENT RACK LAYOUT. REFER TO BUILDING 90 SECURITY RISER DIAGRAM FOR EXACT QUANTITIES.
3. MOUNT PRIMARY RACK EQUIPMENT AT TOP OF RACK. PROVIDE BLANK FILLERS FOR ALL GAPS.
4. PROVIDE TAMPER PROOF SCREWS FOR ALL PULL BOXES, WIREWAYS, ETC. LOCATED IN SECURITY EQUIPMENT ROOM. TORX W/PIN REJECT.

CODED NOTES

(1) CONDUIT AND WIRING FOR POWER TO PANEL 'SP–1'.
(2) PROVIDE 4" CONDUIT NIPPLES FROM WIREWAY AT TOP OF EACH SECURITY EQUIPMENT RACK.
(3) PROVIDE PANELBOARD 'SP–1' KEYED LOCK, YALE No. 511S LOCK WITH BRASS CYLINDER ROSETTE.
(4) PROVIDE STAINLESS STEEL TEMPERATURE PROBE LOCATED INSIDE SECURITY EQUIPMENT RACK.
(5) BOND JUMPER TO EACH EQUIPMENT RACK.
(6) PROVIDE 3/4"C. w/4#10, 2#10G. FOR POWER TO EACH 30A RECEPTACLES TO EACH SECURITY EQUIPMENT RACK.
(7) PROVIDE (2) 120V, 30A CIRCUITS FROM 'SP–1' TO 30A RECEPTACLES IN DOUBLE GANG BOX IN EACH SECURITY EQUIPMENT RACK. INSTALL RECEPTACLES IN EACH SECURITY EQUIPMENT RACK.
(8) DUPLEX RECEPTACLE.
(9) PROVIDE 3/4"C. w/#6 INSULATED COPPER WIRE TO EQUIPMENT GROUND CONNECTION AT SECURITY EQUIPMENT RACK.
(10) PROVIDE GROUND BAR, REFER TO GROUND SYSTEM SCHEMATIC DIAGRAM DETAIL FOR ADDITIONAL INFORMATION.
(11) NSM– UTILIZED FOR FAILURES.
(12) MOUNT ENVIRONMENTAL ALARM UNIT TO ALARM PANEL.
(13) 3/4" BACKBOARD SIZED FOR PANELBOARD, HINGED ENCLOSURE, ALARM PANEL, AND POWER SUPPLIES WITH (2) COATS FIRE RETARDANT LATEX PAINT.
(14) PROVIDE 3/4"C. WITH #6 INSULATED COPPER WIRE FOR SURGE SUPPRESSION.
(15) PROVIDE 3/4"C. w/#6 INSULATED COPPER WIRE TO (2) 5/8"x10' COPPER CLAD GROUND RODS LOCATED OUTSIDE.
(16) PROVIDE #6 GREEN INSULATED COPPER BONDING JUMPER.
(17) PROVIDE 90"x18"x18" WIREWAY AND ASSOCIATED FITTINGS.
(18) PROVIDE (1) VERTICAL POWER STRIP. VERTICAL POWER STRIP SHALL BE MIDDLE ATLANTIC PD–1415C.
(19) PROVIDE 4" CONDUIT TO ABOVE CEILING JUNCTION BOX FOR CAMERA STATION WIRING.
(20) PROVIDE SHELVING UNIT FOR KVM EXTENDERS.
(21) PROVIDE 18"x18"x6" HINGED ENCLOSURE WITH PAD LOCK FOR SURGE SUPPRESSION AND POE INJECTOR.
(22) PROVIDE 1–1/2" CONDUIT.
(23) PROVIDE 1–1/2" CONDUIT FROM ENCLOSURE TO SECURITY EQUIPMENT RACK.
(24) PROVIDE WATERBUG SENSOR. 1
(25) PROVIDE SHELF FOR FPS COMPUTER.

NEW YORK STATE OF OPPORTUNITY. | Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT
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III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL
TITLE:
PROVIDE BUILDING UPGRADES
LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543
CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

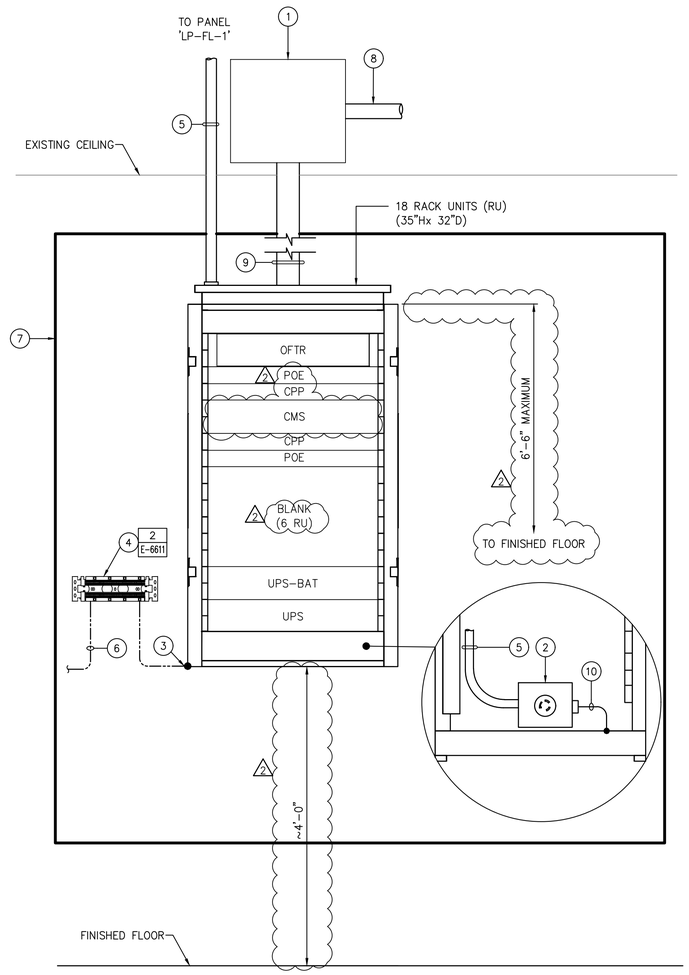
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 HEAD END SECURITY EQUIPMENT RACK LAYOUT

DRAWING NUMBER:
EY–6201

SHEET OF

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36x24 PLOT SHEET



1 SECURITY EQUIPMENT RACK LAYOUT – BLDG. No. 90

– NOT TO SCALE

GENERAL NOTES

1. PATCH AND FIREPROOF ALL CONDUIT PENETRATIONS.
2. TYPICAL EQUIPMENT RACK LAYOUT. REFER TO BUILDING 90 SECURITY RISER DIAGRAM FOR EXACT QUANTITIES.
3. MOUNT PRIMARY RACK EQUIPMENT AT TOP OF RACK. PROVIDE BLANK FILLERS FOR ALL GAPS.
4. PROVIDE TAMPER PROOF SCREWS FOR ALL PULL BOXES, WIREWAYS, ETC. LOCATED IN SECURITY EQUIPMENT ROOM. TORX W/PIN REJECT.

CODED NOTES

(1) PROVIDE STEEL PULL BOX ABOVE CEILING.

(2) PROVIDE 120V, 30A CIRCUIT FROM 'LP-FL-1' TO 30A RECEPTACLE IN DOUBLE GANG BOX. INSTALL RECEPTACLE IN SECURITY EQUIPMENT RACK.

(3) PROVIDE 3/4"C. w/#6 INSULATED COPPER WIRE TO EQUIPMENT GROUND CONNECTION AT SECURITY EQUIPMENT RACK.

(4) PROVIDE GROUND BAR. REFER TO GROUND SYSTEM SCHEMATIC DIAGRAM DETAIL FOR ADDITIONAL INFORMATION.

(5) PROVIDE 3/4"C. w/2#10, 1#10G. FOR POWER TO 30A RECEPTACLE.

(6) PROVIDE 3/4"C. w/#6 INSULATED COPPER WIRE TO (2) 5/8"x10' COPPER CLAD GROUND RODS LOCATED OUTSIDE.

(7) PROVIDE 4'x4'x3/4" BACKBOARD AT MINIMUM, WITH (2) COATS FIRE RETARDANT LATEX PAINT. SIZE BACKBOARD FOR SECURITY EQUIPMENT RACK, POWER SUPPLY AND GROUND BAR.

(8) INSTALL CAMERA STATION WIRING HOME RUN BACK TO SECURITY EQUIPMENT RACK FOR EACH CAMERA STATION WITH CONDUIT. REFER TO BUILDING SECURITY LAYOUTS AND 'CAMERA MATRIX SCHEDULE' FOR CAMERA STATION WIRING.

(9) PROVIDE (1) 4" CONDUIT AND CAMERA STATION WIRING FROM PULL BOX TO SECURITY EQUIPMENT RACK.

(10) PROVIDE #6 GREEN INSULATED COPPER BONDING JUMPER.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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111 Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

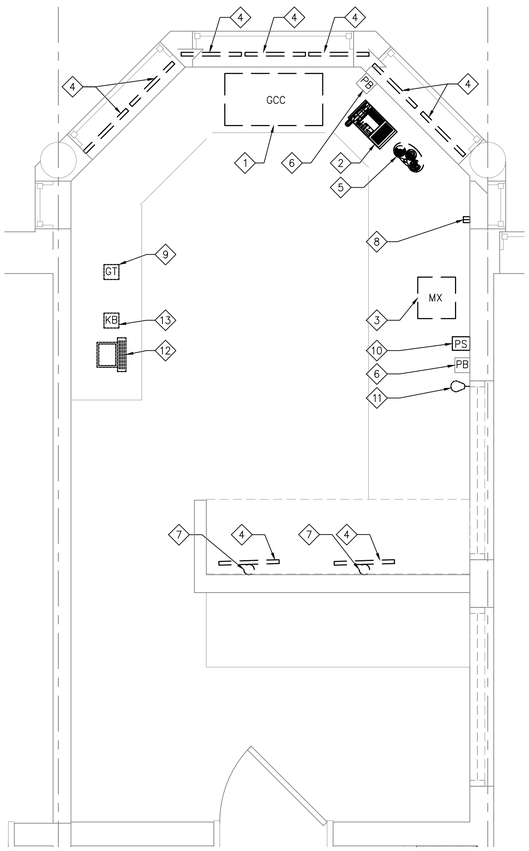
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 SECURITY EQUIPMENT RACK LAYOUT

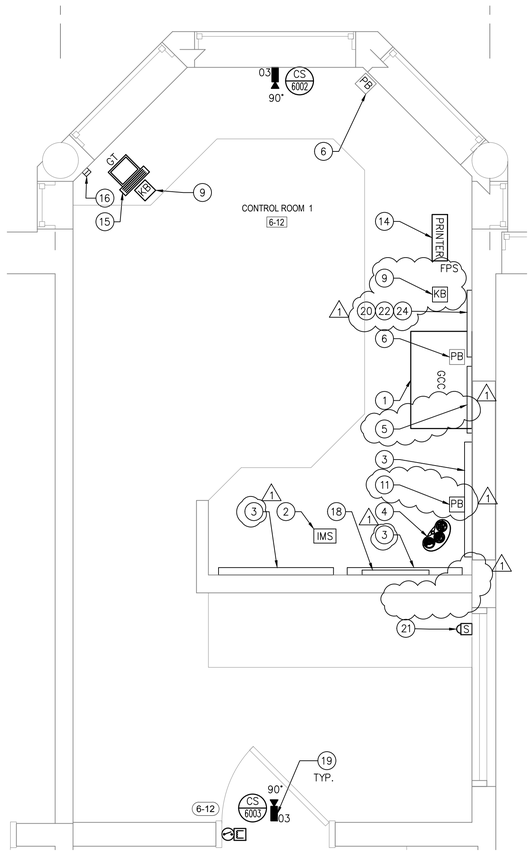
DRAWING NUMBER:
EY-6202

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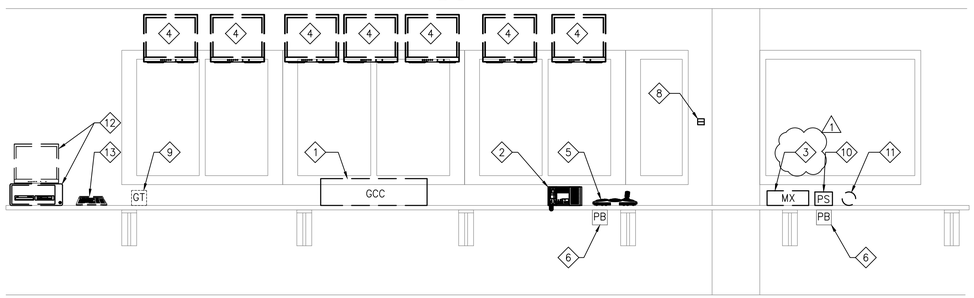
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36x24 PLOT SHEET



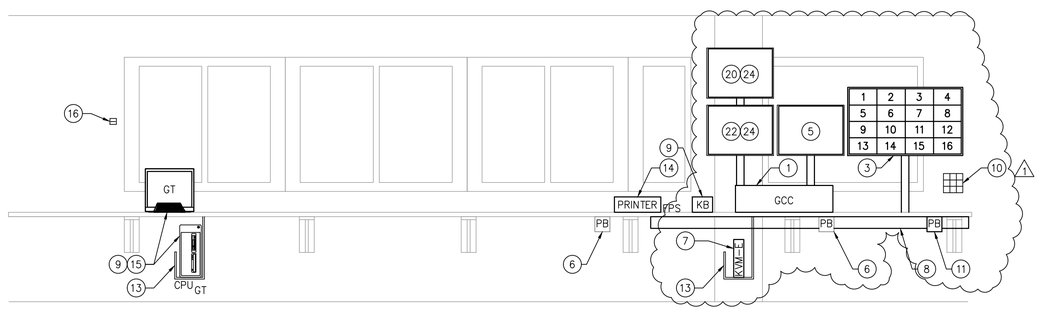
1 ENLARGED CONTROL ROOM 1 REMOVAL PLAN
– 1/2" = 1'-0"



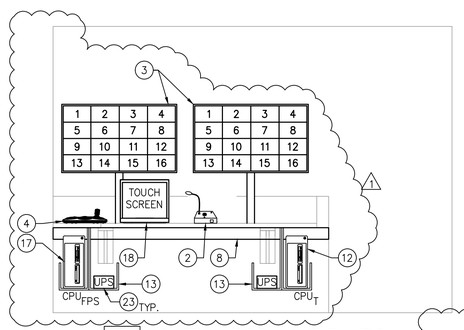
2 ENLARGED CONTROL ROOM 1 PLAN
– 1/2" = 1'-0"



3 CONTROL ROOM 1 REMOVAL ELEVATION
– NOT TO SCALE



4 CONTROL ROOM 1 ELEVATION
– NOT TO SCALE



5 CONTROL ROOM 1 ELEVATION
– NOT TO SCALE

REMOVAL CODED NOTES

1. DISCONNECT AND REMOVE GATE CONTROL CONSOLE (GCC) AND MAINTAIN WIRING FOR REUSE.
2. DISCONNECT AND REMOVE INTERCOM MASTER STATION. REMOVALS INCLUDE WIRING BACK TO SOURCE.
3. DISCONNECT AND REMOVE EXISTING FENCE PROTECTION SYSTEM (MX). REMOVALS INCLUDE WIRING BACK TO SOURCE.
4. DISCONNECT AND REMOVE EXISTING LCD MONITOR. REMOVAL TO INCLUDE DISPOSAL OF MONITOR AND ALL ASSOCIATED WIRING AND MOUNTING HARDWARE.
5. DISCONNECT AND REMOVE EXISTING KEYBOARD CONTROL UNIT. REMOVAL TO INCLUDE DISPOSAL OF KEYBOARD CONTROL UNIT AND ALL ASSOCIATED WIRING.
6. WALL MOUNTED PULL BOX UNDER COUNTER TO REMAIN.
7. DISCONNECT AND REMOVE EXISTING LCD MONITOR DESK MOUNT.
8. DISCONNECT AND REMOVE GUARD TOUR TAG.
9. DISCONNECT AND REMOVE GUARD TOUR CHARGING STATION.
10. DISCONNECT AND REMOVE POWER SUPPLY. REMOVALS INCLUDE WIRING BACK TO SOURCE.
11. DISCONNECT AND REMOVE SPEAK THROUGH MICROPHONE. REMOVALS INCLUDE WIRING BACK TO SOURCE. PATCH AND PAINT WALL TO MATCH EXISTING CONDITIONS.
12. DISCONNECT AND REMOVE WORKSTATION. REMOVALS INCLUDE WIRING BACK TO SOURCE.
13. DISCONNECT AND REMOVE KEYBOARD AND MOUSE.

CODED NOTES

1. GATE CONTROL CONSOLE (GCC) NIC, PROVIDED BY CONSTRUCTION CONTRACTOR. UTILIZE MAINTAINED WIRING AND EXTEND CONDUIT AND WIRING AS NECESSARY.
2. PROVIDE INTERCOM MASTER STATION. PROVIDE CONDUIT AND WIRING TO SECURITY EQUIPMENT RACKS LOCATED IN CONTROLS 6-24.
3. PROVIDE 43" LCD MONITOR WITH 20" VERTICALLY ADJUSTABLE DESK MOUNT TO MOUNT MONITOR. MONITOR TO BE POWERED FROM UPS. PROVIDE CHASE FROM MOUNT TO WIREWAY UNDER COUNTER FOR CABLE ROUTING.
4. PROVIDE KEYBOARD CONTROL UNIT.
5. PROVIDE 24" LCD MONITOR. MONITOR TO HAVE STILL IMAGES THAT CAN NOT BE ADJUSTED ON ALL DOORS/GATES CONTROLLED BY GCC. MONITOR TO BE POWERED FROM UPS. PROVIDE 20" VERTICALLY ADJUSTABLE DESK MOUNT TO MOUNT MONITOR. MONITOR TO BE POWERED FROM UPS. PROVIDE CHASE FROM MOUNT TO WIREWAY UNDER CABINET FOR CABLE ROUTING.
6. WALL MOUNTED PULL BOX UNDER COUNTER TO REMAIN.
7. PROVIDE KVM EXTENDER. KVM EXTENDERS TO BE POWERED FROM UPS.
8. PROVIDE 2"x4" WIREWAY UNDER COUNTER FOR DATA CABLES.
9. PROVIDE KEYBOARD AND MOUSE.
10. PROVIDE WALL MOUNTED KEY PAD. PROVIDE CONDUIT AND WIRE TO ALARM PANEL LOCATED IN HEAD END SECURITY EQPT 6-24.
11. PROVIDE 18"x18"x6" PULL BOX WITH 2" CONDUIT TO SECURITY EQUIPMENT RACKS LOCATED IN HEAD END SECURITY EQPT ROOM 6-24 FOR CABLES TO MONITORING AND CONTROL EQUIPMENT.
12. PROVIDE CPU FOR TOUCH SCREEN MONITOR.
13. PROVIDE CPU RACK UNDER COUNTER.
14. PROVIDE PRINTER AND POWER FROM UPS.
15. PROVIDE CPU, MONITOR, KEYBOARD AND MOUSE FOR GUARD TOUR (GT).
16. PROVIDE GUARD TOUR TAG.
17. PROVIDE CPU FOR FPS.
18. PROVIDE 21" TOUCH SCREEN MONITOR FOR DOOR CONTROL.
19. PROVIDE CONDUIT AND WIRING FROM CAMERA STATION TO ASSOCIATED PULL BOX. ROUTE WIRING FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK. REFER TO BUILDING 90 CAMERA MATRIX SCHEDULE FOR SIZE OF CONDUIT AND WIRING TYPE.
20. PROVIDE 24" MONITOR WITH MAP OF SITE FOR FPS. MONITOR TO BE POWERED FROM UPS. PROVIDE CHASE FROM MOUNT TO WIREWAY UNDER CABINET FOR CABLE ROUTING.
21. PROVIDE WALL MOUNTED STROBE LIGHT.
22. PROVIDE 24" LCD MONITOR. MONITOR TO BE USED FOR INTERCOM AND FENCE ALARM CALL UP. MONITOR TO BE POWERED FROM UPS. PROVIDE CHASE FROM MOUNT TO WIREWAY UNDER CABINET FOR CABLE ROUTING.
23. UPS TO POWER MONITORS, CPU'S, AND TOUCHSCREEN.
24. PROVIDE VERTICAL DUAL MONITOR DESK MOUNT FOR (2) 24" MONITORS. MONITORS TO TILT AND SWIVEL UP TO 15 DEGREES. MOUNT TO ALLOW MOUNTING TO MINIMUM OF 29" HIGH.

GRAPHIC SCALE (FEET)
1/2"=1' 0' 5' 10'

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT

CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

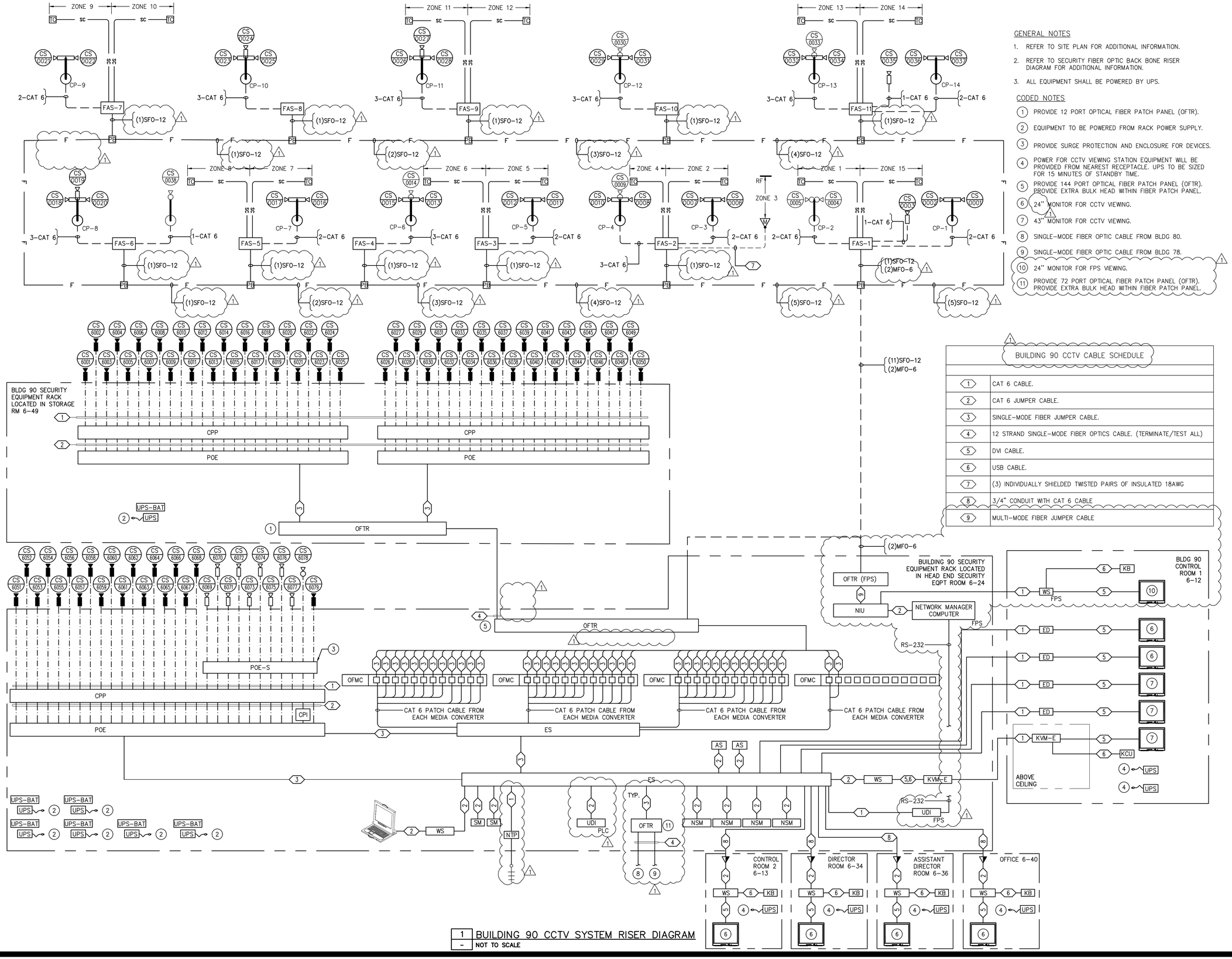
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 90 ENLARGED CONTROL ROOM

DRAWING NUMBER:
EY-6301

SHEET OF

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36x24 PLOT SHEET



1 BUILDING 90 CCTV SYSTEM RISER DIAGRAM

– NOT TO SCALE

GENERAL NOTES

1. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION.
2. REFER TO SECURITY FIBER OPTIC BACK BONE RISER DIAGRAM FOR ADDITIONAL INFORMATION.
3. ALL EQUIPMENT SHALL BE POWERED BY UPS.

CODED NOTES

1. PROVIDE 12 PORT OPTICAL FIBER PATCH PANEL (OFTR).
2. EQUIPMENT TO BE POWERED FROM RACK POWER SUPPLY.
3. PROVIDE SURGE PROTECTION AND ENCLOSURE FOR DEVICES.
4. POWER FOR CCTV VIEWING STATION EQUIPMENT WILL BE PROVIDED FROM NEAREST RECEPTACLE. UPS TO BE SIZED FOR 15 MINUTES OF STANDBY TIME.
5. PROVIDE 144 PORT OPTICAL FIBER PATCH PANEL (OFTR). PROVIDE EXTRA BULK HEAD WITHIN FIBER PATCH PANEL.
6. 24" MONITOR FOR CCTV VIEWING.
7. 43" MONITOR FOR CCTV VIEWING.
8. SINGLE-MODE FIBER OPTIC CABLE FROM BLDG 80.
9. SINGLE-MODE FIBER OPTIC CABLE FROM BLDG 78.
10. 24" MONITOR FOR FPS VIEWING.
11. PROVIDE 72 PORT OPTICAL FIBER PATCH PANEL (OFTR). PROVIDE EXTRA BULK HEAD WITHIN FIBER PATCH PANEL.

BUILDING 90 CCTV CABLE SCHEDULE

1	CAT 6 CABLE.
2	CAT 6 JUMPER CABLE.
3	SINGLE-MODE FIBER JUMPER CABLE.
4	12 STRAND SINGLE-MODE FIBER OPTICS CABLE. (TERMINATE/TEST ALL)
5	DVI CABLE.
6	USB CABLE.
7	(3) INDIVIDUALLY SHIELDED TWISTED PAIRS OF INSULATED 18AWG
8	3/4" CONDUIT WITH CAT 6 CABLE
9	MULTI-MODE FIBER JUMPER CABLE

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90 CCTV SYSTEM RISER DIAGRAM

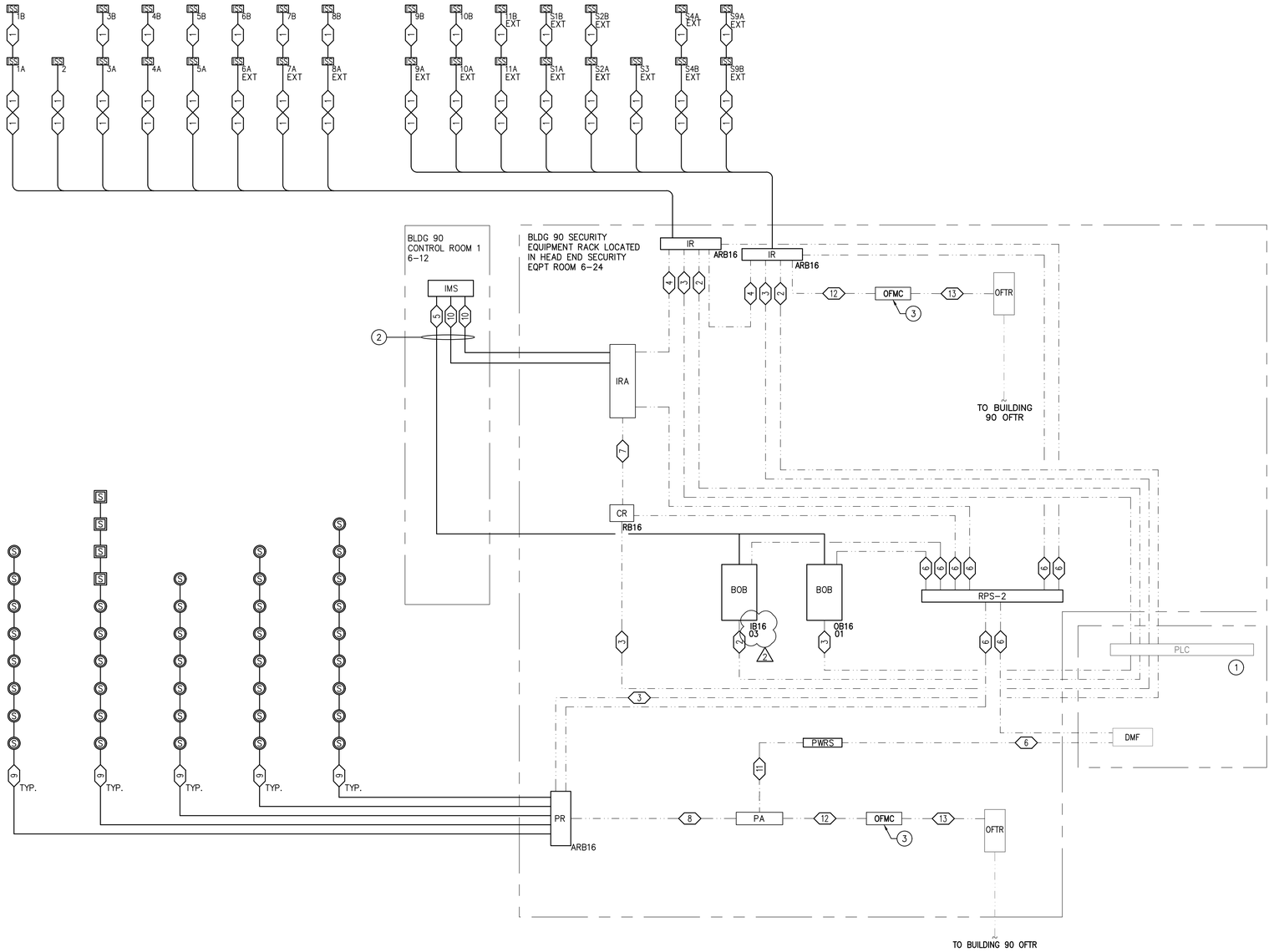
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EY-6501

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36x24 PLOT SHEET



1 BUILDING 90 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM

– NOT TO SCALE

GENERAL NOTES

1. REFER TO BUILDING 90 PLANS FOR ADDITIONAL INFORMATION.
2. REFER TO BUILDING 90 DOOR CONTROL AND INTERCOM SYSTEM WIRING DETAILS FOR ADDITIONAL INFORMATION.
3. REFER TO BUILDING 90 DOOR-GATE CONTROLS/INTERCOM/CCTV SYSTEMS SCHEDULE FOR ADDITIONAL INFORMATION.
4. CONTRACTOR TO SEAL ALL CONDUITS WHICH PENETRATE EXTERIOR WALLS.
5. INSTALL INTERCOM SUBSTATIONS IN THE PROPER ORIENTATION AS PER MANUFACTURERS REQUIREMENTS.

CODED NOTES

(1) REFER TO BUILDING 90 DOOR CONTROL SYSTEM RISER DIAGRAM FOR ADDITIONAL INFORMATION.

(2) PROVIDE 3/4" CONDUIT WITH WIRING.

(3) DIN-RAIL MOUNT OPTICAL FIBER MEDIA CONVERTER (OFMC) ON BACK OF SECURITY EQUIPMENT RACK.

BUILDING 90 INTERCOM AND PUBLIC ADDRESS CABLE SCHEDULE

1	PROVIDE (2) CONDUCTOR #22 AWG SHIELDED AND (2) CONDUCTOR #22 AWG UNSHIELDED.
2	MANUFACTURER SUPPLIED AND INSTALLED PLC INPUT CONNECTION CABLE.
3	MANUFACTURER SUPPLIED AND INSTALLED PLC OUTPUT CONNECTION CABLE.
4	MANUFACTURER SUPPLIED AND INSTALLED (2) CONDUCTOR #18 AWG STRANDED BARE COPPER CONDUCTORS, SHIELDED w/ AN OVERALL JACKET.
5	PROVIDE (6) PAIR #22 AWG SOLID BARE COPPER CONDUCTORS, UNSHIELDED w/ AN OVERALL JACKET.
6	MANUFACTURER SUPPLIED AND INSTALLED (2) CONDUCTOR #14 AWG.
7	MANUFACTURER SUPPLIED AND INSTALLED (8) CONDUCTOR #22 AWG, STRANDED PVC INSULATED.
8	MANUFACTURER SUPPLIED AND INSTALLED (2) CONDUCTOR #16 AWG TWISTED SPEAKER WIRE.
9	PROVIDE (2) CONDUCTOR #16 AWG TWISTED SPEAKER WIRE.
10	PROVIDE (2) CONDUCTOR #18 AWG STRANDED BARE COPPER CONDUCTORS, SHIELDED w/ AN OVERALL JACKET.
11	MANUFACTURER SUPPLIED AND INSTALLED POWER CORD.
12	PROVIDE (2) CONDUCTOR #18 AWG.
13	SINGLE MODE FIBER JUMPER CABLE.

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DESIGN & CONSTRUCTION

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90 INTERCOM AND PUBLIC ADDRESS SYSTEM RISER DIAGRAM

DRAWING NUMBER:

EY-6502

SHEET OF

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BUILDING 90 CAMERA MATRIX SCHEDULE

CAMERA NUMBER	CAMERA CABLE/CONDUIT TYPE AND QUANTITY	CAMERA MOUNT ARM	INTERIOR/ EXTERIOR	CAMERA MOUNT TYPE	CAMERA PART NUMBER	CAMERA TYPE	CAMERA ANGLE	CONSTRUCTION CEILING TYPE	GENERAL NOTES	GRID LOCATION/ DESCRIPTION	MOUNTING DETAIL CALLOUT	PULLBOX NUMBER
6001	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	SURFACE FIXED	90°	GYPSUM		HEAD AND SECURITY EQUIPMENT RM. 6-24	2/EY-7601	09
6002	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CONTROL ROOM 1 6-12	2/EY-7601	03
6003	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CSU 1 6-12	2/EY-7601	03
6004	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CORRIDOR 6-05	2/EY-7601	03
6005	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CORRIDOR 6-05	2/EY-7601	03
6006	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		PSYCHOLOGIST 6-09	2/EY-7601	03
6007	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-11	2/EY-7601	03
6008	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM	1	NURSE 6-10	2/EY-7601	03
6009	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		MED UNIT 6-07	2/EY-7601	03
6010	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		WAITING 6-11A	2/EY-7601	03
6011	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		WAITING 6-11A	2/EY-7601	03
6012	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		WAITING 6-11A	2/EY-7601	03
6013	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CONTROL ROOM 2 6-13	2/EY-7601	03
6014	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		VESTIBULE 6-16	2/EY-7601	02
6015	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		LOBBY 6-15	2/EY-7601	02
6016	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		LOBBY 6-15	2/EY-7601	02
6017	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	90°	GYPSUM		VISITORS 6-17	2/EY-7601	01
6018	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	90°	GYPSUM		VISITORS 6-17	2/EY-7601	01
6019	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	90°	GYPSUM		VISITORS 6-17	2/EY-7601	01
6020	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	90°	GYPSUM		VISITORS 6-17	2/EY-7601	01
6021	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-43	2/EY-7601	02
6022	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-20	2/EY-7601	02
6023	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-20	2/EY-7601	01
6024	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		VESTIBULE 6-22	2/EY-7601	01
6025	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		VESTIBULE 6-22	2/EY-7601	01
6026	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CORRIDOR 6-43	2/EY-7601	02
6027	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-43	2/EY-7601	02
6028	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-43	2/EY-7601	07
6029	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-43	2/EY-7601	07
6030	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-43	2/EY-7601	06
6031	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	06
6032	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	07
6033	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	02
6034	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	01
6035	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	05
6036	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	70°	GYPSUM		GYMNASIUM 6-42	2/EY-7601	05
6037	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		EQUIPMENT 6-46	2/EY-7601	05
6038	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		STORAGE 6-47	2/EY-7601	05
6039	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-80	2/EY-7601	05
6040	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-80	2/EY-7601	05
6041	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-81	2/EY-7601	05
6042	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-81	2/EY-7601	05
6043	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-82	2/EY-7601	05
6044	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		TEACH KITCHEN 6-84	2/EY-7601	05
6045	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		TEACH KITCHEN 6-84	2/EY-7601	05
6046	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-83	2/EY-7601	05
6047	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-83	2/EY-7601	05
6048	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-82	2/EY-7601	05
6049	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		VESTIBULE 6-78	2/EY-7601	05
6050	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-69	2/EY-7601	04
6051	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		STORAGE 6-49	2/EY-7601	04
6052	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		STORAGE 6-50	2/EY-7601	04
6053	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-70	2/EY-7601	04
6054	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-70	2/EY-7601	04
6055	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	60°	GYPSUM		CORRIDOR 6-69	2/EY-7601	06
6056	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	70°	GYPSUM		CORRIDOR 6-69	2/EY-7601	06
6057	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-62	2/EY-7601	06
6058	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-62	2/EY-7601	06
6059	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		VESTIBULE 6-61	2/EY-7601	06
6060	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	70°	GYPSUM		CORRIDOR 6-69	2/EY-7601	08
6061	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-60	2/EY-7601	08
6062	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-60	2/EY-7601	08
6063	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-59	2/EY-7601	08
6064	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-59	2/EY-7601	08
6065	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-51	2/EY-7601	08
6066	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-51	2/EY-7601	08
6067	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-51	2/EY-7601	08
6068	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1IS	RECESSED FIXED	90°	GYPSUM		CLASSROOM 6-51	2/EY-7601	08
6069	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	08
6070	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	WALL MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	03
6071	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	WALL MOUNT DOME W/VARI FOCAL LENS	IME219-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	03
6072	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	02
6073	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME219-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	01
6074	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	01
6075	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	05
6076	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	06
6077	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME129-1ES	SURFACE FIXED	90°	WALL		EXTERIOR BLDG	6/EY-7601	05
6078	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		EXTERIOR	SURFACE MOUNT DOME W/ VARI FOCAL LENS	S6230-EG1	PTZ		CORNER		EXTERIOR BLDG	3/EY-7601	01
6079	3/4" RGS CONDUIT WITH (1) CAT 6 CABLE		INTERIOR	SURFACE MOUNT DOME W/VARI FOCAL LENS	IME319-1IS	RECESSED FIXED	90°	GYPSUM		VISITORS 6-17	2/EY-7601	01

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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111 Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:

ELECTRICAL

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 90 CAMERA MATRIX SCHEDULE

DRAWING NUMBER:

EY-6702

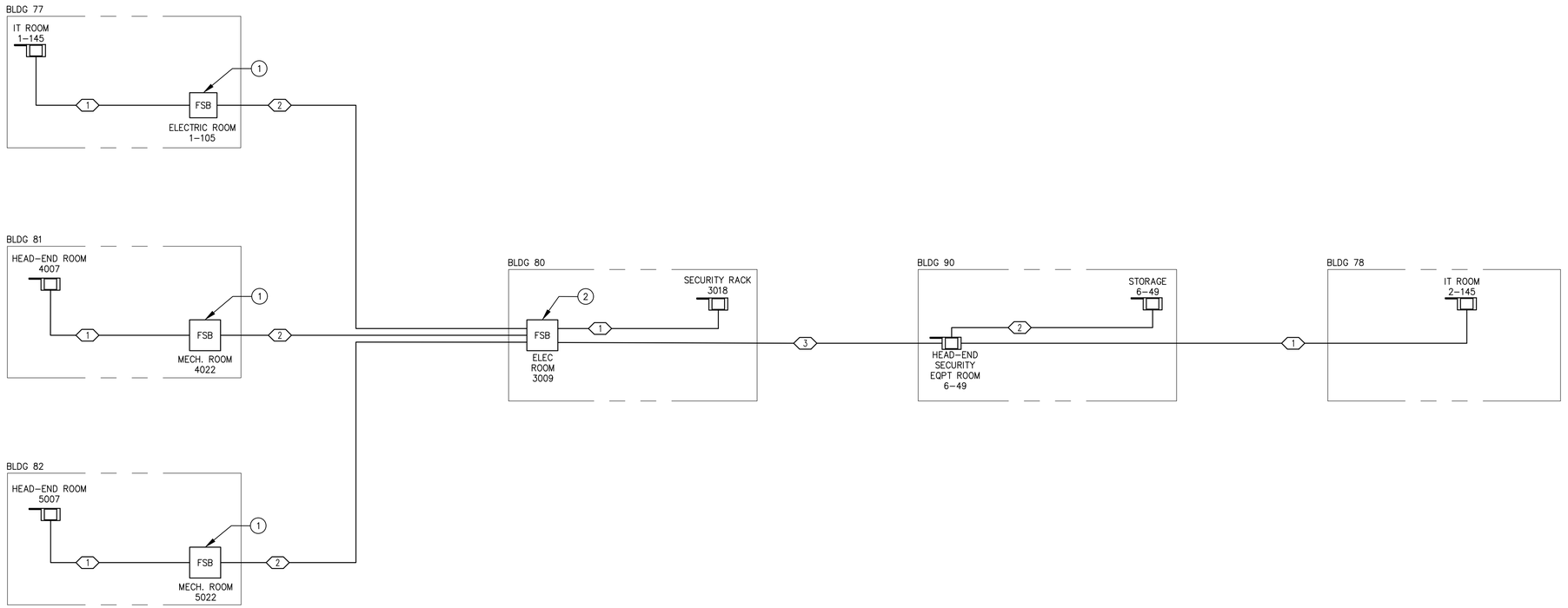
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36x24 PLOT SHEET

FIBER OPTICS BACK BONE CABLE SCHEDULE	
1	1 1/4" C. W/ 12-STRAND SINGLE MODE FIBER OPTIC CABLE
2	EXISTING 12-STRAND SINGLE MODE FIBER OPTIC CABLE
3	48 STRAND SINGLE-MODE FIBER OPTIC CABLE

CODED NOTES

1. PROVIDE SPLICE BOX TO EXTEND EXISTING 12 STRAND SINGLE MODE FIBER TO SECURITY EQUIPMENT RACK. SPLICE BOX SHALL BE MOUNTED TO WALL. (2)
2. DISCONNECT AND REMOVE EXISTING SPLICE BOX. PROVIDE SPLICE BOX TO EXTEND 12-STRAND SINGLE MODE FIBER OPTIC CABLE FROM BUILDINGS 77, 80, 81, AND 82 TO HEAD-END SECURITY EQUIPMENT ROOM 6-24 WITH 48-STRAND SINGLE MODE FIBER OPTIC CABLE. EXISTING 48-STRAND SINGLE MODE FIBER OPTIC CABLE TO BUILDING 1 TO REMAIN.



1 SECURITY FIBER OPTIC BACK BONE RISER DIAGRAM
– NOT TO SCALE

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CONSULTANT

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

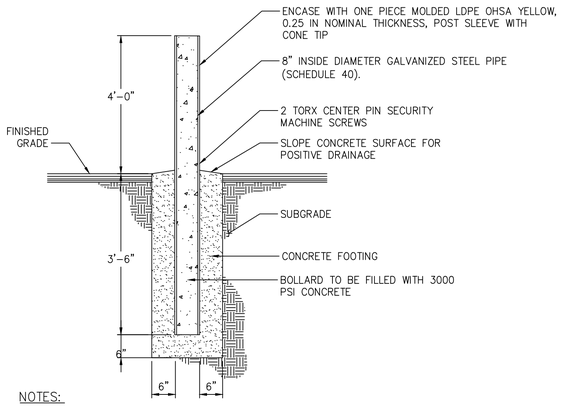
MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	AKA
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
SECURITY FIBER OPTIC BACK BONE RISER DIAGRAM

DRAWING NUMBER:
EY-7501

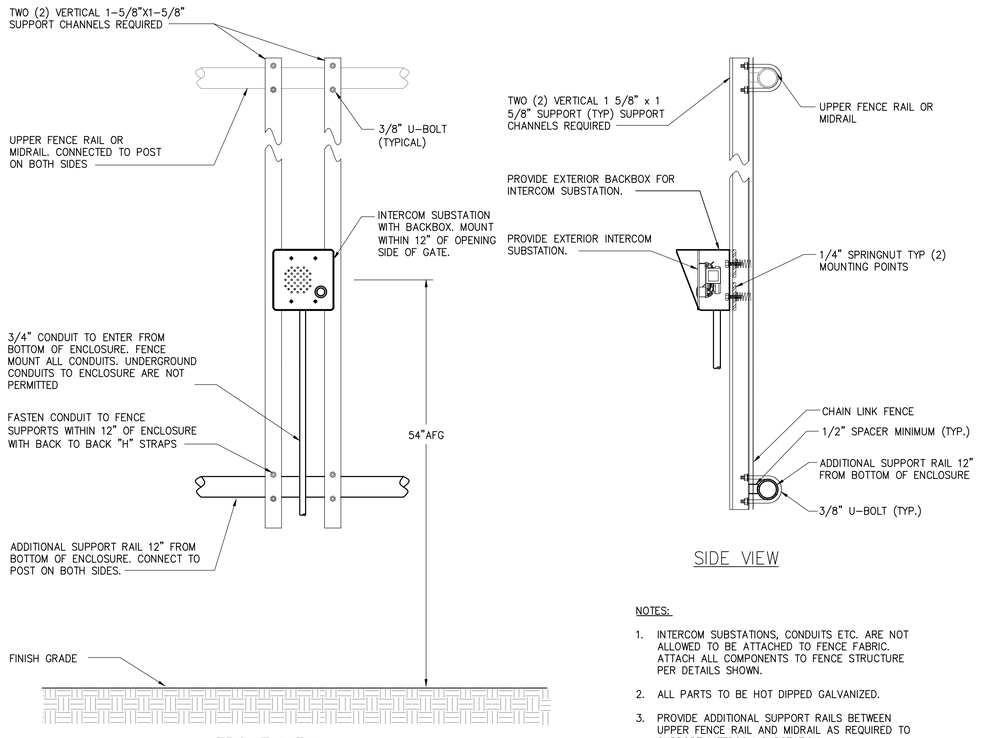
SHEET OF



NOTES:

1. MINIMUM COMPRESSIVE STRENGTH OF ALL CONCRETE IS 3,000 PSI @ 28 DAYS.
2. SLUMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1") FOR ALL CONCRETE.
3. 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260 FOR ALL CONCRETE.

1 PIPE BOLLARD
– NOT TO SCALE



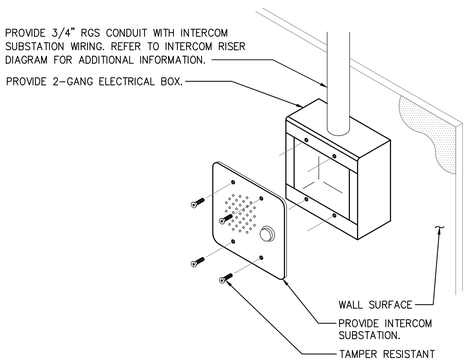
FRONT VIEW

SIDE VIEW

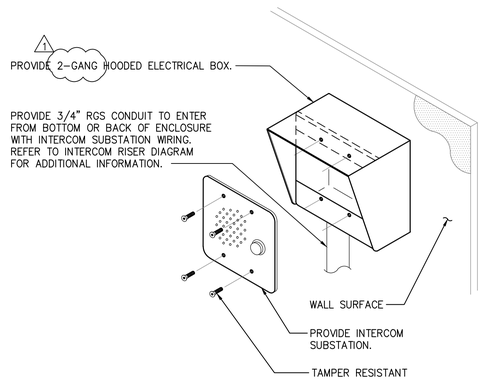
NOTES:

1. INTERCOM SUBSTATIONS, CONDUITS ETC. ARE NOT ALLOWED TO BE ATTACHED TO FENCE FABRIC. ATTACH ALL COMPONENTS TO FENCE STRUCTURE PER DETAILS SHOWN.
2. ALL PARTS TO BE HOT DIPPED GALVANIZED.
3. PROVIDE ADDITIONAL SUPPORT RAILS BETWEEN UPPER FENCE RAIL AND MIDRAIL AS REQUIRED TO SUPPORT INTERCOM SUBSTATION.

2 EXTERIOR INTERCOM SUBSTATION
– NOT TO SCALE



3 WALL MOUNTED INTERIOR INTERCOM SUBSTATION
– NOT TO SCALE



4 WALL MOUNTED EXTERIOR INTERCOM SUBSTATION
– NOT TO SCALE

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DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
INTERCOM MOUNTING DETAILS

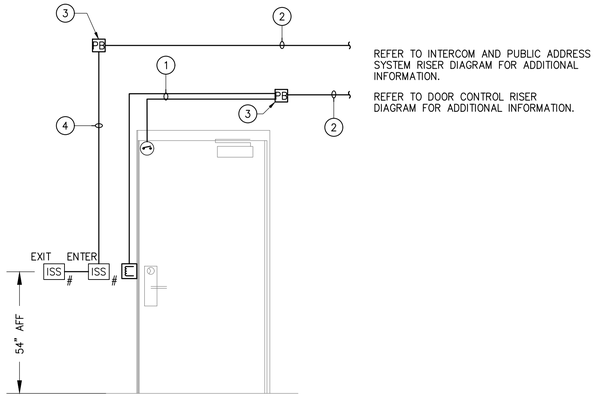
DRAWING NUMBER:
EY-7605

SHEET OF

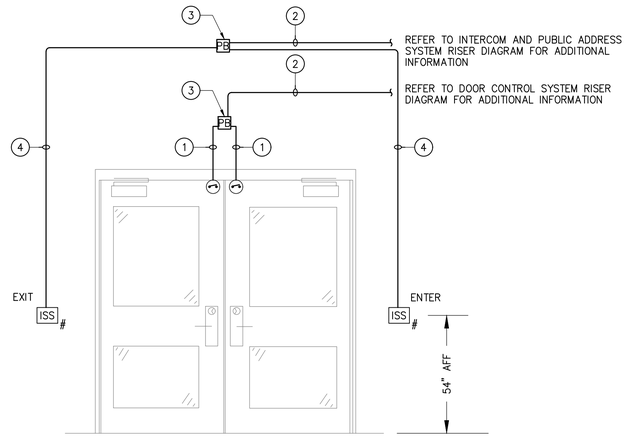
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36x24 PLOT SHEET

CODED NOTES

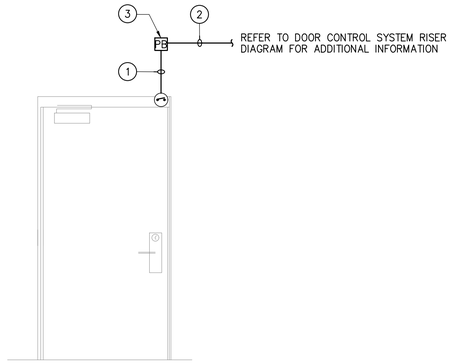
1. CONDUIT FROM PULL BOX TO EACH DOOR DEVICE PROVIDED BY CONSTRUCTION CONTRACTOR.
2. PROVIDE 3/4" RGS CONDUIT FROM PULL BOX BACK TO SECURITY EQUIPMENT RACK.
3. PROVIDE 10"x10"x4" PULL BOX WITH TAMPERPROOF FASTENERS ABOVE CEILING. TERMINATIONS IN PULL BOX BY THIS CONTRACT.
4. PROVIDE 3/4" RGS CONDUIT FROM PULL BOX TO INTERCOM SUBSTATIONS.



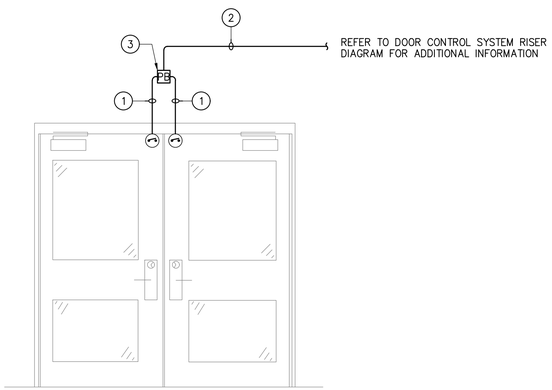
1 SINGLE DOOR – MONITORED AND CONTROLLED
– NOT TO SCALE



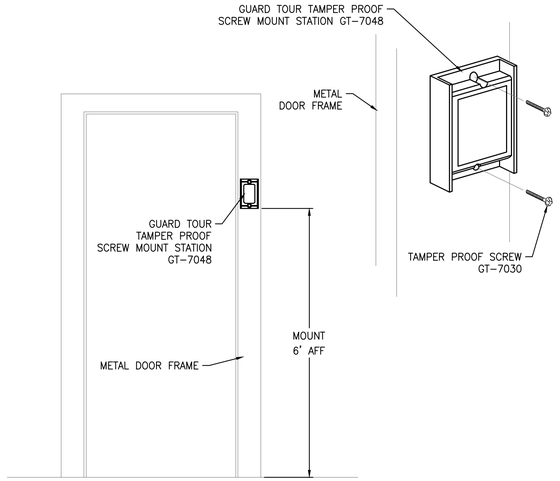
2 DOUBLE DOOR SAME SWING – MONITORED AND INTERCOM
– NOT TO SCALE



3 SINGLE DOOR – MONITORED ONLY
– NOT TO SCALE

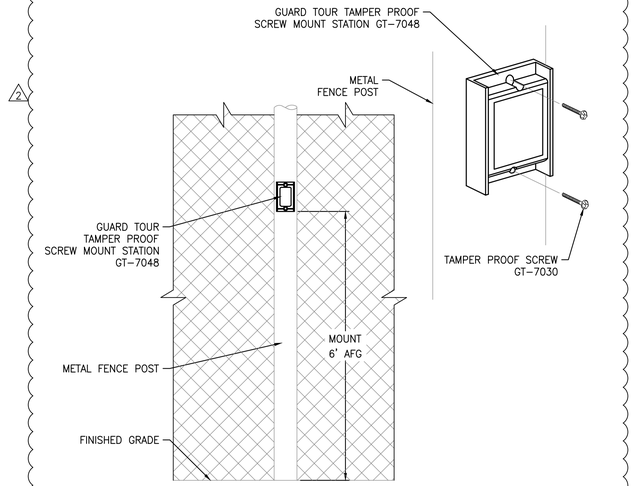


4 DOUBLE DOOR SAME SWING – MONITORED ONLY
– NOT TO SCALE



NOTES:
ALL TAGS MUST BE MOUNTED ON METAL DOOR FRAME AS DETAILED ABOVE

5 GUARD TOUR CHECK STATION
– NOT TO SCALE



NOTES:
1. ALL TAGS MUST BE MOUNTED ON METAL FENCE POST AS DETAILED ABOVE.
2. PROVIDE SECURITY GRADE PICK PROOF CAULK TO SEAL GAPS BETWEEN FENCE POST AND GUARD TOUR CHECK STATION.

6 FENCE POST MOUNTED GUARD TOUR CHECK STATION
– NOT TO SCALE

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DESIGN & CONSTRUCTION

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

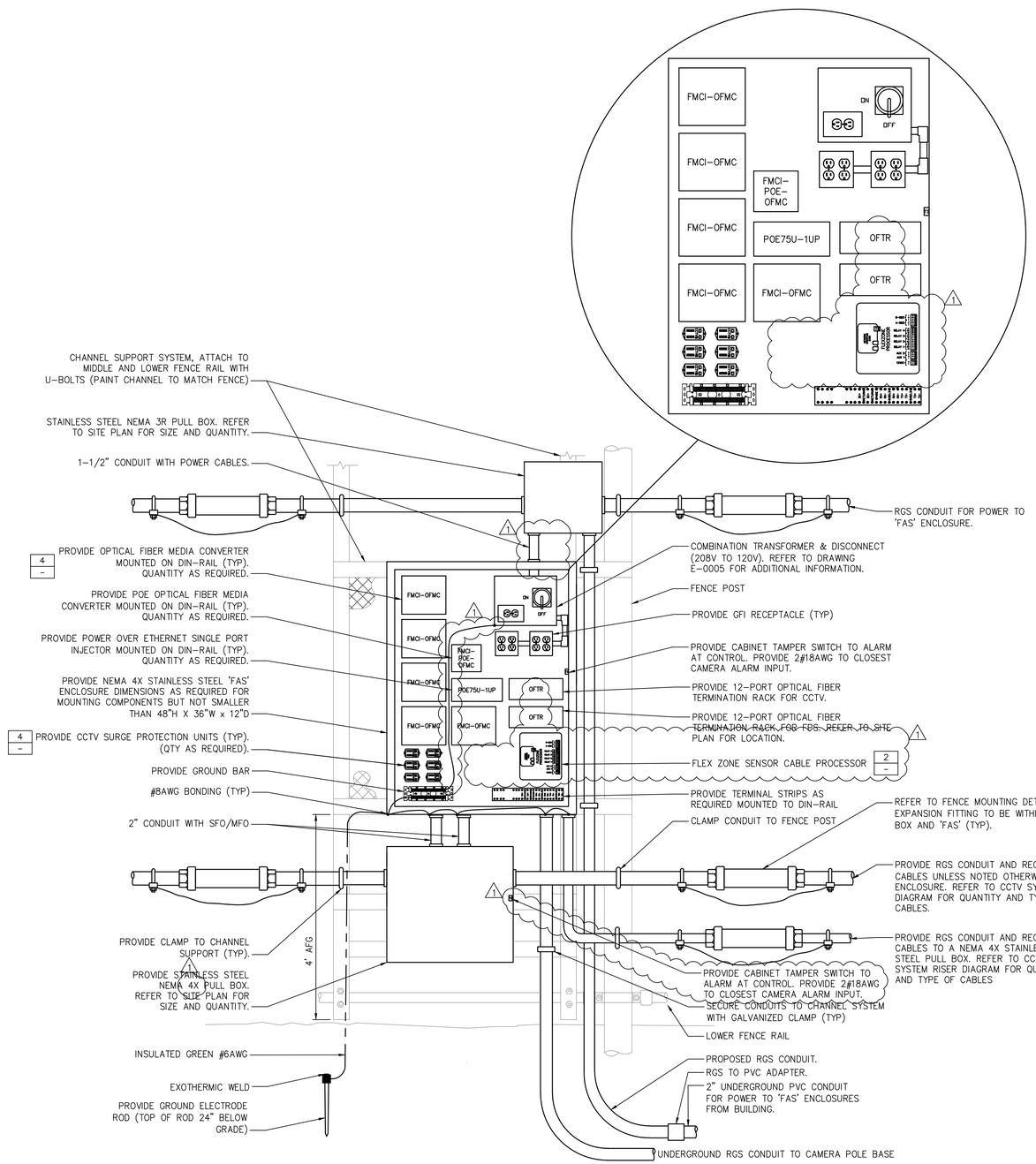
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
DOOR DETAILS

DRAWING NUMBER:
EY–7606

SHEET OF

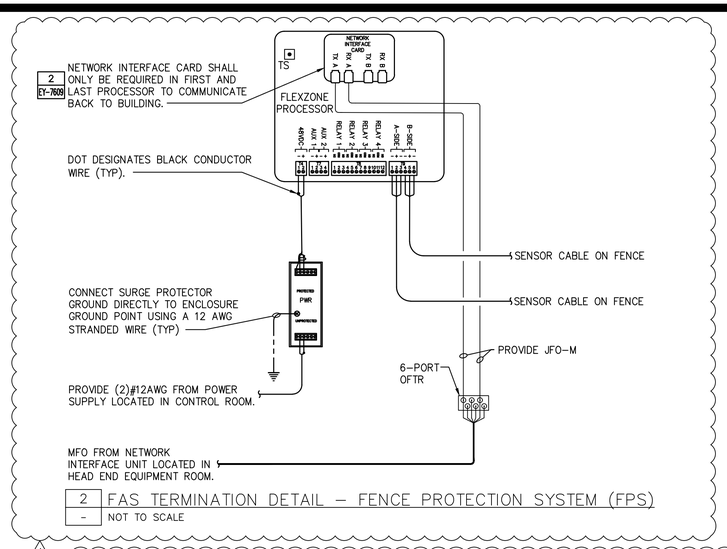
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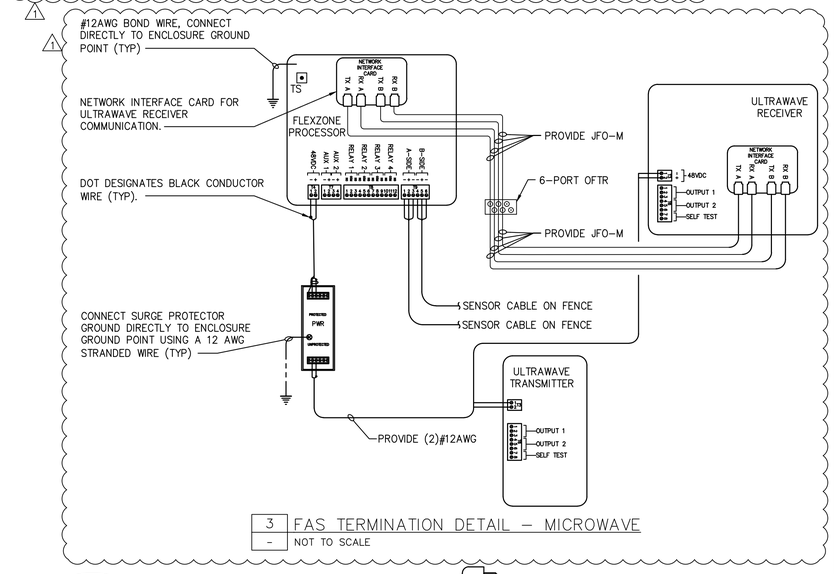
GENERAL NOTES:

1. ALL 120V WIRING PROVIDED BY ELECTRICAL CONTRACTOR.
2. SENSOR CABLE SHALL ENTER 'FAS' FROM BOTTOM ONLY.
3. PROVIDE SEALTITE OR STRAIN RELIEF CONNECTOR ON ALL 120V OR LOW VOLTAGE CABLES, RX TYPE CONNECTORS NOT ALLOWED.

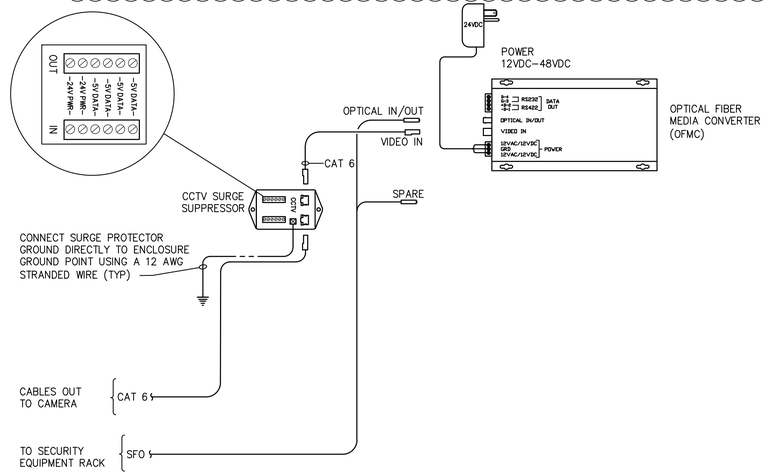
1 – NOT TO SCALE
FENCE ACCESSORY STATION (FAS) COMPONENT DIAGRAM



2 – EY-7608
FAS TERMINATION DETAIL – FENCE PROTECTION SYSTEM (FPS)
– NOT TO SCALE



3 – NOT TO SCALE
FAS TERMINATION DETAIL – MICROWAVE



4 – NOT TO SCALE
FAS TERMINATION DETAIL – CAMERA

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

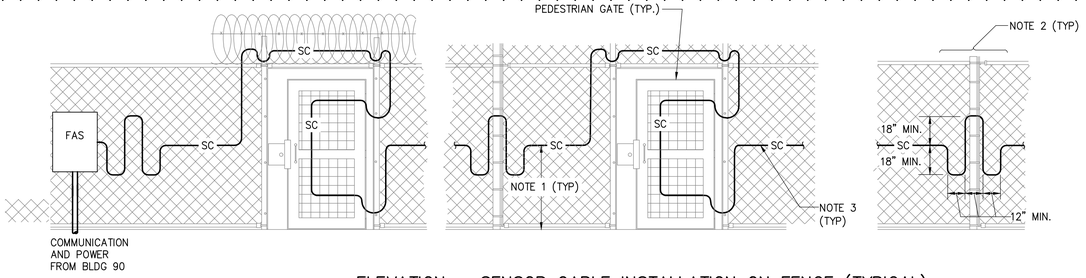
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
FAS DETAILS

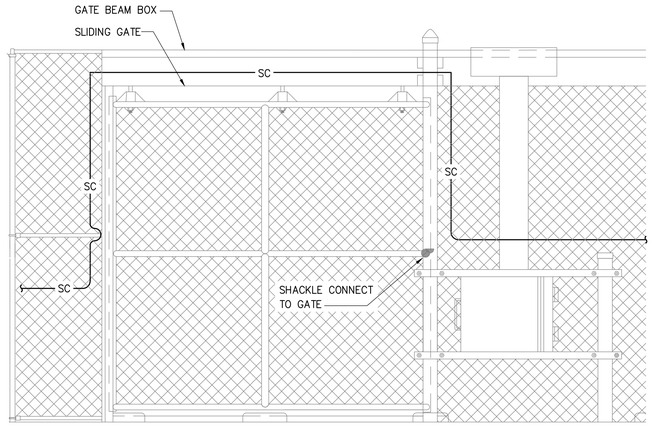
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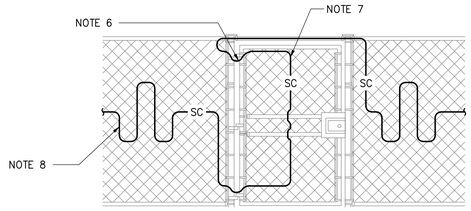
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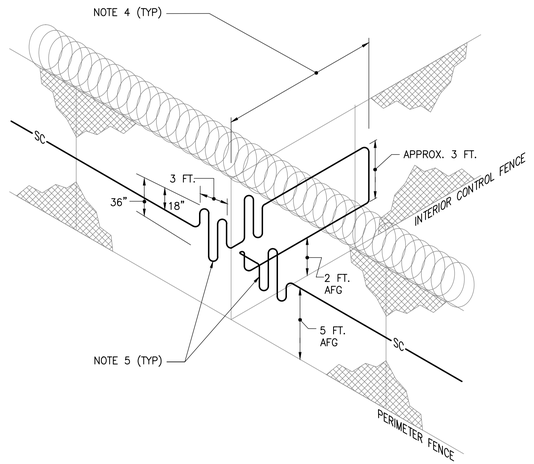
ELEVATION – SENSOR CABLE INSTALLATION ON FENCE (TYPICAL)



ELEVATION – CABLE INSTALLATION ON SLIDING GATE



ELEVATION – CABLE INSTALLATION ON MAINTENANCE GATE

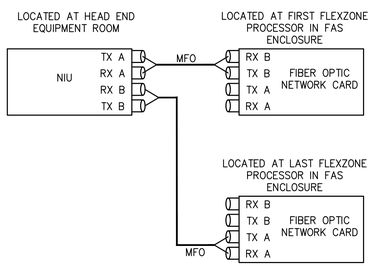


ISOMETRIC VIEW OF TYPICAL INSTALLATION OF FLEXZONE CABLE WHERE INTERIOR CONTROL FENCE INTERSECTS PERIMETER FENCE

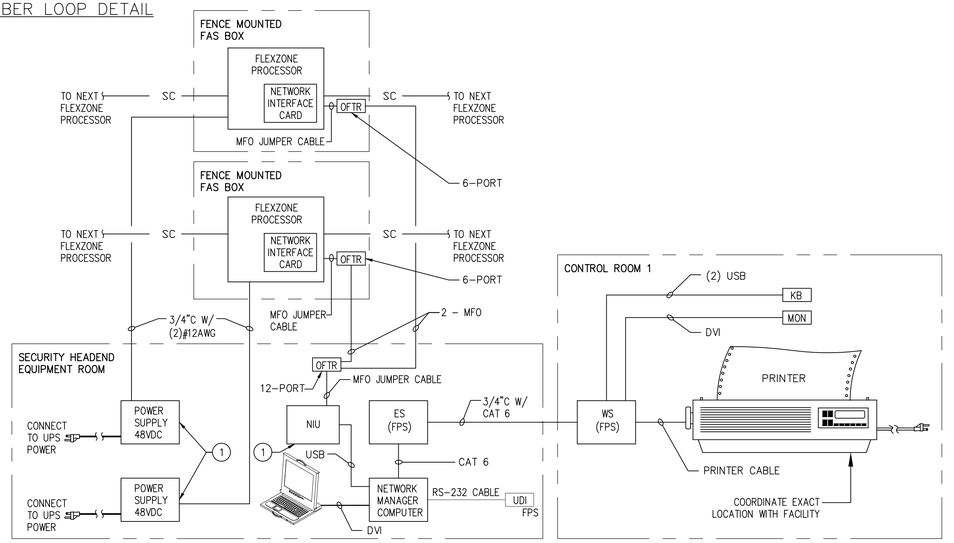
GENERAL NOTES

1. HEIGHT OF SENSOR CABLE INSTALLED ON FENCE FABRIC AT 5FT AFG OR AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
2. AT EACH SENSOR CABLE ZONE, PROVIDE OFFSETS IN THE SENSOR CABLE AT THE FOLLOWING LOCATIONS:
   a. AT THE START OF EACH SENSOR CABLE ZONE.
   b. AT 50 FT. INTERVALS THRU OUT THE ZONE.
   c. AT EVERY CORNER POST.
   d. AT THE END OF EACH SENSOR CABLE ZONE.
   e. AT EACH BREAK IN FENCE FABRIC.
3. FASTEN SENSOR CABLE TO FENCE OR SECURITY COILS AT A MAXIMUM OF 12" INTERVALS WITH STAINLESS STEEL CABLE TIES.
4. LOOP SENSOR CABLE ON INTERIOR CONTROL FENCE A MINIMUM OF 10 FEET FROM INTERSECTION POINT OF CONTROL FENCE AND PERIMETER FENCE.
5. PROVIDE SERVICE LOOPS IN SENSOR CABLE ON BOTH SIDES OF INTERSECTION POINT OF PERIMETER FENCE AND INTERIOR CONTROL FENCE.
6. LOOP CABLE FROM SECURE SIDE OF FABRIC TO COMPOUND SIDE OF FABRIC AT GATE HINGE.
7. CABLE INSTALLED ON COMPOUND SIDE OF GATE FABRIC.
8. SENSOR CABLE TO BE INSTALLED ON SECURE SIDE OF FABRIC.

1 – NOT TO SCALE — FLEXZONE FIBER LOOP DETAIL



2 – NOT TO SCALE — FLEXZONE PROCESSOR FIBER LOOP DETAIL



NOTES:
1. PROVIDE ALL REQUIRED CABLING AND ACCESSORIES.
2. WIRE PER MANUFACTURER'S RECOMMENDATIONS.

CODED NOTES
(1) DIN RAIL MOUNT TO BACK OF SECURITY EQUIPMENT RACK.

3 – NOT TO SCALE — STARNET PERIMETER CONTROL EQUIPMENT WIRING

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III Winners Circle, PO Box 5269 • Albany, NY 12205-0269

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

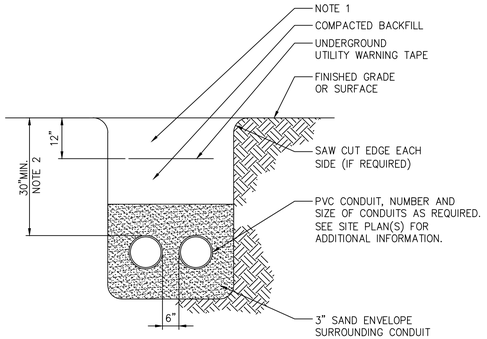
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
FENCE PROTECTION DETAILS

DRAWING NUMBER:
EY–7609

SHEET OF

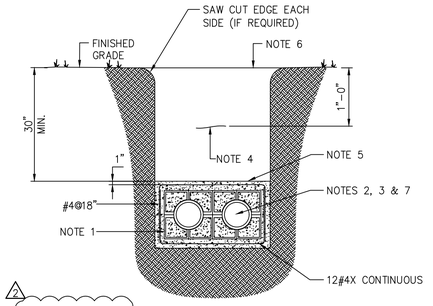
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NOTE

1. REPLACE SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL AND GRASS.
2. 30"MIN. OR 6" BELOW BOTTOM OF FROST LINE, WHICHEVER IS DEEPER.

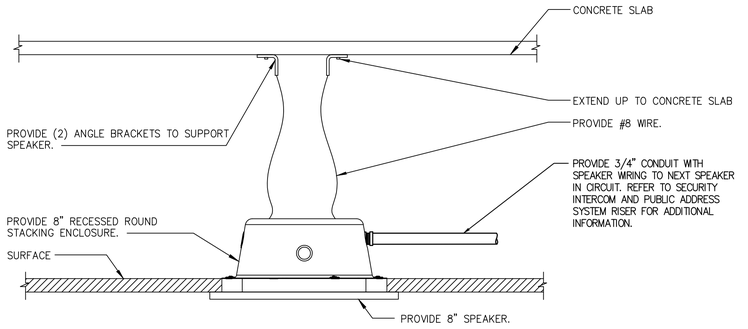
1 TYPICAL UNDERGROUND CONDUIT DETAIL
– NOT TO SCALE



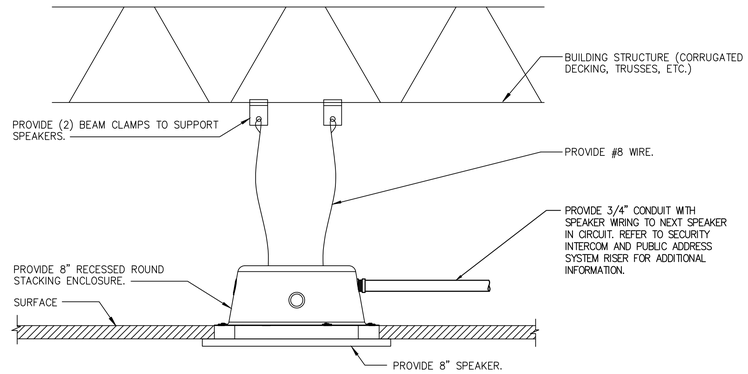
2 DUCT NOTES

1. PROVIDE BASE SPACERS AND INTERMEDIATE SPACERS AT 5'–0" ON CENTER.
2. PROVIDE WIRING IN CONDUITS AS INDICATED ON PLANS AND/OR ON FEEDER SCHEDULE AND PROVIDE PULL WIRE IN EACH SPARE CONDUIT.
3. MINIMUM 48" RADIUS FOR CONDUIT BENDS.
4. PROVIDE RED 6" WIDE CONDUCTIVE MARKING TAPE LABELED: 'DANGER– BURIED HIGH VOLTAGE CABLE', AND BLUE MARKING TAPE LABELED: 'COMMUNICATION CONDUITS' (INSTALL ABOVE THE ENTIRE LENGTH OF THE DUCTBANK).
5. UNDER PAVED AREAS ENCASE CONDUITS WITH 3" COVER, ALL SIDES 4000 PSI CONCRETE. THE SLOPE OF DUCTBANK SHALL BE LIMITED TO 5% MAXIMUM. SAND ENVELOPE MAY BE USE IN LIEU OF CONCRETE UNDER NON–PAVED AREAS. DUCTBANK SHALL BE SLOPED TOWARDS MANHOLE FOR DRAINAGE.
6. REPLACE EXISTING SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL, GRASS, ETC.
2 REPLACE SELECT BACKFILL IN 6" LIFTS, COMPACT EACH PLACEMENT.
7. PVC CONDUIT SIZE AND QUANTITY AS INDICATED ON PLAN(S) AND/OR ON SCHEDULES.

8 TYPICAL CONCRETE ENCASED DUCTBANK DETAIL
– NOT TO SCALE

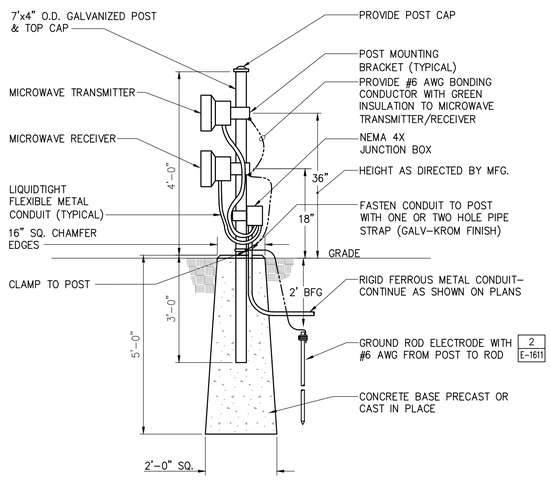


CONCRETE SLAB CEILING



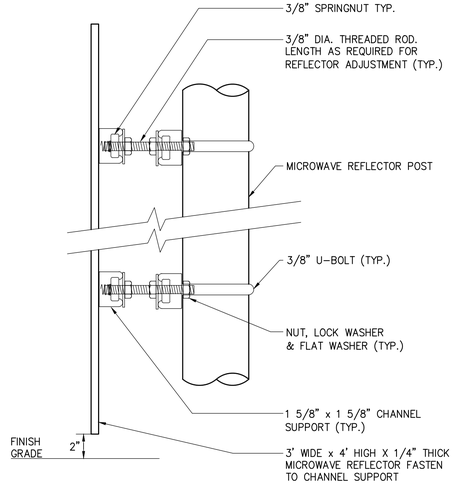
TRUSS CEILING

3 TYPICAL GYPSUM CEILING SPEAKER DETAILS
– NOT TO SCALE

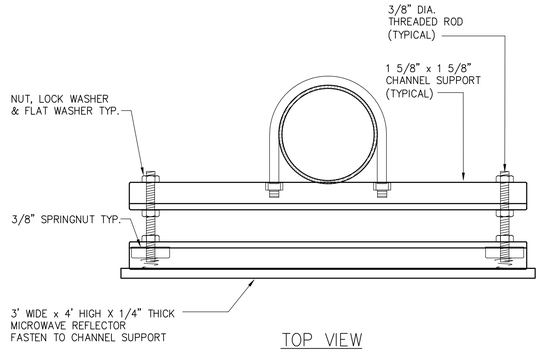


NOTE:
1. ALL CONDUIT TO BE SEALED WITH DOW CORNING #738 RTV OR A NON–CORROSIVE EQUIVALENT.

4 MICROWAVE TRANSMITTERS AND RECEIVERS POST AND BASE
– NOT TO SCALE



SIDE VIEW



TOP VIEW

NOTE:
1. ALL PARTS HOT DIPPED GALVANIZED.

5 MICROWAVE REFLECTOR INSTALLATION
– NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT: ELECTRICAL

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	09/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

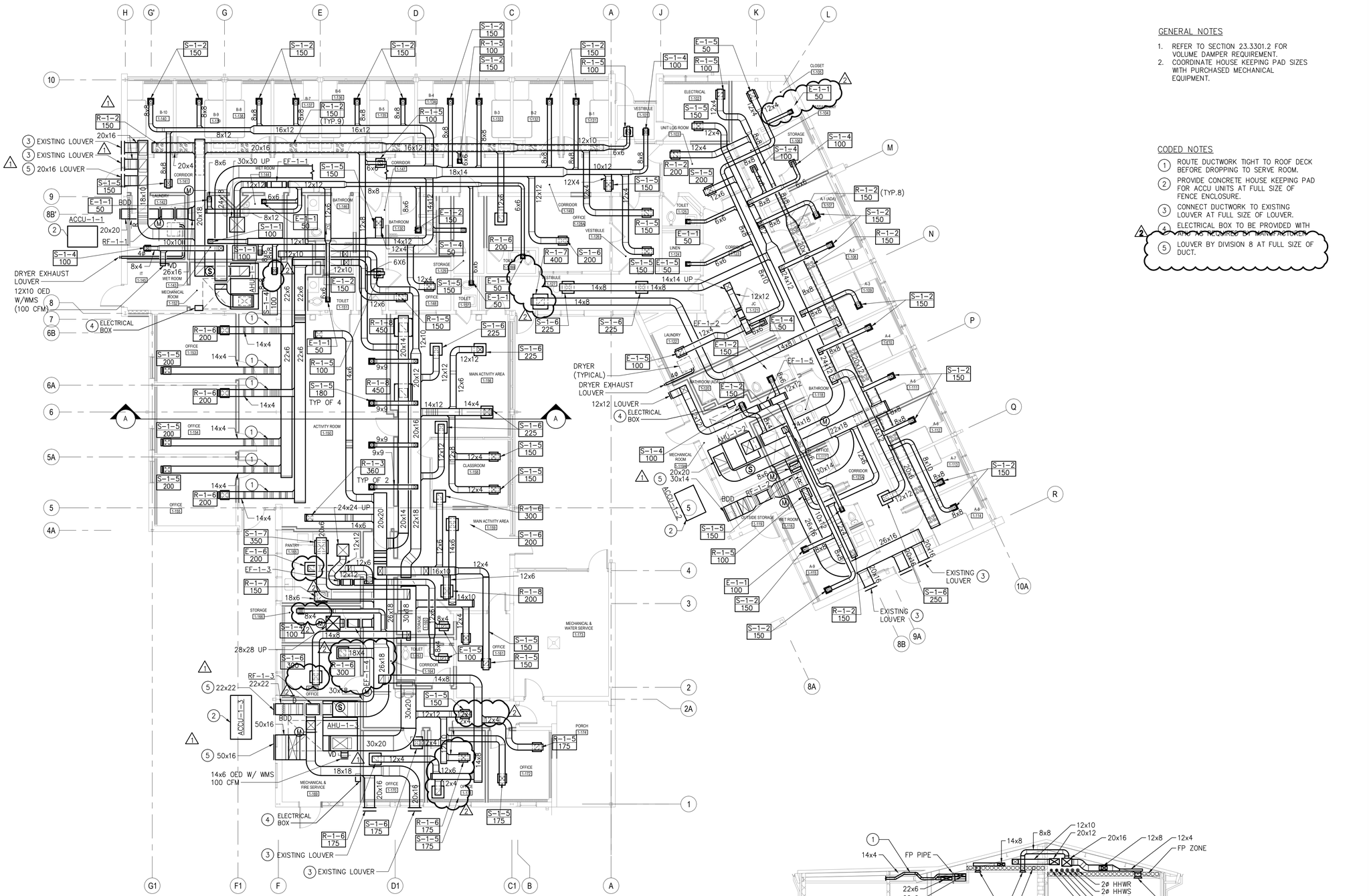
PROJECT NUMBER:	45679 – E
DESIGNED BY:	DAS
DRAWN BY:	DAS
FIELD CHECK:	
APPROVED:	

SHEET TITLE: SECURITY DETAILS

DRAWING NUMBER: EY–7614

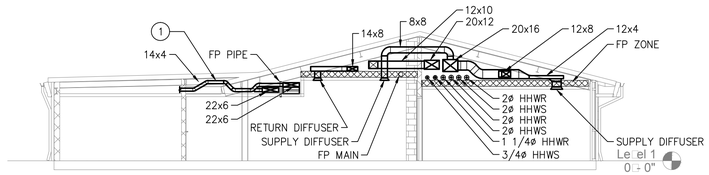
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36x24 PLOT SHEET



BUILDING 77 HVAC DUCTWORK FLOOR PLAN

SCALE: 1/8" = 1'-0"



BUILDING 77 ACTIVITY ROOM SECTION A-A

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE (FEET)

1/8"=1' 0' 8' 16' 24' 32' 40'

GENERAL NOTES

1. REFER TO SECTION 23.3301.2 FOR VOLUME DAMPER REQUIREMENT.
2. COORDINATE HOUSE KEEPING PAD SIZES WITH PURCHASED MECHANICAL EQUIPMENT.

CODED NOTES

1. ROUTE DUCTWORK TIGHT TO ROOF DECK BEFORE DROPPING TO SERVE ROOM.
2. PROVIDE CONCRETE HOUSE KEEPING PAD FOR ACCU UNITS AT FULL SIZE OF FENCE ENCLOSURE.
3. CONNECT DUCTWORK TO EXISTING LOUVER AT FULL SIZE OF LOUVER.
4. ELECTRICAL BOX TO BE PROVIDED WITH AHU AS REQUIRED BY MANUFACTURER.
5. LOUVER BY DIVISION 8 AT FULL SIZE OF DUCT.

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DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

HVAC

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - H
DESIGNED BY:	DB
DRAWN BY:	CTH/DLB
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

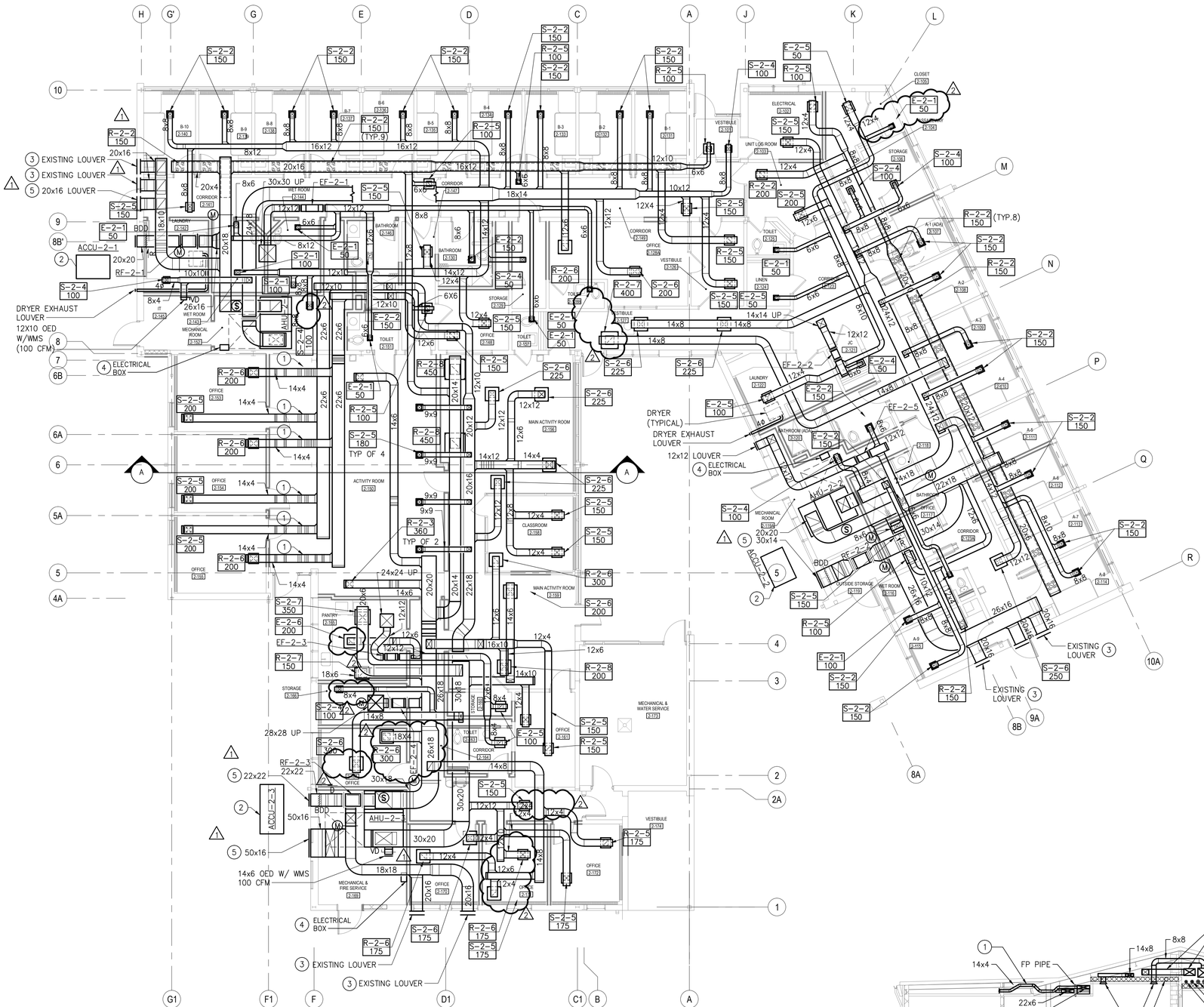
BUILDING 77 HVAC DUCTWORK FLOOR PLAN

DRAWING NUMBER:

M-1102

SHEET OF

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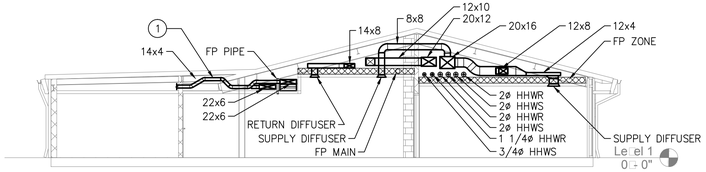
BUILDING 78 HVAC DUCTWORK FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SECTION 23.3301.2 FOR VOLUME DAMPER REQUIREMENT.
2. COORDINATE HOUSE KEEPING PAD SIZES WITH PURCHASED MECHANICAL EQUIPMENT.

CODED NOTES

1. ROUTE DUCTWORK TIGHT TO ROOF DECK BEFORE DROPPING TO SERVE ROOM.
2. PROVIDE CONCRETE HOUSE KEEPING PAD FOR ACCU UNITS AT FULL SIZE OF FENCE ENCLOSURE.
3. CONNECT DUCTWORK TO EXISTING LOUVER AT FULL SIZE OF LOUVER.
4. ELECTRICAL BOX TO BE PROVIDED WITH AHU AS REQUIRED BY MANUFACTURER.
5. LOUVER BY DIVISION 8 AT FULL SIZE OF DUCT.



BUILDING 78 ACTIVITY ROOM SECTION A-A
SCALE: 1/8"=1'-0"

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

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CONTRACT: HVAC

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	FINAL SUBMISSION

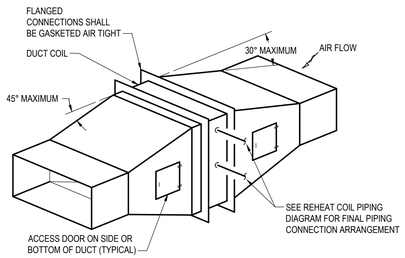
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DESIGNED BY:	DB
DRAWN BY:	CTH/DB
FIELD CHECK:	
APPROVED:	

SHEET TITLE: BUILDING 78 HVAC DUCTWORK FLOOR PLAN

DRAWING NUMBER: M-2102

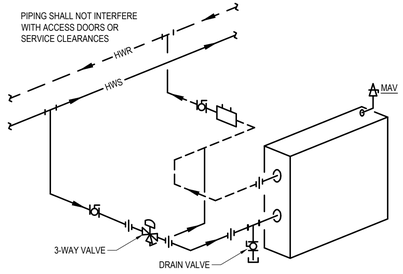
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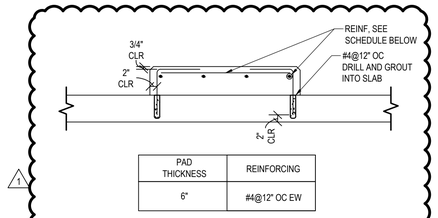
DUCT COIL TRANSITION DETAIL

SCALE: NOT TO SCALE



HOT WATER COIL PIPING DETAIL

SCALE: NOT TO SCALE



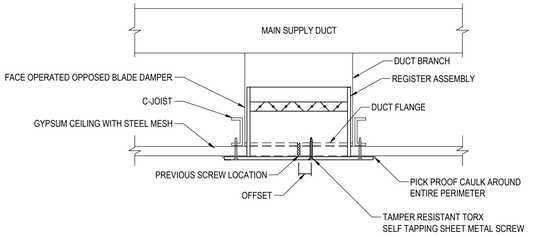
PAD THICKNESS	REINFORCING
6"	#4@12" OC EW

TYPICAL HOUSEKEEPING PAD DETAIL

SCALE: NOT TO SCALE

NOTE:

1. CONCRETE PAD SHALL EXTEND 6" BEYOND THE FOOT PRINT OF THE SUPPORTED EQUIPMENT. PROVIDE CONCRETE PAD BELOW BOILERS.

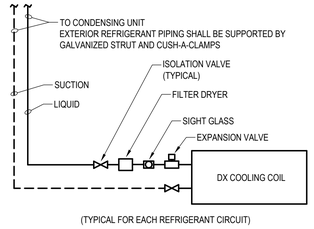


SUPPLY AND RETURN REGISTER DETAIL

SCALE: NOT TO SCALE

NOTE:

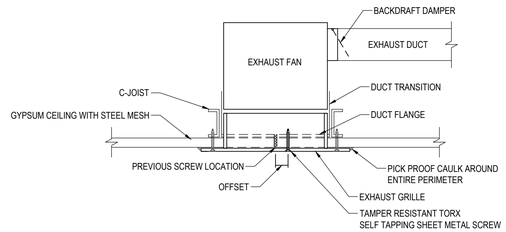
1. EXISTING REGISTERS SECURED BY ONE WAY TAMPER RESISTANT SCREWS CENTERED IN REGISTER FLANGES. REMOVAL OF EXISTING REGISTER WILL REQUIRED SCREW HEADS TO BE DRILLED OFF LIKELY LEAVING A HOLE OR STUD IN CENTER OF MOUNTING LOCATION. OFFSET REPLACEMENT REGISTER MOUNTING HOLES TO AVOID THESE LOCATIONS. COORDINATE OFFSET REQUIREMENT WITH FIELD CONDITIONS AND REGISTER MANUFACTURER.



(TYPICAL FOR EACH REFRIGERANT CIRCUIT)

REFRIGERANT PIPING DIAGRAM

SCALE: NOT TO SCALE

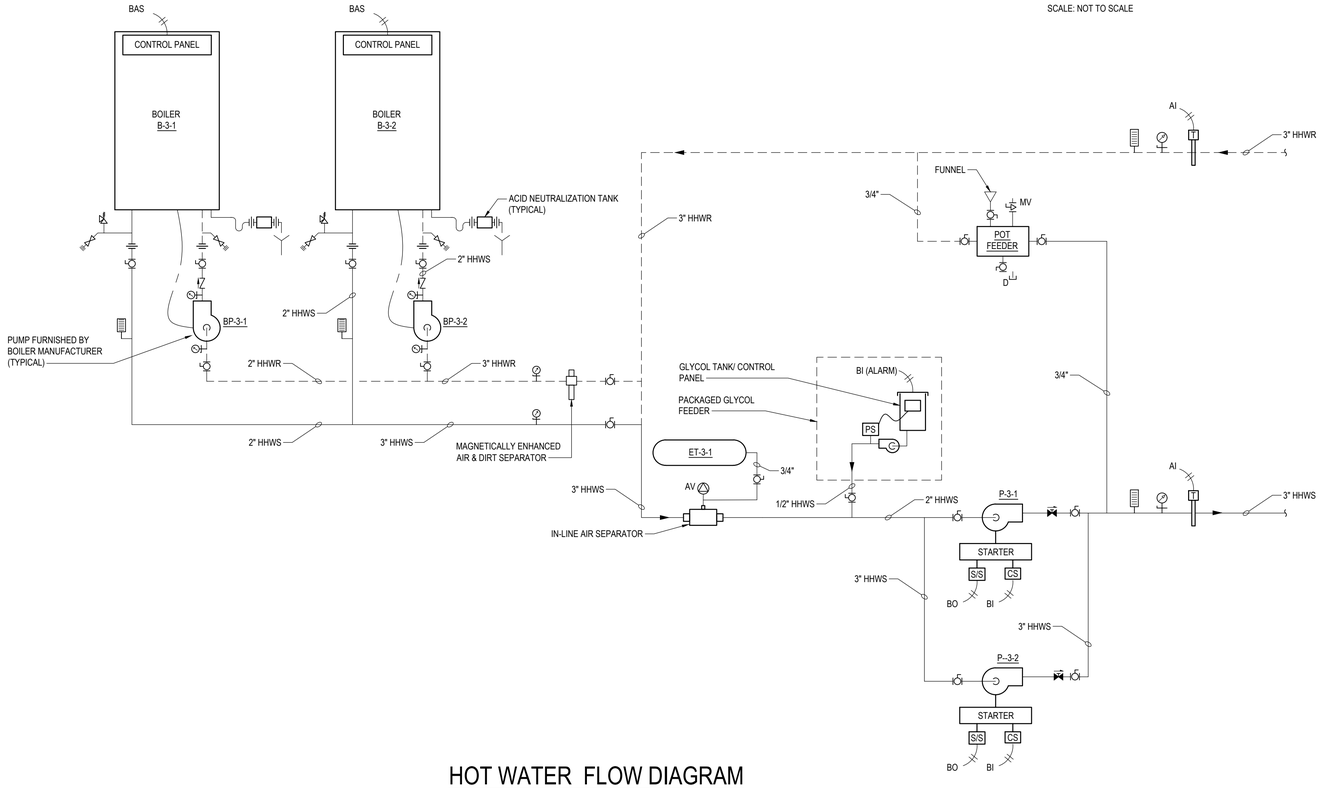


CEILING EXHAUST FAN DETIAL

SCALE: NOT TO SCALE

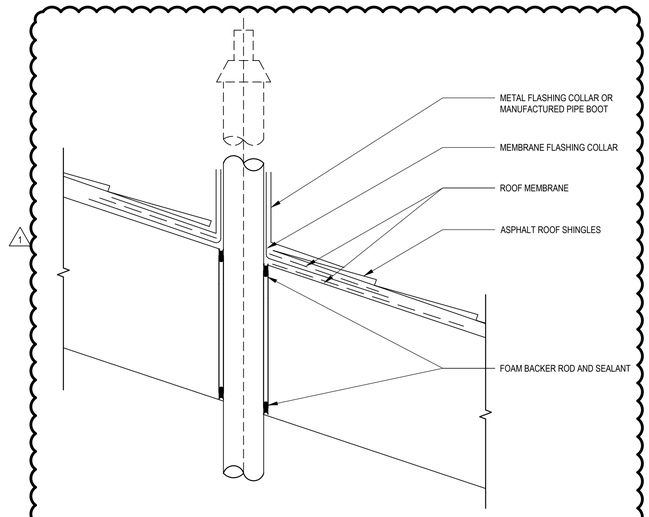
NOTE:

1. EXISTING GRILLES SECURED BY ONE WAY TAMPER RESISTANT SCREWS CENTERED IN GRILLE FLANGES. REMOVAL OF EXISTING GRILLE WILL REQUIRED SCREW HEADS TO BE DRILLED OFF LIKELY LEAVING A HOLE OR STUD IN CENTER OF MOUNTING LOCATION. OFFSET REPLACEMENT GRILLE MOUNTING HOLES TO AVOID THESE LOCATIONS. COORDINATE OFFSET REQUIREMENT WITH FIELD CONDITIONS AND GRILLE MANUFACTURER.



HOT WATER FLOW DIAGRAM

SCALE: NOT TO SCALE



VENT ROOF PENETRATION DETAIL - BOILERS

SCALE: NOT TO SCALE

NOTES:

1. USE MANUFACTURER'S STANDARD PRESSURE-SENSITIVE PIPE SEAL
2. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
4. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE AND THE PIPE SEAL EDGE COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.

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DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER
JEFFRET L. MAJOR
073128
STATE OF NEW YORK

CONTRACT:
HVAC

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - H
DESIGNED BY:	TAH
DRAWN BY:	TAH
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

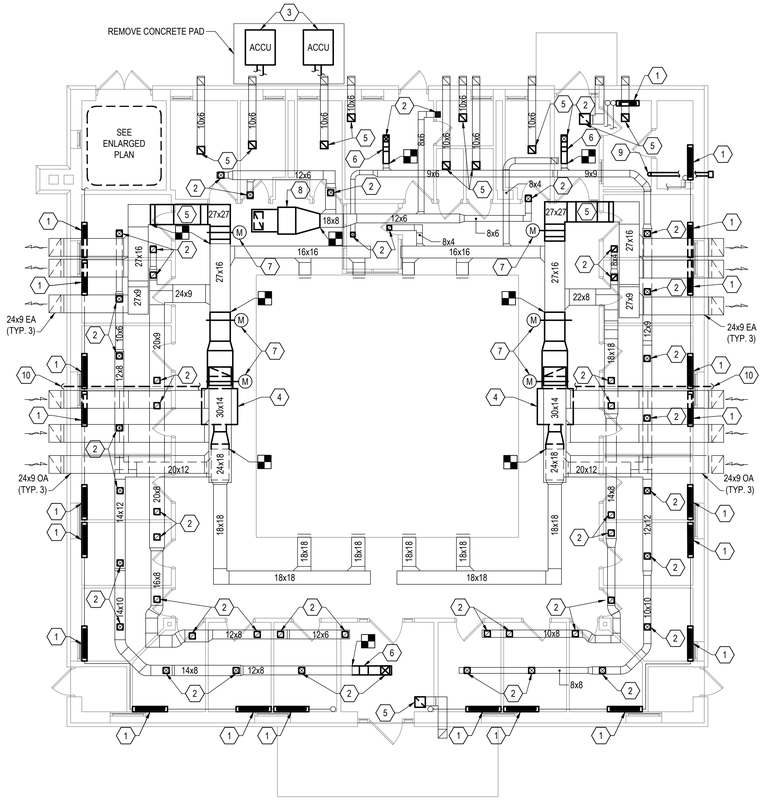
BUILDING 80
DETAILS

DRAWING NUMBER:

M–3601

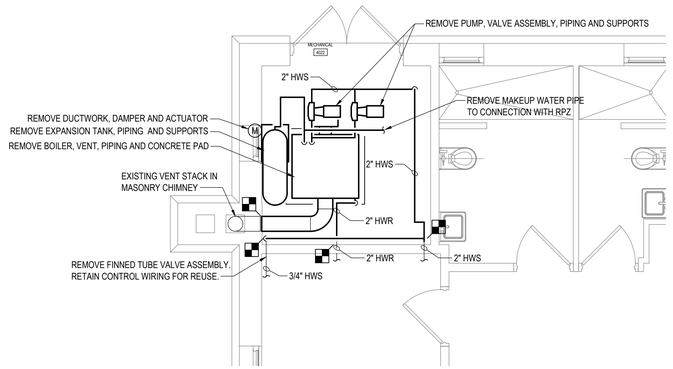
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36x24 PLOT SHEET



BUILDING 81 MECHANICAL REMOVAL PLAN

SCALE: ############



MECHANICAL ROOM ENLARGED REMOVAL PLAN

SCALE: 1/4" = 1'-0"

NOTE: REMOVE ALL HEATING HYDRONIC PIPING AND SUPPORTS WITHIN MECHANICAL ROOM TO WALL PENETRATIONS AS INDICATED.

GENERAL NOTES

1. ALL SITE ACCESS MUST BE COORDINATED WITH THE DIRECTOR'S REPRESENTATIVE.
2. EXISTING BUILDING MANAGEMENT SYSTEM TO BE REPLACED IN ITS ENTIRETY. REMOVE ALL CONTROL PANELS, SENSORS AND THERMOSTATS.
3. COORDINATE ALL OPENING OF WALLS AND CEILINGS FOR UNIT REMOVAL AND REPLACEMENT WITH THE C-CONTRACTOR.
4. H-CONTRACT IS RESPONSIBLE FOR REMOVAL OF CONCRETE PADS AND CHAIN LINK FENCE SURROUNDING THE CONDENSING UNITS.
5. ALL EXISTING DUCTWORK TO BE CLEANED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

KEYED NOTES

1. EXISTING FIN TUBE AND PIPING TO REMAIN.
2. REMOVE REGISTER AND PREPARE EXISTING DUCTWORK FOR REPLACEMENT REGISTER.
3. REMOVE CONDENSING UNIT, ALL ASSOCIATED REFRIGERANT LINES, PIPE SUPPORTS, CONCRETE PADS AND SURROUNDING FENCING.
4. REMOVE AIR HANDLING UNIT AND ASSOCIATED REFRIGERANT LINES AND HOT WATER VALVE PACKAGE.
5. REMOVE EXHAUST FAN. PREPARE EXISTING DUCTWORK FOR REPLACEMENT FAN.
6. REMOVE DUCT HOT WATER COIL AND ASSOCIATED VALVE PACKAGE. PREPARE EXISTING DUCTWORK FOR REPLACEMENT COIL.
7. REMOVE MOTORIZED DAMPER. PREPARE EXISTING DUCTWORK FOR REPLACEMENT DAMPER.
8. REMOVE CABINET UNIT HEATER. COORDINATE CEILING REMOVAL WITH THE C-CONTRACTOR. PREPARE EXISTING DUCTWORK FOR REPLACEMENT HEATER.
9. REMOVE EXISTING DRYER VENT, DUCTWORK AND WALL CAP.
10. REMOVE CONDENSATE LINE AND EXTERIOR PIPE DROP TO GRADE.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT: HVAC

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/5/2017	ADDENDUM #6
1	09/25/2017	ADDENDUM #1
	08/07/2017	FINAL SUBMISSION

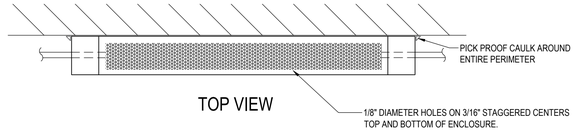
PROJECT NUMBER:	45679 - H
DESIGNED BY:	TAH
DRAWN BY:	TAH
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE: BUILDING 81 MECHANICAL REMOVAL PLAN

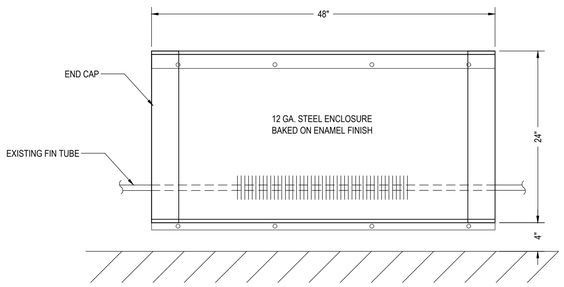
DRAWING NUMBER: M–4101

SHEET OF

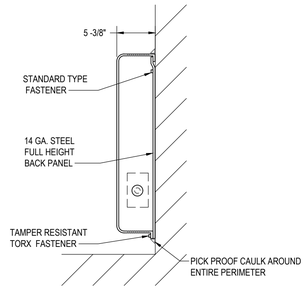
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36x24 PLOT SHEET



TOP VIEW



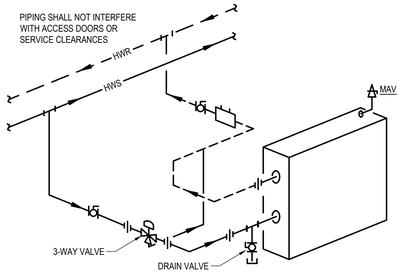
FRONT VIEW



SIDE VIEW

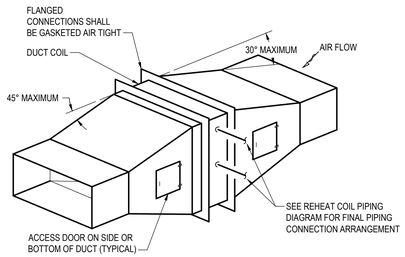
FIN TUBE ENCLOSURE DETAIL

SCALE: NOT TO SCALE



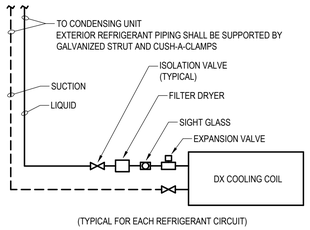
HOT WATER COIL PIPING DETAIL

SCALE: NOT TO SCALE



DUCT COIL TRANSITION DETAIL

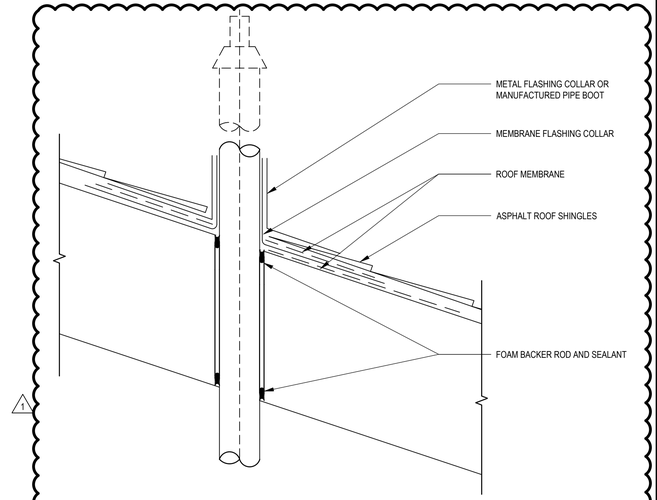
SCALE: NOT TO SCALE



(TYPICAL FOR EACH REFRIGERANT CIRCUIT)

REFRIGERANT PIPING DIAGRAM

SCALE: NOT TO SCALE

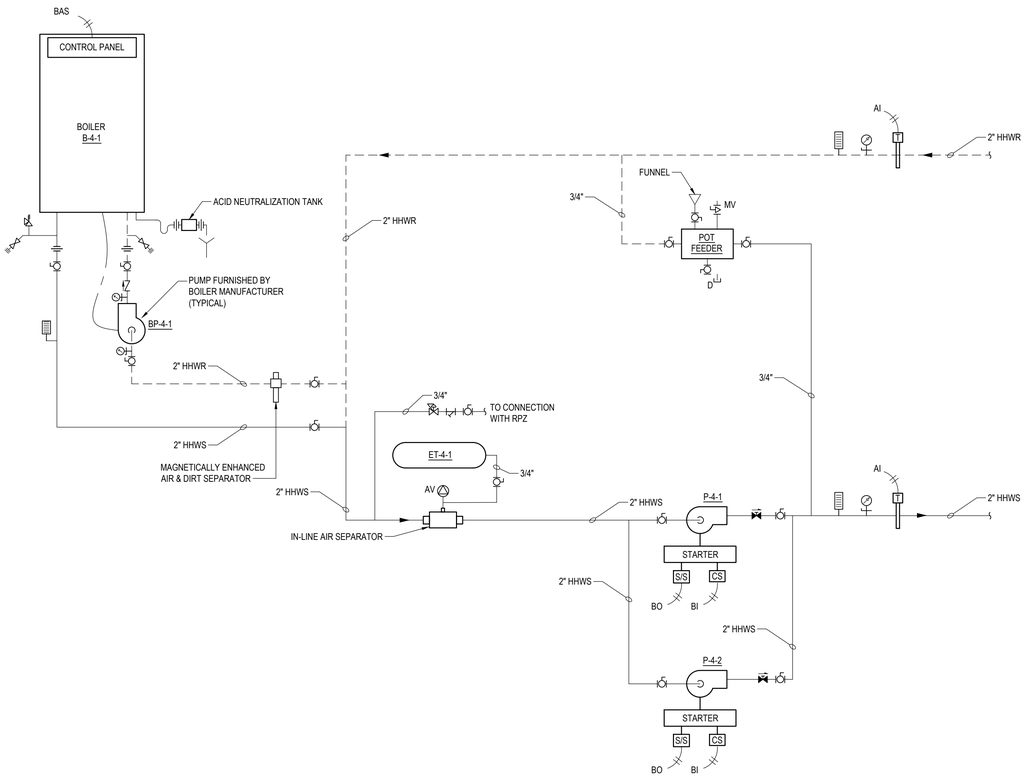


VENT ROOF PENETRATION DETAIL - BOILERS

SCALE: NOT TO SCALE

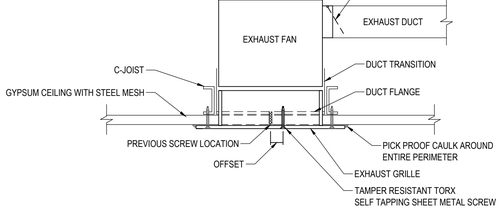
NOTES:

1. USE MANUFACTURER'S STANDARD PRESSURE-SENSITIVE PIPE SEAL
2. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
4. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE AND THE PIPE SEAL EDGE COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.



HOT WATER FLOW DIAGRAM

SCALE: NOT TO SCALE

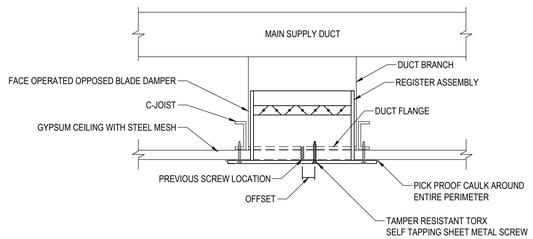


CEILING EXHAUST FAN DETIAL

SCALE: NOT TO SCALE

NOTE:

1. EXISTING GRILLES SECURED BY ONE WAY TAMPER RESISTANT SCREWS CENTERED IN GRILLE FLANGES. REMOVAL OF EXISTING GRILLE WILL REQUIRED SCREW HEADS TO BE DRILLED OFF LIKELY LEAVING A HOLE OR STUD IN CENTER OF MOUNTING LOCATION. OFFSET REPLACEMENT GRILLE MOUNTING HOLES TO AVOID THESE LOCATIONS. COORDINATE OFFSET REQUIREMENT WITH FIELD CONDITIONS AND GRILLE MANUFACTURER.



SUPPLY AND RETURN REGISTER DETAIL

SCALE: NOT TO SCALE

NOTE:

1. EXISTING REGISTERS SECURED BY ONE WAY TAMPER RESISTANT SCREWS CENTERED IN REGISTER FLANGES. REMOVAL OF EXISTING REGISTER WILL REQUIRED SCREW HEADS TO BE DRILLED OFF LIKELY LEAVING A HOLE OR STUD IN CENTER OF MOUNTING LOCATION. OFFSET REPLACEMENT REGISTER MOUNTING HOLES TO AVOID THESE LOCATIONS. COORDINATE OFFSET REQUIREMENT WITH FIELD CONDITIONS AND REGISTER MANUFACTURER.

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36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT: HVAC

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

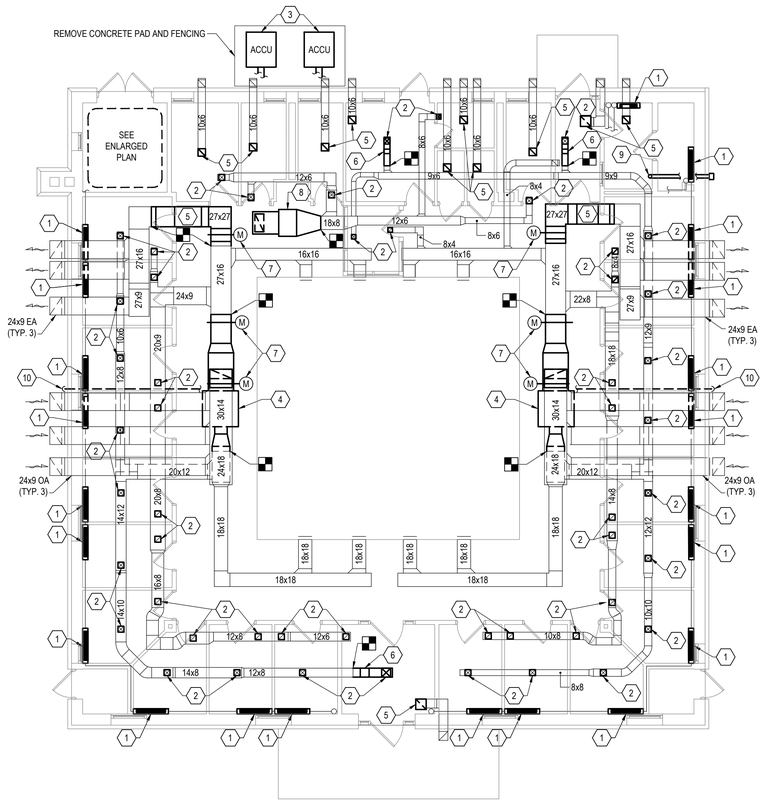
MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - H
DESIGNED BY:	TAH
DRAWN BY:	TAH
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE: BUILDING 81 DETAILS

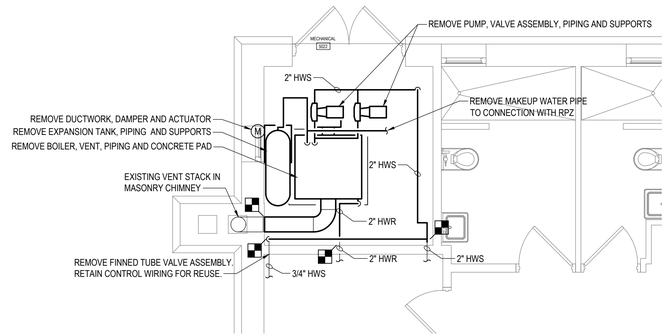
DRAWING NUMBER: M–4601

SHEET OF



BUILDING 82 MECHANICAL REMOVAL PLAN

SCALE: 1/8" = 1'-0"



MECHANICAL ROOM ENLARGED REMOVAL PLAN

SCALE: 1/4" = 1'-0"

NOTE: REMOVE ALL HEATING HYDRONIC PIPING AND SUPPORTS WITHIN MECHANICAL ROOM TO WALL PENETRATIONS AS INDICATED.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT: HVAC

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER 375 RUSH–SCOTTSVILLE ROAD RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
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1	09/25/2017	ADDENDUM #1
	08/07/2017	FINAL SUBMISSION

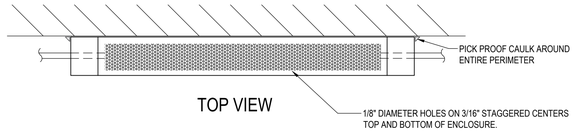
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DESIGNED BY:	TAH
DRAWN BY:	TAH
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE: BUILDING 82 MECHANICAL REMOVAL PLAN

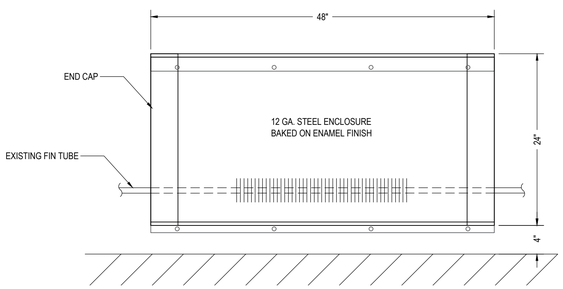
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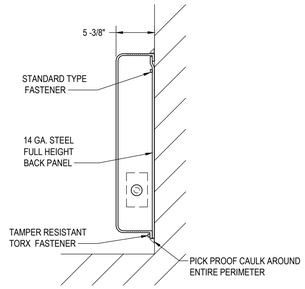
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36x24 PLOT SHEET USER: NICHOLAS DELPRADO



TOP VIEW



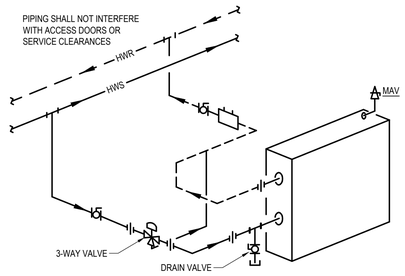
FRONT VIEW



SIDE VIEW

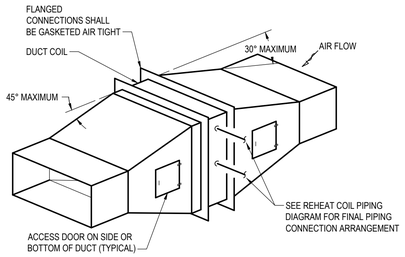
FIN TUBE ENCLOSURE DETAIL

SCALE: NOT TO SCALE



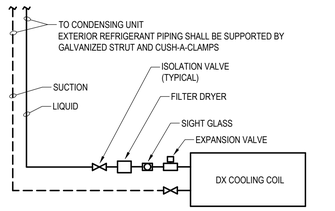
HOT WATER COIL PIPING DETAIL

SCALE: NOT TO SCALE



DUCT COIL TRANSITION DETAIL

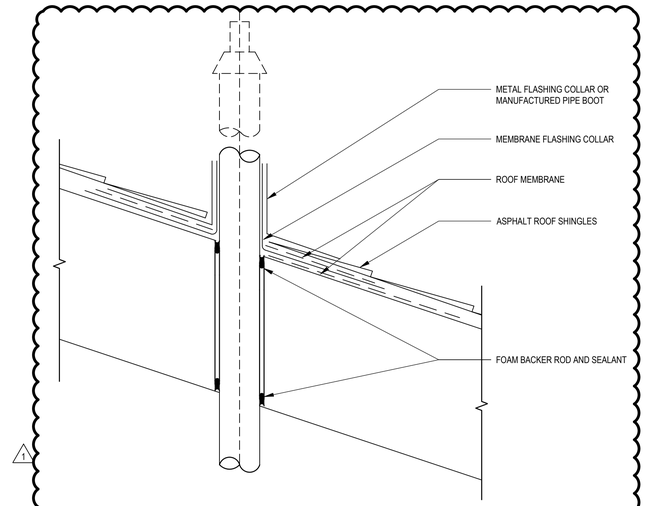
SCALE: NOT TO SCALE



(TYPICAL FOR EACH REFRIGERANT CIRCUIT)

REFRIGERANT PIPING DIAGRAM

SCALE: NOT TO SCALE

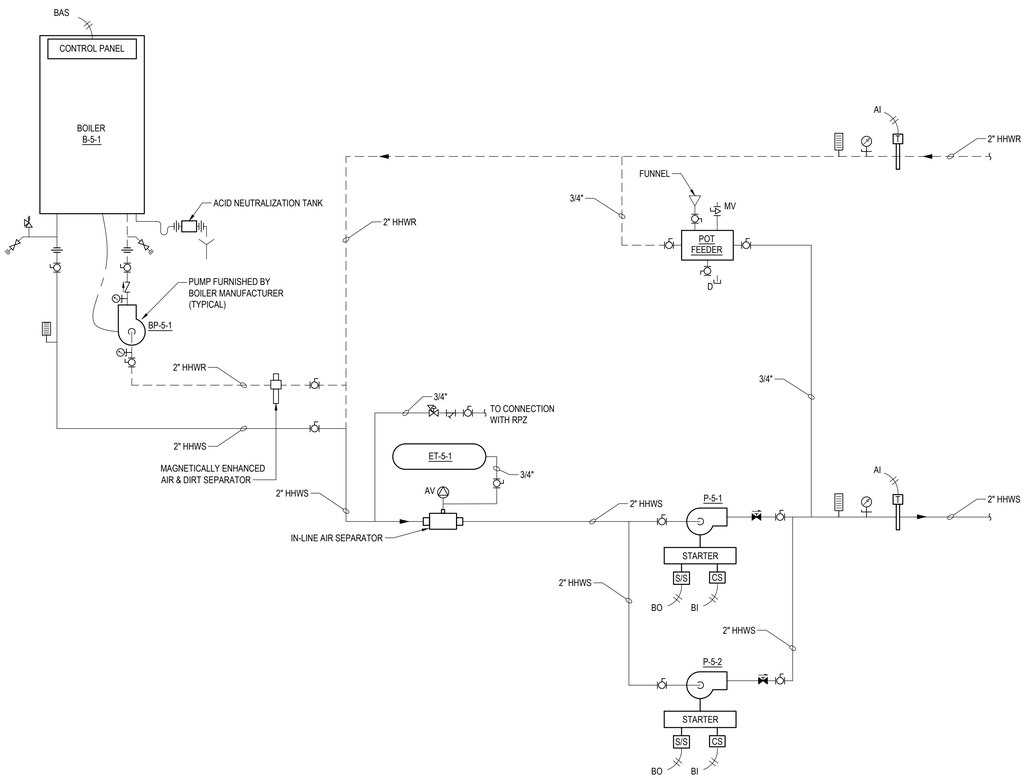


VENT ROOF PENETRATION DETAIL - BOILERS

SCALE: NOT TO SCALE

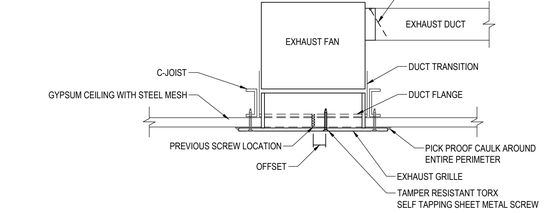
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HOT WATER FLOW DIAGRAM

SCALE: NOT TO SCALE

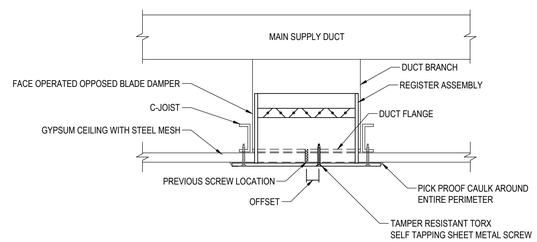


CEILING EXHAUST FAN DETIAL

SCALE: NOT TO SCALE

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SUPPLY AND RETURN REGISTER DETAIL

SCALE: NOT TO SCALE

NOTE:

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NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT: HVAC

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER 375 RUSH-SCOTTSVILLE ROAD RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

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	08/07/2017	FINAL SUBMISSION

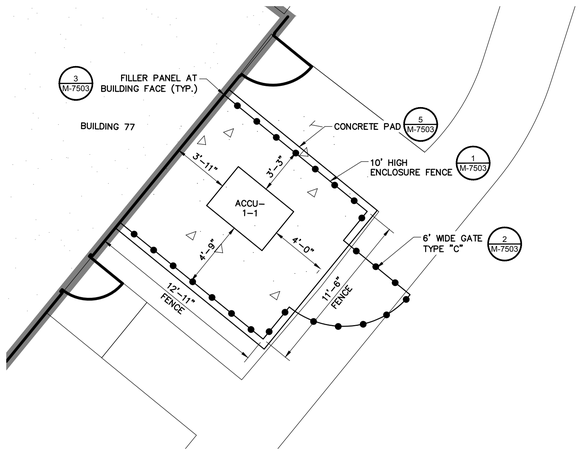
PROJECT NUMBER:	45679 - H
DESIGNED BY:	TAH
DRAWN BY:	TAH
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE: BUILDING 82 DETAILS

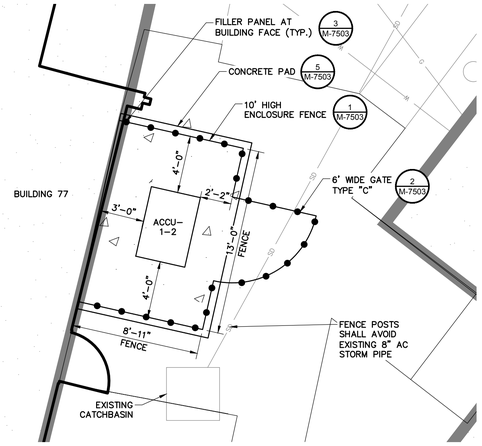
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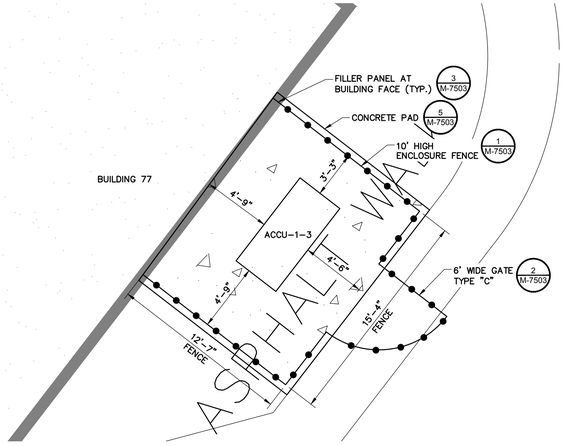
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36x24 PLOT SHEET



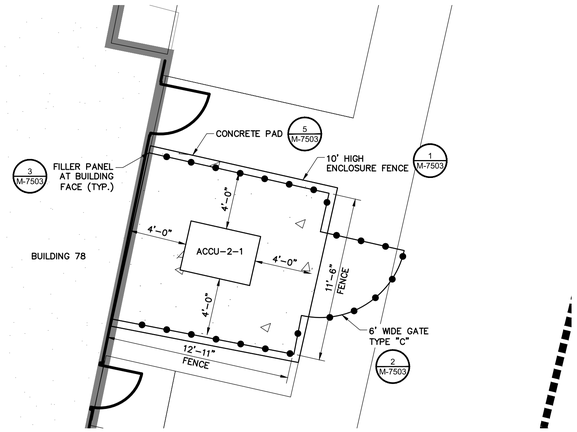
1 BLDG 77 ACCU-1-1 ENCLOSURE PLAN
SCALE: 1"=5'



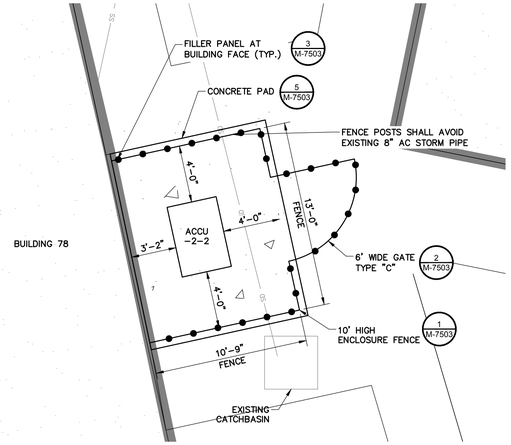
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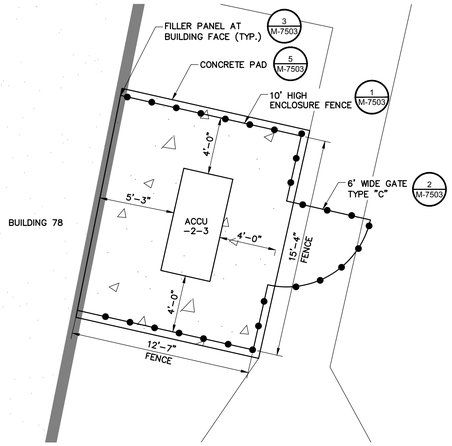
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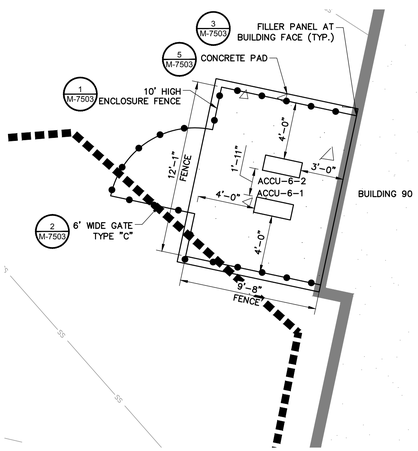
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SCALE: N.T.S.



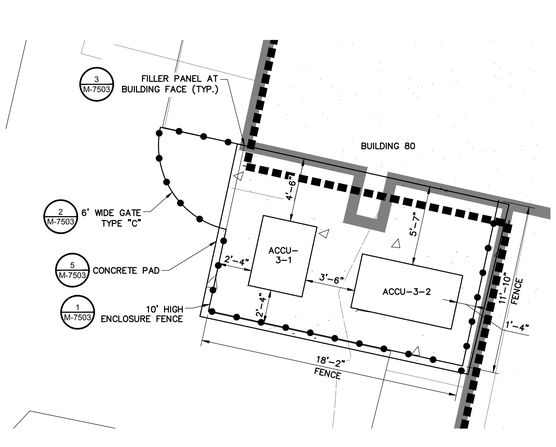
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SCALE: 1"=5'



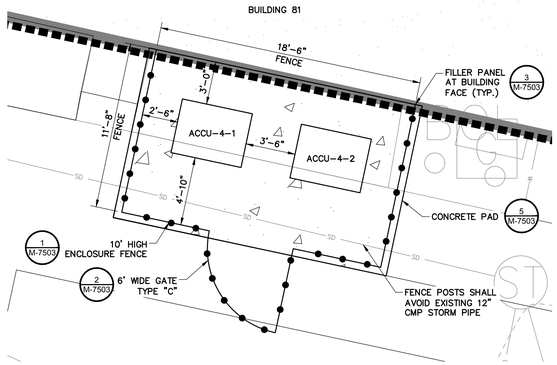
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SCALE: 1"=5'



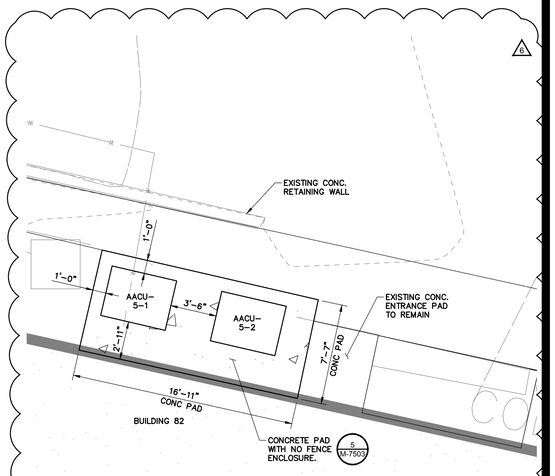
7 BLDG 90 ACCU-6-1 AND ACCU-6-2 ENCLOSURE PLAN
SCALE: 1"=5'



8 BLDG 80 ACCU-3-1 AND ACCU-3-2 ENCLOSURE PLAN
SCALE: 1"=5'



9 BLDG 81 ACCU-4-1 AND ACCU-4-2 ENCLOSURE PLAN
SCALE: 1"=5'



10 BLDG 82 ACCU-5-1 AND ACCU-5-2 PLAN
SCALE: 1"=5'

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36x24 PLOT SHEET

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Engineering and Land Surveying, P.C.

WARNING:

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CONTRACT:
CONSTRUCTION

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

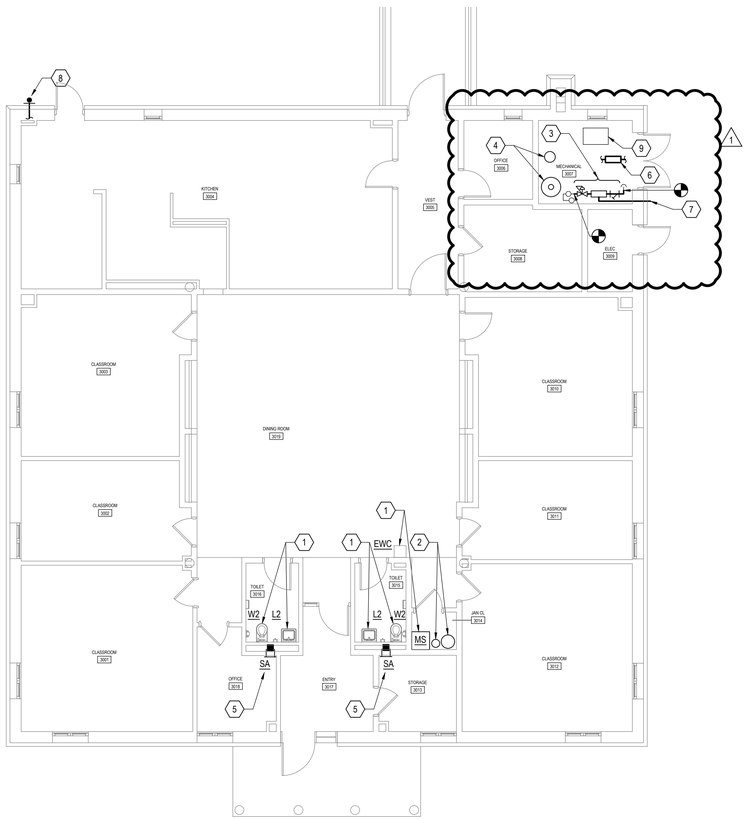
MARK	DATE	DESCRIPTION
6	10/05/2017	ADDENDUM NO. 6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - H
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
ACCU ENCLOSURE PLANS

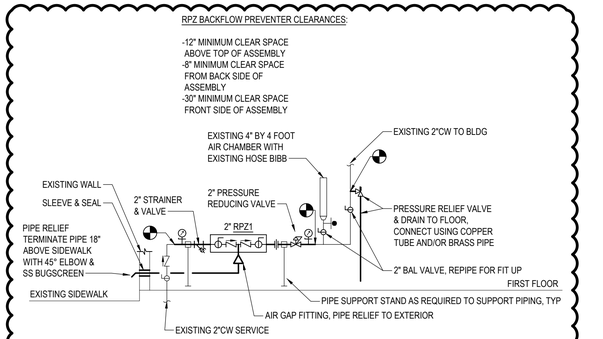
DRAWING NUMBER:
M-7502

SHEET OF



BUILDING 80 PLUMBING PLAN

SCALE: 1/8" = 1'-0"



BUILDING 80 WATER SERVICE DETAIL

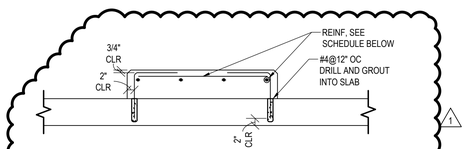
SCALE: NOT TO SCALE

GENERAL NOTES

1. COORDINATE ALL WORK WITH THE H-, E- AND C-CONTRACTORS
2. FIELD VERIFY EXISTING CONDITIONS, PRIOR TO PROCEEDING WITH INSTALLATIONS.
3. REFER TO C-CONTRACT REMOVAL DRAWING FOR PLUMBING FIXTURES THAT ARE TO BE REMOVED. ALL EXISTING PLUMBING FIXTURES AND TRIM ARE TO BE DISCONNECTED AND REMOVED BY THE P-CONTRACTOR. ALL EXISTING SUPPLY AND WASTE NIPPLES ARE TO BE REMOVED BACK TO PIPE ROUGHING LOCATIONS. WASTE AND SUPPLY NIPPLES ARE TO BE PROVIDED FOR CONNECTION OF THE PLUMBING FIXTURES TO THE EXISTING ROUGHING. FIXTURES ARE TO BE INSTALLED AND CONNECTED AT THE EXISTING ROUGHING LOCATIONS, EXCEPT WHERE FIXTURE LAYOUT IS RECONFIGURED. WHERE THERE IS A PROBLEM CONNECTING THE FIXTURES TO THE EXISTING ROUGHING, DIRECTORS REPRESENTATIVE IS TO BE NOTIFIED ABOUT THE PROBLEM.
4. PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE WORK. ALL PATCHING SHALL MATCH SURROUNDING EXISTING SURFACES IN KIND.

KEYED NOTES

1. REPLACE EXISTING PLUMBING FIXTURES AND TRIM. REFER TO GENERAL NOTES. REFER TO THE C-CONTRACT DRAWINGS FOR ANY PLUMBING FIXTURE RELOCATION.
2. WH2 & ET3 10 GALLON WATER HEATER, PIPING AND SUPPORT.
3. 2" COLD WATER SERVICE, SEE WATER SERVICE DETAIL.
4. WH1 & ET2 WATER HEATER, EXPANSION TANK, CONNECTED PIPING AND 3"VENT AND INTAKE UP TO ROOF TERMINATE WITH CONCENTRIC VENT KIT.
5. SHOCK ABSORBER, CONNECT TO EXISTING PIPING, PROVIDE LOCKABLE ACCESS PANEL WHERE SHOWN.
6. 3/4" RPZ2 AND AIR GAP FITTING SERVING BOILER SYSTEM. PIPE AIR GAP DRAIN TO FLOOR DRAIN.
7. PIPE RELIEF DRAIN TO EXTERIOR, SEE WATER SERVICE DETAIL.
8. REPLACE EXISTING NFHB.
9. CONNECT EXISTING GAS SERVICE TO BOILER, PROVIDE GAS REGULATOR WITH AN APPLIANCE VENT, COORDINATE WITH H-CONTRACTOR.



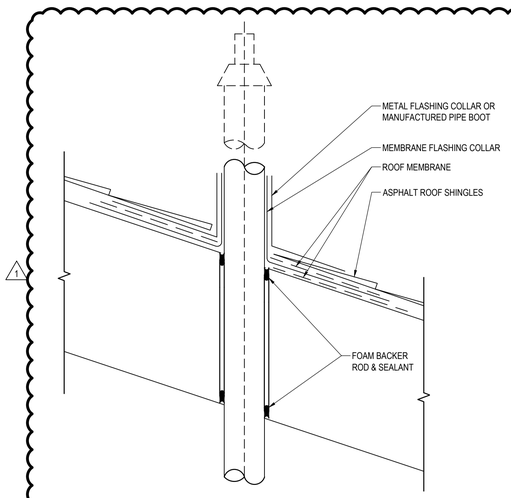
PAD THICKNESS	REINFORCING
6"	#4@12" OC EW

BUILDING 80 HOUSKEEPING PAD DETAIL

SCALE: NOT TO SCALE

NOTE:

1. CONCRETE PAD SHALL EXTEND 6" BEYOND THE FOOT PRINT OF THE SUPPORTED EQUIPMENT. PROVIDE CONCRETE PAD BELOW WATER HEATER WH-1.

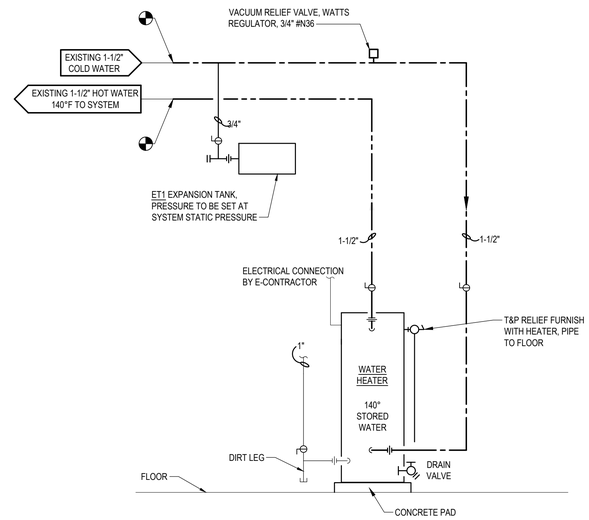


BUILDING 80 VENT ROOF PENETRATION DETAIL - WH1

SCALE: NOT TO SCALE

NOTES:

1. USE MANUFACTURER'S STANDARD PRESSURE-SENSITIVE PIPE SEAL
2. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
4. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE AND THE PIPE SEAL EDGE COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.



BUILDING 80 WATER HEATER PIPING DETAIL

SCALE: NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. Office of General Services
DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:
PLUMBING

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

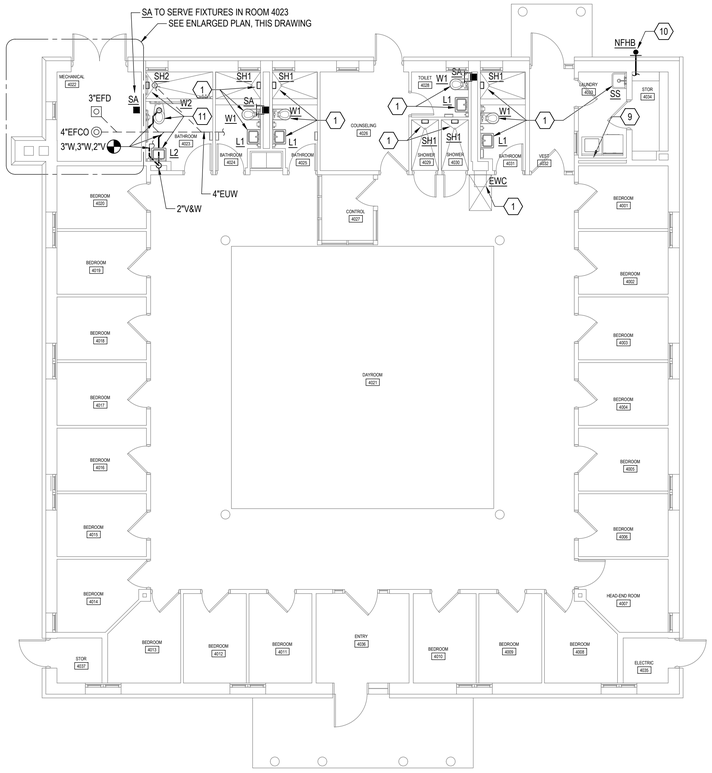
PROJECT NUMBER:	45679 - P
DESIGNED BY:	DSW
DRAWN BY:	DSW
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:
BUILDING 80
PLUMBING PLAN

DRAWING NUMBER:
P–3102

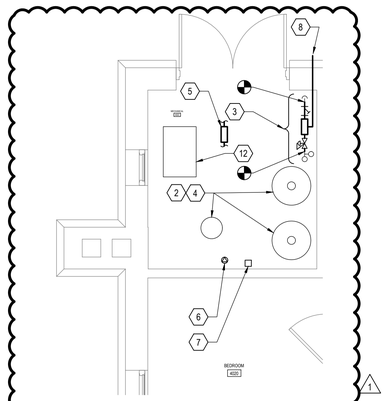
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36x24 PLOT SHEET



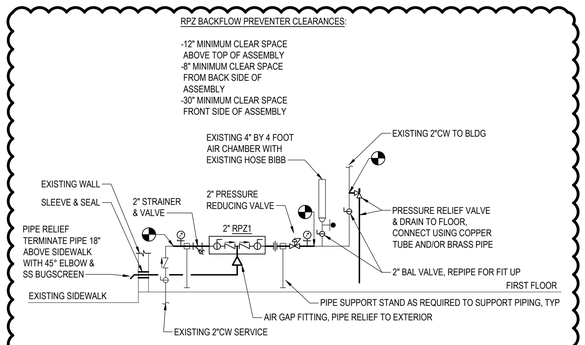
BUILDING 81 PLUMBING PLAN

SCALE: 1/8" = 1'-0"



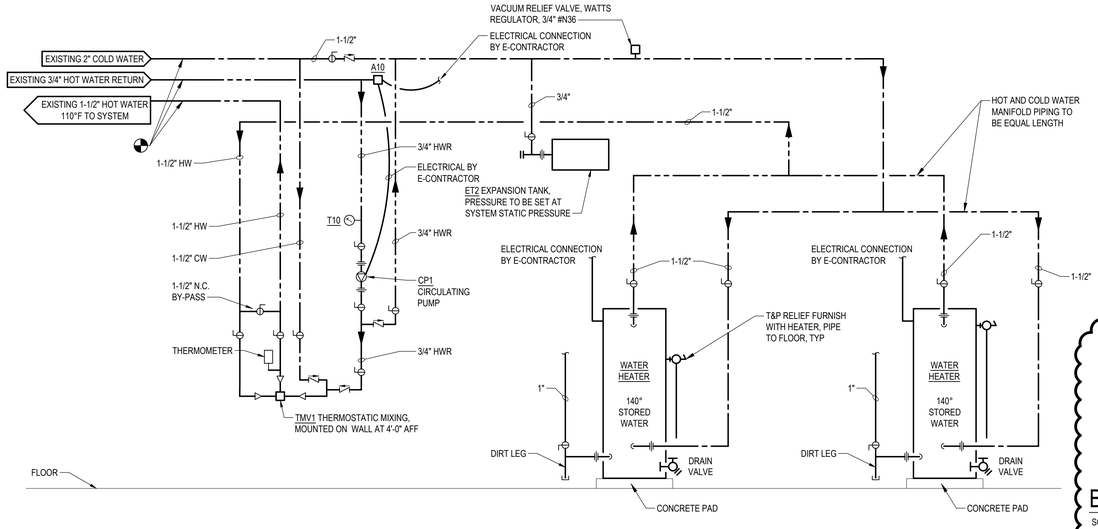
BUILDING 81 ENLARGED PLAN

SCALE: 1/4" = 1'-0"



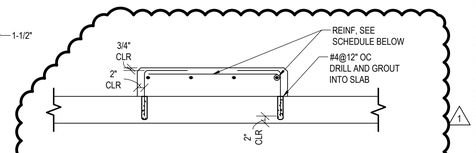
BUILDING 81 WATER SERVICE DETAIL

SCALE: NOT TO SCALE



BUILDING 81 WATER HEATER PIPING DETAIL

SCALE: NOT TO SCALE



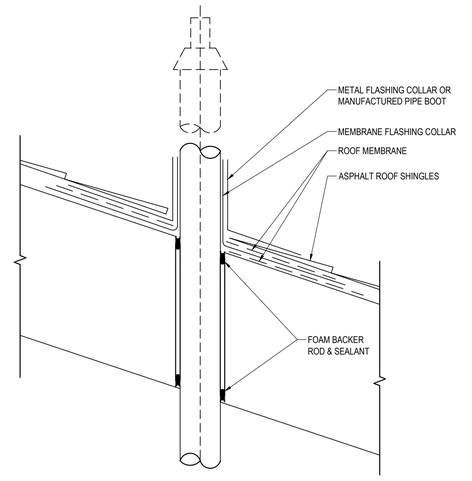
PAD THICKNESS	REINFORCING
6"	#4@12" OC EW

BUILDING 81 HOUSEKEEPING PAD DETAIL

SCALE: NOT TO SCALE

NOTE:

1. CONCRETE PAD SHALL EXTEND 6" BEYOND THE FOOT PRINT OF THE SUPPORTED EQUIPMENT. PROVIDE CONCRETE PAD BELOW WATER HEATER WH-1.



BLDG 81 VENT ROOF PENETRATION DETAIL - WH1

SCALE: NOT TO SCALE

NOTES:

1. USE MANUFACTURER'S STANDARD PRESSURE-SENSITIVE PIPE SEAL
2. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
4. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE AND THE PIPE SEAL EDGE COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.

GENERAL NOTES

1. COORDINATE ALL WORK WITH THE H-, E- AND C-CONTRACTORS
2. FIELD VERIFY EXISTING CONDITIONS, PRIOR TO PROCEEDING WITH INSTALLATIONS.
3. REFER TO C-CONTRACT REMOVALS DRAWING FOR PLUMBING FIXTURES THAT ARE TO BE REMOVED. ALL EXISTING PLUMBING FIXTURES AND TRIM ARE TO BE DISCONNECTED AND REMOVED BY THE P-CONTRACTOR. ALL EXISTING SUPPLY AND WASTE NIPPLES ARE TO BE REMOVED BACK TO PIPE ROUGHING LOCATIONS. WASTE AND SUPPLY NIPPLES ARE TO BE PROVIDED FOR CONNECTION OF THE PLUMBING FIXTURES TO THE EXISTING ROUGHING. FIXTURES ARE TO BE INSTALLED AND CONNECTED AT THE EXISTING ROUGHING LOCATIONS, EXCEPT WHERE FIXTURE LAYOUT IS RE-CONFIGURED. WHERE THERE IS A PROBLEM CONNECTING THE FIXTURES TO THE EXISTING ROUGHING, DIRECTORS REPRESENTATIVE IS TO BE NOTIFIED ABOUT THE PROBLEM.
4. PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE WORK. ALL PATCHING SHALL MATCH SURROUNDING EXISTING SURFACES IN KIND.

KEYED NOTES

1. REPLACE EXISTING PLUMBING FIXTURES AND TRIM. REFER TO GENERAL NOTES. REFER TO THE C-CONTRACT DRAWINGS FOR ANY PLUMBING FIXTURE RELOCATION.
2. WATER HEATER, 3" PVC VENT AND INTAKE UP TO ROOF TERMINATE WITH CONCENTRIC VENT KIT.
3. 2" COLD WATER SERVICE, SEE WATER SERVICE DETAIL.
4. WH1 WATER HEATER, EXPANSION TANK, SEE WATER HEATER DETAIL.
5. 3/4" RPZ2 AND AIR GAP FITTING SERVING BOILER SYSTEM. PIPE AIR GAP DRAIN TO FLOOR DRAIN.
6. 3/4" CP1, REPIPE INSTALLATION AS NEEDED.
7. TMV1 THERMOSTATIC MIXING VALVE, SEE WATER HEATER DETAIL.
8. PIPE RELIEF DRAIN TO EXTERIOR, SEE SERVICE DETAIL.
9. REPLACE EXISTING WASHER MACHINE WATER HOSE BIBBS AND ATTACH TO WALL.
10. REPLACE EXISTING NFHB.
11. REPLACE EXISTING PLUMBING FIXTURES AND TRIM. EXTEND EXISTING CW AND HW TO FIXTURE NEW LOCATION. REFER TO GENERAL NOTES. REFER TO THE C-CONTRACT DRAWINGS FOR ANY PLUMBING FIXTURE RELOCATION.
12. CONNECT EXISTING GAS SERVICE TO BOILER, PROVIDE GAS REGULATOR WITH AN APPLIANCE VENT, COORDINATE WITH H-CONTRACTOR.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:

PLUMBING

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - P
DESIGNED BY:	DSW
DRAWN BY:	DSW
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

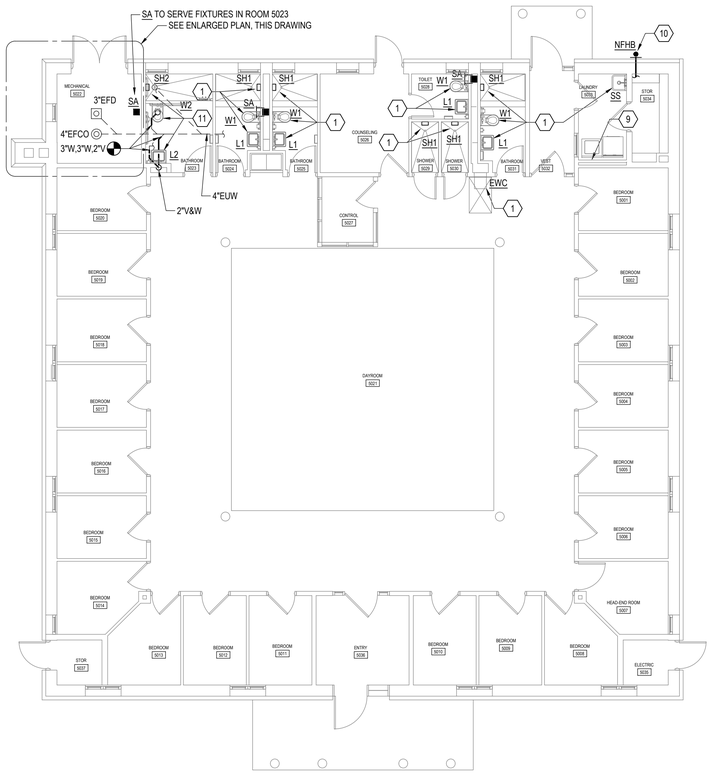
BUILDING 81
PLUMBING PLAN

DRAWING NUMBER:

P–4102

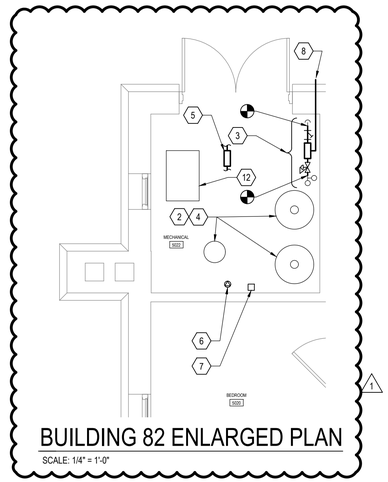
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36x24 PLOT SHEET



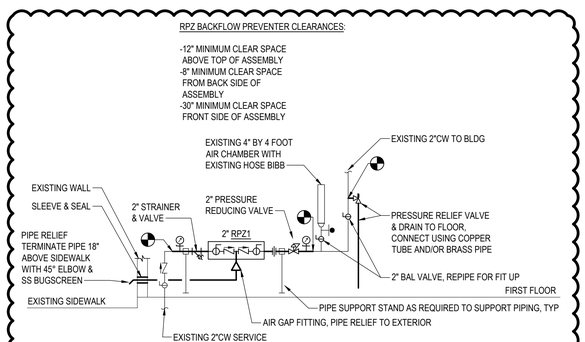
BUILDING 82 PLUMBING PLAN

SCALE: 1/8" = 1'-0"



BUILDING 82 ENLARGED PLAN

SCALE: 1/4" = 1'-0"



BUILDING 82 WATER SERVICE DETAIL

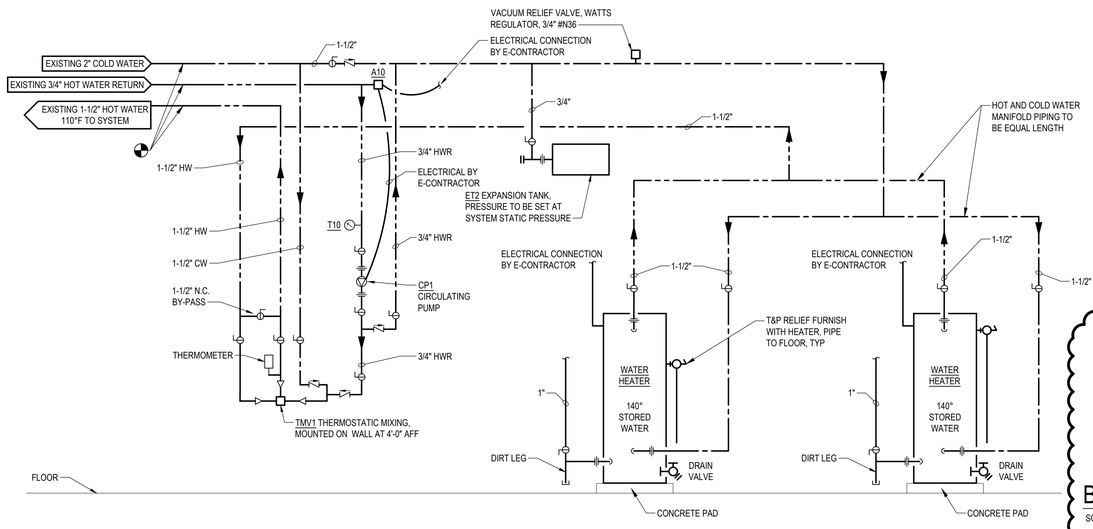
SCALE: NOT TO SCALE

GENERAL NOTES

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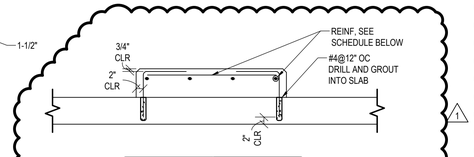
KEYED NOTES

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2. WATER HEATER, 3" PVC VENT AND INTAKE UP TO ROOF TERMINATE WITH CONCENTRIC VENT KIT.
3. 2" COLD WATER SERVICE, SEE WATER SERVICE DETAIL.
4. WH1 WATER HEATER, EXPANSION TANK, SEE WATER HEATER DETAIL.
5. 3/4" RPZ2 AND AIR GAP FITTING SERVING BOILER SYSTEM. PIPE AIR GAP DRAIN TO FLOOR DRAIN.
6. 3/4" CP1, RE-PIPE INSTALLATION AS NEEDED.
7. TMV1 THERMOSTATIC MIXING VALVE, SEE WATER HEATER DETAIL.
8. PIPE RELIEF DRAIN TO EXTERIOR, SEE WATER SERVICE DETAIL.
9. REPLACE EXISTING WASHER MACHINE WATER HOSE BIBBS AND ATTACH TO WALL.
10. REPLACE EXISTING NFHB.
11. REPLACE EXISTING PLUMBING FIXTURES AND TRIM. EXTEND EXISTING CW AND HW TO FIXTURE NEW LOCATION. REFER TO GENERAL NOTES. REFER TO THE C-CONTRACT DRAWINGS FOR ANY PLUMBING FIXTURE RELOCATION.
12. CONNECT EXISTING GAS SERVICE TO BOILER, PROVIDE GAS REGULATOR WITH AN APPLIANCE VENT, COORDINATE WITH H-CONTRACTOR.



BUILDING 82 WATER HEATER PIPING DETAIL

SCALE: NOT TO SCALE



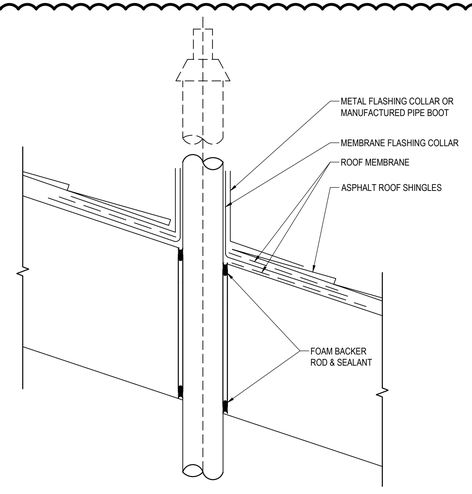
PAD THICKNESS	REINFORCING
6"	#4@12" OC EW

BUILDING 82 HOUSEKEEPING PAD DETAIL

SCALE: NOT TO SCALE

NOTE:

1. CONCRETE PAD SHALL EXTEND 6" BEYOND THE FOOT PRINT OF THE SUPPORTED EQUIPMENT. PROVIDE CONCRETE PAD BELOW WATER HEATER WH-1.



BLDG 82 VENT ROOF PENETRATION DETAIL - WH1

SCALE: NOT TO SCALE

NOTES:

1. USE MANUFACTURER'S STANDARD PRESSURE-SENSITIVE PIPE SEAL
2. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
3. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
4. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE AND THE PIPE SEAL EDGE COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

Friedman Fisher Associates, P.C.

Engineering and Land Surveying, P.C.

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LICENSED PROFESSIONAL ENGINEER JEFFREY L. MAJOR 073128 STATE OF NEW YORK

CONTRACT:

PLUMBING

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH–SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
1	10/5/2017	ADDENDUM #6
	08/07/2017	FINAL SUBMISSION

PROJECT NUMBER:	45679 - P
DESIGNED BY:	DSW
DRAWN BY:	DSW
FIELD CHECK:	–
APPROVED:	–

SHEET TITLE:

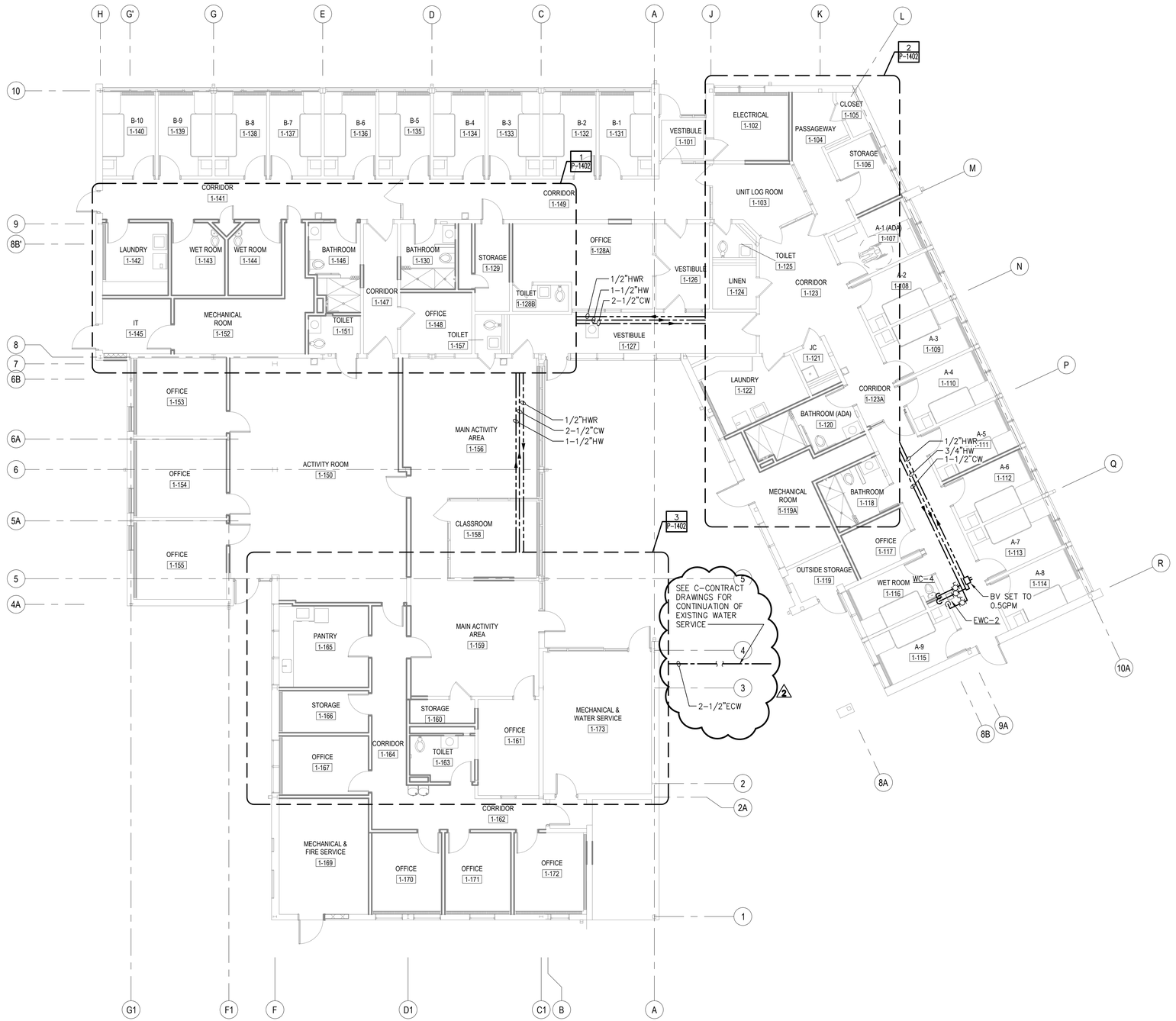
BUILDING 82
PLUMBING PLAN

DRAWING NUMBER:

P–5102

SHEET OF

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36x24 PLOT SHEET
PLOTTED: 10/3/2017 9:46:13 AM
USER: NICHOLAS DELPRADO



PLUMBING POTABLE AND GAS PIPING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

File: V:\PROJECTS\ANY\X4\32908\CADD_ACAD\P-1105-32908.DWG Saved: 10/3/2017 1:38:59 PM Plotted: 10/3/2017 1:44:55 PM Current User: Doyen, Roy LastSavedBy: 5544
36x24 PLOT SHEET

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CONSULTANT

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CONTRACT:
PLUMBING

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

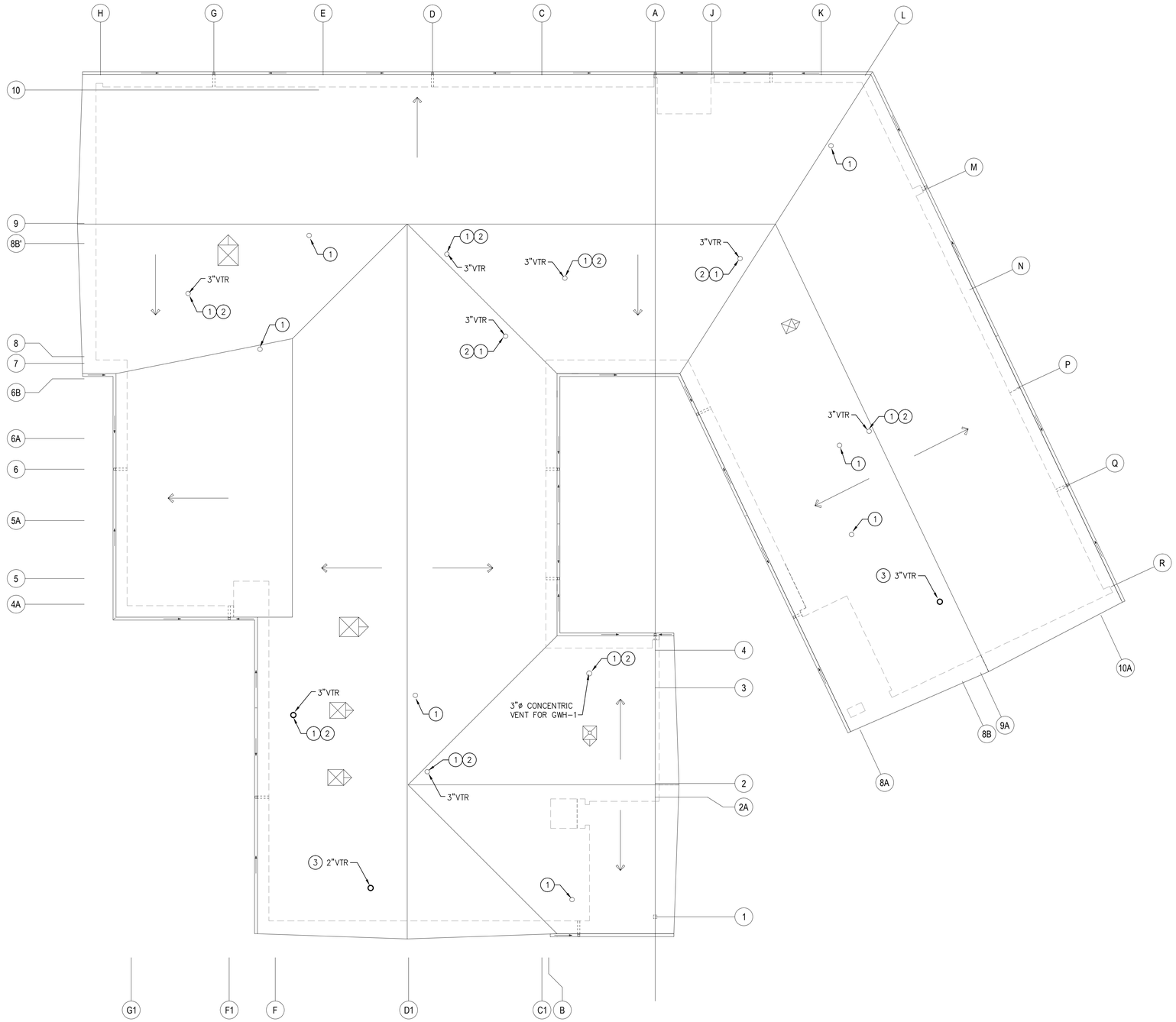
MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - P
DESIGNED BY:	RWD/BPT
DRAWN BY:	RWD/BPT
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 PLUMBING POTABLE AND GAS PIPING PLAN

DRAWING NUMBER:
P-1105

SHEET OF



GENERAL NOTES

1. ALL EXISTING VENTS THROUGH ROOF ARE TO BE REMOVED.
2. REPAIR ROOF PENETRATIONS NO LONGER REQUIRED.
3. COORDINATE ROOF PENETRATIONS WITH ROOFING CONTRACTOR.

CODED NOTES

1. EXISTING VENT THROUGH ROOF
2. EXISTING ROOF PENETRATION LOCATION TO BE RE-USED.
3. NEW ROOF PENETRATION LOCATION.

BUILDING 77 PLUMBING ROOF PLAN

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

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CONSULTANT
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CONTRACT:
PLUMBING

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**

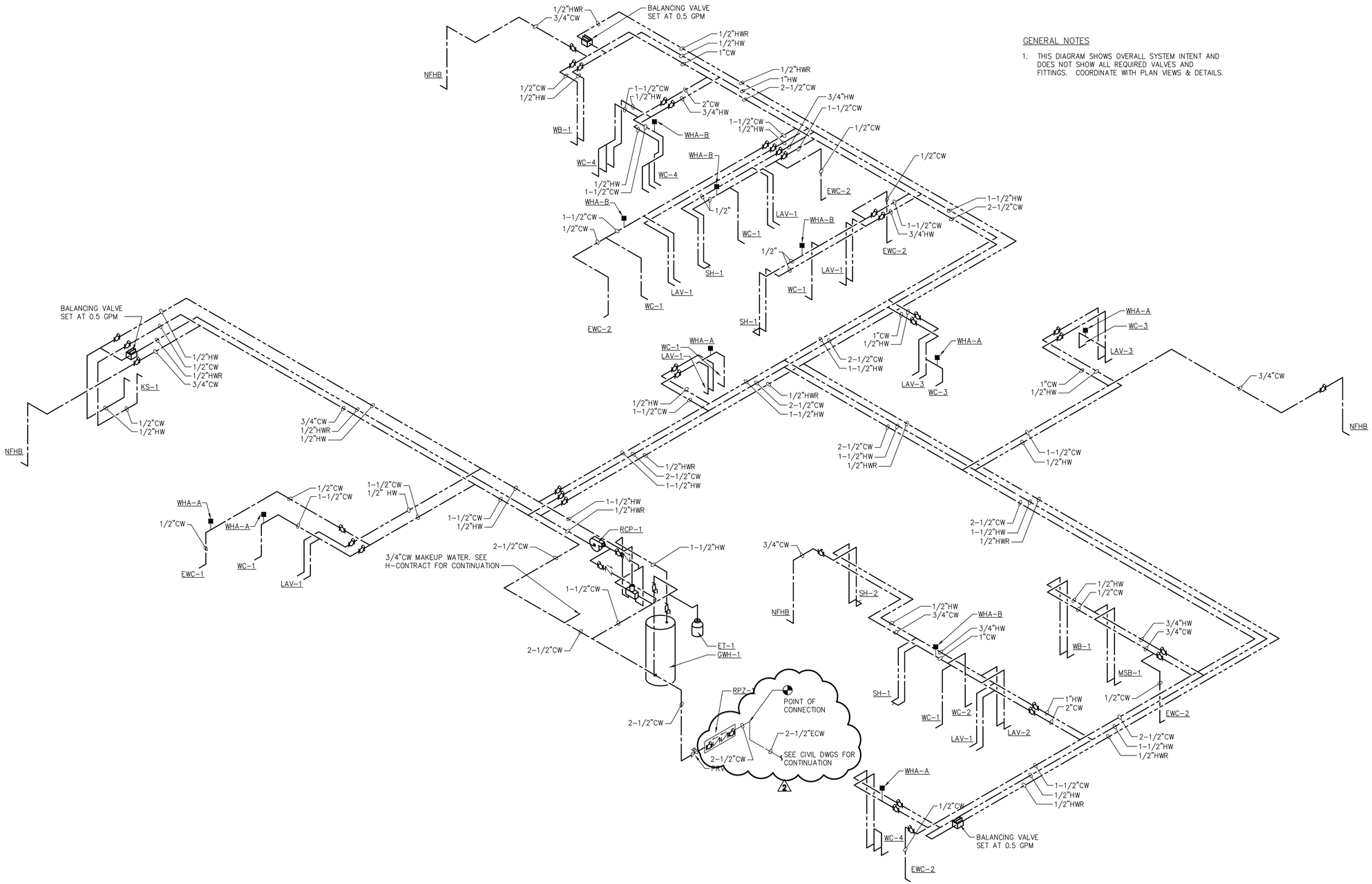
PROJECT NUMBER:	45679 - P
DESIGNED BY:	RWD/BPT
DRAWN BY:	RWD/BPT
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 77 PLUMBING ROOF PLAN

DRAWING NUMBER:
P-1106

SHEET OF

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36x24 PLOT SHEET



POTABLE AND GAS PIPING RISER DIAGRAM

NOT TO SCALE

GENERAL NOTES

1. THIS DIAGRAM SHOWS OVERALL SYSTEM INTENT AND DOES NOT SHOW ALL REQUIRED VALVES AND FITTINGS. COORDINATE WITH PLAN VIEWS & DETAILS.

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CONSULTANT

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CONTRACT: PLUMBING

TITLE: PROVIDE BUILDING UPGRADES

LOCATION: INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT: NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

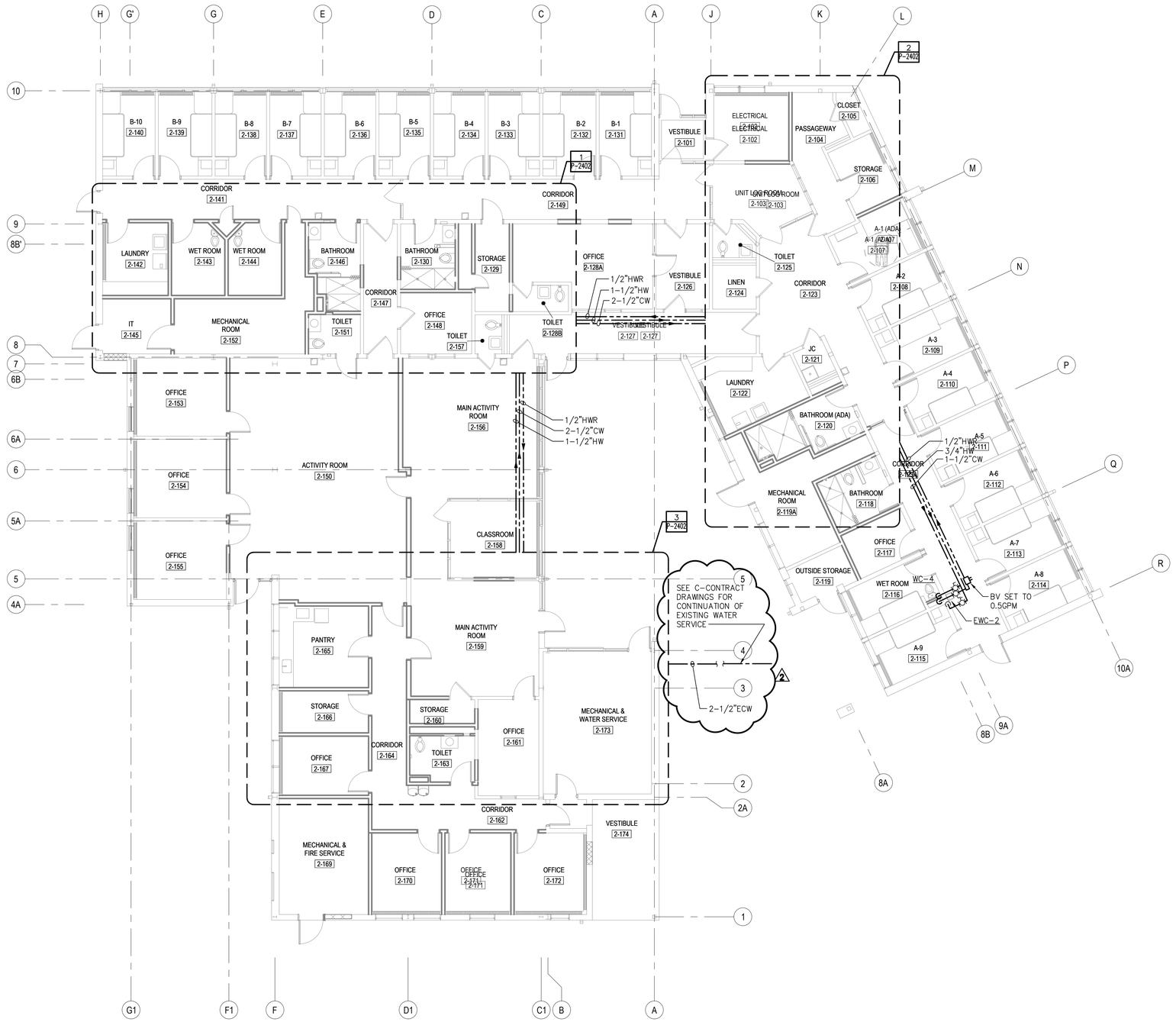
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DESIGNED BY:	RWD/BPT
DRAWN BY:	RWD/BPT
FIELD CHECK:	
APPROVED:	

SHEET TITLE: BUILDING 77 PLUMBING POTABLE AND GAS PIPING RISER DIAGRAM

DRAWING NUMBER: P–1503

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36x24 PLOT SHEET



PLUMBING POTABLE AND GAS PIPING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE (FEET)
1/8"=1' 0' 8' 16' 24' 32' 40'

File: V:\PROJECTS\ANY\X4\32908\CADD_ACAD\P-2105-32908.DWG Saved: 10/2/2017 3:28:04 PM Plotted: 10/3/2017 1:45:21 PM Current User: Doyen, Roy LastSavedBy: 5544
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CONTRACT:
PLUMBING

TITLE:
PROVIDE BUILDING UPGRADES

LOCATION:
INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:
NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

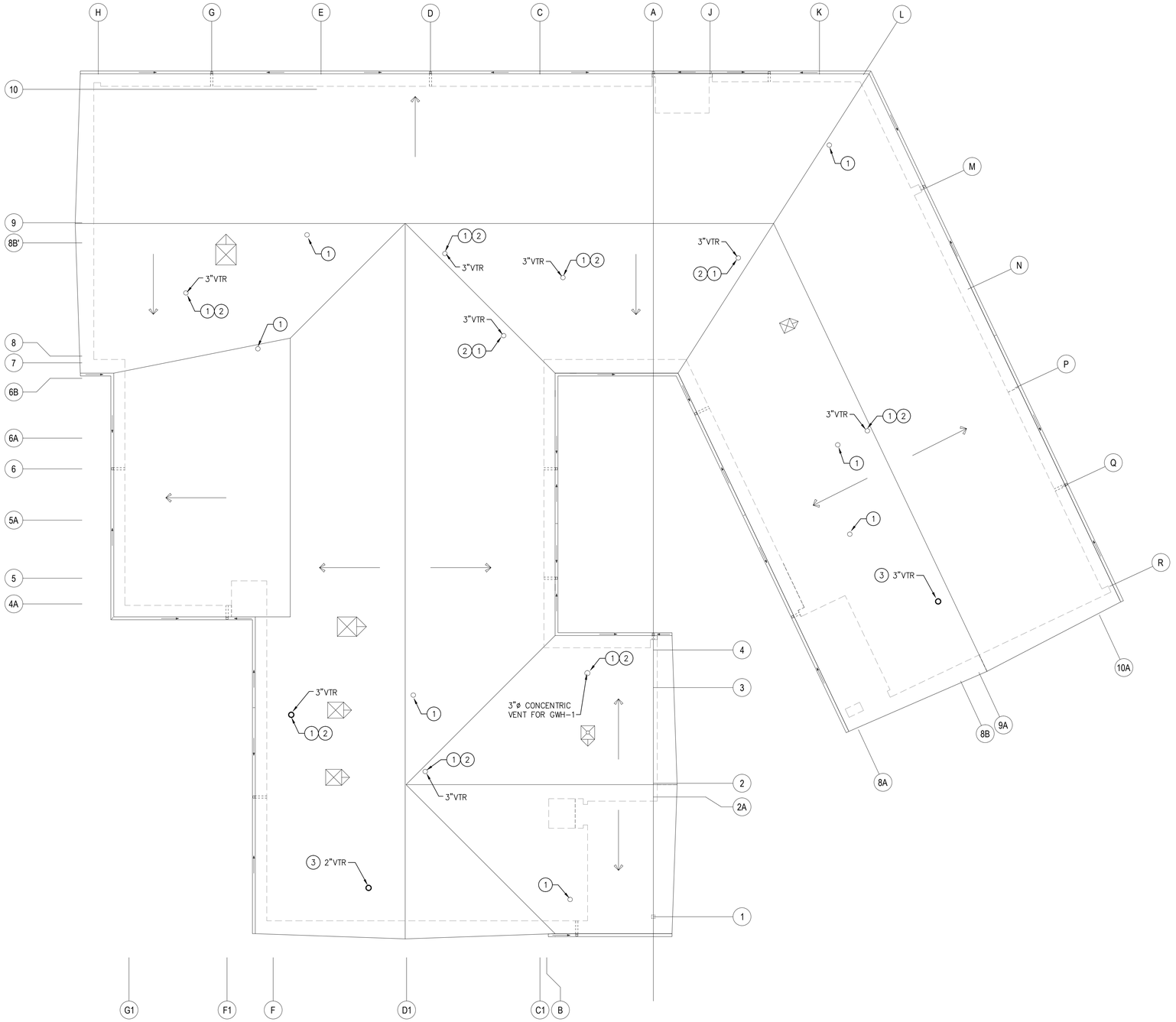
MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 - P
DESIGNED BY:	RWD/BPT
DRAWN BY:	RWD/BPT
FIELD CHECK:	
APPROVED:	

SHEET TITLE:
BUILDING 78 PLUMBING POTABLE AND GAS PIPING PLAN

DRAWING NUMBER:
P-2105

SHEET OF



GENERAL NOTES

1. ALL EXISTING VENTS THROUGH ROOF ARE TO BE REMOVED.
2. REPAIR ROOF PENETRATIONS NO LONGER REQUIRED.
3. COORDINATE ROOF PENETRATIONS WITH ROOFING CONTRACTOR. (2)

CODED NOTES

(1) EXISTING VENT THROUGH ROOF

(2) EXISTING ROOF PENETRATION LOCATION TO BE RE-USED.

(3) NEW ROOF PENETRATION LOCATION.

BUILDING 78 PLUMBING ROOF PLAN

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE (FEET)

1/8"=1' 0' 8' 16' 24' 32' 40'

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CONTRACT:

PLUMBING

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
	08/07/2017	**FINAL SUBMISSION**
PROJECT NUMBER:	45679 - P	
DESIGNED BY:	RWD/BPT	
DRAWN BY:	RWD/BPT	
FIELD CHECK:		
APPROVED:		

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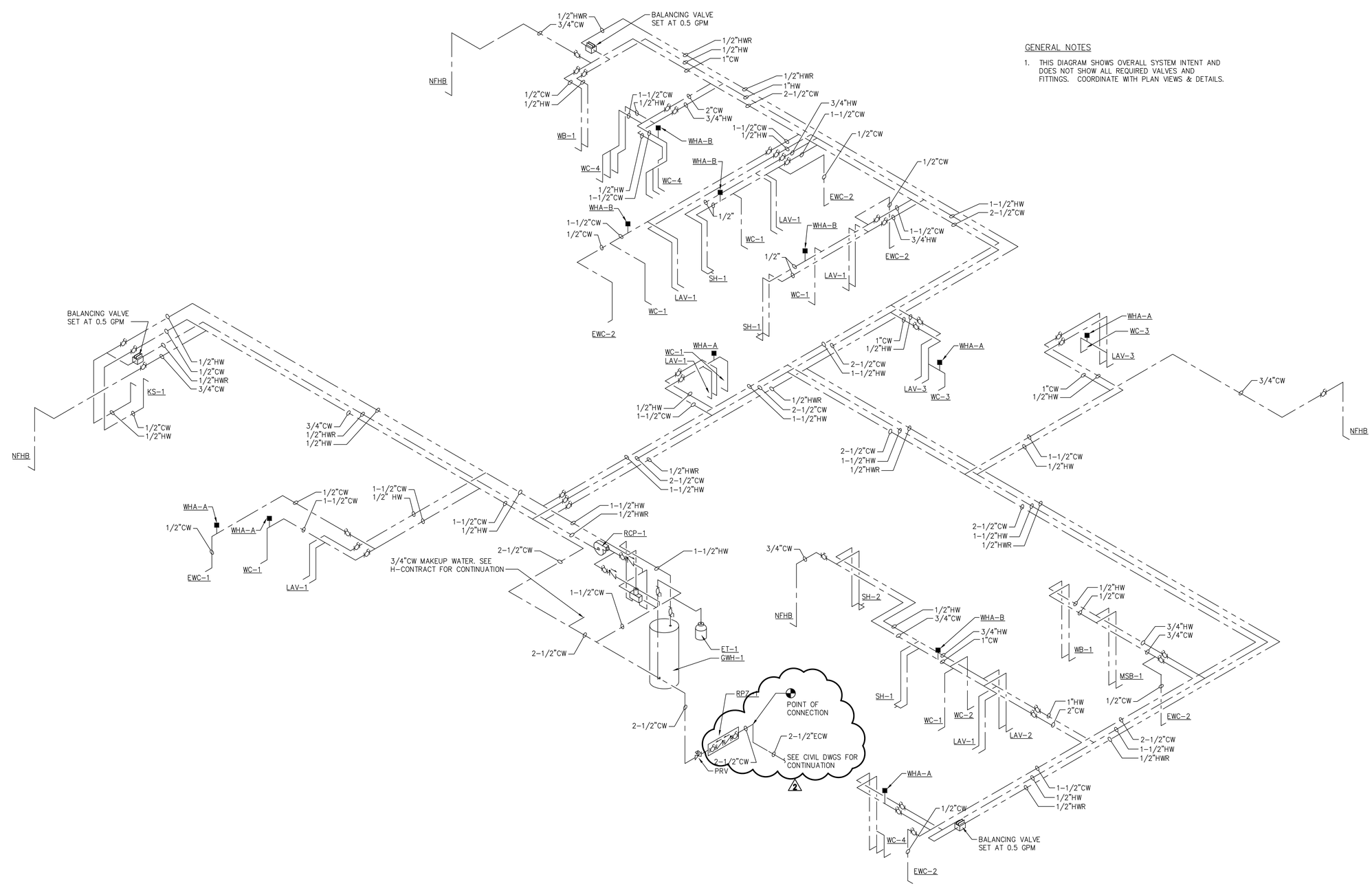
BUILDING 78 PLUMBING ROOF PLAN

DRAWING NUMBER:

P-2106

SHEET OF

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36x24 PLOT SHEET



POTABLE AND GAS PIPING RISER DIAGRAM

NOT TO SCALE

GENERAL NOTES

1. THIS DIAGRAM SHOWS OVERALL SYSTEM INTENT AND DOES NOT SHOW ALL REQUIRED VALVES AND FITTINGS. COORDINATE WITH PLAN VIEWS & DETAILS.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

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CONTRACT:

PLUMBING

TITLE:

PROVIDE BUILDING UPGRADES

LOCATION:

INDUSTRY LIMITED SECURE CENTER
375 RUSH-SCOTTSVILLE ROAD
RUSH, NY 14543

CLIENT:

NEW YORK STATE OFFICE OF CHILDREN AND FAMILY SERVICES

MARK	DATE	DESCRIPTION
2	10/05/2017	ADDENDUM 6
1	9/25/2017	ADDENDUM 1
	08/07/2017	**FINAL SUBMISSION**

PROJECT NUMBER:	45679 – P
DESIGNED BY:	RWD/BPT
DRAWN BY:	RWD/BPT
FIELD CHECK:	
APPROVED:	

SHEET TITLE:

BUILDING 78 PLUMBING POTABLE AND GAS PIPING RISER DIAGRAM

DRAWING NUMBER:

P-2503

SHEET OF

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36x24 PLOT SHEET

Revised 10-5-17

SECTION 072100

BUILDING INSULATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Catalog sheets, specifications, and installation instructions for each type of insulation specified.
   1. Include data substantiating that the materials comply with the specified thermal resistance and vapor resistance qualities.

B. Samples:
   1. Blanket, Batt or Roll: 12 inch sq.
   2. Rigid Type: 6 inch sq.
   3. Loose Type: One pt.

C. Quality Control Submittal:
   1. Certificate: Affidavit required under Quality Assurance Article.

1.02 QUALITY ASSURANCE

A. Allowable Thickness Variations: Manufacturer's standard units which vary slightly from the thickness indicated may be acceptable, subject to the approval of the Director.

B. Thermal Resistance: The thicknesses shown are for the thermal resistance (R-Value in accordance with ASTM C 177 or ASTM C 518) specified for each material. The R-Values specified are minimum acceptable. Provide adjusted thicknesses as directed for the use of material having a different thermal resistance.

C. Certification: Affidavit by the polystyrene thermal insulation manufacturer, certifying that the insulation was manufactured with CFC and HCFC-free blowing agents.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Do not allow insulation materials to become wet or soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

B. Do not deliver flammable insulation materials to the project site more than 2 days ahead of the time of installation. Protect at all times against ignition.

C. Protect insulation materials subject to deterioration by sunlight from exposure to sunlight.

D. Complete the installation and concealment of insulation materials as rapidly as possible.

1.04 PROJECT CONDITIONS

A. Do not proceed with the installation of insulation on walls or under slabs until the Work which follows (and which conceals the insulation) is ready to be performed.

B. Examination of Substrate: Examine the substrate and the conditions under which the insulation Work is to be performed. Do not proceed with the insulation Work until unsatisfactory conditions have been corrected.

PART 2 PRODUCTS

2.01 MATERIALS

A. Rigid (Board) Insulation (Drawing Designation Type 2A): Rigid cellular polyisocyanurate thermal insulation boards - See Section 072500 Exterior Water Managed Wall Assembly.

B. Rigid (Board) Insulation(Drawing Designation Type 1C): Extruded polystyrene thermal insulation boards; ASTM C 578, Type IV, manufactured with CFC and HCFC-free blowing agents.
   1. Aged R-Value:
      a. 1/2 Inch Thick: R = 2.5 @ 40 degrees F and 2.5 @ 75 degrees F.
      b. 1 Inch Thick: R = 5.0 @ 40 degrees F and 5.0 @ 75 degrees F.
      c. 1-1/2 Inches Thick: R = 7.5 @ 40 degrees F and 7.5 @ 75 degrees F.
      d. 2 Inches Thick: R = 10.0 @ 40 degrees F and 10.0 @ 75 degrees F.
   2. Edges and Ends: Square or tongue-and-groove at manufacturer's option.

C. Rigid (Mineral Fiber Board) Insulation (Drawing Designation Type 5C): Mineral fibers and water-resistant binders formed into rigid, non-combustible boards; ASTM C 612.
   1. R-Value:
      a. 1 Inch Thick: R = 4.35.
      b. 1-1/2 Inch Thick: R = 6.53.
      c. 2 Inches Thick: R = 8.70.
   2. Class 1: Non-load bearing.
   3. Density: 4.0 Lb. /Cu. Ft.
   4. Type III, Class A - With a reflective barrier membrane covering one principal face. Membrane flame spread rating of 25 or less.

D. Mineral Fiber Insulation (Drawing Designation Type 4A): Glass or other inorganic fibers and resinous binders formed into flexible blankets, batts or rolls; ASTM C 665.
   1. R-Value:
      a. 2-1/2 Inches Nominal Thickness: R = 7.0.
      b. 3-1/2 or 3-5/8 Inches Nominal Thickness: R = 11.0.
      c. 6-1/4 or 6-1/2 Inches Nominal Thickness: R = 19.0.
   2. Type I - Blankets with no membrane covering.

E. Adhesive for Bonding Insulation: The type recommended by the insulation manufacturer.

F. Mechanical Anchors: Type and size shown or, if not shown, as recommended by the insulation manufacturer for the type of application shown and condition of substrate.

G. Fluid-applied Acrylic Insulation Coating Thermal insulating coating that imparts exceptional insulative properties to a variety of substrates:
   1. Thermal Conductivity (ASTM C518 at 77°F): 0.2468 BTU-in/ sq. ft.-hr-Deg. F (R value at one inch equals 4.1)
   2. Flame Spread (ASTM E84): Class A
   3. Smoke Developed (ASTM E84): Class A
   4. Total dry film thickness: 100 mils
   5. Volume Solids 74% minimum.
   6. Product: Tnemec Series 971 Aerolon Acrylic, or equivalent by Mascoat.

2.02 ACCESSORIES

A. Tape for Sealing Vapor Retarders: 2-1/2 inch wide, 2 Mil, high strength aluminum foil coated with an aggressive, high temperature adhesive system recommended by insulation manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

A. Verify that adjacent materials are dry and ready to receive insulation.

3.02 INSTALLATION

A. Comply with manufacturer's printed instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.

B. Extend insulation full thickness over entire surface to be insulated. Apply a single layer of insulation of the required thickness, unless otherwise indicated or required to make up the total thickness. Cut and fit tightly around obstructions, and fill voids with insulation.

1. Do not place insulation over, or within 3 inches of recessed lighting fixtures.

C. Install insulation with factory applied barrier membrane facing the warm side of building spaces. Tape ruptures in barrier membrane.
   1. Install reflective barrier membrane insulation with 3/4 inch air space in front of reflective barrier membrane wherever possible.

D. Install fluid-applied acrylic insulation coating in in multiple coats in accordance with manufacturer's written instructions to achieve DFT indicated.

END OF SECTION

Revised 10-5-17

SECTION 074646

MINERAL FIBER CEMENT SIDING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Light Gage Metal Framing: Section 054000.

B. Rough Carpentry/Sheathing and Building Wrap: Section 061000.

1.02 REFERENCES

A. ASTM E72 - Standard Test Methods for Conducting Strength Tests of Panels for Building Construction.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

C. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.03 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013000 does not apply to this Section.

B. Product Data: Catalog sheets, specifications and installation instructions for each item specified.
   1. Construction details.
   2. Material descriptions.
   3. Dimensions of individual components and profiles.
   4. Finishes.

C. Samples:
   1. Samples for Initial Selection: For siding including related accessories.
   2. Samples for Verification: For each type, color, texture, and pattern required.
      a. 12 inch long by actual-width sample of siding.
      b. 12 inch long by actual-width samples of each type of trim and accessories.

D. Color Samples: Manufacturer's standard colors for siding.

E. Quality Control Submittals:
   1. Product Certificates: For each type of siding, from manufacturer.
   2. Manufacturer's Field Reports: Verification of existing conditions.

3. Installer's Qualifications Data:
    a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.
    b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.
4. Company Field Advisor Data:
    a. Name, business address and telephone number of Company Field Advisor secured for the required services.
    b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
    c. Services and each product for which authorization is given by the Company, listed specifically for this project.

F. Contract Closeout Submittals:
1. Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.
2. Warranty: Copy of specified Warranty.

1.04 QUALITY ASSURANCE

A. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.

B. Source Limitations: Obtain each type, color, texture, and pattern of siding, including related accessories, from a single source and from a single manufacturer.

C. Pre-Installation Conference: Before the siding Work is scheduled to commence, a conference will be held by the Director's Representative at the Site for the purpose of reviewing the Contract Documents and discussing requirements for the Work.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store materials flat and off the ground in a dry, well-ventilated, weather tight place.

1.06 PROJECT CONDITIONS

A. Environmental Requirements: Comply with manufacturer's printed recommendations regarding environmental conditions under which siding can be constructed.

1.07 COORDINATION

A. Coordinate installation with flashings and other adjoining construction to ensure proper sequencing.

1.08 WARRANTY

A. Manufacturer's Warranty: 30 year warranty for the siding.

1.09 MAINTENANCE

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Furnish full lengths of siding including related accessories, in a quantity equal to 2 percent of amount installed.

B. Maintenance Data: For each type of siding and related accessories to include in maintenance manuals.

PART 2 - PRODUCTS

2.01 MANUFACTURERS/COMPANIES

A. Cemplank, 10901 Elm Ave., Fontana, CA 92337, (877) 236-7526, www.cemplank.com.

B. CertainTeed Corporation, P.O. Box 860, Valley Forge, PA 19482, (800) 233-8990, . www.certainteed.com.

C. GAF Premium Products Inc., 440 Katherine Rd., Wind Gap, PA 18091, (610) 863-4101, www.GAF-Weatherside.com.

D. James Hardie USA/Canada, 26300 La Alameda, Suite 250, Mission Viejo, CA 92691, (888) 542-7343, www.jameshardie.com.

E. MaxiTile, Inc., 849 East Sandhill Ave., Carson, CA 90746, (800) 338-8453, www.maxitile.com.

F. Nichiha Fiber Cement, 6659 Peachtree Ind. Blvd. Suite AA, Norcross, GA 30092, (866) 424-4421, www.nichiha.com.

2.02 MATERIALS

A. Organic (wood) fibers mixed with Portland cement, fly ash, additives, and powdered rejects. Wood grains and architectural features pressed into surface.

2.03 FIBER-CEMENT SIDING

A. ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

B. Horizontal Pattern:
   1. Boards:
      a. 7 1/4 to 7 1/2 inches wide; 6 inch exposure.

2. Style:
   a. Plain.
3. Texture:
   a. Smooth.

C. Factory Priming: Manufacturer's standard acrylic primer.

2.04 ACCESSORIES

A. Siding Accessories: Starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
   1. Provide accessories made from same material as matching color and texture of adjacent siding unless otherwise indicated.

B. Decorative Accessories: Provide the following fiber-cement decorative accessories as indicated:
   1. Corner Posts:
      a. Plain.
   2. Door and Window Casings:
      a. Plain.
   3. Moldings and Trim.

C. Colors for Decorative Accessories:
   1. As selected by the Director’s Representative from manufacturer's full range of industry colors.

D. Flashing: Provide minimum 24 gage corrosion-resistant metal such as galvanized steel, stainless-steel, or copper at window and door heads and where indicated.

E. Fasteners:
   1. Stainless-steel fasteners.
   2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch, or three screw-threads, into stud substrate.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding and related accessories.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

3.03 INSTALLATION

A. Comply with siding manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
   1. Do not install damaged components.

B. Install fiber-cement siding and related accessories.
   1. Install fasteners (blind) no more than 24 inches o.c.

3.04 ADJUSTING AND CLEANING

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

3.05 FINISHING

A. Finish factory primed siding with a minimum of one coat of 100 percent acrylic or latex or oil based exterior grade paint within 180 days of installation. Follow paint manufacturer’s written product recommendation and written application instructions.

B. Use exterior grade sealant that complies with either ASTM C-834 for primed products or ASTM C-920 for finished products for all gaps that require filling with sealant. Follow the manufacturer’s written instructions for use.

C. Cover exposed field cut edges with sealant or primer.

D. Fill dents, chips, scratches, and similar defects with exterior grade patching compound or putty. Follow the manufacturer’s instructions.

3.06 PROTECTION

A. Apply heavy kraft paper or other heavy protective coating approved by the Director’s Representative, masked in place to prevent surface damage.

END OF SECTION

Revised 10-5-17

SECTION 078400

FIRESTOPPING

PART 1 GENERAL

1.01 REFERENCES

A. UL 1479 Fire Tests of Through-Penetration Firestops.

B. ASTM E 814 Method of Fire Tests of Through-Penetration Fire Stops.

1.02 DEFINITIONS

A. UL Fire Resistance Directory: Product directory published yearly, with supplements, by Underwriters Laboratories Inc., containing listings and classifications in effect as of the published date for product categories covered by UL.

B. Inchcape Directory of Listed Products: Product directory published yearly by Inchcape Testing Services containing listings which reflect certifications granted for materials, products, systems and equipment which have been tested by Inchcape Testing Services to recognized governing standards.

C. Omega Point Laboratories Listings Directory: Product Directory published yearly by Omega Point Laboratories, Inc. containing listed building products, materials, and assemblies which have been tested by Omega Point Laboratories to recognized governing standards.

D. Factory Mutual Approval Guide: Product directory published yearly, with supplements, by Factory Mutual Research Corp., containing listed building products, materials, and assemblies which have been tested by Factory Mutual Research Corp., to recognized governing standards.

E. F Rating: Prohibits flame passage through the system and requires acceptable hose stream test performance.

F. T Rating: Prohibits flame passage through the system and requires the maximum temperature rise on the unexposed surface of the wall or floor assembly, on the penetrating item and on the fill material not to exceed 325 degrees F above ambient, and requires acceptable hose stream test performance.

G. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and

servicing of the required products. Personnel involved solely in sales do not qualify.

1.03 DESIGN REQUIREMENTS

A. Devices and materials shall meet the hourly fire resistance ratings required by the Project as determined by UL 1479, or ASTM E 814 and be listed and detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   1. Exception: Where no listed designs exist that meet the requirements of a specific project condition, submit details and manufacturer's written recommendations for a design meeting the requirements. Include evidence of engineering judgement and extrapolation from listed designs.

1.04 SUBMITTALS

A. Submittals Package: Submit the following items specified below the same time as a package:
   1. Product Data.
   2. Samples.
   3. Quality Control Submittals.
   4. Firestop Schedule.

B. Product Data: Catalog sheets, specifications and installation instructions for each firestop device and material.
   1. Indicate design number for each firestop proposed to be used which is detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   2. State the specific locations where each firestop system is proposed to be installed.

C. Samples: One of each product if requested.

D. Quality Control Submittals:
   1. Design Data: Show details and include engineering information and manufacturer's written recommendations required under Design Requirements Article for each proposed firestop if other than a design detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
      a. State the specific locations where each firestop is proposed to be installed.
   2. Installer's Qualifications Data:
      a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.
      b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.

3. Company Field Advisor Data:
   a. Name, business address and telephone number of Company Field Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Company Field Advisor, and listing of services and each product specifically listed for this Project for which Company Field Advisor is given authorization by the Company to render advice.

E. Firestop Schedule: Submit schedule itemizing the following:
   1. Manufacturer's product reference numbers and/or drawing numbers.
   2. UL, Inchcape Testing Services, Factory Mutual Research Corp., or Omega Point Lab design number.
   3. Location of firestop material.
   4. Penetrating Item Description/Limits: Material, size, insulated or uninsulated, and combustibility.
   5. Maximum allowable annular space or maximum size opening.
   6. Wall type construction.
   7. Floor type construction.
   8. Hourly Fire resistance rating of wall or floor.
   9. F rating.
   10. T rating, if available.

NOTE: Firestop Schedule is for information only, and will not be acted on for approval. Refer to Sample Firestop Schedule bound in Appendix.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: The persons installing the firestopping and their supervisor shall be personally experienced in firestop work and shall have been regularly employed by a company installing firestopping for a minimum of 3 years.

B. Pre-Installation Conference: Before the firestop work is scheduled to commence, a conference will be called by the Director's Representative at the Site for the purpose of reviewing the Contract Documents and discussing requirements for the Work. The conference shall be attended by related trade Contractors (if any), their qualified firestopping installers, and associated firestopping manufacturer's Company Field Advisors.

C. Container/Package Labels: Include manufacturer's name and identifying product number, date of manufacturer, lot number, shelf life (if applicable), qualified testing and inspecting agency classification marking, curing time, and mixing instructions for multi-component materials.

D. Company Field Advisor: Secure the services of a Company Field Advisor for the following:
   1. Render advice regarding suitability of firestopping materials and methods.

2. Assist in completing firestop schedule.
3. Attend pre-installation conference.

E. Field-Constructed Sample Installations: Prior to installing firestopping, erect sample installations for each type through-penetration firestop system indicated in the Firestop Schedule to verify selections made and to establish standard of quality and performance by which the firestopping work will be judged.
1. Build sample installations to comply with the following requirements, using materials indicated for final installations.
   a. Locate sample installations on site at locations where directed.
   b. Obtain Director's Representative's acceptance of sample installations before start of firestopping installation.
   c. Retain and maintain sample installations during construction in an undisturbed condition.
   d. Accepted sample installations in an undisturbed condition at time of substantial completion of Project may become part of completed firestopping work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver firestopping materials to the Site in original, new unopened containers or packages bearing manufacturer's printed labels.

B. Store and handle firestopping materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, etc.

1.07 PROJECT CONDITIONS

A. Environmental Requirements:
1. Temperature: Do not install firestopping materials when ambient or substrate temperatures are outside limits permitted by manufacturer of firestopping materials.
2. Humidity and Moisture: Do not install the Work of this Section under conditions that are detrimental to the application, curing, and performance of the materials.
3. Ventilation: Provide sufficient ventilation wherever firestopping materials are installed in enclosed spaces. Follow manufacturer's recommendations.

1.08 SEQUENCING AND SCHEDULING

A. Leave exposed those firestopping installations that are to be concealed behind other construction until the Director's Representative has examined each installation.

PART 2 PRODUCTS

2.01 FIRESTOPPING-GENERAL

A. Through-Penetration Firestop Devices, Forming Materials, And Fill, Void or Cavity Materials: As listed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   1. For firestopping exposed to moisture, furnish products that do not deteriorate when exposed to this condition.
   2. For firestopping systems exposed to view, furnish products with flame-spread values of less than 25 and smoke developed values less than 50, as determined per ASTM E 84.

B. Accessories: Components required to install fill materials as recommended by the firestopping manufacturer for particular approved fire rated system.

C. Identification Labels:
   1. Furnished by fire stopping manufacturer of suitable material for permanent field identification of through-penetration firestops.
   2. Identify the following:
      a. "WARNING - FIRESTOP MATERIAL".
      b. Company Name.
      c. Product Catalog number.
      d. F rating.
      e. T rating, if available.
   3. Field fabricated labels are not acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine existing through-penetrations of floors, walls, partitions, ceilings and roofs in the Work areas.

B. Where firestopping is missing or not intact, submit a written report to the Director's Representative describing the existing conditions.

3.02 PREPARATION

A. Clean out openings immediately before installation of through-penetration firestopping. Comply with recommendations of firestopping manufacturer and the following requirements:
   1. Remove foreign materials from surfaces of openings, and from penetrating items that could interfere with adhesion of firestopping.
   2. Clean opening and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.

3. Remove laitance and form release agents from concrete.

B. Protection:
   1. Protect surfaces adjacent to through-penetration firestops with non-staining removable masking tape or other suitable covering to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or that would be caused by cleaning methods used to remove smears from firestopping materials.

C. Substrate Priming:
   1. Prime substrates in accordance with the firestopping manufacturer's printed installation instructions using recommended products and methods.
   2. Do not allow primer to spill or migrate onto adjoining exposed surfaces.

3.03 INSTALLATION OF THROUGH PENETRATION FIRESTOPS

A. Use through-penetration firestop devices, forming materials, and fill, void or cavity materials to form through-penetration firestops to prevent the passage of flame, and limit temperature rise of the unexposed surface as detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   1. Where applicable design is not detailed in the Directories, use forming materials and fill, void or cavity material to form through-penetration firestop in accordance with approved printed details and installation instructions from the company producing the forming materials and fill, void or cavity material.
   2. If the construction type(s) of the building cannot be determined, provide firestopping with fire resistance ratings as specified in the Building Code of New York State, Tables 720.1(1), 720.1(2), 720.1(3), and 302.3.2.

B. Provide through-penetration firestop systems with F ratings which shall equal or exceed the fire resistance rating of the penetrated building construction.

C. Provide through-penetration firestop systems with T ratings, in addition to F ratings, at floors where the following conditions exist:
   1. Where firestop systems protect penetrations located outside the wall cavities.
   2. Where firestop systems protect penetrations located outside fire resistive shaft enclosures.
   3. Through-penetration firestop systems protecting floor penetrations require a T-rating of at least 1 hour, but not less than the required floor fire-resistance rating.

D. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs.

E. Firestop through-penetrations associated with the new Work.

F. Firestop through-penetration of partitions identified on the Construction Work Drawings as smoke partitions and fire rated assemblies.

G. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs in accordance with the fire resistance rating assigned to the walls, partitions, floors, ceilings, and roofs on the Construction Work Drawings.

H. In areas where through-penetration items have been installed before the construction work, firestop the through-penetration items after the construction work has been completed. Furnish drawings or written information to the Construction Work Contractor covering the provisions to be made in the construction work to enable firestopping of the through-penetration items.

I. Permanently affix label at each firestop. Use adhesive compatible with surface construction at firestop location.

3.04 CLEANING

A. Clean off excess fill materials and sealants adjacent to penetrations by methods and cleaning materials recommended by manufacturers of firestopping products and of products in which penetrations occur.

B. Remove masking tape as soon as practical so as not to disturb the firestopping's bond with substrate.

C. Protect firestopping during and after curing period from contact with contaminating substances, or damage resulting from adjacent Work.

D. Cut out and remove damaged or deteriorated firestopping immediately, and install new materials as specified in firestop schedule.

END OF SECTION

Revised 10-5-17

SECTION 078400

FIRESTOPPING

PART 1 GENERAL

1.01 REFERENCES

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B. ASTM E 814 Method of Fire Tests of Through-Penetration Fire Stops.

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D. Factory Mutual Approval Guide: Product directory published yearly, with supplements, by Factory Mutual Research Corp., containing listed building products, materials, and assemblies which have been tested by Factory Mutual Research Corp., to recognized governing standards.

E. F Rating: Prohibits flame passage through the system and requires acceptable hose stream test performance.

F. T Rating: Prohibits flame passage through the system and requires the maximum temperature rise on the unexposed surface of the wall or floor assembly, on the penetrating item and on the fill material not to exceed 325 degrees F above ambient, and requires acceptable hose stream test performance.

G. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and

servicing of the required products. Personnel involved solely in sales do not qualify.

1.03 DESIGN REQUIREMENTS

A. Devices and materials shall meet the hourly fire resistance ratings required by the Project as determined by UL 1479, or ASTM E 814 and be listed and detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   1. Exception: Where no listed designs exist that meet the requirements of a specific project condition, submit details and manufacturer's written recommendations for a design meeting the requirements. Include evidence of engineering judgement and extrapolation from listed designs.

1.04 SUBMITTALS

A. Submittals Package: Submit the following items specified below the same time as a package:
   1. Product Data.
   2. Samples.
   3. Quality Control Submittals.
   4. Firestop Schedule.

B. Product Data: Catalog sheets, specifications and installation instructions for each firestop device and material.
   1. Indicate design number for each firestop proposed to be used which is detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   2. State the specific locations where each firestop system is proposed to be installed.

C. Samples: One of each product if requested.

D. Quality Control Submittals:
   1. Design Data: Show details and include engineering information and manufacturer's written recommendations required under Design Requirements Article for each proposed firestop if other than a design detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
      a. State the specific locations where each firestop is proposed to be installed.
   2. Installer's Qualifications Data:
      a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.
      b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.

3. Company Field Advisor Data:
   a. Name, business address and telephone number of Company Field Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Company Field Advisor, and listing of services and each product specifically listed for this Project for which Company Field Advisor is given authorization by the Company to render advice.

E. Firestop Schedule: Submit schedule itemizing the following:
   1. Manufacturer's product reference numbers and/or drawing numbers.
   2. UL, Inchcape Testing Services, Factory Mutual Research Corp., or Omega Point Lab design number.
   3. Location of firestop material.
   4. Penetrating Item Description/Limits: Material, size, insulated or uninsulated, and combustibility.
   5. Maximum allowable annular space or maximum size opening.
   6. Wall type construction.
   7. Floor type construction.
   8. Hourly Fire resistance rating of wall or floor.
   9. F rating.
   10. T rating, if available.

NOTE: Firestop Schedule is for information only, and will not be acted on for approval. Refer to Sample Firestop Schedule bound in Appendix.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: The persons installing the firestopping and their supervisor shall be personally experienced in firestop work and shall have been regularly employed by a company installing firestopping for a minimum of 3 years.

B. Pre-Installation Conference: Before the firestop work is scheduled to commence, a conference will be called by the Director's Representative at the Site for the purpose of reviewing the Contract Documents and discussing requirements for the Work. The conference shall be attended by related trade Contractors (if any), their qualified firestopping installers, and associated firestopping manufacturer's Company Field Advisors.

C. Container/Package Labels: Include manufacturer's name and identifying product number, date of manufacturer, lot number, shelf life (if applicable), qualified testing and inspecting agency classification marking, curing time, and mixing instructions for multi-component materials.

D. Company Field Advisor: Secure the services of a Company Field Advisor for the following:
   1. Render advice regarding suitability of firestopping materials and methods.

2. Assist in completing firestop schedule.
3. Attend pre-installation conference.

E. Field-Constructed Sample Installations: Prior to installing firestopping, erect sample installations for each type through-penetration firestop system indicated in the Firestop Schedule to verify selections made and to establish standard of quality and performance by which the firestopping work will be judged.
1. Build sample installations to comply with the following requirements, using materials indicated for final installations.
   a. Locate sample installations on site at locations where directed.
   b. Obtain Director's Representative's acceptance of sample installations before start of firestopping installation.
   c. Retain and maintain sample installations during construction in an undisturbed condition.
   d. Accepted sample installations in an undisturbed condition at time of substantial completion of Project may become part of completed firestopping work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver firestopping materials to the Site in original, new unopened containers or packages bearing manufacturer's printed labels.

B. Store and handle firestopping materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, etc.

1.07 PROJECT CONDITIONS

A. Environmental Requirements:
1. Temperature: Do not install firestopping materials when ambient or substrate temperatures are outside limits permitted by manufacturer of firestopping materials.
2. Humidity and Moisture: Do not install the Work of this Section under conditions that are detrimental to the application, curing, and performance of the materials.
3. Ventilation: Provide sufficient ventilation wherever firestopping materials are installed in enclosed spaces. Follow manufacturer's recommendations.

1.08 SEQUENCING AND SCHEDULING

A. Leave exposed those firestopping installations that are to be concealed behind other construction until the Director's Representative has examined each installation.

PART 2 PRODUCTS

2.01 FIRESTOPPING-GENERAL

A. Through-Penetration Firestop Devices, Forming Materials, And Fill, Void or Cavity Materials: As listed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
   1. For firestopping exposed to moisture, furnish products that do not deteriorate when exposed to this condition.
   2. For firestopping systems exposed to view, furnish products with flame-spread values of less than 25 and smoke developed values less than 50, as determined per ASTM E 84.

B. Accessories: Components required to install fill materials as recommended by the firestopping manufacturer for particular approved fire rated system.

C. Identification Labels:
   1. Furnished by fire stopping manufacturer of suitable material for permanent field identification of through-penetration firestops.
   2. Identify the following:
      a. "WARNING - FIRESTOP MATERIAL".
      b. Company Name.
      c. Product Catalog number.
      d. F rating.
      e. T rating, if available.
   3. Field fabricated labels are not acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine existing through-penetrations of floors, walls, partitions, ceilings and roofs in the Work areas.

B. Where firestopping is missing or not intact, submit a written report to the Director's Representative describing the existing conditions.

3.02 PREPARATION

A. Clean out openings immediately before installation of through-penetration firestopping. Comply with recommendations of firestopping manufacturer and the following requirements:
   1. Remove foreign materials from surfaces of openings, and from penetrating items that could interfere with adhesion of firestopping.
   2. Clean opening and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.

3. Remove laitance and form release agents from concrete.

B. Protection:
1. Protect surfaces adjacent to through-penetration firestops with non-staining removable masking tape or other suitable covering to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or that would be caused by cleaning methods used to remove smears from firestopping materials.

C. Substrate Priming:
1. Prime substrates in accordance with the firestopping manufacturer's printed installation instructions using recommended products and methods.
2. Do not allow primer to spill or migrate onto adjoining exposed surfaces.

3.03 INSTALLATION OF THROUGH PENETRATION FIRESTOPS

A. Use through-penetration firestop devices, forming materials, and fill, void or cavity materials to form through-penetration firestops to prevent the passage of flame, and limit temperature rise of the unexposed surface as detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
1. Where applicable design is not detailed in the Directories, use forming materials and fill, void or cavity material to form through-penetration firestop in accordance with approved printed details and installation instructions from the company producing the forming materials and fill, void or cavity material.
2. If the construction type(s) of the building cannot be determined, provide firestopping with fire resistance ratings as specified in the Building Code of New York State, Tables 720.1(1), 720.1(2), 720.1(3), and 302.3.2.

B. Provide through-penetration firestop systems with F ratings which shall equal or exceed the fire resistance rating of the penetrated building construction.

C. Provide through-penetration firestop systems with T ratings, in addition to F ratings, at floors where the following conditions exist:
1. Where firestop systems protect penetrations located outside the wall cavities.
2. Where firestop systems protect penetrations located outside fire resistive shaft enclosures.
3. Through-penetration firestop systems protecting floor penetrations require a T-rating of at least 1 hour, but not less than the required floor fire-resistance rating.

D. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs.

E. Firestop through-penetrations associated with the new Work.

F. Firestop through-penetration of partitions identified on the Construction Work Drawings as smoke partitions and fire rated assemblies.

G. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs in accordance with the fire resistance rating assigned to the walls, partitions, floors, ceilings, and roofs on the Construction Work Drawings.

H. In areas where through-penetration items have been installed before the construction work, firestop the through-penetration items after the construction work has been completed. Furnish drawings or written information to the Construction Work Contractor covering the provisions to be made in the construction work to enable firestopping of the through-penetration items.

I. Permanently affix label at each firestop. Use adhesive compatible with surface construction at firestop location.

3.04 CLEANING

A. Clean off excess fill materials and sealants adjacent to penetrations by methods and cleaning materials recommended by manufacturers of firestopping products and of products in which penetrations occur.

B. Remove masking tape as soon as practical so as not to disturb the firestopping's bond with substrate.

C. Protect firestopping during and after curing period from contact with contaminating substances, or damage resulting from adjacent Work.

D. Cut out and remove damaged or deteriorated firestopping immediately, and install new materials as specified in firestop schedule.

END OF SECTION

Revised 10-5-17

SECTION 088100

GLASS AND GLAZING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Security Glass and Glazing: Section 088853.

1.02 REFERENCES

A. Comply with recommendations in the "Glazing Manual" of the Glass Association of North America and the "Sealant Manual" of the Flat Glass Marketing Association except as shown or specified otherwise, and except as specifically recommended otherwise by the manufacturers of the glass and glazing materials.

1.03 SUBMITTALS

A. Product Data: Manufacturer's specifications and installation instructions for each type of glass and glazing material specified, and spacers and compressible filler rod.

B. Samples:
   1. Glass: 12 x 12 inch pieces for each type of glass specified.
      a. Insulating glass samples need not be hermetically sealed, but include edge construction materials.
   2. Setting blocks, full size.
   3. Color Samples for Glazing Materials: Manufacturer's standard colors.
      a. Marking Decals: Manufacturer's standard colors.

C. Quality Control Submittals:
   1. Certificates:
      a. Affidavit required under Quality Assurance Article.

1.04 QUALITY ASSURANCE

A. Compatibility of Materials: All components of the glazing system shall be manufactured or recommended by one manufacturer to assure the compatibility of materials.

B. Safety Glazing Material: Type indicated, meeting requirements of ANSI Z97.1 with label on each piece.

C. Certification:
1. Affidavit by the material supplier, certifying type and quality of glass furnished.

D. Field Example and Mock-Up:
1. Provide full size mock-up of glazed-in metal panel and full opening metal panel. Upon completion and approval, the panels may be used in the Work.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect glass from edge damage during handling, storage, and installation.

1.06 PROJECT CONDITIONS

A. Environmental Requirements: Comply with glazing materials manufacturer's written recommendations regarding environmental conditions under which glazing materials can be installed.

B. Glazing channel dimensions shown are intended to provide for necessary minimum bite on the glass, minimum edge clearance and adequate glazing material thicknesses, with reasonable tolerances. Provide correct glass size for each opening, within the tolerances and necessary dimensions required.

PART 2 PRODUCTS

2.01 GLASS

A. Type G Glass: Clear Fire-Rated Glass (No Wire): Fire Lite distributed by Technical Glass Products, 5525 Lake View Dr., Kirkland, WA 98033.
1. Surface Condition: Premium (polished surfaces).
2. Classification Mark Location: Lower right corner.

2.02 GLAZING MATERIALS

A. Type 14 Glazing Material: Pure silicone caulk, closed cell PVC tape, or DAP 33 putty as recommended by Technical Glass Products to comply with U.L. Listing.

B. Colors: For exposed materials provide color as indicated or, if not indicated, as selected by the Director from the manufacturer's standard colors. For concealed materials, provide any of the manufacturer's standard colors.

C. Setting Blocks: Neoprene, 70-90 durometer hardness, with proven compatibility with sealants used.

D. Spacers: Neoprene, 40-50 durometer hardness, with proven compatibility with glazing materials used.

E. Compressible Filler Rod: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with glazing materials

used, flexible and resilient, with 5-10 psi compression strength for 25 percent deflection.

F. Cleaners, Primers and Sealers: Type recommended by glazing material manufacturer.

2.03 MISCELLANEOUS

A. Safety Marking Decals: Opaque decals, 4 inch diameter, color as selected by the Director from manufacturer's standard colors.

B. Decorative Film: Translucent, dimensionally stable, cast PVC film, 2-mil-minimum thickness, with pressure-sensitive, clear adhesive back for adhering to glass and releasable protective backing.
   1. Manufacturer: Provide products by 3M, Avery Dennison Graphics, or FDC Graphic Films, Inc.

C. Glazed in Metal Panels: 8 ply Metal Infill Panels: Metal skins laminated to stabilizer impact resistant layer with a polyisocyanurate insulation, for installation in glazing pocket.
   1. Exterior Skin: Smooth Aluminum
   2. Exterior Substrate: Cement board
   3. Exterior Core: Polyisocyanurate insulation.
   4. Secondary Exterior Substrate: Hardboard
   5. Secondary Skin: Smooth Aluminum
   6. Interior Core: Polyisocyanurate insulation.
   7. Interior Substrate: Cement board
   8. Interior Skin: Smooth Aluminum
   9. Overall Panel Thickness – 2”
   10. Glazing Pocket Depth: 1” - verify in field
   11. Finish: Kynar – both faces
   12. Manufacturer: Mapes, or equal.

D. Full Opening Metal Panels: Formed Edge Metal Panels: Metal skins laminated to stabilizer impact resistant layer with a polyisocyanurate insulation, for installation in glazing pocket.
   1. Exterior Skin: Smooth Aluminum
   2. Exterior Substrate: Cement board
   3. Core: Polyisocyanurate insulation.
   4. Interior Substrate: Cement board
   5. Interior Skin: Smooth Aluminum
   6. Overall Panel Thickness – 2”
   7. Edge: Wrapped with face material
   8. Finish: Kynar – both faces
   9. Manufacturer: Mapes, or equal.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean the glazing channel, or other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to the substrate. Remove lacquer from metal surfaces wherever elastomeric sealants are used.

B. Inspect each piece of glass immediately before installation, and eliminate pieces which have observable damage or face imperfections.

C. Apply primer or sealer to joint surfaces wherever recommended by sealant manufacturer.

3.02 INSTALLATION

A. Each installation shall withstand normal temperature changes, wind loading, and impact loading (for operating sash and doors) without failure of any kind including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the Work.

B. Install glass in accordance with the standards detailed in the "Glazing Manual" of the Glass Association of North America and the "Sealant Manual" of the Flat Glass Marketing Association except as shown and specified otherwise, and except as specifically recommended otherwise by the manufacturers of the glass and glazing materials.

C. Unify appearance of each series of lights by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, draw and bow oriented in the same direction as other pieces.

D. Install glazing materials in accordance with the manufacturer's printed instructions.

E. Apply cap bead of Sealant Type 6 at interior and exterior intersection of glazing and frame.

3.03 GLAZING

A. Install setting blocks of proper size at quarter points of sill rabbet. If required to keep in place set blocks in thin course of the heel-bead compound.

B. Provide spacers inside and out, and of proper size and spacing, for all glass sizes larger than 50 united inches, except where gaskets are used for glazing. Provide 1/8 inch minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

C. Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in the channel at the heel of jambs and head (do not leave voids in the sill channels) except as otherwise indicated, depending on light sizes, thickness and type of glass, and complying with manufacturer's recommendations.

D. Do not cut, seam, nip, or abrade glass which is tempered, heat strengthened, or coated.

E. Force glazing materials into channel to eliminate voids and to ensure complete "wetting" or bond of glazing material to glass and channel surfaces.

F. Tool exposed surfaces of glazing sealants and compounds to provide a substantial "wash" away from the glass. Install pressurized tapes and gaskets to protrude slightly out of the channel, so as to eliminate dirt and moisture pockets.

G. Apply decorative film at interior surface of door and window locations indicated. Comply with film manufacturer's written application recommendations.

3.04 CURE, PROTECTION AND CLEANING

A. Cure glazing materials in accordance with manufacturer's printed instructions and recommendations, to obtain high early bond strength, internal cohesive strength, and surface durability.

B. Mark glazed openings immediately upon installation of glass by attaching crossed streamers to framing. Do not apply markers of any type to surfaces of glass.

C. Replace glass included in the work which is broken, or otherwise damaged, from the time Work is started at the site until the date of physical completion.

D. Maintain glass in a reasonably clean condition until date of physical completion.
1. Clean and trim excess glazing material from the glass and stops or frames promptly after installation.

E. When directed, or just before the project is turned over to the State, remove dirt and other foreign material and wash and polish glass included in the work on both sides.

3.05 MARKING DECALS

A. Install two marking decals on each transparent glass door, and on each transparent glass sidelight which is wider than 20 inch between stiles. Locate decals midway between stiles 34 inch and 64 inch above the floorline.

END OF SECTION

Revised 10-5-17

SECTION 099101

CONSTRUCTION PAINTING

PART 1 GENERAL

1.01 DEFINITIONS

A. The word "paint" in this Section refers to substrate cleaners, fillers, sealers, primers, undercoats, enamels and other first, intermediate, last or finish coatings.

B. The word "primer" in this Section refers to substrate cleaners, fillers, sealers, undercoats, and other first or intermediate coats beneath the last or finish coating.

C. The words "finish paint" in this Section refers to the last or final coat and previous coats of the same material or product directly beneath the last or final coat.

D. Finish Paint Systems: Finish paint and primers applied over the same substrate shall be considered a paint system of products manufactured or recommended by the finish coat manufacturer.
   1. Finish paint products shall meet or exceed specified minimum physical properties.

1.02 SUBMITTALS

A. Painting Schedule: Cross-referenced Painting Schedule listing all exterior and interior substrates to be painted and specified finish paint type designation; product name and manufacturer, recommended primers and product numbers, and finish paint color designation for each substrate to be painted.
   1. Designate exterior substrates by building name and number, substrate to be painted and surface location.
   2. Designate interior substrates by building name and number, floor, room name and number, and surface to be painted.

B. Product Data Sheets: Manufacturer's published product data sheets describing the following for each finish paint product to be applied:
   1. Percent solids by weight and volume, solvent, vehicle, weight per gallon, ASTM D 523 gloss/reflectance angle, recommended wet and dry film thickness, volatile organic compound (VOC) content in lbs/gallon, product use limitations and environmental restrictions, substrate surface preparation methods, directions and precautions for mixing and thinning, recommended application methods, square foot area coverage per gallon, storage instructions, and shelf-life expiration date.
   2. Manufacturer's recommended primer for each finish paint product and substrate to be painted.

3. Manufacturer's complete range of available colors for each finish paint product to be applied.

C. Finish Paint Type Samples: Two finish paint samples applied over recommended primers for each substrate to be painted.
   1. Samples shall be in the designated color and specified ASTM D 523 reflectance.
   2. Label each sample with the following information:
      a. Project number and Painting Schedule designation describing substrates and locations represented by the sample.
      b. Finish paint and primer manufacturer, product names and numbers, finish paint color and reflectance.
   3. Leave a 1 inch wide exposed strip of unpainted substrate and each coat of primer and finish paint.
   4. Sample Sizes:
      a. Wall, Ceiling, and Floor Substrates: 12 inch square panels.
      b. Concrete and Concrete Masonry Unit Substrates: 4 inch square blocks.
      c. Sheet Metals: 4 inch by 8 inch flat sheets.
      d. Bar and Tubular Metals: 8 inch long bars or tubular stock.

D. Quality Control Submittals:
   1. Test Reports: Furnish certified test results from an independent testing laboratory, showing that products submitted comply with the specifications, when requested by the Director's Representative
   2. Certificates: Furnish certificates of compliance required under QUALITY ASSURANCE Article.

1.03 QUALITY ASSURANCE

A. Volatile Organic Compounds (VOCs) Regulatory Requirements: Chapter III of Title 6 of the official compilation of Codes, Rules and Regulations of the State of New York (Title 6 NYCRR), Part 205 Architectural Surface Coatings.
   1. Certificate of Compliance: List of each paint product to be delivered and installed. List shall include written certification stating that each paint product listed complies with the VOC regulatory requirements in effect at the time of job site delivery and installation.

B. Container Labels: Label each product container with paint manufacturer's name, product name and number, color name and number, thinning and application instructions, date of manufacture, shelf-life expiration date, required surface preparations, recommended coverage per gallon, wet and dry film thickness, drying time, and clean up procedures.

C. Field Examples:
   1. Prior to on-site painting, at locations designated by the Director's Representative, apply field examples of each paint type to be applied.
   2. Field examples to be applied on actual substrates to be painted and shall duplicate earlier approved paint samples.

a. Interior field examples to be applied in rooms and spaces to be painted with the same products.
b. Field Example Minimum Wet and Dry Film Thickness: As indicated on approved product data sheet.
c. Application: Apply each coat in a smooth uniform wet mil thickness without brush marks, laps, holidays, runs, stains, cloudiness, discolorations, nail holes and other surface imperfections.
1) Leave a specified exposed width of each previous coat beneath each subsequent coat of finish paint and primer.
d. Use of Field Examples: Field examples shall serve as a quality control standard for acceptance or rejection of painting Work to be done under this Section.

3. Field Example Sizes:
a. Floor, Wall, and Ceiling Examples: 200 square feet with 2 foot wide strips.
b. Door and Frame Examples: One door and frame with 12 inch wide horizontal strips.
c. Linear Substrate Examples: 20 lineal feet with 12 inch long strips.

4. Do not begin applying paints represented by field examples until examples have been reviewed and approved by the Director's Representative.
a. Protect and maintain approved field examples until all painting work represented by the example has been completed and approved.

D. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to the Site in original, unopened containers and cartons bearing manufacturer's printed labels. Do not deliver products which have exceeded their shelf life, are in open or damaged containers or cartons, or are not properly labeled as specified.

B. Storage and Handling: Store products in a dry, well ventilated area in accordance with manufacturer's published product data sheets. Storage location shall have an ambient air temperature between 45 degrees F and 90 degrees F.

1.05 PROJECT CONDITIONS

A. Environmental Requirements:
1. Ambient Air Temperature, Relative Humidity, Ventilation, and Surface Temperature: Comply with paint manufacturer's published product data sheet or other printed product instructions.
2. If paint manufacturer does not provide environmental requirements, use the following:

a. Ambient Air Temperature: Between 45 degrees F and .75 degrees F.
b. Relative Humidity: Below 75 percent.
c. Ventilation: Maintain the painting environment free from fumes and odors throughout the Work of this Section.
d. Surface Temperature: At least 5 degrees F above the surface dewpoint temperature.

3. Maintain environmental requirements throughout the drying period.

B. The following items are not to be painted unless otherwise specified, noted or directed:
1. Exposed stainless steel, chrome, copper, bronze, brass, and aluminum.
2. Steel to be encased in cast-in-place concrete.
3. Top flanges of structural beams and girders in composite concrete-steel construction.
4. Factory prefinished items.
5. Exposed structural wood floor joists, subflooring, rafters, roof sheathing and other framing lumber.
6. Galvanized items not exposed in finished spaces.

1.06 EXTRA MATERIALS

A. Provide extra finish paint materials, from the same production run as paints to be applied, in the following quantities for each color installed:
1. Paint Type EAL-1 and IAL-1: Four gallons each type.
2. Paint Types EAL-2 and IAL-2: Two gallons, each type.
3. Other Paint Types: One gallon, each type.

PART 2 PRODUCTS

2.01 PAINT MANUFACTURERS

A. Where noted, the following finish paint manufacturers produce the paint types specified.
1. Ameron Protective Coatings, 201 Berry St., Brea, CA 92621, (800) 926-3766.
2. Benjamin Moore and Co., 51 Chestnut Ridge Rd., Montvale, NJ 07645, (201) 573-9600.
3. ICI Dulux Paints, 4000 Dupont Cr., Louisville, KY 40207, (800) 984-5444.
4. Inorganic Coatings, Inc., 500 Lapp Rd., Malvern, PA 19355 (800) 345-0531.
5. PPG Architectural Finishes, One PPG Plaza, Pittsburgh, PA 15272, (800) 441-9695.
6. Sherwin-Williams Co., Cleveland, OH 44101, (800) 321-8194.
7. Valspar Corp., 1401 Severn St., Baltimore, MD 21230, (800) 638-7756.
8. Wm. Zinsser & Co., 39 Belmont Dr., Somerset, NJ 08875-1285, (908) 469-8100.

2.02 MISCELLANEOUS PRODUCTS

A. Bedding Compound: Water based pre-mixed gypsum wallboard joint compound.

B. Cleaning Solvents: Low toxicity with flash point in excess of 100 degrees F.

C. Color Pigments: Pure, nonfading, finely ground pigments with at least 99 percent passing a 325 mesh sieve.
   1. Use lime-proof color pigments on masonry, concrete and plaster.
   2. Use exterior pigments in exterior paints.

D. Galvanizing Compound, Cold: Single component compound with 93 percent pure zinc in the dried film and meeting the requirements of DOD-P-21035A (NAVY).

E. Glazing Compound: ASTM C 669.

F. Masking Tape: Removable paper or fiber tape, self-adhesive and nonstaining.

G. Metal Filler: Polyester resin base autobody filler.

H. Mineral Spirits: Low odor type recommended by finish paint manufacturer.

I. Nonskid Deck Enamel Additive: Sid Tex by Gamma Labs, Inc., 840 Arroyo Ave., San Fernando, CA, 91340-1832, (818) 369-7500.

J. Paint Stripper: As recommended by finish paint manufacturer.

K. Spackling Compound: Water based pre-mixed plaster and gypsum wallboard finishing compound.

L. Stain Blocker, Primer-Sealer: As recommended by finish paint manufacturer.

M. Turpentine: ASTM D 13.

N. Wood Putty: Water based pre-mixed wood filler.
   1. Color match putty to wood substrate beneath clear and semi-transparent finishes.

O. Wood Substrate Cleaner, Brightener, Conditioner, and Open-grain Sealer: As recommended by finish paint manufacturer.

2.03 FINISH PAINT TYPES

A. Physical Properties:
   1. Specified percent solids by weight and volume, pigment by weight, wet and dry film thickness per coat, and weight per gallon are minimum physical properties of acceptable materials.

a. Opaque Pigmented Paints: Physical properties specified are for white titanium dioxide base before color pigments are added.
b. Specified minimum wet and dry film thickness per coat are for determining acceptable finish paint products. Minimum wet and dry film thickness per coat to be applied shall comply with approved finish paint manufacturer's product data sheets.

2. Gloss or Reflectance: The following ASTM D 523 specified light levels and angles of reflectance:
   a. Flat: Below 15 at 85 degrees.
   b. Eggshell: Between 5 and 20 at 60 degrees.
   c. Satin: Between 15 and 35 at 60 degrees.
   d. Semigloss: Between 30 and 65 at 60 degrees.
   e. Gloss: Over 65 at 60 degrees.

B. Exterior Finish Paint Types:
1. Paint Type EAL-2: Exterior Acrylic Latex, Semigloss Enamel.
   a. Solids by Weight: 47.0 percent.
   b. Solids by Volume: 33.2 percent.
   c. Solvent: Water.
   d. Vehicle: 100 percent acrylic resin.
   e. Weight Per Gallon: 10.0 lbs.
   f. Wet Film Thickness: 4.0 mils.
   g. Dry Film Thickness: 1.3 mils.
   h. Manufacturers: ICI Dulux, PPG, Sherwin-Williams.
2. Paint Type EAL-3: Exterior Acrylic Latex, Gloss Enamel.
   a. Solids by Weight: 40.0 percent.
   b. Solids by Volume: 32.0 percent.
   c. Solvent: Water.
   d. Vehicle: 100 percent acrylic resin.
   e. Weight Per Gallon: 10.0 lbs.
   f. Wet Film Thickness: 3.4 mils.
   g. Dry Film Thickness: 1.2 mils.
   h. Manufacturers: Benjamin Moore, PPG, Sherwin- Williams.
3. Paint Type EAL-4: Waterbased Alkyd Urethane Gloss Enamel.
   a. Solids by Weight: 47.0 percent.
   b. Solids by Volume: 34.0 percent.
   c. Solvent: Water.
   d. Vehicle: urethane Modified alkyd resin resin.
   e. Weight Per Gallon: 10.0 lbs min.
   f. Wet Film Thickness: 4 mils.
   g. Dry Film Thickness: 1.4 mils.
   h. Manufacturers: Benjamin Moore, PPG, Sherwin- Williams.
4. Paint Type ESP: Exterior Steel Zinc-Rich Primer, Flat.
   a. Solids by Weight: 79.0 percent.
   b. Solids by Volume: 68.0 percent.
   c. Pigment by Weight: 90.0 percent zinc.
   d. Solvent: Water.
   e. Weight per Gallon: 24.6 lbs.
   f. Dry Film Thickness: 3.0 mils if finish coated, 4.0 mils if not finish coated.

g. Manufacturers: Ameron Protective Coatings, Inorganic Coatings, Valspar.

C. Interior Finish Paint Types:

1. Paint Type IAL-1: Interior Acrylic Latex, Flat.
   a. Solids by Weight: 50.0 percent.
   b. Solids by Volume: 32.0 percent.
   c. Solvent: Water.
   d. Vehicle: Vinyl acrylic resin.
   e. Weight Per Gallon: 10.9 lbs.
   f. Wet Film Thickness: 3.8 mils.
   g. Dry Film Thickness: 1.3 mils.
   h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
2. Paint Type IAL-2: Interior Acrylic Latex, Eggshell.
   a. Solids by Weight: 51.0 percent.
   b. Solids by Volume: 35.0 percent.
   c. Solvent: Water.
   d. Vehicle: Vinyl acrylic resin.
   e. Weight Per Gallon: 11.0 lbs.
   f. Wet Film Thickness: 3.8 mils.
   g. Dry Film Thickness: 1.3 mils.
   h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
3. Paint Type IAL-3: Interior Acrylic Latex, Semigloss Enamel.
   a. Solids by Weight: 49.0 percent.
   b. Solids by Volume: 35.0 percent.
   c. Solvent: Water.
   d. Vehicle: Vinyl acrylic resin.
   e. Weight Per Gallon: 10.0 lbs.
   f. Wet Film Thickness: 3.8 mils.
   g. Dry Film Thickness: 1.2 mils.
   h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
4. Paint Type IAL-4: Interior Acrylic Latex, Gloss Enamel.
   a. Solids by Weight: 40.0 percent.
   b. Solids by Volume: 32.0 percent.
   c. Solvent: Water.
   d. Vehicle: Vinyl acrylic resin.
   e. Weight Per Gallon: 10.0 lbs.
   f. Wet Film Thickness: 3.4 mils.
   g. Dry Film Thickness: 1.2 mils.
   h. Manufacturers: Benjamin Moore, PPG, Sherwin-Williams.
5. Paint Type ISP: Interior Steel Primer, Flat.
   a. Solids by Weight: 72.0 percent.
   b. Solids by Volume: 52.0 percent.
   c. Vehicle: Alkyd resin.
   d. Weight Per Gallon: 11.4 lbs.
   e. Wet Film Thickness: 3.0 mils.
   f. Dry Film Thickness: 1.5 mils.
   g. Manufacturers: PPG, Sherwin-Williams, Valspar.

6. Paint Type IAL-5 Acrylic Concrete Sealer, Satin.
    a. Solids by Weight: 23.0 percent.
    b. Solids by Volume: 21.0 percent.
    c. Solvent: Water.
    d. Vehicle: Vinyl acrylic resin.
    e. Weight Per Gallon: 8.5 lbs.
    f. Wet Film Thickness: 4.0 mils.
    g. Dry Film Thickness: 0.92 mils.
    h. Manufacturers: Benjamin Moore, PPG, Sherwin-Williams.

D. Colors: Provide paint colors either shown on contract drawings or to be selected by the Director from finish paint manufacturers available color selections.
    1. Approved finish paint manufacturers to match designated colors of other manufacturers where colors are shown on contract documents.
    2. Safety Colors: Industry Standard ANSI Safety Colors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be prepared, primed, or painted for compliance with contract documents, required environmental conditions, manufacturer's product data sheets, product label instructions and other written requirements.
    1. Do not begin any phase of the work without first checking and verifying that surfaces and environmental conditions are acceptable for such work and that any earlier phase deficiencies and discrepancies have been properly corrected.
        a. The commencement of new work shall be interpreted to mean acceptance of surfaces to be affected.

3.02 PREPARATION

A. Protection: Cover and protect surfaces to be painted, adjacent surfaces not to be painted, and removed furnishings and equipment from existing paint removals, airborne sanding particles, cleaning fluids and paint spills using suitable drop cloths, barriers and other protective devices.
    1. Adjacent exterior surface protections include roofs, walls, landscaping, driveways and walkways. Interior protections include floors, walls, furniture, furnishings and electronic equipment.
    2. Remove and replace removable hardware, lighting fixtures, telephone equipment, other devices and cover plates over concealed openings in substrates to be painted.
        a. Cover and neatly mask permanently installed hardware, lighting fixtures, cover plates and other devices which cannot be removed and are not scheduled for painting.
    3. Schedule and coordinate surface preparations so as not to interfere with work of other trades or allow airborne sanding dust particle to fall on freshly painted surfaces.

4. Provide adequate natural or mechanical ventilation to allow surfaces to be prepared and painted in accordance with product manufacturer's instructions and applicable regulations.
5. Provide and maintain "Wet Paint" signs, temporary barriers and other protective devices necessary to protect prepared and freshly painted surfaces from damages until Work has been accepted.

B. Clean and prepare surfaces to be painted in accordance with specifications, paint manufacturer's approved product data sheets and printed label instructions. In the event of conflicting instructions or directions, the more stringent requirements shall apply.
1. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue.

C. Surfaces:
1. Existing Exterior Painted Surfaces: Thoroughly clean to remove dirt, soot, grease, mildew, chalkiness and stains using finish paint manufacturer's recommended spray-on liquid cleaner.
   a. Apply cleaner using hand-held wand applicator in accordance with product manufacturer's instructions. Thoroughly rinse and remove all residue with clean water.
   b. Remove loose, peeling, cracked and blistered paint by chipping, scraping, and sanding smooth with medium and fine sandpaper.
   c. Fill surface holes and depressions with finish paint manufacturer's recommended filler and sand smooth to adjacent undisturbed edges.
   d. Touch-up bare spots on previously painted surfaces with finish paint manufacturer's recommended primer.
   e. Sand existing semigloss and gloss paint surfaces to a uniform smooth dull finish before painting.
   f. Fill and sand smooth existing paint surface damages, depressions, ridges and other imperfections that will remain visible after new paints have been applied.
2. Concrete:
   a. Allow three months for poured concrete to dry before painting.
   b. Remove form release agents, laitance, efflorescence, dirt, grease, oils, slurry, chalk deposits, and other surface contaminants using a high-pressure power wash. Usemildewcide solution if mildew is present.
   c. Remove any remaining efflorescence by dampening surface with water and scrubbing with a 5 percent solution of muriatic acid. Rinse with clean water, neutralize with ammonia, rinse and allow to dry.
   d. Vacuum surface clean before painting.
   e. Sandblast to remove any existing deteriorated paint films, curing compounds, concrete sealers, and other substances that may prevent primer adhesion.
   f. Chip and grind surface projections smooth to adjacent surfaces.

g. Open concealed voids and cracks, remove cement slurry by wire-brushing to expose clean aggregate substrate, and chip out surface honeycomb pockets to allow a neat cementitious patch with square corners and a uniform thickness.

h. Inspect surfaces to be painted for exposed or rusted steel reinforcement and contact Director's Representative for a survey of damages to be repaired before substrate can be painted. Do not paint over exposed steel reinforcement without first repairing both deteriorated reinforcement and protective coating.

i. Use an electronic meter to determine moisture content compliance with finish paint manufacturer's recommendations.

3. Concrete Masonry Units:
   a. Allow two months for mortar joints to dry before painting.
   b. Remove severe laitance, efflorescence, dirt, grease, slurry, chalk deposits and other surface contaminants using a low-pressure power wash. Use mildewcide solution if mildew is present.
   c. Remove less severe surface contaminants and contaminant residues by dampening surface with water and scrubbing with a 10 percent solution of muriatic acid.
4. Existing Structural Steel, Metal Decks and Stairs:
   a. Prepare existing steel to be painted by cleaning in accordance with Structural Steel Painting Council (SSPC) standards:
      2) SSPC-SP2: Remove loose rust, mill scale, and paint to the degree specified by hand chipping, scraping, sanding, and wire-brushing.
   b. Inspect for exposed or rusted steel reinforcement and contact Director's representative for an on-site survey of repairs to made before painting. Do not paint over exposed steel reinforcement without first repairing both deteriorated reinforcement and protective concrete covering.
5. Galvanized Metal:
   a. Allow new galvanized surfaces to weather as long as possible before cleaning. Remove surface contaminants using clean rags and petroleum spirits.
   b. Remove "white rust" using appropriate solvent and, if necessary, wire brushing or sanding.
   c. Use appropriate Structural Steel Painting Council Standard SSPC-SP1 to SSPC-SP6 to clean steel substrates where galvanized protection has been removed.
6. Steel Doors and Frames: Fill indentations and cracks with metal filler; sand smooth to match adjacent undamaged surfaces. At existing steel doors remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer, but not less than SSPC-SP3**.**
7. Aluminum:
   a. Non-corroded Surfaces: Rub with fine steel wool and wipe clean with mineral spirits.
   b. Corroded Surfaces: Sand smooth, rub with fine steel wool and wipe clean with mineral spirits.

8. Wood:
    a. Remove surface dirt, stains, markings, discolorations and other contaminants using finish paint manufacturer's recommended cleaning methods and solvents.
    b. Sand raised grain, rough sawcut edges, planed mill glaze, old paint, and other surface imperfections clean and smooth using medium and fine sandpaper. Sand in the direction of grain.
    c. Fill open cracks, knot holes, countersunk fastener holes and other surface indentations with wood filler putty. Sand putty smooth and flush to adjacent unfilled surface.
    d. Seal knots, pitch streaks, sap spots, stains and graffiti with finish paint manufacturer's recommended primer/sealer.
9. Gypsum Wallboard:
    a. Fill cracks, holes, and other indentations smooth to adjacent surfaces using specified bedding, spackling, and finishing compounds.
    b. Gypsum Wallboard: Fill and sand smooth minor bedding and finishing compound defects.
    c. Vacuum and wipe surfaces free of all sanding residue and dust
10. Glazing Repairs: Cut out and replace dry, loose, and cracked glazing compound or putty.
11. Other Substrates: See finish paint manufacturer's recommendations.

D. Painting Material Preparations:
1. Prepare painting materials in accordance with manufacturer's approved product data sheets and printed label instructions.
    a. Stir materials before and during application for a consistent mixture of density. Remove container surface paint films before stirring and mixing.
    b. Slightly tint first opaque finish coat where primer and finish coats are the same color.
    c. Do not thin paints unless allowed and directed to do so in writing within limits stated on approved product data sheets.

3.03 APPLICATION

A. Environmental Conditions:
1. Water-based Paints: Apply when surface temperatures will be 50 degrees Fahrenheit to 90 degrees Fahrenheit throughout the drying period.
2. Other Paints: Apply when surface temperatures will be 45 degrees Fahrenheit to 95 degrees Fahrenheit throughout the drying period.
3. Apply exterior paints during daylight hours free from rain, snow, fog and mist when ambient air conditions are more than 5 degrees above the surface dewpoint temperature and relative humidity less than 85 percent.
    a. When exterior painting is allowed or required during nondaylight hours, provide portable outdoor weather recording station with constant printout showing hourly to diurnal air temperature, humidity, and dewpoint temperature.

4. Exterior Cold Weather Protection: Provide heated enclosures necessary to maintain specified temperature and relative humidity conditions during paint application and drying periods.

B. Install approved paints where specified, or shown on the drawings, and to match approved field examples.
   1. Paint Applicators: Brushes, rollers or spray equipment recommended by the paint manufacturer and appropriate for the location and surface area to be painted.
      a. Approved minimum wet and dry film thicknesses shall be the same for different application methods and substrates.

C. Paint Type Coats To Be Applied: Unless specified otherwise by finish paint manufacturer's product data sheet, the number of coats to be applied for each paint type are as follows:
   1. Paint Types EAL and IAL:
      a. New Unpainted Surfaces: Apply 1 coat of primer and 2 coats of finish paint.
      b. Existing Painted Surfaces:
         1) Apply 2 coats of finish paint when existing paint has a lower gloss.
         2) Apply one coat of primer and 2 finish coats when existing paint has a higher gloss.
      c. Paint Types IAL: Provide mildewcide additive for bathrooms, kitchens, janitor closets, laundry rooms, restrooms and other wet or damp areas.
      d. Pitted Concrete & Concrete Masonry Wall Surfaces: Use block filler as primer /sealer where allowed by finish paint manufacturer.
      e. Existing Structural Steel:
         1) Primed Steel: Apply 2 coats of finish paint.
         2) Unprimed Steel: Apply 1 coat of Paint Type ESP or ISP, depending upon exterior or interior location.
            a) If topcoated, apply additional coat of finish paint manufacturer's galvanized primer and 2 coats of finish paint.
   2. Paint Types ESP and ISP: Apply 1 coat.
      a. Do not prime or finish paint steel to be encased in concrete, masonry, or to receive sprayed on fireproofing.
      b. Allow primer to dry one week and test adhesion. Remove and replace defective primer where adhesion failures occur.

D. Surfaces: Unless otherwise specified or shown on the drawings, paint surfaces as follows:
   1. Exterior Surfaces:
      a. Cement Board Substrates:
         1) Siding: Paint Type EAL-2.
         2) Cement Board Trim: Paint Type EAL-2.
      b. Factory Finished Metal Substrates: Field painting not required.
      c. Factory Primed and Unprimed Ferrous Metal Substrates:

1) Metal Siding: Paint Type EAL-2.
2) Doors, Windows, Frames and Trim: Paint Type EAL-4.
3) Handrails: Paint Type EAL-4.
4) Existing Unprimed Structural Steel: Paint Type EAL-4 over primer Paint Type ESP.
5) New Primed Structural Steel: PaintType EAL-4.
6) Steel Stairs, Decks and Handrails: Paint Type EAL-4.

2. Interior Surfaces:
   a. Ceilings: Paint Type IAL-1 except as noted below:
      1) Living Units: Paint Type IAL-2.
      2) Toilets, Kitchens, Shower Rooms, Janitor Closets and Other Wet Areas: Paint Type IAL-3.
      3) Food Preparation and Clean Room Areas: Paint Type IAL-4.
   b. Walls: Paint Type IAL-2 except as noted below:
      1) Living Units: Paint Type IAL-3.
      2) Toilets and Kitchens: Paint Type IAL-3.
      3) Shower Rooms, Janitor Closets and Other Wet Areas Paint Type IAL-4.
   c. Doors, Windows, Frames and Trim: Paint Type IAL-3 except as noted below:
      1) Use Paint Type IAL-4 where walls are Paint Type IAL-3.
   d. Concrete Floor Sealer: Paint Type IAL-5.

3. Unless otherwise noted, paint both exterior and interior exposed wall and ceiling air supply and return grilles; plumbing pipes; electrical panel and fuse boxes, raceways and conduits; heating convector cabinets, radiators, radiator cabinets, unit heaters, and similar existing and installed devices and equipment by other trades.
   a. Paint substrates to match adjacent wall or ceiling surfaces.
   b. Paint exposed surfaces when any part of the surface is on or within 8 inches of ceiling or wall surface to be painted.
   c. Paint visible interior surfaces behind grilles, guards and screens.
4. Doors and Frames: Unless otherwise noted, paint doors and frames the same color in the next highest gloss as adjacent wall surfaces.
   a. Where walls are not the same color on both sides of a door frame, change frame color at the inside corner of the frame stop.
   b. Prime and finish paint door faces and edges before installation.
      1) Paint door edges the same paint type color as the exterior side of the door.
   c. Do not paint door components which are clearly not intended to be painted such as non-ferrous hardware, frame mutes, and weather stripping.
   d. Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.
5. Window Frames and Sash: Unless otherwise noted, paint window frames and sash the same color as adjacent wall surfaces.

a. Do not paint window components which are clearly not intended to be painted such as prefinished frames, sliding metal or plastic contacts, weatherstripping, and non-ferrous hardware.
b. Do not allow operable doors, windows and frames to touch until paint is thoroughly dry on both surfaces.

6. Ferrous Metal Door and Window Hardware: Unless otherwise noted, prime and paint to match adjacent doors, windows and frames.
7. Case Work: Paint factory unfinished exposed and semiexposed surfaces when doors and drawers are either open or closed including:
   a. Both faces and edges of cabinet doors, shelving, dividers including interior side, rear, and bottom panel surfaces.
   b. Both faces and edges of drawer face, side, rear, and bottom panels.
   c. Exposed bottom or underside of case work more than 4 feet above the floor.
   d. Do not paint plastic laminate surfaces, special countertop materials, glazing, factory finished surfaces, finish hardware, and similar items clearly not intended to be painted.

3.04 FIELD QUALITY CONTROL

A. Paint Samples: Assist the Director's Representative in obtaining random one quart paint samples for testing at any time during the Work.
   1. Notify the Director's Representative upon delivery of paints to the Site.
   2. Furnish new one quart metal paint containers with tight fitting lids and suitable labels for marking.
      a. Furnish labor to thoroughly mix paint before sampling and provide assistance with sampling when required.

3.05 ADJUSTING AND CLEANING

A. Reinstall removed items after painting has been completed.
   1. Restore damaged items to a condition equal to or better than when removed. Replace damaged items that cannot be restored.

B. Touch up and restore damaged finish paints. Touch up and restoration paint coats are in addition to the number of specified finish paint coats.

C. Remove spilled, splashed, or spattered paint without marring, staining or damaging the surface. Restore damaged surfaces to the satisfaction of the Director's representative.

D. Remove temporary barriers, masking tape, and other protective coverings upon completion of painting, cleaning and restoration work.

END OF SECTION

Revised 10-5-17

SECTION 221120

MIXING VALVES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Showers: Section 224223.

1.02 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions for each type of mixing valve.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Comply with applicable requirements of FS WW-P-541 unless otherwise specified.
   2. This item is covered in spec 224223, Revised 10/4/2017

1.04 MAINTENANCE

A. Special Tools: One tool for each type and size vandal resistant fasteners.

PART 2 PRODUCTS

2.01 VALVES - GENERAL

A. Valve Body: Cast brass.
B. Internal Components:
   1. Metals: Brass, or stainless steel.
   2. Non-Metals: Materials not adversely affected by contact with water, temperature changes, and normal wear.
C. Finishes: Furnish polished, chrome plated brass, or No. 4 brush finished stainless steel on exposed to view surfaces installed in finished spaces.
D. Single Handle Mixing Valves:
   1. Operation: Valve shuts off in full cold position, and must pass through cold range before delivering warm, and/or hot water.
   2. Temperature Limit Stop: Factory set for 105 degrees F maximum delivery temperature.
   3. Automatic Shut-Down: If one supply should fail, the other will automatically and instantly shut down.

2.02 VALVE TYPES

A. Type A: Thermostatically operated by means of bi-metallic strip, or expansion bellows.
   1. Accessories: Combination stop, check and removable strainer.
   2. Temperature Range: Cold through 115 degrees F.
   3. Delivery Capacity: see manufacture web site for model on Plumbing Fixture Schedules for building hot water service to building, TMV.

B. Type B: Single handle mechanical mixer, or individual hot and cold control valves.
   1. Individual Control Valves: Metal handles, which turn counter to each other for on and off positions.

C. Type C: Pressure balancing shower valve.
   1. Accessories: Integral stops.
   2. Accessories: Integral stop-check valves.
   3. Temperature Range: Cold through 115 degrees F.
   4. Delivery Capacity: 5 gpm at 45 psi differential.

D. Type D: Point of use thermostatic mixing valve and piping assembly, union check stops, for lavatories & sinks, 3/8" inlets & outlets, compression connections, lead free, 0.25 gpm minimum flow, ASSE 1070 certified.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this section in accordance with the manufacturer's printed installation instructions.

3.02 FIELD QUALITY CONTROL

A. Capacity Check: Operate valve through entire range, and verify rated capacity. Correct discrepancies.

B. This item is covered in spec 224223, Revised 10/4/2017

C. Temperature Check: Set valve at full hot position and check delivered water temperature for specified 105 degree F factory setting. Adjust temperature limit stop as required.

END OF SECTION

Revised 10-5-17

SECTION 224223

SHOWERS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Pipe and Pipe Fittings: Section 221100.

B. Sealants: Section 079200.

1.02 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions for each item including location and size of openings for shower head and mixing valve.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Comply with applicable requirements of FS WW-P-541 unless otherwise specified.
   2. Materials and installations designated as handicapped accessible shall conform with the following:
      a. ANSI A117.1 - Buildings and Facilities - Providing Accessibility and Usability for Physically Handicapped People.
      b. The Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG), (Appendix A to 28 CFR Part 36).
      c. The Uniform Federal Accessibility Standards (UFAS), (Appendix A to 41 CFR Part 101-19.6).

1.04 MAINTENANCE

A. Special Tools: One tool for each type and size vandal resistant fasteners.

PART 2 PRODUCTS

2.01 MATERIALS

A. Shower Receptor: One piece terrazzo, 36 inches x 36 inches x 6 inches with non-slip surface pitched toward drain.
   1. Integral metal flange or cast curb to provide leak proof seal between compartment sides and receptor.

2. Brass drainage fitting with provisions for a 2 inch inside calk connection cast in the receptor.
3. Strainer: Polished brass or stainless steel secured with countersunk machine screws.
4. Mortar Setting Bed: Cement mortar modified with bonding agent.
5. Sealant: One component silicone by Dow Corning or General Electric, color to match receptor.
6. Calking Lead: ASTM B 29.
7. Oakum: Tarred and twisted picked jute or hemp.

B. Shower Stall: Single access, 36 inches x 36 inches x 82 inches with front opening.
1. Inner Panel: Stainless Steel, No. 2B finish.
2. Inner Panel: Galvanized bonderized steel with baked-on enamel.
3. Outer Panel: Stainless steel, No. 2B finish.
4. Outer Panel: Galvanized bonderized steel with baked-on enamel.
5. Core: Water impervious insulation adhered to panels with waterproof adhesive for bonding panels to insulation.
6. Mouldings: Anodized aluminum or stainless steel mouldings providing double barrier leak proof connections.
7. Top Frame: One piece, tubular stainless steel, welded construction.
8. Soap Dish: Chrome plated brass or stainless steel.
9. Curtain rod, mounting flanges and hooks: Chrome plated brass or stainless steel.
10. Shower Curtain: White plastic or canvas duck.

C. Dressing Compartment:
1. Inner Panel: Stainless Steel, No. 2B finish.
2. Inner Panel: Galvanized bonderized steel with baked-on enamel.
3. Outer Panel: Stainless Steel, No. 2B finish.
4. Outer Panel: Galvanized bonderized steel with baked-on enamel.
5. Fabrication: Construction and materials shall match shower stall.
6. Vandal Resistant Fasteners: Torx head with center pin.
7. Bench: Hardwood, stationary or folding.

D. Wall Shower: Stainless steel trim with mixing valve and shower head, vandal resistant trim and fasteners; Acorn Engineering Company's, Apex; Bradley Corporation's, Bradsole; or Symmons Industries', Hydapipe.
1. Soap dish.
2. Hand held shower with adjustable bracket.
3. Hose: 5 ft metal clad or reinforced vinyl.
4. Vacuum breaker.
5. Stainless steel shroud.
6. Maximum Mixing Valve Activation Force (Handicapped Accessible Showers): 5 ft lbs.
7. Conical Shower Head: Shower head fixed into a solid wall plate; all fasteners stainless steel and vandal resistant.
    a. Body Materials: Brass, bronze or stainless steel.

b. Internal Parts: Brass, bronze or stainless steel or the foregoing combined with non-metals not adversely affected by contact with water, temperature changes or a combination of both.
c. Vandal Resistant Construction: All removable components locked in place with set screws or devices that cannot be removed without the use of special tools.
d. Vandal Resistant Fasteners: Torx head with center pin.
e. Spray Angle: 30 degrees angle either fixed.
f. Spray Pattern: Non-adjustable, multi-stream style.
g. Anchor Plate: Cast iron or steel wall plate drilled for anchoring to the wall, and tapped to receive the wall plate bolts.
h. Back Up Plate: Cast iron or steel, drilled and tapped for 1/4 inch stainless steel bolts, nuts and washers.
i. Finishes: All parts exposed to view shall be polished to a bright or satin finish; if non-ferrous, the metal shall be chrome plated.

E. Mixing Valve: Pressure balancing shower valve with integral stop-check valves.
1. Valve Body: Cast brass.
2. Internal Components:
a. Metals: Brass, or stainless steel.
b. Non-metals: Materials not adversely affected by contact with water, temperature changes or a combination of both.
3. Shut-Off: Valve shall shut-off in the full cold position, and be required to pass through the cold range before delivering warm or hot water.
4. Temperature Range: Cold through 115 degrees F.
5. Temperature Limit Stop: Factory set for 105 degrees F. maximum delivery temperature.
6. Delivery Capacity: 5 gpm at 45 psi differential.
7. Automatic Shut-Down: If one supply should fail, the valve shall automatically and instantly shut down the remaining supply.
8. Finishes: All exposed to view surfaces installed in finished spaces shall be brass, polished and chrome plated, or stainless steel, with a No. 4 brush finish.
9. Maximum Mixing Valve Activation Force (Handicapped Accessible Showers): 5 ft lbs.
10. Integral Dial Thermometer.

F. Standard Shower Head (S.H.): Self cleaning type with i.p.s. female inlet connection and universal ball joint spray angle adjustment.
1. Body Materials: Brass, bronze or stainless steel.
2. Internal Parts: Brass, bronze or stainless steel or the foregoing combined with non-metals not adversely affected by contact with water, temperature changes or a combination of both.
3. Volume Control: Lever action manual, or automatic operation with maximum flow rate of 3.0 gpm at 60 psi.
4. Spray Pattern Adjustment: Fine spray to flood, lever action, manual.
5. Bent Arm: 1/2 inch i.p.s. brass, threaded on both ends.
6. Escutcheon: Solid brass wall plate with set screw locking device.
7. Finishes: All parts exposed to view shall be polished to a bright or satin finish: If non-ferrous, the metal shall be chrome plated.

G. Vandal Resistant Shower Head (VRSH): Shower head fixed into a solid wall plate; all fasteners stainless steel and vandal resistant.
   1. Body Materials: Brass, bronze or stainless steel.
   2. Internal Parts: Brass, bronze or stainless steel or the foregoing combined with non-metals not adversely affected by contact with water, temperature changes or a combination of both.
   3. Vandal Resistant Construction: All removable components locked in place with set screws or devices that cannot be removed without the use of special tools.
   4. Vandal Resistant Fasteners: Torx head with center pin.
   5. Spray Angle: 30 degrees angle either fixed or adjustable through a one way ball joint capable of being locked at the selected setting.
   6. Spray Pattern: Either fixed through an immovable faceplate, or adjustable by means of a screw type spray adjustment capable of being locked at the selected setting.
   7. Volume Control: Lever action manual, or automatic operation with a maximum flow rate of 3.0 gpm at 60 psi.
   8. Anchor Plate: Cast iron or steel wall plate drilled for anchoring to the wall, and tapped to receive the wall plate bolts.
   9. Back Up Plate: Cast iron or steel, drilled and tapped for 1/4 inch stainless steel bolts, nuts and washers.
   10. Finishes: All parts exposed to view shall be polished to a bright or satin finish; if non-ferrous, the metal shall be chrome plated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this section in accordance with the manufacturer's printed installation instructions except as specified otherwise.

B. Mounting Heights (Unless otherwise indicated): Distance between finished floor and centerline of item.
   1. Standard Showers:
      a. Shower Heads: 76 inches.
      b. Mixing Valves: 54 inches.
   2. Handicapped Accessible Showers:
      a. Shower Heads:
         1) Hand Held Type: 48 inches.
         2) Fixed Type: 48 inches.
      b. Operating Controls (diverters, metering valves, mixing valves, etc.): 38 inches (minimum), 48 inches (maximum).
   3. Operate mixing valve through its entire range; check for rated capacity.
   4. Set mixing valve at full hot position and check delivered water temperature. Adjust the temperature limit stop for maximum 105 degrees F delivered water temperature.
   5. Shower Heads: Test volume for delivery specified.

6. Calk the space between wall shower units, shrouds (where required), and walls with Type 6 sealant; strike a neat joint.

C. Installing Receptor On Masonry Floors:
1. Remove base or cove moulding.
2. Level receptor on mortar setting bed. Tool mortar back 3/8 inch from edges.
3. Apply sealant to mortar joint flush with face of receptor. Tool to a smooth cove shape between receptor and floor.
4. Calk drain connection with lead and oakum.

D. Installing Receptor On Wood Floors:
1. Remove floor covering at location of receptor.
2. Level receptor on mortar setting bed. Tool mortar back 3/8 inch from edges.
3. Apply sealant to mortar joint flush with face of receptor. Tool to a smooth cove shape between receptor and floor.
4. Calk drain connection with lead and oakum.

E. Operate mixing valve through its entire range; check for rated capacity.

F. Set mixing valve at full hot position and check delivered water temperature. Adjust the temperature limit stop for maximum 105 degrees F delivered water temperature.

G. Vandal Resistant Shower Heads:
1. Set and lock in place spray angle and delivery volume on all adjustable heads.
2. Test volume for delivery specified.

H. Calk the space between wall shower units, shrouds (where required), and walls with Type 1D sealant; strike a neat joint.

3.02 CLEANING

A. Remove protective coatings and thoroughly clean all exposed surfaces after all other trades have completed their Work.

END OF SECTION

Revised 10-5-17

SECTION 265100

INTERIOR LIGHTING FIXTURES

PART 1 GENERAL

1.01 SUMMARY

A. Description of Work: Provide lighting fixtures and all accessories as indicated or required.

B. Procure any or multiple light fixtures specified in drawings from NYS Preferred Source Contractors/Suppliers should any or all specified fixtures be available through such sources including:

1. Department of Correctional Services Industries Program (CORCRAFT)
2. Disabled Persons' organization such as Herkimer Industries.
3. Veterans Workshop organizations operated by the US Department of Veterans Affairs.

1.02 LIGHTING FIXTURE TYPES

A. A lighting fixture type is indicated adjacent to each lighting fixture shown on the Drawings. (e.g., “L1,” “L2,” “H1,” etc.). Where all the fixtures in a room or area are identical, the type may be indicated only once. Refer to the Lighting Fixture Schedule. Request fixture type for any lighting fixture without a type indicated.

1.03 SUBMITTALS

A. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.

B. Prove separate submittal packages per building for review.

C. Driver manufacturer and model number or series to be indicated for each fixture type

D. Submittal Package: Submit the product data items specified below at the same time as a package.

E. Product Data:

1. Catalog sheets, specifications and installation instructions.

F Project Closeout Submittals:

1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director’s Representative. Include name, address and telephone number of the nearest fully equipped service organization.

PART 2 PRODUCTS

2.01 LIGHTING FIXTURES - GENERAL

A. Types: As described in the Lighting Fixture Schedule. Lighting fixture manufacturers' series or catalog numbers listed indicate "Basis of Design" as well as general quality, type, and style, but may not cover all required design features and details. Provide lighting fixtures having all features details and accessories as noted in the fixture descriptions and in this specification section.

B. Design and Construction: Free of light leaks and so as to provide adequate ventilation for lamp(s) and ballast(s).

C. Lampholders: Shall make positive contact with lamp base or pins and shall securely hold lamps in place.

D. Light Control: Reflectors, diffusers, lenses, louvers, baffles, etc., as indicated in the Lighting Fixture Schedule.

E. Accessories: As indicated and as required.

2.02 LED FIXTURES

A. General: LED fixtures are to meet requirements as set forth in the latest of the following standards:

1. Reference Standards:
    a. LM-79-08, IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State lighting Products.
    b. LM-80-08, IESNA Approved Method for Measuring Lumen Maintenance of LED Light Sources.
    c. IES TM-21-01: Projecting Long Term Lumen Maintenance of LED Light Sources
    d. UL 8750
    e. ANSI: C78.377A, C82.77-2002
    f. NEMA-SSL-1-2010, SSL-3-2010
    g. Color Binning: LED's Shall utilize a maximum of three (2) MacAddam Ellipses
    h. Labels for product testing and listing must include ISO 9001:2008, ETL and DLC

B. Independent testing Data, LED fixtures photometrics shall be produced by an independent testing company. LED fixture photometrics produced by Photopia is not acceptable.

2.03 CEILING MOUNTED FIXTURES

A. Fixtures, in general, have been specified for the particular type of ceiling where they are being installed. However, the Contractor shall verify all ceiling construction types prior to ordering light fixtures, and order lighting fixtures accordingly. Verify the exact ceiling system construction types and provide

lighting fixtures, fittings, hangers, clamps, brackets, yokes, plaster flanges and miscellaneous devices as required for a complete installation to suit the ceiling construction.

2.04 PENDANT MOUNTED FIXTURES

A. Provide all necessary hardware, single-piece stems and miscellaneous components for a complete installation. When necessary for sloped ceilings, provide swivel type pendant hangers. For continuous row installations provide alignment hardware which spans adjacent fixtures.

2.05 CHAIN SUSPENDED FIXTURES

A. Install outlet box directly above fixture. Provide three conductor type SJO cord with NEMA L5-15 (120 volt) or NEMA L7-15 (277 volt) connecting plug and receptacle for each fixture.

2.06 DAMP AND WET LOCATION FIXTURES

A. UL Damp (or Wet) label, with corrosion resistant, weatherproof enamel or epoxy finish, and stainless steel or anodized aluminum fasteners.

2.07 LAMPS AND BALLASTS

A. Refer to Section Lamps and Ballasts and the Lighting Fixture Schedule.

PART 3 EXECUTION

3.01 GENERAL

A. Install lighting fixtures as described in the Lighting Fixture Schedule, complete with lamps and ballasts. Install all necessary accessory fittings, hangers, clamps, brackets, yokes, plaster flanges, outlet boxes, and miscellaneous devices required for a complete installation as recommended by the manufacturer.

3.02 FIXTURE MOUNTING AND SUPPORT

A. General: Securely support and/or suspend all lighting fixtures as indicated in specification section 260529 as well as the following: from structural members or the building. Lay-in, flanged, and recessed downlight fixtures may be supported by the framing members of the suspended ceiling system, where secured per NEC 410-16c. Secure troffers to ceiling tees at least twice along each long side of troffer.

B. Mounting Heights: Suspend pendant mounted lighting fixtures at heights indicated, measured from finished floor to bottom of fixture enclosure or reflector unless noted otherwise. Install wall mounted fixtures at heights indicated measured from finished floor to center of fixture outlet box unless noted otherwise.

C. Recessed Lighting Fixtures: Provide flexible connections to all recessed lighting fixtures as required by the code and in accordance with approved wiring methods.

3.03 LAMPS

A. Install specified lamps as recommended by the lamp and lighting fixture manufacturers. Follow lamp manufacturer's recommendations for handling and installing lamps.

3.04 DRIVERS

A. Make all field connections necessary for factory-installed Drivers and install all special drivers as recommended by the manufacturer.

3.05 FINAL ACCEPTANCE

A. Coordinate with settings with Owner's representative and make all aiming adjustments for applicable fixtures.

3.06 OPERATION

A. Verify all fixtures are operational per specifications and manufacturers recommendations.

END OF SECTION

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SECTION 265200

EMERGENCY LIGHTING - UNIT EQUIPMENT

PART 1 GENERAL

1.01 SUMMARY

A. Procure any or multiple light fixtures specified in drawings from NYS Preferred Source Contractors/Suppliers should any or all specified fixtures be available through such sources including:

1. Department of Correctional Services Industries Program (CORCRAFT)
2. Disabled Persons' organization such as Herkimer Industries.
3. Veterans Workshop organizations operated by the US Department of Veterans Affairs.

1.02 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Provide separate submittal packages per building for review.

C. Driver manufacturer and model number or series to be indicated for each fixture type

D. Submittal Package: Submit the product data items specified below at the same time as a package.

E. Product Data:

1. Catalog sheets, specifications and installation instructions.
2. Battery warranty.
3. Name, address and telephone number of nearest fully equipped service organization.

F. Project Closeout Submittals:

1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative. Include name, address and telephone number of the nearest fully equipped service organization.

1.03 QUALITY ASSURANCE

A. List of Completed Installations: If brand names other than those specified are proposed for use, furnish the name, address, and telephone number of at least 5

comparable installations which can prove the proposed products have operated satisfactorily for 3 years.

B. Service Availability: A fully equipped service organization shall be available to service the completed Work.

PART 2 PRODUCTS

2.01 EMERGENCY LIGHTING UNITS

A. Type LA: Dual-Lite Co.'s AS-BC, Emergi-Lite's ILC Series, or Exide Electronics' Emergency Lighting L-100, with:

1. Six volt maintenance free battery (sealed lead-calcium free electrolyte or sealed pure lead cells); Eagle-Picher Industries Inc.'s Carefree/Carefree Magnum, Exide's LEC, or Gates Energy Products Inc's BC Cell. Batteries shall be of suitable rating and capacity to supply and maintain at not less than 87-1/2 percent of the nominal battery voltage for the total lamp load associated with the unit for a period of at least 3 hours. Exception: Capacity not less than 24Ah at 77 degrees F (25 degrees C), 8 hour rate, to 87-1/2 percent nominal battery voltage (1.75 volts per cell).
2. Low battery voltage cut-off (not less than 80 percent of nominal battery voltage).
3. Electronic or sealed dust-tight transfer relay.
4. Six volt, 12 watt integral tungsten halogen lighting heads.
5. Input circuit suitable for operation on 120 volt, 60 Hz circuit.
6. Cabinet door having vandal resistant fasteners or lockable device and continuous piano hinge.
7. Voltmeter to indicate battery voltage.
8. Mounting shelf or bracket.
9. Time delay device for units installed in areas illuminated with high intensity discharge lighting fixtures. Emergency lighting units shall remain illuminated 15 minutes after normal power is restored.
10. Wire guard to cover unit, where indicated on drawings.

B. Type NC: Dual-Lite Co.'s AS, Emergi-Lite's NV Series, or Exide Electronics' Emergency Lighting N-100, with:

1. Six volt nickel-cadmium battery, wet cell, pocket plate type. Batteries shall be of suitable rating and capacity to supply and maintain at not less than 87-1/2 percent of the nominal battery voltage for the total lamp load associated with the unit for a period of at least 3 hours. Batteries shall deliver full ampere-hour capacity at 0 degrees F ambient temperature.
2. Electronic or sealed dust-tight transfer relay.
3. Six volt, 12 watt integral tungsten halogen lighting heads.
4. Input circuit suitable for operation on 120 volt, 60 Hz circuit.
5. Cabinet door having vandal resistant fasteners or lockable device and continuous piano-hinge.
6. Voltmeter to indicate battery voltage.
7. Mounting shelf or bracket.

8. Time delay device for units installed in areas illuminated with high intensity discharge lighting fixtures. Emergency lighting units shall remain illuminated 15 minutes after normal power is restored.
9. Wire guard to cover unit, where indicated on drawings.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this Section in accordance with the manufacturer's printed instructions.

B. Insert a copy of the battery warranty in each unit and mark on batteries the date placed in service.

END OF SECTION

Revised 10-5-17

SECTION 265300

EXIT LIGHT FIXTURES

PART 1 GENERAL

1.01 SUMMARY

A. Procure any or multiple light fixtures specified in drawings from NYS Preferred Source Contractors/Suppliers should any or all specified fixtures be available through such sources including:
   1. Department of Correctional Services Industries Program (CORCRAFT)
   2. Disabled Persons' organization such as Herkimer Industries.
   3. Veterans Workshop organizations operated by the US Department of Veterans Affairs.

1.02 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Prove separate submittal packages per building for review.

C. Driver manufacturer and model number or series to be indicated for each fixture type

D. Submittal Package: Submit the product data items specified below at the same time as a package.

E. Product Data:
   1. Catalog sheets, specifications and installation instructions.
   2. Battery warranty.
   3. Name, address and telephone number of nearest fully equipped service organization.

F. Project Closeout Submittals:
   1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative. Include name, address and telephone number of the nearest fully equipped service organization.

1.03 QUALITY ASSURANCE

A. List of Installations: If brand names other than those specified are proposed for use, furnish the name, address, and telephone number of at least 5 comparable installations which can prove the proposed products have operated satisfactorily

for one year.

1.04 MAINTENANCE

A. Special Tools: Furnish 2 tools to remove and install fasteners on fixtures equipped with vandal resistant fasteners.

PART 2 PRODUCTS

2.01 EXIT LIGHT FIXTURES

A. Type EX: Lithonia Lighting's LV series or approved equal:
   1. White finish.
   2. Directional arrows where indicated on drawings.
   3. Red light emitting diodes (L.E.D.s) with protective polycarbonate clear lens to protect L.E.D.s. Fixtures shall not contain optical or light diffusing panels.
   4. Vandal resistant fasteners.
   5. Mounting designed for wall or ceiling depending on fixture location.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this Section in accordance with the manufacturer's printed instructions.

END OF SECTION

Revised 10-5-17

SECTION 275112

INTERCOM AND ZONE PAGING SYSTEM

PART 1 GENERAL

1.01 REFERENES:

A. NFPA and UL 50.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

A. Video Surveillance System: Section 282304.

B. Door Control System: Section 284601.

1.03 SYSTEM DESCRIPTION:

A. The dedicated intercom system equipment shall interface with the Touchscreen Control System, which provides the control functions for each system.

B. Dedicated Intercom: The dedicated intercom system provides two-way communication between the master stations and the selected field intercom station.

C. See Drawings for a schedule that identifies the intercom stations associated with each of the control stations.

D. The Programmable Logic Controllers shall provide outputs to the video switcher via a data communications link to display the appropriate video camera on the control station's monitor while an intercom link is connected.

1. Video Follow Event (VFE).There is a column titled “Camera” which indicates the CCTV camera(s) that is/are to be switched to the monitor(s) upon acknowledging a call-in request of the specified intercom station at the console.

E. Intercom stations shall be transferred when control and monitoring is transferred via the Security Monitoring and Control System.

1.04 DEFINITIONS:

A. The definition below supersedes the definition in Section 014216 for Technical Advisor and Field Advisor.

B. Manufacturers’ Technical Advisor:

1. An employee of the company producing the system (or a company which lists and markets the primary components of the system under their name) who is certified in writing by the company to be technically qualified in

design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.

C. Integrator's Field Advisor:
   1. An individual employee by an organization (other than the company producing the system) certified in writing by the company producing the system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as a field advisor in their behalf. Personnel involved solely in sales do not qualify.

D. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales to not qualify.

1.05 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Packaging of Submittals: Submittals required by this section are to be submitted (by contractor) in packages as follows: Submit (4) sets of shop drawings, product data and quality control submittals specified below as a complete package. SUBMITTALS NOT COMPLYING WITH ALL OF THE OUTLINED REQUIREMENTS WILL BE REJECTED.
   1. Submittals Package 1: Submit seven (7) Shop drawings, Product Data and Quality Control Submittals specified below at the same time as a package.
      a. Submit Submittals Package 1 within 30 days of contract award.
   2. Submittals Package 2: Submit Point to Point Wiring Diagrams and Training Submittals specified below at the same time as a package.
      a. Submit Submittals Package 2 within 30 days of receipt of approval of Submittals Package 1.
   3. Submittals Package 3: Submit Contract Closeout Submittals specified below at the same time as a package.
      a. Submit Submittals Package 3 upon physical completion, when directed by the Director's Representative.

C. Seismic Qualification Certificates: for security equipment racks from manufacturer.
   1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
   2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions. Base certification on the maximum number of components capable of being mounted in each equipment rack along with rack type. Identify components on which certified is based.

3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Shop Drawings (Submittals Package 1):
   1. Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be accepted), including video signal integrity equipment, etc. required for a complete system.
   2. Scale drawings showing mounting of video door station components.
   3. Scaled elevation drawings showing location and mounting of components to be mounted in the security equipment racks in Security Equipment rooms.

E. Product Data (Submittals Package 1):
   1. Catalog sheets, specifications and installation instructions.
   2. Bill of materials showing proposed quantities of all equipment to be used on this project.
   3. Detailed description of system operation (format similar to SYSTEM DESCRIPTION).
   4. State number of video inputs and outputs used specifically for this project and number of video inputs and outputs available for future use if system is expanded to maximum capacity.
   5. Name, address and telephone number of nearest fully equipped service organization.
   6. Include calculations used to size UPS's for a fifteen-minute back-up time.

F. Quality Control Submittals (Submittals Package 1):
   1. Copy of license for installing Security Systems.
      a. Also include copy of identification card issued by the Licensee for each person who will be performing the Work.
   2. Installers' Qualifications Data: Include a completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work.
      a. Forms must be completely filled out.
      b. Forms must include all information required, showing that the experience criteria have been met.
      c. Each Form must be signed by the installer.
   3. Company Field Advisor Data:
      a. Secure the services of a Company Field Advisor:
         1) Include the name, business address and telephone number of the Company Field Advisor.
      b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
      c. Services and each product for which authorization is given by the Company, listed specifically for this project.
   4. Letter from the Company Field Advisor stating that the Company Field Advisor has reviewed the Submittals Package for accuracy and completeness and approves all materials and installation methods included in the Submittals Package.

5. System Qualifications: Submit System Qualification information if proposing a system other than that specified.

6. Project Work Plan:
   a. Include a detailed work guideline listing the OCFS requirements as they apply to this specific site.
   b. Include a detailed project work scheduling plan.
   c. Include a set of detailed project installation drawings compiled specifically for this project.
   d. Include training schedules for this specific project.
   e. Include personnel contacts for this specific project.
   f. Include direction for proper handling and storage for all equipment.

G. Point to Point Wiring Diagrams (Submittals Package 2):
   1. Submit complete point to point wiring diagrams of the entire system as it is to be installed.
      a. Point to Point wiring diagrams shall show the following:
         1) All components in the system.
         2) All cables and conductors between each component.
         3) Identify all cables and conductors and show all terminations and splices (identification shall correspond to markers to be installed on each conductor).
      b. Point to Point wiring diagrams shall have an accompanying letter from the Company Field Advisor(s) stating that the Company Field Advisor(s) has reviewed the Point to Point wiring diagrams for accuracy and completeness and approves the Point to Point wiring diagrams for use.

H. Contract Closeout Submittals (Submittals Package 3):
   1. System acceptance test report.
   2. Certificate: Affidavit, signed by the Company Field Advisor(s) and notarized, certifying that the system meets the contract requirements and is operating properly.
   3. Operation and Maintenance Data:
      a. Deliver 2 copies, covering the installed products, obtain a signed receipt from the Director's Representative. Include:
         1) Operation and maintenance data for each product.
         2) Complete point to point wiring diagrams (As-Built Drawings) of entire system as installed. Identify all conductors and show all terminations and splices (identification shall correspond to markers installed on each conductor).
         3) Name, address, and telephone number of nearest fully equipped service organization.
         4) Show all “as installed” cable paths.
         5) Identify all conductors including cat6a cable and power cables.
         6) Show all terminations and splices. Identification shall correspond to marker installed on each conductor.

1.06 QUALITY ASSURANCE

A. Equipment Qualifications For Products Other Than Those Specified:
   1. At the time of submission provide written notice to the Director of the intent to propose an "or equal" for products other than those specified. Make the "or equal" submission in a timely manner to allow the Director sufficient time to review the proposed product, perform inspections and witness test demonstrations.
   2. If products other than those specified are proposed for use furnish the name, address, and telephone numbers of at least 5 comparable installations that can prove the proposed products have performed satisfactorily for 3 years. Certify in writing that the owners of the 5 comparable installations will allow inspection of their installation by the Director's Representative and the Manufacturer Technical Advisor.
      a. Make arrangements with the owners of 2 installations (selected by the Director) for inspection of the installations by the Director's Representative. Also obtain the services of the Manufacturer Technical Advisor for the proposed products to be present. Notify the Director a minimum of 3 weeks prior to the availability of the installations for the inspection, and provide at least one alternative date for each inspection.
      b. Only references from the actual owner or owner's representative (Security Supervisor, Maintenance Supervisor, etc.) will be accepted. References from dealers, system installers or others, who are not the actual owners of the proposed products, are not acceptable.
         1) Verify the accuracy of all references submitted prior to submission and certify in writing that the accuracy of the information has been confirmed.
   3. The product manufacturer shall have test facilities available that can demonstrate that the proposed products meet the contract requirements.
      a. Make arrangements with the test facility for the Director's Representative to witness test demonstrations. Also obtain the services of the Manufacturer Technical for the proposed product to be present at the test facility. Notify the Director a minimum of 3 weeks prior to the availability of the test facility, and provide at least one alternative date for the testing.
   4. Provide written certification from the manufacturer that the proposed products are compatible for use with all other equipment proposed for use for this system and meet all contract requirements.

B. Test Facility: The Company producing the system shall have test facilities available that can demonstrate that the proposed system meets contract requirements.

C. Manufacturer Technical Advisor: Secure the services of a Manufacturer Technical Advisor for a minimum of 24 working hours for the following:
   1. Render advice regarding installation and final adjustment of the system.
   2. Witness final system test and then certify with an affidavit that the system is installed in accordance with the contract documents and is operating

properly.

3. Train facility personnel on the operation and maintenance of the system (minimum of two 1 hour sessions).
4. Explain available service programs to facility supervisory personnel for their consideration.

1.07 MAINTENANCE

A. Service Availability: A fully equipped service organization shall be available to service the completed Work.

B. Spare Parts:
1. (2) Intercom Substations
2. (1) Audio Relay Board
3. (2) Speakers

1.08 WARRANTIES

A. Base equipment and installation warranty shall be 1 year from date of final system acceptance.

B. Special Warranty: The one year period required by paragraph 9.8 of the General Conditions is extended to (2) years for the Work of this Section when approved. Refer to supplementary Conditions.

C. Manufacturer's Warranty: Product and component specific manufacturer's standard warranty where greater than the 2 years required by the special warranty.

D. Equipment integrator and contractor shall respond to warranty service requests within 4 hours of initiation of call to the facility location.

PART 2 PRODUCTS

2.01 MATERIALS

A. Intercom Master Stations: Each dedicated intercom master station shall be equipped and wired as required to affect the functions as described in 284601 Door Control System. Each system shall include the following:
1. Programmable Logic Controller (PLC) based audio switching system to perform the functions described herein.
2. Equipment necessary to effect balanced audio switching.
3. All software and programming necessary to perform the functions described herein.
4. All power supplies and amplifiers required.
5. Each Master Intercom Station shall consist of a remote intercom amplifier with separate microphone and speaker, volume up & down, and push-to-talk buttons.

a. At graphic panel locations, the intercom master shall be integrated into the control panel.
    1) Intercom condenser microphone Manufacturer:
        i) Specified: Tech Works HM-1-SUB
        ii) Acceptable: Dukane, Rauland
    2) Microphone with cardioid pattern, permanently mounted.
        i) Microphone manufacturer:
            1. Specified: Astatic Conneaut Technologies, Inc. 827-13
            2. Acceptable: Dukane, Rauland

b. At Touchscreen locations a separate intercom master station shall be provided.
    1) Construction shall be of 16-gauge stainless steel. Momentary pushbuttons shall be provided for volume up, volume down, and push-to-talk functions. The gooseneck microphone shall be removable, low impedance, electret condenser type. The speaker shall be 2 watt, 8 ohm. An internal circuit board shall be provided with all necessary terminals and relays. All terminals shall be "quick disconnect" type such that no tools are required to disconnect wiring for board replacement. Receptacles shall be provided on the exterior of the station for a foot operated push-to-talk switch and a headset with microphone. Upon inserting the headset plug into its receptacle all talk and listen functions shall transfer to the headset. The master station shall contain no active circuitry or control logic. All control functions shall be performed by a Programmable Logic Controller
        i) Manufacturer:
            1. Specified: TechWorks DODC-4
            2. Acceptable: Automation Displays, Inc.

c. Master intercom amplifiers
    1) Manufacturer:
        i) Specified: Tech Works ICA-202D
        ii) Acceptable: Rauland, Dukane
    2) All functions of the intercom amplifier shall be accessed through PLC outputs. (Push-to-talk, volume up & down, page mode relay, audio enable)

B. Intercom Substation:
    1. Each intercom substation shall be Surface mounted where shown on the drawings with push button call origination to the master station.
        a. Water and flame resistant
        b. Momentary call-in switch
        c. Surface mounted with tamper-resistant hardware
        d. 11-guage stainless steel;
        e. Exterior Substations to have 2-gang stainless steel back box with hood

f. Interior Substations to have 2-gang stainless steel back box
g. Manufacturer:
1) Specified Dukane 4A1485A
2) Acceptable: Rauland, Quam

C. General Paging:
1. The paging system shall be configured into zones, refer to riser diagrams for additional information.
2. Power Amplifiers:
a. Power output shall be as required to support the zones specified herein. Amplifiers shall be loaded to no more than 75 percent of their rated power output.
b. Amplifier shall be 19" rack mount type.
c. Amplifier shall be Toad, Bogen, or approved equal.
3. Speakers:
a. Secure Specified:
1) Back box - Atlas Soundolier 193-8-5
2) Speaker - Atlas Soundolier C5T72
3) Baffle - Atlas Soundolier VP161-R8
4. Horn/loud Speakers:
a. Bosch SPT15A Series or approved equal.

D. Interface Boards. All intercom stations and Paging zones shall be connected to interface boards. Interface Boards shall utilize PLC manufacturers' style of input/output cables for connections to the PLC input & output modules. All field terminations inside the equipment enclosures shall be made to Interface Boards. Terminations shall not be made directly to PLC modules.
1. Termination Boards shall be UL Listed or Recognized.
2. Each control point on each interface board shall have an LED to indicate if the point is currently active.
3. Interface boards shall be provided with a power LED for each power type supplied to the board that will indicate power is being supplied to the board.
4. Interface boards' control power busses shall be fused.
5. Interface Boards shall provide proper separation of Class 1 and Class 2 circuits as defined by Article 725 of the National Electric Code.
6. Interface boards shall contain no active circuitry or control logic.
7. All board terminations shall be pluggable to facilitate board replacement.
8. Termination boards shall be warranted for 10 years from the date of shipment.
9. BOARD TYPES:
a. Audio Relay Board
1) 16 relays per board.
i) Relays shall be rated at 2 amps each.
1. Omron
2) Manufacturer:
i) Specified: Creative Technologies # ARB-16
ii) Acceptable: Dukane, Rauland

E. Audio Level Monitoring Equipment: Circuit designed to detect audio levels higher than pre-set level and initiate a call-in to the Master Control panel. Circuit shall have day and night sensitivity settings with adjustable controls for each. Excessive audio shall be indicated through a set of dry contacts. Circuit shall be compatible with the dedicated intercom Master Station and associated equipment. One circuit shall be provided for each intercom station requiring audio level monitoring.
   1. Audio Level Monitoring Equipment inputs and outputs shall be wired to interface boards and not directly to the PLC modules.
   2. Day and night sensitivity settings shall be controlled via the Touchscreen Control System.
   3. Manufacturer:
      a. Specified: Creative Technologies
      b. Acceptable: Dukane

F. Lightning Protection: All cables entering or leaving a building shall be protected Silicon Avalanche Diode protection devices. These devices shall be installed in the appropriate enclosure and grounded to the grounding system.

2.02 OPTICAL FIBER MEDIA CONVERTER (OFMC)

A. FM AUDIO TRANSMISSION

B. 20Hz - 20kHz

C. (2) single-mode fiber optic ports

D. Audio in and Audio out.

E. Operating Temp -40 degrees Celsius – 74 degrees Celsius

F. As manufactured by GE Security AR2025

2.03 WIRING

A. Conductors: Number of conductors, size and type as recommended by the Company producing the system.

2.04 SIGNS AND LABELS

A. Zone Locator: Card holder with aluminum or stainless steel frame, plexiglass front and sheet aluminum card backing plate. Minimum size card 3 x 5 inches. Type on card the zone numbers and description of area encompassed by each zone.

2.05 ACCEPTABLE MANUFACTURERS:

A. Manufacturer’s names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials,

products, and services of manufacturers listed as "acceptable" may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the "specified" manufacturer. Listing of a manufacturer as specified or acceptable does not relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by addendum. Product substitution will not be accepted during the submittal process.

C. Contact Rob Johnson at Secured State for product information based on products listed in this specification: (618) 664-4292 x101.

PART 3 EXECUTION

3.01 GENERAL

A. Furnish all cables necessary to support the specified system.

B. Programmable Logic Controllers (PLC) shall be utilized to perform functions as specified. PLC's shall be as specified in Section 284601 Door Control System.

C. All equipment shall be rack mounted in Type 1, Equipment Racks unless otherwise noted.

D. All components/equipment shall be fabricated into racks conforming to the UL 508A standard. (Enclosure and all internal equipment and wiring as a single entity)

E. Installation shall comply with the National Electric Code. Provide proper separation of all wiring and circuit types

F. Install all equipment in accordance with manufacturer's recommendations.

3.02 COMPLETION

A. General: Upon completion of the work, remove excess debris, materials, equipment, apparatus, tools, and the like and leave premises clean, neat and orderly. Vacuum clean all equipment and enclosures to remove any dirt, dust, or foreign matter that may have accumulated during installation.

B. After complete installation, test system and correct all problems prior to acceptance testing. Once the Contractor is satisfied that the system is operating satisfactorily, operation of the entire system shall be demonstrated to the Owner.

3.03 INTERCOM SCHEDULE LEGEND (See Drawings).

3.04 CABLE AND CONDUCTOR INSTALLATION

A. Provide all signal cables and power conductors in raceways.

B. Signal cables and power conductors shall not be run in same raceway.

C. All signal cables and power conductors shall be continuous (no splices, except at terminal cabinet and video door station).

3.05 SYSTEM START UP

A. Power shall only be applied to the system after re-checking for proper grounding of the system and measuring all loops for lack of shorts, grounds, and open circuits.

3.06 IDENTIFICATION, LABELING AND MARKING

A. Identify conductors with markers at intercom master station, door video stations, and terminal cabinet (designations shall correspond with point to point wiring diagrams).

3.07 INSTALLATION

A. Install system in accordance with the Company's printed instructions unless otherwise indicated.

B. Provide Surge Arresters on DC power line and signals going to the exterior door intercom substations.

C. Equipment shall be firmly secured, plumb, and level.

D. Wiring shall be uniform and in accordance with national electric codes and manufacturers' instructions.

E. Coordinate all work with other effected trades and contractors.

F. Zone Locator: install adjacent to each master station.

3.08 FIELD QUALITY CONTROL

A. Preliminary System Test:
   1. Preparation: Have the Company Field Advisor adjust the completed systems and then operate them long enough to assure that they are performing properly.
   2. Run a preliminary test for the purpose of:
      a. Determining whether the systems are in a suitable condition to conduct an acceptance test.
      b. Checking and adjusting equipment.
      c. Training facility personnel.

B. System Acceptance Test:

1. Preparation: Notify the Director's Representative at least three working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
2. Make the following tests:
   a. Individually test each master station and each door video station. Verify proper volume levels and freedom from noise and distortion.
   b. Test each system function step by step as summarized under SYSTEM DESCRIPTION.
   c. Include schedule with all components installed and tested. Schedule shall include the following:
      1) Date of test
      2) Name of tester
      3) Verification of all camera call ups
      4) Pass or fail of test
      5) Corrective action required
   d. Simulated utility power failure at full load to prove uninterruption of load power supply.
   e. Simulated UPS failure at full load to prove transfer to utility power upon malfunction of UPS (disconnect batteries with temporary disconnect switch or other methods to temporarily disable unit).
   f. Full load test for 15 minutes to prove capacity of system (utility power source disconnected). Record battery voltage and current at start and end of period. Record AC output voltage at start and end of period. Battery cell voltage under full load at the end of 15 minutes shall not be less than 1.75V.
3. Supply all equipment necessary for system adjustment and testing.
   a. Operational Test: Perform tests that include originating program and page messages at microphone outlets, preamplifier program inputs, and other inputs. Verify proper routing and volume levels and that system is free of noise and distortion.
   b. Signal-to-Noise Ratio Test: Measure signal-to-noise ratio of complete system at normal gain settings as follows:
      1) Disconnect microphone at connector or jack closest to it and replace it in the circuit with a signal generator using a 1000-Hz signal. Replace all other microphones at corresponding connectors with dummy loads, each equal in impedance to microphone it replaces. Measure signal-to-noise ratio.
      2) Repeat test for each separately controlled zone of loudspeakers.
      3) Minimum acceptance ratio is 50 dB.
   c. Distortion Test: Measure distortion at normal gain settings and rated power. Feed signals at frequencies of 50, 200, 400, 1000, 3000, 8000, and 12,000 Hz into each preamplifier outputs. Maximum acceptable distortion at any frequency is 3 percent total harmonics.

d. Acoustic Coverage Test: Feed pink noise into system using octaves centered at 500 and 4000 Hz. Use sound-level meter with octave-band filters to measure level at five locations in each zone. For spaces with seated audiences, maximum permissible variation in level is plus or minus 2 dB. In addition, the levels between locations in same zone and between locations in adjacent zones must not vary more than plus or minus 3 dB.

e. Power Output Test: Measure electrical power output of each power amplifier at normal gain settings of 50, 1000, and 12,000 Hz. Maximum variation in power output at these frequencies must not exceed plus or minus 1 dB.

f. Signal Ground Test: Measure and report ground resistance at public address equipment signal ground. Comply with testing requirements specified in Division 26 Section "Grounding and Bonding for Electrical Systems."

g. Inspection: Verify that units and controls are properly labeled and interconnecting wires and terminals are identified. Prepare a list of final tap settings of paging speaker-line matching transformers.

4. Submit written report of test results signed by Company Field Advisor and the Director's Representative. Include a record of final speaker-line matching transformer-tap settings, and signal ground-resistant measurement.

END OF SECTION

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SECTION 281354

METAL DETECTOR

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Catalog sheets, specifications and installation instructions.

PART 2 PRODUCTS

2.01 METAL DETECTOR

A. CEIA Metal Detection System Model SMD600 Plus.
1. 3 Levels of security
2. Complies with the requirements of NIJ-0601.02
3. 4 Multi0Zone Display Bars, each programmable as entry stop/go and/or local alarm indication
4. Flexible Acoustic Alarm Signaling System
5. 10 Acoustic Intensity Levels

2.02 HANDHELD METAL DETECTOR

A. CEIA Handheld Metal Detection System Model PD240
1. Complies with the requirements of NIJ-0602.02
2. Indoor and Outdoor Operations.
3. High Immunity to floor rebars allows Lower-Body Screening without Sensitivity Reduction.
4. Programmable Sensitivity.
5. Full Digital Design.
6. Provide (3) hand held metal detectors

PART 3 EXECUTION

3.01 INSTALLATION

A. Install metal detector in accordance with manufacturer's printed instructions.

END OF SECTION

Revised 10-5-17

SECTION 281604

MICROWAVE DETECTION SYSTEM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Perimeter Alarm System: Section 281605.

B. Fence Accessory Stations For Perimeter Security Systems: Section 281602.

C. Division 26: Associated Electrical materials.

1.02 DEFINITIONS

Note: The definition below supercedes the definition in section 014216 for Technical Advisor and Field Advisor.

A. Manufacturers' Technical Advisor
   1. An employee of the company producing the system (or a company which lists and markets the primary components of the system under their name) who is certified in writing by the company to be technically qualified in design, installation, and servicing of the required products. Personnel involved solely in sales do not qualify.

B. Integrator's Field Advisor
   1. An individual employed by an organization (other than the company producing the system), certified in writing by the company producing the system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as a field advisor in their behalf. Personnel involved solely in sales do not qualify.

1.03 SYSTEM DESCRIPTION

A. The microwave detection system shall operate as a zoned, outdoor perimeter protection system integrated with the perimeter alarm system (Section 281605) which detects movement and causes an alarm to be sounded at the perimeter alarm system's Zone Monitor when an intrusion occurs in the microwave zone.
   1. The microwave transmitter and receiver combination (zone) can be remotely tested from the console by activating a "zone test" function via the perimeter alarm system.
   2. Tampering with the microwave transmitter unit, receiver unit, and associated control box causes a "tamper alarm" condition at the main security console (this condition is independent of a "perimeter zone alarm" condition.)

3. Operation of the zone test feature at the Zone LCD Monitor of the perimeter alarm system will initiate a zone test of the microwave zone.

1.04 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittal Requirements: Submittals required by this section are to be submitted in Submittal Packages as follows:
   1. Submittals Package 1: Submit Product Data and Quality Control Submittals specified below at the same time as a package.
      a. Submit Submittals Package 1 within 30 days of contract award.
   2. Submittals Package 2: Submit Contract Closeout Submittals specified below at the same time as a package.
      a. Submit Submittals Package 2 upon physical completion, when directed by the Director's Representative.
   3. It is the Contractor's responsibility to review and verify that all information required for each submittal package is included in the submittal package. Errors or omissions found by the Contractor are to be corrected prior to the Submittals Package submission for approval. Incomplete Submittal Packages submitted for review and approval will be returned.
      a. It is the Contractor's responsibility to verify that portions of the submittal packages provided by a Sub-Contractor are complete as well as portions of the submittal packages being provided directly by the Contractor.

C. Product Data (Submittals Package 1):
   1. Submit catalog sheets, specifications, and installation instructions for each item being proposed.
      a. At the top of each catalog sheet, specification or installation instruction that is being submitted indicate the Specification Section, Article, Paragraph and Subparagraph of the item is being submitted.
   2. Bill of Materials: Provide a Bill of Materials identifying each system device or component proposed to be used for this system as listed in PART 2 PRODUCTS of this section.
      a. The Bill of Materials shall provide the following information:
         1) Identify each item by name and model number.
         2) Indicate the page number(s) in the Submittal Package where information required for that item can be found.
         3) Identify the appropriate specification section, Article number, paragraph and subparagraph where that item is listed in the project manual.
   3. Name, address and telephone number of nearest fully equipped service organization.

D. Quality Control Submittals (Submittals Package 1):

1. Work Schedule:

a. Submit a work schedule of how the installation of the system shall be performed. Schedule shall include:

1) A brief description of the work to be performed at each phase.

2) Estimated time durations required to perform each phase of the work.

3) Date that Pre-installation Training Meeting will be held.

a) Pre-installation Training Meeting should not be held more than 2 weeks prior start of the installation of any system component listed PART 2 PRODUCTS for this system unless an earlier time is agreed upon by the Director's Representative.

4) Delivery dates that materials being provided under this contract will be required to be at the contract site.

5) Delivery dates that materials being furnished by others will be required to be at the contract site.

6) Dates that services being furnished by others will be required to be performed.

b. Certification from the contractor stating that the contractor has verified with the manufacturers (and/or distributors) of the materials the Contractors proposes for this contract, that the manufacturers (and/or distributors) of the materials guarantees delivery of the materials no later than the date indicated in the Contractor's work schedule.

2. Installers' Qualifications Data: Include a completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work.

a. Forms must be completely filled out.

b. Forms must include all information required, showing that the experience criteria have been met.

c. Each Form must be signed by the installer.

3. Integrator's Field Advisor Data, Include:

a. Name, business address and telephone number of Integrator's Field Advisor(s) secured for the required services.

b. Certified statement (letter) from the Companies producing the system listing the qualifications of the Integrator's Field Advisor. The certification statements from the Companies shall include the following:

1) Information stating that the Integrator's Field Advisor is experienced in the engineering, design and installation of the Equipment being used for this project.

2) Each product for which the Company gives authorization for the Integrator's Field Advisor to oversee installation of and each service the Integrator's Field Advisor can perform in their behalf, listed specifically for this project.

c. Listing of similar projects that the Integrator's Field Advisor has worked on in the past 3 years.

d. Listing of training that the Integrator's Field Advisor has received on the equipment being proposed for this project.

E. Contract Closeout Submittals (Submittals Package 2):
1. Test Report: System acceptance test report.
2. Certificate: Affidavit, signed by the Integrator's Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.
3. Operation and Maintenance Data:
a. Deliver 2 copies, covering the installed products, to the Director's Representative. Include:
1) Operation and maintenance data for each product.
2) Complete point to point wiring diagrams (As-Built Drawings) of entire system as installed. Identify all conductors and show all terminations and splices (identification shall correspond to markers installed on each conductor).
3) Name, address, and telephone number of nearest fully equipped service organization.

1.05 QUALITY ASSURANCE

A. Installers' Qualifications: The persons installing the Work of this Section and their supervisor shall be personally experienced in security systems and shall have been engaged in the installation of security systems for a minimum of 3 years.
1. Qualifying experience must be in the installation of security systems similar in operation and construction of the system being specified by this section.
2. Furnish to the Director completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work. Each form shall include:
a. Installer's name.
b. Employer's Name and Address.
c. Qualifying Experience: Project information of 5 similar projects, which the installer, had worked on during the past 3 years. Information shall include for each project:
1) Name and Address of project.
2) Dates installer worked on project.
3) Name and telephone Number of installer's supervisor for the project.
4) Types of security installation work installer performed on project.

B. Integrator's Field Advisor: The Integrator's Field Advisor will be responsible to perform the following:
1. Provide the information required for the Submittals Packages as listed in this specification section.
a. The Integrator's Field Advisor shall compile one complete set of submittal information to the Contractor for copying by the Contractor and inclusion in the Contractor's six copies of the

submittal package.

2. Conduct a pre-installation training meeting at the contract site with the installers (and their supervisor) who will be performing the work, the Director's Representatives and facility supervisory and maintenance personnel. The meeting shall be a minimum of 2 hours in duration or longer as required to cover required topics. The topics covered shall include, but shall not be limited to the following:
   a. Integrator's Field Advisor shall present an overview of the system as it is to be installed.
   b. Integrator's Field Advisor shall lead a discussion of installation concerns and coordination issues on this system and related systems and related work being installed under this project.
   c. Integrator's Field Advisor shall provide training on procedures for installing system components and precautionary measures installers should be aware of while performing the work.
      1) Integrator's Field Advisor shall review wiring requirements for each component of the system with the installers and provide training on termination, bonding and grounding procedures required for proper installation of the system wiring.
   d. Provide all materials necessary for training (samples of all equipment being installed, training aides, handouts, overhead projector, etc.).
3. Render advice and technical support regarding installation and integration with other systems.
   a. Render advice and technical support regarding interconnections between this system, the Video Surveillance System (Section 282304).
4. Assist in coordination of the installation of this system as it relates to the installation other systems being provided under this contract and related contracts.
5. Provide technical advice and inspection of the installation at the contract site at all times during the installation of the system equipment and for the following:
   a. Provide daily inspection the installation of the system.
   b. Render advice and guidance regarding installation of the system.
   c. Render advice and guidance on final adjustments of the system.
   d. Render advice regarding installation of the system as it relates with the work with the other systems.
   e. Perform preliminary tests of the system.
   f. Perform the final systems test and certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.
   g. Train facility security personnel, security supervisory personnel and maintenance personnel in operation and in routine (weekly and annual) testing of the system (minimum of four 2-hour sessions).

1.06 MAINTENANCE

A. Service Availability: A fully equipped service organization capable of guaranteeing response time within 4 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed system.

B. Spare Parts:
   1. One of each type of surge protection units.
   2. Three of each size fuse.

PART 2 PRODUCTS

2.01 MICROWAVE DETECTION SYSTEM

A. Microwave Transmitter and Receiver Units: Senstar UltraWave Model E4FG0101 series Microwave Transmitter and Receiver Units, having:
   1. Zone lengths from 16 to 656 ft. Stackable for increased detection zone height.
   2. Suitable for operation on 48 volts DC.
   3. K-band operation; 10 field-selectable frequency channels.
   4. Optional network interface on receiver minimizes field wiring.
   5. For non-network applications, two user configurable relay outputs provided.
   6. Come with Mounting Brackets.
   7. High-impact ABS plastic.
   8. Antenna Pattern: Approximately 13 degrees horizontal and vertical.

B. Surge Protection: Equip system with surge suppressors to protect equipment from voltage transients and lightning surges.
   1. Surge Protection Units for Data and Audio conductors: Ditek Corp.'s DTK-2MHLP-12 Surge Protection Units with Ditek Corp.'s MB10 mounting base.
   2. Surge Protection Units for DC power conductors: Ditek Corp.'s DTK-2MHLP-24 Surge Protection Units with Ditek Corp.'s MB10 mounting base.

C. Interconnection Cable:
   1. Multi-conductor cable with 3 individually shielded twisted pairs of insulated 18 AWG stranded copper wires enclosed in an overall shield in a jacket suitable for direct burial.

2.02 MOUNTING POSTS

A. Mounting Post: Galvanized steel pipe (Schedule 40), 4 inch (outside) diameter with length as indicated on drawings.
   1. Provide galvanized steel post cap.

B. Concrete Bases as detailed on drawings and poured in place, having:
   1. Type III Portland Cement, air-entrained concrete having minimum

compressive strength of 5,000 psi at 28 days (and having minimum compressive strength of 2,000 psi at 1 day). Maximum water-cement ratio 0.40.

C. Termination Box: 6" x 6" x 4" (minimum size) NEMA 4X stainless steel enclosure, Hoffman's CHNFSS series enclosure. Secured to post with hot dipped galvanized or stainless steel fasteners.

D. Grounding:
   1. Ground Electrodes:
      a. Rod Electrodes: Copper clad (min. .010 jacket) ground rods minimum 5/8 inches diameter by 8'-0" long.
   2. Grounding Electrode Conductors and Bonding Conductors: # 6 AWG Copper conductors, bare or insulated with RHW, THW, XHHW, THWN or THHN insulation.

E. Microwave Reflector: Size and construction as indicated on drawings. Material of reflector plate-(Aluminum).

2.03 MARKERS

A. Markers:
   1. Premarked self-adhesive; W.H. Brady Co.'s B940, Thomas and Betts Co.'s E-Z code WSL self-laminating, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers.
   2. Flexible sleeve markers; Plastic Extruded Parts Inc.'s FS series.
   3. Snap-on markers; Plastic Extruded Parts Inc.'s RS series.

2.04 ACCESSORIES

A. Contractor shall include all materials (conduits, enclosures, fasteners, etc) as required for installing the system equipment as indicated on the drawings.

2.05 ACCEPTABLE MANUFACTURERS:

A. Manufacturer's names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials, products, and services of manufacturers listed as "acceptable" may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the "specified" manufacturer. Listing of a manufacturer as specified or acceptable does not relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by

addendum. Product substitution will not be accepted during the submittal process.

C. Contact Mark Clemons at Senstar for product information based on products listed in this specification: (703) 463-3084.

PART 3 EXECUTION

3.01 INSTALLATION

A. Pre-installation Training Meeting.
   1. Make arrangements through the Director's Representative and the Integrator's Field Advisor to have the Integrator's Field Advisor conduct the Pre-installation Training Meeting for this system.
      a. Provide a minimum of one week notice to the Director's Representative, so that a Pre- Installation Training Meeting schedule can be set up with facility personnel and arrangements can be made for a location to hold the meeting.
      b. The Integrator's Field Advisor shall provide all materials necessary for training (samples of all equipment being installed, training aides, handouts, overhead projector, etc.).
      c. Training shall be schedule so to avoid conflict with any other training required by this contract.
      d. Contractor shall have all installers (and their immediate supervisor) who will be performing the work attend this training.
         1) Only persons who have attended this training meeting will be allowed to install or work with any of the products specified in PART 2 in this specification section.

B. Install microwave detection system in accordance with Company's printed instructions and interconnect with Perimeter Alarm System (Section 281605) for a complete integrated system.
   1. No mounting, terminations and/or connections of devices specified in this section are to be made until the Pre-installation Training Meeting has been performed.

C. Exact location of microwave transmitter/receiver units post and base and the exact location of microwave reflector shall be as recommended by the Integrator's Field Advisor.
   1. Locate units so that the microwave beam crosses perpendicular to the sides of the vehicle compound and perpendicular to reflector panel.
   2. Locate units far enough away from the sides of the vehicle compound so to assure the entire width of the vehicle compound is protected by the microwave zone and the "dead space" in front of the microwave units are outside the vehicle compound.
   3. Locate units to facilitate snow removal from detection zone.
   4. Have the Integrator's Field Advisor mark exact location of posts at the site.

D. Install a ground rod electrode at each microwave receiver and transmitter location.

E. Make cable connections, terminations, and splices in fence accessory station, and microwave transmitter and receiver units. Splices will not be permitted at any other locations.
   1. Identify conductors with markers at terminal strips, pullboxes and security equipment racks (designations shall correspond with point to point wiring diagrams).
   2. Install surge protection on each conductor entering and leaving fence accessory station.

F. Upon completion of the installation of the microwave receiver and transmitter units have the Integrator's Field Advisor operate, adjust and test the microwave zone utilizing the Field Test Unit.
   1. The Integrator's Field Advisor shall confirm that the antenna being used is appropriate for site conditions and change the antenna as required for optimal performance of the microwave zone.
   2. The Integrator's Field Advisor shall select the channel the microwave zone is operating for optimal performance of the microwave zone.
   3. The Integrator's Field Advisor shall confirm that the signal bandwidth jumper is set for fast moving objects or slow moving objects as required by the Facility's Security Supervisor.
   4. Provide testing as required to assist the facility in determining the correct setting.

3.02 SYSTEM TRAINING

A. After the system is substantially complete and operational, provide on-site training of facility security, security supervisory, and maintenance personnel.
   1. Provide a minimum of 1 week notice to the Director's Representative, so that a training schedule can be set up with facility personnel and arrangements can be made for a location to hold the training.
   2. Provide all materials necessary for training (training aides, handouts, overhead projector, etc.).

B. System Operation Training: Training shall be set-up so that at the end of training, facility (security, security supervisory, and maintenance) personnel shall have a complete understanding of:
   1. How the system operates.
      a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.
   2. Knowledge of all components in the system and their function.
   3. How the system is interconnected with other security systems and how the system operates in conjunction with the other systems.
   4. Weekly testing procedures for the system required to be performed by the Department.
      a. Each microwave zone shall be tested weekly as follows:
         1) Test the microwave zone by walking in a zigzag pattern

through the entire zone. Detection should occur approximately 3 to 5 seconds after entering the zone. Detection should cause the perimeter alarm system to go into alarm and switch the appropriate CCTV camera to the alarm monitor and cause the system video recorder to record the camera viewing the zone in alarm.

a) Check to see that, upon alarm pan/tilt/zoom cameras automatically move to view the zone in alarm.

(1) Prior to performing a test on a perimeter zone monitored by pan/tilt/zoom camera stations, so to confirm proper functioning of the camera stations, perform the following:

(a) Pan the camera stations 90 degrees away from the zone that is to be tested.

(b) Tilt the camera stations to an angle other than what will be called up when the zone goes into alarm.

(c) Adjust the lens' field of view to a setting other than what will be called up when the zone goes into alarm.

2) Where the microwave zone intersects with adjacent zone (another microwave zones or a zone of another type of detection system) check to make sure that detection occurs in: either the zone you are testing, the adjacent zone, or both zones.

3) Check the entire zone for environmental conditions that could effect the operation of the zone. Specifically check for:

a) Debris.
b) Weeds.
c) Snow (greater than 6 inches in depth).
d) Erosion.

4) Record test of the zone on the appropriate Department forms, noting failures or any conditions that could effect operation of the zone.

C. System Maintenance Training: Training shall be set-up so that at the end of training, facility maintenance personnel shall have a complete understanding of:

1. Routine (monthly, quarterly or annual) maintenance required to the system and how to perform that maintenance.
   a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.
2. Knowledge of all components in the system and adjustments to the components that they would be required to perform to maintain operation

of the system.

3. How to replace all items listed as spare parts for the system.
   a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system working on the system.
4. Annual testing procedures for the system required to be performed by the Department.
   a. Each microwave zone shall be tested annually as follows:
      1) Perform the weekly Test.
      2) Attach the microwave test unit to the microwave receiver unit.
      3) Remove covers from both the microwave transmitter and receiver unit.
         a) Verify that tamper alarms are reported at the perimeter alarm system's zone monitor upon removal of covers.
         b) Check that the channel selected at both units is the same.
         c) Check the sensitivity setting at the receiver is set between 40 to 50 percent of maximum.
      4) Verify alignment of the transmitter and receiver unit to the reflector with the microwave test unit.
         a) Adjust alignment of the transmitter and receiver units for optimum alignment if signal strength is not sufficient.
      5) Walk test the middle of the zone to determine the zone width.
         a) At the middle of the zone, stand approximately 12 to 15 feet (perpendicular) from the centerline of the beam, slowly walk toward the beam using 6 inch steps until the microwave test unit alarms. Stop walking this is the edge of the beam on that side of the zone.
         b) Cross the zone and again start outside the zone approximately 12 to 15 feet perpendicular from the centerline of the beam, slowly walk toward the beam using 6 inch steps until the microwave test unit alarms. Stop walking this is the edge of the beam on that side of the zone.
         c) The distance between the 2 alarmed points is the maximum width of the zone, which is greatest at the middle of the zone.
         d) Ensure that the zone does not detect the edge of the security (razor) coils. Adjust the sensitivity (to increase/decrease) the maximum width so it detects approximately 1 to 2 feet from the security coil.
      6) Crawl test with a slow belly crawl the ends of the zone adjacent to the microwave transmitter and receiver units

and adjacent to the reflector.

a) This test should be done inside the vehicle compound.
   (1) Where the microwave zone shoots through a fence, the crawl test should be made at the base of both sides of the fence. Detection should occur on both sides of the fence.

b) Verify with the attendant at the perimeter alarm system's zone monitor that the alarm was received.
   (1) During the crawl test, monitor the microwave test unit to verify for proper sensitivity setting of the zone.
   (2) Adjust sensitivity setting of the zone, if signal strength is not sufficient. Adjustment to the height of the microwave heads may be required to detect a crawling target.

c) Repeat this test the test at the other end of the zone.

d) A Human shaped test dummy of approximately 5 to 6 feet in height may be used in lieu of an actual person performing the belly crawl test. Drag the dummy across the zone by rope.
   (1) Do not use an aluminum ball for the crawl test. The sensitivity setting to pick up the ball would make the sensitivity for the zone to high, and cause excessive nuisance alarms in the zone.

e) Use extra care to ensure sufficient detection in corner zones. Microwave unit at corner zones may be required to be located closer to the ground to ensure sufficient overlap with adjacent zones.

7) Record test of the zone on the appropriate Department forms, noting failures or any conditions that could effect operation of the zone.

3.03 FIELD QUALITY CONTROL

A. Preliminary System Test:

1. Prerequisite: The CCTV Control System in Building No. 90 must be operational and inter-connected with the Perimeter Alarm System and Perimeter Camera Stations prior to performing the Preliminary System Test.
2. Preparation: Have the Integrator's Field Advisor inspect and adjust the completed system and then operate it long enough to assure that it is performing properly.
   a. Contractor shall provide personnel to assist in the performance of the system tests and shall provide personnel and materials

required to make adjustments as directed by the Integrator's Field Advisor to prepare the system for the system acceptance tests.

3. Run a preliminary test for the purpose of:
   a. Determining whether the system is in suitable condition to conduct the acceptance test.
   b. Checking and adjusting equipment.
      1) Check alignment between transmitter and receiver.
      2) Check that the sensitivity setting for each zone is set within 40 to 50 percent of maximum.
      3) Check that tamper switches within microwave transmitter and receiver unit operate and are monitored an annunciated at the perimeter alarm system's zone monitor.
   c. Training facility personnel.

B. System Acceptance Test:
   1. Preparation: Submit the report of preliminary test to the Director's Representative certifying that the system is ready for the System Acceptance Test. The Director's Representative will schedule the test within the next 3 working days and make arrangements to have a Facility Representative witness the System Acceptance Test.
   2. The System Acceptance Test shall be witnessed by the Director's Representative and a Facility Representative and shall be performed under the direction of the Integrator's Field Advisor with the assistance of the Contractor's personnel.
   3. The System Acceptance Test shall include the following tests as an integral test required for Perimeter Alarm System (Section 281605):
      a. Perform simulated escape attempts listed below at 10 foot intervals within each zone unless otherwise directed (Director's Representative shall select exact location and type of escape attempt or combination of attempts). Each escape attempt shall produce an alarm. If it does not, wait 30 seconds and repeat at the same location. If misses are repeated in the same location, the entire zone must be corrected and retested. The simulated escape attempts shall be performed by a person weighing 120 lbs or less. Provide safety equipment and take proper precautions when performing tests. Terminate each attempt upon detection.
         1) Walk Test: Walk slowly across detection zone perpendicular to the beam.
         2) Run Test: Run quickly across detection zone perpendicular to the beam.
         3) Belly Crawl: Crawl on stomach across detection zone parallel to beam (2 inches per second). This test shall be conducted immediately adjacent to the transmitter and receiver units, microwave reflector and at other locations where directed.
            a) A Human shaped test dummy of approximately 5 to 6 feet in height may be used in lieu of an actual person performing the belly crawl test. Drag the dummy across the zone by rope.

b. Test each function summarized in SYSTEM DESCRIPTION.

4. Map out extent of microwave signal within each zone.
5. Supply all equipment necessary for system adjustment and testing.
6. Submit written report of test results signed by Company Field Advisor and Director's Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the security equipment racks. Include the following on the test form:
   a. Sensitivity setting of each receiver (sensitivity setting should be 40 percent of maximum or less and in no case shall be greater than 50 percent of maximum).
   b. Height of each receiver and transmitter.
   c. Length of each zone.
   d. Weather conditions during test.

C. System Testing and Adjusting During Guarantee Period:

1. After satisfactory completion of acceptance test, Facility personnel will investigate and record all system alarms. If the system does not meet the following criteria it shall be considered defective under the terms of paragraph 9.8 of the General Conditions:
   a. False alarms that are internally generated within the system shall not exceed 1 per 100 hrs.
   b. False alarms caused by the following weather conditions shall not exceed l per 48 hours:
      1) Wind up to 30 mph.
      2) Rain up to 3 inches per hour.
      3) Snow up to 5 inches per hour.
2. Within one week of notification that any zone does not meet the above criteria, make arrangements to correct the zone and retest in accordance with 3.03 B. 3. a. & b.

END OF SECTION

Revised 10-5-17

SECTION 281605

PERIMETER ALARM SYSTEM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Microwave Detection System: Section 281604.

B. Video Surveillance System: Section 282304.

C. Division 26: Associated Electrical materials.

1.02 AWARD REQUIREMENTS REGARDING THIS SYSTEM

A. As a condition of award the contractor will be required to provide proof that the contractor or the contractor's designated sub-contractors are capable of meeting the contract requirements for this system. This proof shall include the following:
   1. Proof that the companies (or persons) performing the work required for this system are experienced in the installation of this system or are experienced in the installation systems of similar operation and construction to the specified system and equipment.
   2. Proof that the contractor and the contractor's designated sub-contractors have resources (personnel, equipment, etc.) available to complete the contract requirements within the construction duration required by this contract.
   3. Proof that the companies (or persons) performing the work required for this system are licensed in New York State to install security systems.

B. The Director may determine that a pre-award meeting will be held for this contract. At the meeting the contractor will be required to provide additional details to prove that the contractor or the contractor's designated sub-contractors are capable of meeting the contract requirements for this system.

1.03 DEFINITIONS

A. Manufacturers' Technical Advisor:
   1. An employee of the company producing the system (or a company which lists and markets the primary components of the system under their name) who is certified in writing by the company to be technically qualified in design, installation, and servicing of the required products. Personnel involved solely in sales do not qualify.

B. Integrator's Field Advisor:
   1. An individual employed by an organization (other than the company producing the system), certified in writing by the company producing the

system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as a field advisor in their behalf. Personnel involved solely in sales do not qualify.

1.04 SYSTEM DESCRIPTION

A. The perimeter alarm system operates as an automatic detection and alarm system to alert facility personnel of any change in status of all monitored perimeter alarm system zones and locate intruders that attempt to cut, climb, or lift the fence fabric.

B. The perimeter is divided into 25 sensor cable zones, and one microwave detection system zone.

C. The main components of the perimeter alarm system consist of the following:
1. Network Switches.
2. Armored Sensor Cables.
3. FlexZone Processors.
4. Microwave Receiver and Transmitter.
5. Universal Device Interface.
6. System Printer.
7. Network Manager Computer and Workstations.
8. Zone LCD Monitor

D. The Network Manager Computer shall be located in Head End Security EQPT Room of Building No. 90 and shall perform the following:
1. Indicates alarm, tamper, access or secure conditions for every zone in the system on a map of the facility site.
   a. The Network Manager Computer shall also be connected to a Video Graphic Display on a Zone LCD Monitor, which will provide a graphic representation of the status of the perimeter security zones.
2. Sounds an audible alarm for all alarm, tamper, and trouble conditions within the system.
3. Provides audio monitoring for every sensor cable zone in the system, allowing facility personnel to distinguish various sounds of attempted breaching, tampering, or trouble conditions.
4. Thru the Universal Device Interface, automatically initiates switching of the Video surveillance systems' camera stations, covering any zone in alarm, to the designated monitors in the Control Room in Building No. 90.
5. Change in the system's status, indicating the date, time, system, and/or zone condition, zone number, and operator number are electronically stored to CCTV network system manager computer and can printed out by the System Alarm Printer when needed.
6. A keyboard and mouse will allow facility personnel to:
   a. Acknowledge changes in the system's status (alarm, tamper and trouble conditions).
   b. Place any zone in the access mode.
   c. Program system functions.

d. Perform a self-test of the complete system or individual zones.

E. Each sensor cable shall operate as an automatic, supervised, detection and alarm system, integrated with the Network Manager Computer to alert security personnel of an attempted breach of the perimeter security fence. Each sensor cable zone's operation is summarized as follows:

1. Sensor cables located on the perimeter fences and FlexZone processors (located in fence accessory stations) detect attempts to climb over or cut through the fence.
2. The cover of the FlexZone processor is monitored by a tamper switch which is connected to the tamper circuit of one of the sensor cable zone's tamper circuit.
3. Sensor Cable will transmit Data and power to other FlexZone processors on the system. A transponder built into the first FlexZone Processor transmit alarm conditions to the Network Manager Computer.
4. Each zone’s status is continuously monitored by the perimeter alarm system.
5. Self-test features in the FlexZone Processors allow attendants at the Zone LCD Monitor to conduct tests of sensor cable zones.
6. Detect multiple simultaneous intrusions, when each intrusion attempt is separated by a sensor cable distance greater than 50 m (164 feet).
7. Support flexible, software-defined detection zones. Each FlexZone processor shall support up to 4 or 60 distinct, individually sized zones, depending on the model.
8. Pinpoint the position of a detected intrusion to within 3.0 m (9.8 feet) or less at least 95% of the time.

F. The microwave detection zone shall operate as an automatic, supervised, detection and alarm system, integrated with the FlexZone Processor to alert security personnel of an attempted breach of the vehicle compound. FlexZone monitors and controls the microwave detection system zone as follows:

1. The microwave detection system's transmitter and receiver units (located adjacent to the vehicle compound) detect attempts to breach the vehicle compound (Section 281604).
2. The microwave detection system's transmitter and receiver units are connected to the FlexZone Processor which monitors the status of the microwave zones alarm and tamper contacts and transmits the status of the microwave zone to the Network Manager Computer.
3. The microwave zone’s status is continuously monitored by the perimeter alarm system.
    a. All wiring between the microwave transmitter and receiver units and the FlexZone Processor are completely supervised.
4. Self-test features in the Network Manager Computer allow attendants at the Zone LCD Monitor to conduct tests of the microwave detection system zone.
    a. Operation of the zone test feature at the Zone LCD Monitor will be completed through the auxiliary inputs/self-test inputs of the FlexZone Processor (which monitors the microwave zone) which will initiate a zone test of the microwave zone.

G. All wiring between FlexZone Processor, and the microwave transmitter and receiver are completely supervised.

1.05 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittal Requirements: Submittals required by this section are to be submitted (by contractor) in Submittal Packages as follows:
   1. Submittals Package 1: Product Data and Quality Control Submittals specified below at the same time as a package.
      a. Submit Submittals Package 1 within 30 days of contract award.
   2. Submittals Package 2: Submit Contract Closeout Submittals specified below at the same time as a package.
      a. Submit Submittals Package 2 upon physical completion, when directed by the Director's Representative.
   3. It is the Contractor's responsibility to review and verify that all information required for each submittal package is included in the submittal package. Errors or omissions found by the Contractor are to be corrected prior to the Submittals Package submission for approval. Incomplete Submittal Packages submitted for review and approval will be returned.
      a. It is the Contractor's responsibility to verify that portions of the submittal packages provided by a Sub-Contractor are complete as well as portions of the submittal packages being provided directly by the Contractor.

C. Product Data (Submittals Package 1):
   1. Submit catalog sheets, specifications, and installation instructions for each item being proposed.
      a. At the top of each catalog sheet, specification or installation instruction that is being submitted indicate the Specification Section, Article, Paragraph and Subparagraph of the item is being submitted.
   2. Bill of Materials: Provide a Bill of Materials identifying each system device or component proposed to be used for this system as listed in PRODUCTS of this section.
      a. The Bill of Materials shall provide the following information:
         1) Identify each item by name and model number.
         2) Indicate the page number(s) in the Submittal Package where information required for that item can be found.
         3) Identify the appropriate specification section, Article number, paragraph and subparagraph where that item is listed in the project manual.
   3. Name, address and telephone number of nearest fully equipped service organization.

D. Quality Control Submittals (Submittals Package 1):

1. Work Schedule:

a. Submit a work schedule of how the installation of the system shall be performed. Schedule shall include:

1) A brief description of the work to be performed at each phase.

2) Estimated time durations required to perform each phase of the work.

3) Date that Pre-installation Training Meeting will be held.

a) Pre-installation Training Meeting should not be held more than 2 weeks prior start of the installation of any system component listed PART 2 PRODUCTS for this system unless an earlier time is agreed upon by the Director's Representative.

4) Delivery dates that materials being provided under this contract will be required to be at the contract site.

5) Delivery dates that materials will be required to be at the contract site.

6) Dates that services will be required to be performed.

b. Certification from the contractor stating that the contractor has verified with the manufacturers (and/or distributors) of the materials the Contractor proposes for this contract, that the manufacturers (and/or distributors) of the materials guarantees delivery of the materials no later than the date indicated in the Contractor's work schedule.

2. Installers' Qualifications Data Forms: Include a completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work and their immediate supervisor.

a. Forms must be completely filled out.

b. Forms must include all information required, showing that the experience criteria have been met.

c. Each Form must be signed by the installer.

3. Integrator's Field Advisor Data, Include:

a. Name, business address and telephone number of Integrator's Field Advisor(s) secured for the required services.

b. Certified statement (letter) from the Companies producing the system listing the qualifications of the Integrator's Field Advisor. The certification statements from the Companies shall include the following:

1) Information stating that the Integrator's Field Advisor is experienced in the engineering, design and installation of the Equipment being used for this project.

2) Each product for which the Company gives authorization for the Integrator's Field Advisor to oversee installation of and each service the Integrator's Field Advisor can perform in their behalf, listed specifically for this project.

c. Listing of similar projects that the Integrator's Field Advisor has worked on in the past 3 years.

d. Listing of training that the Integrator's Field Advisor has received on the equipment being proposed for this project.
e. Confirmation of New York State Security/Fire Alarm Installers Licensure: Integrator's Field Advisor must be covered by a New York State Security/Fire Alarm Installers license.

4. Manufacturer's Technical Advisor Data: Include:
   a. Name, business address and telephone number of Manufacturer's Technical Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Manufacturer's Technical Advisor.
   c. Services and each product for which authorization is given by the Company, listed specifically for this project.

E. Contract Closeout Submittals (Submittals Package 2):
1. Test Report: System acceptance test report.
2. Certificate: Affidavit, signed by the Manufacturers' Technical Advisor and Integrator's Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.
3. Operation and Maintenance Data:
   a. Deliver 2 copies, covering the installed products, to the Director's Representative. Include:
      1) Operation and maintenance data for each product.
      2) Complete Point to Point Wiring Diagrams (As-Built Drawings) of entire system as installed. Identify all conductors and show all terminations and splices (identification shall correspond to markers installed on each conductor).
      3) Name, address, and telephone number of nearest fully equipped service organization.

1.06 QUALITY ASSURANCE

A. Installers' Qualifications: The persons installing the Work of this Section and their supervisor shall be personally experienced in security systems and shall have been engaged in the installation of security systems for a minimum of 3 years.
1. Qualifying experience must be in the installation of security systems similar in operation and construction of the system being specified by this section.
2. Furnish to the Director completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work and their immediate supervisor. Each form shall include:
   a. Installer's name.
   b. Employer's Name and Address.
   c. Qualifying Experience: Project information of 5 similar projects, which the installer, had worked on during the past 3 years. Information shall include for each project:
      1) Name and Address of project.
      2) Dates installer worked on project.

3) Name and telephone Number of installer's supervisor for the project.
4) Types of security installation work installer performed on project.

B. Integrator's Field Advisor: The Integrator's Field Advisor will be responsible to perform the following:
1. Provide the information required for the Submittals Packages in regards to the materials listed in this specification section.
a. The Integrator's Field Advisor shall compile one complete set of submittal information to the Contractor for copying by the Contractor and inclusion in the Contractor's six copies of the submittal package.
2. Assist the Manufacturers' Technical Advisor in conducting the pre-installation training meeting at the contract site.
a. Provide all materials necessary for training (samples of all equipment being installed, training aides, handouts, overhead projector, etc.).
3. Render advice and technical support regarding installation and integration with other systems.
a. Render advice and technical support regarding interconnections between this system, the microwave detection system (Section 281604).
b. Render advice and technical support regarding interconnections between this system, the Video Surveillance system (Section 282304).
4. Assist the Contractor in coordination of the installation of this system as it relates to the installation other systems being provided under this contract and related contracts.
5. Provide technical advice and inspection of the installation at the contract site at all times during the installation of the system equipment and for the following:
a. Provide daily inspection the installation of the system.
b. Render advice and guidance regarding installation of the system.
c. Render advice and guidance on final adjustments of the system.
d. Render advice regarding installation of the system as it relates with the work with the other systems.
e. In Building No. 90, mount and perform terminations to the Zone LCD Monitor and perform interconnections between the Network Manager Computer and Universal Device interface unit of the CCTV control system and require programming of the Network Manager Computer and CCTV control system.
f. Assist the Manufacturers' Technical Advisor in the performance of the preliminary tests of the system.
g. Perform the final systems test and certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.

C. Manufacturers' Technical Advisor: The Manufacturers' Technical Advisor will be responsible to perform the following:

1. Conduct a pre-installation training meeting at the contract site with the installers (and their supervisor) who will be performing the work, the Director's Representatives and facility supervisory and maintenance personnel. The meeting shall be a minimum of 8 hours in duration (held in four 2 hour increments). The topics covered shall include, but shall not be limited to the following:
    a. Manufacturers' Technical Advisor shall present an overview of the system as it is to be installed.
    b. Manufacturers' Technical Advisor shall lead a discussion of installation concerns and coordination issues on this system and related systems and related work being installed under this project.
    c. Manufacturers' Technical Advisor shall provide training on procedures for installing system components and precautionary measures installers should be aware of while performing the work.
        1) Manufacturers' Technical Advisor shall review wiring requirements for each component of the system with the installers and Integrator's Field Advisor.
        2) Manufacturers' Technical Advisor shall provide training on termination, bonding and grounding procedures required for proper installation of the system wiring.
2. Render advice and technical support regarding installation and integration with other systems.
    a. Render advice and technical support regarding interconnections between this system, the microwave detection system (Section 281604).
    b. Render advice and technical support regarding interconnections between this system, the Video Surveillance system (Section 282304).
3. Provide services at the contract site for a minimum of 24 hours for the following:
    a. Inspect the installation of the system equipment and perform preliminary tests of the system.
    b. Perform final systems test and certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.
    c. Train facility security personnel, security supervisory personnel and maintenance personnel in operation and routine (weekly and annual) testing of the system (minimum of four 2-hour sessions).

1.07 MAINTENANCE

A. Service Availability: A fully equipped service organization capable of guaranteeing response time within 4 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed system.

B. Spare Parts: are to be furnished at contract close-out to be stored at the contract site.
    1. One FlexZone Processor

2. One 150 meter reel of Armored Sensor Cable.
3. Two Splice kits.

4. Two surge protectors (DTK-2MLP-12)
5. Two surge protectors (DTK-2MLP-24)
6. Two Hundred stainless steel cable ties for securing Armored Sensor Cable to fence fabric.
7. One Ethernet Switch
8. One Network Manager Computer

PART 2 PRODUCTS

2.01 ZONE LCD MONITOR

A. The PMCL600 Series FHD LED monitor shall the following features: VGA, BNC and HDMI inputs, picture-in-picture (PIP), looping BNC output, and full high definition resolution.

B. The High Definition LCD monitors shall be capable of providing a maximum of 1920 x 1080P Resolution with front panel controls.

C. The PMCL600 Series FHD LCD monitor shall meet or exceed the following design and performance specifications.
   1. Electrical Specifications
      a. Input Voltage 100 to 240 VAC, 50/60 Hz
      b. Power Consumption
         1) PMCL624 35 W
      c. Video Input Interfaces
      d. 1 BNC, looping; 1 HDMI (2 HDMI for wall mount); 1 VGA; 1 USB.
      e. Audio Input Interfaces 3.5 mm audio jack
      f. Horizontal Frequency: 15 to 75 kHz
      g. Vertical Frequency 25 to 75 Hz
      h. Sync Format NTSC/PAL

D. Environmental Specifications
   1. Operating Temperature 32° to 104°F (0° to 40°C)
   2. Operating Humidity 10% to 85%, noncondensing

E. Physical Specifications
   1. Dimensions
      a. PMCL624 1.91” D x 21.8” W x 12.92” H
   2. Unit Weight
      a. PMCL624 7.9 lb

F. Mechanical Specifications
   1. Native Resolution 1920 x 1080p
   2. Panel Aspect Ratio 16:9
   3. Viewing Area

a. PMCL624		20.75 x 11.67 in
4. Pixel Pitch		
a. PMCL624		0.0106 x 0.0106 in
5. Video Formats		480p, 1080i, 1080p
6. Brightness		
a. PMCL624		250 cd/m2
7. Contrast Ratio		
a. PMCL624		1000:1
8. LED Backlight Type		
9. Panel Life		40,000 hours
10. Viewing Angle (H/V)		178°/178°
11. Displayable Colors		16.7 million
12. Response Time		
a. PMCL624		5 ms
13. Speakers		2 internal (8 ohms)
14. Front Panel Controls		Power, left/right, up/down, menu, input.
15. Indicators		LED (power on/off)

G. Warranty
   1. 2 year, parts and labor

H. Pelco Model Numbers

1. PMCL624	24-inch

2.02 FLEXZONE PROCESSORS

A. FlexZone-60 Processor: Senstar Model No. G6EM0102:
   1. Provides Electronic processing for up to 60 software defined sensor zones.
   2. Up to 300m of sensor cable per side.
   3. Power Consumption: Less than 2.5W.
   4. (2) auxiliary inputs.
   5. Weatherproof enclosure.
   6. (4) relay outputs
   7. A and B-side sensor cable inputs
   8. EDAPT included
   9. Operating temperatures from -40 degrees F to 158 degrees F.
   10. Shall support physical media options for A and B-side communication utilizing multi-mode fiber optic cable.
   11. The processor module shall detect and indicate physical tampering conditions, including:
      a. Opening of the processor enclosure cover, resulting in tamper switch activation
      b. Cutting the sensor cable
      c. Short-circuiting the sensor cable
      d. Disconnecting the sensor cable
   12. Provide the first and the last FlexZone Processor with Multi-Mode Fiber Optic Cable Network Interface Card as manufactured by Senstar Model No. 00BA1901.

13. Provide the first and the last FlexZone processor with a Power supply(PS): 48VDC, 50W Senstar Model Number GP0154-050, located in the Head End Security EQPT room. Power supply to be din-rail mounted.

2.03 ARMORED SENSOR CABLE

A. Sensor Cable: Senstars Model No. G6FG0200, FlexZone sensor cable inside flexible metal jacket - Armored sensor cable.
   1. Furnished in 150 meter length.

2.04 SPLICE KIT

A. Senstars Model No. G6KT0300, Condulet fitting for use with their FlexZone Armored Sensor Cable.
   1. Used for connecting two armored sensor cables together when required for longer detection zones.

B. Senstars Model No. C6KT0101 splice kit for use with their FlexZone Armored Sensor Cable.
   1. Used for connecting two armored sensor cables together when required for longer detection zones.

2.05 NON-DETECTING CABLE

A. Non-sensitive coaxial cable: Senstars GW0332-RL.

2.06 SURGE SUPPRESSORS

A. Equip system with surge suppressors to protect equipment from voltage transients and lightning surges.
   1. Surge Protection Units for Data and Audio conductors: Ditek Corp.'s DTK-2MHLP-12 Surge Protection Units with Ditek Corp.'s MB10 mounting base.
   2. Surge Protection Units for DC power conductors: Ditek Corp.'s DTK-2MHLP-24 Surge Protection Units with Ditek Corp.'s MB10 mounting base.

2.07 STAINLESS STEEL CABLE TIES

A. Cable Ties: for securing the Armored Sensor Cable to the perimeter fence:
   1. Stainless Steel Cable Ties: As manufactured by Senstar Model No. GH01080:
      a. 100-piece bags.
   2. Stainless Steel Cable Tie Tool as manufactured by Senstar Model No. GX0310.

2.08 MARKERS

A. Markers:
   1. Premarked self-adhesive; W.H. Brady Co.'s B940, Thomas and Betts Co.'s E-Z code WSL self-laminating, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers.
   2. Flexible sleeve markers; Plastic Extruded Parts Inc.'s FS series.
   3. Snap-on markers; Plastic Extruded Parts Inc.'s RS series.
   4. Thermal transfer (non-smearing), Brady's ID PAL hand held labeling tool, portable thermal transfer printer or equal.

2.09 ACCESSORIES

A. Provide all additional materials (conduits, enclosures, fasteners, etc) as required for installing the system equipment as indicated on the drawings.

2.10 ETHERNET SWITCH

A. Ethernet Switch (ES) as manufactured by Avaya, ERS 3510GT.
   1. 8-Ports of 10/100/1000Base-T with 2 SFP ports.
   2. Fanless operation.
   3. System CPU operates at 400MHz
   4. Switch Configured with 32MB Flash, 128MB DRAM
   5. RJ-45 Console port provides industry standard serial port connectivity.
   6. Ships with 1 set of 19” rack mount brackets
   7. Dimensions: 1 rack unit
   8. Supply Required SFP modules for multi-mode fiber optic cable.
   9. Electrical Specifications:
      a. 100 to 240 VAC, 0.18A@100 VAC.
      b. Thermal rating (output): 61 BTU/hr max
      c. Power consumption 18 Watts max.

2.11 NETWORK MANAGER COMPUTER/WORKSTATION

A. Durable Desktop Personal Computer (WS) as manufactured by Dell, Model OptiPlex XE2 small form Factor, EPA.
   1. Windows 8 Pro 64-bit with 4th Gen intel Core I5 processor.
   2. Integrated Intel HD graphics 4600.
   3. Non-ECCdual-channel 1600MHz DDR3 SDRAM with 8GB of memory.
   4. Dimensions: 11.4”x3.7”x12.3”
   5. 4 external USB powers
   6. 500GB Solid State Hybrid Hard Drive
   7. 315W power supply.
   8. (2) HDMI Ports
   9. RS-232 Port
   10. RJ-45 port with 10/100/1000 network card.
   11. Provide network manager computer with One rack unit keyboard with 17” LCD monitor and 16 port KVM as manufactured by Middle Atlantic, model RM-KB-LCD17X16KVM.

12. Provide Network Interface Unit (NIU) in Head End Security EQPT room as manufactured by Senstar, Model No. 00EM1301. NIU to be din-rail mounted.

2.12 UNINTERRUPTABLE POWER SUPPLY (UPS)

A. Uninterruptable Power Supply (UPS): as manufactured by APC, model No. SMT750.
   1. Smart uninterrupted power supply, 750VA/500W tower.
   2. Output Connections: (6) NEMA 5-15R.
   3. Input Connections: NEMA L5-15P.
   4. Output Power Capacity: 500 Watts / 750 VA.
   5. Multi-function LCD status and Control Console.
   6. Audible Alarm: Alarm when on battery, distinctive low battery alarm and configurable delays.
   7. Filtering: Full time multi-pole noise filtering.
   8. 3 years repair or replace (excluding battery) and 2 years for battery.

2.13 ACCEPTABLE MANUFACTURERS:

A. Manufacturer's names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials, products, and services of manufacturers listed as "acceptable" may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the "specified" manufacturer. Listing of a manufacturer as specified or acceptable does not relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by addendum. Product substitution will not be accepted during the submittal process.

C. Contact Mark Clemons at Senstar for product information based on products listed in this specification: (703) 463-3084.

PART 3 EXECUTION

3.01 INSTALLATION

A. Pre-installation Training Meeting.

1. Make arrangements through the Director's Representative and the Integrator's Field Advisor to have the Manufacturer's Technical Advisor conduct the Pre-installation Training Meeting for this system.
    a. Provide a minimum of one-week notice to the Director's Representative, so that a Pre- Installation Training Meeting schedule can be set up with facility personnel and arrangements can be made for a location to hold the meeting.
    b. The Integrator's Field Advisor shall provide all materials necessary for training (samples of all equipment being installed, training aides, handouts, overhead projector, etc.).
    c. Training shall be schedule so to avoid conflict with any other training required by this contract.
    d. Contractor shall have all installers (and their immediate supervisor) who will be performing the work attend this training.
        1) Only persons who have attended this training meeting will be allowed to install or work with any of the products specified in PART 2 in this specification section.

B. Install the Work in accordance with the Company's printed instructions. Interconnect with microwave detection system (Section 281604) and the Video Surveillance System (Section 282304) for a completely integrated system.
    1. No mounting, terminations and/or connections of devices specified in this section are to be made until the Pre-installation Training Meeting has been performed.
    2. No component of this system may be energized (powered up) until after the Integrator's Field Advisor has inspected the component's installation and approves it being energized.

C. Install sensor cable on fence as shown on drawings with stainless steel cable ties.
    1. Sensor cable is to be fastened to fence fabric every 12 inches (maximum) on center.
    2. Sensor cable shall be ran below mid rail and return back to the beginning of the zone on the upper mid-rail.

D. Surge Protection:
    1. Install surge protection on each conductor entering and leaving fence accessory stations and running to adjacent fence accessory stations.

E. Make all cable connections, terminations and splices in fence accessory stations or security equipment racks.
    1. Terminations and splices of the sensor cable (where indicated and required on the drawings) can be made on the fence utilizing the methods indicated on the drawing.
    2. Use markers to identify conductors at terminal strips, fence accessory stations, and pull boxes (designations shall correspond with point to point wiring diagrams).
        a. Markers for individual conductors of a multi-conductor cable is not required, if the following requirements are met:

1) Each individual conductor in the cable is color coded differently from other conductors in the cable.
2) The multi-conductor cable has a marker identifying it.
3) The color coding of each conductor is identified on the point to point wiring diagram.

F. Upon completion of the installation of each sensor cable detection zone have the Integrator's Field Advisor inspect the zone and then operate, adjust and test the zone to confirm that the zone is installed and operating properly.

G. In Building No. 90 all work regarding this system and related systems shall be performed in the presence and direct guidance of the Integrator's Field Advisor.
1. The installation of all conduit and wire between the security equipment racks in the Head End Security EQPT room and the Control Room on the first floor shall be performed under the direct guidance of the Integrator's Field Advisor.
2. The Integrator's Field Advisor shall also perform all interconnections (connections, terminations, etc.) and programming required between Perimeter Alarm System and related systems so that this system will operate with the associated systems as described in the SYSTEM DESCRIPTION in this specification section.
   a. The Integrator's Field Advisor shall perform all interconnections required between the network manager computer of this system and the universal device interface of the CCTV control system.
   b. The Integrator's Field Advisor shall perform all interconnections and programming required between this system and the Zone LCD Monitor (Video Graphic Display).

3.02 SYSTEM TRAINING

A. After the system is substantially complete and operational, provide on-site training of facility security, security supervisory, and maintenance personnel.
1. Provide a minimum of 1 week notice to the Director's Representative, so that a training schedule can be set up with facility personnel and arrangements can be made for a location to hold the training.
2. Provide all materials necessary for training (training aides, handouts, overhead projector, etc.).

B. System Operation Training: Training shall be set-up so that at the end of training, facility (security, security supervisory, and maintenance) personnel shall have a complete understanding of:
1. How the system operates.
   a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.
2. Knowledge of all components in the system and their function.
3. How the system is interconnected with other security systems and how the system operates in conjunction with the other systems.
4. Weekly testing procedures for the system required to be performed by the Department.

a. It is required that each perimeter zone be tested weekly as follows:
   1) Perform the detections system's weekly test as described below:
      a) Check to see that the activation of the detection system in that zone causes the following responses by the perimeter alarm system's zone LCD monitor:
         (1) An audible alarm is sounded by the zone LCD monitor.
         (2) The status of the display lights for that zone changes to red upon alarm and returns to green when the alarm is cleared.
         (3) The appropriate visual indication is displayed (i.e. point number in alarm, alarm status, etc.) on the zone LCD monitor.
         (4) The system printer prints-out all actions by the perimeter alarm system during the test of the zone.
         (5) Camera stations associated with the alarm points are automatically switched to the alarm monitor of the CCTV system.
            (a) Prior to performing a test on a perimeter zone monitored by pan/tilt/zoom camera station, so to confirm proper functioning of the camera station, perform the following:
               (i) Pan the camera station 90 degrees away from the zone that is to be tested.
               (ii) Tilt the camera station to an angle other than what will be called up when the zone goes into alarm.
               (iii) Adjust the lens' field of view to a setting other than what will be called up when the zone goes into alarm.

b. It is required that each sensor cable zone be tested weekly as follows:
   1) Visually inspect the sensor cable zone by walking entire zone.
      a) Check to see that the sensor cable is securely fastened to the fence (or security coil) at approximately 12 inch intervals.

b) Look for loose items on the fence (such as loose signage, loose bracing, fence fabric, etc.) which could rattle in the wind causing nuisance alarms.

2) Climb Test: Perform a simulated climb test on the zone.
   a) Caution should be exercised due to the presence of security (razor) coil.
   b) Perform the following simulated climb test:
      (1) Fence mounted sensor cable zones: Grasp the fence fabric with both hands (at approximately 5 feet high on the fence), shake the fence while lightly kicking the lower portion of the fence fabric. Kick the fence 4 times; this will simulate a climb of the fence. Detection should occur approximately 3 to 5 seconds after the last kick on the fence.

3) Cut Test: At the end of the zone (within 10 feet of the termination point of the zone), perform a simulated cut test on the zone.
   a) With a metal object (such as a screwdriver) strike the fence fabric (or security coil) 4 times, strike within 1 to 2 feet of the sensor cable (do not strike the sensor cable itself). Detection should occur approximately 3 to 5 seconds after the last strike on the fence (or coil).

4) Record test of the zone on the appropriate Department test forms, noting failures or any conditions that could effect operation of the zone.

c. It is required that each microwave detection system zone be tested weekly as described in Section 281604.

C. System Maintenance Training: Training shall be set-up so that at the end of training, facility maintenance personnel shall have a complete understanding of:

1. Routine (monthly, quarterly or annual) maintenance required to the system and how to perform that maintenance.
   a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.
2. Knowledge of all components in the system and adjustments to the components that they would be required to perform to maintain operation of the system.
3. How to replace all items listed as spare parts for the system.
   a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system working on the system.
4. Annual testing procedures for the system required to be performed by the Department.
   a. The perimeter security alarm system shall be tested annually as follows:
      1) Test each point monitored by the perimeter alarm system.

a) Test each zone for alarm and tamper/trouble. Check to see that the activation of the detection system in that zone causes the following responses by the perimeter alarm system:
   (1) An audible alarm is sounded by the zone LCD monitor.
   (2) The status of the display lights for that zone changes to red upon alarm and returns to green when the alarm is cleared.
   (3) The appropriate visual indication is displayed (i.e. point number in alarm, alarm status, etc.) on the zone LCD monitor.
   (4) The system printer prints-out all actions by the perimeter alarm system during the test of the zone.
   (5) Camera stations associated with the alarm points are automatically switched to the alarm monitors of the CCTV system.
      (a) Prior to performing a test on a perimeter zone monitored by pan/tilt/zoom camera station, so to confirm proper functioning of the camera station, perform the following:
         (i) Pan the camera station 90 degrees away from the zone that is to be tested.
         (ii) Tilt the camera station to an angle other than what will be called up when the zone goes into alarm.
         (iii) Adjust the lens' field of view to a setting other than what will be called up when the zone goes into alarm.

2) Test each point controlled by the perimeter alarm system.
   a) Test the self-test function for each perimeter zone. Check to make sure that all actions listed in 3.02, C, 4, a, 1), a), (1) through (5) above occur.
3) Load test batteries for the system and detection systems.
   a) Disconnect all AC power feeds and operate systems for 30 minutes from batteries.
   b) Monitor voltages of batteries from start to finish of 30 minute load test.

(1) At the end of the tests, voltage should be above 48 VDC for 48 volt systems.
(2) Replace batteries every 4 years regardless of load test results.

4) Check system's time/date setting.
5) Check system printer's operation.

b. Each sensor cable zone be tested annually as follows:
1) Visually inspect the sensor cable zone by walking entire zone.
a) Check to see that the sensor cable is securely fastened to the fence at approximately 12 inch intervals. Replace cable ties as required.
b) Look for loose items on the fence (such as loose signage, loose bracing, fence fabric, etc.) which could rattle in the wind causing nuisance alarms.
2) Open the FlexZone processor unit.
a) Verify that a tamper alarm is reported at the zone LCD monitor upon opening the zone processor unit.
b) Verify sensor cable supervision by disconnecting the sensor cable.
3) Climb Test: Perform a climb test on the zone. Test the zone at the beginning, middle and end (minimum number of locations required).
a) Caution should be exercised due to the presence of security (razor) coil mounted on the fence.
b) Test for climb sensitivity by climbing or shaking the fence. Detection should occur without excessive shaking.
c) Detection should cause the perimeter alarm system to go into alarm and switch the appropriate CCTV camera to the alarm monitor.
(1) Check to see that, upon alarm pan/tilt/zoom cameras automatically move to view the zone in alarm.
d) Attention should be paid at corners or where main fence posts are located. These areas are usually less sensitive. Perform slow, stealthy climbs at these locations.
e) Detection along the zone should be relatively consistent. Inconsistent areas may have loose fence fabric.
4) Cut Test: Perform a simulated cut test on the zone. Test the zone at the beginning, middle and end (minimum number of locations required). Test zone as indicated below:
a) Fence mounted sensor cable (Test bottom and top of fence as indicated below):
(1) With a metal object (such as a screwdriver) strike the fence fabric

(strike the number of times that the cut setting is set at), strike within 1 to 2 feet of the bottom of the fence (do not strike the sensor cable itself). Detection should occur approximately 3 to 5 seconds after the last strike on the fence.

(2) With a metal object strike the fence fabric (strike the number of times that the cut setting is set at), strike within 1 to 2 feet above the sensor cable (do not strike the sensor cable itself). Detection should occur approximately 3 to 5 seconds after the last strike on the fence.

5) Cut and climb testing can be monitored locally with the sensor cable system test unit.

a) The test unit can be used also to check the zone's audio signal. The audio signal should be relatively clear. Noisy audio is often an indication of wet sensor cable.

6) Record test of the zone on the appropriate Department forms, noting failures or any conditions that could effect operation of the zone.

c. It is required that each microwave detection system zone be tested annually as described in Section 281604.

3.03 FIELD QUALITY CONTROL

A. Sensor Cable Test: Perform a visual inspection of the fence mounted sensor cable to verify proper cable installation free of abrasions and breaks in the outside jacket. Also perform the following continuity/resistance tests with an ohmmeter capable of reading 1 megohm + 25 percent.

1. Test continuity/resistance between conductors and shield of sensor cable and record readings. Normal reading shall be as recommended by the manufacturer of the sensor cable.
2. Test continuity/resistance between shield of sensor cable and fence. Normal reading shall be infinite or maximum resistance of the meter.

B. Preliminary System Test:

1. Prerequisite: The CCTV Control System in Building No.90 must be operational and inter-connected with the Perimeter Alarm System and Perimeter Camera Stations prior to performing the Preliminary System Test.
2. Preparation: Have the Manufacturers' Technical Advisor and Integrator's Field Advisor inspect and adjust the completed system and then operate it long enough to assure that it is performing properly.
   a. Contractor shall provide personnel to assist in the performance of the system tests and shall provide personnel and materials required to make adjustments as directed by the Manufacturers' Technical Advisor (and/or the Integrator's Field Advisor) to prepare the system for the system acceptance tests.

3. Run a preliminary test for the purpose of:
    a. Determining whether the system is in a suitable condition to conduct the acceptance test.
    b. Checking and adjusting equipment.
    c. Training facility personnel.
4. Submit written report of preliminary test certifying that the system has been installed in accordance with the contract requirements and certifying that the system is ready for the System Acceptance Test. Report shall be signed by the Manufacturers' Technical Advisor, the Integrator's Field Advisor, and the Contractor.

C. System Acceptance Test:
1. Preparation: Submit the report of preliminary test to the Director's Representative certifying that the system is ready for the System Acceptance Test. The Director's Representative will schedule the test within the next 3 working days and make arrangements to have a Facility Representative witness the System Acceptance Test.
2. The System Acceptance Test shall be witnessed by the Director's Representative and a Facility Representative and shall be performed under the direction of the Integrator's Field Advisor with the assistance of the Contractor's personnel.
3. The System Acceptance Test shall include the following tests:
    a. Test system functions step by step as summarized under SYSTEM DESCRIPTION, and as follows:
        1) Test each point monitored by the perimeter alarm system.
            a) Test each zone for alarm and tamper/trouble. Check to see that the activation of the detection system in that zone causes the following responses by the perimeter alarm system:
                (1) An audible alarm is sounded by the zone LCD monitor.
                (2) The status of the display lights for that zone changes to red upon alarm and returns to green when the alarm is cleared.
                (3) The appropriate visual indication is displayed (i.e. point number in alarm, alarm status, etc.) on the zone LCD monitor.
                (4) The system printer prints-out all actions by the perimeter alarm system during the test of the zone.
                (5) Camera stations associated with the alarm points are automatically switched to the alarm monitors of the CCTV system.
                    (a) Prior to performing a test on a perimeter zone monitored by pan/tilt/zoom camera station, so

to confirm proper functioning of the camera station, perform the following:

(i) Pan the camera station 90 degrees away from the zone that is to be tested.

(ii) Tilt the camera station to an angle other than what will be called up when the zone goes into alarm.

(iii) Adjust the lens' field of view to a setting other than what will be called up when the zone goes into alarm.

b) Where multiple devices (i.e. 2 tamper switches, etc.) are connected to the same monitor point on the system, test each device separately to assure operation of all.

2) Make the following tests for each sensor cable zone:

a) Perform simulated escape attempts listed below at 10 foot intervals, unless otherwise directed (Director's Representative shall select exact location and type of escape attempt or combination of attempts). Each penetration of the sensor system shall produce an alarm. If it does not, wait 30 seconds and repeat in the same location. If misses are repeated in the same location, the entire zone must be corrected and retested. The simulated escape attempts shall be performed by a person weighing 100 lbs or more. Provide safety equipment and take proper precautions when performing tests. Terminate each test climb at detection or when the climb is complete, whichever comes first.

(1) Fast Climb Over: Approach and make contact with the fence and rapidly scale the fabric until the top is reached. At this point, either jump down or climb down the opposite side of the fence. Typical elapsed time for this intrusion against an 16 foot high, razor ribbon topped chain link fence is 4-8 seconds.

(2) Slow/Stealthy Climb Over: Approach and make contact with the fence and slowly, deliberately, and stealthfully climb to the top of the fence, carefully negotiate the razor ribbon and climb

down the opposite side of the fence. Typical elapsed time for this intrusion against an 16 foot high, razor ribbon topped chain link fence is 10 to 20 seconds.

(3) Cut Through: At a minimum of one location in each zone, securely attach or tightly weave a 2 x 2 foot square sample of fence fabric to the lower portion of the fence. Sample fabric shall be identical to existing fence fabric. Cut sample fabric and note number of cuts and time to alarm (Do not damage fence). Typical elapsed time is 20 seconds. Remove sample fabric.

b) Perform the following tests to show that the system will not alarm from the following stimuli:

(1) A person weighting 100 to 200 lbs. walking at 3 mph within 10 feet of the protected fence.

3) Make system acceptance tests for the microwave detection system as described in Section 281604.

4) Test each point controlled by the perimeter alarm system.

a) Test the self-test function for each perimeter zone. Check to make sure that all actions listed in 3.03, C, 3, a, 1), a), (1) through (5) above occur.

5) Load test batteries for the system and detection systems.

a) Disconnect all AC power feeds and operate systems for 30 minutes from batteries.

b) Monitor voltages of batteries from start to finish of 30 minute load test.

(1) At the end of the tests, voltage should be above 48 VDC for 48 volt systems.

6) Check system's time/date setting.

7) Check system printer's operation.

4. Supply all equipment necessary for system adjustment and testing.

5. Submit written report of test results signed by the Integrator's Field Advisor, Contractor, Director's Representative and the Facility's Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the security equipment rack.

D. System Testing and Adjusting During Guarantee Period:

1. After satisfactory completion of acceptance test, Facility personnel will investigate and record all system alarms. If the system does not meet the following criteria it shall be considered defective under the terms of paragraph 9.8 of the General Conditions:
    a. False alarms that are internally generated within the system shall not exceed 1 per 100 hrs.
    b. False alarms caused by the following weather conditions shall not exceed 1 per zone per 48 hours:
        1) Wind up to 30 mph.
        2) Rain up to 3 inches per hour.
        3) Snow up to 5 inches per hour.
2. Within one week of notification that any zone does not meet the above criteria, make arrangements to correct the zone and retest in accordance with 3.03, C.,3.

END OF SECTION

Revised 10-5-17

SECTION 282304

VIDEO SURVEILLANCE SYSTEM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Optical Fiber Cables: Section 271524

B. Electronic Door Locking and Monitoring System: Section 284601

C. Perimeter Alarm System: Section 281605

D. Cast In Place Concrete: Section 033001

E. Fence Accessory Stations for Perimeter Security systems: Section 281602

1.02 GENERAL REQUIREMENTS

A. The work to be done under this section of the Specifications shall include the furnishing of labor, material, equipment and tools required for the complete installation of the work indicated on the Drawings, as specified herein, or as noted in other sections of Division 28 – Electronic Safety and Security.

B. All materials a part of the electronic security infrastructure and necessary to its proper operation, but not specifically mentioned or shown on the Drawings, shall be furnished and installed without additional charge.

C. The Drawings and Specifications are complementary to each other and what is called for by one shall be as binding as if called for by both. If a discrepancy exists between the Drawings and Specifications, the higher level of functionality shall be included to meet the design intent.

1.03 REFERENCES

A. Underwriters Laboratories, Inc.

B. NEC

1.04 DEFINITIONS

Note: The definition below supersedes the definition in section 014216 for Technical Advisor and Field Advisor.

A. Approved: Acceptable to the Owner's Representative and the Engineer.

B. Furnish: Supply and deliver to project site, ready for unloading, unpacking, assembly, installation, and similar operations.

C. Install: Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

D. Integrator's Field Advisor:
   1. An individual employed by an organization (other than the company producing the system), certified in writing by the company producing the system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as a field advisor in their behalf. Personnel involved solely in sales do not qualify.

E. Manufacturers' Technical Advisor:
   1. An employee of the company producing the system (or a company which lists and markets the primary components of the system under their name) who is certified in writing by the company to be technically qualified in design, installation, and servicing of the required products. Personnel involved solely in sales do not qualify.

F. Provide: Furnish and install, complete and ready for the intended use. Deliver to the project site all required equipment and accessories, install and interconnect all required equipment and accessories for a complete and operational CCTV system.

G. The term "Director's Representative" means the employee or agent of the Design and Construction Group designated in writing by the Director as such. Under the general supervision of the Director, the Director's Representative shall have complete charge of the Work and shall exercise full supervision and direction of the Work. Where the Contract Documents specifically designate a person to perform a function or duty, that person shall be the Director's Representative but only for the performance of that function or duty. Where the work "directed" appears in the Contract Documents, the words "by the Director's Representative" shall be deemed inserted thereafter in each case except where it is obviously inappropriate in context.

1.05 DESCRIPTION OF EXISTING SYSTEM

A. The indoor and outdoor perimeter surveillance CCTV system consists of recording equipment provisions for camera stations located throughout the interior of the building and camera stations located around the perimeter of the facility which are operated in conjunction with a Networked-based Video Security System (NVSS) consisting of encoders, decoders, network storage managers, system managers, PC work stations, keyboard control units, network switch, and monitors. The indoor and outdoor perimeter surveillance CCTV equipment is located in the main security console, along with a viewing station located in the control room in Building No. 90.
   1. The existing indoor and outdoor perimeter surveillance CCTV equipment is manufactured by Pelco (DX9100).

B. An attendant at the control room operates the system with a workstation. The workstation allows viewing monitors to survey and evaluate the status of personnel in the areas within range of the camera stations.

C. Scenes are viewed by camera stations:
   1. Zoom-pan/tilt camera stations contain equipment required for completely adjustable viewing of scenes (remotely controlled from the keyboard control unit).
   2. Fixed camera stations contain equipment required for viewing a fixed scene (not remotely adjustable).

D. The video signal from each camera station is transmitted to a dedicated monitor for that camera station.
   1. Each dedicated monitor continuously displays the scene viewed by the camera station to which it is dedicated.
   2. Dedicated monitors are not controlled by the workstation and/or decoders.
   3. The scenes displayed by dedicated monitors are also displayed on selected monitors which are connected to the output of the workstation/decoders.

E. Camera stations transmit video signals to dedicated monitors. Each monitor continuously displays the scene viewed by the camera station to which it is dedicated. Dedicated monitors are not controlled by the NVSS.

F. A keyboard control unit, connected to the workstation, allows the attendant to control the following:
   1. Camera station functions including addressing, pan and tilt (joy stick control), zoom, and focus. (Iris is automatically controlled, not manually controlled through TVCPU).
   2. Alarm closure arm and clear.
   3. Camera station automatic sequencing run and hold.
      a. The programmed sequence may either be continuously repeated until the hold button is depressed or the sequence may be programmed to stop on a selected camera station until the run button is pushed.
   4. Single "quick look" sequence.
   5. Call up of prepositioned scenes.
   6. Call up of any camera station to any monitor connected to the system.

1.06 MODIFICATIONS TO EXISTING SYSTEM

A. Remove all existing devices and apparatuses.

B. Provide a complete and new video surveillance system.

1.07 ALARM FROM PERIMETER SYSTEM DESCRIPTION

A. The IP video management system consists of VideoXpert™ Management software and components which includes power supplies, network storage managers, Power Over Ethernet Switches, PC work stations, keyboard control units, network switch, universal device interface, and monitors.

B. The IP video management system software updates shall be downloadable from a publicly available website.

C. The IP video management system is Microsoft® Windows® -based for easy setup and maintenance.

D. The IP video management system will support browser-based administration interface which provides management capabilities, locally and remote, without an Installed Desktop.

E. The IP video management system will support the ability of modular plug-ins.

F. The network storage manager is to use RAID 6 parity across the storage drives to protect recorded data against a hard disk drive failure. The network storage manager will only use enterprise-level hard disk drives specifically rated for operation in RAID systems. Data will be stored for a minimum of 23 days with an extra storage manager for failover.

G. Video monitoring of all cameras shall be possible from any workstation as set up per client's request. Review capabilities for the digitally recorded video via the secure network specified without interruption to recording capabilities.

H. The IP video management system will be designed for reliability through fault-tolerant, distributed architecture, and multiple levels of redundancy.

I. The IP video management system will provide predictable scalability and modular design.

J. The IP video management system is to support up to 6 monitors per workstation, each driven by independent CPUs, displaying up to 16HD streams per monitor.

K. The IP video management system workstations must be capable to utilize a 3D mouse and programmable keyboard accessories, and keyboard shortcuts for common operations, to maximize operator control.

L. The IP video management system needs to provide an open interface that facilitates the creation and deployment of User Interface plug-ins including mapping, video information overlays (eConnect), Access control, and license plate recognition (PlateSmart – US only).

M. The IP video management system must support recording of MJPEG, MPEG-4 and H.264 IP streams.

N. The IP video management system shall support Pelco and third-party H.264 Megapixel video streams up to 28 Megapixel.

O. The IP video management system is to have a fully open architecture with support for both IP-specific camera as well as cameras with ONIVIF S.

P. The IP video management system shall provide migration paths for Endura® (v2.4.3 or later) and Digital Sentry® (v7.9 or later).

Q. The IP video management system must be capable to Aggregate independent VMS deployments across networks and manage all video through a single system while preserving local operation (VideoExpert Ultimate distributions).\

R. The IP video management system will be able to be viewed, managed, and played back through a single user interface simultaneously with Digital Sentry (v7.9 or later) and Endura (v 2.4.3 or later) digital video management systems through supplied VideoXpert Management software.

S. The IP video management system will run on standard commercial off-the-shelf processors and hardware with predictable performance characterized by benchmark information on manufacturer supplied specifications.

T. The IP video management system will support Pelco Sarix Analytics at no additional licensing cost.

U. The IP video management system shall indicate system performance and operation status utilizing a variety of reports including csv and pdf formats.

V. Client software shall create and assign tags, organizing system resources as administrators or operators decide.

W. Client software shall provide the capability of running a client application in addition to the video management system.

X. Client software, at minimum, to include advanced search capabilities for camera and recordings.

1. Client software will utilize an Investigation mode which enables operators to synchronize video playback and export investigative playlists covering scenes of interest in forward or reverse at speeds up to 128 times normal playback.
2. A client computer with system compatible software will be the user interface for viewing one or more systems. Live and recorded video and current event video shall be displayed on any client computer using a proper login and password. The client computer shall be able to connect to an unlimited number of recorders simultaneously to display live and recorded video.
3. Client Software will not require a license and be available to be installed on as many clients as required by the user.
4. Client Software must be compatible with existing Digital Sentry and Endura Network storage systems.
5. Client Software access will be User Account Controlled such that an operator must enter their credentials and will only have functionality prescribed to by the set of Roles assigned to their user account by their administrator. User Roles shall limit the ability to access live or recorded video as well as the ability to export video and other standard client operations.
6. Client Software to allow multiple monitor support for up to 6 displays per client workstation, providing virtual matrix functionality with the use of enhanced decoders.

7. Client Software must allow video streams to be selectable from a system tree on an individual camera, individual system, client defined local groups, or from pre-defined recorder based groups.
8. Client cells, at minimum, have the ability to include system management, live, and search options. Tabs can be displayed simultaneously on the client.
9. Systems cells will, at minimum, display connection status, system names, and custom categories. This tab at minimum will additionally allow:
    a. Mapping plug-ins
    b. Card Access plug-ins
    c. Web Browser plug-ins
    d. Live video
    e. Recorded video
    f. Mission control console
    g. eConnect plug-ins
    h. PlateSmart plug-ins (US only)
    i. Synchronized video live and recorded (investigations)
    j. Screen layout select 1, 4, 9, 16 etc.
    k. Digital Zoom
    l. User selectable in-video PTZ control
    m. Quick review from 30 sec, 1 min, 30 min and 1 hour (through keyboard hot buttons)
    n. Virtual matrix capabilities
    o. Display recorded video with full VCR controls with an active overlay, (play, fast forward and reverse, and frame by frame).
    p. Playback available on a time lime format for ease of use
10. Video export to any system-accessible media including locally to HDD, CD/DVD, Flash USB device or to network storage.
11. Video authentication of exported video via check sum verification.
12. Client, at minimum, will support simultaneous playback for up to (9) 1080P cameras all synchronized with each other. Also have the capability to playback non-synchronized cameras at one time in different cells.
13. Modular Window Based Client: the client shall be comprised of 1 main control panel, which can be hidden, working in unison with a series of windows, each providing a tab based experience.
14. Saveable Tabs: any layout of video can be saved as TAB to be later recalled by on operator.
15. Dockable Mission Control: the main control panel can be hidden, free floating or dynamically docked to any open VMS client Window.
16. Mission Control Sort: the device list in mission control can be sorted by device name or device ID.
17. Mission Control Filter: the device list in mission control can be filtered by the following terms:
    a. Simple text based filter (matching the device name or device ID)
    b. Tag based filtering (shows devices matching the intersection of all assigned tags
    c. Status based Filtering: show devices with a particular status:
        1) Online
        2) Offline

3) Recording
4) Not recording
5) on screen
6) not on screen

18. Saved Investigations: operators are able to save a current investigation, preserving the associated device list and any created clips for later recall. Saved investigations can be shared with other operator's similar tabs.
19. Remote Workspace Push: an operator with appropriate permissions can choose to have a saved workspace sent to one or more operators' clients, causing their system to launch the saved workspace.
20. Remote Tab Push: an operator with appropriate permissions can choose to send a saved tab one or more operators' clients, causing their system to launch the saved tab.
21. Thumbnail on timebar: when hovering over the timebar, an operator will see a thumbnail representing the contents of the video stream at that point in time.
22. Information popup: when hovering over a device, an operator will see a popup that shows the following:
    a. Device state
    b. Device name
    c. device ID
    d. thumbnail
    e. associated tags
    f. IP Address
23. Snapshot: an operator will be able to create a quick JPG image of the current frame of video in a cell.
24. Digital Zoom: the operator will able to digitally zoom in on a video stream on live or playback.
25. Optical Zoom and Pan Tilt Control: operators will be able to use the mouse, 3D mouse or KBD5000 joystick to send commands to cameras that support PTZ mechanism, thereby controlling where the camera is pointing.
26. Preset Trigger: operators will be able to trigger a preset action on cameras that are storing presets.
27. Drag to Swap: an operator will be able to select the video in one cell, drag that video over another cell and have the system swap the streams.
28. Dynamic call-up by ID: operators will be able to start typing a camera ID while having a cell selected to immediately see an input box. Hitting enter will load the associated camera to the cell.
29. Last Workspace Recall: the operator will be presented with the last workspace they had opened when they logged back into the system.

Y. System shall be able to associate any camera(s) with any microphone(s) when exporting video/sound.

1.08 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Packaging of Submittals: Submittals required by this section are to be submitted (by contractor) in packages as follows: Submit (4) sets of shop drawings, product data and quality control submittals specified below as a complete package. SUBMITTALS NOT COMPLYING WITH ALL OF THE OUTLINED REQUIREMENTS WILL BE REJECTED.

1. Submittals Package 1: Submit seven (7) Shop drawings, Product Data and Quality Control Submittals specified below at the same time as a package.
    a. Submit Submittals Package 1 within 30 days of contract award.
2. Submittals Package 2: Submit Point to Point Wiring Diagrams and Training Submittals specified below at the same time as a package.
    a. Submit Submittals Package 2 within 30 days of receipt of approval of Submittals Package 1.
3. Submittals Package 3: Submit Contract Closeout Submittals specified below at the same time as a package.
    a. Submit Submittals Package 3 upon physical completion, when directed by the Director's Representative.

C. Seismic Qualification Certificates: for security equipment racks from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions. Base certification on the maximum number of components capable of being mounted in each equipment rack along with rack type. Identify components on which certified is based.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Shop Drawings (Submittals Package 1):

1. Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be accepted), including video signal integrity equipment, etc. required for a complete system.
2. Scale drawings showing mounting of video door station components.
3. Scaled elevation drawings showing location and mounting of components to be mounted in the security equipment racks Security equipment rooms.
4. Details of camera station poles and bases.

E. Product Data (Submittals Package 1):

1. Catalog sheets, specifications and installation instructions.
2. Bill of materials showing proposed quantities of all equipment to be used on this project.
3. Detailed description of system operation (format similar to SYSTEM DESCRIPTION).
4. State number of POE ports used specifically for this project and number of POE ports available for future use if system is expanded to maximum capacity.

5. Name, address and telephone number of nearest fully equipped service organization.
6. Include calculations used to size UPS's for a fifteen-minute back-up time.

F. Quality Control Submittals (Submittals Package 1):
1. Copy of license for installing Security Systems.
   a. Also include copy of identification card issued by the Licensee for each person who will be performing the Work.
2. Installers' Qualifications Data: Include a completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work.
   a. Forms must be completely filled out.
   b. Forms must include all information required, showing that the experience criteria have been met.
   c. Each Form must be signed by the installer.
3. Company Field Advisor Data:
   a. Secure the services of a Company Field Advisor:
      1) Include the name, business address and telephone number of the Company Field Advisor.
   b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
   c. Services and each product for which authorization is given by the Company, listed specifically for this project.
4. Letter from the Company Field Advisor stating that the Company Field Advisor has reviewed the Submittals Package for accuracy and completeness and approves all materials and installation methods included in the Submittals Package.
5. System Qualifications: Submit System Qualification information if proposing a system other than that specified.
6. Project Work Plan:
   a. Include a detailed work guideline listing the OCFS requirements as they apply to this specific site.
   b. Include a detailed project work scheduling plan.
   c. Include a set of detailed project installation drawings compiled specifically for this project.
   d. Include training schedules for this specific project.
   e. Include personnel contacts for this specific project.
7. Include direction for proper handling and storage for all equipment.Design Data: Certified data from the manufacturer of the camera station poles proving that the deflection rate will not exceed the specified limits.

G. Point to Point Wiring Diagrams (Submittals Package 2):
1. Submit complete point to point wiring diagrams of the entire system as it is to be installed.
   a. Point to Point wiring diagrams shall show the following:
      1) All components in the system.
      2) All cables and conductors between each component.

3) Identify all cables and conductors and show all terminations and splices (identification shall correspond to markers to be installed on each conductor).

b. Point to Point wiring diagrams shall have an accompanying letter from the Company Field Advisor(s) stating that the Company Field Advisor(s) has reviewed the Point to Point wiring diagrams for accuracy and completeness and approves the Point to Point wiring diagrams for use.

H. Contract Closeout Submittals (Submittals Package 3):

1. System acceptance test report.
2. Digital Video Test Recordings (Scenes) of all camera's.
3. Certificate: Affidavit, signed by the Company Field Advisor(s) and notarized, certifying that the system meets the contract requirements and is operating properly.
4. Operation and Maintenance Data:
   a. Deliver 2 copies, covering the installed products, obtain a signed receipt from the Director's Representative. Include:
      1) Operation and maintenance data for each product.
      2) Complete point to point wiring diagrams (As-Built Drawings) of entire system as installed. Identify all conductors and show all terminations and splices (identification shall correspond to markers installed on each conductor).
      3) Name, address, and telephone number of nearest fully equipped service organization.
      4) Show all "as installed" cable paths.
      5) Identify all conductors including cat6 cable and power cables.
      6) Show all terminations and splices. Identification shall correspond to marker installed on each conductor.
      7) Written test report for all cables.

1.09 QUALITY ASSURANCE

A. Equipment Qualifications:

1. Products other than those specified:
   a. If products other than those specified, are proposed for use, furnish the name, address, and telephone number of at least 5 comparable installations that can prove the proposed products have operated satisfactorily for 1 year.
      1) Reference information required above must be that of the End-User of the equipment, no other references will be accepted (i.e. Installers, Sales Reps, etc.).
      2) Pay travel expense for the Director's Representative to inspect two of these installations.
   b. The Company producing the product shall have test facilities available, which can demonstrate that the proposed product meets contract requirements.

1) Pay all costs, including travel expenses to the test facility for the Director's Representative to witness test demonstration.

B. Installer's Qualifications: The persons installing the Work of this Section and their supervisor shall be personally experienced in closed circuit television systems and shall have been engaged in the installation of closed circuit television systems for a minimum of 3 years.

1. Qualifying experience must be in the installation of CCTV systems similar in operation and construction of the system being specified by this section.
2. Furnish to the Director completed INSTALLER'S QUALIFICATION DATA FORM for each person who will be performing the Work. Each form shall include:
   a. Installer's name.
   b. Employer's Name and Address.
   c. Qualifying Experience: Project information of 5 similar projects, which the installer, had worked on during the past 3 years. Information shall include for each project:
      1) Name and Address of project.
      2) Dates installer worked on project.
      3) Name and telephone Number of installer's supervisor for the project.
      4) Types of security installation work installer performed on project.

C. Manufacturers' Technical Advisor: Secure the services of a Manufacturers' Technical Advisor from the Company producing the NVSS for the following:

1. Assist in the formation of the Submittals Packages, and review the Submittal Packages for accuracy and completeness.
2. Engineering associated with interconnections between the Video Surveillance System (Section 282304) and the perimeter alarm system (Section 281605).
3. Engineering associated with interconnections between the NVSS and the cameras.
4. Render advice regarding installation and final adjustment of the system.
5. Coordinate installation of the system and the related work with the other systems.
6. Conduct a pre-installation meeting at the contract site with the installers (and their supervisor) who will be performing the work, the Director's Representatives and facility supervisory and maintenance personnel. The meeting shall be a minimum of 8 hours in duration (held in four 2 hour increments). The topics covered shall include, but shall not be limited to the following:
   a. Manufacturers' Technical Advisor shall present an overview of the system as it is to be installed.
   b. Manufacturers' Technical Advisor shall lead a discussion of installation concerns and coordination issues on this system and related systems and related work being installed under this project.

c. Manufacturers' Technical Advisor shall provide training on procedures for installing system components and precautionary measures installers should be aware of while performing the work.

1) Manufacturers' Technical Advisor shall review point to point wiring diagrams with the installers and provide training on termination, bonding and grounding procedures required for proper installation of the system wiring and components.

7. Provide supervision of the installation at the contract site for a minimum of 60 hours and for the following:
   a. Supervise the installation of the NVSS.
   b. Render advice regarding installation and final adjustment of the system.
   c. Coordinate installation of the system and the related work with the other systems.
   d. Perform programming of the system.
   e. Perform preliminary tests of the system.
   f. Train facility security personnel, security supervisory personnel and maintenance personnel in operation and routine (weekly) testing of the system (minimum of four 3-hour sessions).
   g. Train facility maintenance personnel in adjustments, programming, routine maintenance and annual testing of the system (minimum of 8 hours of training – held in four 2 hour increments).
   h. Witness final system test and certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.
   i. Explain available service programs to facility supervisory personnel for their consideration.

D. Manufacturers' Technical Advisor (Camera Stations): Secure the services of a Manufacturers' Technical Advisor from the Company producing the camera stations for the following:
   1. Assist in the formation of the Submittals Packages, and review the Submittal Packages for accuracy and completeness.
   2. Engineering associated with interconnections between the NVSS and camera stations.
   3. Assist the Manufacturers' Technical Advisor of the NVSS with conducting the pre-installation meeting at the contract site. The Manufacturers' Technical Advisor for the camera stations shall conduct a portion of the pre-installation meeting. This portion of the meeting shall be a minimum of 2 hours in duration and cover the following topics (but shall not be limited to the following):
      a. Manufacturers' Technical Advisor for the camera stations shall present an overview of each type of camera station as they are to be installed.
      b. Manufacturers' Technical Advisor for the camera stations shall lead a discussion of installation concerns and coordination issues on the installation of the cameras stations with the NVSS.

c. Manufacturers' Technical Advisor for the cameras shall provide training on procedures for installing the camera stations and precautionary measures installers should be aware of while performing the work.
   1) Manufacturers' Technical Advisor shall review point to point wiring diagrams with the installers and provide training on termination, bonding and grounding procedures required for proper installation of the system wiring and components.

4. Provide supervision of the installation at the contract site for a minimum of 8 hours and for the following:
   a. Supervise the installation of the camera stations.
   b. Render advice regarding installation of the cameras.
   c. Assist in initial and final adjustments to the cameras.
   d. Perform preliminary tests of the system.
   e. Train facility security personnel in operation, and routine (weekly) testing of the cameras (minimum of two 2-hour sessions).
   f. Train facility maintenance personnel in adjustments, routine maintenance and annual testing of the camera stations (minimum of 8 hours of training – held in four 2 hour increments).
   g. Assist in performing final system test and certify with an affidavit that the cameras are installed in accordance with the contract documents and are operating properly.
   h. Explain available service programs to facility supervisory personnel for their consideration.

1.10 MAINTENANCE

A. Service Availability: A fully equipped service organization capable of guaranteeing response time within 8 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed system.

B. Spare Parts:
   1. One complete outdoor PTZ camera station (camera, lens, receiver/driver, and housing).
   2. Eight complete indoor camera station (Of each type) (camera, lens, housing).
   3. 4% of total hard drive purchased.
   4. VXS 80MM Mid Axial Fan (#VXS-FAN-MID)
   5. One POE Switch
   6. Three SFP
   7. Two of each type of surge protector
   8. Three of each size fuse for all electronic equipment.
   9. VXS 80MM Exhaust Axial Fan Rear (#VXS-FAN-REAR)
   10. VXS High Efficiency Power Supply (#VXS-PSU)
   11. VXS Low Profile INT raid Adapter (#VXS-RAID)
   12. VXS OS 200GB 2.5" SSD (#VXS-SSD-200GB)

PART 2 PRODUCTS

2.01 GENERAL

A. All equipment and materials used shall be standard components, manufactured and regularly utilized in CCTV Systems.

B. Furnish only CCTV System equipment that has been thoroughly tested before shipment to the project site.

C. Provide all equipment listed in the following Product Specification sub-sections but not limited to Section 2 of this Specification or Contract Drawings for a complete and operational CCTV System

D. The system design is based on Pelco's VideoXpert Platform; a Network Video Management System.

2.02 VIDEOXPERT™ SPACE MOUSE CONTROLLER (KCU)

A. The 3D Space Mouse must be compatible with all VideoXpert Series distributed, network video management components.

B. Patented six-degrees-of-freedom (6DoF) sensor – Intuitively and precisely navigate digital models or camera positions in 3D space.

C. Advanced ergonomic design – The full-size, soft-coated hand rest positions the hand comfortably, and 15 large, soft-touch, function keys allow quick access to frequently used commands.

D. QuickView Keys – Fingertip access to 12 views makes it easier to switch cameras.

E. Intelligent Function Keys – Easy access to 4 application commands for an optimized workflow.

F. On-Screen Display – Provides a visual reminder of function key assignments on your computer screen.

G. 3D Space Mouse Modifiers – Fingertip access to Ctrl, Shift, Alt and Esc keys saves time by reducing the need to move your hand between mouse and 3D Space Mouse.

H. Virtual NumPad – Allows direct numerical input into your application using your standard mouse rather than the 3D Space Mouse.

I. The 3D Space Mouse must be part of an integrated system and shall be configured so any number can be added to the system. When combined with user interfaces (UIs), network storage managers (NSM's), encoders, IP cameras, and video consoles, the 3D Space Mouse forms an integral part of a complete network-based video control system.

J. The 3D Space Mouse will meet or exceed the following design and performance specifications.
   1. Power Supply Specifications
      a. Input Connector Type: Universal, interchangeable
   2. 3D Space Mouse Base Specifications
      a. 3D Space Mouse Interface: USB 2.0
      b. Cable: USB
   3. 3D Space Mouse Module Specifications
      a. Joystick: Fully proportional PTZ, variable speed; with zoom, iris, and focus controls
   4. Physical Specifications
      a. Dimensions: 204 x 142 x 58 cm (8.0" D x 5.6" W x 2.3" H)
      b. Unit Weight: 665 g (1.47 lbs)
   5. Environmental Specifications
      a. Ambient Temperature: 21° to 23°C (70° to 74°F)
      b. Operating Temperature: 0° to 40°C (32° to 104°F) air intake of unit
      c. Storage Temperature: –40° to 65°C (–40° to 149°F)
      d. Operating Humidity: 20%-80%

K. Pelco Model Number
   1. 3DX-600-3DMOUSE: VideoXpert enhanced 3D Mouse w/joy and Jog Stick

2.03 NETWORK BASED VIDEO SECURITY SYSTEM (NVSS)

A. CORE / CMG (SM)
   1. Ability to maintain database of cameras and recording devices, and provide a convenient Web interface.
   2. Ability to define administer level user accounts which will have the ability to set new roles and subset and permissions, determining the system functions and devices users can access.
   3. Ability to allow the ability to assign resources to recording pools through the Core's Admin portal.
   4. Ability to store videos that operators elect to export from network storage devices for safe keeping.
   5. Ability to be deployed as an independent CORE server working with an independent Media Gateway to provide systems functions.
   6. Ability to be deployed in the same server as a Media Gateway, thereby creating a single server solution for system functionality.
   7. Ability to be deployed as a cluster, providing fault tolerance, scalability and load balancing.
   8. Ability to be deployed as a virtual machine.

B. OPS CENTER(WS)
   1. To be installed as VideoXpert client software.
   2. Client Software is deployable on Standard Windows based machines.
   3. Operator workspace can optionally be extended up to 6 monitors or beyond with use of Enhanced Decoders.

4. Allows the creation of Operator workspaces which shall define the layout of control panels, windows, and pre-populated camera channels and other content.
5. Allow users to configure and recall complete workspaces, enabling operators to quickly log in and get the information they need.
6. Client software can be controlled using a standard mouse and keyboard.
7. Client software operation can be enhanced utilizing the 3D mouse, KBD5000, or G710 Keyboard.

C. Recommended Client and Server Hardware Specifications:
1. Core/CMG, and Ops Center must meet or exceed the following design and performance specifications.
a. System Specifications
1) Processor: Intel® Xeon® E3-1275 v3
2) Internal Memory: 32GB DDR3 RAM ECC (Core/CMG), 8GB DDR3 Non-ECC RAM (Media Gateway and Ops Center)
3) Operating System: Microsoft® Windows® 2012 Server (Core/CMG and Media Gateway), Windows 7 Ultimate SP3 (Ops Center)
4) User Interface: VideoXpert system software, web browser
5) Internal Storage: SSD (480GB Core/CMG, 120GB Media Gateway and Ops Center)
6) Storage: 1TB (Core/CMG)
7) Drive Bays: 6 (5 unused)
8) Optical Drive: DVD±RW
9) USB Ports: 3 USB 2.0 ports (1 Front, 2 Rear) USB 3.0 Ports (rear)
b. Video Specifications
1) Video System: Intel HD Graphics P4700 (Core CMG), Intel HD Graphics P4700; supports optional upgrade
2) Memory: Shared (Core/CMG), Shared; 1GB for OPS-WKS6 (Ops Center)
3) Video Outputs: 2x DisplayPort, DVI-D, VGA (Core/CMG), 2x DisplayPort, DVI-D, VGA; supports up to 6 outputs for OPS WKS6 (Ops Center)
4) Max Resolution: DisplayPort 3840x2160 at 60 Hz DVI-D and VGA 1920x1200 at 60 Hz
5) Video Standards: NTSC 60 Hz, PAL 75 Hz
c. Audio Specifications
1) Audio Decoding: G.711 speech codec
2) Audio Bit-rate: 64kbps
3) Audio Levels:
a) Input: Electret microphone
b) Output: Up to 3 Vp-p, adjustable, minimum load of 8 ohms
4) Audio Connectors
a) Connector Tip: 3.5 mm stereo jacks (2x)
b) Connector Ring: Signal left (input and output)
c) Connector Sleeve: Common

d. Network Specifications
    1) Interface: Gigabit Ethernet (1000Base-T) ports (2x)
e. Front Panel
    1) Buttons: Power, configuration/reset:
        a) Unit Status: Green, amber, red
        b) Primary Network: Green, amber, red
    2) Indicators
        a) Secondary Network: Green, amber, red
        b) Software Status: Green, amber, red (based on diagnostics)
        c) Hard Disk Status: Green, red, off (behind bezel)
f. Power Specifications
    1) Power Input: 100 to 240 VAC, 50/60 Hz, autoranging
    2) Power Supply: Internal
    3) Cable Type: 1 USA (117 VAC); or 1 European (220 VAC); or 1 UK (250 VAC); or 1 Argentinean (250 VAC); or1 Australian (250 VAC); All, 3 prongs, method connector
    4) Power Consumption:
        a) 100 VAC / 60 Hz: 160.0 W, 1.60 A, 547 BTU/H
        b) 115 VAC / 60 Hz: 160.0 W, 1.39 A, 547 BTU/H
        c) 220 VAC / 60 Hz: 160.0 W, 1.39 A, 547 BTU/H
        d) UPS: Compatible with APC Smart-UPS, managed through the VideoXpert product architecture
g. Environmental Specifications
    1) Operational Temperature: 10° to 35°C (50° to 95°F) at unit intake
    2) Storage Temperature: –40° to 65°C (–40° to 149°F)
    3) Operating Humidity: 20% to 80%, non-condensing
    4) Maximum Humidity: 10% per hour
    5) Operating Altitude: –15 to 3,048 m (–50 to 10,000 ft)
    6) Operating Vibration: 0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minute
h. Physical Specifications:
    1) Construction: Steel Cabinet
    2) Finish:
        a) Front Panel: Grey metallic with black end caps
        b) Chassis: Black matte finish
        c) Dimensions: 58.8 x 43.4 x 8.9 cm (20.0” D x 17.1” W x 3.5” H)
    3) Unit Weight
        a) Core/CMG: 14.2 kg (31.4 lbs)
        b) OPS Center: 14.2 kg (31.4 lbs)
        c) Media Gateway: 14.2 kg (31.4 lbs)
i. Certifications:
    1) CE, Class A; meets EN50130-4 standard requirements
    2) FCC, Class A

3) UL/cUL Listed
4) C-Tick
5) CCC
6) KCC
7) S-Mark

D. Warranty:
1. 36 months, parts and labor

E. Supplied Accessories:
1. USB Keyboard and Mouse
2. Power cord (US)
3. Bezel Key (2)
4. Rack Mount Kit (Brackets, rails, and hardware for Mounting in a 2RU rack

F. Pelco Model Numbers:
1. CMG-SVR: VideoXpert Core and Media Gateway all-in-one hardware with software licenses
2. COR-SVR: VideoXpert Core server hardware and software license
3. OPS-WKS6: Ops Center workstation with upgraded graphics card, enabling use of up to 6 monitors using Enhanced Decoders (D09U-ENH-DEC)

2.04 VIDEOXPERT™ ENHANCED KEYBOARD

A. The keyboard must be compatible with all VideoXpert Series distributed network video management systems.

B. The mechanical keys deliver responsiveness and tactile feedback superior to rubber-domed keys. With an actuation force and distance of 45 g and 2 mm, respectively, the keys are optimized for rapid command entry. The keys have been tested for durability to a 50 million cycle life.

C. Whisper-quiet key. Quiet, non-clicking key switches, and a built-in dampening ring underneath each keycap significantly reduce the distracting noise coming from your key presses without sacrificing responsiveness.

D. Adjustable dual-zone backlighting, illuminated to locate keys—even in low light. The entire keyboard is backlit in white LED light and adjustable to one of four brightness levels, plus “Off”. For better visibility of the WASD and arrow keys, their brightness can be adjusted independently from the rest of the keyboard.

E. 26-key rollover Multi-key input on the VideoXpert means complex moves can be executed exactly every time. With 26-key rollover, press almost any number of keys plus modifier keys (Control, Alt, Shift) in any order and get exactly what you intended.

F. 110 anti-ghosting keys technology on contact. All 110 keys of the VideoXpert are calibrated to prevent anti-ghosting. During the heat of battle, you need to

simultaneously run, strafe, select a weapon and open a door. Press and hold multiple keys simultaneously without fear of missing or unexpected key presses.

G. USB pass-through to easily connect your mouse or other USB device via the keyboard Hi-Speed USB pass-through for your computer's USB port.

H. Durable tilt legs stand up under keyboard. The durable tilt legs provide stability and comfort even in your most intense gaming sessions.

I. The keyboard shall meet or exceed the following design and performance specifications.
   1. Keyboard Base Specifications
      a. Keyboard Interface: USB 2.0
      b. Cable: USB
      c. Upstream Port: USB 2.0 (USB type B connector)
      d. Downstream Port: 2x USB 2.0 hi/full/low speed (USB type A connector)
   2. System Requirements: Windows 7, 2 USB ports 70 MB of available hard disk space

J. Pelco Model Number
   1. Y-U0018-G710KBD: VideoXpert Enhanced Keyboard

2.05 VIDEOXPERT™ ENHANCED VIDEO DECODER (ED)

A. The HD network video decoder is to be fully VideoXpert compatible.

B. The HD video decoder needs to support any digital video stream on the network and allow for the decoding of up to 16 simultaneous streams from any video encoder or recorder. It shall also allow for simultaneous and independent viewing of both live and recorded video.

C. The HD video decoder must decode H.264 in High, Main, or Base profiles, and MPEG-4 encoded video streams.

D. The HD video decoder capability to decode up to sixteen 4CIF resolution, 30 images per second (ips) MPEG-4 encoded video streams simultaneously, or up to twelve H.264 Baseline, 4CIF resolution, 30 ips video streams simultaneously, or up to four 1080p streams encoded in H.264 Baseline profile. Additional streams shall be decoded using EnduraView™. EnduraView shall minimize the network bandwidth consumption and CPU processing requirements by automatically subscribing to a lower resolution, lower bit-rate stream from a given camera depending on current load and screen configuration.

E. The HD video decoder will drive one high-resolution monitor through HDMI connections for displaying the video footage.

F. Diagnostics to be systemized with other system components. Any faults shall be reported to users that have subscribed to diagnostic alarms regardless of where the user is located. In addition, the HD video decoder shall also support SNMP messages and traps and be compatible with SNMP versions 1 and 2.

G. The HD video decoder to meet or exceed the following design and performance specifications.

1. Power Specifications
    a. Power Consumption
        1) 100VAC 121 W, 1.21 A, 413 BTU/H
        2) 120 VAC 119 W, 0.99 A. 406 BTU/H
        3) 240 VAC 122 W, 0.51 A, 416 BTU/H
    b. Power Supply External
    c. Power Input 100 to 240 VAC, 50/60 Hz, autoranging
2. Environmental Specifications
    a. Operating Temperature 10° to 35°C (50° to 95°F)
    b. Operating Humidity 20% to 80%, non-condensing
    c. Maximum Humidity 10% per hour
    d. Operating Altitude –16 to 3,048 m (–50 to 10,000 ft)
    e. Operating Vibration 0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/minute
3. Video Specifications
    a. System
        1) Maximum Resolution 2560 x 1600 resolution; 60 Hz (NTSC) 50 Hz capability for PAL
        2) Video Coding H.264 in High, Main, or Base profiles and MPEG-4
        3) Decoding Performance 16X real-time MPEG-4 streams at 704 x 480/576 (NTSC/PAL); 16X real-time H.264 Baseline streams at 704 x 480/576 (NTSC/PAL); 8X 720p H.264 Baseline streams; 4X 1080p H.264 Baseline streams
    b. Video Outputs/Connector
        1) Types, 2: HDMI outputs (2 HDMI-to-VGA adapters supplied)
        2) Screen Configuration: On each of monitor: 1 image (1 x 1), 4 images (2 x 2), 9 images (3 x 3), 16 images (4 x 4), 6 images (1 large + 5 small), 10 images (2 large + 8 small), 13 images (1 large + 8 small); Each high definition monitor (16:9 aspect ratio) can also display 6 images (3 x 2) and 12 images (4 x 3)
4. Network Specifications
    a. Interface Gigabit Ethernet (1000Base-T) ports (2x)
    b. Front Panel
        1) Buttons Power, configuration/reset
        2) Unit Status Green, amber, red
        3) Primary Network Green, amber, red
        4) Indicators
            a) Secondary Network Green, amber, red
            b) Software Status Green, amber, red (based on diagnostics)
            c) Hard Disk Status Green, red, off (behind bezel)
5. Certifications
    a. CE, Class A; meets EN50130-4 standard requirements
    b. FCC, Class A
    c. UL/cUL Listed

d. C-Tick
e. S Mark
f. CCC

H. Warranty
1. 36 months, parts and labor

I. Pelco Model Number
1. D09U-A1-DEC-US: VideoXpert Enhanced Decoder and Mount

2.06 VIDEOXPERT™ STORAGE MANAGER (NSM)

A. The network storage manager is to record video and audio streams from IP cameras and video encoders on the network.

B. The network storage manager must incorporate the server functions and storage elements into a purpose-built chassis.

C. The network storage manager is to use RAID 6 parity across the storage drives to protect recorded data against a hard disk drive failure.

D. The network storage manager will only use enterprise-level hard disk drives specifically rated for operation in RAID systems.

E. The network storage manager chassis must be designed for video surveillance recording applications and encompass redundancy at all vital points:
1. Redundant, hot swappable power supply modules
2. Redundant, hot swappable system fans
3. Hot swappable O/S drive
4. Hot swappable CPU fans

F. The network storage manager chassis must be designed for online service and maintenance and cannot be removed from the rack when hard disk drives, fans, power supplies, or operating system drives must be replaced.

G. The network storage manager is to be built upon a reliable and robust Linux® operating system.

H. The network storage manager must support a guaranteed recording throughput of 250 Mbps per storage device with a minimum of 64 Mbps of read throughput. This throughput shall be guaranteed under normal and error (RAID rebuild) conditions.

I. The network storage manager will support any number of cameras so long as the maximum throughput required is less than 250 Mbps.

J. The network storage manager shall support the recording of H.264 in High, Main, or Base Profiles and MPEG-4 streams from standard resolution and megapixel cameras.

K. The network storage manager is to support continuous, scheduled, alarm/event (including analytics alarms), motion, and manual recording. Pre- and -post alarm periods shall be configurable up to the total capacity of the system.

L. The network storage manager must support bookmarking and locking/unlocking of video content on the drives.

M. The network storage manager is to support privacy tools that allow administrators to establish maximum retention times for normal, alarm, and locked video.

N. The network storage manager must support an intelligent video grooming protocol that can reduce the frame rate of recorded video as the video ages. Administrators shall have the flexibility to determine whether to groom alarm video or leave at its real-time level.

O. The network storage manager shall have the ability to report all diagnostic events, including software status diagnostics to a centralized user interface. In addition, Simple Network Management Protocol (SNMP) traps shall be available for monitoring through a third-party SNMP management console.

P. The network storage manager shall be fully managed from a remote workstation, including the ability to configure settings and update firmware and software.

Q. The network storage manager is to be capable of interfacing with the APC® Smart-UPS® using a USB connector. The network video recorder shall receive status and control signals from the uninterruptible power supply (UPS) when it is in backup mode. This function shall inform the operator about the amount of charge remaining and trigger a controlled shutdown when the charge becomes zero.

R. The network storage manager must meet or exceed the following design and performance specifications.

1. Power Specifications
   a. Power Input: 100 to 240 VAC, 50/60 Hz, autoranging
   b. Power Supply: Internal, dual-redundant, hot-swappable
   c. Cable Type: 2 USA (117 VAC)
2. Power Consumption
   a. 100 VAC: 262 W, 2.65 A, 895 BTU/H
   b. 115 VAC: 263 W, 2.31 A, 895 BTU/H
   c. 220 VAC: 254 W, 1.25 A, 868 BTU/H
   d. UPS: Compatible with APC Smart-UPS, managed through the Endura VideoXpert product architecture
3. Environmental Specifications
   a. Operating Temperature: 10° to 35°C (50° to 95°F) at unit intake
   b. Operating Humidity: 20% to 80%, non-condensing
   c. Maximum Humidity: 10% per hour
   d. Operating Altitude: –16 to 3,048 m (–50 to 10,000 ft)
   e. Operating Vibration: 0.25 G at 3 to 200 Hz at a sweep rate of 0.5 octave/minute

4. Physical Specifications
    a. Construction: Steel cabinet
    b. Finish:
        1) Front Panel: Gray metallic with black end caps
        2) Chassis: Black matte finish
    c. Dimensions:
        1) Without Rails: 68.1 x 43.2 x13.2 cm (24.3" D x 17.0" W x 5.2" H)
        2) With Rails: 62.7 x 48.26 x 13.2 cm (24.7" D x 19.0" W x 5.2" H)
    d. Unit Weight:
        1) Empty: 21 kg (46 lbs)
        2) Fully Equipped: 30 kg (46 lbs)
    e. Mounting: Desktop (feet); Rack, 3 RU per unit (Rack rails and hardware provided)
5. System Specifications:
    a. System Drive: Linux CompactFlash system drive
    b. RAID Level: RAID 6 for storage drives
    c. Effective Capacity: Up to 27.2 TB
    d. Drive Interface: SAS/SATA II
    e. Network Interface: 2, 1 Gigabit Ethernet RJ-45 ports (1000Base-T)
    f. Security: 2 modes: secure mode (device authentication) and unsecured mode
    g. Auxiliary Interfaces:
        1) USB 2.0 2 USB 2.0 Ports on rear panel 1 USB 2.0 port on front panels
6. Front Panel Specifications
    a. Power: Blue Pelco badge
    b. Software Status: Green, amber, red (based on diagnostics)
    c. Network Port 1 Speed: Green, amber, red
    d. Network Port 2 Speed: Green, amber, red
    e. Hardware Status: Green, amber, red
    f. Hard Drive Status: Green, red
    g. Power Button: On, off (soft), off (hard)
7. Certifications:
    a. CE, Class A
    b. FCC, Class A
    c. UL/cUL Listed
    d. C-Tick
    e. S Mark
    f. CCC/CQC

S. Warranty:
    1. 36 months, parts and labor

T. Pelco Model Numbers:
    1. VSM5200-96: Network storage manager, 96 TB storage

2.07 SECURITY EQUIPMENT RACKS

A. Security Equipment Rack: fully welded steel frame, modular cabinet rack assembly; Middle Atlantic Products, MRK, having:
   1. Number of sections as required to house the system equipment.
      a. Each section 36 inches deep by 19 inches wide panel space, with height as indicated on drawings. Note: The number of sections indicated on the drawings are the minimum number to be provided. If additional sections are required due to the characteristics of the system equipment, provide additional sections as approved.
   2. Skeletal frame including top and bottom.
      a. Black e-coat finish and numbered rack spaces.
   3. Front, Back, and Side Panels:
      a. Fully vented locking front doors.
      b. Blank panels to cover front panel space where equipment is not installed.
      c. High CFM split rear door, 1320 CFM for 44 space with thermostat regulator.
      d. Set of 4 leveling feet.
      e. Solid top black e-coat finish.
         1) Size as required to enclose equipment indicated on the drawings.
      f. Black enamel finish.
   4. Chassis support angles and equipment shelves:
      a. Provide fixed shelves for support of equipment that is not rack mountable.
   5. Accessories as required for mounting and support of equipment.
   6. Surge Protection Multi-outlet strips mounted vertically within the enclosure with number of 15 amp, 120V ac receptacles (3 wire grounding type) as required for equipment. (Not less than 6 receptacles in each section.)
   7. One rack unit keyboard with 17" LCD monitor and 16 port KVM as manufactured by Middle Atlantic, model RM-KB-LCD17X16KVM
   8. LED light kit as manufactured by Middle Atlantic, model LT-GN-PNL.
   9. One rack unit cable management as manufactured by Middle Atlantic, model PHCM-1-2.

B. Wall Mounted Security Equipment Rack: Pivoting, sectional wall cabinet; Middle Atlantic Products, DWR, having:
   1. Tool-Free Quick-Mount system for easy, one-person mounting of the center section to the backpan on the jobsite.
   2. 16-guage steel construction with 1/8" thick laser-cut corner braces.
   3. Grounding/bonding stud in top and bottom of center section and backpan facilitates proper grounding and bonding of electronic equipment as per NEBS and NEC standards.
   4. Finished in a durable black textured powder coat.
   5. Reversible pad lockable center section is keyed differently from optional front door for security.
   6. Center section rear channel accommodates slim power to save space.

C. Security Equipment Racks:
   1. Seismic Performance: Equipment racks shall withstand the effects of earthquake motions determined according to ASCE/SEI 7. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces and the unit will be fully operational after the seismic event.

2.08 UNINTERRUPTABLE POWER SUPPLY (UPS)

A. Uninterruptable Power Supply (UPS): as manufactured by APC, model No. SMT750.
   1. Smart uninterrupted power supply, 750VA/500W tower.
   2. Output Connections: (6) NEMA 5-15R.
   3. Input Connections: NEMA L5-15P.
   4. Output Power Capacity: 500 Watts / 750 VA.
   5. Multi-function LCD status and Control Console.
   6. Audible Alarm: Alarm when on battery, distinctive low battery alarm and configurable delays.
   7. Filtering: Full time multi-pole noise filtering.
   8. 3 years repair or replace (excluding battery) and 2 years for battery.

B. Uninterruptable Power Supply (UPS): as manufactured by APC, Model No. SRT6KRMXLT.
   1. Smart uninterrupted power supply, 6000VA/6.0Kva 4U rack mounted.
   2. Output Connections: 3-wire hard wired. 208V
   3. Input Connections: 3-wire hard wired. 208V.
   4. Output Power Capacity: 6000 Watts / 6000 VA.
   5. LED status indicators
   6. Audible Alarm: Alarm when on battery, distinctive low battery alarm and configurable delays.
   7. Battery type: Maintenance-free sealed Lead-Acid battery with suspended electrolyte, leak-proof.
   8. 3 years repair or replace (excluding battery) and 2 years for battery.

C. Uninterruptable Power Supply (UPS): as manufactured by APC, model No. SMX3000RMLV2U.
   1. Smart uninterrupted power supply, 3000VA/3.0Kva 2U rack mounted.
   2. Output Connections: (6) NEMA 5-15R and (2) NEMA 5-20R
   3. Input Connections: NEMA L5-30P.
   4. Output Power Capacity: 2700 Watts / 3000 VA.
   5. Control Panel: LED status display with On Line, On Battery, Replace Battery and Overload indicators, Multi-function LCD status and control console.
   6. Audible Alarm: Alarm when on battery, distinctive low battery alarm and configurable delays.
   7. Filtering: Full time multi-pole noise filtering.
   8. Battery type: Maintenance-free sealed Lead-Acid battery with suspended electrolyte, leak-proof.
   9. 3 years repair or replace (excluding battery) and 2 years for battery.
   10. (UPS-BAT) UPS Battery supply, as manufactured by APC, model number SMX120RMBP2U.

2.09 FLAT-PANEL HIGH DEFINITION LCD MONITOR

A. The PMCL600 Series FHD LED monitor shall the following features: VGA, BNC and HDMI inputs, picture-in-picture (PIP), looping BNC output, and full high definition resolution.

B. The High Definition LCD monitors shall be capable of providing a maxiumum of 1920 x 1080P Resolution with front panel controls.

C. The PMCL600 Series FHD LCD monitor shall meet or exceed the following design and performance specifications.

1. Electrical Specifications
   - a. Input Voltage — 100 to 240 VAC, 50/60 Hz
   - b. Power Consumption
     - a. PMCL624 35 W
     - b. PMCL643 80 W
   - c. Video Input Interfaces
   - d. 1 BNC, looping; 1 HDMI (2 HDMI for wall mount); 1 VGA; 1 USB.
   - e. Audio Input Interfaces — 3.5 mm audio jack
   - f. Horizontal Frequency: — 15 to 75 kHz
   - g. Vertical Frequency — 25 to 75 Hz
   - h. Sync Format — NTSC/PAL

D. Environmental Specifications
1. Operating Temperature — 32° to 104°F (0° to 40°C)
2. Operating Humidity — 10% to 85%, noncondensing

E. Physical Specifications
1. Dimensions
   - a. PMCL624 — 1.91” D x 21.8” W x 12.92”
   - b. PMCL643 — 2.5” D x 38.55” W x 22.89” H

2. Unit Weight
   - a. PMCL624 — 7.9 lb
   - b. PMCL643 — 48.5 lb

F. Mechanical Specifications
1. Native Resolution — 1920 x 1080p
2. Panel Aspect Ratio — 16:9
3. Viewing Area
   - a. PMCL624 — 20.75 x 11.67 in
   - b. PMCL643 — 37.52 x 21.378 in
4. Pixel Pitch
   - a. PMCL624 — 0.0106 x 0.0106 in
   - b. PMCL643 — 0.0193 x 0.0193 in
5. Video Formats — 480p, 1080i, 1080p
6. Brightness
   - a. PMCL624 — 250 cd/m2

	b.	PMCL643	300 cd/m2
7.	Contrast Ratio		
	a.	PMCL624	1000:1
	b.	PMCL643	1200:1
8.	LED Backlight Type		
9.	Panel Life		40,000 hours
10.	Viewing Angle (H/V)		178°/178°
11.	Displayable Colors		16.7 million
12.	Response Time		
	a.	PMCL6224	5 ms
	b.	PMCL643	6.5 ms
13.	Speakers		2 internal (8 ohms)
14.	Front Panel Controls		Power, left/right, up/down, menu, input.
15.	Indicators		LED (power on/off)

G. Warranty
   1. 2 year, parts and labor

H. Pelco Model Numbers

1.	PMCL624	24-inch
2.	PMCL643	43-inch

2.10 FLAT PANEL DESK MOUNTS MOUNTS

A. 24” Flat Panel Desk mount
   1. Dual vertical freestanding mount
      a. Mounts (2) LCD panels each up to 26.5lbs.
      b. Allows +/- 20 degrees of tilt and 360 degrees of screen rotations
      c. Maximum mounting height of center of top monitor shall be 29”.
      d. Internal and external cable management.
      e. Each monitor can be adjusted independently of one another.
   2. Single monitor mount
      a. Mounts 12-27” monitor.
      b. Allows +/- 20 degrees of tilt and 360 degrees of screen rotations
      c. Maximum mounting height of center of top monitor shall be minimum of 36”.
      d. Internal and external cable management.

B. 43” Flat Panel Desk Mount
   1. Single monitor mount
      a. Mounts minimum 43” monitor.
      b. Allows minimum+/- 5 degrees of tilt and 360 degrees of screen rotations
      c. Maximum mounting height of center of top monitor shall be minimum of 30”.
      d. Internal and external cable management.

2.11 CAMERA STATIONS

A. General:
1. The system's back box shall have three conduit openings. The series is available with a clear lower dome.
2. The camera system shall offer a large selection of camera and lens options.
3. The camera system shall meet or exceed the following design and performance specifications.

B. Standard Indoor/Outdoor Camera
1. General Specifications:
   a. Construction: Aluminum with steel camera mounting bracket and polycarbonate dome
   b. Finish: Light gray polyester power coat
   c. The indoor, vandal-resistant network dome camera shall provide options for clear and smoked lower dome.
   d. The indoor, vandal-resistant network dome camera shall provide advanced low-light capabilities for day/night models with sensitivity down to 0.05 lux in color and 0.00 lux in monochrome with infrared.
2. Electrical Specifications:
   a. Network Port: RJ-45 for 100Base-TX, Auto MDI/MDI-X
   b. Input Power: PoE (IEEE802.3af, Class 3)
   c. Power Consumption: 330 mA maximum
3. Mechanical Specifications:
   a. Clear dome with zero light loss and smoked dome with f/1.0 light loss.
   b. Pan/Tilt Adjustment: Manual, 355° pan; 180° tilt
4. Video Specifications:
   a. Frame rates up to 30, 25, 15, 12,5 10, 5, 1.
   b. Network interface of 100Mbps (or greater)
   c. Video Streams
      1) Multiple simultaneous streams with up to 2 different configurations plus service stream; the second stream is variable based on the setup of the primary stream
      2) Color: NTSC
5. Warranty
   a. 3 years, parts and labor.
6. Pelco
   a. IME Series, refer to camera matrix for exact quantity, mounts and type.

C. Standard Outdoor/Indoor PAN-TILT-ZOOM camera:
1. General Specifications:
   a. The indoor/outdoor network positioning camera shall be a discreet camera dome system consisting of a dome drive with a variable speed/high speed pan/tilt drive unit with continuous 360° rotation.
   b. The indoor/outdoor network positioning camera offer multiple simultaneous video streams with 2.1 megapixel (MPx) 1920 x

1080 resolution, auto iris with 30X optical, and 12X digital zoom.

c. The indoor/outdoor network positioning camera shall support standard IT protocols.

d. The indoor/outdoor network positioning camera shall be conformant to the ONVIF, Profile S and support open architecture best practices with a published API available to third-party network video recording and management systems.

e. The indoor/outdoor network positioning camera shall provide image stabilization to compensate for vibration introduced into the camera.

f. The indoor/outdoor network positioning camera shall provide user-selectable configurations for day/night auto mode.

g. The environmental network dome camera shall be NEMA-4X, IP66 rated.

h. The environmental network dome camera shall provide a 3/4-inch NPT conduit attachment in the back box for in-ceiling applications.

2. Electrical Specifications:
   a. Network Port: RJ-45 for 100Base-TX, Auto MDI/MDI-X
   b. Input Power:
      1) 24 VAC nominal, 24VA nominal (without heater and blower), 81VA nominal (with heater and blower)
      2) 24 VDC nominal, 1 A nominal (without heater and blower), 3 A nominal (with heater and blower)
      3) PoE+, 18 W, Environmental Models (with heater on), 15 W, Non-Environmental Models (with heater off),
      4) HPoE, 60 W, Environmental Models (with heater on), 15 W, Non-Environmental Models (with heater off),
3. Mechanical Specifications:
   a. Pan Movement: 360° continuous pan rotation
   b. Pan Speed: Variable between 450° per second continuous pan to 0.1° per second.
   c. Presets: 256 positions
   d. Tours: 16 Tours
   e. Motor: Continuous duty and variable speed, operating at 18 to 32 VAC, 24 VAC nominal.
4. Video Specifications:
   a. Frame rates up to 60, 50, 30, 25, 15, 12,5 10, 8.333, 7.5, 6, 5, 3, 2.5, 2, 1.
   b. Network interface of 100Mbps (or greater)
   c. Video Streams
      1) Multiple simultaneous streams with up to 2 different configurations plus service stream; the second stream is variable based on the setup of the primary stream
5. Warranty
   a. 3 years, parts and labor.

6. Pelco
    a. The discreet camera dome system shall be the Spectra 1080P S6230-Series Network Dome Positioning System. Refer to camera matrix for exact quantity, mounts and type.

D. Camera Wall Mount:
1. Fixed:
    a. Finish: Gray Polyester powder coat.
    b. As Manufactured by Pelco model WMVE-SR.
2. PTZ:
    a. Finish: Gray Polyester powder coat.
    b. As Manufactured by Pelco model IWM.

E. Corner Adapter:
1. Finish: Gray Polyester powder coat.
2. As Manufactured by Pelco model CM400 and IWM.

F. Parapet Mount:
1. Parapet, wall/rooftop mount mounts to inside or outside of Parapet wall with 0.375-inch (M8) diameter stainless steel bolts of appropriate length (not supplied). Includes indexing bolts to secure the arm in position.
2. Cable Entry Via cable feedthrough hole in bottom.
3. Maximum Load 45 lb (20.41 kg)
4. Construction:
    a. Aluminum
5. Finish: Gray polyester powder coat
6. Pelco:
    a. PP450 Parapet mount

2.12 SURGE PROTECTION

A. Equip system with surge suppressors to protect equipment from voltage transients and lightning surges. Provide surge suppressors to protect each cable (and conductor) entering and leaving fence accessory stations, and the security equipment rack for exterior devices.
1. Internal surge protection built-in to system devices is not acceptable protection, provide external surge suppressor units as manufactured by Ditek, Northern Technologies and Transtector.
2. The type of surge suppressor units to be provided shall be suitable for the circuit it is connected, as recommended by the surge suppressor manufacturer and approved for use by the Company Field Advisor(s) for the Indoor and outdoor CCTV System.

B. Surge Suppressors: Ditek's Model DTK-1F (provide on each circuit feeding equipment racks)
1. AC hardwired transient voltage surge suppressor.
2. Single circuit.
3. UL, IEEE C62.41B listed.
4. Hardwired parallel connection.
5. <5 nsecond installed, <1 nsecond component level response time.
6. 120 VAC service voltage rated.

7. 22,500 amps surge current rated.
8. Operating temperature –40° C to +85°C.
9. 6,000,000 hours MTBF.
10. High impact plastic construction.

C. DITEK Surge Suppressor.
1. Provide surge protection on each exterior cameras CAT 6 cable and ACP cable entering and leaving security equipment racks. Provide 6" square box on interior side of building located next to camera for surge protection device. Ground to building steel.

2.13 WIRING

A. Cables:
1. All electrical characteristics shall meet the requirements of the Company producing the system (attenuation, conductor to conductor capacitance, cross-talk, dc resistance, velocity of propagation, etc.).
2. Exterior Cameras:
a. For Connections between the Power Over Ethernet Switch (POE) and Camera Stations, provide CAT6 suitable for direct burial and plenum rated. Remove plenum rated below when installed within conduit.
3. Interior Cameras Plenum Rated:
a. For connection to Fixed Camera Stations located within the building, provide CAT 6 cable; Paige TIA/EIA certified category 6, unless otherwise recommended by camera manufacturers.
b. For connection to PTZ Camera Stations located within the building, provide CAT 6 cable; Paige TIA/EIA certified category 6, unless otherwise recommended by camera manufacturers.
4. Miscellaneous Cables; provide additional cables as required for System to function as summarized in SYSTEM DESCRIPTION and indicated on the drawings:
a. Number, size, and type of conductors as recommended by the Company producing the equipment.
b. Conductors shall be enclosed in a cable with a jacket suitable for the environment that they are to be installed.
c. Conductors shall be enclosed in a cable with a jacket suitable for the environment that they are to be installed.

2.14 CONNECTORS

A. Connectors: As produced by Amphenol Corp. (Weatherproof type where installed in exterior locations.)

2.15 VIDEO SIGNAL INTEGRITY EQUIPMENT

A. Video amplifiers, differential amplifiers, ground loop eliminators, etc., as required for proper signal transmission to produce sharp, clear, distortion free pictures on monitors.

2.16 MARKERS AND NAMEPLATES

A. Station Locator: Flip type bound file, indexed with tabs and equipped with 8-l/2" x 11" (minimum) plans showing location of each camera station, guard station, and location of all major equipment associated with the system. Enclose each plan in clear plastic envelope so that plans can be removed and updated.

B. Wiring Diagram: One line diagram showing interconnection of all major components associated with the system. Encase with aluminum or stainless steel frame, and plexiglass front.

C. Markers:
   1. Premarked self-adhesive; W.H. Brady Co.'s B940, Thomas and Betts Co.'s E-Z code WSL self-laminating, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers.
   2. Flexible sleeve markers; Plastic Extruded Parts Inc.'s FS series.
   3. Snap-on markers; Plastic Extruded Parts Inc.'s RS series.
   4. Thermal transfer (non-smearing), Brady's ID PAL hand held labeling tool, portable thermal transfer printer or equal.

D. Nameplates: Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inch high.
   1. Phenolic: Two color laminated engraver's stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).
   2. Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

2.17 ENVIRONMENTAL ALARM UNIT (EAU)

A. Temperature sensor with water detection as manufactured by Network Technologies Incorporated.
   1. Enviromux model Enviromuc-5D.
      a. 5 external configurable sensors, 5 digital inputs, 2 output relays.
      b. Configure Smart Alerts for different event combinations.
      c. 100 to 240 VAC at 60 hz via AC adapter.
      d. Optional 1RU rackmount kit.
      e. Internal battery backup – alerts are sent when there is a power outage and when power returns.
      f. Dual redundant power for connection to two separate power sources.
      g. Supports NTI's advanced sensors which can be extended up to 1,000 feet using Cat5/5e/6 cable.
      h. Integrates with various Open Source monitoring packages – Nagios and MRTG.
      i. Remote Temperature sensor (Enviromux-STSM-E7); Temperature accuracy ±1.26°F for -4 to 41°F and ±0.72°F for 41 to 140°F
      j. Industrial Temperature/Humidity Sensor (ENVIROMUX-STHS-N4085IND-10); Applications from -40 to 185°F (-40 to 85°C) and 20 to 80% relative humidity.

2.18 CAMERA POWER INJECTOR

A. Power Supply (outdoor PTZ cameras and Fence perimeter Fixed cameras), as manufactured by Pelco, POE75U. (Used in enclosures)
   1. 75 Watts of High PoE power for exterior PTZ.
   2. 1 output
   3. 120VAC input
   4. diagnostic LED
   5. operating temperature -4 to 104 degrees Fahrenheit.

2.19 ACCESSORIES

A. Include accessories required to perform the functions summarized in SYSTEM DESCRIPTION and indicated on the drawings.

2.20 NETWORK SWITCHES

A. Ethernet Switch (CES/ES) as manufactured by Avaya, VSP 4450GSX.
   1. 12-Ports of 10/100/1000Base-T with PoE+ support
   2. 36 ports of 100/1000 Mbps SFP ports
   3. 2 ports of 1/10 gig SFP+
   4. System CPU operates at 1.2GHz
   5. Switch Configured with 2GB of 800 DDR3 DRAM
   6. RJ-45 Console port and a USB 2.0 port
   7. Ships with 1 set of 19" rack mount brackets
   8. Redundant Power Supplies.
   9. Dimensions: 1 rack unit
   10. Supply Required SFP modules.
   11. Electrical Specifications:
      a. Supplied with 1 x 1000W AC field replaceable power supply unit
      b. Supports addition of second field replaceable AC power supply for redundancy
      c. Power consumption without POE is 95W typical and 140W max with a thermal of 324BTU/hr typical and 477.70 BTU/hr max.

B. Power over Ethernet Switch (POE) as manufactured by Avaya, ERS 3524GT-PWR+.
   1. 24-Ports of 10/100/1000Base-T ports with support for IEEE 802.3af PoE or IEEE 802.3 at PoE+, with 4 shared SFP powers (combo with ports 21-24)
   2. 2 Rear SFP ports can be used as additional ports in Standalone Mode, or, as 2 rear HiStack ports delivering up to 10Gbps (FDX) of Stackable Chassis throughput per switch in Stacking Mode.
   3. System CPU speed: 400MHz
   4. System memory: 32MB Flash, 128MB DRAM
   5. RJ-45 Console port provides industry standard serial port connectivity
   6. Switch Capacity and forwarding rate (64-byte): 52Gbps / 38.7Mpps
   7. MTBF: 336,357 hrs
   8. Dimensions: 1 rack unit
   9. Supply Required SFP modules.

10. Electrical Specifications:
    a. Input Voltage: 100 to 240 VAC at 47 to 63 HZ
    b. Input Current (max): 5.0A@100VAC
    c. Power consumption: 500 Watts max
    d. Thermal output: 357 BTU/hr max
11. Redundant Power Supplies.

C. Power over Ethernet Switch (POE) as manufacturer by Avaya, VSP 4850GTS-PWR+.
1. 48-Ports of 10/100/1000Base-T ports with support for both IEEE 802.3af PoE and IEEE 802.3at PoE+
2. 2 Shared SFP Ports, Plus 2 x 1/10Gigabit SFP+ ports, Plus 2 x rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput.
3. System CPU speed: 533MHz
4. Switch is configured with 1 GB RAM
5. RJ-45 Console port provides industry standard serial port connectivity.
6. 146cm HiStack Cable.
7. Dimensions: 1 rack unit
8. Supply Required SFP modules.
9. Electrical Specifications:
    a. Input Voltage: 100 to 240 VAC at 47 to 63 HZ
    b. Power consumption: 112 Watts (without PoE Load), 855 watts Max when operating on one power supply, 1855 watts max when operating on two power supplies.
    c. Thermal output: 383 BTU/hr max
10. Redundant Power Supplies.

2.21 COPPER PATCH PANEL (CPP)

A. UTP Coupler Patch Panel
1. Exceeds channel requirements of ANSI/TIA-568-C.2 Category 6 and ISO 11801 Class E standards at swept frequencies 1 to 250 MHz.
2. Meets ANSI/TIA-1096-A; contacts plated with 50 microinches of gold for superior performance.
3. Industry Standard interface provides a quick and easy plug and play connection to RJ45 patch cords; backwards compatible.
4. Factory installed 24-port patch panel mounts
5. As manufactured by Panduit, model CP24688BL.

B. Cable Management System (CMS)
1. 2RU
2. Hinged cover
3. 48 port
4. As manufactured by Panduit

2.22 ALARM PANEL (AP)

A. Alarm panel, as manufactured by Honeywell, Vista-20P series.
1. Aux. power 12VDC, 600mA maximum.
2. Seven hour standby at 400mA aux. load with four amp hour battery.
3. Supports up to four relay boards (up to 16 relays).

4. Eight hardwired zones.
5. Programmable swinger suppression.
6. 20 selectable zone types plus four configurable zone types.
7. 6160 keypad

2.23 THOMAS & BETTS WHILE-IN–USE COVER MODELS CKNM (SINGLE GANG) AND 2CKNM (DOUBLE GANG).

A. Specifications:
   1. High impact UV-resistant polycarbonate base construction.
   2. Weather proof transparent, high impact thermoplastic cover.
   3. Lockable cover design.
   4. UL Listed.

B. Provide the while-in use-covers at all emergency power 120vac receptacles.

2.24 WIRE-PULLING COMPOUNDS

A. To suit type of insulation; American Polywater Corp.'s Polywater Series, Electric Products Div./3M's WL, WLX, or WLW, Greenlee Textron Inc.'s Y-ER-EAS, Cable Cream, Cable Gel, Winter Gel, Ideal Industries Inc.'s Yellow 77, Aqua-Gel II, Agua-Gel CW, or Thomas & Betts Corp.'s Series 15-230 Cable Pulling Lubricants, or Series 15-631 Wire Slick.

2.25 WIRE MANAGEMENT PRODUCTS

A. Cable Clamps and Clips, Cable Ties, Spiral Wraps, Velcro etc: as manufactured by Catamount/T&B Corp., or Ideal Industries Inc.

2.26 NETWORK TIME PROTOCOL (NTP)

A. 9389: NetClock/GPS NTP Time Server

B. 8225: GPS Outdoor Antenna

C. Cal7050: 50' of Antenna cable (LMR 400)

D. GPS Surge Protector

E. 5-Year Spectracom Warranty

F. As manufactured by Spectracom

2.27 KEYBOARD/VIDEO/MOUSE EXTENDER (KVM-E)

A. Single Head:
   1. 1920 x 1080 @ 60 Hz
   2. 1"H x 2.9"W x 4.9"D
   3. Connectors
      a. Local unit:
         1) (1) USB Type B F; (1) DVI-D F

2) Interconnect: (1) RJ-45; (1) 2.5-mm barrel connector; (2) 3.5-mm audio connectors
3) Power: From the interface or via optional PS649-R3

b. Remote unit:
1) (2) USB Type A F; (1) DVI-I D F
2) Interconnect: (1) RJ-45;
3) Power: 90-240 VAC, 47-63 Hz, autosensing, external, with IEC 320 connector and cord

4. As manufactured by blackbox, model ACU5501A-R4.

B. Dual Head:
1. 1920 x 1080 @ 60 Hz
2. 2"H x 3.1"W x 5"D
3. Connectors
a. Local unit:
1) (2) USB Type B F; (2) DVI-D F
2) Interconnect: (2) RJ-45; (2) 2.5-mm barrel connector; (2) 3.5-mm audio connectors
3) Power: From the interface or via optional PS649-R3

b. Remote unit:
1) (4) USB Type A F; (2) DVI-I D F
2) Interconnect: (2) RJ-45;
3) Power: 90-240 VAC, 47-63 Hz, autosensing, external, with IEC 320 connector and cord

4. As manufactured by blackbox, model ACU5502A-R3.

2.28 CAMERA STATION POLES

A. Tapered (continuous) galvanized steel poles, having:
1. 26 foot nominal height. (As indicated on drawings)
2. 15 inch minimum bolt circle.
3. 11 inch minimum shaft diameter at base OE – (3125 inches).
4. Bracket Arm: 6 feet long, 6 inch diameter, and 7 gage minimum galvanized steel with:
a. Mounting plate at end for mounting camera station.
b. 3 x 5 inch minimum handhole with reinforcing frame and cover located at outer end of arm.
5. 4 x 8 inch minimum handhole with reinforcing frame and cover near top of pole.
6. 4 x 8 inch minimum handhole near pole base with reinforcing frame and cover. Secure cover with vandal resistant screws.
7. Mounting plate on top of pole suitable for mounting camera station.
8. Four 1-1/2 inch diameter anchor bolts 60 inches long with 4 inch right angle leg. Threaded end hot dipped galvanized for minimum of 10 inches. Two galvanized nuts with each anchor bolt. Template for setting anchor bolts.
9. Pole construction suitable for a deflection rate of less than .26 inches per 100 lbs load at yield 18 inches from top of pole.

B. Acceptable Manufacturers: Union Metal Corporation, Canton Ohio 44711.

2.29 CONCRETE BASES

A. Bases may be precast or poured in place.
   1. Use Concrete as specified in Cast-In-Place Concrete (Section 033001).
   2. Construct concrete pole base as detailed on drawings.
   3. Use reinforcing steel as detailed on drawings.
   4. Install Four 1-1/2 inch diameter anchor bolts 60 inches long with 4 inch right angle leg. Threaded end hot dipped galvanized for minimum of 10 inches. Two galvanized nuts with each anchor bolt. Utilize pole manufactures template for setting anchor bolts.

2.30 UNIVERSAL DEVICE INTERFACE (UDI)

A. Universal device interface for third-party cameras or for ASCII systems.

B. Connections
   1. RS-232 DB-9 connector.
   2. 1 Gigabit Ethernet RJ-45 (10/100/1000Base-T)
   3. 2 USB 2.0 ports, 1 parallel port, 1 S-Video port, audio input/output

C. Power
   1. Power input: 12VDC
   2. Power Consumption: 60W, 5A, 205 BTU/H

D. Can accommodate IP camera streaming for as many as 16 standard resolution cameras and several megapixel cameras from most manufacturers.

E. Any combination and any mix of IP camera type and manufacturer is supported to reach a maximum bit rate, frame rate and resolution.

F. These cameras can be distributed throughout the network and then associated with a UDI5000 series to translate network communication packets into a standard that is compatible with the system.

G. Provides users with a powerful means by which to leverage investments in legacy analog systems and integrations, while paving the way to leverage the benefits afforded by today's IP and megapixel camera technologies.

H. Pelco Model Numbers
   1. UDI5000-CAM.
   2. UDI5000-MTRX.

2.31 OPTICAL FIBER MEDIA CONVERTER (OFMC)

A. POE Media Converter for fixed cameras as manufactured by Pelco, FMCI-PG1PoE (Located in FAS enclosure).
   1. Electrical port supports auto negotiation for 10 Mbps, or 1000 Mbps, Full-Duplex or Half Duplex Data.
   2. IEEE802.3at Class1-4 Power over Ethernet (PoE) 30W at 48VDC
   3. LED Status Indicators for Monitoring All Critical and Normal Operating Parameters.

4. Provide required FSFP modules.
5. External Power supply.
6. Operating temperature -40°f to 167°f
7. Dimensions: 3.30”D x 2.50”W x 1.10”H
8. Electrical Specifications:
    a. Power Input: 48 VDC
    b. Power Consumption: 50W
9. Provide Pelco FEXTPS-48V for power.

B. Media Converter rack mounted as manufactured by Pelco, FMCI-BF1SM1ST (for all fence perimeter PTZ and Fixed cameras) and for PTZ cameras as manufactured by Pelco, FMCI-AF1SM1STM (Located in FAS enclosure).
1. Supports Auto negotiation and Automatic medium dependent interface/medium dependent interface crossover (MDI/MDI-X)
2. LED Status Indicators for Monitoring All Critical and Normal Operating Parameters.
3. Stand-alone or rack mountable modular design.
4. Compliant with IEEE 802.3 standards.
5. Full-Duplex Transmission of 10/100/1000 Mbps Ethernet.
6. Provide required FSFP modules.
7. External Power supply.
8. Operating temperature -40°f to 167°f
9. Dimensions: FMCI-BF1SM1ST 6.10”D x 5.30”W x 1.10”H
   FMCI-AF1SM1STM 3.30”D x 2.50”W x 1.10”H
10. Provide USRACK chassis for rack mounting and powering of device as manufactured by Pelco.
11. Provide plug in transformer for power to FMCI-BF1SM1STM.
12. Electrical Specifications:
    a. Power Input: standard size 8 to 15 VDC, mini AC/DC 22 to 27 VAC or 8 to 24 VDC
    b. Power Consumption: 2W

2.32 ACCEPTABLE MANUFACTURERS:

A. Manufacturer’s names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials, products, and services of manufacturers listed as “acceptable” may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the “specified” manufacturer. Listing of a manufacturer as specified or acceptable does not relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by addendum. Product substitution will not be accepted during the submittal process.

C. Contact Mark Wilens at Wilens Professional Sales, Inc. for product information based on products listed in this specification: (845) 679-4300.

PART 3 EXECUTION

3.01 PRELIMINARY TEST RECORDINGS

A. After receipt of approval of submittal package No. 1, perform Preliminary Test Recordings (Video) to verify correct placement of the camera stations.

B. Prior to installation of the system, provide preliminary test recordings of 10% of total camera stations.

1. Perform the following test recording for each camera station:
    a. Temporarily locate the camera stations at the locations indicated on the drawings.
        1) The camera station(s) shall have the cameras, lenses and housings as indicated on the drawings for the camera station(s).
        2) Provide temporary supports, cabling, etc. required for the camera station(s) for making the test recordings.
        3) Make a digital recording of each camera station test recording for a minimum of 30 seconds.
        4) Include written description and/or camera station layout to accompany digital recording to identify each recorded scene.
        5) Supply equipment necessary to make the video digital recordings.
        6) The temporary installation shall be performed under the supervision of the Company Field Advisor for the cameras.
        7) At the start of the recording for each camera station:
            a) A person is to hold a sign up to the camera with the camera station designation written on it that is be recorded in that scene. Sign must be visible in recording playback.
            b) The person is to then walk from end to end of the area to be covered by the camera station.
2. All recordings shall be witnessed by the Director's Representative and the Company Field Advisor(s) for the cameras equipment.
3. Provide a written report for the Director's Representative that includes any recommendations, if any, by the Company Field Advisor(s) for better video coverage.
    a. If during the course of making the preliminary test recordings the Company Field Advisor determines that an alternate location for a camera station might be more appropriate for an area, make an additional recording for that area with the equipment relocated to the location recommended by the Company Field Advisor.

1) No changes to any equipment's permanent location is to be made without the written request.

3.02 INSTALLATION

A. Pre-installation Meeting:
   1. After approval of Submittals Package 1, conduct Pre-Installation Meeting.
      a. Provide a minimum of 1 week notice to the Director's Representative, so that a Pre- Installation meeting schedule can be set up with facility personnel and arrangements can be made for a location to hold the meeting.
      b. Provide all materials necessary for training (training aides, handouts, overhead projector, etc.).

B. Install closed circuit television system in accordance with the Company's printed instructions:
   1. Terminations and connections to devices are not to be made until Point to Point Wiring Diagrams (required to be submitted in Submittals Package 2) have been submitted and approved.

C. Camera Station Poles:
   1. Install each camera station pole on a concrete base.
   2. Prepare a level surface on compacted earth, undisturbed earth or concrete footing. Set bases on the prepared surface. Have all bases checked and approved by the Director's Representative for level and elevation prior to making any conduit connections.
   3. Install camera station poles vertical:
      a. Use 2 nuts on each anchor bolt. Run first nut down on the thread to the top of the foundation.
      b. Install pole, run second nut down.
      c. Adjust pole if necessary, then tighten nuts in accordance with pole manufacturer's recommendations.
      d. Grout voids between metal base of camera station poles and concrete base. Create a drain through the grout by slipping a short length of conduit under the base in the wet grout, projecting it into the large drain hole in the base of the camera station poles. Rotate the conduit to finish the drain, then remove conduit.

D. Cables:
   1. Optical Fiber cables shall be continuous and un-spliced between the security equipment racks and the camera stations.
   2. Install conductors in raceways after the raceway system is completed. Exception: Conductor types specifically indicated on the drawings not to be installed in raceways.
   3. No grease, oil, or lubricant other than wire pulling compounds specified may be used to facilitate the installation of conductors.
   4. Connect system components requiring a primary power supply to dedicated emergency power branch circuits.

5. Make connections and splices at system components, terminal strip cabinets, and console only. Connections or splices will not be allowed at any other location in the system.
6. Use wire management products to bundle, route, and support wiring in junction boxes, pull boxes, wire ways, gutters, channels, and other locations where wiring is accessible.
7. The security vendor will be responsible for final calculations of power and signal runs to insure the wiring supplies a non-degraded signal and power requirements that meets manufactures specifications for equipment based on final device location and routing back to security headend equipment.
8. Bending and pulling tensions will not be exceeded per the cable manufacturer specifications. Contact manufacturer for specific requirements of the cable to be pulled.

E. Connections:
1. Make connections and splices at camera stations, fence accessory stations. Connections at the security equipment racks (Furnished by Others). Connections or splices will not be allowed at any other location in the system.
2. Use markers to identify conductors at terminal strips, fence accessory stations, and security equipment racks (designations shall correspond with point to point wiring diagrams).
   a. Markers for individual conductors of a multi-conductor cable is not required, if the following requirements are met:
      1) Each individual conductor in the cable is color coded differently from other conductors in the cable.
      2) The multi-conductor cable has a marker identifying it.
      3) The color coding of each conductor is identified on the point to point wiring diagram.
3. Use coaxial cable connectors for splicing and terminating coaxial cables. Use terminal strips for splicing and terminating other types of cable.

F. Surge Suppressers:
1. Provide surge protection on each CAT 6 cable and ACP cable entering and leaving security equipment racks.
2. At fence accessory stations: provide surge suppressers on each CAT 6 cable and ACP cable going to camera stations powered from that fence accessory station.
3. At fence accessory stations: provide surge suppressers on 24 VAC conductors going to camera stations powered from that fence accessory station.
4. At circuits for equipment racks: Provide surge protection on each circuit

G. Identification, Labeling, Marking:
1. Station Locators: Install adjacent to each workstation.
2. Wiring Diagram: Install adjacent to equipment in hub router security equipment rooms.
3. Nameplates:
   a. Install nameplate with monitor designation over each monitor.

b. Install P-touch labels for camera station number on all interior cameras.
c. Install phenolic nameplates for camera station number on all exterior cameras. Mount on wall or camera pole below camera 10' AFG.
d. Install phenolic nameplates for all equipment racks.
e. Install phenolic nameplates for all equipment mounted in equipment racks.

4. Identification of Circuits: Identify wires and cables by system and function in cabinets with premarked, self-adhesive, wraparound type markers. Designations shall correspond with point to point wiring diagrams. Wiring must be identified at both ends of wiring and within 3 inches of termination point.
5. Battery Data: Insert a copy of the battery warranty in each battery compartment and mark on batteries the date placed in service.

H. Mounting Hardware:
1. Mount all exposed equipment with security grade tamper proof center pin reject style torx type mounting screws.

I. Earth ground of equipment as required by equipment manufacturer.
1. Do not use telephone ground connections as earth grounds.
2. Do not use connections to building structural steel as earth grounds.
3. Provide equipment-grounding conductors to ground bar

3.03 SYSTEM TRAINING

A. After the system is substantially complete and operational, provide on-site training of facility security, security supervisory, and maintenance personnel.
1. Provide a minimum of 1 week notice to the Director's Representative, so that a training schedule can be set up with facility personnel and arrangements can be made for a location to hold the training..
2. Provide all materials necessary for training (training aides, handouts, overhead projector, etc.).

B. System Operation Training: Training shall be set-up so that at the end of training, facility (security, security supervisory, and maintenance) personnel shall have a complete understanding of:
1. How the system operates.
a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.
2. Knowledge of all components in the system and their function.
3. How the system is interconnected with other security systems and how the system operates in conjunction with the other systems.
4. Weekly testing procedures for the system required to be performed. Each perimeter zone shall be tested weekly as follows:
a. Perform the detections system's weekly test as described by below.
1) Check to see that the activation of the detection system in that zone (thru the perimeter alarm system) causes the

following responses by the perimeter surveillance CCTV system:

a) Camera stations associated with the alarm points are automatically switched to the video quad and alarm monitor of the CCTV system and switched to the CCTV system's video recorder. The video recorder should automatically start recording upon alarm.

(1) Prior to performing a test on a perimeter zone monitored by pan/tilt/zoom camera station, so to confirm proper functioning of the camera station, perform the following:

(a) Pan the camera station 90 degrees away from the zone that is to be tested.

(b) Tilt the camera station to an angle other than what will be called up when the zone goes into alarm.

(c) Adjust the lens' field of view to a setting other than what will be called up when the zone goes into alarm.

(2) Verify pre-position (pre-shot) called-up upon alarm by each pan/tilt/zoom camera station is aimed and focused to completely view the zone in alarm.

(3) Verify video recorder activation by reviewing recorded images after performing weekly testing of automatic camera call-up upon alarm.

(a) Recorded images should show actions of each camera station upon receipt of the alarms.

(b) Recorded images will provide record of test having been performed and will provide indication of the quality of the recording and ensure images being recorded are in satisfactory.

C. System Maintenance Training: Training shall be set-up so that at the end of training, facility maintenance personnel shall have a complete understanding of:

1. Routine (monthly, quarterly or annual) maintenance required to the system and how to perform that maintenance.

a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system.

2. Knowledge of all components in the system and adjustments to the components that they would be required to perform to maintain operation of the system.
3. Programming of the system.
    a. Training should include, but is not limited to the following:
        1) How to program automatic call-up of camera stations as salvos (and set camera station pre-positions) when the zones they are associated with go into alarm.
        2) How to set pre-positioned scenes for each zoom-pan/tilt camera station.
        3) How to program automatic sequencing of camera stations in any order on monitors connected to the output of the enhanced decoder.
            a) How to set dwell time (2 to 60 seconds) that each camera station scene is displayed in sequence on the monitor.
        4) How to set system time and date.
        5) How to program on screen camera station identification displayed for each camera.
            a) How to set the identification positioning and brightness for each monitor connected to the output side of the enhanced decoder.
        6) How to store and re-store system programming to and from CD's, via the dedicated workstations.
        7) Training should include instruction in all programming required to the system necessary for the system to operate as outlined in the SYSTEM DESCRIPTION.
        8) Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system working on the system.
4. How to replace all items listed as spare parts for the system.
    a. Training should include precautionary concerns that personnel should be aware of that could effect proper operation of the system working on the system.
5. Annual testing procedures for the system required to be performed by the Department.
    a. The perimeter surveillance CCTV system be tested annually as follows:
        1) Perform weekly test upon the system.
        2) For pan/tilt/zoom camera stations: Verify all pre-positions settings for each camera station is aimed and focused as required.
        3) Check the condition of all of the system monitors to ensure that each displays a clear and sharp picture.
        4) Check system's time/date setting.
        5) Check operation system from each system keyboards and monitors connected to the system.

3.04 FIELD QUALITY CONTROL

A. Cable Test: Electronically meter test and documents all cables, control wiring, and twisted cables prior to installing equipment and electronically test and document all cables under the supervision of Company Field Advisor. Test for open, grounds, and shorts.

B. Make corrections to wiring prior to proceeding. Advice the Director's Representative of any cable that cannot be repaired.

C. Provide written test results for all cables and certify operation.

D. Test all cables after installation and prior to connecting new equipment.
   1. Cable Testing: The following tests will be performed to ensure that the cable is installed correctly:
      a. Wire map.
      b. Length.
      c. Insertion loss (attenuation).
      d. NEXT loss (Near-End Crosstalk)
      e. PSNEXT loss (Power Sum Near-End Crosstalk).
      f. ELFEXT loss.
      g. PSELFEXT loss (power Sum Equal Level Far-End Crosstalk)
      h. Return loss.
      i. ACR (Attenuation to Crosstalk Ratio)
      j. PSACR (Power Sum Version of ACR)
      k. Propagation Delay
      l. Delay Skey
      m. Model Number: Fluke Networks DTX-1800 Cable Analyzer.

E. UPS Testing:
   1. Perform the tests listed below according to manufacturer's recommendations upon completion of installation of the system.
      a. Simulation of malfunctions to verify proper operation.
      b. Tests of duration of supply on emergency, demonstrations of low-battery voltage shutdown and transfer due to normal source failure. Utilize Load bank of equal load on UPS to test.
      c. Test for 15 minutes to prove capacity of system.
      d. Continue test beyond 15 minutes to automatic shutdown due to low battery voltage.
      e. Submit written report of test results signed by person performing test and the director's representative.

F. Preliminary System Test:
   1. Preparation: Have the Company Field Advisor adjust the completed system and then operate it long enough to assure that it is performing properly:
      a. Adjust each camera's imaging device position ("Back Focus Adjustment") in relationship with its lens to maximize the camera performance. Make adjustments at night (or during the day using a filter). Iris shall be fully open while adjusting the position of the imaging device in the camera. Exact method for

adjustments shall be in accordance with the camera and lens manufacturers' printed instructions.

b. Make adjustments for clear, sharp, distortion free scenes and roll-free vertical interval switching to the satisfaction of the Director's Representative.

c. Program system, including salvo call-up of camera stations upon alarm as indicated on the drawings and their pre-position programming of each camera station to view the zone in alarm.

1) Pre-position Tour: Pre-position No. 99 for each camera station shall be set so that with all camera stations set at pre-position No. 99 a complete tour of the facility's perimeter fences associated with the perimeter alarm system is made.

a) In pre-position No. 99, the entire perimeter shall be covered and automatic sequencing of cameras stations simulates a tour of the perimeter alarm system fence.

2. Run a preliminary test for the purpose of:

a. Determining whether the system is in suitable condition to conduct the acceptance test.

b. Checking and adjusting CCTV equipment.

c. Training facility personnel.

G. Digital Test Recordings (Scenes):

1. After completion of the preliminary system test and prior to system acceptance test, make digital recordings of the following scenes recorded from the cameras installed under this project:

a. During daylight with the cameras positioned in pre-position No. 99, consecutively sequence all cameras (with the dwell time set for each camera at 30 seconds) for a minimum period of 15 minutes or until all cameras have been viewed twice.

b. Same as item "a." above except recording shall be done at night.

c. Activate a test of each perimeter alarm system zone and record the following:

1) Record in quad view the salvo (4 camera stations) called up when the zone goes into alarm.

a) After 30 seconds of recording, and while still recording, pan each camera station covering the zone a minimum 90 degrees away from the zone being tested, clear and re-test the zone and record for another 30 seconds in quad view.

b) Without moving the camera stations record for a minimum of 15 seconds each of the camera stations at full screen covering the zone being tested.

2. Include written description to accompany tape to identify each recorded scene.

3. Digital recordings shall be suitable for playback on a standard digital MPEG video playback system.

H. System Acceptance Test:

1. Prerequisite: Digital Test Recording of camera scenes must be approved prior to scheduling of the System Acceptance Test.
2. Preparation: Notify the Director's Representative at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
3. Make the following tests:
   a. Test each system function step by step as summarized in SYSTEM DESCRIPTION.
   b. Demonstrate that:
      1) Each camera station provides sharp, clear, distortion free scenes on the associated monitors for the lighting conditions.
      2) Each indoor camera station operates through full range of lighting conditions including: daylight (all fixtures off), general lighting on (at night), and night lights only (at night).
      3) Each outdoor camera station operates through a full range of lighting conditions including low lighting levels. A portion of this test must be performed at night.
      4) Each camera operates through the full range of zoom lens.
      5) Each camera housing operates through the full range of its pan and tilt capabilities.
      6) Outdoor camera station mountings are stable in wind conditions at the site.
4. Supply equipment necessary for system adjustment and testing.
5. Submit written report of test results signed by Company Field Advisor and Director's Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the security equipment rack.

END OF SECTION

Revised 10-5-17

SECTION 283105

MODIFICATIONS TO FIRE ALARM SYSTEM

PART 1 GENERAL

1.01 ALLOWANCES

A. An allowance for the following portions of the Work of this Section is included in Section 012100:
   1. Services of the Company Field Advisor as described in QUALITY ASSURANCE.
   2. All items listed in SUBMITTALS.
   3. Engineering and reprogramming associated with the installation of the new equipment and updating existing information.
   4. All products listed in PART 2 of this Section except:
      a. Protective devices.
      b. Terminal strip cabinets.
      c. Conductors and cable.
      d. Signs, labels, markers, and nameplates.
      e. Labor for installation of the products is not included in the allowance and shall be included in the contract sum.
   5. Spare parts listed in Part 1 of this Section except protective devices.

1.02 REFERENCES

A. Underwriters Laboratories Inc.

B. National Fire Protection Association Standard 72 and 13" FOR SPRINKLER SYSTEM ALARM AND SUPERVISION.

1.03 DEFINITIONS

A. Initiating Device Circuit: A circuit to which automatic or manual initiating devices are connected where the signal received does not identify the individual device operated. Example:
   1. Circuits from PPSSs and ICUs to non-addressable signal initiating devices.

B. Notification Appliance Circuit: A circuit or path directly connected to a notification appliance. Example:
   1. Circuits from PPSSs and ICUs to notification appliances.

C. Signaling Line Circuit: A circuit or path between any combination of circuit interfaces, control units, or transmitters over which multiple system input signals or output signals, or both are carried. Examples:
   1. Circuits from PSS to building PPSSs and ICUs.

2. Circuits from PPSSs and ICUs to addressable devices.

D. Operating Mode:
   1. Private Mode:
      a. Audible and visible signaling only to those persons directly concerned with the implementation and direction of emergency action initiation and procedure in the area protected by the fire alarm system, and:
      b. Audible and visible signaling only to those persons within special designated areas where private mode operation is specified to be applicable.
   2. Public Mode: Audible and visible signaling to occupants or inhabitants of the area protected by the fire alarm system.

1.04 DESCRIPTION OF EXISTING SYSTEM

A. The existing site fire alarm system is a Simplex Time Recorder Co. 2001 Zoned System. This system monitors the following existing buildings: Building 90 (houses head end), building 80, 81, 82, 77 and 78.

B. The existing fire alarm control panels in buildings 80 4-unit 4002, 14 zone FACP, Buildings 81, & 82 each have a Simplex 4002 6-unit 32 zone FACP. Buildings 77 & 78 each have a Simplex 2001 FACP.

C. Existing System Description:
   1. Smoke detectors and smoke sensors operate in conjunction with the systems' alarm verification program.
      a. The alarm verification operation is selectable by zone for smoke detectors.
      b. The activation of any smoke detector within its zone initiates the alarm verification program.
   2. Alarms are processed by the system at 3 levels of priority:
      a. Fire alarms have the highest priority.
      b. Other alarms that require interaction by the attendant have the second level of priority.
      c. Monitored points which do not require interaction by the attendant are the third level of priority.
   3. Access to the system functions are controlled thru at least 3 levels of access security to prevent program modifications or use by unauthorized personnel.
   4. Alarms, supervisory signals, and trouble signals are distinctively and descriptively annunciated.
   5. Switches for silencing audible trouble and supervisory signals transfers the audible signal to a lamp or other visible indicator adjacent to the switches.
   6. All system visual and audible trouble signals and visible indication of their restoration is indicated at the PSS.
      a. Each building's visual and audible trouble signals and visible indication of their restoration is indicated at its PPSS.

7. Monitoring of ground fault conditions indicate a ground fault trouble condition at the PSS.
8. Summary reports are displayed and printed at the PSS upon appropriate keyboard or function command.
9. Life safety control-by-event functions are retained in a non-volatile programmable memory and are not alterable through normal operation of the system.
    a. The life safety control-by-event control points may be manually operated at any time by authorized personnel thru appropriate system commands.
    b. Dedicated switches in the remote annunciator/control centers (RA/CCs) allow personnel to manually operate specific pre-programmed life safety control-by-event control points.
    c. Life safety control-by-event functions are printed and displayed at the PSS.
10. User programmable control-by-event functions may be programmed thru appropriate system commands to automatically activate any user programmable control point upon a status change from any programmable monitor point.
    a. The user programmable control-by-event control points may be manually operated at any time by the authorized personnel thru appropriate system commands.
    b. Dedicated switches in the RA/CCs allows personnel to manually operate each pre-programmed user programmable control-by-event control point.
    c. Assigned messages, date and time are printed and displayed at the PSS for the control points activated by the user programmable control-by-event function.
11. User programmable parameters for automatic time-initiated functions (start/stop, on/off, secure/access, etc.) may be added, omitted and altered thru appropriate system commands.
    a. The time-initiated user programmable control points may be manually operated at any time by authorized personnel thru appropriate system commands.
    b. Dedicated switches in the RA/CCs allows personnel to manually operate each pre-programmed user programmable time-initiated control point.
    c. Assigned messages, date and time are printed and displayed at the PSS for the control points activated by the time-initiated control point.

D. The PSS activates immediately and performs its alarm functions upon receipt of system alarm condition thru actuation of automatic or manual initiating devices:
    1. The PSS sounds its audible alarm and illuminates its system alarm lamp or flashing display.
        a. The PSS displays the point and type of alarm condition.
        b. The PSS prints the assigned message with date and time on the printer for the point in alarm.
    2. The fire department is automatically called.

3. An authorized person at the PSS presses the acknowledge button which silences its audible alarm and causes a print-out and CRT display of the assigned message for the point in alarm with date, time and an acknowledge prefix.

E. Life Safety Control-By-Event Functions: The PSS, PPSSs and ICUs immediately perform life safety control-by-event functions upon system alarm condition:

1. Audible alarm signal sounds:
   a. Through out the building in which the alarm is initiated. Alarm is transmitted to main FACP and annunciates on main FACP..
   b. An authorized person may silence any alarm signal in progress through a silence command, but subsequent actuation of non-addressable initiating devices in other zones cause the system to resound and record the alarm. Subsequent actuation of another addressable initiating device also causes the system to resound and record the alarm.
   c. An authorized person may activate the alarm notification appliances on selected floors, and all floors, each building, and all areas of the facility.
      1) Visual indicators in the RA/CC at the PSS indicate on/off status of the alarm notification appliances.
2. Visual alarm notification appliances illuminate and flash a fire warning signal.
3. Electromagnetic door hold-open devices de-energize, allowing the associated smoke doors to close.
4. Selected HVAC equipment (fans, air handling units) shut down.
5. Fire dampers and smoke dampers close.
6 Non-motorized rolling fire shutters and non-motorized rolling fire doors close when the associated smoke detecting devices are actuated.
7. Motorized rolling fire shutters and motorized fire doors close when the associated smoke detecting devices are actuated.

F. An authorized person manually resets system at conclusion of alarm condition. When an alarm condition is corrected, a print-out and display occurs at the PSS stating the assigned reset message for the point in alarm with the date, time and reset suffix.

G. Primary and Secondary Power Supplies:

1. Failure of primary power supplies automatically transfers the affected portions of the system to the secondary power supplies.
2. Utilizing the secondary battery power supplies, the system operates under maximum normal load conditions for 24 hours and then is capable of operating all alarm notification appliances used for evacuation for 5 minutes.
3. Upon restoration of primary power supply, the system reverts to normal operation without loss, attendant intervention, or manual re-start procedures.

H. Monitoring Integrity of Installation Conductors and Other Signaling Channels:
   1. Performance of Signaling Line Circuits:
      a. Circuits from PSS to PPMCU's: NFPA 72, Class A, Style 7. A print-out and display occurs to identify trouble conditions.
      b. Circuits from PPMCU's and ICUs to Addressable Devices: NFPA 72, Class B, Style 4. A print-out and display occurs to identify trouble conditions.
   2. Performance of Initiating Device Circuits (Buildings _77, 78, 80, 81, 82 & 90):
      a. Circuits from PPMCU's and ICUs to Initiating Devices (Fire Alarm): NFPA 72, Class B, Style C. A print-out and display occurs to identify trouble conditions.
   3. Performance of Notification Appliance Circuits (Buildings _77, 78, 80, 81, 82 & 90):
      a. Circuits from PPMCU's and ICUs to Notification Appliances: NFPA 72, Class B, Style Y. A print-out and display occurs to identify trouble conditions.
   4. Monitoring Integrity of Power Supplies:
      a. An audible and visual alarm, display and print-out indicates failure of the primary (main) power supplies, within the system, at the PSS.
      b. The system also monitors the secondary (battery) power supplies for battery trouble conditions (low voltage/no batteries, high current and charging current).

I. Interconnection of Fire Safety Control Functions:
   1. Monitoring of wiring to the protected premises fire safety function relays and appliances causes a print-out and display to occur at the PSS to identify trouble conditions.

J. Sprinkler System Alarm and Supervision:
   1. Flow of water through a waterflow fire alarm switch causes a system alarm.
   2. Supervision of sprinkler system signal attachments (sprinkler valve supervisory switches, pressure switches, etc.) indicates circuit trouble and supervisory signal conditions at the PSS.
   3. Control valves in the sprinkler system are supervised.

K. Supervision of All Fire Suppression Systems for Tampering:
   1. In addition to the specific supervision functions of each fire suppression system, each system indicates trouble condition at the PSS whenever components of the system are tampered with, opened or removed.

1.06 MODIFICATIONS TO EXISTING SYSTEM

A. Remove and Replace existing zoned fire alarm control panels in buildings 77, 78, 80, 81, 82 & 90 with fiber networked addressable fire alarm control panels.

B. Provide sprinkler valve supervisory and sprinkler alarm capability.

C. Provide multi-point aspirating smoke detectors capable of 40 individual addressable points from a single detector, VESDA #VEA-040-A10-VER-040-40-STX

D. Provide microbore flex tubing from multi-point aspirating smoke detector to client sleeping rooms. Provide with Tamper proof sampling port VESDA #VSP-620.

E. Provide additional addressable smoke detectors as indicated on contract drawings.

F. Provide additional addressable heat detectors as indicated on contract drawings.

G. Remove and replace existing alarm bells with combination horn/strobes.

H. Provide additional combination horn/strobes as indicated on contract drawings.

I. Provide ICU, signal initiating devices, notification appliances, etc.

J. Provide monitor modules to connect existing non-addressable zones to fire alarm control panel.

K. Provide Conduit and multi-mode fiber as required to create a class a-loop between all buildings. Utilize existing underground infrastructure as possible.

1.07 DESCRIPTION OF COMPLETED SYSTEM

A. The completed system shall operate as outlined in DESCRIPTION OF EXISTING SYSTEM, with the following exceptions:

1. Actuation of multi-point aspirating smoke detector sends alarm signal to local FACP and initiates annunciation circuit in building and at main FACP ,
2. Control valves in the sprinkler system are supervised to initiate 2 separate and distinct signals indicating movement of the valve from its normal position.
    a. The off-normal signal is initiated during the first 2 revolutions of a hand wheel or during 1/5 of the travel distance of the valve control apparatus from its normal position.
    b. The second signal indicates restoration of the valve to its normal position. (The off-normal signal remains until the valve is restored to its normal position).

1.08 SUBMITTALS

A. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.

B. Preliminary Submittal: Existing system test report.

C. Submittals Package: Provide a separate submittal package per building.

1. Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.
2. Company Field Advisor Letter: With the submittals package include a letter from the Company Field Advisor stating that he/she has reviewed the Submittals Package for accuracy and completeness, and approves all materials and installation methods included in the Submittals Package.

D. Shop Drawings:
1. Composite wiring and/or schematic diagrams of the modifications as proposed to be installed (standard diagrams will not be acceptable).
   a. Indicate circuits which are power-limited if power-limited wiring is proposed for use.
   b. For 2-hour fire rated cable assemblies show proposed routes and installation details (include UL classification data, listing and system number).
   c. Include transient surge and lightning protection grounding details for signaling line circuits, initiating device circuits, and ac power conductors entering and leaving each fire alarm control panel.

E. Product Data:
1. Catalog sheets, specifications and installation instructions.
2. Bill of materials.
3. Detailed description of completed system operation. Format similar to DESCRIPTION OF COMPLETED SYSTEM.
4. Include for each system component which utilizes batteries the battery ampere-hour capacity recommended for each component by the Company producing the system, for the specified duration.
5. Statement from the Company producing the system, for each size and type of single conductor and multiconductor cable proposed for use, indicating that the electrical characteristics meet the requirements of the Company.
6. Data from the Company furnishing the products, proving that detection devices that receive their power from the initiating device circuit or a signaling line circuit of a fire alarm control unit are UL listed for use with the control unit.
   a. Submit data proving that the software and firmware is listed for use with the control panel.
   b. Submit data proving that the initiating devices are listed for the intended application. Also for specific applications, such as:
      1) Smoke door release accomplished directly from the smoke detecting device, show listing for release service.
      2) Air duct smoke detecting devices, showing listing indicating complete range of air velocities, temperature and humidity expected at the device when the air handling system is operated.
      3) Smoke detecting devices installed in supply air duct downstream of the fan and filters, show detector listed for the air velocity present.

4) For smoke detecting devices installed in return air system, show listing for the air velocity present where the air leaves each smoke compartment, or in the duct system before the air enters the return air system common to more than one smoke compartment.

c. Submit data proving that relays and appliances connected to the fire alarm system which are used to initiate control of fire safety functions are listed for the purpose.

d. Submit data proving that the method of monitoring the connection between the fire alarm system and controlled electrical and mechanical systems for integrity is listed for the purpose.

7. Detailed description of procedure proposed to test individual initiating devices.
   a. Include product information pertaining to the test equipment that will be used to perform the tests.
   b. Include certified statement that the proposed test method meets the test requirements of NFPA 72 and UL 268 (cite reference to the applicable NFPA and UL paragraphs).

F. Quality Control Submittals:
1. Copy of license required by New York State General Business Law Article 6-D for installing Fire Alarm Systems.
   a. Also include copy of identification card issued by the Licensee for each person who will be performing the Work.
2. Company Field Advisor Data: Include:
   a. Name, business address and telephone number of Company Field Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
   c. Copy of NICET Letter of Approval indicating Level III or higher Fire Alarm Systems certification.
   d. Services and each product for which authorization is given by the Company, listed specifically for this project.

G. Contract Closeout Submittals:
1. System acceptance test report.
2. Certificates:
   a. Affidavit, signed by the Company Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.
   b. NFPA Record of Completion (NFPA 72 Figure 1-6.2.1) for the modifications.
3. Operation and Maintenance Data:
   a. Deliver 2 copies, covering the installed products, to the Director's Representative. Include:
      1) Operation and maintenance data for each product.
      2) Complete point to point wiring diagrams of the modifications as installed. Identify all conductors and

show all terminations and splices. (Identification shall correspond to markers installed on each conductor.)

1.09 QUALITY ASSURANCE

A. UL Listing: The system products for the modifications shall be listed in the UL Fire Protection Equipment Directory under product category "Control Units System (UOJZ)".

B. Company Field Advisor: Company Field Advisor shall be National Institute for Certification in Engineering Technologies (NICET) certified as Level III or higher Fire Alarm Protection/Fire Alarm Systems Engineering Technician.

1. Secure the services of a Company Field Advisor from the Company of the existing system for a minimum of 24 working hours at the contract site for the following:
   a. Render advice and witness test of existing system.
   b. Render advice regarding modifications to the system.
   c. Assist in reprogramming the system.
   d. Witness final system test and then certify with an affidavit that the modifications were installed in accordance with the contract documents and are operating properly.

1.10 MAINTENANCE

A. Spare Parts:
1. 10 percent spare of each type initiating device.
2. 10 percent spare of each type notification appliance.
3. 10 percent spare of each type protective device.

PART 2 PRODUCTS

2.01 PEER-TO-PEER NETWORK

A. Network: Equip the fire alarm control panels and other network devices with network interface modules able to function with the existing network communication bus signaling line circuit.

B. Fire Alarm Control Panels/Interconnected Control Units, Simplex's 4100ES each with network boards suitable for 4 Multi-mode fiber optic cable connections (1-Out / 1 Return):
1. Base selection of each fire alarm control panel upon its capacity and capabilities to the specific requirements of the system at the panels' location.
2. Equip the approved fire alarm control panels to function as the PPMCU's and ICU's.
3. Permanently record the installed software and firmware version number within each fire alarm control panel.

4. 14 gage metal cabinet. Size as recommended by the Company producing the system.
    a. Control switches, inaccessible behind hinged and locked door.
    b. Alarm display and lamps visible when door is closed.
5. Annunciator (or display) which individually identifies addressable devices and identifies groups of non-addressable devices by zones.
6. Do not load visual alarm appliance circuit outputs to more than 70 percent of the FACP's power limited rating.
7. Input circuits suitable for operation on 120 Vac primary (main) power supply and 24 Vdc secondary (battery) power supply.
8. 24 Vdc Secondary (Battery) Power Supplies: Sealed, lead-acid gelled electrolyte or maintenance free lead-calcium batteries:
    a. Ampere-hour capacity to operate for the same duration and conditions as the existing system.
    b. Battery charger with charging characteristics as recommended by battery manufacturer.
    c. Batteries and charger integrally mounted or separate cabinet mounted as recommended by the company producing the system.
9. Accessories as required for each FACP perform its required functions upon failure of network communications.
10. Transient surge and lightning protection for signaling line circuits, initiating device circuits, and ac power conductors entering and leaving each fire alarm control panel:
    a. Signaling Line Circuits and Initiating Device Circuits: UL listed to Standard 497B; Simplex's 2081-9027, 2081-9028, 2081-9034, 2081-9043.
    b. AC Power Conductors: Simplex's 2081-9033, 2081-9042.

C. Remote Auxiliary Power Supplies: , Simplex's 2080 Series:
1. 14 gage surface mounted metal cabinet. Size as recommended by the Company producing the system.
2. Control switches, inaccessible behind hinged and locked door.
3. Input circuit suitable for operation on 120 Vac primary (main) power supply.
4. Regulated and filtered 24 Vdc output.
5. 24 Vdc Secondary (standby) Power Supply: Sealed, lead-acid gelled electrolyte or maintenance free lead-calcium batteries:
    a. Ampere-hour capacity to operate under load conditions specified in SYSTEM DESCRIPTION.
    b. Battery charger with charging characteristics as recommended by battery manufacturer.
    c. Meters for battery voltage and charging current.
    d. Batteries and charger integrally mounted or separate cabinet mounted as recommended by the Company producing the system.
6. Activated by host FACP via signaling line circuit loop thru addressable modules:
    a. Addressable control monitor activates the power supply outputs.

b. Addressable monitor module senses power supply trouble conditions.

7. Supervised power supply, battery, and notification appliance circuits.

D. Remote Addressable Network Modules(RANM):
1. Individual Addressable Module (IAM): Simplex's 2190-9172, 2190-9173.
2. Addressable Zone Adapter Module Control and Monitor Relays (ZAM): Simplex's 2190-9163, 2190-9164, 2190-9155, 2190-9156, 2190-973.
3. Include 24V dc auxiliary circuit(s) as required by RANM type to suit relay operations for control, monitoring, or supervisory functions; or interconnection of fire safety control functions.

E. Remote Annunciator/Control Centers (RA/CCs): Simplex's Network Node Unit, with:
1. Surface mounted enclosure.
2. Flush mounted enclosure.
3. LCD which is capable of displaying all system points.
4. Master enable/disable key switch for all control switches behind hinged and locked door having windows for visibility of system functions.
5. Annunciator modules for visual indication of specific life safety control-by-event functions:
   a. Status of alarm notification appliances.
6. Annunciator modules for visual indication of specific user programmable control-by-event functions specified in DESCRIPTION OF COMPLETED SYSTEM. Identify each visual indicator with appropriate message.
7. Annunciator modules for visual indication of speaker status.
8. Switch modules for manual operation of specific life safety control-by-event control points:
   a. Alarm notification appliances.
9. Switch modules for manual operation of each user programmable control-by-event control point which is utilized for this project.
10. Switch modules for manual operation of each user programmable automatic time-initiated control point which is utilized for this project.

2.02 INITIATING DEVICES

A. General:
1. Fire detection devices that receive their power from the initiating device circuit or a signaling line circuit of a fire alarm control unit shall be listed for use with the control unit.
2. Where individually identifiable (addressable) devices are required, but not available from the Company producing the system, either:
   a. Use non-addressable devices and individually wire each device to the FACP's as separate monitor points, making each non-addressable device individually identifiable, or:
   b. Employ remote addressable network modules to make each non-addressable device individually addressable.

B. Ceiling Mounted Detectors (Intelligent, Addressable, Analog):
1. General:
a. Heat detectors, and photoelectric smoke detectors shall have common mounting base which accommodates interchanging of the different type sensors.
2. Smoke detectors:
a. Photoelectric Type: Simplex's 4098-9714/9798.
1) Photoelectric type smoke detector shall have initial sensitivity level of 3.2.
2) Multi-point aspirating smoke detectors and expansion relay stack: VESDA #VEA-040-A10-VER-040-40-STX
3) Provide microbore flex tubing:. Provide with Tamper proof sampling port VESDA #VSP-620.
b. Remote Alarm Indicator For Use With Smoke Sensors: Simplex's 4098-9782.
3. Heat Sensors:
a. 135 degrees F (fixed temperature): Simplex's 4098-9733/9789.

C. Air Duct Smoke Sensors (Intelligent, Addressable, Analog):
1. Photoelectric Type: Simplex's 4098-9752/3 with 4098-9714.
a. Listed for the air velocity present at each air duct smoke sensor's location.
b. Sampling tube to suit installation.
c. Local relay (for fire safety control functions from duct detector when applicable):
1) Relay operation programmable from FACP.
2) Form C contact(s) rated minimum 1A @ 28 Vdc power-limited, 1/2A @ 120V ac nonpower-limited.
3) 24 Vdc auxiliary power circuit(s) as required to suit relay operation and function.
2. Remote Alarm Indicator For Use With Air Duct Smoke Sensors: LED type indicator mounted on single gang stainless steel faceplate.
3. Remote Alarm Indicator And Test Switch For Use With Air Duct Smoke Sensors: LED type indicator and key operated switch mounted on single gang stainless steel faceplate.

D. Manual Fire Alarm Boxes:
1. Addressable:
a. Single Action Pull Type: Simplex's 2099-9795.

2.03 NOTIFICATION APPLIANCES

A. General:
1. Audible signal appliances shall be UL 464 listed:
a. Classified "Public" or "Private Mode Only" to suit application.
b. Marked "F.A. Service" or "F.A. Service - Private Mode Only" to suit application.
2. Visual signal devices shall be UL listed:
a. For private mode applications, UL 1638 "Fire Protective Visual Signaling Appliance".

b. For public mode applications, UL 1971 “Signaling Devices for the Hearing Impaired”.
c. For wall mounting or ceiling mounting to suit application.

B. Audible/Visual Appliances:
1. Type AVA: Simplex’s 4903/92_ _Series, with:
a. Adjustable output Xenon flashtube strobe:
1) AVA-15/75:15/75 candela.
2) AVA-30/75: 30/75 candela.
3) AVA-110: 110 candela.
b. Clear lens having FIRE imprinted thereon in red letters, Audible alarm notification appliance:
1) Type as indicated on the drawings.

C. Horns: Simplex’s 4901 Series Modular Horns, with:
1. Surface or flush mounted type as indicated on the drawings.
2. Basic grille type except where projector type is indicated on the drawings.
3. Weatherproof model where installed in damp or wet locations.

D. Visual Appliances:
1. Type Simplex’s 4904 Series, with:
a. Adjustable output Xenon flasher:
1) VA-15/75:15/75 candela.
2) VA-30/75: 30/75 candela.
3) VA-110: 110 candela.
b. Clear lens having FIRE imprinted thereon in red letters,
c. Surface or flush mounted enclosure as indicated on the drawings.

2.04 ELECTROMAGNETIC DOOR HOLD-OPEN RELEASE DEVICES

A. Electromagnetic Door Hold-Open Devices: Simplex’s 2088 Series, having:
1. Input circuit suitable for operation on 120Vac.
a. Listed relay for control of 120Vac door hold-open release devices suitable for operation on 24Vdc. Relay operates on loss of power to release door (self-monitoring for integrity).
2. Style (single door, double door, wall, type of armature/contact plate) suitable for the application.
a. Wall style designed for surface or flush mounting as indicated on the drawings.

2.05 AUTOMATIC FIRE SUPPRESSION SYSTEM SIGNAL ATTACHMENTS

A. General:
1. Use non-addressable devices and individually wire each device to the FACP’s as separate monitor points, making each non-addressable device individually identifiable, or:
2. Employ remote addressable network modules to make each non-addressable device individually addressable.

B. Sprinkler Valve Supervisory Switches:
   1. For Outside Screw & Yoke Gate Valves: Grinnell's Model F640, , Potter Electric Signal Co.'s OSYSU Series, or Simplex's 2097 Series.
   2. For Post Indicator Valves: Potter Electric Signal Co.'s PCVS Series, , or Simplex's 2097 Series.
   3. For Gate Valves (Non-Rising Stem) and Special Applications: Potter Electric Signal Co.'s PTS, or Simplex's 2097 Series.

C. Tamper Switches: By Micro Switch or Square D Company to suit installation conditions.

D. Waterflow Switch, Vane Type: Autocall Div., Federal Signal Corp.'s 4160, Potter Electric Signal Co.'s VSR, Reliable's Model A, or Simplex's 2097 Series having:
   1. Corrosion-resistant vane.
   2. Splash/dust resistant enclosure with anti-tamper switch.
   3. Adjustable pneumatic retard.
   4. Screw type wiring terminals.
   5. Switch rated minimum 7.0 amps at 125 Vac and 0.25 amps at 125 Vdc.

2.06 PROTECTIVE DEVICES

A. Pull Station Protective Shield: Clear Lexan shield and red frame covering manual pull station. When shield is lifted a battery powered warning horn is activated. The horn is silenced by lowering and realigning the shield.
   1. Simplex's 2099Series (STI) including:
      a. Batteries.
      b. Weatherproof shield for damp and wet locations.
      c. Mounting accessories.

B. Steel Web Guards (gym only).
   1. For Smoke and Heat Detecting Devices: Simplex's 2098-Series.
   2. Steel Web Guards for General Application (Horns, Strobes, Speakers, etc.):
      a. Construction:
         1) All welded 7 gage wire.
         2) Nickel plated finish with lacquer coating.
      b. Manufacturer: Chase Security Systems, Inc. 5947 North Milwaukee Avenue, Chicago, IL 60646, Telephone (773) 775-7148, FAX (773) 594-0078.

2.07 TERMINAL STRIP CABINETS

A. Lockable, vandal resistant, surface mounted cabinets constructed of 14 gage steel, size as recommended by the Company producing the system. Equip cabinets with barrier type double screw terminals rated 300 V minimum, meeting UL 94 requirements for materials classed 94 V-0. Use identification strips, tags or labels to identify each conductor. Paint cabinets fire department red and stencil on front in 1/2 inch high white letters, the purpose of each terminal strip cabinet.

2.08 POWER-LIMITED INSULATED CONDUCTORS

A. All electrical characteristics shall meet the requirements of the Company producing the system (conductor to conductor capacitance, dc resistance, velocity of propagation etc.).

B. Multiconductor Cables N.E.C. Type FPLP, FPLR, FPL:
   1. Insulated copper conductors.
   2. Conductors twisted, shielded and jacketed as recommended by the Company producing the system.
   3. Voltage rating of not less than 300 volts (Voltage rating not marked on cable except where cable has multiple listings and voltage marking is required for one or more of the listings).

C. Other types of cables may be used in accordance with N.E.C. Table 760-61 "Cable Uses and Permitted Substitutions", as approved, if listed as being suitable for the purpose.

2.09 NONPOWER-LIMITED INSULATED CONDUCTORS

A. All electrical characteristics shall meet the requirements of the Company producing the system (conductor to conductor capacitance, dc resistance, velocity of propagation, etc.).

B. Conductors twisted, shielded and jacketed as recommended by the Company producing the system.

C. Single Conductors:
   1. No. 18 and No. 16 AWG: Insulated copper conductors suitable for 600 volts, N.E.C. types KF-2, KFF-2, PAFF, PTFF, PF, PFF, PGF, PGFF, RFH-2, RFHH-2, RFHH-3, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, ZFF.
   2. Larger Than No. 16 AWG: Insulated copper conductors suitable for 600 volts, in compliance with N.E.C. Article 310.
   3. Conductors with other types and thickness of insulation may be used if listed for nonpower-limited fore alarm circuit use.

D. Multiconductor Cables N.E.C. Types NPLFP, NPLFR, NPLF:
   1. No. 18 and No. 16 AWG: Insulated copper conductors rated 600 volts, N.E.C. types KF-2, KFF-2, PAFF, PTFF, PF, PFF, PGF, PGFF, RFH-2, RFHH-2, RFHH-3, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, ZFF.
   2. No. 14 AWG and Larger: Insulated copper conductors suitable for 600 volts, one of the types listed in N.E.C. Table 310-13 or one that is identified for nonpower-limited fire alarm circuit use.
   3. Marking: NPLFP, NPLFR, and NPLF marked to suit listings and marked with a maximum usage voltage rating of 150 volts.

2.10 MC CABLE

A. Metal-Clad Cable, N.E.C. Type MC:
   1. All electrical characteristics shall meet the requirements of the Company producing the system (conductor to conductor capacitance, dc resistance, velocity of propagation, etc.).
   2. Conductors twisted, shielded and jacketed as recommended by the Company producing the system.
   3. Interlocked flexible galvanized steel armor sheath conforming to UL requirements for type MC metal clad cable.
   4. Insulated copper conductors suitable for 600 volts.
      a. No. 18 and No. 16 AWG: A type listed in N.E.C. Table 402-3 with a maximum operating temperature not less than 90°C, or types KF-2, KFF-2, PAF, PAFF, PTFF, PF, PFF, PGF, PGFF, PTF, PTFF, SF-2, SFF-2, ZF, ZFF.
      b. No. 14 AWG and Larger: One of the types listed in N.E.C. Table 310-13 or of a type identified for use in Type MC cable.
   5. Acceptable Companies: AFC Cable Systems Inc., Coleman Cable Co.
   6. Connectors for MC cable: AFC Fitting Inc.'s AFC Series, Arlington Industries Inc.'s Saddle Grip, or Thomas & Betts Co.'s Tite-Bite with anti-short Bushings.

2.11 SIGNS, LABELS, MARKERS, AND NAMEPLATES

A. Procedure Sign:
   1. Complete Unit: Card holder with aluminum or stainless steel frame, plexiglass front and sheet aluminum card backing plate. Minimum size card 8 x 10 inches. For each procedure sign, furnish l blank card in holder and 5 spare blank cards suitable for typing future procedures thereon.
   2. Revised Cards: Size as required to fit existing holder, suitable for typing revised procedures thereon.

B. Nameplates: Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inch high.
   1. Phenolic: Two color laminated engraver's stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).
   2. Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.
   3. Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

C. Fire Alarm Signs: 9 x 12 inches, metal, with the words "FIRE ALARM" imprinted thereon in white letters upon a red background. Include a white arrow pointing down, left or right showing the route to, or actual location of the fire alarm stations. Frame the outside edges of the signs in red and white diagonal stripes.
   1. Sign Mounting Styles:
      a. Single face for mounting flat against the wall.

b. Double faced for mounting extended from wall.

D. Manual Fire Alarm Box Signs: Precision engrave letters with uniform margins, character size minimum 1/8 inch high, stating "LOCAL ALARM ONLY - NOT CONNECTED TO FIRE DEPARTMENT-CALL FIRE DEPARTMENT BY TELEPHONE".

1. Phenolic: Two color (red surface, white core) laminated engraver's stock, 1/16 inch minimum thickness, machine engraved to expose inner core color.

E. Markers:

a. Premarked self-adhesive; W.H. Brady Co.'s B292, B708, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers, Plastic Extruded Parts Inc.'s Flexible Sleeve or ID Band Markers, or Thomas and Betts Co.'s E-Z Code WSL self-laminating.

b. Other Styles: To suit application by W.H. Brady Co., Ideal Industries, Marwick Corp., Plastic Extruded Parts, Inc., or Thomas and Betts Co.

2.12 SYSTEM KEYING

A. All system locks, key switches, etc., shall match existing keying.

2.13 ACCESSORIES

A. Include accessories required to perform the functions summarized in DESCRIPTION OF COMPLETED SYSTEM and indicated on the drawings.

2.14 ACCEPTABLE MANUFACTURERS:

A. Manufacturer's names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials, products, and services of manufacturers listed as "acceptable" may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the "specified" manufacturer. Listing of a manufacturer as specified or acceptable does not relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by addendum. Product substitution will not be accepted during the submittal process.

C. Contact John Vozzy at Simplex for product information based on products listed in this specification: (518) 952-6042.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Testing Existing System:
   1. Prior to modifying the system, make the following tests to ascertain the operating condition of the existing system:
      a. Test spare zones that will be utilized for the work.
      b. Test active zones which will be modified. Test all existing devices that are remaining to confirm proper operation.
      c. Test PSS, PPSS and ICU functions associated with the modifications.
   2. Test shall be witnessed by the Company Field Advisor and the Director's Representative.
   3. Conduct tests that are disruptive to facility personnel after normal working hours as directed.
   4. Prepare a written report for the Director's Representative indicating the repairs required, if any, to make the existing sub-systems function properly.
   5. Repairs to the existing sub-systems are not included in the Work unless requested by Order on Contract.

3.02 INTERRUPTIONS TO EXISTING SUB-SYSTEMS

A. Maintain the existing system in its present condition to the extent possible while installing new Work.

B. Prior to making changes or removals relative to the existing system, notify the Director's Representative and have procedures approved.

C. When changes or removals are required to the existing fire alarm system such that it's ability to act as a fire alarm system is impaired, provide a temporary fire alarm system so that the building is protected at all times by a functioning fire alarm system. Notify Building Supervisor (thru Director's Representative) of proposed temporary measures and scheduling. Both the proposed temporary measures and the scheduling must be approved by the Director's Representative.

D. Provide signs, instructions and alternate methods for reporting a fire.

3.03 INSTALLATION

A. Install the Work in accordance with the Company's printed instructions unless otherwise indicated.

B. Reprogram the system to include new monitor and control points and update existing system program to include changes and additions requested by facility.
   1. Obtain from the facility personnel through the Director's Representative, a list of desired system program changes, additions, etc.

C. Do not install smoke detecting devices until the Work (including cleaning) of all trades in the area has been completed. Protect installed smoke detecting devices from airborne dust and debris.

D. Mount smoke detecting devices, and seal air holes in the back of the devices (including interior of raceways and holes associated with installation of boxes and raceways) so that air flow from inside of housing or from the periphery of the housing will not prevent entry of smoke during a fire or test condition. Seal air holes with gaskets, expanding silicone foam, or other sealants as approved.

E. Wiring For Survivability:

1. Signals from manual fire alarm boxes and other fire alarm initiating devices within a building transmitted over the same signaling line circuit shall not interfere with the manual fire alarm box signals when both types of initiating devices are operated at the same time.
2. Failure of equipment or a fault on one or more installation wiring conductors of one notification appliance circuit shall not result in functional loss of any other notification appliance circuit.
3. Connect PPSSs, ICUs and other system components requiring a primary power supply to dedicated branch circuits.
    a. Do not connect PPSS's and ICUs to a 2 pole device which can trip both poles at once, such as a 2 pole circuit breaker with handle tie (omit the tie).
4. Splices in wiring in vertical risers is prohibited, except when the length of conductors approximate 150 feet in vertical risers, terminal strip cabinet may be used. Exception: For 2-hour fire rated cable assembly, use UL listed methods to maintain 2-hour rating.
5. Avoid splices in horizontal runs. When splices are necessary, use junction boxes. Exception: For 2-hour fire rated cable assembly, use UL listed methods to maintain 2-hour rating.
    a. Make splices with mechanical or hydraulic type pressure connectors. The use of wire nuts is prohibited.
    b. Paint cover of terminal strip cabinets and junction boxes fire department red.
6. Protect notification appliance circuits and other circuits necessary for the operation of the notification appliance circuits from the point at which they exit the fire alarm panel until the point that they enter the notification zone that they serve using one or more of the following methods:
    a. Route all wiring in conduit..
7. Wiring Class A, Style 6, 7, D, E, or Z Signaling Line Circuits, Initiating Device Circuits and Notification Appliance Circuits: Do not install both legs of Class A, Style 6, 7, D, E, or Z circuits in same cable assembly, enclosure, or raceway back to PPSS's or ICUs.
    a. Run return legs along another route to obtain maximum benefit of these alternate path circuits.

F. Existing RA/CC: Rearrange existing annunciator and switch modules to accommodate new annunciator and switch modules.

1. Install new annunciator and switch modules in same function location as existing annunciator and switch modules. Arrange the new and existing modules in logical sequential order.

G. Identification, Labeling, Marking:
   1. Procedure Sign Adjacent to PSS: Install revised card in existing procedure sign to suit modifications made to procedures.
   2. Alarm Notification Appliance Locator:
      a. New RA/CCs: Install new zone locator adjacent to RA/CCs.
      b. Existing RA/CCs: Install revised card in existing zone locators to suit modifications made to the RA/CCs.
   3. Nameplates:
      a. Install on each manual fire alarm box a nameplate stating: Floor number, and location (1st Fl, east, etc.).
      b. Install adjacent to each RA/CC annunciator module and switch module a nameplate indicating function of module.
      c. Label the device used as the circuit disconnecting means for the dedicated branch circuits serving the system "FIRE ALARM CIRCUIT CONTROL" with white letters on a red background.
         1) Install on each system component requiring a primary power supply a label stating the location of its circuit disconnecting means.
      d. Install nameplate on each remote alarm indicator stating the location of its smoke detecting device and the area protected by the smoke detecting device and its function (IN DUCT SMOKE DETECTOR ALARM FOR _____).
   4. Power-Limited Circuits: Mark circuits at terminations, indicating that circuit is a power-limited fire protective signaling circuit.
   5. Fire Alarm Signs: Where directed, install single face signs mounted flat against the wall at conspicuous locations, drawing attention to the manual fire alarm boxes. Fasten signs to walls with vandal resistant fasteners.
   6. Identification of Manual Stations Which Do Not Transmit Alarm to Fire Department: Install manual fire alarm box sign above each manual fire alarm box.
   7. Identification of Circuits: Identify wires and cables by system and function in interconnection cabinets, and FACP's to which they connect with premarked, self-adhesive, wraparound type markers. Designations shall correspond with point to point wiring diagrams.
   8. Battery Data: Insert a copy of the battery warranty in each battery compartment and mark on batteries the date placed in service.
   9. Alarm Verification Warning Marking: Affix to the inside of each FACP, a list indicating:
      a. Affected circuits.
      b. Delay (seconds).
      c. The smoke detector model numbers used.

H. Fire Suppression Systems Signal Attachments:
   1. Install tamper switches.
   2. Install sprinkler system signal attachments.

I. Protective Devices: Install where indicated on the drawings.
   1. Where devices are installed on wood or masonry surfaces, attach protective devices directly to the surface with vandal resistant fasteners.
   2. Where devices are installed on suspended ceiling provide additional supports in the ceiling, such as channel support system, angle iron or additional runner bars. Fasten the additional supports rigidly to the ceiling runner bar system. Attach frame or brackets of protective device to the supports with vandal resistant fasteners. Install metal spacers between the protective device frame and the supports so that the ceiling tiles will not be a part of the support system.
   3. Use finishing collar between surface and protective device where protective device cannot be mounted tight against surface due to job conditions.

3.04 FIELD QUALITY CONTROL

A. Preliminary System Test:
   1. Preparation: Have the Company Field Advisor adjust the portion of the system applicable to the Work, and then operate it long enough to assure that it is performing properly.
   2. Run a preliminary test for the purpose of:
      a. Determining whether the system is in a suitable condition to conduct an acceptance test.
      b. Checking and adjusting equipment.
      c. Training facility personnel.

B. System Acceptance Test:
   1. Preparation: Notify the Director's Representative at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
   2. Supply all equipment necessary for system adjustment and testing.
   3. Make the following tests:
      a. Test the portion of the system applicable to the Work in accordance with NFPA 72, Chapter 7.
         1) Follow test methods stated in Table 7-2.2.
         2) Record results on NFPA 72 Figure 1-6.2.1 Record of Completion.
      b. Test system operation step by step as summarized in DESCRIPTION OF COMPLETED SYSTEM.
   4. Submit written report of test results signed by Company Field Advisor and the Director's Representative. Also complete an NFPA Record of Completion.
      a. Mount a copy of the written report of test results, and the NFPA 72 Record of Completion in plexiglass enclosed frame assemblies adjacent to the PSS (one framed assembly for each report).

C. Conduct tests that are disruptive to facility personnel after normal working hours as directed.

3.05 INSULATED CONDUCTOR SCHEDULE - TYPES AND USE

A. Signaling Line Circuits, Initiating Device Circuits and Notification Appliance Circuits:

1. Power-Limited Circuits: For interior wiring (in raceways) use power-limited insulated multiconductor cable types specified in PART 2 except where a 2-hour fire rated cable assembly is required.
    a. Number of conductors and conductor size as recommended by the Company producing the system, except that conductor size shall not be less than No. 18 AWG for signaling line circuits and not less than No. 16 AWG for initiating device circuits and notification appliance circuits.
    b. Using Non-power-Limited Wiring On Power-Limited Circuits: Wiring size and types specified for NONPOWER-limited circuits may be used for power-limited circuits if power-limited circuits are reclassified and the power-limited markings are eliminated. Refer to NEC Article 760-52(a) Exception No. 3.
2. Nonpower-Limited Circuits: For interior wiring (in raceways) use nonpower-limited insulated single conductors or multiconductor cable types specified in PART 2 except where a 2-hour fire rated cable assembly is required.
    a. Number of conductors and conductor size as recommended by the Company producing the system, except that conductor size shall not be less than No. 18 AWG for signaling line circuits, not less than No. 16 AWG for initiating device circuits, and not less than No. 14 AWG for notification appliance circuits.
3. Where wiring is specifically indicated on drawings not to be run in raceway, use metal-clad cable type MC (concealed, unless otherwise indicated), except where a 2-hour fire rated cable assembly is required.

B. Signaling Line Circuits Between PPMCU's and Networked ICUs: Use Type LAN-O or type LAN-I optical fiber cables (Section 271525) in raceways for network communication bus circuits.

C. Control Circuits Associated with the Fire Alarm System: use Class 1, 2, and 3 wiring specified in Section 260519.

D. Primary Supply Circuits and Secondary Supply Wiring:

1. Use electric light and power wiring specified in Section 260519.

END OF SECTION

Revised 10-5-17

SECTION 284601

ELECTRONIC DOOR LOCKING AND MONITORING SYSTEM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Video Surveillance System (282304).

B. Intercom and Zone Paging System (275112).

C. Wiring – Division 26.

D. National Electric Code

E. Underwriters Laboratories UL508A

1.02 GENERAL CONDITIONS

A. The conditions of the Contract (General, Supplementary, and other Conditions) and the General Requirements (Sections of Division 1) are hereby made a part of this Section.

1.03 WORK INCLUDED

A. Included under this Section of the Work shall be the furnishing, installation, connection and testing of the complete electronic door locking and monitoring system. Electronic door locking and monitoring system shall be microprocessor based. The Programmable Logic Controller (PLC) shall be the device that accepts the various inputs from systems being interfaced with door control.

B. Coordination:
1. The electronic door locking and monitoring system shall be installed by the Security Contractor-Installer (SCI)
2. The electronic door locking and monitoring system shall be furnished by the Touchscreen Control System Vendor (TCSV).
3. See Section 087100 for coordination and interface requirements with the Finish Hardware Subcontractor.

1.04 DEFINITIONS

A. The definition below supersedes the definition in Section 014216 for Technical Advisor and Field Advisor.

B. Manufacturers' Technical Advisor:
1. An employee of the company producing the system (or a company which lists and markets the primary components of the system under their

name) who is certified in writing by the company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.

C. Integrator's Field Advisor:
   1. An individual employee by an organization (other than the company producing the system) certified in writing by the company producing the system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as a field advisor in their behalf. Personnel involved solely in sales do not qualify.

D. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.

1.05 SYSTEM DESCRIPTION

A. The Security Control and Monitoring System is an integrated monitoring and control system that includes touchscreen stations with control software (touchscreen system), control panels, and programmable logic controllers (PLCs).

B. The Security Control and Monitoring System interfaces directly with the following systems:
   1. Intercom and Zone Paging System (275112)

1.06 COOPERATION WITH OTHER TRADES

A. The Contractor shall coordinate the work of this Section with that of other Sections as required ensuring that the entire work of this Project will be carried out in an orderly, complete, and coordinated fashion.

B. Coordinate with specific hardware used by Division 8 Contractors for builder's hardware and security hardware.

C. Division 28 responsibilities shall include the following:
   1. Division 28 shall be responsible for furnishing and installing all equipment, installation, terminations, and testing of systems defined in Division 28.
   2. Termination to locking hardware shall be via Molex connector pigtails. Division 11 and Division 8 shall provide pigtails.
   3. Provide all control hardware and systems to control and/or monitor a door in accordance with the requirements of Division 28 and the wiring diagrams provided by Division 11.
   4. After installation, verify proper control operation of all doors.
   5. Coordinate with specific hardware used by Division 8 for builder's hardware and security hardware.

6. Division 28 shall be responsible for coordination of all interfaces with Division 26 for any lighting or power controls or Fire Alarm System interface that may be required from the Division 28 control systems. Unless stated otherwise, all interfaces shall be via dry contacts provided by Division 26.
7. Division 28 shall be responsible for coordinating with Division 26 the exact locations and requirements for electrical power provided to the security equipment.
8. Division 28 shall be responsible for ensuring that all security system equipment is powered from an emergency power panel and that all system processors and alarm devices are powered from an uninterruptible power system (UPS). Other systems to be powered from a UPS are specified herein.

D. Division 8 responsibilities shall include the following:
1. Furnish and install door locking hardware as required for the system to perform the functions as defined herein.
2. Provide a single point of connection for Division 28. For swing doors, the interface point shall be the lock pocket. For sliding doors, the interface point shall be a junction box in the frame and shall be shown on the shop drawings.
3. The wiring interface shall be via a Molex connector. The mating connector, to which the Division 28 conductors are connected, shall be furnished to the Division 28 contractor with a 6" long conductor pigtail.
4. Furnish, project specific, wiring drawings and other information as required for design and installation of the control drawings.
5. After installation, adjust all locks and switches for proper mechanical alignment.
6. Provide boxes or pockets as required to accommodate door position switches, locks, and/or push buttons.
7. Provide interconnecting conduit between the door position switch and the lock pocket.
8. Extend the lock pocket to accommodate jamb mounted push buttons or provide a means to install and maintain push buttons where installed.

E. Division 26 electrical responsibilities shall include the following:
1. Furnish and install all conduits and wiring required for the systems defined in Division 28.

1.07 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittals Package: Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.

C. Shop Drawings:
1. Bill of materials.
2. Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be accepted).

3. Total electrical load of the complete system in supervisory and alarm conditions.
4. Detailed description of system operation (format similar to SYSTEM DESCRIPTION).

D. Product Data:
1. Catalog sheets, specifications and installation instructions.
2. Name, address and telephone number of nearest fully equipped service organization.

E. Specific Requirements:
1. Submit coordination meeting minutes showing review of each door opening and operation.
2. Submit catalog cuts for all equipment and devices being furnished under this Section.
3. Submit floor plans showing locations of all control equipment.
4. Submit wiring diagrams for complete interconnection of the system
   a. Typical wiring diagrams for each device along with termination schedules listing all devices
   b. Wiring details for each piece of head end equipment.
   c. Pin-out drawings for all multi conductor cables

F. Quality Control Submittals:
1. Copy of license for installing Security Systems.
   a. Include copy of identification card issued by the Licensee for each person who will be performing the work.
2. Manufacturer Technical Advisor Data shall include the following:
   a. Name, business address, and telephone number of Manufacturer Technical Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Manufacturer Technical Advisor.
   c. Services and each product for which authorization is given by the Company, listed specifically for this project.

G. Contract Closeout Submittals:
1. Test Report: System acceptance test report.
2. Certificate: Affidavit, signed by the Manufacturer Technical Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.
3. Operation and Maintenance Data:
   a. Deliver 2 copies, covering the installed products, to the Director's Representative. Include:
      1) Operation and maintenance data for each product.
      2) Complete point-to-point wiring diagrams of entire system as installed. Number all conductors and show all terminations and splices. (Numbers shall correspond to numbered tags installed on each conductor.)
      3) Name, address, and telephone number of nearest fully equipped service organization.

H. Security Vendor to submit proof of state licensure for installation of security systems.

I. Security Vendor to submit proof of installer certification for all equipment to be installed on project.

J. Shop Drawings:
1. Diagrams for cable management system.
2. See Editing Instruction No. 5 in the Evaluations for discussion of graphic standards for Drawings.
3. System labeling schedules.
4. Detailed wiring diagrams, to include a detailed non-typical system one-line along with detailed device wiring.
5. Cable administration drawings.
6. Battery and charger calculations for central station, workstations, and controllers.
7. Floor plan drawings indicating all field device locations including unique architectural numbers or labels.
8. Door schedule.
9. Project specific, typical, field device wiring diagrams.
10. Termination schedules.
11. Equipment room enclosures, equipment layout information.
12. System load calculations.
13. Touchscreen control system one-line drawing.
14. PLC backplane drawings and Bill of Materials for each and every PLC backplane.
15. Individual equipment wiring details.

K. Control Software Submittal
1. Within 30 days of receiving the approved paper submittal, provide a self-installing system software submittal on CD-ROM. All graphic operations shall be functional. All building layouts, icon placements, supplementary windows, etc. shall be complete. The submittal shall essentially be a working version of the Control Software Module less PLC communications.
2. Additionally, provide a complete written description of each and every icon function as described in Section 1.15 along with a complete accounting of each icon state to include the following:
    a. BITMAP
    b. ICON STATE NAME
    c. DESCRIPTION
    d. COLOR
    e. SOUND
    f. ALARMED
    g. FLASHING
    h. RECORD
    i. ICON VISIBLE
    j. LED VISIBLE

L. Factory Demonstration:

1. Approximately 90 days prior to the scheduled completion of the project, schedule a demonstration for one Owner's representative and one Architect/Engineer representative to witness a demonstration of the complete touchscreen control and monitoring system assembled in the TCSV's factory. Both the SCI and TCSV shall be present during testing. The complete and entire touchscreen control system shall be assembled for the demonstration. All touchscreen stations, PLCs, Administration computer, data terminals, printers, equipment enclosures, etc., shall be 100 percent networked and tested complete. One of each function, general features, and system performance shall all be demonstrated. Additionally, the Administration and Documentation software modules shall be demonstrated. Following successful completion of the Factory Demonstration, the touchscreen control and monitoring system shall be deemed substantially complete.

1.08 DOCUMENTATION SOFTWARE

A. All Security System documentation shall be provided by means of the Documentation Software Module. The Documentation Software shall be fully functional as specified herein. Submission of paper documents, a series of electronic files, or an electronic manual (PDF document or similar) is not acceptable.

B. Documentation Software Module

1. The primary purpose of the Documentation Software is to provide a means by which the construction team (on the front-end) and maintenance personnel (on the back end), of a project can access information pertaining to the Security Control System as simply and efficiently as possible. This is accomplished by means of an intuitive, dynamic, graphical interface. Selecting field device symbols on a floor plan or site graphic provides access to the information pertaining to that device. The Documentation Software shall be provided on the Administration Computer.
2. Main Components of Documentation Software:
   a. MAIN VIEW - area of the screen where the "current" document is viewed.
   b. NAVAGATION PANEL - presents a "tree structure" of all documents and information contained in the Graphical Documentation Software.
   c. TOOL BAR - provides a means of navigating and printing the documentation.
3. Graphic Operation:
   a. Provide dynamic images, without breaks, from which the user can intuitively access system documentation. The images shall be accurately and proportionally scaled to the actual building or Site layout and of sufficient size as to accommodate all monitored and controlled devices in the form of symbols. The symbols shall be positioned proportional to the devices' actual position relative to the building graphic. Each unique device shall be represented by a unique symbol.

1) Site Plan (1 image).
2) Each floor of each building (1 image per floor).

b. It shall be possible to zoom in, zoom out, and pan any given image. This functionality shall be accessible via the tool bar or by selecting the right mouse button.

4. System Functionality:

a. Selecting a “Field Set” symbol with the mouse shall make available all information pertinent to that specific device. That information shall by displayed directly or via a hyperlink and shall include at a minimum:

1) Device ID and label.
2) All “Field Set” information including name, number, power requirements, cable requirements, and bill of material.
3) All “Function” information including name and full functional description.
4) All PLC IO termination data including “Rack Set” (a piece of equipment mounted in a rack) name and location, equipment room and PLC names, IO type, memory address, termination point and description, and power requirements.
5) All "Group" information including all members of each group and their respective PLC addresses.
6) All device schedule information.
7) All pertinent "Documents" including rough-in drawings, physical drawings, wiring diagrams, manufacturers' installation, operation, and maintenance manuals. All documents shall be viewable directly from the Documentation Software program.

b. The Documentation Software shall also allow the user to view all information contained in the Electronic Documentation System via the FOLDER ITEMS. The following is a list of the minimum "Folders" required, their respective contents, and operation:

1) Floor Plans - Selecting the floor plans folder shall present a list of all floor plans available for viewing.
2) Equipment Rooms - Selecting the equipment rooms folder shall present a list of all equipment rooms. Selecting a specific equipment room shall present a floor plan of that equipment room and present a list of all equipment racks within the specific equipment room. Selecting a specific equipment rack shall present a scaled elevation graphic of that rack. The elevation graphic shall show all the relevant views (front, back, left, and/or right). Selecting and highlighting a subpanel on the elevation graphic shall present all corresponding Rack Set information previously described above.
3) PLCs - Selecting the PLCs folder shall present a list of all PLCs (programmable logic controllers) available for viewing. Selecting a specific PLC shall present an I/O (Input/Output) table for that PLC. I/O shall be presented

such that an individual "cell" in the table represents each bit. Rows shall represent channels or words. Columns shall represent bits 0 to 15. Cells shall be "color coded" based on I/O type. All "hard I/O" cells shall contain termination information including rack, rack set location, and terminal number. When a bit is associated with a group (example: Interlock group), that information shall also be provided. It shall be possible to filter the information contained in the I/O table cells. Selecting any cell within the table shall present all corresponding Rack Set information previously described in paragraph above.

4) Field Sets - Selecting the field sets folder shall present a list of all field set types available for viewing. Selecting a specific field set type shall present information common to the selected field set type and present a list of all available field devices (by architectural number) of that type. Selecting a specific field device shall present all corresponding Field Set information previously described in paragraph above.

5) Rack Sets (rack mounted equipment) - Selecting the rack sets folder shall present a list of all rack set types available for viewing. Selecting a specific rack set type shall present information common to the selected rack set type and present a list of all available rack sets (by rack location) of that type. Selecting a specific rack set shall present all corresponding termination information.

6) Functions - Selecting the functions folder shall present a list of all function types available for viewing. Selecting a specific function type shall present a list of available functions (by location) of that type. Selecting a specific function shall present all corresponding termination information.

7) Groups - Selecting the Groups folder shall present a list of all Group types available for viewing. Selecting a specific Group type shall present a list of available Groups (by location or name) of that type. Selecting a specific Group shall display all members of that group and their respective PLC addresses.

8) Schedules - Selecting the schedules folder shall present a list of all schedules available for viewing. Selecting a specific schedule shall present all data pertaining to that schedule. Selecting any "Field Set" device in a schedule by its architectural number shall present all Field Set information previously described in Paragraph 1.7.B.4. above.

9) Documents - Selecting the documents folder shall present a list of sub-folders for each document type:
   a) Maintenance and Troubleshooting
   b) Drawings Audio
   c) Drawings CCTV

d) Drawings Computer
e) Drawings Door
f) Drawings Floorplan
g) Drawings PLC
h) Drawings Power
i) Drawings Rack
j) Drawings System
k) Functions
l) Manuals
m) Miscellaneous
n) Product Data

10) Selecting a document's sub-folder shall present a list of all documents contained in that subfolder. Selecting a specific document shall display that document.

11) Suppliers - Selecting the Suppliers folder shall present a list of all suppliers with contact information and a link to their web site (Internet connection required).
    a) All schedules and tables included in the Documentation Software shall present "live" data, which can be filtered and sorted and shall contain hyperlinks as described above.
    b) All information contained in the Documentation System must be printable. The user shall be able to print customized reports by filtering and sorting the presented data.
    c) Whenever "Field Set" information is displayed, the "Field Set" device shall be zoomed and centered on the floor plan graphic automatically or by selecting the "Locate on Floor plan" hyperlink.

1.09 MAINTENANCE

A. Service Availability: A fully equipped service organization capable of guaranteeing response time within 8 hours to service calls shall be available 24 hours a day, 7 days a week to service the on-going installation and the completed system.

1.10 QUALITY ASSURANCE

A. Company Testing Facility: The Company producing the system shall have test facilities available which can demonstrate that the proposed system meets Contract requirements.

B. Equipment Qualifications For Products Other Than Those Specified:
    1. At the time of submission, provide written notice to the Director of the intent to propose an "or equal" for products other than those specified. Make the "or equal" submission in a timely manner to allow the Director sufficient time to review the proposed product, perform inspections and witness test demonstrations.

2. If products other than those specified are proposed for use, furnish the name, address, and telephone numbers of at least 5 comparable installations that can prove the proposed products have performed satisfactorily for 3 years. Certify in writing that the owners of the 5 comparable installations will allow inspection of their installation by the Director's Representative and the Manufacturer Technical Advisor.
    a. Make arrangements with the owners of 2 installations (selected by the Director) for inspection of the installations by the Director's Representative. Also obtain the services of the Manufacturer Technical Advisor for the proposed products to be present. Notify the Director a minimum of 3 weeks prior to the availability of the installations for the inspection, and provide at least one alternative date for each inspection.
    b. Only references from the actual owner or owner's representative (Security Supervisor, Maintenance Supervisor, etc.) will be accepted. References from dealers, system installers, or others, who are not the actual owners of the proposed products, are not acceptable.
        1) Verify the accuracy of all references submitted prior to submission and certify in writing that the accuracy of the information has been confirmed.
3. The product manufacturer shall have test facilities available that can demonstrate that the proposed products meet the Contract requirements.
    a. Make arrangements with the test facility for the Director's Representative to witness test demonstrations. Also obtain the services of the Manufacturer Technical Advisor for the proposed product to be present at the test facility. Notify the Director a minimum of 3 weeks prior to the availability of the test facility, and provide at least one alternative date for the testing.
4. Provide written certification from the manufacturer that the proposed products are compatible for use with all other equipment proposed for use for this system and meet all contract requirements.

C. Manufacturer Technical Advisor: Secure the services of a Manufacturer Technical Advisor for a minimum of 40 working hours for the following:
1. Render advice regarding installation and final adjustment of the system.
2. Assist in initial programming of the system.
3. Witness final system test and then certify with an affidavit that the system is installed in accordance with the Contract Documents and is operating properly.
4. Train facility personnel on the operation and maintenance of the system (minimum of 3 one hour sessions).
5. Explain available service programs to facility supervisory personnel for their consideration.

D. Service Availability: A fully equipped service organization capable of guaranteeing response time within 24 hours to service calls shall be available to service the completed Work.

1.11 TOUCHSCREEN SYSTEM GENERAL FEATURES:

A. For systems with more than one PLC, failure or communication loss to one PLC shall not effect communication to the other PLCs or disrupt or delay control and monitoring of any device unrelated to the failed PLC. Furthermore, when the failed PLC is restored, the control and monitoring of devices related to the restored PLC shall immediately continue without restarting the application.

B. Failure of any one touchscreen station, the administration station, or other networked computer shall not affect the operation of any other station. All touchscreen stations shall communicate directly with the PLCs for all control and monitoring functions. Systems that utilize a file or data server to facilitate communication are not acceptable. PLCs shall be located in each equipment room as indicated on the Drawings.

C. Each touchscreen station shall be configured with all the software and graphic files required for all locations. Each touchscreen shall automatically recognize its intended location upon startup and configure itself accordingly. If the intended location is not recognized (as in the case of a spare touchscreen), a window shall be displayed requiring selection of the current location. In the event that one touchscreen must be moved, its intended location identity shall be able to be changed allowing it to be operated in a new location without software changes or updates.

D. The system shall utilize voice instructions for alerting the operator to alarm conditions and critical control sequences such as interlock, interlock override, emergency release, and other functions. There shall also be a voice annunciation ON/OFF switch to enable and disable the voice instructions.

E. The Control Software Module shall be self-updating. All software updates shall be performed so that the operator needs only to exit and restart the Control Module for the updates to be recognized. File copies, program installs, etc., shall not be required. Furthermore, all software and data updates shall be made via dial-in communication over a facility provided phone line. Other than enabling the dial-in communication, all updates shall be done without requiring assistance from the facility.

F. All logged event data shall be initially stored on the local touchscreen station and then periodically transferred to the Administration computer at intervals adjustable by the facility. The default interval shall be every 60 minutes. The facility shall also have the means to immediately transfer all data at any time as necessary. Upon confirmation of transfer, the data shall be removed from the local touchscreen station so that its hard disk does not become full over time. All data shall be stored in an encrypted format to prevent alteration.

G. The computer mouse and touchscreen transducer shall operate interchangeably and simultaneously. The operator shall be able to hide the mouse pointer to minimize distraction.

1.12 TOUCHSCREEN SYSTEM - FUNCTIONS - GENERAL

A. Icon Functionality:

1. OVERVIEW: All system control shall be accomplished through graphical buttons known as ICONS. System monitoring shall be accomplished through changes in the icon's bitmap graphic and associated virtual LED. System activity shall be instigated from a field input (such as an intercom station) or from the touchscreen (such as pushing the “open” icon for a sliding gate). How the system reacts to this activity shall be defined by its FUNCTION. Each icon shall have one specific function and one unique description. For example, a function would be “intercom control and monitoring.” A description would be the architectural number for a specific intercom station. Each icon function shall be comprised of multiple icon states as required for proper operation. For example, the “intercom control and monitoring function” could have three possible states: idle, calling, and active. It could only be in one of the three possible states at any given time.
2. ICON STATES: Each icon state shall have, at a minimum, the following properties:
    a. ICON BITMAP - The bitmap graphic that appears on the icon in the zoom view. The bitmap shall graphically depict the current state of the device.
    b. ICON STATE NAME - Each icon shall always be in one and only one of the available states. The states shall always be the same for a given function.
    c. DESCRIPTION - Describes the Icon state.
    d. COLORS - Indicates the main color of the Icon and associated virtual LED. Red shall typically indicate non-secure, emergency or alarm functions, activities, or conditions. Yellow shall typically indicate caution conditions such as intermediate steps in control sequences and "access" conditions. Green shall typically indicate a secure condition. Other colors shall be utilized as necessary in a consistent manor.
    e. SOUND - An associated sound file that plays in repeating intervals (usually in the alarmed state) Alarm sounds shall be distinctly discernible from each other and from intercom call-in sounds and touchscreen feedback sounds.
    f. ALARMED - Indicates whether or not the Icon is alarmed. If alarmed, it shall also indicate what priority has been assigned. All alarms shall be displayed in the event queue sorted first by priority and second by date/time.
    g. FLASHING - Specifies whether the icon bitmap and associated virtual LED flashes on and off or remains constantly on.
    h. RECORD - Indicates if the event is recorded to the Administration computer.
    i. ICON VISIBLE - Indicates if the Icon is visible or hidden. Hidden Icons shall be used for functions such as PLC alarms where the Icon only needs to be visible in an alarmed state. This minimizes clutter on the graphics.
    j. LED VISIBLE - Indicates if the status LED is visible or hidden.

1.13 TOUCHSCREEN SYSTEM - FUNCTIONS - SPECIFIC:

A. Specific Icon Control Functions: The following descriptions may not include all control and monitoring functions for all icons required for this project but provides a representative sample to indicate the type and level of control and monitoring expected.

B. Door Control and Monitoring

1. SWING DOORS
    a. CONTROLLED AND MONITORED. Selecting the Door Icon will display a control bar with several options, Unlock Door, Activate Hold Open, and Hide. Selecting the Unlock Door option will energize the lock relay for a preset time. The Door Icon shall be unsecured as long as the door is open or unlocked. When the door is closed and locked, the Door Icon shall return to the secured state. Open relay times shall be adjustable via the Administration computer.
    b. HOLD OPEN. Selecting the Door Icon will display a control bar with several options, Unlock Door, Activate Hold Open, and Hide. Selecting the Activate Hold Open option will energize the lock relay. The Door Icon shall change to the hold state and the door relay shall be maintained. The Door Icon shall be unsecured as long as the door is open or unlocked. Selecting the Door Icon a second time shall de-energize the door relay. When the door is closed and locked, the Door Icon shall return to the secured state.
2. SLIDING DOORS
    a. CONTROLLED/ MONITORED. Selecting the Door Status Icon will display a control bar with several options, Open, Stop, and Close. Selecting the ‘Open’ option will energize the Open Relay for a preset time. When the door is open, the Door Status Icon shall change to the unsecured state. To close the door, touch the ‘Close’ option. The Close Relay energizes for a preset time. To stop a moving door, touch the ‘Stop’ option. To start a door moving again, touch the ‘Open’ or ‘Close’ option. When the door is closed, the Door Status Icon shall change to the secured state. Open and Close relay times shall be adjustable via the Administration computer.
3. MONITORED DOORS. When a monitored swing door opens, the Door Icon shall change to the alarmed state. Selecting the Door Icon shall change the Door Icon to the acknowledged state. When the door is closed, the Door Icon shall change to the field reset state. Selecting the Door Icon shall change the door Icon to the secured state.
4. CONTROLLED/ MONITORED EXTERIOR SLIDING GATE. Selecting the Door Status Icon will display a control bar with several options, Open, Stop, and Close. Selecting the ‘Open’ option will energize the Open Relay for a preset time. When the door is open, the Door Status Icon shall change to the unsecured state. To close the door, touch the ‘Close’ option. The Close Relay energizes for a preset time. To stop a moving door, touch the ‘Stop’ option. To start a door moving again, touch the ‘Open’ or ‘Close’ option. When the door is closed, the Door

Status Icon shall change to the secured state. Open, Close and Stop relay times shall be adjustable via the Administration computer.

5. INTERLOCKS and INTERLOCK OVERRIDE. Icons for all doors and gates that are members of one or more interlock groups will display a large "I" in the middle. When one door or gate of an interlock becomes unsecured, all other door or gate icons interlocked with that door change to the disabled state. To open a disabled door and override the interlock, select the Door Icon in the disabled state. Selecting the 'Override Door' option will cause a pop-up window with a flashing "Warning" to be displayed for 2.5 seconds. A second pop-up window is displayed indicating that compromising the interlock is a serious security risk. Select OK to continue. A third pop-up window is displayed confirming operator intentions. Select Ok to unlock the door and override the interlock. When all doors and gates interlocked with another door are secure, Door Icon will return to the secured state.
6. EMERGENCY RELEASE. An Emergency Release button shall be provided to allow the emergency release of selected doors and door groups. Selecting the Emergency Release button from the Global Keypad area shall present an emergency release screen with all available emergency release icons. Selecting an emergency release icon shall highlight the effected background graphic area yellow and display a warning message with OK and Cancel options. If OK is selected a confirming message is displayed. If confirmed, the effected background graphic area shall highlight red and the door(s) shall unlock. The doors in the emergency release group shall remain unlocked and in the Active state until reset. The emergency release group shall also be added to the event queue. Selecting the Emergency Release Group icon a second time shall highlight the effected background graphic area yellow and display a warning message with OK and Cancel options. If OK is selected the release is canceled. The emergency release icon changes to the "Inactive" state. All doors in the emergency release group shall be locked at a staggered rate. The emergency release group shall be removed from the event queue.
7. DOOR ALARM. When a swing door opens without the open control signal from the Security Control system, an alarm is initiated.
    a. DOOR DPS CHATTER. A door position switch (DPS) can chatter when a swing door is closed thereby causing a nuisance alarm. To prevent this, each door has an adjustable time period for which an alarm condition is ignored following a door being closed. For more information on setting door chatter timers, see Section 1.12 TOUCHSCREEN SYSTEM ADMINISTRATION.
    b. DOOR OPEN-TOO-LONG. When a door is not a member of an active 'hold open' group, and remains open longer than a predefined time, the icon changes to the OTL alarm state. Selecting the icon will return it to its previous state and restart the Open-Too-Long timer. Open-Too-Long times shall be adjustable via the Administration computer.

C. Audio Control

1. INTERCOM. When a call is initiated from a field intercom station, the touchscreen station shall "zoom" to the proper area of the facility, center

the icon of the calling station on the display monitor, and change the icon to the calling state. Selecting the calling icon shall acknowledge the call and create a talk path. If applicable, an associated CCTV camera image shall display on the control room CCTV monitor. Selecting the icon a second time shall close the talk path and return the icon to the default idle state. If applicable, the associated CCTV camera image shall return to a default view. If a call is interrupted by an alarm with a higher priority, acknowledging that higher priority alarm shall return the graphic display to its previous view of the intercom icon. The system shall be configurable to allow the facility to handle incoming calls by selecting a "Locate" icon rather than going to the calling icon automatically.

2. PUSH-TO-TALK. Touching the push-to-talk button shall open a talk path to the current active intercom or paging zone. The push-to-talk button shall be disabled when there is no active intercom or paging zone.
3. INTERCOM DURESS. If a field intercom call pushbutton is held in longer then the pre-assigned time limit, a duress alarm is initiated. The icon shall change to the 'duress' state. TOUCHSCREEN SYSTEM ADMINISTRATION.
4. CELL INTERCOM CALL DISABLE. To prevent nuisance calls from an intercom, select the associated Door icon and the "Call Disable" option. The Intercom icon changes to a 'disabled' state and intercom calls from the cell intercom station are ignored. To return to normal operation, select the associated Door icon and the "Call Enable" option. The Intercom Icon changes to an 'idle' state and intercom calls are again annunciated.
5. SPEAKERS.
    a. INTERCOM. Selecting an idle IC Speaker Icon shall open a talk path to the intercom speaker and change the icon to the active state. Any other active intercom calls shall be canceled. Selecting the IC Speaker Icon a second time shall close the talk path and return the icon to the default idle state.

D. CCTV:
1. CAMERA. Touching a camera icon shall switch on the associated camera for display on the control room CCTV monitor and changes the camera icon to the active state. Selecting a second camera icon shall change the previous icon to inactive and new icon to active. Selecting the same camera icon a second time shall switch the camera image back to a default view and change the icon to an inactive state.

E. Alarms:
1. UPS ALARMS: An UPS alarm shall be initiated whenever battery backup is required. The associated icon shall change to the alarmed state. Selecting the UPS icon shall acknowledge the alarm. The alarm condition shall reset when battery backup is no longer required. The icon shall change to the field reset state. Selecting the UPS Icon in the field-reset state shall return the UPS Icon to the normal state. All UPS events shall be recorded on the Administration computer. Adjustable timers shall be provided to delay alarms. Timers shall be adjustable via the Administration computer.

2. PLC ALARMS: A PLC alarm shall be initiated whenever a PLC loses battery backup, loses communication with another PLC, or has a general diagnostic alarm. The associated icon shall change to the alarmed state. The alarm condition shall reset when the alarm clears from the PLC.
3. DURESS ALARMS: When a duress alarm occurs, the icon shall change to the alarmed state. When the alarm condition is reset in the field, the icon shall change to the field reset state. All Duress events shall be recorded on the Administration computer.
4. ALARM HANDLING
    a. ALARM ACKNOWLEDGE/RESET. When an alarm is first received, it will be added to the event queue in order of priority and time. A continuous alarming tone will sound and the device icon changes to the alarmed state. Selecting the device icon in the alarmed state will acknowledge the alarm, silence the audible tone, and change the device icon to the acknowledged state. Once the device is reset in the field, the device icon changes to the field reset state. To reset an alarm, select the device icon in the field reset state and it will change to the normal state.
    b. ADMINISTRATIVE ALARM SHUNT. From the Security Administration computer, alarms can be ignored or shunted during a specified period of time. In this instance, devices normally alarmed will instead change to the 'shunted' state. When the time period is over, normal alarming will resume.
    c. CAMERA VIDEO-FOLLOW-EVENT (VFE). Every security system device shall be able to have a camera(s) assigned to be displayed on an available alarm monitor(s) based on system events.
        1) Assigned camera(s) shall display on the assigned alarm monitor(s) based on a "Video-On" flag.
        2) Assigned camera(s) shall revert to default camera(s) based on a "Video-Off" flag.
        3) When a device from the event queue is selected, the assigned camera(s) is displayed on the assigned alarm monitor(s) regardless of the device's current state.
        4) When a door's control-bar closes, the default camera(s) is displayed on the assigned alarm monitor(s). This feature allows cameras to be displayed temporarily upon selecting a door icon (usually in the secured state).
        5) VFE shall be user configurable from the Security Administration computer.

F. Miscellaneous Functions
1. LOGIN: Access to the system software shall be password protected and all operators shall log into the software module. A video keypad window shall be displayed that utilizes a "scramble" function so digits do not appear in the same location each time an operator logs onto the system. All log-in/log-out activities shall be recorded on the Administration computer.

2. CONTROL TRANSFER: Three methods of control/transfer shall be provided:
    a. Station Transfer: To transfer a touchscreen station (send control to another location); select the Transfer icon in the Global Keypad Area. All control and monitoring functions are transferred to the designated alternate control station. The transferred station shall display the login window only.
    b. Station Takeover: To takeover a touchscreen station (take control from another location), select the appropriate Takeover Icon at Master Control. All control and monitoring functions are transferred. The station that was taken over displays “Station Disabled” and the current operator of the transferred station is logged out. Master Control receives a message indicating it now has control over the new designated control area.
    c. Station Duress: To transfer a touchscreen station under duress, select the Duress icon in the Global Keypad Area. All control and monitoring functions are transferred to Master Control. An alarm is initiated and a message pops-up at Master Control indicating it has control of the duressed station’s designated control area. The station that is in duress displays “Station Disabled” and the current operator of the duressed station is logged out.
3. STATION CONTROL. Touching the "STATION CONTROL" icon shall display the "Station Control" window. This window allows the operator to see the status of all touchscreen stations, take control of stations, and restore control to stations.
4. EVENT QUEUE. The event queue is a list of outstanding events that either need to be addressed or monitored by the operator. The event type, location, and time of occurrence are displayed.
5. UTILITIES. Touching the "UTILITIES" icon shall display the "Utilities" window. Based on the operator’s security level, this window allows administrative functions to be performed.
    a. CLEAN SCREEN. Touching the “Clean Screen” button shall disable all touch points on the touchscreen station for 20 seconds.
    b. SCREEN CALIBRATION. Touching the “Calibrate” button shall display a touchscreen calibration window.
    c. VOLUME UP. Touching the volume up button allows the operator to increase the volume of the console speaker.
    d. VOLUME DOWN. Touching the volume down button allows the operator to decrease the volume of the console speaker.
    e. SHOW/HIDE CURSOR. Allows the cursor visibility to be toggled on and off.
    f. SHOW/HIDE EXCEPTION ICONS. Allows the display of icons that normally are hidden.
    g. DISABLE/ENABLE SPEECH. Toggles whether or not voice messages are annunciated. If enabled, a voice message will be annunciated whenever an icon changes to a state that is configured for voice messaging.

h. ADJUST SPEECH. Controls the features of digitized voice messaging.
   1) Select voice from available list.
   2) Test – Allows the operator to hear adjustments made to the digitized voice.
   3) Save – Allows the operator to save the changes made to the digitized voice.
   4) Exit – Closes speech adjustment window.

i. UPDATE APPLICATION. Allows the station to receive immediate application updates from Administration Software Module.

j. END PROGRAM. Shall end the Control Software Module. Access to this button shall require administrative security rights.

1.14 TOUCHSCREEN SYSTEM ADMINISTRATION:

A. The Touchscreen Control System shall be provided with an Administration Software Module, which shall be password protected and reside on the system's Administration computer. The Administration software shall also be capable of being operated on multiple stations simultaneously.

B. GRAPHIC DISPLAY. A means of selecting any graphic image that is viewable on any Touchscreen Station shall be provided. Views shall be displayed in one of two formats – 'zoomed in' or 'zoomed out'. 'From the 'zoomed out' format, all controlled and/or monitored areas shall be represented by colored squares (LEDs). From the 'zoomed in' format, all controlled and/or monitored areas shall be represented by selectable buttons (Icons).
   1. THE ADMINISTRATIVE COMPUTER SHALL GRAPHICALLY MONITOR (BUT NOT CONTROL) SYSTEM ACTIVITY IN REAL TIME.

C. SYSTEM OPERATORS. It shall be possible to add, delete, and edit System Operators. Only operators with administrator privileges shall have access to this area. An administrator shall not be able to delete their record or remove their administrator privilege. Operator names and passwords shall not be duplicated. Passwords must contain at least 4 digits.

D. SECURITY LEVELS. It shall be possible to add, delete, and edit Security Levels. Each operator without administrator privileges must be assigned a security level. Only operators with administrator privileges shall be allowed access to this area. A security level in use cannot be deleted.

E. ICON STATES. Every field device in the Security System has an associated Icon Type. Multiple icons (example: Swing Door) can have the same icon type. Each icon type has multiple icon states. The following information shall be available and editable as indicated for each icon state as applicable: (Changes shall be made globally to all icons of same type)
   1. Icon Type – Name given to the specific icon type to which the state applies. (Read only)
   2. State No – A reference number for the icon state. (Read only)
   3. Icon State – The icon state name. (Read only)

4. Annunciated Message – If voice annunciation is active for this state, then when this state becomes active, the following is annunciated: <Annunciated Message> <Icon Type> <Icon Label>. (Editable)
5. Graphic Image – The graphic image that shows on the icon when this state is active (Editable)
6. Graphic File – The name of the bitmap file for the graphic image. (Editable)
7. Sound File – The name of the sound file that is heard when this state is active. (Editable)
8. Led On – The flashing on led color when this state is active. This is also used for the event queue record background color if applicable. (Editable)
9. Led Off – The flashing off led color when this state is active. (Editable)
10. Event Priority – The order in which the icon state is displayed on the event queue when active (Editable)
11. Flash – Indicates whether or not the led and icon will flash when this state is active. (Editable)
12. Icon – Indicates whether or not an icon is visible when this state is active. Icons for monitored only devices in a safe state are normally not visible to reduce graphic clutter. (Editable)
13. Led – Indicates whether or not the led is visible when this state is active. LEDs for monitored only devices in a safe state are normally not visible to reduce graphic clutter. (Editable)
14. Record – Indicates whether or not a record is stored in the event database whenever this state becomes active. (Editable)
15. Print – Indicates whether or not a record is sent to the system printer whenever this state becomes active. (Editable)
16. Voice – Indicates whether or not a digitized voice message is annunciated whenever this state becomes active. (Editable)
17. Video On – Indicates whether or not assigned camera(s) is displayed on assigned alarm monitor(s) whenever this state becomes active (Editable)
18. Video Off – Indicates whether or not default camera(s) is displayed whenever this state becomes active. (Editable)

F. ICON FUNCTIONS. Each and every icon used by the Control Software Module shall be listed. The following information shall be available and editable as indicated for each icon location as applicable: (Changes shall only effect the Individual icon location)

1. Icon Type – Name given to the specific icon type. (Read only)
2. Arch No – The architectural number assigned to the field set that the icon represents. (Read only)
3. Label – The caption shown with the icon. (Editable)
4. Record All – Indicates that a record is stored in the event database every time the icon changes state (Editable)
5. Print All – Indicates that a record is sent to the system printer every time the icon changes state. (Editable)
6. Shunted Time Zone – Allows the Administrator to select a time zone when alarm events for this icon are ignored. (Editable – see TIMING ZONES)

7. Unlocked Time Zone – Allows the Administrator to select a time zone when a door icon is held open. (Editable – see TIMING ZONES)
8. Note – description or reference information for the icon (Editable)

G. TIMING ZONES. It shall be possible to add, delete, edit, or rename Time zones. Time zones allow actions to be performed on a scheduled basis. Time zones only apply to shunting alarms and opening doors.

H. DEVICE MAINTENANCE. The system shall record device operations every time a door is unlocked, an intercom is activated, a UPS is alarmed, or etc. The system will also allow the operator to input a 'Maintenance Interval' which specifies the number of cycles required before maintenance for that device is necessary. When device cycles reach the Maintenance Interval set value, the record is highlighted until the "Count Since Last Maintenance" value is set back to zero.

I. DEVICE TIMING. The system shall allow for specific device timing adjustments to be performed.
1. Door
   a. Chatter Length – Time allowed for the door position switch to oscillate between secure and unsecure. Once the time has expired, an unauthorized door opening will generate an alarm.
   b. OTL Length – Time allowed for a door to be unsecured before an 'open too long' alarm is generated.
   c. Unlock Length – Amount of time the unlock relay is energized.
   d. Open Length – Amount of time the unlock relay is energized.
   e. Close Length – Amount of time the unlock relay is energized.
2. Intercom
   a. IC Panic Length – Required duration for a field intercom button to be held down before a panic alarm is generated.
3. UPS
   a. UPS Battery Alarm Delay – Period of time when system is operating on UPS before an alarm is generated.

J. CAMERAS / VIDEO. It shall be possible to assign any security device to a unique camera/monitor combination. Also known as video follow event (VFE), the assigned camera(s) are displayed on alarm monitor(s) accordingly.
1. It shall be possible to add new cameras and associated icons to the system.
2. It shall be possible to add new monitors to the system.

K. EVENT HISTORY. Event data shall be available for viewing. By default, only the current day's events will be displayed. Previous day's events shall be able to be combined and retrieved as necessary. Previous day's events shall be able to be archived to, and retrieved from, removable data storage. The data shall be able to be sorted, filtered, grouped, and printed as necessary. The following is sample data:

Date	Time	Station	Operator	Event	Description	Location
2/14/99	8:23:16	PCF		Unsuccessful Login Attempt		
2/14/99	8:23:16	PCF	J. Briggs	Successful Login		
2/14/99	8:23:16	MC	J. Briggs	Control Transfer	Takeover	PCF
2/14/99	8:23:16	MC	J. Briggs	Alarmed	Door Position Switch	A1103
2/14/99	8:23:16	MC	J. Briggs	Acknowledged	UPS Alarm	A1103
2/14/99	8:23:16	MC	J. Briggs	Unlocked	Access Door	A1103
2/14/99	8:23:16	MC	J. Briggs	Interlock Override Active		
2/14/99	8:23:16	MC	J. Briggs	Interlock Override	Access Door	A1103
2/14/99	8:23:16	MC	J. Briggs	Deadlock Enable	Cell Door	A1103
2/14/99	8:23:16	MC	J. Briggs	Emergency Release Enabled		
2/14/99	8:23:16	MC	J. Briggs	Emergency Release Active	Access Door	A1103

L. ARCHIVING. The system shall provide a means for archiving or Historical Event Data and Software Updates/System Settings to a removable data storage media.

1.15 SYSTEM PERFORMANCE:

A. The systems shall be configured to affect the following system performance criteria:

1. CONTROL: Outputs to field devices such as door locks shall activate within 250 milliseconds of the touchscreen or discrete control switch activation.
2. SCREEN UPDATES: All graphic display and icon changes at the touchscreen station shall occur in real time with no perceivable delay.
3. ANNUNCIATION: Inputs from field devices such as alarms or intercom calls shall annunciate at the touchscreen station or control panel within 250 milliseconds or the device being activated.
4. INTERDEPENDENCE: Touchscreen stations shall not be interdependent. The failure of one station shall not affect the operation of other stations. Failure of the Administration computer shall not affect the operation of any touchscreen station.
5. SYSTEM FAULTS: System faults, crashes, reset or reboots shall not be capable of activating field outputs such as door locks.

1.16 FAILURE RECOVERY

A. PLC
   1. Each PLC location shall be provided with a flash memory card containing all PLC programs and settings for that location. In the event of a PLC processor failure, it shall be possible to replace the processor and reinstall all programs and settings in less than 5 minutes.

B. Touchscreen Stations
   1. Failure of any single touchscreen station, file server, data server, or other networked computer shall not affect the operation of any other station.
   2. There shall be multiple courses of action available to the facility concerning a Touchscreen Station computer failure:
      a. All touchscreen computers shall be configured so that by changing the intended location identity (IP Address), any touchscreen computer can replace any other touchscreen computer without software changes or updates
      b. The control area affected by a failed touchscreen computer can be "taken over" by a higher level touchscreen station.
      c. The facility's spare computer can replace any failed touchscreen station computer. The spare computer shall be configured with all the software and graphic files required for all locations. Upon startup, a window shall be displayed on the spare computer to identify its current control location. Also upon startup, any updates to the security system software or data files applied after the initial system installation shall be retrieved from the Administration computer and applied equally to the spare.

C. Administration Computer
   1. In the event of failure, the Administration computer shall not be necessary for normal system operation. However, the facility would be unable to make changes to the system or archive historical data.
   2. The Administration computer shall be configured with redundant hard disk drives in a mirrored RAID1 configuration such that the computer will continue to operate in the event of a single disk drive failure. Replacing the failed disk drive with the provided spare drive will automatically restore the computer to full redundant operation.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Manufacturer's names, catalog numbers, and trade names are used to establish a level of quality and the operational characteristics for the products and systems specified. Specified materials, products, and services shall be provided unless otherwise approved by change to the bidding or contract documents. Materials, products, and services of manufacturers listed as "acceptable" may only be substituted for approval provided they meet or exceed the specified requirements and meet or exceed the level of quality and service established by the "specified" manufacturer. Listing of a manufacturer as specified or acceptable does not

relieve the manufacturer of the responsibility to comply with the complete specification.

B. Equivalent products of other manufacturers will be considered based on product data, manuals, demonstration software, and other technical information as necessary to show compliance with the specification. Information must be submitted at least fourteen (14) days prior to bid due date and be approved by addendum. Product substitution will not be accepted during the submittal process.

1. Firms desiring to be considered as a Touchscreen Control System Vendor, shall provide self-installing Software demonstrations on CD or DVD. The disc shall include demonstrations for the Control, Administration, and Documentation Software Modules demonstrating compliance with Touchscreen Control Systems specified herein. All graphic operations shall be functional. All building layouts, icon placements, supplementary windows, etc. shall be complete. The submittal shall essentially include working versions of all three (3) software modules less PLC communications. Demonstration shall be of software used previously on at least 2 completed projects. Provide the name and telephone number of an individual at each facility familiar with the performance, operation, and maintenance of the facility's systems (preferably, the maintenance manager).
2. If self-installing demonstrations (Control, Administration, and Documentation) are not available on disc, provide an alternate demonstration method and project references as stated above. Acceptable alternate methods:
    a. Schedule and attend a meeting at the Security Consultant's office at least fourteen (14) days prior to bid due date to demonstrate the proposed Software using TCSV's computer hardware. Demonstration shall be of software used previously on at least 2 completed projects.
    b. Schedule and attend a demonstration at an operational facility at least fourteen (14) days prior to bid due date to demonstrate the proposed Software. Demonstration shall be of software used previously on at least 2 completed projects. (Note; an additional reference is still required.) All travel costs and expenses shall be borne by the proposing TCSV.

C. Contact Rob Johnson at Secured State for product information based on products listed in this specification: (618) 664-4292 x101.

2.02 TOUCH SCREEN SYSTEM

A. Control Software Module:

1. Purpose: The primary purpose of the Touchscreen System is to provide a means by which an operator can monitor and control specific aspects of a facility as simply and efficiently as possible. This is accomplished through an intuitive dynamic graphical operator interface. Events that occur without initiation by the operator (intercom calls, for example) shall be brought to the immediate attention of the operator so that they may deal with the event without searching or delay. Events that are

initiated by the operator (station transfers, for example) shall as much as possible be grouped together for intuitive access.

2. Main Components: The Touchscreen System Graphical User Interface is comprised of six main components:
   a. MAIN VIEW – Provides an overall status of the current geographical area being monitored. The area graphic is displayed along with virtual LED lights that indicate the status of each controlled and/or monitored device.
   b. ZOOM/CONTROL VIEW – Provides a larger view of the current geographical area.
   c. AERIAL GRAPHIC VIEW – Provides a geographical reference. The portion of the zoom/control view that is currently visible is always highlighted in the aerial view.
   d. GLOBAL KEYPAD – All security system operations other than graphic positioning and icon controls are handled in this area through multiple button controls. Examples would be Interlock Override, Emergency Release, Control Transfer, System Enable / Disable, Duress, etc. Specific functionality can be unique to a given project and is described hereafter. The global keypad shall always be available and shall not be hidden by other windows.
   e. EVENT QUEUE – A tabular listing of all pending events listed first by priority and second by date/time. The background of each table record shall be colored to match the current state of its related icon. Up and down arrow buttons shall be provided for scrolling from the touchscreen. A "Locate" button shall be provided to locate the associated icon of the current record and center it on the display. The Select button shall be disabled when the event queue is empty. The event queue shall always be available and shall not be hidden by other windows.
   f. STATUS AREA – Provides text information regarding current icon status, current system status and current date and time. The status area shall always be available and shall not be hidden by other windows.
3. Graphic Operation:
   a. Provide a single dynamic image, (zoom/control view) without breaks, from which the operator can intuitively maneuver the entire geographical area for each of the following:
      1) Site Plan (1 image)
      2) Each floor of each building (1 image per floor)
      3) For Pod Control locations, provide one image for each pod area
      4) The image(s) shall be accurate and proportionally scaled to the actual building layout and of sufficient size as to accommodate all monitored and controlled devices in the form of icons. The icons shall be positioned proportional to the devices actual position relative to building graphic (leader lines are not acceptable). The icons as shown on the touchscreen monitor shall be no smaller than ½ inch square. The icons shall be spaced far enough apart so that an operator will not be at risk of inadvertently selecting the wrong icon. The image shall be oriented

correctly from the perspective of the station operator for areas that are visible from the station location.

b. Traditional systems that divide a geographical area (such as one floor of a building) into multiple, sometimes overlapping, “tiles”, “pages”, or “screens” are not acceptable.

c. All graphic operations shall occur in real time without delay.

d. Touching anywhere on the main or aerial views will zoom and center the specific location touched.

e. Dragging the zoomed view will provide dynamic panning of that view.

f. Dragging on the highlighted portion of the aerial view will dynamically reposition the zoomed view.

g. All field initiated events, such as intercom calls, alarms, and etc., shall cause the proper view of the facility to be brought to the operator, zoomed in, with the associated Icon centered on the touchscreen monitor.

h. Touching any graphical icon or button shall generate a short audible tone.

B. LCD Touchscreen monitor

1. The touchscreen monitor shall have, at a minimum, the following components and features:

a. 22” Active matrix TFT LCD

b. 1920 x 1080 resolution

c. Two (2) built-in speakers, 2 watt minimum

d. TouchPro™ PCAP touchscreen as manufactured by Elo TouchSystems, or approved equal.

e. Warranty:

1) Monitor: 3 years

2) Touch Technology: 10 years.

3) Backlight lamp life: 40,000 hours to half brightness

f. Manufacturer:

1) Specified: Elo TouchSystems 2201L

C. Computer Touchscreen Station:

1. The computer touchscreen station shall include, at a minimum, the following components, and features:

a. Microsoft® Windows® 10 Professional operating system with the latest service packs.

b. Intel Pentium processor, Core 2 Duo 2.0GHz or faster

c. 1 GB of RAM minimum. Provide additional RAM as necessary to optimize system performance.

d. 80GB SATA 3.0Gb/s and 8MB DataBurst Cache hard disk drive or faster

e. 256MB graphics card with support for 1280 x 1024 resolution at 85 MHz.

f. 10/100 Network Interface as required to communicate with PLC, touchscreen transducer controller, and LAN.

g. 16X DVD-ROM SATA.

h. 32 bit sound card and speakers.

i. USB Keyboard and 2 Button Optical Mouse with Scroll.

j. Manufacturer: Dell, Micron, Gateway, or IBM

2. The operation of the touchscreen software shall not depend on a keyboard. The keyboard shall be locked away in the security equipment closet and shall not be normally accessible from the console surface except as required for installation and maintenance purposes.

2.03 TOUCHSCREEN STATIONS

SHEET NO.	DESIGNATION	DESCRIPTION	MONITOR SIZE
EY-6301/EY-6501	Control Room	Access Control Touch Screen	22”

A. Administration Computer:

1. The Administration computer shall include, at a minimum, the following components, and features:
   a. Microsoft® Windows® 7 Professional operating system with the latest service packs.
   b. Intel Pentium processor, Core 2 Duo
   c. 1 GB of RAM, minimum. Provide additional RAM as necessary to optimize system performance.
   d. 160GB RAID1 (2x160GB) SATA 3.0Gb/s and 8MB DataBurst Cache hard disk drives
   e. 256MB graphics card with support for 1280 x 1024 resolution at 85 MHz
   f. 10/100 Network Interface as required to communicate with PLC, touchscreen transducer controller, and LAN.
   g. 16X DVD+/-RW SATA
   h. Internal Audio Speaker
   i. USB Keyboard and 2 Button Optical Mouse with Scroll
   j. V.92, PCI, Data/Fax Modem.
   k. The Administration computer shall operate as the master clock for which all touchscreen stations shall be automatically synchronized once per hour.
   l. Manufacturer:
      1) Specified: Dell, Hewlett Packard, IBM
   m. System Printer:
      1) Hewlett Packard: P2055dn LaserJet Printer or approved equal.

B. Touchscreen Control System Vendor (TCSV):

1. Specified: SECURED STATE™ by Creative Technologies / Greenville, Illinois / 618-664-4292 X101

2.04 PROGRAMMABLE LOGIC CONTROLLERS

A. General Specifications:

1. Environmental ratings for all components of the PLC system, except programming equipment, shall meet or exceed the following requirements:
    a. Ambient Temperature rating of 0 to 60 DegC (32 to 140 DegF) operational and -20 to 70 DegC (-4 to 158 DegF) storage.
    b. Humidity rating of 10 to 90 percent Relative Humidity (non-condensing).
    c. All system modules shall be designed so as to provide for free airflow convection cooling. No internal fans or other means of cooling except heat sinks shall be required.
2. The PLC shall meet the following standards: UL Listed, CSA Certified, and CE.
3. The PLC system shall have been designed and tested to operate in an industrial environment.
4. The PLC and I/O modules shall be of modular and rack mounted construction.
5. The system power supplies shall be protected against short circuits.
6. The PLC system shall be designed so that each control area operates totally independent of one another. Failure or loss of a controller shall not hamper the operation of any other controller.
7. Programmable controller manufacturer must guarantee the availability of replacement/spare parts for a minimum of ten (10) years.
8. All I/O modules and housings must be of a standard type and fully interchangeable with previous PLC series.
9. All controllers and I/O structures of a single manufacturer shall be capable of being mounted on the same size fixing centers to allow for larger capacity controllers to be installed in the future should the facility require an expansion beyond the limits specified in the original contract documents.
10. Controllers must be capable of driving local I/O racks, where local is defined as up to one hundred (100) feet from the control unit, without the need for further intelligent interface modules.
11. When required, the system must be capable of controlling remote I/O up to a distance of 500 meters (1,640 feet) from the controller, using high-speed links with a minimum data rate of one hundred and eighty seven (187) Kbaud. Communications over this link shall be accomplished using twisted-pair wires with an overall shield.

B. PLC Central Processing Unit:

1. The central processing unit (CPU) shall be microprocessor based, encased in a shielded enclosure to provide RFI protection, and shall provide the logic control functions and date transfer based upon the program stored in memory and the status of the inputs and outputs. The controller must be able to support up to 5,120 local I/O.
2. The *minimum* standard control functions of the CPU shall include:
    a. Relay Ladder Logic
    b. Latching relays

c. Timer clock pulses (.02s, 0.1s, 0.2s, 1s & 1m) and timers (.01 & 0.1 sec. Increments).
d. Counters (up/down)
e. Data comparison (=, <, >), data range comparison, and data table comparison.
f. Data transfers (single register, blocks of registers, data distribution and collection using pointer).
g. Synchronous shift registers forward and reverse (multiple channel length bit shifts).
h. One-shot output and input controls.
i. Master control relays (interlocks).
j. Bit reads and moves.
k. I/O forcing and setting
l. BCD to Binary or Hexadecimal conversion.
m. Binary or Hexadecimal to BCD conversion.
n. I/O Refresh on command, immediate I/O inputs, and scheduled interrupt on command.
o. On-line program editing.

3. The following *minimum* modes of operation of the CPU must be selectable via a key operated switch or programming software commands:
   a. PROGRAM - Processor is not scanning program in memory and all outputs are held OFF.
   b. MONITOR - Processor is executing program and changes in user memory and data memory are allowed.
   c. RUN - Processor is executing program in memory and outputs are controlling to the program. No editing of program or data registers is allowed.
4. The above settings shall require either a key, a programming console with a key, or programming software loaded on a computer to change the operating mode of the CPU.
5. The processor shall incorporate extensive self-diagnostic features, which will not half the processor. In addition, separate visual indicators will annunciate at the following conditions:
   a. POWER - Logic power is applied to the CPU and I/O rack from the power supply.
   b. RUN - Processor is executing the program in memory and outputs are being controlled according to the program.
   c. OUTPUT INHIBIT - Processor is executing program in memory according to input status, but outputs are being held in the OFF-state.
   d. ALARM - A non-fatal error (such as a low memory battery condition) has occurred in the PLC hardware or program software. The PLC is still running and the outputs are being controlled according to the program.
   e. ERROR - A fatal error (such as a memory parity error) has occurred, the CPU is not scanning the program, and the outputs are held in the OFF-state.
   f. COMM - Indicating the CPU is communicating with the device connected to the peripheral port or RS-232C port.

6. In addition to visual self-diagnostic indicators (LED's) the processor shall have a specifically designated block of a least 100 words of internal diagnostic words and bits. These shall provide more detailed system status and fault diagnostic information accessible by programming equipment or intelligent peripherals.
7. The processor must contain an error log area. This area must be able to log what error occurred and when the error happened, giving exact time and date. This area must be able to store a minimum of 1000 records.
8. At a minimum, the internal diagnostic registers shall provide the following information:
    a. Type of digital (input or output) or intelligent (analog, ASCII, etc.) I/O unit inserted in a particular slot (I/O table listing). This data should be accessible via programming console or programming software.
    b. If an I/O module is improperly mounted (wrong slot) or not in a slot (I/O verify or I/O bus error).
    c. Error codes for intelligent I/O module errors.
    d. PLC operation mode.
    e. Present and maximum scan time.
    f. Local Area Network operation status and error status.
    g. Local Area Network data Send and Receive verification and error status.
    h. Serial Host Computer interface operation and error status.
    i. Remote I/O rack operation and error status.
    j. Memory Error Area.
    k. Startup time. The start time should be updated every time the power is turned ON.
    l. Power Interruption Time.
9. A single RS232 or RS422 compatible or Fiber Optic differential communication port shall be used for software based ladder logic programming and communications to other compatible devices. The PLC system must support up to three of these ports simultaneously.
10. The data rate of the serial communications port shall be switch selectable. The following shall be the minimum available data rates: 300, 1200, 2400, 4800, 9600, and 19,200 baud.

C. PLC Processor Memory:
1. The program storage medium shall be Battery Backed Random Access Memory (RAM). The memory shall be housed in the same enclosure as the processor.
2. Whenever any words (contacts, coils, entire rungs, etc.) of program memory have been deleted, the remaining program shall automatically be repositioned in memory so as to fill the void left by the deleted words. The automatic use of NOP's to replace deleted words of program memory is not acceptable.
3. Program memory area shall not be used to store data values (numbers) or I/O image table. A unique memory register area which is separate from ladder logic (program) memory shall be used to store data values.
4. In addition to the program memory area, the processor must contain a word addressable only area, used for internal data storage and manipulation. This area must be a minimum of 8K words in size.

5. Typical scan time for 1K words of ladder program memory shall not be greater than 0.15 ms.
6. Memory word size shall not be less than 16 bits.
7. In order to detect short pulse duration on selected inputs, it shall be possible to use immediate bit refresh update I/O units or program an immediate I/O refresh command in the ladder logic program.
8. To minimize word utilization for program storage in the CPU, no words must be required wire spaces or wire connects within the rungs and no word space must be required to mark the start of a new rung.
9. Each word of memory shall incorporate a parity bit for memory error checking accompanied by a visual indication of a CPU memory error.
10. The CPU shall maintain its RAM program memory indefinitely, regardless of battery status, as long as AC power is applied to the system.
11. If AC power is removed from the system, the RAM memory backup battery shall retain program and register memory for a minimum of 5 years from date of purchase or for at least 2 weeks after the first appearance of the "battery low" warning.
12. The PLC must have the ability to utilize two methods of memory filing. The ability to utilize FLASH memory cards up to 30MB. The ability to utilize the PLC's extended data memory areas as file memory. File memory can be used to store the entire user program, I/O memory contents, and/or parameter area contents.
13. All PLCs must have the ability to utilize a real-time clock. For monitoring:
    a. The time that power interruptions,
    b. The time that the plc was turned on, and
    c. The total time the PLC has been ON.

D. PLC Relay Equivalents, Special Functions Outputs & Instructions:
1. The processor shall be equipped with no less than 71,204 dedicated internal relay bits, used to store and manipulate data internally.
2. The number of normally open (NO) and normally closed (NC) contacts of an internal relay bit shall be unlimited, dependent only upon program memory capacity.
3. It shall be possible to make any internal coil into a one scan one-shot with a single command.
4. It shall be possible to program any internal coil as a latching relay with both a latch and an unlatch rung segment.
5. It shall be possible to program multiple Master Control Relay (MCR's). It shall be possible to use programming equipment, host computers, or the actual ladder logic program to operate special PLC instructions, which perform the following functions:
    a. Halt the operation of the CPU.
    b. Place the CPU in the output inhibit mode.
    c. Return the processor to the RUN mode by clearing ladder halt commands or by mode change from a host computer or programming console.

E. PLC General Purpose Storage Registers
1. Each register shall be 16 bits in length and capable of storing a four digit BCD (0000 to 9999) or Hexadecimal (0000 to FFFF) value.

2. Programming techniques shall allow all registers to be programmed as a totalizing counter, totalizing timer, part of a shift register, or for numerical or ASCII data storage.
3. It shall be possible to monitor and alter any register value via a programming console or host computer using programming software without halting the CPU.
4. It shall be possible to alter individual bits of any storage register using a programming console or host computer using programming software halting the CPU.
5. It shall be possible to set the value of any single storage register or any contiguous block of storage registers with the use of a single programming command.
6. It shall be possible to preset any value into any single storage register or any contiguous block of storage registers with the use of a single programming command.
7. Programming techniques shall allow the access and use of any single bit or of all individual bits of information from any zone of a shift register, regardless of size. The accessing of any individual bit shall be possible with a single rung of ladder programming.
8. The CPU shall be equipped with no less then 32,767 general-purpose data memory registers. In addition, any internal relay registers not used for real I/O or as individual contacts and coils may be used as general-purpose data memory registers.
9. Register data shall be retained in the event of AC power loss as long as the ladder program is retained.

F. PLC Counters and Timers
1. There shall be no less than 4,096 timers and 4,096 counters in the CPU. All counters and timers shall be capable of storing four digit decimal values from 0000 to 9999.
2. Programming techniques shall allow for cascading of timers and counters. It shall be possible to program memory retentive times that can be started and halted without being automatically reset.
3. It shall be possible to program a reset contact or data comparison so that a timer can be halted and its present value reset to zero.
4. Programming techniques shall allow for programming ON delay and OFF delay timers.
5. It shall be possible to program UP, DOWN, and bi-directional counters.
6. It shall be possible to program a reset bit or data comparison command that will halt and reset a counter.
7. Programming techniques shall provide for as many timer or counter comparison values as desired.
8. Programming techniques will allow for decoding an interval of a timer or a counter (between range or compare instruction). Up to 16 ranges or intervals of a timer or counter shall be able to be acted upon with a single ladder command.

G. PLC Data Functions, Shift Registers
1. It shall be possible to program the transfer of data between one data storage register and another, between an input or output channel and a

storage register, or to transfer a constant value to any data storage register using a single command.

2. It shall be possible to perform a block transfer of a contiguous block of data registers to any other non-overlapping contiguous block of data registers, regardless of block size with a single ladder command.
3. It shall be possible to transfer any one constant to any contiguous block of data registers, regardless of block size with a single ladder command.
4. It shall be possible to program data transfer, data comparison, data value increment, data value decrement or any other mathematical operation on a data register either once every scan as long as the controlling rung is true or to execute these functions for only one scan at the leading edge of the controlling rung going true.
5. It shall be possible to perform Binary to BCD or BCD to Binary conversion of data in any data register with a single instruction.
6. Shift registers must be capable of shifting individuals bits, digits, or entire words either once per scan or for only one scan when their controlling rung goes true. The bit and digit shift registers must be able to shift either up or down.
7. The only limit to shift register size shall be the amount of contiguous data words available in memory to be used by that shift register.

H. PLC Digital Inputs and Outputs

1. Each input or output module shall be a self-contained unit housed within an enclosure so that no part of its circuit board is exposed to contact by handling.
2. Input and output units shall be UL listed, CSA certified and CE.
3. Pressure type screw terminals will accept one No. 12 or two No. 14 stranded or solid wires.
4. Convenience marker strips shall be provided adjacent to the I/O field wiring terminals for user labeling of all I/O points.
5. It shall be possible to replace any I/O module without removing or disturbing user field wiring.
6. Input and output modules shall be available in 8, 16, 32, 64, and 96 points per unit. The 32, 64, and 96-point units shall not be multiplexed I/O and shall have a thumbscrew secured, high density connector capable of accepting individual soldered or crimped connector pins or ribbon cable via IDC type connector configuration.
7. All high-density DC input or output units shall be solid state in nature. The output units shall be transistor type for long life and high DC reliability. Reed relays are not acceptable.

I. PLC Remote Inputs and Outputs

1. The remote I/O system shall be compatible with all of the company's modular mid-sized and large PLC's and I/O units.
2. All power for the remote I/O on a rack will be supplied by that rack's power supply unit.
3. The communication between the local PLC system and the remote I/O racks shall be continuous, full duplex, serial communications with a data rate of at least 1.5 Mbaud.
4. The remote I/O system shall support a total of at least 512 remote I/O points with one remote master.

5. The maximum number of remote I/O points at any single drop shall be determined by the number and density of the individual I/O units on the rack rather than any internal per-rack limitation.
6. The communications media for the remote I/O system shall be field terminable, 200-micron optical fiber with a maximum transmission distance of not less than 800 meters between drops without a repeating mechanism.
7. Remote I/O Network shall be available in fiber or wire options to allow greater flexibility.
8. The remote I/O system shall have a group of pre-assigned diagnostic registers which shall be used to report system faults to the main processor.
9. In the event of a failure of a particular drop on the remote I/O system, the CPU shall be capable of being configured to either issue an alarm and continue to run or to shutdown in an error condition as it would in the event of local I/O failure.
10. In the event of failure of a remote I/O drop, all output points on that drop shall be turned OFF.
11. In the event of a remote I/O drop failure, the remote I/O System must be capable of restarting automatically once the error is cleared.
12. Remote drops shall have the capability of supporting a programming/diagnostic port.

J. Network Options

1. Networking options must include Ethernet, Profibus DP, DeviceNet, and Omron's SYSMAC bus remote I/O and ControllerLink network. Ethernet communications must support TCP, UDP, and FTP protocols. The PLC should have the ability to generate e-mail messages to be sent via WAN or LAN, to report errors, provide scheduled maintenance and status reports. In addition, FTP (file transfer protocol) can be used to transfer data files between a host computer and or FLASH memory card and the PLC's memory.

K. PLC Programming Equipment

1. It shall be possible to program and monitor any PLC from a single Host Computer via the LAN.
2. Programming software must be compatible Windows 7.
3. The programming software must not require the use of any hardware protection key, any special internal circuit board on the computer, or any sort of floppy disk to operate.
4. Programming Laptop Computer
   a. Core 2 Duo, 2.00GHz
   b. 80GB Hard Drive 5400RPM
   c. Microsoft® Windows 7 Professional operating system with the latest service packs.
   d. 10/100 Base-T Network Adapter
   e. 8X DVD+/-RW
   f. 56K internal modem

g. Manufacturer:
   1) Specified: Dell
   2) Acceptable:
      a) Hewlett Packard
      b) IBM

L. PLC Programming

1. It shall be possible to program relay contacts in series using some form of "line wrap" software feature when the programmer runs out of horizontal space on a single line. The length of any rung, in parallel contacts, must be a maximum of at least 22 lines.
2. Any ladder or ladder element delete function must require at least two steps to prevent accidental deletion of any part of the ladder program.
3. If a programming console is used, it must provide display of I/O number, program address location, type of contact or element (coil or contact, series or parallel, bit or word, NO or NC, and etc.) status during monitoring and forcing indication.
4. It shall be possible to search the program for any contact number, coil number, storage register type and number, address location, or special function number that the CPU supports.
5. It shall be possible to delete all or part of anything without affecting the remainder of the program. In either case, the program must automatically recompile to accept the new addition or remove the gap left by any deletion.
6. It shall be possible to force any input, output, or internal bit ON or OFF using either the programming console or the computer-based programming software.
7. Programming of nested branches and rungs with multiple outputs must be possible.
8. It shall be possible to program any given I/O point or internal bit or register as often as desired.
9. Using the computer-based programming software, it shall be possible to simultaneously display the following information for any desired rung:
   a. The ON or OFF state of any contact or coil.
   b. The contents of any given storage register.
   c. Whether a coil is standard, normally closed, one-shot, or a latching relay.
10. The computer-based programming software must be capable of displaying non-adjacent rungs during program monitoring operation.
11. If a rung of logic is satisfied then the complete line should be highlighted not just the contacts/coils.
12. Monitoring or any bit/word across the network from any PLC should be supported to aid troubleshooting.
13. It should also be able to:
    a. Operate without using the mouse.
    b. Navigate using directory tree displays.
    c. Enter bit input/output instructions with function keys.
    d. Split the screen 2 or 4 ways.
    e. Convert from text inputs to ladder programs by either inputting mnemonics to ladder diagram displays or convert text input with text editors or word processors.

f. Program with names rather than specific addresses.
g. Have the ability to utilize name, addresses, I/O comments, and other data from Microsoft Excel.
h. Drag and drop DOS files between Memory Cards in the computer and in the PLC.
i. Display error histories from the CPU Unit with time stamping.
j. Protect programs from access using passwords.
k. Have the ability to run and monitor multiple programs all at one time.

M. Manufacturer:
1. Specified: OMRON CS1 Series
2. Acceptable:
a. GE Fanuc
b. Modicon
c. Allen Bradley

2.05 REDUNDANT COMMUNICATION NETWORK

A. Communications between all Touchscreen Control System devices, including Touchscreens, Servers, Terminals and PLCs, shall be provided via redundant 10/100 Mbps Ethernet.
1. The communications network shall employ redundant Ethernet Switches (not hubs) using a redundant loop configuration for the system backbone wiring. Network Switches shall operate at near media-speed on all ports simultaneously, allowing data flow to different segments to occur simultaneously thereby lowering or eliminating traffic bottlenecks that might be present in a shared environment. Failure of any communication subsection on the redundant ring shall cause a diversion of data to alternate communication paths within 500ms. Switches shall support transmission rates of 10 or 100 Mbps. Each switch shall be provided with two (2) 100Base-FX, female, SC-type fiber optic connectors for fiber optic backbone connection. Additionally, a minimum of five (5) 10/100Base-T RJ45 female connectors for Touchscreen Control System devices shall be provided. Switches shall be suitable for industrial environments.
2. As a minimum, each equipment room shall be provided with an Ethernet Switch.
3. Manufacturer:
a. Specified: Hirschmann
b. Acceptable: Phoenix Contact
c. Avaya
4. Wire and Cable:
a. Backbone wiring from switch to switch shall be "loop" configured using 8.3 Fiber Optic cable. Wiring from individual switch to device shall be via Category 6 twisted pair cable.
b. Category 6 wire and cable shall be furnished and installed in accordance with the manufacturer's recommendations for 100 Base-T Ethernet operations. If distances exceed manufacturer or industry recommended standards, then fiber optic cable and devices shall be utilized.

B. PLC to PLC Communications
   1. 10/100 Mbps Ethernet or Bi-directional, self-healing, token loop network with a deterministic transmission rate of 2Mbaud
   2. Provide as required to meet performance requirements specified in 1.2 SYSTEM PERFORMANCE. Network shall support 64 nodes maximum on 8.3 Single-mode fiber. Provide all PLC modules and hardware as necessary.

2.06 INTERFACE BOARDS

A. Interface boards shall be UL Listed or Recognized.

B. Interface Boards shall utilize standardized, multi-conductor cables for connections to the PLC input & output modules. All field terminations inside the equipment enclosures shall be made to Interface Boards. Terminations shall not be made directly to PLC modules.

C. Interface boards shall be constructed for mounting on standard 19" E.I.A. mounting rails and shall have 3/4" aluminum support angles at the top and bottom for maximum rigidity.

D. Interface boards shall be provided with a power LED that will indicate power is being supplied to the board.

E. Interface boards' control power busses shall be fused.

F. Interface Boards shall provide proper separation of Class 1 and Class 2 circuits as defined by Article 725 of the National Electric Code.

G. Interface boards shall contain no active circuitry or control logic.

H. All terminals shall be "quick disconnect" types such that no tools are required to disconnect wiring should a board replacement be necessary.

I. Interface Board labeling shall be consistent with the PLC so that no cross-reference is required to trace circuits.

J. All terminals shall be factory labeled using printed labels. Field installed or hand written labels are not acceptable. Labels shall be consistent with system documentation indicating project specific ID numbers.

K. Termination boards shall be warranted for 10 years from the date of shipment.

L. Board Types:
   1. Interposing Relay Board
      a. 16 relays per board.
      b. Relays shall be plug-in, electro-mechanical type, rated at 10 amps each minimum.
         1) Omron
         2) Potter & Brumfield

c. Each relay output shall be individually fused to protect field wiring to the device.
d. Each relay shall have an associated LED to indicate when its' individual coil is energized.
e. Manufacturer:
1) Specified: Creative Technologies # RB-16

2. Input/Output Break-Out Board
a. 16 Points
b. 16 Inputs or Outputs per board. Boards shall be mounted in pairs for a total of 32 points in 19 inches of horizontal space (side-by-side)
c. Each input/output point shall have an LED to indicate if the point is currently active. Each input/output termination point shall have its corresponding “common wire” termination point located adjacently for ease of troubleshooting field devices. Terminating all “common wires” at a separate location is not acceptable.
d. Manufacturer:
1) Specified: Creative Technologies # BOB -16

3. Control Panel Interface Board
a. Field cable interfaces via standard 50 pin TELCO connector
b. 48 Points per board
c. Manufacturer:
1) Specified: Creative Technologies # PIB-48

2.07 REQUIRED SPARE PARTS:

A. One PLC Processor

B. One PLC input module

C. One PLC output module

D. One PLC network communication module

E. One PLC power supply

F. One PLC backplane

G. One of each type of power supply used

H. One Network Ethernet Switch

I. One 22" touchscreen monitor

J. One 160GB RAID 1 hard drive, compatible with Administration computer

K. One computer configured identical to the other touchscreen computers, including all software and files to serve as a replacement for any other touchscreen computer.

PART 3 EXECUTION

3.01 GENERAL

A. All components/equipment (PLCs, termination boards, power supplies, network switches and etc.) shall be rack mounted in, Middle Atlantic Equipment Racks.
   1. All components/equipment shall be fabricated into racks conforming to the UL 508A standard. (Enclosure and all internal equipment and wiring as a single entity)

B. Prior to the installation of Security Control equipment:
   1. Verify that all construction activities within the Control & Equipment rooms are complete. Rooms should be temperature / humidity controlled, dust free, and secure. Do not install equipment until these conditions are met.
   2. When conditions dictate storing equipment prior to installation, the temporary storage location should meet the requirements of item 1. (Above)
   3. Verify that the permanent, surge protected, power source is available for connection to the equipment.
   4. Verify that all circuits feeding system processors have UPS backup.
   5. Verify phone lines are available for off-site access to system processors.
      a. Programmable Logic Controller Network
      b. Touchscreen Network

C. Contractor shall install all conductors and make final connections to the locking system hardware and controls as required to effect the locking and control functions defined in the Division 28 specifications.

D. All conductors from the security equipment enclosures to electrically operated door locks shall be minimum 14 Ga. Copper THWN. All conductors from the security equipment enclosures to door position switches and bolt position switches shall be minimum 16 Ga. Copper THWN. Install the number of conductors required to provide the control and monitoring functions specified.

E. Programmable Logic Controllers (PLC) shall be utilized to perform functions as specified. PLC's shall be as specified.

F. The door locking PLCs and Touchscreen Stations shall be powered from a UPS.

G. Division 26 shall furnish and install all panel boards, breakers, wiring, and etc. to provide protected branch circuits to all security equipment.

H. In each equipment room, UPS shall have the same power source (Emergency Panel) as Door lock circuits. PLCs shall monitor UPS for loss of power. Upon loss of power, all locks in an active group release shall be de-energized until power is regained, at which time locks shall be re-energized sequentially.

I. Disconnect the primary AC power circuits to all of the electronic door locking and monitoring system equipment and test for survivability and proper operation and provide battery load calculations for 10 minute intervals up to 1 hour (min).

J. Interposing relays for door lock control shall be plug-in type with hold down clip and LED indicator. AC or DC types shall be selected as appropriate for the application. Each door lock/relay circuit shall be individually fuse- protected to isolate shorted circuits.

K. Installation shall comply with the National Electric Code. Provide proper separation of all wiring and circuit types.

3.02 INSTALLATION

A. Install system in accordance with the Company's printed instructions unless otherwise indicated.
   1. Locate equipment as indicated on Drawings.

B. Wiring:
   1. Install conductors in raceways after the raceway system is completed by others. Exception: Conductor types specifically indicated on the drawings not to be installed in raceways.
      a. No grease, oil, or lubricant other than wire-pulling compounds specified may be used to facilitate the installation of conductors.
   2. Connect system components requiring a primary power supply to dedicated branch circuits.
   3. Make connections and splices at system components, Electronic door locking and monitoring system interconnection cabinets, terminal strip cabinets, and console only. Connections or splices will not be allowed at any other location in the system.
   4. Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.

C. Mounting Hardware:
   1. Mount all exposed equipment with security grade tamper proof center pin reject style Allen type mounting screws.

D. Surge Suppressors:
   1. Install surge suppressors on each conductor entering and leaving Electronic door locking and monitoring system from outdoor components.
   2. Ground the suppressors per NFPA 70 and manufacturer requirements.
   3. Install surge suppressors for 120Vac input circuits prior to connections to power supplies.
   4. Install suppressors within power supply cabinet or separate NEMA enclosure as recommended by manufacturer.

E. Earth ground of equipment as required by equipment manufacturer.
   1. Do not use telephone ground connections as earth grounds.
   2. Do not use connections to building structural steel as earth grounds.
   3. Provide equipment-grounding conductors supplied from an existing established earth ground source or from a grounding bus in an existing panelboard.

F. Identification, Labeling, Marking:
   1. Station Locators: Install adjacent to each workstation.
   2. Wiring Diagram: Install adjacent to equipment in each BDF room computer closet.
   3. Nameplates:
      a. Install lamacoid engraved nameplate with card reader designation over each card reader.
      b. Install nameplate with monitor designation over each monitor.
   4. Identification of Circuits: Identify wires and cables by system and function in cabinets with premarked, self-adhesive, wraparound type markers. Designations shall correspond with point to point wiring diagrams.
   5. Battery Data: Insert a copy of the battery warranty in each battery compartment and mark on batteries the date placed in service.

G. Provide training and enrollment software to the facility for enrollment of employees. Provide initial enrollment of 25 employees in the base contract.

3.03 SYSTEM TRAINING

A. After the system is substantially complete and operational, provide on-site training of facility security, security supervisory, and maintenance personnel. Provide training for 8 (4) hour sessions.
   1. Provide a minimum of 1 week notice to the Director's Representative, so that a training schedule can be set up with facility personnel and arrangements can be made for a location to hold the training..
   2. Provide all materials necessary for training (training aides, handouts, overhead projector, etc.).

B. System Operation Training: Training shall be set-up so that at the end of training, facility (security, security supervisory, and maintenance) personnel shall have a complete understanding of:
   1. How the system operates.
      a. Training should include precautionary concerns that personnel should be aware of that could affect proper operation of the system.
   2. Knowledge of all components in the system and their function.
      a. How the system is interconnected with other security systems and how the system operates in conjunction with the other systems.
   3. Weekly testing procedures for the system required to be performed.

C. System Maintenance Training: Training shall be set-up so that at the end of training, facility maintenance personnel shall have a complete understanding of:
   1. Routine (monthly, quarterly or annual) maintenance required to the system and how to perform that maintenance.
      a. Training should include precautionary concerns that personnel should be aware of that could affect proper operation of the system.

2. Knowledge of all components in the system and adjustments to the components that they would be required to perform to maintain operation of the system.
3. Programming of the system:
    a. Training should include instruction in all programming required to the system necessary for the system to operate as outlined in the SYSTEM DESCRIPTION.
    b. Training should include precautionary concerns that personnel should be aware of that could affect proper operation of the system working on the system.

3.04 COMPLETION

A. General: Upon completion of the work, remove excess debris, materials, equipment, apparatus, tools, and the like and leave premises clean, neat and orderly. Vacuum clean all equipment and enclosures to remove any dirt, dust, or foreign matter that may have accumulated during installation.

B. Testing:
1. Factory Testing:
    a. All components of the door control system shall be operationally tested together with the exception of the end devices. At this time, all components of the system, such as Touchscreen Stations, Administration Computer, Network Switches, Control Panels, Power Supplies, Interface Boards, and interconnecting wiring shall be complete and fitted with their connectors. Factory testing shall take place at the TCSV's fabrication facility.
    b. Give notice at least 4 weeks prior to system testing as the Owner may wish to be present to verify substantial completion of system.
2. Site Testing: After complete installation of the system in the field, all problems shall be corrected prior to final testing. Once the Contractor is satisfied that the system is operating satisfactorily, operation of the entire system shall be demonstrated to the Owner. If, during this final demonstration, it becomes evident that there are still problems with the system, the demonstration will be cancelled and rescheduled when all problems are corrected.

3.05 FIELD QUALITY CONTROL

A. Cable Test: Electronically meter test and documents all existing cables, control wiring, and twisted cables prior to installing new equipment and electronically test and document all new cables under the supervision of Company Field Advisor. Test for open, grounds, and shorts.

B. Make corrections to wiring prior to proceeding. Advise the Director's Representative of any cable that cannot be repaired.

C. Provide written test results for all cables and certify operation.

D. Test all cables after installation and prior to connecting new equipment.

E. Preliminary System Test:
   1. Preparation: Have the Manufacturer's Technical Advisor adjust the completed system and then operate it long enough to assure that it is performing properly:
   2. Run a preliminary test for the purpose of:
      a. Determining whether the system is in suitable condition to conduct the acceptance test.
      b. Checking and adjusting equipment.
      c. Training facility personnel.

F. System Acceptance Test:
   1. Preparation: Notify the Director's Representative at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
   2. Supply all equipment necessary for system adjustment and testing.
   3. Make the following tests:
      a. Test all software. Demonstrate that all features of the software are operable.
      b. Individually test each master station and sub-station.
      c. Test each system function step by step as summarized under TOUCHSCREEN SYSTEM – FUNCTION SPECIFIC.
      d. Individually test each door (card access and monitoring).
   4. Submit written report of test results signed by Manufacturer's Field Advisor and Director's Representative. Mount a copy of the final report in a Plexiglas enclosed frame assembly adjacent to the central controller.

3.06 INSULATED CONDUCTOR SCHEDULE – TYPES AND USE

A. Communication Circuits:
   1. For interior wiring (in raceways), use communication and power cable types specified in PART 2.
   2. Where wiring is specifically indicated on the drawings not to be run in raceway use plenum rated cable (concealed unless otherwise indicated).

B. Remote-Control, Signaling, and Power-Limited Circuits: Per manufacturer's requirements.

END OF SECTION

Revised 10-5-17

SECTION 323113

CHAIN LINK FENCE AND GATES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Wiring for Gate Systems: Section 260505.

B. Gate Systems: Section 323114.

1.02 REFERENCES

A. Comply with ASTM A 53 for requirements of Schedule 40 piping.

B. Welding Standards: "Structural Welding Code - Steel, AWS D1.1" or "Structural Welding Code - Sheet Steel, AWS D1.3", as applicable, by the American Welding Society (AWS Codes).

C. Materials and Finishes Standard: ANSI/BHMA A156.18-1993, "American National Standard for Materials and Finishes".

1.03 DEFINITIONS

A. Height of Fence: Distance measured from the top of concrete footing to the top of fabric. Fences with buried fabric measured from finished grade to the top of fabric.

B. Company Field Advisor: An employee of the company which markets the security coils under their name and who is certified in writing by the Company to be technically qualified in design and installation of security coils or an employee of an organization certified by the foregoing company to be technically qualified in design and installation of security coils.

1.04 SUBMITTALS

A. Shop Drawings: Complete detailed drawings for each height and style of fence and gate required. Include separate schedule for each listing all materials required and technical data such as size, weight, and finish, to ensure conformance to specifications.

B. Product Data: Manufacturer's catalog cuts, specifications, and installation instructions for each item specified.

C. Samples:
   1. Fence Fabric: Minimum one square foot.
   2. Fence and Gate Posts: One foot long each.

3. Miscellaneous Materials and Accessories: One each.
4. If directed, provide samples from materials delivered to the Site for installation.

D. Re-Evaluation Fee: In accordance with Article 4.7 of the General Conditions, a re-evaluation processing fee will be levied against the Contractor for each re-evaluation of any Submittal Package submission that was returned for failure to comply with the submittal requirements relative to completeness, content or format. There will be a fee of $250 levied against the Contractor for each re-evaluation of any Submittal Package submission that was returned for failure to comply with the submittal requirements relative to completeness, content or format.

E. Quality Control Submittals:
1. Test Reports: Security coils test procedure report.
2. Certificates: Letter required under Quality Assurance Article.

1.05 QUALITY ASSURANCE

A. Comply with standards of the Chain Link Fence Manufacturer's Institute.

B. Provide steel fence and related gates as a complete compatible system including necessary erection accessories, fittings, and fastenings.

C. Posts and rails shall be continuous without splices.

D. Security Coils Installation Certification: Letter by the Company Field Advisor stating that the fence company is certified in the installation of the security coils and meets the Contract requirements.

E. Concrete batching plants shall be currently approved as concrete suppliers by the New York State Department of Transportation.

1.06 DELIVERY

A. Coordinate delivery of anchors and other accessories to be built into other Work, to avoid delay. Furnish instructions and templates as required for accurate location.

B. The manufacturer of the prison lock keys shall notify the Director's Representative EIC – Robert Guiton (Phone: 585-427-7430) and the Deputy Superintendent for Administration – Matthew VanNorman (Phone: 585-533-2674) at the Industry Residential Center, a minimum of two days in advance of shipping keys. Ship all prison lock keys direct from manufacturer, through the United States Postal Service, via Registered Mail, Restricted Delivery, Return Receipt Requested, to:

Deputy Superintendent for Administration
Industry Limited Secure
375 Rush-Scottsville Road
Rush, NY 14543

1.07 UNIFORMITY OF DETENTION HARDWARE

A. Provide detention hardware specified in this section from the same manufacturer.

B. The existing equipment at Industry is Folger Adam. Provide Folger Adam detention hardware specified in this section from Southern Folger Detention Equipment Company.

PART 2 PRODUCTS

2.01 COMPANIES

A. Allied Tube & Conduit Corp., 16100 S. Lathrop Ave., Harvey, IL 60426, (800) 882-5543.

B. Hearne Steel Company, Inc. P.O. Box 1239 Hearne TX 77859, www.hearnesteel.com. (979) 279-3464

C. Southern Folger Detention Equipment Company, 4634 South Presa St., San Antonio, TX 78223, (210) 533-1231, www.southernfolger.com.

D. Tymetal Corporation, Inc., 678 Wilbur Avenue, Greenwich, NY 12834, (518) 692-9930, www.tymetal.com

E. Wheatland Tube Company, 700 South Dock Street, Sharon, PA 16146 (800) 257-8182

2.02 MATERIALS

A. Class B Steel Tubing (Option):
   1. SS-40 Fence Pipe by Allied Tube & Conduit Corp.
   2. WT-40 Fence Pipe by Wheatland Tube Company.

B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.03 STEEL FRAMEWORK (FOR FENCES 10'-1" - 12' HIGH)

A. End Posts, Corner Posts and Pull Posts:
   1. Pipe: 4 inches OD, 9.11 pounds per linear foot (Schedule 40).
   2. Class B Steel Tubing: 4 inches OD, 6.56 pounds per linear foot.

B. Line Posts:
   1. Pipe: 2.875 inches OD, 5.79 pounds per linear foot (Schedule 40).
   2. Class B Steel Tubing: 2.875 inches OD, 4.64 pounds per linear foot.

C. Light Posts:
   1. Pipe: 4 inches OD, 9.11 pounds per linear foot (Schedule 40).
   2. Class B Steel Tubing: 4 inches OD, 6.56 pounds per linear foot.

2.04 STEEL FRAMEWORK (FOR FENCES 16' HIGH)

A. End Posts, Corner Posts and Pull Posts:
   1. Pipe: 6.625 inches OD, 18.99 pounds per linear foot (Schedule 40).

B. Line Posts:
   1. Pipe: 6.625 inches OD, 18.99 pounds per linear foot (Schedule 40).

C. Light Posts:
   1. Pipe: 6.625 inches OD, 18.99 pounds per linear foot (Schedule 40).

2.05 STEEL FABRIC

A. One-piece widths for fence heights up to 12'-0".

B. Chain link:
   1. Perimeter Fencing - 2 inch mesh, No. 9 gauge;
   2. Zone Fencing - 2 inch mesh, No. 9 gauge;

C. Selvages: Top edge and bottom edge twisted and barbed.

2.06 SWING GATE POSTS

A. Single width of gate 6'-0" to 12'-0" wide or over 10'-0" high:
   1. Pipe: 4 inches OD, 9.11 pounds per linear foot (Schedule 40).
   2. Class B Steel Tubing: 4 inches OD, 6.56 pounds per linear foot.

2.07 SWING GATE FRAMES

A. Height: 6'-0" - 14'-0", or leaf width exceeding 8'-0":
   1. Pipe: 1.90 inches OD, 2.72 pounds per linear foot (Schedule 40).

B. Assemble gate frames by welding or with special steel fittings and rivets for rigid connections. Install mid-height horizontal rails on gates over 10 feet high. When width of gate leaf exceeds 10 feet, install mid-distance vertical bracing of the same size and weight as frame members. When either horizontal or vertical bracing is not required, provide truss rods as cross bracing to prevent sag or twist.

2.08 SWING GATE HARDWARE

A. Type "B" Gates: As specified in Section 323114.

B. Type "B-1" Gates: As specified in Section 323114.

C. Type "C" Gates:
   1. Hinges: Pressed Steel Offset 180 degree gate hinge item no. 014005 or appropriate for use by Hearne Steel Company, Inc.
   2. Locks: Drop bar type complete with flush plate set in concrete. For double gates provide full height drop bar and keeper. Padlock eye shall be an integral part of latch construction.

3. Holdbacks for Vehicle Gates: Type which automatically engages the gate leaf and holds it in open position until manually released.

2.09 FABRICATION AND MANUFACTURE

A. Personnel Gate "B-1": As specified in Section 323114.

B. Lock Box for Type "B" Gates: As specified in Section 323114.

C. Thoroughly clean all steel prior to sending it to the galvanizer the entire assembly. Remove oil, grease, and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning". Remove steel mill stamp, loose mill scale, loose rust, weld slag and spatter, and other detrimental material in accordance with SSPC SP-2 "Hand Tool Cleaning", SSPC SP-3 "Power Tool Cleaning", SSPC SP-6 "Commercial Blast Clean" or SSPC SP-7 "Brush-Off Blast Cleaning".

1. Do not ship the entire assembly from the fabricating shop to the galvanizer prior to QA inspection and approval by the State or designated inspection laboratory that the assembly is in conformance with the Contract Documents.

2.10 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Rails and Post Braces:
1. Pipe: 1.660 inches OD, 2.27 pounds per linear foot (Schedule 40).
2. Class B Steel Tubing: 1.660 inches OD, 1.84 pounds per linear foot.

B. Fittings and Post Tops: Steel, wrought iron, or malleable iron.
1. Fasteners: Tamper-resistant cadmium plated steel screws.

C. Stretcher Bars: One piece equal to full height of fabric, minimum cross-section 3/16 inch by 3/4 inch.

D. Metal Bands (for securing stretcher bars): Steel, wrought iron, or malleable iron.

E. Wire Ties: Conform to American Steel Wire gauges.
1. For tying fabric to line posts, rails and braces: 9 gauge (.1483 inch) steel wire.
2. For tying security coils to fence fabric, barbed wire, or adjacent coils: 16 gauge (.0625 inch) 300 Series stainless steel wire.
3. For splicing adjoining sections of security coils: 16 gauge (.0625 inch) 300 Series stainless steel wire, or 11 gauge (.1205 inch) 300 Series stainless steel hog rings.
4. For splicing overlapped fabric at bottom rail: 11 gauge (.1205 inch) steel hog rings.

F. Truss Rods: 3/8-inch diameter.

G. Concrete: Portland Cement concrete having a minimum compressive strength of 4000 psi at 28 days.

H. Spiral Paper Tubes:
   1. Sonotube by Sonoco Products Co., North Second St., Hartsville, SC 29550, (800) 377-2692.
   2. Sleek/tubes by Jefferson Smurfit Corp., P.O. Box 66820, St. Louis, MO 63166, (314) 746-1100.

I. Cold Galvanizing Compound: Single component compound giving 93 percent pure zinc in the dried film, and meeting the requirements of DOD-P-21035A (NAVY).

J. Bolts and Nuts: ASTM A 307, Grade A.

K. Aluminum Slats:
   1. Size: 1-7/8 inches wide and 1-3/4 inches wide by .009 inch to .0105 inch thick.
   2. Aluminum Alloy: 5052 H19 or 6011 T81.
   3. Finish: Baked enamel, color: green to match existing.

2.11 BARBED WIRE

A. One strand 12-1/2 gauge steel wire, with 14 gauge 4-point steel barbs spaced 5 inches oc.

B. Extension Arms: Pressed steel, wrought iron, or malleable iron, complete with provision for anchorage to posts (including light posts) and attaching 3 rows of barbed wire to each arm.
   1. Type: Single 45-degree arm; one for each post.

2.12 THIRTY INCH DIAMETER SECURITY COILS

A. One hundred and one coil loops of a single helical coil of spring quality austenitic stainless steel conforming to U.S. Army MERADCOM drawing 13220E0889 and 13220E2744 except that the outside diameter shall be 30 inches (plus or minus 2 inches) with 24 (plus or minus 1) barb clusters per revolution.
   1. Adjacent coil loops shall be alternately spot welded at 5 points of equal spacing about the perimeter. Spot welding shall survive a minimum 200-pound force per weld loaded uniformly about the periphery of the coil, as specified in the barbed tape test procedure.
   2. One jacketed stainless steel wire rope, 7 by 7 strand 3/64 inch by 5/64 inch minimum diameter, per MIL-W-83420, Type II composition B, shall be attached, along the length of the obstacle to each coil loop to preset the maximum barbed tape opening and the 50 foot (plus or minus 2 feet) length.
   3. The wire rope shall be attached with clips as required and the wire rope with clips shall be capable of satisfying the 50-pound pull test Paragraph 4. 5. 2. 1. 1., Specification MIL-B-52775B.

B. Concertina Type: Minimum 51 coil loops fabricated by wrapping a barbed tape made of AISI 430 stainless steel, whose hardness is optional, around a 300 series austenitic stainless steel core wire. Diameter of the core wire shall be 0.098 inch plus or minus 0.002 inch, and the tensile strength shall be a minimum of 140,000

psi. The barbs shall be offset from the plane of the core wire. Outside diameter of the coil loops shall be 30 inches (plus or minus 2 inches). Each loop shall consist of 24 (plus or minus one) clusters of four needle sharp barbs on four-inch centers, each barb measuring a minimum of 1.2 inches in length.

1. Adjacent coil loops shall be attached alternately at 5 points of equal spacing about the circumference with stainless steel flat metal band type clips approximately 0.375 inch wide and 0.065 inch thick. These clips shall prevent the coil loops from being pulled apart at each point of attachment when a minimum 200-pound load is applied, as specified in the barbed tape test procedure. Wrapping of barbed tape about the line wire shall be accomplished within the tolerances specified in MIL-B-52489E, except that the tape shall be wrapped a minimum of 230 degrees and shall satisfy the push test specified therein.
2. Extended length shall be 25 feet (plus or minus 2 feet), with a maximum spacing between loops of 12 inches.

2.13 SOURCE QUALITY CONTROL

A. Test Procedure - Barbed Tape Security Coils: The company producing the security coils shall have test facilities available which can demonstrate that the security coils meets the following requirements.

1. Sampling; before delivery to job site: Samples for quality conformance inspections shall be selected in accordance with MIL-STD-105, sampling level S-1, AQL 2.5. A unit of product for sampling shall be one complete unit no less than ten feet in length.
2. Test Equipment: The test equipment for applying and measuring force shall be capable of measuring a minimum force of 200 pounds and shall be calibrated prior to each test with standards traceable to the National Bureau of Standards.
3. Test Specimen: The test specimen shall consist of 2 segments of barbed tape, taken from adjacent coil loops, each at least one- foot-long, containing and centered upon a point of attachment. This attachment shall be prepared in the normal course of production.
4. Test Preparation: A pair of one inch, plus or minus 0.1 inch, cubic back-up blocks shall be centered on each side of the attachment point, in as close as possible contact with the major surfaces of the barbed tape. Barbs adjacent to the attachment point may be removed to simplify the testing process. Each leg of each barbed tape segment shall be bent at a 90-degree angle so that each segment has a major surface in contact with 3 adjoining faces of a back-up cube and so that ends of each segment are parallel to each other and to the axis of the attachment. Each back-up cube shall then be restrained in place by spot welding a straining strap to each leg of a segment so that the strap is in continuous contact with the cube face opposite the point attaching the 2 segments.
5. Test: Two ends of one of the test segments, prepared per above, shall be joined and rigidly attached to a structure so that the retaining structure, with said attachment, will survive a minimum tensile load of 200 pounds without deflection or slippage. The 2 ends of the opposite segment shall be joined and attached to the test apparatus so that said attachment will survive a minimum tensile load of 200 pounds, without any slippage. The test equipment above shall then be used to apply up to a 200-pound

minimum force (through the adjacent coil loop segment attachment point) away from the rigid retaining structure. After reaching a minimum 200 pound force, as measured by the test equipment, this force shall be maintained continuously for a least 30 seconds.

6. Test Results: At the completion of the 30-second pull test, the test specimen shall be removed from the attachments to the rigid retaining structure and to the test equipment. The back-up blocks shall be removed from the test specimen and each segment of the barbed tape shall be examined for breaks, cracks, or separation around their mutual attachment point. The test specimen shall have failed this test if any of the above have occurred or a 200-pound minimum pull cannot be applied continuously for 30 seconds.

2.14 FINISHES

A. Steel Framework:
   1. Pipe: Galvanized in accordance with ASTM A 53, 1.8 ounces zinc per square foot.
   2. Square Tubing: Galvanized in accordance with ASTM A 123, 2.0 ounces zinc per square foot.
   3. Class B Steel Tubing: Exterior; 1.0 ounces zinc per square foot plus chromate conversion coating and clear polyurethane. Interior; zinc rich organic coating.

B. Fabric; one of the following:
   1. Galvanized Finish: ASTM A 392 class II zinc coated after weaving, with 2.0 ounces per square foot.
   2. Aluminized Finish: ASTM A 491 aluminum coated with 0.40 ounces per square foot.

C. Fence and Gate Hardware, Miscellaneous Materials, Accessories:
   1. Wire Ties and Hog Rings: Galvanized Finish, ASTM A 90 1.6 ounces zinc per square foot, or aluminized finish, ASTM A 809 0.40 ounces per square foot.
   2. Hardware and Miscellaneous Items: Galvanized Finish, ASTM A 153 (Table 1).
   3. Extension Arms: Hot-dip galvanized after fabrication, ASTM 123, 2.0 ounces zinc per square foot.
   4. Angle Beams, I Beams, and Steel Shapes: Galvanized in accordance with ASTM A 123, 2.0 ounces zinc per square foot.

D. Barbed Wire and Tension Wire; one of the following:
   1. Galvanized Finish: ASTM A 121 class 3, 0.80 ounces per square foot.
   2. Aluminized Finish: ASTM A 585 class 2, 0.30 ounces per square foot.

PART 3 EXECUTION

3.01 PREPARATION

A. Do not begin installation of any fencing until finished grading has been completed.

B. Clear and grub along fence line as required to eliminate growth interfering with alignment. Remove debris from State property.

3.02 INSTALLATION

A. Space posts equidistant in the fence line with a maximum of 10 feet on center. For fences 16 feet and higher space posts a maximum of 8 feet on center.

B. Setting Posts in Earth: Drill holes for post footings Set posts in center of hole and fill hole with concrete. Plumb and align posts. Vibrate or tamp concrete for consolidation. Finish concrete in a dome shape above finish grade elevation to shed water. Do not attach fabric to posts until concrete has cured a minimum of 7 days.

C. Brace assembled sections until permanently secured in place to prevent displacement or distortion of the members. Do not utilize metal bracing to support post when plumbing or securing posts.

D. If post tops or extension arms will not be installed prior to impending rain, provide temporary covers over tops of posts to prevent posts from filling with water.

E. Locate corner posts at corners and at changes in direction. Use pull posts at all abrupt changes in grade and at intervals no greater than 500 feet. On runs over 500 feet, space pull posts evenly between corner or end posts. On long curves, space pull posts so that the strain of the fence will not bend the line posts.

F. Install top rail continuously through post tops or extension arms, bending to radius for curved runs. Install expansion couplings as recommended by fencing manufacturers.

G. Install bottom and intermediate rails in one piece between posts and flush with post on fabric side using special offset fittings where necessary.

H. Diagonally brace corner posts, pull posts, end posts, and gate posts to adjacent line posts with truss rods and truss rod tighteners.

I. Attach fabric to security side of fence. Maintain a 2-inch clearance above finished grade except when indicated otherwise. Thread stretcher bars through fabric using one bar for each gate and end post and 2 for each corner and pull post. Pull fabric tight so that the maximum deflection of fabric is 2 inches when a 30-pound pull is exerted perpendicular to the center of a panel. Maintain tension by securing stretcher bars to posts with metal bands spaced 15 inches oc. Fasten fabric to steel framework with wire ties spaced 12 inches oc for line posts

and 24 inches oc for rails and braces. Bend back wire ends to prevent injury. Tighten stretcher bar bands, wire ties, and other fasteners securely.

1. When fabric height exceeds 12 feet, overlap horizontal splices a minimum of 6 inches at the intermediate rail, and secure each layer of fabric to the rail with wire ties spaced 24 inches oc. Offset ties so maximum distance between any tie does not exceed 12 inches.
2. When fabric is indicated to be buried, the buried portion of fabric shall be separate from the main fence fabric. Overlap fence fabric and buried fabric a minimum of 6 inches at the bottom rail. Secure fence fabric to bottom rail with wire ties spaced 24 inches oc. Secure buried fabric to fence fabric, above the bottom rail, with hog rings spaced 12 inches oc. The buried fabric shall not be secured directly to the bottom rail.
   Note: To prevent settlement of the buried fabric during backfill operations, the buried fabric may be temporarily attached to the bottom rail. Remove all such temporary ties after backfilling is complete. Should any fence components become distorted as a result of installation or settlement of buried fabric, untie all fabric, re-align fence members, and re-tie fabric.
3. If approved pre-formed ties are used to secure the fence fabric, the "pigtail" for all ties at the 8 foot high level and below shall be bent down parallel with the fence posts and/or rails.

J. Position bolts for securing metal bands and hardware so nuts are located opposite the fabric side of fence. Tighten nuts and cut off excess threads so no more than 1/8 inch is exposed. Peen ends of all bolts below a height of 10 feet to prevent loosening or removal of nuts.
   1. Secure post tops and extension arms with tamper-resistant screws.

K. Install gates plumb and level and adjust for full opening without interference. Install ground-set items in concrete for anchorage, as recommended by fence manufacturer. Adjust hardware for smooth operation and lubricate where necessary.

L. Fence Alarm System: Where a fence mounted alarm/detection system is required, install the fence in a manner that will permit satisfactory operation of the alarm/detection system. Conform to the following:
   1. Eliminate all fabric vibrations and rattles caused by wind against posts and rails. Install additional wire ties above quantity specified if deemed necessary to prevent vibrations and rattles.
   2. Eliminate all rattles from stretcher bar bands, truss rods, rail and post clamps, and other hardware.

M. Tension Wire: Where tension wire is indicated or required, weave tension wire through fabric or fasten with hog rings spaced 24 inches oc. Tie tension wire to posts with 9 gauge wire ties.

N. Security Coils (except Concertina Type):
   1. Stretch to full preset length, determined by applying a tensile load of not more than 50 pounds at each end of the spacer wire. Attach successive units to each other to form one continuous obstacle. After the first unit is installed, orient the beginning of the second unit so that (spot weld) attachments of the second unit approximately match those at the end of

the first unit. Attach the last coil loop of the first unit to the first coil loop of the second unit, with stainless steel twistable wire ties (para. 3.7. MIL-B-52775B) at the locations where the coils would have been spot welded if one continuous unit had been fabricated. Where security coils are placed on the ground, anchor each coil to the ground at 5-foot intervals using anchors formed from galvanized No. 3 reinforcement bars. Each reinforcement bar anchor shall have a 2-inch hook formed at the top and shall be driven a minimum of 30 inches into the ground.

2. Secure coils to the side of the fence by erecting the material as described for ground installation. Attach each coil loop (or pair of coil loops where adjacent coils are spot welded) to the fence fabric with stainless steel twistable wire ties. The point of attachment shall be made where the security coils are tangent to (intersects) the fence, after it has been expanded to its full length, without tangles and free of distortion. (The location of the point of attachment to the fence will vary as the security coil rotates slightly about its longitudinal axis as it is extended to its full length.)

O. Concertina Type Security Coils: Install in accordance with the manufacturer's printed instructions and meeting the following minimum requirements:

1. Install security coils with coil loops (apertures) equally spaced 12 inches oc (plus or minus 2 inches).
2. Secure coils to the top of the fence by attaching each coil loop where it intersects the barbed wire and the top of the fabric with twistable stainless steel wire ties.
3. Secure coils to the side of the fence by attaching each coil loop where it intersects the fence fabric, and any adjacent coils, with twistable stainless steel wire ties. Attach adjacent coils to each other where every other loop intersects or at 36 inches oc maximum.
4. Where security coils are placed on the ground, anchor each coil to the ground at 5-foot intervals using anchors formed from galvanized No. 3 reinforcement bars. Each reinforcement bar anchor shall have a 2-inch hook formed at the top and shall be driven a minimum of 30 inches into the ground.
5. Splices: Splice successive units to adjacent coil loops by overlapping end loops a minimum of two barbed clusters to form one continuous obstacle.
    a. Permanently attach barb roots together with twistable stainless steel wire ties or stainless steel hog rings.
    b. Cross-tie barb roots with 2 stainless steel twistable wire ties or 2 stainless steel hog rings on both barbs of a 2-barb splice or the center barb of a 3-barb splice, and at all points of the splice where factory clips are installed on adjoining sections of continuous coil.

P. Aluminum Slats: Install where indicated aluminum slats in every diagonal run of links in both directions for the full height of the fence. Crimp and staple with monel staples at the top and bottom of fabric. Overlap and staple spliced slats.

Q. Wire brush and repair welded and abraded areas of galvanized surfaces with one coat of cold galvanizing compound.

R. Restore disturbed ground areas to original condition. Topsoil and seed to match adjacent areas.

3.03 ADJUSTING

A. Adjust operative units and equipment to work freely and easily, ready for use. Field lubricate operating and locking systems in accordance with the manufacturer's maintenance instructions. Adjust equipment when the temperature is approximately 70 degrees F.

END OF SECTION