

## 1 ADDENDUM #2

**All clauses set forth in the Bidding Documents, Contract Documents and General Requirements of the original Contract Documents shall apply to and govern this work. The addendum refers to changes and additions to the original Contract Documents and is to be read in conjunction with the same. All other parts of the original Contract Documents are to be considered as applying to the work of this Contract with the exceptions and changes as noted below.**

### 1.1 SPECIFICATIONS

- .1 Reference Section 00 21 13 - Instructions to Bidders:
  - .1 Reference Paragraph 1.7.3.3:
    - .1 Clarification: Bonding for Mechanical, Sprinkler and Electrical subcontractors is to be in accordance with the Bid Depository Rules and Regulations as described.
    - .2 Add new paragraph .4 as follows:  
"Bid forms for Mechanical, Sprinkler and Electrical subcontractors are to be on forms provided by the Bid Depository."
  - .2 Reference Section 01 10 00 - Summary:
    - .1 Reference Paragraph 1.2.1:
      - .1 Add new paragraph .5 as follows:  
"Phase 5A seasonal work is incomplete. Cooperate and coordinate with Phase 5A Contractor to permit the Work of 5A and 5B to be completed without disruption to either Contractor's schedule or work flow."
    - .2 Reference Paragraph 1.2.1.2:
      - .1 Add new paragraph .14 as follows:  
"When the new Queens County Depot building is fully completed, the existing temporary Scale House is to be decommissioned, services disconnected and reconnected to the permanent building, as part of this Contract. See electrical documents for electrical systems to be relocated and/or reconnected. The building is then to be removed and relocated, as part of this Contract, to a site to be determined by the Owner, but in the City of Charlottetown, and put on sleepers. Reinstate grade around removed Scale House to match adjacent grade and finishes. Complete sidewalk between new building and existing scale."
    - .3 Reference Paragraph 1.2.1.2.2:
      - .1 Append the following wording "and east parking lot."
  - .3 Reference Section 01 35 29 - Health, Safety and Emergency Response Procedures:
    - .1 Reference Paragraph 1.38.2.22:
      - .1 Delete as written and replace with:  
"Swamper/Riggers Competency:  
Where cranes are used, the Contractor must use a swamper/rigger. They shall provide TIE with a written statement identifying, by name(s), their rigger and that the named person is a competent worker as described in the construction regulations."
  - .4 Reference Section 05 21 00 - Steel Joist Framing:
    - .1 Reference Paragraph 2.3.2:

- .1 Delete wording "SP1" and replace with "SP7".
- .2 Reference Paragraph 2.3.3:
  - .1 Delete wording ".065mm to .080mm" and replace with "0.038mm to 0.051mm".
- .5 Reference Section 05 31 00 - Steel Decking:
  - .1 Reference Paragraph 2.2 (Types of Decking):
    - .1 Clarification: All steel roof decking shall be galvanized
- .6 Reference Section 05 50 00 - Metal Fabrications:
  - .1 Reference Paragraph 2.14:
    - .1 Note: Pre-fabricated aluminium ladder, cage and lead is acceptable. Acceptable material: Modular Guardrail & Ladder System by Skyline."
  - .2 Reference Paragraph 2.24.1:
    - .1 Delete wording "203mm" and replace with "152mm".
- .7 Reference Section 07 46 19 - Steel Siding:
  - .1 Reference Paragraph 2.1.2.1.3: Add new paragraph .2 as follows:
    - .2 Agway Metals HF-12F."
  - .2 Reference Paragraph 2.1.2.2:
    - .1 Delete the wording "canopy soffit" and replace with "canopy and soffit".
  - .3 Reference Paragraph 2.1.3.5: Add new paragraph .2 as follows:
    - .2 Agway Metals CH6-32 or CH5-32."
  - .4 Reference Paragraph 2.1.3.5.1:
    - .1 Delete as written and replace with following: "VicWest Channel Wall / CL508 or Canadiana by Ideal Roofing."
  - .5 Reference Paragraph 2.1.7.1:
    - .1 Delete wording "Section 07 21 16 - Semi-Rigid Insulation" and replace with "Section 07 21 13 - Board Insulation".
- .8 Reference Section 07 52 00 - Modified Bituminous Membrane Roofing:
  - .1 Reference Paragraph 2.3.1.3:
    - .1 Add new paragraph .2 as follows:
      - .2 Densdeck by Fransyl."
  - .2 Reference Paragraph 2.4.1.2:
    - .1 Add new paragraph .2 as follows:
      - .2 Permaste Stick by Lexcor."
  - .3 Reference Paragraph 2.5.2.2:
    - .1 Add new paragraph .2 as follows:
      - .2 Isolex by Lexcor."
  - .4 Reference Paragraph 2.5.3.3:
    - .1 Add new paragraph .2 as follows:
      - .2 Isolex by Lexcor."
  - .5 Reference Paragraph 2.6.1.2:
    - .1 Add new paragraph .2 as follows:
      - .2 LEXBASE R+ by Lexcor."
  - .6 Reference Paragraph 2.7.3:
    - .1 Append wording: "LEXBASE R+ by Lexcor".
  - .7 Reference Paragraph 2.8.1.4:
    - .1 Add new paragraph .2 as follows:

- .2 Vanguard 180 FF by Lexcor."
  - .8 Reference Paragraph 2.8.2.4:
    - .1 Add new paragraph .2 as follows:
      - .2 Vanguard Flash SA by Lexcor."
  - .9 Reference Paragraph 2.8.3.4:
    - .1 Add new paragraph .2 as follows:
      - .2 Vanguard 250 TC by Lexcor."
  - .10 Reference Paragraph 2.8.5.1:
    - .1 Add new paragraph as follows:
      - .2 For 4 meter wide perimeter strip: Brown."
  - .11 Reference Paragraph 2.9.1.3:
    - .1 Add new paragraph .2 as follows:
      - .2 Vanguard LAP by Lexcor."
  - .12 Reference Paragraph 2.10.1.2:
    - .1 Add new paragraph .2 as follows:
      - .2 Multigrip by Lexcor."
  - .13 Reference Paragraph 2.12.1.2:
    - .1 Add new paragraph .2 as follows:
      - .2 Lexbond-C by Lexcor."
  - .14 Reference Paragraph 2.13.1.4:
    - .1 Add new paragraph .2 as follows:
      - .2 Vanguard 250 TC by Lexcor."
  - .15 Reference Paragraph 2.15.2:
    - .1 Add new paragraph .4 as follows:
      - .4 Lexgrip by Lexcor"
  - .16 Note:
    - .1 Entire roof system is to be compatible and by one Manufacturer, as per Paragraph 2.1.1 of this Section.
- .9 Reference Section 08 33 13 - Coiling Counter Doors:
  - .1 Reference Paragraph 1.3.1.1:
    - .1 Delete paragraph as written and replace with "Door and related components: Anodized Aluminum."
- .10 Reference Section 08 36 13 - Sectional Doors:
  - .1 Reference Paragraph 2.2.1.2: Delete this paragraph in its entirety.
  - .2 Clarification: R25 value required.
- .11 Reference Section 08 71 00 - Door Hardware:
  - .1 Delete Section as written in its entirety and replace with the attached new version dated January 21, 2019.
- .12 Reference Section 10 22 26 - Operable Partitions:
  - .1 Reference Paragraph 1.2:
    - .1 Clarification: Panel system can be single or paired panels.
  - .2 Reference Paragraph 1.2.2:
    - .1 Delete paragraph in its entirety. Refer to Paragraph 2.6 of this section for truss support requirements.

- .13 Reference Section 10 28 13 - Toilet Accessories:
- .1 Reference Paragraph 2.1:
    - .1 Note: solid plastic partitions are acceptable.  
Acceptable material: Hiny Hiders by Scranton Products or approved equal.
  - .2 Reference Paragraph 2.4.1:
    - .1 Clarification: The Accessories Schedule referenced means those items listed in this Paragraph 2.4. There is not a separate Accessories Schedule.
- .14 Reference Section 10 51 13 - Metal Lockers:
- .1 Reference Paragraph 2.1: Add new paragraph .6 as follows:
    - .6 Solid plastic lockers are acceptable.  
Acceptable material: Tufftee Lockers by Scranton Products or approved equal."
  - .2 Reference Paragraph 3.3 (Locker Schedule):
    - .1 Delete wording "#120 Machine Shop" and replace with "#210 Machine Shop".
- .15 Reference Section 22 42 01 - Plumbing Specialties and Accessories:
- .1 Reference Paragraph 2.1.4.1:
    - .1 Delete following wording:  
"171mm wide trench drain system with modular pre-sloped channels, reinforced edges and Class 'E' traffic rated grate, according to "DIN EN 1433". Provide channels as required to suit inverts required and a sanitary bottom discharge connection where shown. Install per manufacturer's requirements."  
and replace with:  
"305mm wide trench drain system with modular pre-sloped channels, reinforced edges and Class 'E' traffic rated grate, according to "DIN EN 1433". Provide channels as required to suit inverts required and a sanitary bottom discharge connection where shown, 4-corner grate lock down. Install per manufacturer's requirements."
  - .2 Reference Paragraph 2.1.4.2:
    - .1 Delete wording "Acceptable material: Zurn Z886 or approved equal." and replace with "Acceptable material: Zurn Z874-12 or approved equal."
- .16 Reference Section 23 20 31 - Thermal Insulation for Piping:
- .1 Reference Paragraph 2.2.4: Add new paragraph .4:  
"Provide vapor dam or vapor seal on butt ends of piping at every fourth section (24 ft) and at all fittings /elbows/valves/flanges. All terminations of insulation must be finished with a vapor dam or vapor seal. All work must be completed in strict accordance with TIAC and NAIMA standards."
- .17 Reference Section 23 35 16 - Tail Pipe Exhaust Systems:
- .1 Reference Paragraph 2.1.1.5:
    - .1 Append wording "Diversitech".
- .18 Specification Section 23 64 19 - Water Chillers:
- .1 Reference Paragraph 2.8:
    - .1 Add new paragraph .5 as follows:
      - .5 Acceptable material: Carrier Greenspeed variable speed

condenser van control or equivalent."

- .19 Reference Section 25 90 01 - EMCS: Systems Sequences of Operation:
- .1 Reference Paragraph 1.2.4.10: Add new paragraph .4 as follows:
    - ".4 Valve shall open to 100% to provide free cooling when there is a cooling demand in the building and chiller is disabled."
  - .2 Reference Paragraph 1.2.4.11: Add new paragraph .3 as follows:
    - ".3 Pump shall run to provide free cooling when there is a cooling demand in the building and chiller is disabled."
- .20 Reference Section 26 05 00 - Common Work Results - Electrical :
- .1 Reference Paragraph 3.4.3.2.2:
    - .1 Clarification: Wall receptacles located above of continuous hydronic baseboard heater are to be mounted at 670mm AFF.
- .21 Reference Section 26 20 21 - Electric Heating and Cooling Controls:
- .1 Reference Paragraph 2.2:
    - .1 Add new paragraph .5 as follows:

"Line voltage thermostat in Gas Storage 217 and Gas Storage 218 to be suitable for Class 1, Division 2 hazardous locations in accordance with CSA 22.1-15 Section 18."
  - .2 Reference Paragraph 2.2.6:
    - .1 Add the following as an acceptable material:
      - ".4 Honeywell #T6051B."
- .22 Reference Section 26 27 26 - Wiring Devices:
- .1 Reference Paragraph 2.2.2.3.1: L6-15R receptacle is being added as an acceptable material as follows:
    - .1 Append wording "L6-15R" to the end of paragraph.
      - .1 Append the wording "#CWL615R" to the end of paragraph.
      - .2 Append the wording "#HBL4560" to the end of paragraph.
      - .3 Append the wording "#4560" to the end of the paragraph.
      - .4 Append the wording "L615R" to the end of the paragraph.
  - .2 Reference Paragraph 2.2.3.3.1:
    - .1 Delete paragraph in its entirety and replace with "Single, CSA. L15-30R".
      - .1 Delete paragraph 2.2.3.3.1.1 as written and replace with "Cooper #AHL1530R".
      - .2 Delete paragraph 2.2.3.3.1.2 as written and replace with "Hubbell #HBL2720".
      - .3 Delete paragraph 2.2.3.3.1.3 as written and replace with "Leviton #2723".
      - .4 Delete paragraph 2.2.3.3.1.4 as written and replace with "Pass & Seymour #L1530R".
  - .3 Reference Paragraph 2.2.4:
    - .1 Renumber the original paragraph 2.2.4 and subsequent sub-paragraphs to be 2.2.5 and so on.
    - .2 Insert New Paragraph 2.2.4 as follows:
      - ".3 Single receptacle, CSA type 6-15R as indicated, to CSA-C22.2 No. 42 with the following features:
        - .1 White thermoplastic moulded housing.
        - .2 Suitable for back and side wiring.

- .3 Acceptable material:
  - .1 Single, CSA. 6-15R.
    - .1 Cooper #816BK.
    - .2 Hubbell #HBL56611.
    - .3 Leviton #5029-BL.
    - .4 Pass & Seymour #WR5662."
- .4 Reference Original Paragraph 2.2.5:
  - .1 Renumber this paragraph to be 2.2.6.
- .23 Reference Section 26 29 10 - Motor Switches and Starters:
  - .1 Reference Paragraph 2.2.1:
    - .1 Delete wording "Mounted in CSA type 1 enclosure" and replace with "Mounted in CSA type 1 or type 4x enclosure as required in Wash Bay 216".
    - .2 Insert new paragraph .4 as follows:  
"Manual switch in Gas Storage 217 and Gas Storage 218, 1 or 2 pole as required to be suitable for Class 1, Division 2 hazardous locations in accordance with CSA 22.1-15 Section 18."  
Note: Previous paragraph 2.2.4 becomes "paragraph 2.2.5".
  - .2 Reference Paragraph 2.4.4: Add the following as an approved equal:  
".5 Eaton #EDS series."
  - .3 Add new Paragraph "2.5 Spring Timer" as follows:  
"2.5 Spring Timer
    - .1 Spring timer mounted in single or multi gang outlet boxes completed with a brushed metal finish wall plate and a molded press-on type white knob.
    - .2 Spring timer to include a spiral time scale.
    - .3 Spring timer to be rated for 1Hp at 120V, 2Hp at 208V, 20A at 120V and 10A at 208V.
    - .4 Spring timer to be single pole double throw and be completed with a hold feature. Spring timer time cycle to be coordinated with Owner.
    - .5 Acceptable material:
      - .1 Intermatic #FF series."
- .24 Reference Section 27 10 05 - Structured Cabling for Communications Systems:
  - .1 Reference Paragraph 2.11.2:
    - .1 Delete paragraph as written and replace with following:  
"24 port patch panels and 48 port patch panels as indicated with T568-A-ISDN wiring assignment. Patch panels to be supplied fully populated with outlets."
- .25 Reference Section 28 13 00 - Access Control:
  - .1 Reference Paragraph 2.3: Delete paragraph in its entirety.
- .26 Reference Section 28 23 00.01 - Video Surveillance Network - PoE cameras
  - .1 Reference Paragraph 2.1.1.3.1:
    - .1 Delete wording "cameras #1-6, #8, #9, #13-22" and replace with "cameras #1-5, #8, #9, #14-23".
  - .2 Reference Paragraph 2.1.1.3.2:
    - .1 Delete wording "cameras #7, #10-12" and replace with "cameras #6, #7, #10-13, #24".

- .27 Reference Section 28 31 00 - Fire Detection and Alarm:
  - .1 Reference Paragraph 2.13.2: Delete paragraph in its entirety.

## 1.2 DRAWINGS

- .1 Reference Drawing C101 - Site Plan:
  - .1 Clarifications:
    - .1 When the new Queens County Depot building is fully completed, the existing temporary Scale House is to be decommissioned, services disconnected and reconnected to the permanent building, as part of this Contract. See electrical documents for electrical systems to be relocated and/or reconnected. The building is then to be removed and relocated to a site, as part of this Contract, to be determined by the Owner, but in the City of Charlottetown, and put on sleepers.
    - .2 Reinstate grade around removed Scale House to match adjacent grade and finishes. Complete sidewalk between new building and existing scale.
    - .3 Two (2) new water lines shall be 150mm and 50mm diameter for sprinkler and domestic water service, respectively.
    - .4 Reference Site Notes 2 & 3:
      - .1 Two (2) existing water mains are both 150mm diameter DR18 PVC pipes.
    - .5 Reference Site Note 5:
      - .1 Contractor to provide insulation over full length of storm pipe, as shown in details, due to lack of frost cover.
  - .2 Reference Legend, New Bollard:
    - .1 Revise total number of new bollards from "102" to read "110".
    - .2 Revise number of building exterior bollards from "56" to "64".
- .2 Reference Drawing S101 - Foundation & Ground Floor Plan North:
  - .1 Clarification:
    - .1 Slab on grade shall be 150mm thick from Grid 1 to 4. All detail callouts referencing detail 9/S101/S201 shall include "SIM" to represent similar detail with different slab thicknesses than what is depicted in the detail.
  - .2 Contractor to allow for sawcutting and joint filling, as per specifications, for all exterior concrete aprons spaced longitudinally at 7700mm c/c maximum. No transverse sawcuts are required.
- .3 Reference Drawing S102 - Foundation & Ground Floor Plan South & Mezzanine Framing Plan:
  - .1 Refer to SK-01, attached and forming part of this addendum, for eight (8) additional exterior bollards around the Oil Tank on East side of new building.
- .4 Reference Drawing S104 - Roof Framing Plan North:
  - .1 Reference Roof Loads:
    - .1 Add note: "Unfactored net uplift for joists = 1.2 kPa".
  - .2 Reference Structural Steel Notes 12 and 16:
    - .1 Clarification:
      - Joist shoe depths may be adjusted per manufacturer's recommendation.

Steel detailer shall adjust top of steel beams to account for altered shoe depths to maintain roof slopes. Steel beams and joists shall be sloped as indicated on plans.

- .3 Reference Structural Steel Notes:
  - .1 Add new Note 18 as follows:  
"18. Depth of steel joists may be adjusted to be shallower if recommended by manufacturer and design parameters are achieved."
  
- .5 Reference Drawing S201 - Concrete Sections & Details:
  - .1 Reference Detail 7:
    - .1 Clarification:  
There are (2) existing 20M dowels at 300mm c/c, not (1) as indicated in detail.
  - .2 Reference Detail 9:
    - .1 Clarification:  
For gridlines 2 and 3 in wash bay only, concrete foundation wall supporting blockwall shall extend 600mm above finished floor level.
  
- .6 Reference Drawing A101 - Floor Plan North:
  - .1 Reference External Wall Type Schedule:
    - .1 Reference EW4:
      - .1 Change R20 Fiberglas Batt Insulation to R20 Semi Rigid Insulation.
    - .2 Clarification:
      - .1 Liner panel to be installed vertically on 25mm furring bars, complete with J trim top cap.
    - .3 Delete all instances of the wording "Bakor Air Block 32" and replace all instances with wording "Bakor Air Block 32 or Air-Shield by W.R. Meadows".
  
- .7 Reference Drawing A102 - Floor Plan South:
  - .1 Reference Detail 2/A102: Delete the conveyor plan reference "Detail 5/A601" and replace with "Detail 6/A601".
  - .2 Reference Exterior Wall Type Schedule:
    - .1 Clarification:
      - .1 Liner panel to be installed vertically on 25mm furring bars, complete with J trim top cap.
    - .2 Delete all instances of the wording "Bakor Air Block 32" and replace all instances with wording "Bakor Air Block 32 or Air-Shield by W.R. Meadows".
  - .3 Reference addition of new Door:
    - .1 Add new Door #191.3 between Room #191 - Tire Change and Room #190 - Small Engine. The door is to swing into Room #190 - Small Engine . Center door 960mm north of north face of north wall of Room #189 - Waste Oil wall.
  
- .8 Reference Drawing A103 - Owner Supplied Equipment and Furnishings - North:
  - .1 Reference External Wall Type Schedule:
    - .1 Reference EW4:
      - .1 Change R20 Fiberglas Batt Insulation to R20 Semi Rigid Insulation.



- .9     Reference Drawing A304 - Wall Sections:  
.1     Reference Detail 1/A304: Change the thickness of sidewalk shown, delete wording "100mm" and replace with "125mm".
- .10    Reference Drawing A305 - Wall Sections:  
.1     Reference Details 1/A305 and 2/A305:  
.1     Delete the note "600 high, 50mm (total thickness) concrete faced rigid insulation."  
.2     Reference Detail 3/305:  
.1     Delete the note "Terminate insulation at u/s sidewalk".  
.2     Delete "5" in the detail title and replace with "Section: Exterior Wall".
- .11    Reference Drawing A709 - Doors, Windows, Frames and Details:  
.1     Reference Detail 12/A709:  
.1     Correction: Wordmark is Type 9 and Cast metal letters are Type 8, not Type 7 and not illuminated.  
.2     Reference Detail 13/A709:  
.1     Upper "Housekeeping" sign is Type 1.  
.2     "Fire Door..." sign is Type 5.  
.3     "Alarmed Exit Door..." sign is Type 4  
.4     Lamicoid Room Number, New Type 11 as follows:  
.1     Black plastic with white numbers.  
.2     3 mm thick laminated plastic, matte finish, with square corners, letters accurately aligned and machine engraved into core.  
.3     Sizes: 35 x 100mm sign size, 1 line, 20mm number height, 3 numbers per sign (match room numbering on drawings).  
.4     Locations: Top right corner of door frame as indicated on drawing.  
.5     Quantity: allow for one sign for each interior door (exclude doors to the exterior and overhead doors) plus 5% additional. Number should be located on the exterior of rooms and reflect the room being entered. For corridor doors, locate a sign on each side.
- .12    Reference Drawing M101 - Plumbing Floor Plan, North Side:  
.1     Add following Plumbing Drawing Note:  
.1     ".13 Provide two (2) fabricated trench drain tee's with Class F Reinforcement in Wash Bay."  
.2     Delete following drawing note (found in 2 locations):  
"Provide 800 X 800 Catch Pit with Trench Drain connections.", and replace with "Provide 1016 X 667 Catch Pit with Trench Drain connections. Model: Zurn Z874-21-IB or equal".
- .13    Reference Drawing M102 - Plumbing Floor Plan, South Side:  
.1     Delete the following drawing note: "Provide 600 X 600 Catch Pit with Trench Drain connections.", and replace with "Provide 1016 X 667 Catch Pit with Trench Drain connections. Model: Zurn Z874-21-IB or equal".
- .14    Reference Drawing M103 - Plumbing Schedules & Details:  
.1     Reference Plumbing Fixture Schedule:  
.1     Reference Row "S-1" and related Column "Trim":

- .1 Delete wording "Delta 28T3134" and replace with "Delta 26T3134".
- .2 Reference Row "TD" and related Column "Fixture":
  - .1 Delete TD Fixture as written and replace with: "Zurn Z874-12".
- .3 Reference Row "TD" and related Column "Notes":
  - .1 Delete TD Notes as written and replace with: "305 mm wide trench drain system with modular pre-sloped channels, reinforced edges and Class 'E' traffic-rated grate, according to "DIN EN 1433". Install per MFR's REQ'TS."
  
- .15 Reference Drawing M202 - Heating Floor Plan South Side:
  - .1 Reference Detail 1 Mechanical room:
    - .1 Swap location of H/C-1 and C/C-1.
  
- .16 Reference Drawing M203 - Heating Details:
  - .1 Reference Detail 5:
    - .1 Add Note: Vibration Isolation can be built into specified equipment.
  - .2 Reference Detail 21:
    - .1 Add Note: BacNET Fan coil controller to be provided by Division 25.
  
- .17 Reference Drawing M204 - Heating Details and Schedules:
  - .1 Reference Boiler Schedule:
    - .1 Reference "Comments" Column: Delete wording "Riello 50/2" and replace with "Riello 50/M Fully Modulating".
  - .2 Reference Buffer Tank Schedule:
    - .1 Reference Column "Volume Gal":
      - .1 Rename column to "Volume Litres".
      - .2 Clarification: Unit of measurement used is to be Litres.
    - .2 Add Schedule Note:
      - .1 Tank volume can change to 454 litres if a Digital Scroll option is selected by the chiller manufacturer.
  - .3 Reference Remote Condenser Chiller Schedule:
    - .1 Reference "Remarks" Column:
      - .1 Add following Note:  
"Vibration isolation shall be 50mm spring type or equivalent. Provide low sound attenuation package. Digital scroll compressor with a smaller buffer tank will be accepted as equivalent equipment."
  
- .18 Reference Drawing M302 - Ventilation Floor Plan South Side:
  - .1 Reference Detail 1 Mechanical room:
    - .1 Swap location of H/C-1 and C/C-1.
  
- .19 Reference Drawing M303 - Ventilation Details:
  - .1 Reference Detail 21:
    - .1 Swap location of H/C-1 and C/C-1.
  - .2 Reference Fan Coil Schedule:
    - .1 Reference "Comments" Column:
      - .1 Delete wording "BACnet" found in Comments column for each row in table.

- .2 Add to wording "Galvanized Drain Pan" to Comments column for each row in table.
  
- .20 Reference Drawing M304 - Ventilation Details and Schedules:
  - .1 Reference Exhaust Fan Schedule:
    - .1 Reference "Tag" Column:
      - .1 For Tag EF-10 to Tag EF-17 (inclusive), "Drive - Direct Drive" is an acceptable alternative.
    - .2 Reference "Manuf." Column:
      - .1 The following manufacturers are considered acceptable alternatives:
        - .1 Sourcetec;
        - .2 Twin City;
        - .3 S&P;
        - .4 PENN Barry;
        - .5 ACME.
  
- .21 Reference Drawing M401 - Sprinkler Floor Plan North Side:
  - .1 Reference Detail 1:
    - .1 In Room #210 Machine Shop, add one (1) additional wall mount fire extinguisher near Door 210.3.
    - .2 In Room #215 Welding Bay, add three (3) additional wall mount fire extinguishers. Located as follows: one (1) near Door 209.10, one (1) near Door 215.3 and one (1) near Door 210.3.
  
- .22 Reference Drawing M402 - Sprinkler Floor Plan South Side:
  - .1 Reference Detail 3:
    - .1 In Room #201 Parts Mezzanine, add two (2) additional wall mount fire extinguishers. Located as follows: one (1) on column at Grid 9U and one (1) near Door 201.1.
  
- .23 Reference Drawing E101 - Electrical Site Plan & Trench Details:
  - .1 Reference Detail 1/E101:
    - .1 Electrical work around outdoor diesel and gasoline fuel tank to be completed in accordance with CSA 22.1-15 Section 18 and Section 20 for Class 1, Division 2 hazardous location.
    - .2 Delete wording "Route cable multimode fiber from an existing media convertor located in the Main Electrical Room" and replace with "Route cables single mode fiber from an existing media convertor located in the Main Electrical Room".
    - .3 Two (2) pedestal mounted electrical vehicle charging stations to be supplied and installed by Others. Wire two (2) electrical vehicle charging stations with 4#8, 1#10 bond in 78mm underground conduit to two (2) 40A/2P circuit breakers located in positions 51, 53 and 50, 52 of Panelboard 'A2' located in Storage 119.
    - .4 Delete wording "Connect existing PoE CCTV camera with new CAT6 cable installed in existing underground conduit to existing CCTV NVR located in the Main Electrical Room" and replace with "Connect existing PoE CCTV camera with new single mode fiber installed in existing underground conduit to existing CCTV NVR located in the Main Electrical Building".

- .5 Trace out, locate, cut back and cap existing 35mm underground conduit routed from Main Electrical Building to existing Panelboard 'A1' located in temporary trailer below. Disconnect and turn over existing Panelboard 'A1', wiring devices, luminaires and all associated wiring and conduits from the existing temporary trailer to TIE. Existing temporary trailer to be relocated to a new location on the TIE Depot property. Coordinate equipment removal and exact location of temporary trailer with TIE.
  - .6 Trace out, cut back and cap below grade existing 53mm underground conduit routed from Main Electrical Building to existing wall mounted 24RU communication backboard installed in existing temporary trailer. Disconnect and relocate existing wall mounted 24RU communication backboard from existing temporary trailer to Main Electrical Building. Coordinate equipment relocation from existing temporary trailer with ITSS.
  - .7 Trace out, locate and cut back existing 53mm underground conduit routed from pole mounted PoE camera adjacent to gate controller to existing wall mounted 24RU communication backboard in existing temporary trailer. Disconnect and remove existing OM3 multimode fiber in existing 53mmC. Extend 53mmC and stub up 600mm above grade in Main Electrical Building adjacent to existing communication backboard. Connect pole mounted PoE camera adjacent to gate controller with a single mode fiber cable routed through existing 53mmC to rack mounted CCTV NVR in existing wall mounted 24RU communication backboard.
- .24 Reference Drawing E201 - North Floor Plan - Power:
- .1 Reference Detail 1/E201:
    - .1 In Vestibule 208, wire 20A duplex receptacle located on the south wall to a 20A/1P spare circuit breaker located in position 21 of Panelboard 'C3'.
    - .2 In Heavy Equipment Bays 209, remove indicator #27 from quad receptacle mounted to column adjacent to duplex receptacle with circuit designation 'C2-7' west of gridline H. Wire quad receptacle with 2#12, 1#14 bond in 21mmC routed through interior of column to a 15A/1P spare circuit breaker located in position 41 of Panelboard 'C2' located on the north wall.
    - .3 In Heavy Equipment Bays 209, remove indicator D15 from quad receptacle mounted to column adjacent to duplex receptacle with circuit designation 'C2-11' south gridline 5. Wire quad receptacle with 2#12, 1#14 bind in 21mmC routed through interior of column to a 15A/1P spare circuit breaker located in position 41 of Panelboard 'C2' located on the north wall.
    - .4 In Heavy Equipment Bays 209, wire one (1) CSA L6-30R receptacle located on the east wall adjacent to CSA 5-20R receptacle with circuit designation 'C2-6' north of gridline 5 to 30A/2P circuit breaker located in position 8 and 10 of Panelboard 'C2' and wire one (1) CSA L6-50R receptacle located on the east wall adjacent to CSA 5-20R receptacle with circuit designation 'C2-6' north of gridline 5 to 50A/2P circuit breaker located in positions 33 and 35 of Panelboard 'C2'.
    - .5 In Heavy Equipment Bays 209, 60 amp unfused disconnect switch wired to VFD controller to be CSA type 3R rated.
    - .6 In Heavy Equipment Bays 209, delete circuit designation 'C1-21,23,25' located above CSA type 3R rated 100A unfused disconnect switch wired to 'AHU-1B'.
    - .7 In Heavy Equipment Bays 209, add Note 14 to all manual motor starters

- wired to ceiling mounted unit heater UH-3.
- .8 In Heavy Equipment Bays 209, wire pump 'P-15' to a combination magnetic motor starter and not to a manual motor starter. Wire combination magnetic motor starter with 2#12, 1#14 bond in 21mmC to a 15A/1P spare circuit breaker located in position 43 of Panelboard 'C2'.
  - .9 In Heavy Equipment Bays 209, replace all manual motor switches connected to exhaust fans 'EF-10' to 'EF-15' (inclusive) with spring timers.
  - .10 In Machine Shop 210, delete note that reads:  
"Coordinate exact location of ladder tray with Mechanical Contactor and General Contractor on site. Minimum clearances around ladder tray are to be maintained from structural and mechanical equipment and services in accordance with CSA 22.1-15 Section 12 Article 12-220. Refer to detail 1/E606 for addition information."
  - .11 In Machine Shop 210, install one (1) line voltage thermostat located on the east wall adjacent to the hinge of the door and wire to 15A/2P circuit breaker located in positions 26 and 28 of Panelboard 'C4' with 2#12, 1#14 bond in 21mmC. Wire manual motor starter connected to UH-4 located in the south east corner to line voltage thermostat with 2#12, 1#14 bond in 21mmC.
  - .12 In Machine Shop 210, replace manual motor switch with circuit designation 'C4-25' connected to exhaust fan 'EF-17' with a spring timer.
  - .13 In Welding Bay 215, remove Note 12 adjacent to unit heater 'UH-4' located in the north east corner.
  - .14 In Wash Bay 216, 30 amp unfused disconnect switch wired to 'AHU-4' to be CSA type 3R rated.
  - .15 In Wash Bay 216, wire 20A weatherproof receptacle located at the north wall and exterior 20A weatherproof receptacle located at the exterior east wall to a 20A/1P circuit breaker located in position 66 of Panelboard 'C1'.
  - .16 In Wash Bay 216, delete "Note 13" adjacent to Nema 4x manual motor starter and replace with "Note 14".
  - .17 For Information Only:
    - .1 Refer to Detail 4/E606 for additional information on equipment C10, C12 and C13.
  - .18 Reference Note 11:
    - .1 Delete wording "Connect electrical trap seal primer with 2#12, 1/4 bond." and replace with "Connect electrical trap seal primer with 2#12, 1#14 bond."
- .25 Reference Drawing E202 - South Floor Plan - Power
- .1 Reference Detail 1/E202:
    - .1 In Vestibule 170, wire cabinet unit heater 'CUH-1' with 2#12, 1#14 bond in 21mmC to a line voltage thermostat located on the north wall. Wire line voltage thermostat with 2#12, 1#14 bond in 21mmC to 15A/1P circuit breaker located in position 6 of Panelboard 'A5' located in Corridor 168.
    - .2 In Corridor 173, wire fan coil 'FC-1' to manual motor starter with circuit designation 'B1-41,43' with 2#12, 1#14 bond in 21mmC through accessible ceiling space.
    - .3 In Light Fleet 188, install one (1) CSA L6-50R receptacle for portable welder and one (1) CSA L6-30R for Portable Extractor located on south wall adjacent to CSA 5-20R receptacle with circuit designation 'A3-15'. Wire CSA L6-50R receptacle to 50A/2P circuit breaker located in

- positions 33 and 35 of Panelboard 'A3' located on east wall and wire CSA L6-30R receptacle to 30A/2P circuit breaker located in positions 20 and 22 of Panelboard 'A3'.
- .4 In Light Fleet 188, relocate Note 31 adjacent to 30 amp unfused disconnect switch wired to VFD controller, to the manual motor starter with circuit designation 'A3-38' wired to unit heater 'UH-2'.
  - .5 In Light Fleet 188, 30 amp unfused disconnect switch wired to VFD controller to be CSA type 3R rated.
- .26 Reference Drawing E203 - Mezzanine & Enlargement Plans:
- .1 Reference Detail 1/E203:
    - .1 In Mechanical 172, wire line voltage thermostat located on east wall adjacent to boiler switch to branch circuit 'SDB-11,13' and not 'SDB-56,58'.
  - .2 Reference Detail 2/E203:
    - .1 In Parts Mezzanine 201, wire motorized damper 'MD-6' to manual motor starter with circuit designation 'A4-26'.
  - .3 Reference Detail 3/E203:
    - .1 In Electrical Room 151, delete wording "150KVA, 600-120/208V, three phase, four wire transformer 'TX-1' " and replace with "112.5KVA, 600-120/208V, three phase, four wire transformer 'TX-1' ".
    - .2 In Electrical Room 151, wire primary side of transformer 'TX-1' to switchboard 'SWB' with 3#1/0, 1#6 bond in 41mmC instead of 3#3/0, 1#4 bond in 53mmC.
    - .3 In Electrical Room 151, wire secondary side of transformer 'TX-1' to sub distribution Panelboard 'SDA' with 2 runs of 4#3/0, 1#4 bond in 53mmC instead of 2 runs of 4#300 MCM, 1#3 bond in 78mmC.
  - .4 Reference Detail 4/E203:
    - .1 For information only: Wire sub distribution panel 'SDC' to 'C' with 4#310, 1#14 bond in 53mm C.
- .27 Reference Drawing E302 - South Floor Plan - Lighting:
- .1 Reference Detail 1/E302:
    - .1 In Photocopy 118, replace three (3) Type 'D2', 6" downlights, with three (3) Type 'D1', 4" downlights.
    - .2 In WR 156, replace dual technology occupancy sensor wall switch with ceiling mounted dual technology occupancy sensor and wire to branch circuit 'A1-4g'.
    - .3 In Lunchroom 180, two (2) exit signs are to be connected to branch circuit 'B1-54' not branch circuit '1B-42' as indicated.
    - .4 In Parts 200, wall mounted Type 'C2' luminaire located at north wall below stairs to be mounted at 1700mm AFF. Coordinate exact location and mounting height on site prior to rough-in.
    - .5 In Handwash 206, wire recess mounted Type 'A1' troffer to lighting branch circuit 'C3-2e' and relocate single way switch with circuit designation '2g' located on south wall to east wall adjacent to four way switch with circuit designation 6a'. Single way switch to be wired to lighting branch circuit 'C3-2e'.
  - .2 Reference Detail 2/E302:
    - .1 In Parts Mezzanine 200, replace exterior wall pack Type 'H1' located above roof door between gridlines 9 and 11 with Type 'H2' mounted at 4653mm above finished grade. Coordinate exact location and mounting

height on site prior to rough-in.

- .28 Reference Drawing E601 - Power Single Line Diagram & Demand Calculation:
- .1 Reference Detail 1/E601:
    - .1 For information only:  
120/208V, three phase sub distribution Panelboard 'SDB' to be rated at 400A and 200A main breaker.
    - .2 Panelboard 'B1' to be complete with 125A main breaker and wired to sub distribution panel 'SDB' with 4#1, 1#6 bond in 41mmC.
    - .3 Panelboard 'B1' is a 54 circuit panelboard and not a 66 circuit panelboard.
    - .4 Wire ERV-1 to a 20A/3P circuit breaker located in distribution panel 'DPB' with 3#12, 1#14 bond in 21mmC and not 2#12, 1#14 bond in 21mmC.
    - .5 Wire DHWH-2 to a 15A/3P circuit breaker in distribution panel 'DPC' with 3#12, 1#14 bond in 21mmC and not 2#12, 1#14 bond in 21mmC.
- .29 Reference Drawing E602 - Power Schematics, Elevation & Schedules:
- .1 Reference Mechanical Equipment Schedule:
    - .1 Reference Equipment Type AHU-4:
      - .1 Reference Remarks Column: Delete wording "Provide 20A/3P HACR circuit breaker" and replace with "Provide 15A/3P HACR circuit breaker".
    - .2 Reference Equipment Type EF-8:
      - .1 Reference Remarks Column: Delete wording "wired to VFD with 3c#4 teck cable" and replace with "wired to VFD with 3c#6 teck cable".
- .30 Reference Drawing E603 - Lighting & Communications Details & Schematics:
- .1 Reference Detail 6/E603:
    - .1 Reference Television and AV outlet Detail Notes:
      - .1 Reference Indicator #5:
        - .1 Delete wording "black in color" and replace with "Aluminum powder coat finish".
        - .2 Delete 4-gang floor mounted part number "#Hubbell #24GTCVRALU" and replace with "#Hubbell #24GCCVRALU".

### 1.3 SCHEDULES

- .1 Reference Door and Frame Schedule:
- .1 Reference Door #171.1:
    - .1 Change door width from 914mm to 2x914mm.
  - .2 Add new Door #191.3:
    - .1 Type: D4
    - .2 Width: 914mm
    - .3 Height: 2134mm
    - .4 Thick: 44
    - .5 Door Material: HM
    - .6 Door Finish: Paint
    - .7 Frame Type: F4
    - .8 Frame Material: PS

.9 Frame Finish: PT

.2 Reference Room Finish Schedule:

.1 Clarification:

The acoustic ceiling types noted throughout the Room Finish Schedule are identified in the Legend on the last page of the Room Finish Schedule. Cross reference the types to Paragraph 2.1 of Section 09 51 00 - Acoustical Ceilings.

.3 Reference Luminaire Schedule:

.1 Reference Type 'D2':

.1 Replace acceptable luminaire "Halo #SMD6R12935WH + SMD6RTRMSN" with "Halo #LT560WH6935".

.2 Reference Type 'D3':

.1 Replace acceptable luminaire "Halo #SMD6R12940WH + SMD6RTRMSN" with "Halo #LT560WH6940".

.3 Reference Type 'H3':

.1 Append following wording to description:  
"Bullhorn to be completed with galvanized steel tube and to be mounted to square steel pole."

.4 Add the following as acceptable material:

.1 Lithonia #BS28 T20 TD20 DBL

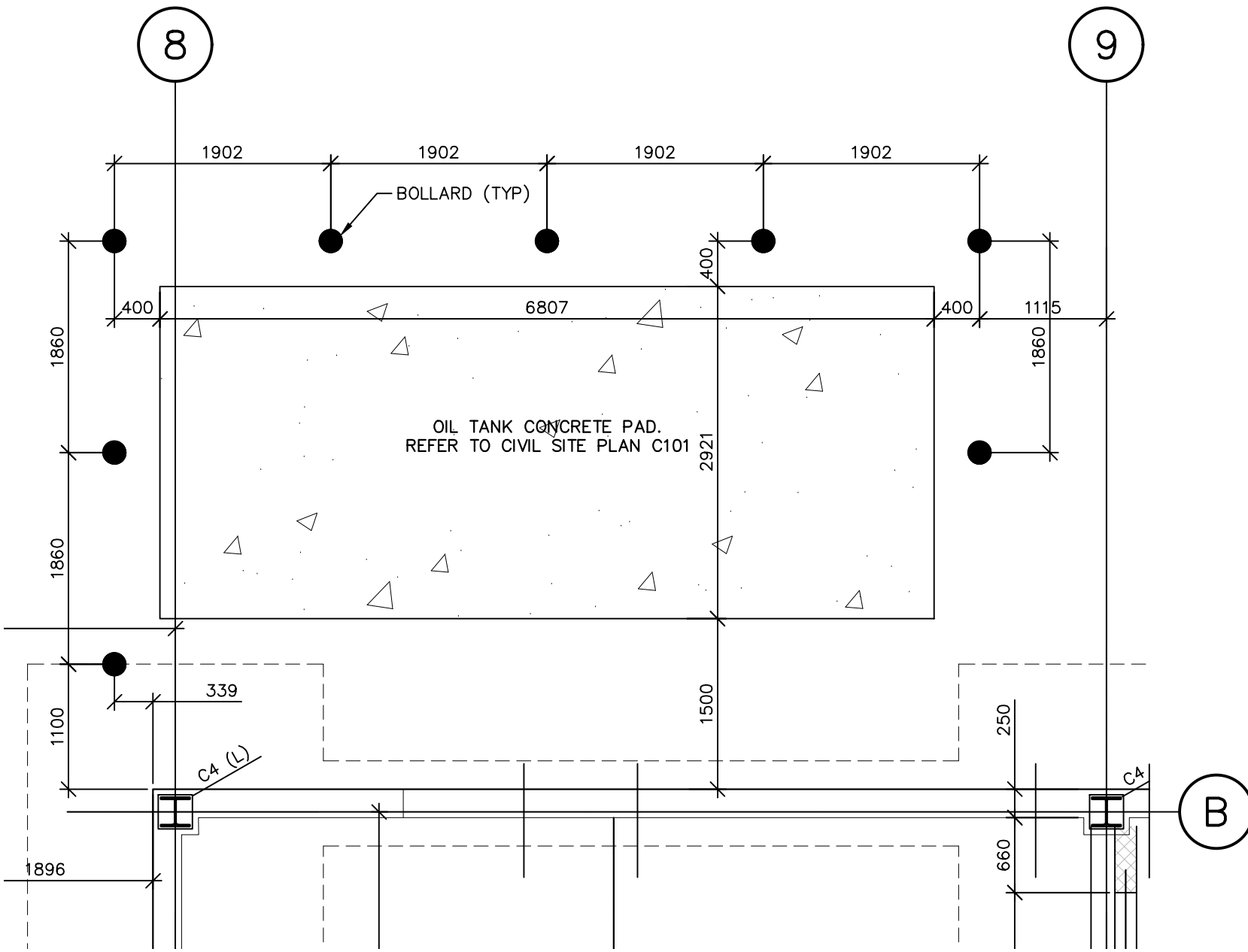
.2 Novapole #101-99-BHNT02-F1

.3 ELP #BS28 T20 TD20 DBL

.4 Aluminous #BH2180

**END OF SECTION**





1  
SK01 SK01

PLAN: OIL TANK PAD BOLLARDS (EAST)

1:50



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Charlottetown, P.E.I., Canada, CIA 7L3

DATE: January 11, 2019

DRAWN BY: SPM, E.I.T.

PROJECT NUMBER: 171048

DRAWING NUMBER: SK-01

REVISIONS:

CLIENT  
PEI Department  
of Transportation,  
Infrastructure & Energy

PROJECT TITLE  
Queen's County Depot  
Phase 5b

SHEET TITLE  
Bollard Plan  
at Oil Tank (East)  
Addenda #1

## **1 General**

### **1.1 SUMMARY**

- .1 Section includes:
  - .1 Mechanical and electrified door hardware for:
    - .1 Swinging doors.
  - .2 Electronic access control system components, including:
    - .1 Electronic access control devices.
  - .3 The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
- .2 Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:
  - .1 Windows
  - .2 Cabinets (casework), including locks in cabinets
  - .3 Signage
  - .4 Toilet accessories
  - .5 Overhead doors

### **1.2 REFERENCES**

- .1 Door and Hardware Institute - recommended locations for architectural hardware for standard steel doors and frames
- .2 Door and Hardware Institute - recommended locations for architectural hardware for flush wood doors
- .3 NFPA 80-standard for fire doors and windows, 1999 edition
- .4 Door and Hardware Institute - sequence format for hardware schedule
- .5 Door and Hardware Institute - key systems and nomenclature
- .6 Door and Hardware Institute - abbreviations and symbols used in architectural door and hardware schedules and specifications
- .7 Door and Hardware Institute – installation guide for doors and hardware

### **1.3 SUBMITTALS**

- .1 General:
  - .1 Submit in accordance with Conditions of Contract and Division 01 requirements.
  - .2 Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
  - .3 Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.
- .2 Action Submittals:
  - .1 Product Data: Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

- 
- .2 Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
    - .1 Wiring Diagrams: For power, signal, and control wiring and including:
      - .1 Details of interface of electrified door hardware and building safety and security systems.
      - .2 Schematic diagram of systems that interface with electrified door hardware.
      - .3 Point-to-point wiring.
      - .4 Risers.
  - .3 Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
    - .1 Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
  - .4 Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
    - .1 Door Index; include door number, heading number, and Architects hardware set number.
    - .2 Quantity, type, style, function, size, and finish of each hardware item.
    - .3 Name and manufacturer of each item.
    - .4 Fastenings and other pertinent information.
    - .5 Explanation of all abbreviations, symbols, and codes contained in schedule.
    - .6 Door and frame sizes and materials.
    - .7 Name and phone number for local manufacturer's representative for each product.
    - .8 Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
      - .1 Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.
  - .5 Key Schedule:
    - .1 After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
    - .2 Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    - .3 Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.

- .4 Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
- .5 Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
- .6 Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.
- .3 Informational Submittals:
  - .1 Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
  - .2 Product data for electrified door hardware:
    - .1 Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
  - .3 Certificates of Compliance:
    - .1 UL listings for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
  - .4 Warranty: Special warranty specified in this Section.
- .4 Closeout Submittals:
  - .1 Operations and Maintenance Data: Provide in accordance with Division 01 and include:
    - .1 Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
    - .2 Catalog pages for each product.
    - .3 Name, address, and phone number of local representative for each manufacturer.
    - .4 Final approved hardware schedule, edited to reflect conditions as-installed.
    - .5 Final keying schedule
    - .6 As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
    - .7 Copy of warranties including appropriate reference numbers for manufacturers to identify project.

#### 1.4 QUALITY ASSURANCE

- .1 Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
  - .1 Scheduling Responsibility: Preparation of door hardware and keying schedules.
  - .2 Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
- .2 Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
  - .1 For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
  - .2 Can provide installation and technical data to Architect and other related subcontractors.

- .3 Can inspect and verify components are in working order upon completion of installation.
- .4 Capable of producing wiring diagrams.
- .5 Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
- .3 Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
- .4 Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
- .5 Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
- .6 Keying Conference
  - .1 Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
    - .1 Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
    - .2 Preliminary key system schematic diagram.
    - .3 Requirements for key control system.
    - .4 Requirements for access control.
    - .5 Address for delivery of keys.
- .7 Pre-installation Conference
  - .1 Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - .2 Discuss electrical roughing-in for electrified door hardware.
  - .3 Review sequence of operation for each type of electrified door hardware.
  - .4 Review required testing, inspecting, and certifying procedures.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
  - .1 Deliver each article of hardware in manufacturer's original packaging.
- .2 Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- .3 Deliver keys and permanent cores to Owner by registered mail or overnight package service.

## 1.6 WARRANTY

- .1 Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
  - .1 Warranty Period: Beginning from date of Substantial Completion, for durations indicated.
  - .2 Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

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<b>Hardware Item</b>	<b>Length of Warranty</b>
Mortise Hinges	1 year
Continuous Hinges	Lifetime
Electrified Continuous	1 Year
Locks (ND Series)	10 years
Locks (Mortise)	3 years
Keypad Locks	1 year
Exit Devices	3 years
Door Closers - Mechanical	10 years
Door Closers – Mechanical 4040XP series	30 years
Door Closers – Mechanical 1460 series	30 years
Door Closers – Mechanical 4030 series	30 years
Door Operators - Electro Mechanical	2 years
Electric Hold Open Devices - Electro mechanical	2 years
Overhead Stops/holders	1 year
Floor/Wall stops	1 year
Electric Strikes	5 years
Key Switches/Power Supplies	1 year
Electromagnetic Locks	Lifetime

## **1.7 MAINTENANCE**

- .1 Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

## **2 PRODUCTS**

### **2.1 MANUFACTURERS**

- .1 Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.
- .2 Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect’s approval.

### **2.2 MATERIALS**

- .1 Fasteners
  - .1 Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
  - .2 Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
  - .3 Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
  - .4 Install hardware with fasteners provided by hardware manufacturer.

### **2.3 HINGES**

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: Ives 5BB series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate

- .3 **Approved Equal: McKinney**
- .2 Requirements:
  - .1 Provide hinges conforming to ANSI/BHMA A156.1.
  - .2 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
    - .1 Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
    - .2 Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
  - .3 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
    - .1 Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
    - .2 Interior: Heavy weight, steel, 5 inches (127 mm) high
  - .4 2 inches or thicker doors:
    - .1 Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
    - .2 Interior: Heavy weight, steel, 5 inches (127 mm) high
  - .5 Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
  - .6 Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
  - .7 Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
    - .1 Steel Hinges: Steel pins
    - .2 Non-Ferrous Hinges: Stainless steel pins
    - .3 Out-Swinging Exterior Doors: Non-removable pins
    - .4 Out-Swinging Interior Lockable Doors: Non-removable pins
    - .5 Interior Non-lockable Doors: Non-rising pins
  - .8 Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
  - .9 Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
  - .10 Provide mortar guard for each electrified hinge specified.
  - .11 Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

## 2.4 CONTINUOUS HINGES

- .1 Aluminum Geared
  - .1 Manufacturers:
    - .1 Scheduled Manufacturer: Ives.
    - .2 Acceptable Manufacturers: or an approved alternate
    - .3 **Approved Equal: McKinney**
  - .2 Requirements:
    - .1 Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.

- .2 Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- .3 Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- .4 Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- .5 On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- .6 Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
- .7 Install hinges with fasteners supplied by manufacturer.
- .8 Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

## 2.5 ELECTRIC POWER TRANSFER

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Von Duprin EPT-10.
  - .2 Acceptable Manufacturers: or an approved alternate
  - .3 **Approved Equal: Securitron.**
- .2 Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.
- .3 Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

## 2.6 FLUSH BOLTS

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate.
  - .3 **Approved Equal: Rockwood.**
- .2 Requirements:
  - .1 Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

## 2.7 SURFACE BOLTS

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate
  - .3 **Approved Equal: Rockwood.**
- .2 Requirements:
  - .1 Surface bolts to have 1" throw for maximum security with concealed mounting that prevents vandalism. Units to be constructed of heavy duty steel and cUL



listed up to three (3) hours when used on the inactive door of a pair up to 8' in height.

## 2.8 COORDINATORS

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate.
  - .3 **Approved Equal: Rockwood.**
- .2 Requirements:
  - .1 Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
  - .2 Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

## 2.9 MORTISE LOCKS

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: Schlage L9000 series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
  - .3 **Approved Equal: Securitron**
- .2 Requirements:
  - .1 Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3 hour fire doors.
  - .2 Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
  - .3 Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
  - .4 Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
  - .5 Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
  - .6 Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.

## 2.10 CYLINDRICAL LOCKS – GRADE 1

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: Schlage ND series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
  - .3 **Approved Equal: Sargent.**
- .2 Requirements:
  - .1 Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
  - .2 Cylinders: Refer to "KEYING" article, herein.
  - .3 Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.

- .4 Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
- .5 Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
- .6 Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
- .7 Provide electrified options as scheduled in the hardware sets.
- .8 Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
  - .1 Lever Design: Schlage RHO

## 2.11 EXIT DEVICES

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: Von Duprin 99/33A, 98/35A series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
  - .3 **Approved Equal: Sargent.**
- .2 Requirements:
  - .1 Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
  - .2 Cylinders: Refer to “KEYING” article, herein.
  - .3 Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
  - .4 Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
  - .5 Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
  - .6 Provide flush end caps for exit devices.
  - .7 Provide exit devices with manufacturer’s approved strikes.
  - .8 Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
  - .9 Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
  - .10 Provide cylinder or hex-key dogging as specified at non fire-rated openings.
  - .11 Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
  - .12 Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
  - .13 Provide electrified options as scheduled.

## 2.12 MAGNETIC LOCKS

- .1 Magnetic Locks – Delayed Egress System:
  - .1 Manufacturers and Products:

- .1 Scheduled Manufacturer and Product: Schlage M490DE series.
- .2 Approved Manufacturers and Products: or an approved alternate
- .2 Requirements:
  - .1 Provide movement exit delay system certified to meet UL1034, UL10C, and the requirements of UL294 special locking arrangement including BOCA.
  - .2 Provide movement exit delay system that meets NFPA 101 Life Safety Code governing delayed egress, IBC and/or other local and national fire codes acceptable to authority having jurisdiction as required.
  - .3 Provide magnetic locks conforming to ANSI/BHMA A156.23 classification criteria including minimum holding force of 1000 LBF.
  - .4 Provide magnetic locks equipped with SPDT Magnetic Bond Sensing device to monitor whether sufficient magnetic holding force exists to ensure adequate locking and SPDT Door Status Monitor device to monitor whether door is open or closed. Provide bond sensors fully concealed within electromagnet to resist tampering or damage.
  - .5 Provide tamper proof fasteners, mounting brackets, and spacer bars required for mounting and details.
  - .6 Provide power supply recommended and approved by manufacturer of delayed egress magnetic locks.
  - .7 Where exit delay systems are scheduled, provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of exit delay system for each individual leaf. Switches control both doors simultaneously at pairs. Locate controls as directed by Architect.

### 2.13 POWER SUPPLIES

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: Schlage / Von Duprin PS900 series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
  - .3 **Approved Equal(s): McKinney; Securitron.**
- .2 Requirements:
  - .1 Provide power supplies approved by manufacturer of supplied electrified hardware.
  - .2 Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
  - .3 Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
  - .4 Provide power supplies with the following features:
    - .1 12/24 VDC Output, field selectable.
    - .2 Class 2 Rated power limited output.
    - .3 Universal 120-240 VAC input.
    - .4 Low voltage DC, regulated and filtered.
    - .5 Polarized connector for distribution boards.
    - .6 Fused primary input.
    - .7 AC input and DC output monitoring circuit w/LED indicators.
    - .8 Cover mounted AC Input indication.
    - .9 Tested and certified to meet UL294.

- .10 NEMA 1 enclosure.
- .11 Hinged cover w/lock down screws.
  - .1 High voltage protective cover.

#### **2.14 CYLINDERS**

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Sargent
- .2 Requirements:
  - .1 Provide cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

#### **2.15 KEYING**

- .1 Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- .2 Provide cylinders/cores keyed into Owner's existing factory registered keying system.
- .3 Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- .4 Requirements:
  - .1 Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
    - .1 Master Keying system as directed by the Owner.
  - .2 Quantity: Furnish in the following quantities.
    - .1 Change (Day) Keys: 3 per cylinder/core.
    - .2 Master Keys: 6.

#### **2.16 KEY CONTROL SYSTEM**

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Telkee.
  - .2 Acceptable Manufacturers:
- .2 Requirements:
  - .1 Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
    - .1 Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
    - .2 Provide hinged-panel type cabinet for wall mounting.

#### **2.17 DOOR CLOSERS**

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: LCN 4040XP series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
- .2 Requirements:
  - .1 Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.

- .2 Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
- .3 Cylinder Body: 1-1/2 inch (38 mm) diameter with 3/4 inch (19 mm) diameter double heat-treated pinion journal.
- .4 Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- .5 Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
- .6 Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
- .7 Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
- .8 Pressure Relief Valve (PRV) Technology: Not permitted.
- .9 Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
- .10 Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

## 2.18 DOOR CLOSERS

- .1 Manufacturers and Products:
  - .1 Scheduled Manufacturer and Product: LCN 1460 series.
  - .2 Acceptable Manufacturers and Products: or an approved alternate
  - .3 **Approved Equal: Sargent.**
- .2 Requirements:
  - .1 Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory.
  - .2 Provide door closers with fully hydraulic, full rack and pinion action cast iron cylinder.
  - .3 Closer Body: 1-1/4 inch (32 mm) diameter, with 5/8 inch (16 mm) diameter heat-treated pinion journal.
  - .4 Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
  - .5 Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
  - .6 Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
  - .7 Pressure Relief Valve (PRV) Technology: Not permitted.
  - .8 Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

## 2.19 ELECTRO-MECHANICAL AUTOMATIC OPERATORS SUPPLIED AND INSTALLED

- .1 Manufacturers and Products:

- .1 Scheduled Manufacturer and Product: LCN Senior Swing.
- .2 Acceptable Manufacturers and Products: or an approved alternate series.
- .3 **Approved Equal: BESAM, Sargent**
- .2 Requirements:
  - .1 Provide low energy automatic operator units that are electro-mechanical design complying with ANSI/BHMA A156.19.
    - .1 Opening: Powered by DC motor working through reduction gears.
    - .2 Closing: Spring force.
    - .3 Manual, hydraulic, or chain drive closers: Not permitted.
    - .4 Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
    - .5 Cover: Aluminum.
  - .2 Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
  - .3 Provide drop plates, brackets, or adapters for arms as required to suit details.
  - .4 Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.
  - .5 Provide key switches, with LED's, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
  - .6 Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
  - .7 Provide units with inputs for smoke evacuation doors, where specified, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset, presence detector input, which prevents closed door from opening or door that is fully opened from closing, hold open toggle input, which allows remote activation for indefinite hold open and close second time input is activated, vestibule inputs, which allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

## 2.20 DOOR TRIM

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate.
  - .3 **Approved Equal: Rockwood**
- .2 Requirements:
  - .1 Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.

- .2 Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
- .3 Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
- .4 Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
- .5 Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
- .6 Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
- .7 Provide wire pulls of solid bar stock, diameter and length as scheduled.
- .8 Provide decorative pulls as scheduled. Where required, mount back to back with pull.

## 2.21 PROTECTION PLATES

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate.
- .2 Requirements:
  - .1 Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
  - .2 Sizes of plates:
    - .1 Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
    - .2 Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
    - .3 Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

## 2.22 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

- .1 Manufacturers:
  - .1 Scheduled Manufacturers: Glynn-Johnson.
  - .2 Acceptable Manufacturers: or an approved alternate requirements:
  - .3 Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
  - .4 Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
  - .5 Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
  - .6 Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.
  - .7 **Approved Equal: Rixson, Sargent**

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## 2.23 DOOR STOPS AND HOLDERS

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: Ives.
  - .2 Acceptable Manufacturers: or an approved alternate
- .2 Provide door stops at each door leaf:
  - .1 Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
  - .2 Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
  - .3 Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.
  - .4 **Approved Equal: Rockwood; Standard Metal.**

## 2.24 THRESHOLDS, SEALS, DOOR SWEEPS AND GASKETING

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: KN Crowder
  - .2 Acceptable Manufacturers: or an approved alternate.
- .2 Requirements:
  - .1 Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
  - .2 Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
  - .3 Size of thresholds:
    - .1 Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
    - .2 Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
  - .4 Provide door sweeps, seals and astragals only of type where resilient or flexible seal strip is easily replaceable and readily available.

## 2.25 MAGNETIC HOLDERS

- .1 Manufacturers:
  - .1 Scheduled Manufacturer: LCN.
  - .2 Acceptable Manufacturers: or an approved alternate
  - .3 **Approved Equal: Sargent.**
- .2 Requirements:
  - .1 Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

## 2.26 FINISHES

- .1 Finish: BHMA 626/652 (US26D); except:
  - .1 Hinges at Exterior Doors: BHMA 630 (US32D)
  - .2 Continuous Hinges: BHMA 628 (US28)
  - .3 Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)



- .4 Protection Plates: BHMA 630 (US32D)
- .5 Overhead Stops and Holders: BHMA 626,630 (26D, US32D)
- .6 Door Closers: Powder Coat to Match
- .7 Wall Stops: BHMA 630 (US32D)
- .8 Weatherstripping: Clear Anodized Aluminum
- .9 Thresholds: Mill Finish Aluminum

### 3 Execution

#### 3.1 EXAMINATION

- .1 Ensure that doors and frames are prepared and reinforced to receive finish hardware prior to installation.
- .2 Ensure that door frames and finished floor are plumb and level to permit proper engagement and operation of hardware.
- .3 Submit in writing a list of deficiencies determined as part of inspection required in 3.1.1 and 3.1.2 to supervising consultant prior to installation of finished hardware. Correct door frame installation before proceeding with finish hardware installation.

#### 3.2 INSTALLATION

- .1 Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
- .2 Standard Steel Doors and Frames: ANSI/SDI A250.8.
- .3 Custom Steel Doors and Frames: HMMA 831.
- .4 Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- .5 Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- .6 Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- .7 Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- .8 Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- .9 Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- .10 Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- .11 Wiring: Coordinate with Division 26, ELECTRICAL sections for:
  - .1 Conduit, junction boxes and wire pulls.
  - .2 Connections to and from power supplies to electrified hardware.
  - .3 Connections to fire/smoke alarm system and smoke evacuation system.
  - .4 Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
  - .5 Testing and labeling wires with Architect's opening number.
- .12 Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

- .13 Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- .14 Closer/holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- .15 Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
- .16 Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- .17 Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- .18 Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- .19 Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- .20 Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

### 3.3 CLEANING AND PROTECTION

- .1 Clean adjacent surfaces soiled by door hardware installation.
- .2 Clean operating items as necessary to restore proper function and finish.
- .3 Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

### 3.4 DOOR HARDWARE SCHEDULE

- .1 Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

- .2 Hardware Group No. 01

For use on mark/door #(s):

101.1            153.1

1	EA	CONT. HINGE	112XY EPT	628	IVE
		APPROVED EQUAL:	MCK12HD PT 628		
1	EA	POWER TRANSFER	EPT10	689	VON
		APPROVED EQUAL:	CEPT		
1	EA	TRONIC ACCESSORY	CX-33		UNK
1	EA	PANIC HARDWARE	RX-QEL-35A-NL-OP-388CON	626	VON
		APPROVED EQUAL:	55 56 8504 862 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	CYLINDER	21-41 CAM TO SUIT KEY SWITCH	626	SAR
1	EA	90 DEG OFFSET PULL	8190HD 255MM	630	IVE
		APPROVED EQUAL:	BF158 HD 630		
1	EA	OH STOP	100S	630	GLY
		APPROVED EQUAL:	1 SERIES STOP 630		
1	EA	AUTO OPERATOR	9542 MS	ANCLR	LCN
		APPROVED EQUAL:	SW 200 I		
2	EA	ACTUATOR	8310-853	630	LCN
		APPROVED EQUAL:	PBSLL		
1	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		
1	EA	KEY SWITCH	653-04	626	SCE
		APPROVED EQUAL:	MK		

1	EA	POWER SUPPLY	PS904 BBK 900-2RS-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READERS, CARDS AND DOOR CONTACT BY ELECTRICAL
- WEATHERSTRIPPING BY DOOR SUPPLIER
- KEYED INTO AN EXISTING SYSTEM
- INTERCOM/CAMERA FEED TO RECEPTION, DISPATCH, PARTS COUNTER. RELEASE FOR LATCH RETRACTION AND CAMERA MONITOR AT THOSE LOCATIONS.
- FIRE ALARM, WIRE, CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION OF CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL.
- SUPPLY OF LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL

MODE OF OPERATION:

- DURING WORK HOURS DOORS ARE ELECTRICALLY UNLOCKED AND OPERATOR IS TURNED ON BY KEY SWITCH. DURING DAY TIME HOURS A PERSON CAN ENTER THRU THE DOOR BY PULLING ON THE DOOR HANDLE OR BY PRESSING THE ACTUATOR BUTTON WHICH WILL AUTOMATICALLY OPEN THE DOOR FOR A PERIOD OF TIME.
- AFTER HOURS DOORS ARE ELECTRICALLY LOCKED AND ARE SECURED AND OPERATOR IS TURNED OFF BY KEY SWITCH. A PERSON CAN ENTER ONLY BY PRESENTING THEIR CREDENTIAL TO THE CARD READER WHICH WILL TRONICALLY RETRACT THE LATCH ON THE EXIT DEVICE AND ALLOW THE PERSON TO PULL THE DOOR OPEN. ONCE PERSON IS THRU THE DOOR THEY WILL AUTOMATICALLY CLOSE AND ARE SECURED.
- FREE EGRESS AT ALL TIMES

.3 Hardware Group No. 02  
For use on mark/door #(s):  
102.1

1	EA	CONT. HINGE	112XY	628	IVE
		APPROVED EQUAL:	MCK12HD 628		
1	EA	PUSH/PULL BAR	9190HD-255MM-NO	630	IVE
		APPROVED EQUAL:	BF158 X 47 HD		
1	EA	OH STOP	100S	630	GLY
		APPROVED EQUAL:	1 SERIES STOP 630		
1	EA	AUTO OPERATOR	9542 MS	ANCLR	LCN
		APPROVED EQUAL:	SW200 I		
2	EA	ACTUATOR	8310-853	630	LCN
		APPROVED EQUAL:	PBSLL		
1	EA	DOOR SWEEP	W-24S x by door width	628	KNC

- DOORS ARE NOT LOCKABLE

MODE OF OPERATION:

- TO ENTER/EXIT THRU DOOR A PERSON CAN PULL/PUSH ON THE DOOR HANDLE OR BY PRESSING THE ACTUATOR BUTTON WHICH WILL AUTOMATICALLY OPEN THE DOORS FOR A PERIOD OF TIME.

.4 Hardware Group No. 03  
For use on mark/door #(s):  
104.1            106.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	EA	DOOR BOTTOM	CT-50 x door width	628	KNC

.5 Hardware Group No. 04  
For use on mark/door #(s):  
105.1

4	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	DUTCH DOOR BOLT	054	626	IVE
		APPROVED EQUAL:	Rockwood		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
2	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
		•	DUTCH DOOR		

.6 Hardware Group No. 05  
For use on mark/door #(s):

107.1	108.1	109.1	110.1	111.1	112.1
113.1	144.1	146.1	147.1	157.1	186.1
197.1	207.1	211.1	213.1		
3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.7 Hardware Group No. 05A  
For use on mark/door #(s):  
181.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.8 Hardware Group No. 06  
For use on mark/door #(s):

119.1	151.1	151A.1	154.1	158.1	159.1
172.2	184.1	198.1	214A.1		
3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	STOREROOM LOCK	ND80LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G04 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

- ALWAYS NEED A KEY TO GET IN

.9 Hardware Group No. 06A  
For use on mark/door #(s):  
162.1

6	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
2	EA	FLUSHBOLT	FB458	626	IVE
		APPROVED EQUAL:	555 626, F65UL 626		
	EA	DUSTPROOF STRIKE	DP2	626	IVE
		APPROVED EQUAL:	555 626, F68 626		
1	EA	STOREROOM LOCK	ND80LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G04 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
2	EA	SURFACE CLOSER	1461 HCUSH	689	LCN
		APPROVED EQUAL:	1431 PSH EN		
2	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.10 Hardware Group No. 06B  
For use on mark/door #(s):  
160.1            214.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	STOREROOM LOCK	ND80LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G04 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height and sill sweep	628	KNC

- ALWAYS NEED A KEY TO GET IN

.11 Hardware Group No. 07  
For use on mark/door #(s):  
137.1

2	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	TRIC HINGE	5BB1 114X102MM CON TW8M	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652 QC8		
1	EA	PANIC HARDWARE	RX-QEL-98-L-NL-06	630	VON
		APPROVED EQUAL:	55 56 8804 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	FIRE/LIFE WALL MAG	SEM7840	689	LCN
		APPROVED EQUAL:	1561		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		

1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL
- MAGNETIC HOLD OPEN RELEASED UPON FIRE ALARM
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION TO THE CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL

MODE OF OPERATION:

- DOORS ARE TYPICALLY HELD OPEN BY THE WALL MAGNET. WHEN DOOR IS CLOSED ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON EXIT DEVICE AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES
- THE MAGNETIC HOLD OPEN WILL RELEASE ON SCHEDULE. REFER TO DRAWING E605.

.12 Hardware Group No. 08

For use on mark/door #(s):

121.1            163.1            182.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PANIC HARDWARE	98-L-NL-06	630	VON
		APPROVED EQUAL:	8804 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	ELECTRIC STRIKE	6300 FSE	630	VON
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-21 X BY DOOR WIDTH X (2) DOOR HEIGHT	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	POWER SUPPLY	PS902 900-2RS-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION TO THE CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL

MODE OF OPERATION:

- ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON EXIT DEVICE AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.13 Hardware Group No. 08A

For use on mark/door #(s):

194.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PANIC HARDWARE	98-L-NL-06	630	VON
		APPROVED EQUAL:	8804 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	ELECTRIC STRIKE	6300 FSE	630	VON
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

1	SET	WEATHERSTRIP	W-21 X BY DOOR WIDTH X (2) DOOR HEIGHT	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	POWER SUPPLY	PS902 900-2RS-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION TO THE CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL

MODE OF OPERATION:

- ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON EXIT DEVICE AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.14 Hardware Group No. 09

For use on mark/door #(s):  
136.1

2	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	ELECTRIC HINGE	5BB1 114X102MM CON TW8M	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652 QC8		
1	EA	STOREROOM LOCK	ND80LDSAREU RHO RX	626	SCH
		APPROVED EQUAL:	RX 10G71 LL 24V 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	FIRE/LIFE WALL MAG	SEM7840	689	LCN
		APPROVED EQUAL:	1561		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		
1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL

MODE OF OPERATION:

- DOORS ARE TYPICALLY HELD OPEN BY THE WALL MAGNET. WHEN DOOR IS CLOSED ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON LOCK AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.15 Hardware Group No. 10

For use on mark/door #(s):  
145.1            174.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.16 Hardware Group No. 10A

For use on mark/door #(s):

180.1	180.2	190.1	206.1		
3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.17 Hardware Group No. 10B

For use on mark/door #(s):

199.2					
3	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.18 Hardware Group No. 11

For use on mark/door #(s):

148.1					
2	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	ELECTRIC HINGE	5BB1 114X102MM CON TW8M	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652 QC8		
1	EA	STOREROOM LOCK	ND80LDSAREU RHO RX	626	SCH
		APPROVED EQUAL:	RX 10G71 LL 24V 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		
1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION OF CARD SYSTEM AND DOOR HARDWARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT IS BY ELECTRICAL

MODE OF OPERATION:

- DOOR IS CLOSED AND SECURED AT ALL TIMES ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON LOCK AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES
- THE RELEASE OF ELECTRONIC ACCESS CONTROL DEVICES WILL OCCUR BY PUSHBUTTON LOCATED IN 146 DISPATCH. REFER TO DRAWING E605.



.19 Hardware Group No. 11A  
For use on mark/door #(s):  
195.1

3	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X102MM 652		
1	EA	STOREROOM LOCK	ND80LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G04 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	ELECTRIC STRIKE	6210 FSE	630	VON
		APPROVED EQUAL:	1006 J FAIL SECURE 630		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	SET	WEATHERSTRIP	W-21 X BY DOOR WIDTH X (2) DOOR HEIGHT	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	POWER SUPPLY	PS902 900-2RS-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION OF CARD SYSTEM AND DOOR HARDWARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT IS BY ELECTRICAL

MODE OF OPERATION:

- DOOR IS CLOSED AND SECURED AT ALL TIMES ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON LOCK AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.20 Hardware Group No. 12  
For use on mark/door #(s):  
149.1                      150.1                      163.2                      169.1                      196.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X114MM 652		
1	EA	CLASSROOM LOCK	ND70LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G37 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC

- DOOR CAN BE LOCKED FROM EXTERIOR SIDE OF DOOR ONLY
- FREE EGRESS AT ALL TIMES

.21 Hardware Group No. 12A  
For use on mark/door #(s):  
204.2

3	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X114MM 652		
1	EA	CLASSROOM LOCK	ND70LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G37 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
<ul style="list-style-type: none"> <li>• DOOR CAN BE LOCKED FROM EXTERIOR SIDE OF DOOR ONLY</li> <li>• FREE EGRESS AT ALL TIMES</li> </ul>					

.22 Hardware Group No. 13

For use on mark/door #(s):  
161.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PANIC HARDWARE	98-L-NL-06	630	VON
		APPROVED EQUAL:	8804 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	ELECTRIC STRIKE	6300 FSE	630	VON
1	EA	DELAYED EGRESS MAG	M490DE	628	SCE
		APPROVED EQUAL:	IMXDA		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	FIRE/LIFE WALL MAG	SEM7840	689	LCN
		APPROVED EQUAL:	1561		
1	SET	WEATHERSTRIP	W-21 X BY DOOR WIDTH X (2) DOOR HEIGHT	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	KEY SWITCH	653-04	626	SCE
		APPROVED EQUAL:	MK		
1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READERS AND DOOR CONTACT BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL
- MAGNETIC HOLD OPEN RELEASED UPON FIRE ALARM
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION TO THE CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL
- MAG LOCK TO RELEASE ON FIRE ALARM

MODE OF OPERATION:

- DOORS ARE TYPICALLY HELD OPEN BY THE WALL MAGNET. WHEN DOOR IS CLOSED ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON EXIT DEVICE AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.23 Hardware Group No. 14

For use on mark/door #(s):  
152.1

1	EA	CONT. HINGE	112XY	628	IVE
		APPROVED EQUAL:	MCK12HD 628		
1	EA	PUSH/PULL BAR	9190HD-255MM-NO	630	IVE
		APPROVED EQUAL:	BF158 X 47		
1	EA	AUTO OPERATOR	9542 MS	ANCLR	LCN
		APPROVED EQUAL:	SW200 I		
2	EA	ACTUATOR	8310-853	630	LCN
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

- DOORS ARE NOT LOCKABLE

MODE OF OPERATION

- TO ENTER/EXIT THRU DOOR A PERSON CAN PULL/PUSH ON THE DOOR HANDLE OR BY PRESSING THE ACTUATOR BUTTON WHICH WILL AUTOMATICALLY OPEN THE DOORS FOR A PERIOD OF TIME.

.24 Hardware Group No. 15

For use on mark/door #(s):  
152.2

2	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	ELECTRIC HINGE	5BB1 114X102MM CON TW8M	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652 QC8		
1	EA	STOREROOM LOCK	ND80LDSAREL RHO RX	626	SCH
		APPROVED EQUAL:	RX 10G71 LL 24V 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	AUTO OPERATOR	9542 MS	ANCL R	LCN
		APPROVED EQUAL:	SW200 I		
2	EA	ACTUATOR	8310-853	630	LCN
		APPROVED EQUAL:	PBSLL		
1	EA	FIRE/LIFE WALL MAG	SEM7840	689	LCN
		APPROVED EQUAL:	1561		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		
1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION OF CARD SYSTEM AND DOOR HARDWARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT IS BY ELECTRICAL
- MAGNETIC HOLD OPEN RELEASED UPON FIRE ALARM. ELECTRICAL LOCK TO UNLOCK ON FIRE ALARM

MODE OF OPERATION

- DOORS ARE TYPICALLY HELD OPEN BY THE WALL MAGNET. WHEN DOOR IS CLOSED ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON LOCK AND ALLOW THE DOOR TO BE PULLED OPEN. A PERSON CAN ALSO PRESENT PRESS THE ACTUATOR BUTTON PRESENT THEIR CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON LOCK AND ALLOW THE DOOR TO AUTOMATICALLY OPEN
- FREE EGRESS AT ALL TIMES

.25 Hardware Group No. 16

For use on mark/door #(s):  
155.1            156.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	HOSPITAL PRIVACY	ND44S RHO	626	SCH
		APPROVED EQUAL:	10U68 LL 626		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.26 Hardware Group No. 17

For use on mark/door #(s):  
165.1            166.1            175.1            179.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		

1	EA	PUSH PLATE	8200 100X405MM CFT	630	IVE
		APPROVED EQUAL:	70 100X405MM CFT 630		
1	EA	PULL PLATE	8302 150MM 150X405MM CFT	630	IVE
		APPROVED EQUAL:	106 X 70B 630		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

- DOORS ARE NOT LOCKABLE

.27 Hardware Group No. 18

For use on mark/door #(s):

170.1          192.1

2	EA	HINGE	5BB1 114X102MM NRP	630	IVE
		APPROVED EQUAL:	TA 2314 114X102MM 630		
1	EA	ELECTRIC HINGE	5BB1 114X102MM CON TW8M	630	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652 QC8		
1	EA	PANIC HARDWARE	RX-QEL-98-L-NL-06	630	VON
		APPROVED EQUAL:	55 56 8804 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	OH STOP	90S	630	GLY
		APPROVED EQUAL:	9 SERIES STOP 630		
1	EA	SURFACE CLOSER	4040XP LONG	689	LCN
		APPROVED EQUAL:	351 OZ EN		
1	EA	MTG PLT	4040XP-18G	689	LCN
		APPROVED EQUAL:	351B EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	DOOR SWEEP	W-24Sx by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC
1	EA	WIRE HARNESS	CON-192P		SCH
		APPROVED EQUAL:	QC1500P		
1	EA	WIRE HARNESS	CON-32P		SCH
		APPROVED EQUAL:	QC206P		
1	EA	POWER SUPPLY	PS904 BBK 900-4R-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- CARD READER AND DOOR CONTACT BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL
- INTERCOM/CAMERA FEED TO RECEPTION, DISPATCH, PARTS COUNTER. RELEASE FOR LATCH RETRACTION AND CAMERA MONITOR AT THOSE LOCATIONS
- POWER, FIRE ALARM, WIRE CONDUIT AND CONNECTION TO THE POWER SUPPLY AND CONNECTION TO THE CARD SYSTEM AND DOOR HARDWARE ARE BY ELECTRICAL
- SUPPLY OF ALL LOW VOLTAGE WIRE AND CONDUIT BY ELECTRICAL

MODE OF OPERATION

- DOORS ARE LOCKED AND SECURED AT ALL TIMES. ONLY ENTRY THRU DOORS IS BY KEY OR BY PRESENTING CREDENTIAL TO THE CARD READER WHICH WILL RETRACT LATCH ON EXIT DEVICE AND ALLOW THE DOOR TO BE PULLED OPEN
- FREE EGRESS AT ALL TIMES

.28 Hardware Group No. 19

For use on mark/door #(s):

171.1

6	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
		APPROVED EQUAL:	555 626, F65UL 626		
1	EA	DUST PROOF STRIKE	DP2	626	IVE
		APPROVED EQUAL:	570 626, F68 626		

1	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
2	EA	OH STOP & HOLDER	450H	652	GLY
		APPROVED EQUAL:	55 HOLD OPEN 630		
1	EA	ASTRAGAL	W-25 84"	628	KNC

- DOORS ARE NOT LOCKABLE

.29 Hardware Group No. 20

For use on mark/door #(s):

172.1

6	EA	HINGE	5BB1 114X102MM NRP	630	IVE
		APPROVED EQUAL:	TA 2314 114X102MM NRP 630		
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
		APPROVED EQUAL:	555 626, F65UL 626		
1	EA	DUST PROOF STRIKE	DP2	626	IVE
		APPROVED EQUAL:	570 626, F68 626		
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
		APPROVED EQUAL:	8204 LNL 626		
1	EA	CYLINDER	21-41	626	SAR
1	EA	COORDINATOR	COR X FL	US26	IVE
		APPROVED EQUAL:	1600 SERIES	D	
2	EA	SURFACE CLOSER	4040XP HCUSH	689	LCN
		APPROVED EQUAL:	351 PSH EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	ASTRAGAL	W-8 x door height	627	KNC
2	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR CONTACT BY OTHERS
- DOORS ARE ALWAYS LOCKED ALWAYS NEED A KEY TO GET IN

.30 Hardware Group No. 21

For use on mark/door #(s):

173.1

183.1

209.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	PANIC HARDWARE	98-L-BE-06	630	VON
		APPROVED EQUAL:	8815 ETL 630		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

- DOOR IS NOT LOCKABLE

.31 Hardware Group No. 22

For use on mark/door #(s):

188.1

200.1

208.1

209.11

209.2

209.9

215.1

3	EA	HINGE	5BB1 114X102MM NRP	630	IVE
		APPROVED EQUAL:	TA 2314 114X102MM NRP 630		
1	EA	PANIC HARDWARE	98-L-06	630	VON
		APPROVED EQUAL:	8813 ETL 630		
1	EA	CYLINDER	21-34	626	SAR
1	EA	OH STOP	90S	630	GLY
		APPROVED EQUAL:	9 SERIES STOP 630		

2	EA	SURFACE CLOSER	4040XP LONG	689	LCN
			APPROVED EQUAL: 351 OZ EN		
1	EA	MTG PLT	4040XP-18G	689	LCN
			APPROVED EQUAL: 351B EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
2	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR CONTACT BY OTHERS
- DOORS ARE CAN BE LOCKED OR UNLOCKED

.32 Hardware Group No. 23

For use on mark/door #(s):

188.2	188.3	188.4	191.2	200.2	209.12
209.13	209.14	209.15	209.16	209.17	209.3
209.4	209.5	209.6	209.7	209.8	210.2
215.2	216.2	216.3			

- ALL HARDWARE BY DOOR SUPPLIER

.33 Hardware Group No. 24

For use on mark/door #(s):

191.1

3	EA	HINGE	5BB1 114X102MM NRP	630	IVE
			APPROVED EQUAL: TA 2314 127X102MM NRP 630		
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
			APPROVED EQUAL: 8204 LNL 626		
1	EA	CYLINDER	21-41	626	SAR
1	EA	OH STOP	90S	630	GLY
			APPROVED EQUAL: 9 SERIES STOP 630		
1	EA	SURFACE CLOSER	4040XP LONG	689	LCN
			APPROVED EQUAL: 351 OZ EN		
1	EA	MTG PLT	4040XP-18G	689	LCN
			APPROVED EQUAL: 351B EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR CONTACT BY OTHERS
- DOORS ARE ALWAYS LOCKED ALWAYS NEED A KEY TO GET IN

.34 Hardware Group No. 24A

For use on mark/door #(s):

201.1          217.1          218.1

3	EA	HINGE	5BB1 127X114MM NRP	630	IVE
			APPROVED EQUAL: TA 2314 127X102MM NRP 630		
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
			APPROVED EQUAL: 8204 LNL 626		
1	EA	CYLINDER	21-41	626	SAR
1	EA	OH STOP	90S	630	GLY
			APPROVED EQUAL: 9 SERIES STOP 630		
1	EA	SURFACE CLOSER	4040XP LONG	689	LCN
			APPROVED EQUAL: 351 OZ EN		
1	EA	MTG PLT	4040XP-18G	689	LCN
			APPROVED EQUAL: 351B EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR CONTACT BY OTHERS
- DOORS ARE ALWAYS LOCKED ALWAYS NEED A KEY TO GET IN

.35 Hardware Group No. 25

For use on mark/door #(s):  
203.1

3	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X114MM 652		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.36 Hardware Group No. 25A

For use on mark/door #(s):  
205.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		

.37 Hardware Group No. 26

For use on mark/door #(s):  
204.1

3	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X114MM 652		
1	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	DOOR SWEEP	W-24S x by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR IS NOT LOCKABLE

.38 Hardware Group No. 27

For use on mark/door #(s):  
209.10

6	EA	HINGE	5BB1 127X114MM	652	IVE
		APPROVED EQUAL:	TA 2714 127X114MM 652		
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
		APPROVED EQUAL:	555 626, F65UL 626		

1	EA	DUST PROOF STRIKE	DP2	626	IVE
		APPROVED EQUAL:	570 626, F68 626		
1	EA	ENTRANCE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	COORDINATOR	COR X FL	US26	IVE
		APPROVED EQUAL:	1600 SERIES	D	
1	EA	SURFACE CLOSER	4040XP HCUSH	689	LCN
		APPROVED EQUAL:	351 PSH EN		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	ASTRAGAL	W-8 x door height	627	KNC

.39 Hardware Group No. 27A

For use on mark/door #(s):

210.3

6	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
		APPROVED EQUAL:	555 626, F65UL 626		
1	EA	DUST PROOF STRIKE	DP2	626	IVE
		APPROVED EQUAL:	570 626, F68 626		
1	EA	OFFICE LOCK	ND50LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G05 LL 626		
1	EA	COORDINATOR	COR X FL	US26	IVE
		APPROVED EQUAL:	1600 SERIES	D	
2	EA	SURFACE CLOSER	1461 HCUSH	689	LCN
		APPROVED EQUAL:	1431 PSH EN		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	ASTRAGAL	W-8 x door height	627	KNC

.40 Hardware Group No. 28

For use on mark/door #(s):

210.1

216.1

3	EA	HINGE	5BB1 114X102MM NRP	630	IVE
		APPROVED EQUAL:	TA 2314 114X102MM NRP 630		
1	EA	ENTRY LOCK	L9050L 06A	626	SCH
		APPROVED EQUAL:	8205 LNL 626		
1	EA	CYLINDER	21-41	626	SAR
1	EA	OH STOP	90S	630	GLY
		APPROVED EQUAL:	9 SERIES STOP 630		
1	EA	SURFACE CLOSER	4040XP LONG	689	LCN
		APPROVED EQUAL:	351 OZ EN		
1	EA	MTG PLT	4040XP-18G	689	LCN
		APPROVED EQUAL:	351B EN		
1	SET	WEATHERSTRIP	W-14 x by door width x (2) door height	628	KNC
1	EA	DOOR SWEEP	W-24Sx by door width	628	KNC
1	EA	THRESHOLD	CT-10 x by door width	627	KNC

- DOOR CONTACT BY OTHERS

.41 Hardware Group No. 29

For use on mark/door #(s):

215.3

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	CLASSROOM LOCK	ND70LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G37 LL 626		



1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	SURFACE CLOSER	1461 HCUSH	689	LCN
		APPROVED EQUAL:	1431 PSH EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC

- DOOR CAN BE LOCKED FROM EXTERIOR SIDE OF DOOR ONLY
- FREE EGRESS AT ALL TIMES

.42 Hardware Group No. 30

For use on mark/door #(s):

199.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
1	EA	CLASSROOM LOCK	ND70LDSAR RHO	626	SCH
		APPROVED EQUAL:	10G37 LL 626		
1	EA	CYLINDER	KEY IN CYLINDER TO MATCH EXISTING KEY SYSTEM		SAR
1	EA	ELECTRIC STRIKE	6210 FSE	630	VON
		APPROVED EQUAL:	1006 J FAIL SECURE 630		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	SET	WEATHERSTRIP	W-21 x by door width x (2) door height	628	KNC
1	EA	POWER SUPPLY	PS902 900-2RS-FA	LGR	SCE
		APPROVED EQUAL:	BPS24 2 X B24 5 X RB4 X CFAR		

- DOOR CAN BE LOCKED FROM EXTERIOR SIDE OF DOOR ONLY
- FREE EGRESS AT ALL TIMES
- THE RELEASE OF ELECTRONIC ACCESS CONTROL DEVICES WILL OCCUR BY PUSHBUTTON LOCATED IN 199 PARTS COUNTER. REFER TO DRAWING E605

.43 Hardware Group No. 31

For use on mark/door #(s):

193.1

3	EA	HINGE	5BB1 114X102MM	652	IVE
		APPROVED EQUAL:	TA 2714 114X102MM 652		
2	EA	PASSAGE SET	ND10S RHO	626	SCH
		APPROVED EQUAL:	10U15 LL 626		
1	EA	WALL STOP	WS406/407	630	IVE
		APPROVED EQUAL:	406/409, S120/S122		
1	EA	SURFACE CLOSER	1461 RW/PA	689	LCN
		APPROVED EQUAL:	1431 RP9 EN		
1	SET	WEATHERSTRIP	W-21 X BY DOOR WIDTH X (2) DOOR HEIGHT	628	KNC

END OF SECTION