Moody Nolan

Addendum #4

Project	CMHA Easton Office Renovation 3400 Morse Crossing Columbus, OH 43219	**Addendum Number**	4
Project Number	25011.01	**Date**	5/12/2025
To	Chris Belcastro		

TO ALL BIDDERS:

Addendum No. 4 to the Drawings and Project Manual, dated March 28, 2025 for the CMHA Easton Office Renovation, as prepared by Moody Nolan, Inc., 300 Spruce St. Suite 300, Columbus, OH 43215.

This Addendum shall hereby be done and become part of the Contract Documents the same as if originally bound thereto. The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Acknowledge receipt of this Addendum on the Bid Form.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum.

This addendum contains changes to the requirements of the bidding Documents, Project Manual and Construction Drawings which have been issued to date. Such changes are to be incorporated into the Construction Documents and shall apply to the work in the same meaning and force as if they had been included in the original documents. Wherever this Addendum modifies a portion of a paragraph of the Project Manual or a portion of any Drawing, the remainder of the paragraph or Drawing shall remain in force.

Questions & Answers

1. Are any WAPs (Wireless Access Points) required? None are shown.
   The building already has WAP's. No new ones will be installed.

2. What is the ceiling tile material for type A1?
   Armstrong – Cortega Second Look II #GR2767D.

3. Regarding ACGI Baffles: Is this a grille system with backers, or individual individually hung baffles?
   This is AGCI / Armstrong Wood Baffle Series: WB1-3400-C.

4. Regarding the ACGI Baffles: How many blades are per LF?
   3.

5. Regarding the ACGI Baffles: The finish schedule just says black. Is this to be painted black? Or does this need to be solid wood or veneered wood?
   Black wood look.

6. The specification for the data calls out for the Hubbell product or an approved equal by OTDI. Can you provide who the approved equals are?
   OTDI should be replaced with the engineer/owner – refer to addendum 4. Leviton and Panduit are approved equals.

7. Subject: Telecommunications Room – The project manual references IDF #014 and IDF #036M on page 534, section 27 15 00-3, part 2 – Products 2.01.E. Neither of these rooms appear on the electrical drawings. Please identify where the communications cabled will be terminated at the equipment end.

New communications will terminate in different locations depending on location. West portions should go to the IDF patch panels, MDF to the 2nd floor sever rooms, and some new ones may terminate in the first floor electric room. Specifications and drawings have been updated. Sheet T101 now shows the locations where the communication will be terminated. Wiring will run to the IDF room #146 and MFOE room #123A, located on the first floor, and MDF room #214 located on the second floor

8. The specs for this called out Hubbell originally, now they have added various other manufacturers for data cabling. On the new T drawings in Addendum 2, they call out specifically a Panduit DP48688TGY patch panel. Hubbell will not warranty a cable solution if it is a Panduit patch panel and Hubbell cable….are we supposed to use Panduit all around? It is not very clear what they want here.
   Panduit or Hubbell is acceptable or an approved manufacturer by the owner/engineer. Use the same manufacturer for all devices as required for a fully warrantied system

9. Are the access control tying into an existing Lenel system? Need to confirm if we need to provide a new server for the software to run on.
   This is not part of the GC's scope.

10. Subject: Patch Cord Installation – Section 1.05.J.1 and .2 state for the contractor to furnish and install all patch cords. Section 1.05.J.3 stated all patch cords to be installed by "OTDI Telecommunications and Networking". Should we provide a cost for labor to install the patch cords?
    Patch cords are not required.

11. Sheet AD101 – D3 – Alternate #3 – Removing Flooring. Will there be requirements to move the partition assemblies (cubicles) if this alternate is added?
    The assumption is the cubicles would be lifted in place and the carpet replaced under, then set back down.

12. Can a specification be provided for RF-1?
    Thor Resi24 double layered glued down rolled fitness surface.

13. Is it acceptable to submit our financial statement through a secure link upon request rather than submitting hard copies of financial statements with the bid?
    Bid documents allow for low bidder to provide following bid opening. Please use that system.

14. Is there an estimated construction budget for this project? What is the allowable percentage over the budget for this project to still be awarded?
    The estimated construction cost is $1,700,000. CMHA has a pre-approved construction budget for this project as part of the building acquisition, so award will be determined based on the actual bid number vs the budget.

15. What is the deck height?
    Please refer to Addendum #2.

16. Who is responsible for permits & fees?
    Please refer to Addendum #1 – Pre-Bid Meeting Minutes.

17. Is the GC responsible for providing the appliances listed in the specifications (under counter refrigerators, refrigerator/freezers, televisions, and television mounting brackets)?
    Refrigerators / Freezers and Televisions / Brackets are not part of the GC scope of work.

18. Is Muraflex Mimo glazed partition by Turning Point an acceptable alternate for the demountable glass partitions?
    No – Mimo is not listed as an acceptable Alternate Manufacturer in the specifications. No substitution request form was approved.

19. The furniture & gym equipment packages that are still being discussed – will a quote be provided to be included in the GCs number or will they be responsible for getting their own quotes?
    Furniture and Gym equipment has been removed from the GC's scope of work. The GC will only be required to assist with electrical and data connections for the furniture.

20. Is there any signage / graphics to be included in the base bid or is the $75,000 allowance to be inclusive of all signage / graphics material & labor?
    All signage is included in the $75,000 allowance.

21. Is this project tax exempt?
    Yes, please see Addendum #1 as well as Front End Specifications.

22. Are all contractors / subcontractors required to be a part of the Ohio Drug Free Workplace program?
    Yes.

23. Are there any badging / background check requirements?
    CMHA will run a background check on the General Contractor.

24. Can a detail be provided for the brick veneer at the patio for alternate #2? (Keynote 04 00 00.A1 on A101)
    No. The new brick pier should match the existing brick piers. You are welcome to visit the site to get a better understanding of the type of brick to be used.

25. Are the rectangles shown above the printer on 1/A801 a shelf of some sort? Can a detail be provided if they are?
    Yes. See Detail 16 on Sheet A801.

26. On elevations 4,5,6, & 7 on sheet A801 it shows QZ-2 & SS-2 as an alternate. Are these whole elevations not a part of the alternates? Is it just the countertops that are the alternates? Please provide additional clarification for casework alternates.
    We have removed text "; ALT: SS-1" from countertop finish note from elevations 4, 5, 6, & 7. There are no alternate materials listed anymore.

27. Is the furniture currently in the building to be moved/removed by the GC or will this be handled by the owner?
Cubicle furniture will be moved by the Owner's contractor. Misc furniture will be coordinated on site with the GC.

28. Please verify that there will be no changes to the existing elevator.
Confirmed.

29. How are GCs meant to quantify patching/salvaged existing flooring? Can this be included as an allowance?
Areas highlighted on Sheet A911 are to be patched from salvaged flooring. GC to use this as an estimated quantity.

30. Are areas that have flooring replaced with alternate #3 to have the bases also replaced?
Yes.

31. Please confirm that sealed concrete is not used.
Confirmed, there are no new areas of SC-1.

32. Are rooms 107, 108, 124, 125, 128C, 144, 145, 147 to be painted?
Yes, the gypsum board in the above listed rooms is to be painted.

33. Sprinkler Tenant Finish Note on FP101 references sheet FP200 which does not exist. Can this be added?
This should be referencing sheet FP301.

34. Can a spec be provided for the plantings we are meant to match in alternate #2?
Provide 15" – 18" tall Hicks Yew bushes.

35. A high security trim is currently specified on the mortise locks in the hardware sets. This creates a couple of issues:
    - The specified trim does not match the current hardware at the project site. Current hardware is a Schlage L9000 with an "A" rose trim. Recommend revising hardware sets to match that trim.
    - Due to the specified trim, an ELR latch retraction is required. If matching the existing hardware is acceptable, recommend revising function to a typical fail secure electrified lock.

    Schlage L9000 may be used in lieu of specified sets.

36. Keying – Verify key system within building to tie into. Specifications indicate a new Sargent key system for the specified doors only.
    - If different future tenants are desired and no records of existing key system are known, recommend rekeying the entire building now to create a new system. Maybe it would be easiest to provide an allowance for this work to occur.

    The specifications have been revised to indicate that the new key shall match the existing system.

37. Verify desire to reuse existing hardware, if possible. Existing hardware is in good shape functionally and may be able to be reused.
    Yes, reuse existing hardware where possible. Provide a list of anticipated type and number of each hardware type to be reused.

38. Electrical drawings do not match door hardware requirements for rough in's. The electrical drawings show a typical electric strike prep, while the hardware specifies an electrified lock with power transfer on the hinge side of the door.
    - Please confirm who is providing the access control system. There does not appear to be a specification for any system and the electrical drawings just indicate providing a rough-in per note 6 on E101.

    This is not part of the GC's scope.

39. Spec section 10 14 10 says it is for "AEP Ohio Canton South Renovation". Please confirm this is the correct spec for this project.
    Confirmed. This is the correct spec for this project. Revised footer to read "CMHA Easton Office Renovation"

40. What is the model number for the 85" TV?
    TV's have been removed from the GC's scope.

41. What is the existing concrete thickness we are to match?
    The existing concrete patio is 4" thick.

42. Are there any required subs for the Easton work? If so, who are they?
    There are no required subs for this work.

43. Please provide detail for the fixed shelf on sheet A101 "06 40 00.G2".
    See detail 17 on Sheet A801.

44. Mothers room elevation 10 on sheet A801 calls for the countertop to have an alternate. How are we to list this out on the bid form?
    The reference to an alternate finish has been removed.

45. Alternate 6 & 7 have alternates within the alternate (meaning there is alternate 6 and then a "6a" and a 7 and "7a"). The bid form only allows for one number to be written. Please advise if the bid form is going to be revised. If not, do we put the "6a" & "7a" in the spots for alternate 6 & 7?
    The references to an alternate finish have been removed.

46. Please confirm 06 40 00.E1 on sheet A101 is not used? If it is, where is it located?
    Keynote 06 40 00.E1 is used in the Level 2 – Partial Plan.

47. Quartz "Onyx Carrara" has been discontinued. What would the approved equals be?
    Cambria Quartz Mammoth Cave.

48. Sheet AD101 still calls for coded note D34 at stairs, while addendum 2 removed coded note 4 on sheet A901. Please confirm alternate 5 will not have flooring demo and will not have new flooring.
    Coded note D34 has been removed from Sheet AD101.

49. Sheet A901 calls for owner provided WT-1 and an alternate price for WC-1. How are we to list this alternate price on the bid form?
    The reference to the alternate price for WC-1 has been removed.

50. Can you confirm the quantities corner guards or provide exact locations?
    Locations have been marked on finish plan. Height reduced to match existing ceiling height.

51. Do corner guards go on existing drywall corners in the construction space as well as new walls or only on the new walls?
    Locations have been marked on finish plan. Height reduced to match existing ceiling height.

52. We are being told that the Florida Tile, East Village HDP has been discontinued. Can we use the below tile, or can you provide an approved equal?
    - https://www.floridatile.com/products/ny2la/

    Tile revised in Finish Legend.

53. The existing sprinkler system covers telecommunications room or IT room, correct? (Per specs its calling for a pre action system to cover this area, however its small enough dry sidewall sprinkler heads can cover it to save costs)
    The existing IT room should remain as is.

54. In the specs it calling out for a limited area suppression system that is ran from the domestic water source, however this seems like copy and paste, because the entire building should already have a fire sprinkler system correct?
    Yes, this building has an existing fire protection water service that will remain.

55. I do not see in the plans which sprinkler heads are required to be installed? However, in the site walk photos they appear to be chrome 155-degree quick response sprinkler heads. Is this what is needed to be installed?
    Refence sheet FP301 for sprinkler head type. Verify sprinkler head type with architect.

56. Are flexible sprinkler heads or hose connections approved for this project? They would make installation much faster and simpler for all parties, as well as future remodels wouldn't need to recut the heads into the tile spaces, rather just adjust the brackets.
    Flex heads are acceptable if the fire protection contractor will provide hydraulic calcs for the total equivalent length feet of straight black steel piping to the end of the flex heads that will result in pressure loss. Flex heads also offer a savings in labor so a credit to the owner should be provided.

57. Is there a BAS/Controls system in this building and if so, who has them?

	Yes. CMHA has access to this system.
Substitution Requests	08 71 00-1 – Door Hardware – Add numerous alternate manufacturers. **Request approved**. 27 15 00-1 – Voice and Data Wiring Systems – Leviton Connectors **Request approved.**
Specifications	00 01 00 – Table of Contents **Removed Section 09 54 00.13 – Ceiling Baffles** **Added Section 09 54 29 – Lineal Wood Ceilings** **Removed Section 28 223 00 – Video Surveillance.** 08 71 00 – Door Hardware **Added sub-section 2.18 to read:** **1.1 ALTERNATE MANUFACTUERES** **A. The following are acceptable alternative manufacturers for the respective hardware types:** **1. Ives: Butt Hinges, Continuous Hinges, Door Operating Trim, Architectural Trim, and Door Stops and Holders.** **2. Von Duprin: Power Transfer Devices, Conventional Exit Devices, and Electronic Accessories.** **3. Schlage: Mortise Locks and Latching Devices.** **4. LCN: Surface Door Closers.** **5. Zero: Architectural Seals.** **Revised paragraph 2.6 C. 3. To read: "Existing System: Key locks to match the existing key system."** **Revised Hardware Sets 2.0 and 2.1.** 09 54 29 – Linear Wood Ceilings **Added section.** 09 65 66 – Resilient Athletic Flooring – Tiles/Sheets **Revised footer to read "CMHA Easton Office Renovation"** 10 14 10 – Interior Signage **Revised footer to read "CMHA Easton Office Renovation"** 10 44 00 – Fire Extinguishers and Cabinets **Revised footer to read "CMHA Easton Office Renovation"** 27 05 28 – Conduits and Backboxes for Communications Systems **Section revised.** 27 05 28.36 – Cable Tray for Communications Systems **Section revised.** 27 15 00 – Voice and Data wiring System

	Section revised.
	28 10 00 – Electronic Access Control and Intrusion Detection **Section revised.**
Drawings	AD101 – Level 01 – Demolition Plan **Removed coded note D34 from Sheet AD101.**
	A101 – Level 01 – Floor Plan **Revised Keynotes 11 31 00.B1, 11 31 00.B2, and 11 31 00.B3 to read: "TELEVISION PROVIDED AND INSTALLED BY OWNER"** **Added door tag 123A and Card Reader.** **Revised length of shelf in Coats 110A.** **Added detail callout 17/A801.**
	A700 – Door Schedule and Details **Made minor revisions to Door Schedule.** **Added Door 123A to Door Schedule – Existing Doors.**
	A800 – Finish Schedule / Legend **Revised Base type TWB-1 to NY2LA Riverside 3x24 Bullnose P43N9-NY2.** **Revised Ceiling type B1 to be WB1-3400-C.** **Revised Floor type TF-1 to NY2LA Riverside 12x24 Bullnose FTINY23012x24.** **Revised Corner Guard.** **Revised Quarts QZ-1 to Cambria – Mammoth Cave.**
	A801 – Interior Elevations and Details **Removed text "; ALT: SS-1" from countertop finish note from elevations 4, 5, 6, & 7.** **Added Detail 16 and coded note #5.** **Added Detail 17.**
	A901 – Level 1 – Finish Plan **Removed the reference to the alternate price for WC-1.**
	ED101 – Level 1 – Power Demolition Plan **Revised receptacle layout per existing conditions.** **Added low voltage general note.**
	E101 – Level 1 – Power Plan **Revised receptacle layout per furniture changes.** **Added low voltage general note.** **Added receptacle and data per owner request.** **Added coded notes.**
	E401– Electrical Schedules, Legends, and Details **Updated panel schedules per drawing changes.**
	T101 – Level 1 – Telecom Plan

Added partial second floor telecom plan per existing conditions.
Revised WAP locations per existing condition.
Removed camera scope per owner request.
Revised notes per drawing changes.

T201 – Telecom Legend and Details

Revised detail per owner request.
Removed detail per scope change.
Revised Telecommunications Notes per owner request.

T202 – Access Control Details and Legend

Revised riser and details per existing conditions.

Attachments

Substitution Requests:

08 71 00-1 – Door Hardware.

27 15 00-1 – Voice and Data Wiring Systems.

Specifications:

08 71 00, 09 54 29, 27 05 28.36, 27 05 28, 27 15 00, and 28 10 00.

Drawings:

AD101, A101, A700, A800, A801, A901, ED101, E101, E401, T101, T201, and T202

Advancement of Construction Technology

SUBSTITUTION REQUEST

(During the Bidding Phase)

Project: CMHA Easton Office Renovation

Substitution Request Number: 087100

From: David Gregg

To: Moody Nolan

Date: 4/23/2025

A/E Project Number:

Re: 087100 Hardware

Contract For: Door Hardware

Specification Title: 087100 Door Hardware

Description: Approve Equal

Section: 2 Page:

Article/Paragraph: see page 2

Proposed Substitution: Competitive products as listed on the attachment

Manufacturer: Allegion Address: 11819 N Pennsylvania St , Carmel, IN Phone: 317-810-3700

Trade Name: Schlage Model No.:

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: David Gregg

Signed by:

Firm: Allegion

Address: 11819 N Pennsylvania St, Carmel, IN 46032

Telephone: 317-810-3700

A/E's REVIEW AND ACTION

- [X] Substitution approved - Make submittals in accordance with Specification Section 01330.
- [ ] Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
- [ ] Substitution rejected - Use specified materials.
- [ ] Substitution Request received too late - Use specified materials.

Signed by: 

Date: 05/05/2025

Supporting Data Attached: [ ] Drawings [X] Product Data [ ] Samples [ ] Tests [ ] Reports [ ]

Substitution Request for Divisions 087100

Cutsheets are attached for review. Submitted products are recognized as equal or better throughout the industry with millions of satisfactory installations and equal or better warranties than specified. The addition of these approved manufacturers will create a competitive pricing scenario in lieu of the currently specified single source products from only one parent company.

Section 087100 Door Hardware

2.2 BUTT HINGES: Please add Ives

2.3 CONTINUOUS HINGES: Please add Ives

2.4 POWER TRANSFER DEVICES: Please add Von Duprin EPT

2.5 DOOR OPERATING TRIM: Please add Ives

2.8 MORTISE LOCKS AND LATCHING DEVICES: Please add Schlage L

2.10 CONVENTIONAL EXIT DEVICES: Please add Von Duprin 33A/35A, Von Duprin 98/99

2.11 SURFACE DOOR CLOSERS: Please add LCN 4040

2.12 ARCHITECTURAL TRIM: Please add Ives

2.13 DOOR STOPS AND HOLDERS: Please add Ives

2.14 ARCHITECTURAL SEALS: Please add Zero

2.15 ELECTRONIC ACCESSORIES: Please add Von Duprin

General information - electrification options

Electrical through-wire (TW4 and TW8)

Provides electric power transfer from the frame to the door in order to supply power to an electrified mortise or cylindrical locks, exit devices with electric latch retraction, and/or electric strikes (pairs of doors). Through-wire is rated 50 volts AC/DC at 3.5 amp continuous and 16 amp pulse. Maximum pulse 400 milliseconds. Ives through-wire hinges are fully compatible with 4 wire(TW4) and 8 wire (TW8) installations. Available CON option comes with the Allegion Connect 8-pin Connector which makes it easy to connect to other electrical consumption devices.

- UL634 Listed
- Not available 3PB1, 3SP1, and 5PB1 models
- Not available on 3.5 x 3.5 size hinges
- Not available with security stud (SH) option
- Packaged one hinge per box with standard wood and machine screws
- Hinge is NRP as a standard
- High quality brass ferrules and plastic tubing protect the wires
- Through-wire hinges cycle tested to ensure durability
- Special wire gauge, number, and color configurations available, contact factory

Electrical Monitor (MON, TW4M,TW8M)

Provides door position monitoring. Monitor is rated 30 volts AC/DC at 0.5 amp. Fully compatible with through-wire hinges with 4 wire(TW4M) and 8 wire (TW8M) installations. Available CON option comes with the Allegion Connect 8-pin Connector which makes it easy to connect to other electrical consumption devices.

- UL634 Listed
- Not available 3PB1, 3SP1, and 5PB1 models
- Not available on 3.5 x 3.5 and 4X4 size hinges
- Not available with security stud (SH) option
- Packaged one hinge per box with standard wood and machine screws
- Hinge is NRP as a standard
- High quality brass ferrules and plastic tubing protect the wires
- Through-wire hinges cycle tested to ensure durability
- Special wire gauge, number, and color configurations available, contact factory

Ives Hinge number system

Please note: For availability of specific models, please refer to the item's catalog page or consult Customer Service.

How to order:

5 - BB - 1 - HW - SH - 4.5x4.5 - 652 - NRP

Number of knuckles:

3	3 Knuckle
5	5 Knuckle

Function:

PB	Plain bearing
BB	Ball bearing
CB	Concealed bearing
SP	Spring Hinge

Type:

1	Full mortise
2	Half mortise
3	Full surface
4	Half surface

Weight / Type:

Blank	Standard weight(BHMA Grade 2)
HW	Heavy weight(BHMA Grade 1)
SC	Swing clear
BSC	Beveled swing clear
SCHW	Swing clear, heavy weight
BSCHW	Beveled swing clear, heavy weight
WT	Wide throw

Options:

HT	Hospital tip
SH	Security stud (includes NRP as a standard offering)

Height	x	Width
3.5	x	3.5
4	x	4
4.5	x	4, 4.5, 5, 6
5	x	4.5, 5, 6, 7

Consult model page for availability.

Finish

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

Options 2

NRP	Non-removable pin
RC-1/4	Rounded corners 1/4"
RC-5/8	Rounded corners 5/8"
SEC	Security screws (hollow metal - hex head pin in socket)
TW4	Thru-wire - four wire
TW8	Thru-wire - eight wire
MON	Monitor
TW4M	Thru-wire - four wire with monitor
TW8M	Thru-wire - eight wire with monitor
CON	Allegion connect for wire options above

3PB1 3 Knuckle, plain bearing full mortise hinge

- Recommended for standard weight doors
- Recommended for low frequency usage
- Not recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS
  10-24 x 1/2 UFPHMS, 10 x 1 FPHWS (3.5x3.5 hinge size only)

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP . . . . . Non-removable pin
- HT. . . . . Hospital tip
- SH. . . . . Security stud - comes standard with NRP
- RC-1/4, RC-5/8. . . . Rounded corners
- SEC . . . . . Security fasteners - pin-in-socket

Dimensions

Height x Width	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.130
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.146

Refer to General Hinge Information page to determine proper hinge for application

3PB1 Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

3CB1 3 Knuckle, concealed bearing full mortise hinge

- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (<400 cycles per day)
- Made with two concealed nylon bearings
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS
  10-24 x 1/2 UFPHMS, 10 x 1 FPHWS (3.5x3.5 hinge size only)

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- UL Classified for windstorm rated assemblies - R37965
- UL Listed, 3 hour fire doors

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP ..... Non-removable pin
- HT ..... Hospital tip
- SH ..... Security stud - comes standard with NRP
- RC-1/4, RC-5/8 ... Rounded corners
- SEC ..... Security fasteners - pin-in-socket
- TW4 ..... Four wire
- TW4M ..... Four wire with monitor
- TW8 ..... Eight wire
- W8M ..... Eight wire with monitor
- MON ..... Monitor (not available on 3.5X3.5)

Dimensions

Height x Width	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.130
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.146
5 x 5	127 x 127	0.146

Refer to General Hinge Information page to determine proper hinge for application

3CB1 Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

3CB1HW 3 Knuckle, concealed bearing, heavy weight full mortise hinge

- Recommended for heavier weight doors (>150 lbs)
- Recommended for high frequency usage (400 cycles per day)
- Made with two heavy duty concealed nylon bearings
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- UL Classified for windstorm rated assemblies - R37965
- UL Listed, 3 hour fire doors

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP . . . . . .Non-removable pin
- HT. . . . . .Hospital tip
- SH. . . . . .Security stud - comes standard with NRP
- RC-1/4, RC-5/8. . . .Rounded corners
- SEC . . . . . .Security fasteners - pin-in-socket
- TW4. . . . . .Four wire
- TW4M. . . . . .Four wire with monitor
- TW8. . . . . .Eight wire
- TW8M . . . . . .Eight wire with monitor
- MON. . . . . .Monitor

Dimensions

Height x Width	Size (mm)	Gauge
4.5 x 4	114 x 102	0.180
4.5 x 4.5	114 x 114	0.180
5 x 4.5	127 x 114	0.190
5 x 5	127 x 127	0.190

Refer to General Hinge Information page to determine proper hinge for application

3CB1HW Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

3CB1WT 3 Knuckle, concealed bearing, wide throw full mortise hinge

- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (<400 cycles per day)
- Made with two concealed nylon bearings
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- 1040 steel

Options

- NRP .....Non-removable pin
- HT.....Hospital tip
- SH.....Security stud - comes standard with NRP
- RC-1/4, RC-5/8...Rounded corners
- SEC .....Security fasteners - pin-in-socket
- TW4 .....Four wire
- TW4M .....Four wire with monitor
- TW8 .....Eight wire
- TW8M .....Eight wire with monitor
- MON .....Monitor

Dimensions

Height x Width	Size (mm)	Gauge
4.5 x 5	114 x 127	0.134
4.5 x 6	114 x 152	0.134
5 x 6	127 x 152	0.146
5 x 7	127 x 178	0.146
5 x 8	127 x 203	0.146

Refer to General Hinge Information page to determine proper hinge for application

3CB1WT Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

3SP1 3 Knuckle, spring full mortise hinge

- For use with doors where self-closing is required
- Maximum door weight 120 lbs, max door width 36"
- Maximum labeled door size - 3'0" wide x 7'0" x 1 3/4" thick as set in NFPA #80
- Packed with fasteners for hollow metal and half metal / half wood applications
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS
  Pin for setting spring tension
  Adjusting wrench

Certifications

- Certified to ANSI/BHMA A156.4 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- UL listed for use with fire rated doors

Material substrate

- Made from 1040 steel or 304 series stainless steel

Options

- RC-1/4, RC-5/8. . .Rounded corners
- SEC . . . . . .Security fasteners - pin-in-socket

Dimensions

Height x Width	Size (mm)	Gauge
4 x 4	102 x 102	0.130
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134

Refer to General Hinge Information page to determine proper hinge for application.

3SP1 Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

5PB1 5 Knuckle, plain bearing full mortise hinge

- Recommended for standard weight doors
- Recommended for low frequency usage
- Not recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS
  10-24 x 1/2 UFPHMS, 10 x 1 FPHWS (3.5x3.5 hinge size only)

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP . . . . . .Non-removable pin
- HT. . . . . .Hospital tip
- SH. . . . . .Security stud - comes standard with NRP
- RC-1/4, RC-5/8. . .Rounded corners
- SEC . . . . . .Security fasteners - pin-in-socket

Dimensions

Height x Width	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.130
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.146

Refer to General Hinge Information page to determine proper hinge for application

5PB1 Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

5BB1 5 Knuckle, ball bearing full mortise hinge

- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (<400 cycles per day)
- Made with two ball bearing assemblies
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS
  10-24 x 1/2 UFPHMS, 10 x 1 FPHWS (3.5x3.5 hinge size only)

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- UL Classified for windstorm rated assemblies - R37965
- UL Listed, 3 hour fire doors

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP.....Non-removable pin
- HT.....Hospital tip
- SH.....Security stud - comes standard with NRP
- RC-1/4, RC-5/8...Rounded corners
- SEC .....Security fasteners - pin-in-socket
- TW4 .....Four wire
- TW4M .....Four wire with monitor
- TW8 .....Eight wire
- TW8M .....Eight wire with monitor
- MON .....Monitor (not available on 3.5X3.5)

Dimensions

Height x Width	Size (mm)	Gauge
3.5 x 3.5	89 x 89	0.123
4 x 4	102 x 102	0.130
4.5 x 4	114 x 102	0.134
4.5 x 4.5	114 x 114	0.134
5 x 4.5	127 x 114	0.146
5 x 5	127 x 127	0.146

Refer to General Hinge Information page to determine proper hinge for application

5BB1 Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

5BB1HW 5 Knuckle, ball bearing, heavy weight full mortise hinge

- Recommended for heavier weight doors (>150 lbs)
- Recommended for high frequency usage (400 cycles per day)
- Made with four ball bearing assemblies
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions
- UL Classified for windstorm rated assemblies - R37965
- UL Listed, 3 hour fire doors

Material substrate

- Made from brass, 1040 steel, or 304 series stainless steel

Options

- NRP .....Non-removable pin
- HT.....Hospital tip
- SH.....Security stud - comes standard with NRP
- RC-1/4, RC-5/8...Rounded corners
- SEC .....Security fasteners - pin-in-socket
- TW4 .....Four wire
- TW4M .....Four wire with monitor
- TW8 .....Eight wire
- TW8M .....Eight wire with monitor
- MON .....Monitor

Dimensions

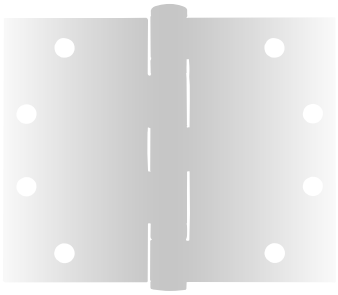
Height x Width	Size (mm)	Gauge
4.5 x 4	114 x 102	0.180
4.5 x 4.5	114 x 114	0.180
5 x 4.5	127 x 114	0.190
5 x 5	127 x 127	0.190

Refer to General Hinge Information page to determine proper hinge for application

5BB1HW Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
610	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
614	Oxidized bronze	Brass	US10A
616	Blackened bronze	Brass	US11
619	Satin nickel	Brass	US15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	B-643e/716
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.



5BB1WT 5 Knuckle, ball bearing, wide throw full mortise hinge

- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (<400 cycles per day)
- Made with two ball bearing assemblies
- Recommended for use with a door closer
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- 1040 steel

Options

- NRP . . . . . Non-removable pin
- HT. . . . . Hospital tip
- SH. . . . . Security stud - comes standard with NRP
- RC-1/4, RC-5/8. . . Rounded corners
- SEC . . . . . Security fasteners - pin-in-socket
- TW4 . . . . . Four wire
- TW4M . . . . . Four wire with monitor
- TW8 . . . . . Eight wire
- TW8M . . . . . Eight wire with monitor
- MON. . . . . Monitor

Dimensions

Height x Width	Size (mm)	Gauge
4.5 x 5	114 x 127	0.134
4.5 x 6	114 x 152	0.134
5 x 6	127 x 152	0.146
5 x 7	127 x 178	0.146
5 x 8	127 x 203	0.146

Refer to General Hinge Information page to determine proper hinge for application

5BB1WT Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

Meets ANSI/BHMA A156.1
A8122 – Steel
A5122 – Stainless Steel
A2122 – Brass

5BB1SC 5 Knuckle, ball bearing, swing clear full mortise hinge
5BB1BSC 5 Knuckle, ball bearing, beveled swing clear full mortise hinge

- Designed to completely clear the opening when door is opened 92°.
- Recommended for use in ADA door opening applications
- 5BB1SC made for square edge doors
- 5BB1BSC made for beveled edge doors
- Recommended for medium weight doors (<150 lbs)
- Recommended for medium frequency usage (<400 cycles per day)
- Made with two ball bearing assemblies
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- Made from 1040 steel or 304 series stainless steel

Options

- NRP .....Non-removable pin
- HT.....Hospital tip
- RC-1/4, RC-5/8...Rounded corners
- SEC .....Security fasteners - pin-in-socket
- TW4 .....Four wire
- TW4M .....Four wire with monitor
- TW8 .....Eight wire
- TW8M .....Eight wire with monitor
- MON .....Monitor

Dimensions

Height	Size (mm)	Gauge
4.5	114	0.134
5	127	0.146

Refer to General Hinge Information page to determine proper hinge for application

5BB1SC Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

For other colors, consult factory.

5BB1SCHW 5 Knuckle, ball bearing, swing clear,heavy weight full mortise hinge
5BB1BSCHW 5 Knuckle, ball bearing, beveled swing clear, heavy weight full mortise hinge

- Designed to completely clear the opening when door is opened 92°.
- Recommended for use in ADA door opening applications
- 5BB1SCHW made for square edge doors
- 5BB1BSCHW made for beveled edge doors
- Recommended for heavier weight doors (>150 lbs)
- Recommended for high frequency usage (400 cycles per day)
- Made with four ball bearing assemblies
- Packed with fasteners for hollow metal and wood doors
  12-24 x 1/2 UFPHMS, 12 x 1 1/4 FPHWS

Certifications

- Certified to ANSI/BHMA A156.1 for performance standards
- Meets ANSI/BHMA 156.7 for template hinge dimensions

Material substrate

- Made from 1040 steel or 304 series stainless steel

Options

- NRP.....Non-removable pin
- HT.....Hospital tip
- RC-1/4, RC-5/8...Rounded corners
- SEC .....Security fasteners - pin-in-socket
- TW4 .....Four wire
- TW4M .....Four wire with monitor
- TW8 .....Eight wire
- TW8M .....Eight wire with monitor
- MON .....Monitor

Dimensions

Height	Size (mm)	Gauge
4.5	114	0.180
5	127	0.190

Refer to General Hinge Information page to determine proper hinge for application

5BB1SCHW Finishes

BHMA	Description	Substrate	Finish
600	Primer paint	Steel	USP
629	Bright stainless	Stainless steel	US32
630	Satin stainless	Stainless steel	US32D
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Oil rubbed bronze	Steel	US10B
641	Oxidized bronze	Steel	US10A
643	Blackened bronze	Steel	US11
646	Satin nickel	Steel	US15
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
643e/716	Aged bronze	Steel	F-643e/716

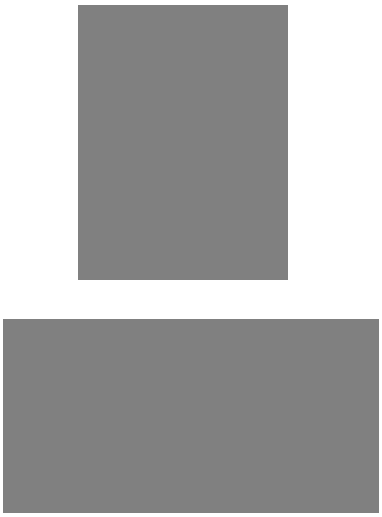
For other colors, consult factory.

Ives Continuous Hinges are designed to last the life of the building. The unique design distributes the weight of the door along the entire length of the frame, reducing the high amount of stress normally associated at top of door and frame on butt hinge applications.

Not only does this reduce hinge failure, it also keeps your door in constant alignment, greatly reducing the chance of door sag. These characteristics make continuous hinges suitable for high use/high traffic doors.

The design of a continuous hinge eliminates the gap between the door and the frame. The absence of gap also helps prevents finger from being pinched, making it a safer device than traditional hinges. These benefits result in higher efficiency and less maintenance, maximizing the value of your opening investment.

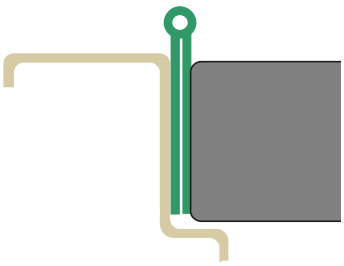
Continuous hinges are available in two styles; aluminum geared and pin and barrel in steel or stainless steel.



Aluminum geared

Geared continuous hinges utilize a single gear section for the leaf and a separate gear section for the frame side of the door. The two are held in place together by a full length cover channel and rotate on a series of bearings.

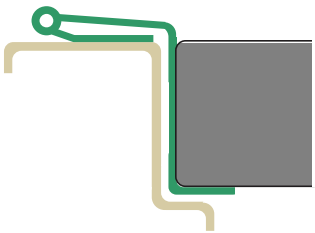
Ives provides two unique series of bearing designs. The HD model features a spread bearing design for lighter weight doors. The XY features a center load bearing design to help reduce frame issues and also has an available hospital tip cap and electric through wire panel with a continuous cover.



Pin and barrel

Pin and Barrel hinges share many of the same characteristics of a traditional hinge. Both have a center pin and rolled knuckles. However, a continuous Pin and Barrel hinge stretches along the entire length of the frame. IVES offers both stainless steel and primed steel to best match your specific application.

Ives also offers the CS series pin and barrel hinges which provides a patented solution that brings the clean aesthetic design of aluminum geared continuous hinge to the ruggedness and safety afforded by stainless pin and barrel continuous hinges.



Lifetime warranty

Ives continuous hinges carry a limited lifetime warranty, ensuring your opening will function to your satisfaction every time. Please refer to the price book for more detailed warranty information.

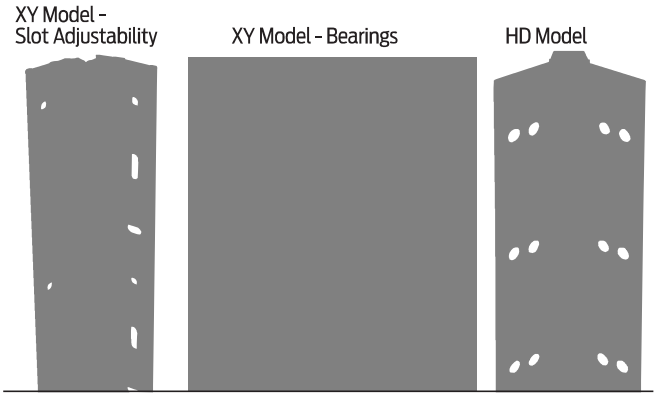
General hinge information

ANSI Certified
All Ives Aluminum geared hinges are certified to ANSI 156.26, Grade 1
XY Models ..... Grade 1 150lb and 300lb door test
HD Models ..... Grade 1 150lb door test

UL Listed
All Ives Aluminum geared hinges are tested and approved UL 10C (90 minutes).

Material
6063-T6 Aluminum

Hinge duty
All Ives Aluminum geared hinges are heavy duty(XY and HD models)



XY Models:
- Rounded gear design for extended life and smoother operation.
- Patented, center loaded, interlocking bearing design which helps handle the opening and closing of the door better over time. All sizes have 37 Bearings.
- XY Mounting Slot Adjustability on all full and half surface models to help with installation.
- Frame guidance lip is extended further for retrofit applications to cover existing heavy weight architectural hinge preps.
- Improved aesthetics with a curved, articulating cover design which eliminates pinch points

HD Models
Features transmission gear design with bearings that are evenly spaced every 3" on center - Amount of bearings varies by size
- 83" .....32 Bearings
- 85" .....32 Bearings
- 95" .....36 Bearings
- 120" .....47 Bearings

Standard lengths
83", 85", 95", 119"(XY Models), 120"(HD Models) Custom lengths available up to 119", consult factory. Handing required for 224HD

Finishes

BHMA	US	Description	Base Material
628	US28	Clear aluminum anodized	Aluminum
710	313AN	Dark bronze anodized	Aluminum

Custom finishes available, consult factory.

Field modifications
Ives Aluminum geared continuous hinges can be cut to length from both ends during installation.

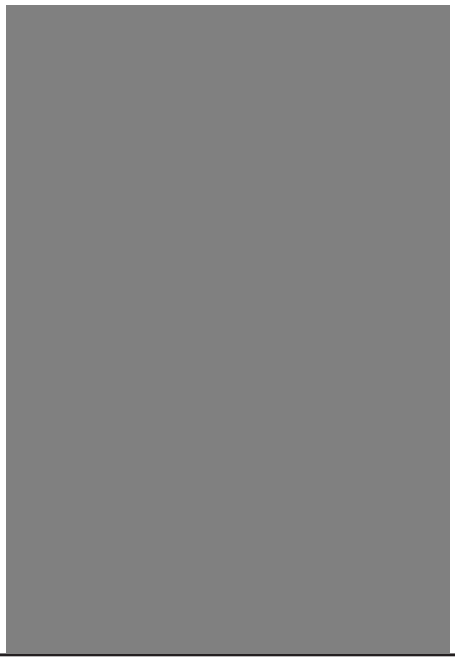
XY Models
The unique mounting pattern of the XY hinge allows it to be cut down to 69" while still having double row fastners regardless of the original length of the hinge. Requires the hinge to be cut from both ends. Example: A 119" hinge can have 25" removed from each end to make it a 69" long hinge.

HD Models
The unique mounting pattern allows to cut up to 6" from bottom while still having double row fasteners. If cut more than 13.5", other modifications may be necessary.

Door weight
For doors up to 200 lbs, no door reinforcement is required. For doors between 200 and 450 lbs a 16 gauge channel in the frame is required. For doors up to 600 lb, rivet nuts are required in the frame in addition to the frame reinforcement. Max door width of 4'0".

Hospital tips
Hospital tip (HT) for XY models
The new XY models features a new ligature resistant and tamper resistant Hospital Tip Cap. The new design provides a single uniform 45° angle surface with no exposed edges or openings.

Hospital tips (HT) for HD models
The standard hospital tip option includes an angle machined channel cover and bearing to provide a flush angled surface. Recommended for HT retrofit applications only.



Mounting hardware

Standard hardware	
Full mortise hinges	12-24 x 3/4" Steel self drilling / self tapping phillips head screw
Half surface hinges Includes 210XY	12-24 x 3/4" Steel self drilling / self tapping phillips head screw 12-24 x 3/4" Steel self drilling / self tapping hex head screw
Full surface hinges 157XY Only	12-24 x 3/4" Steel self drilling / self tapping hex head screw

Security screws - Hollow metal door and frame (SEC/HM)	
Full mortise hinges	12-24 X 1/2" Stainless steel socket security screw
112HD and 224HD only Available as accessory parts kit for full mortise XY hinges (026XY, 027XY, 040XY, 041XY, 112XY, 114XY, 224XY)	

Security screws - 1/2 wood, 1/2 hollow metal (SEC/WD/HM)	
Full Mortise Hinges 112HD and 224HD only	12-24 X 1/2" Stainless steel socket security screw 12 X 1 1/4" Stainless steel socket security wood screw
Available as accessory parts kit for full mortise XY hinges (026XY, 027XY, 040XY, 041XY, 112XY, 114XY, 224XY)	

1/2 Self drill, self tap / 1/2 wood (TEK/WD)		
Full mortise hinges	12-24 x 3/4" Steel self drilling / self tapping phillips head screw	12 x 1 1/4" Phillips head wood screw
Half surface hinges	12-24 x 3/4" Steel self drilling / self tapping phillips head screw	1/4 x 1 1/2" Hex head lag screw
Full surface hinges	12-24 x 3/4" Steel self drilling / self tapping hex head screw	1/4 x 1 1/2" Hex head lag screw

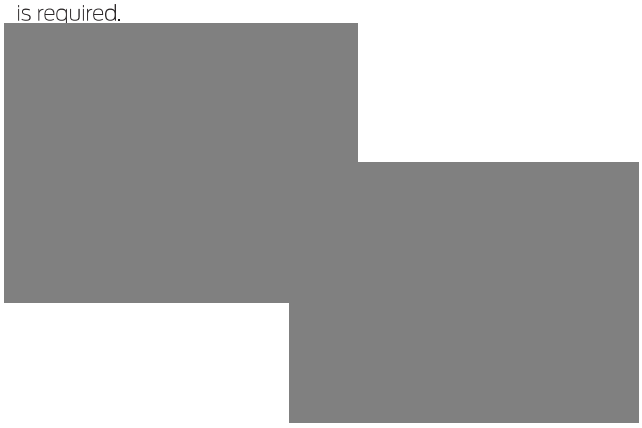
Wood door and frame (WD)	
Full mortise hinges	12 x 1 1/4" Phillips head wood screw
Half surface hinges Includes 210XY	12 x 1 1/4" Phillips head wood screw 1/4 x 1 1/2" Hex head lag screw
Full surface hinges 157XY only	1/4 x 1 1/2" Hex head lag screw

Thread forming (TF)	
Full mortise hinges	12-24 x 3/4" Steel thread forming phillips head screw
112HD and 224HD only Available as accessory parts kit for full mortise XY hinges (026XY, 027XY, 040XY, 041XY, 112XY, 114XY, 224XY)	

General information - electrification options

Electric power transfer (EPT) availabile on HD and XY models

Electric power transfer provides the most secure and best solution for transferring power from the door frame to the edge of a swinging door. Ives Continuous Hinges provide standard cut outs to fit Von Duprin EPT-2, EPT-10 and PNT-1 devices. Consult factory for other electrical cut out options. Door handing is required.



NEW Electrical through-wire panel with Allegion Connect (TWP CON) (XY models only)

The most secure and best solution for powering your door. The redesigned XY Through-Wire Panel is heavy duty and easy-to-install. Hinge consists of single piece cover design for improved aesthetics and three sections with a standard bottom length and through wire panel location. The panel can quickly slip in and out of the the hinge for maintenance and replacement. Unlike all of the other manufacturer solutions, the XY through-wire panel maintains a one piece appearance on the cover side of the hinge. The new wire design features a teflon coated wire which greatly improves performance and durability. The new panel also comes standard with the Allegion Connect 8-pin Connector which makes it easy to connect to other electrical consumption devices. Warrantied for up to 5 years. Door handing is required.

Provides electric power transfer from the frame to the door in order to supply power to an electrified mortise or cylidrical locks, exit devices with electric latch retraction, and/or electric strikes (pairs of doors). Through-wire is rated 50 volts AC/DC at 3.5 amp continuous and 16 amp pulse. Maximum pulse 400 milliseconds. Ives through-wire hinges are fully compatible with 4 wire and 8 wire installations.

EPT 112HD

TWP XY Series

Note: See ordering guide in price book for proper placement.

Electrical cutouts

Ives aluminum continuous hinges are available with factory modified cutouts to accommodate most electrical frame to door requirements. Special templates are required.

When ordering indicate the following:

1. Opening size.
2. Handing. LH, RH, LHR or RHR.
3. Manufacturer and model number of the electrical product being used. Example; Von Duprin ETPT2

Because clearances may vary between door and frame manufacturer, and locations can be influenced by the door hardware it is always recommend contacting Ives Customer Technical for specific template information.

Below are standard locations for Von Duprin EPT2 or EPT10, and monitor switch.

In accordance with industry standards, all cutouts are made from top edge of door to center line of cut-out

Standard Length	HD	XY	XY
	EPT	EPT	TWP CON
83"	30"	30"	43.5"
85"	32"	32"	45.5"
95"	42"	42"	55.5"
119" (XY)	–	66"	79.5"
120" (HD)	67"	–	–

XY TWP CON is located 39.5 inches from bottom of the hinge. Consult factory for TWP locations on custom length hinges.

How to order

112XY | HT | US28 | 83 | TWP CON

Model

026XY	Full mortise - narrow frame leaf, wide door leaf
027XY	Full mortise - wide door leaf
040XY	Full mortise - wide throw
041XY	Full mortise - swing clear
045XY	Half surface - narrow frame leaf, wide door leaf
046XY	Half surface - wide door leaf
053XY	Half surface - narrow frame leaf, narrow door leaf
054XY	Half surface - narrow door leaf
112XY	Full mortise - narrow frame and door leaf
112HD	Full mortise - narrow frame and door leaf
114XY	Full mortise - narrow frame leaf, door edge protector
157XY	Full surface - center pivot
210XY	Full surface - swing clear
224XY	Full mortise - door edge protector
224HD	Full mortise - door edge protector

Option 1

HT	Hospital tip (XY models only) (Only available on 026XY, 027XY, 040XY, 112XY, 114XY, 224XY)

Finish

US28	Clear Anodized Aluminum
313AN	Dark Bronze Anodized Aluminum
315AN	Black Anodized Aluminum (XY only)

Custom finishes available, consult factory.

Length

83"
85"
95"
119"(XY) / 120"(HD)

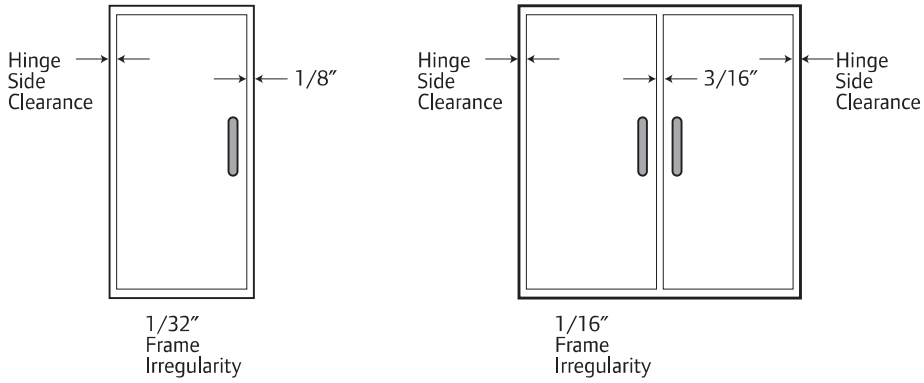
Custom lengths available up to 119", consult factory. When specifying length, handing required.

Option 2

EPT	Electric power transfer prep (Only available on 026XY, 027XY, 112HD, 112XY, 114XY, 224HD, 224XY) Handing (LH and RH) Required for 026, 027, 114, and 224 models
TWP CON	Through Wire Panel with Allegion Connect Standard (Only Available on 026XY, 027XY, 112XY, 114XY, 224XY)
SECHM	Security fasteners - pin-in-socket
SECWDHM	Security fasteners - pin-in-socket (half wood, half hollow metal)
SECWDWD	Security fasteners - pin-in-socket (wood door and frame)
WD	Wood door fasteners
TEKWD	Half thread forming, half wood
TF	Thread forming screws (pilot hole required) (Only available with 112HD and 224HD)
TFWD	Half thread forming, half wood

Clearance requirements

Consult your local authority having jurisdiction for specific fire codes relating to fire rated doors. The table below is only recommended for non fire related doors.



Single door

Model	Hinge-side clearance	Lock-side clearance	Frame irregularity	Beveled door clearance	Door under-sizing Square edged	Beveled edge
026XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
027XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
040XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
041XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
045XY	5/32"	1/8"	1/32"	1/32"	5/16"	11/32"
046XY	5/32"	1/8"	1/32"	1/32"	5/16"	11/32"
053XY	5/32"	1/8"	1/32"	1/32"	5/16"	11/32"
054XY	5/32"	1/8"	1/32"	1/32"	5/16"	11/32"
112HD	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
112XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
114XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
157XY	1/16"	1/8"	1/32"	1/32"	7/32"	1/4"
210XY	1/16"	1/8"	1/32"	1/32"	7/32"	1/4"
224HD	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
224XY	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"

Pair of doors

Model	Hinge-side clearance (2 doors)	Lock-side clearance	Frame irregularity (2 doors)	Beveled door clearance (2 doors)	Door under-sizing Square edge total	Square edge each door	Beveled edge total	Beveled edge each door
026XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
027XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
040XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
041XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
045XY	5/16"	3/16"	1/16"	1/16"	9/16"	9/32"	5/8"	5/16"
046XY	5/16"	3/16"	1/16"	1/16"	9/16"	9/32"	5/8"	5/16"
053XY	5/16"	3/16"	1/16"	1/16"	9/16"	9/32"	5/8"	5/16"
054XY	5/16"	3/16"	1/16"	1/16"	9/16"	9/32"	5/8"	5/16"
112HD	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
112XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
114XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
157XY	1/8"	3/16"	1/16"	1/16"	3/8"	3/16"	7/16"	7/32"
210XY	1/8"	3/16"	1/16"	1/16"	3/8"	3/16"	7/16"	7/32"
224HD	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
224XY	5/8"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"

Templates and installation instructions available on line at www.allegion.com/us

General information - electrification options

Only available for the full mortise hinges

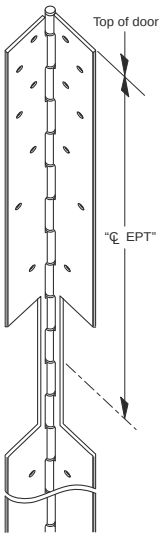
Electric power transfer (EPT) availabile on 600, 700, 705, 715, 700CS, 715CS models

Electric power transfer provides the most secure and best solution for transferring power from the door frame to the edge of a swinging door. Ives Pin and Barrel Hinges provide standard cut outs to fit Von Duprin EPT- 2, EPT-10 and PNT-1 devices. Consult factory for other electrical cut out options. Door handing is required.

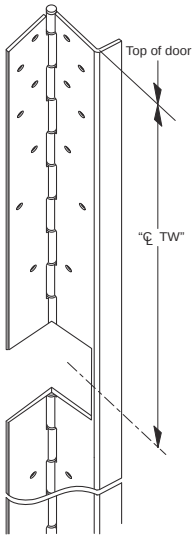
Electrical through-wire (TW8) for standard models (600, 700, 705, 715) only

Recommended for low frequency usage. Provides electric power transfer from the frame to the door cable in order to supply power to an electrified mortise or cylidrical locks, exit devices with electric latch retraction, and/or electric strikes (pairs of doors). Through-wire is rated 50 volts AC/DC at 3.5 amp continuous and 16 amp pulse. Maximum pulse 400 milliseconds. Ives through-wire hinges are fully compatible with 4 wire and 8 wire installations. Requires the door to be torn down for maintenance. Available CON option comes with the Allegion Connect 8-pin Connector which makes it easy to connect to other electrical consumption devices.

EPT 600/700/ 700CS



TW8 600/700s



Note: See ordering guide in price book for proper placement.

Standard Length	EPT	TW	TWP
83"	30"	43-19/32"	43-13/16"
85"	32"	45-17/32"	44-29/32"
95"	42"	55-17/32"	55-9/32"
120"	67"	80-17/32"	79-1/2"

Electrical through-wire panel with Allegion Connect (TWP) (700CS models only)

The thru-wire panel solution works in the CS mortise hinge to maintain the clean aesthetic design of aluminum geared continuous hinges. Made with the same medical grade bearings of Ives other pin and barrel hinges, the CS Series brings thru-wire panel innovation to your continuous hinge application while keeping its great looks.

The CS Series thru-wire panel is a heavy duty, easy-to-install, stainless steel panel. Tested to 2.5 million cycles, the CS Series panel can quickly slip in and out of the hinge for maintenance and replacement.

Unlike all of the other manufacturer solutions the CS Series thru-wire panel maintains a one piece appearance on the cover side of the hinge. It installs with the same 5/16" clearance as aluminum geared hinges and works in all of the decorative cover finishes.

Provides electric power transfer from the frame to the door in order to supply power to an electrified mortise or cylindrical locks, exit devices with electric latch retraction, and/or electric strikes (pairs of doors). Thru-wire panel is rated 50 volts AC/DC at 3.5 amp continuous and 16 amp pulse. Maximum pulse 400 milliseconds. Ives through-wire hinges are fully compatible with 4 wire and 8 wire installations. Available CON option comes with the Allegion Connect 8-pin Connector which makes it easy to connect to other electrical consumption devices.

Electrical Cutouts

Ives Pin & Barrel Continuous Hinges are available with factory modified cutouts to accommodate most electrical frame to door requirements. Special templates are required.

When ordering indicate the following:

1. Opening size.
2. Handing. LH, RH, LHR or RHR.
3. Manufacturer and model number of the electrical product being used. Example; Von Duprin ETPT2

Because clearances may vary between door and frame manufacturer, and locations can be influenced by the door hardware it is always recommend contacting Ives Customer Technical for specific template information.

For your general information following are standard locations for Von Duprin EPT2 or EPT10, and TW (through wire).

In accordance with industry standards, all cutouts are made from Top Edge of Door to Center Line of Cut-out.

How to order

700 | HT | US32D | 83 | TW8 CON

Model

Stainless steel

700/700CS	Full Mortise
702	Full Surface - Center Pivot
705	Full mortise - full wrap
711/711CS	Full surface - swing clear
715/715CS	Full mortise - half wrap

Steel

600	Full mortise
602	Full surface - center pivot
611	Full surface - swing clear

Option 1

HT	Hospital tip (600 and 700 series only)

Finish

Stainless steel - only available on 700 Series

US32D	Satin stainless steel

Stainless steel / aluminum - only available on CS Series

US32DAN	Satin stainless anodized
USP	Grey primer paint
US28	Clear aluminum anodized
US4AN	Satin brass anodized
US10AN	Satin bronze anodized
313AN	Dark bronze anodized
315AN	Black anodized
US26AN	Bright chrome anodized
US26DAN	Satin chrome anodized

Steel - only available on 600 Series

600	Grey primer paint

Length

83"
85"
95"
120"

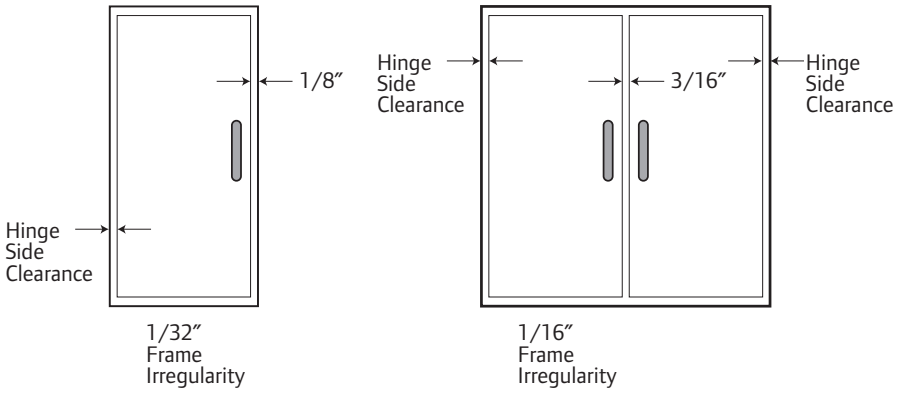
Other lengths available up to 120", consult factory. Handing is required.

Option 2

EPT	Electric power transfer prep (600, 700, 705, 715, 700CS, 715CS models only) Handing (LH and RH) required for 026, 027, 114, and 224 models
TWP	Through wire panel (only available on 700CS)
TW8	Electric through Wire (600, 700, 705, 715 models only)
CON	Allegion Connect (600, 700, 705, 715, 700CS models only)
SECHM	Security fasteners - Torx
SECWDHM	Security fasteners - Torx (half wood, half hollow metal)
SECWDWD	Security fasteners - Torx (wood door and frame)
WD	Wood door fasteners

Clearance requirements

Consult your local authority having jurisdiction for specific fire codes relating to fire rated doors.
The table below is only recommended for non fire related doors.



Single door

Model	Hinge-side clearance	Lock-side clearance	Frame irregularity	Beveled door clearance	Door under-sizing	
					Square edged	Beveled edged
600	1/4"	1/8"	1/32"	1/32"	13/32"	7/16"
602	1/8"	1/8"	1/32"	1/32"	9/32"	5/16"
700	1/4"	1/8"	1/32"	1/32"	13/32"	7/16"
700CS	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"
702	1/8"	1/8"	1/32"	1/32"	9/32"	5/16"
705	3/8"	1/8"	1/32"	1/32"	17/32"	9/16"
705*	1/2"	1/8"	1/32"	1/32"	21/32"	11/16"
711	7/32"	1/8"	1/32"	1/32"	3/8"	13/32"
711CS	3/8"	1/8"	1/32"	1/32"	17/32"	9/16"
715	1/4"	1/8"	1/32"	1/32"	13/32"	7/16"
715CS	5/16"	1/8"	1/32"	1/32"	15/32"	1/2"

** Use the Adjusta-Studs with 705*

Pair of doors

Model	Hinge-side clearance	Lock-side clearance	Frame irregularity	Beveled door clearance	Door under-sizing			
					Square edge total	Square edge each door	Beveled edge total	Beveled edge each door
600	1/4"	3/16"	1/16"	1/16"	3/4"	3/8"	13/16"	13/32"
602	1/8"	3/16"	1/16"	1/16"	1/2"	1/4"	9/16"	9/32"
700	1/4"	3/16"	1/16"	1/16"	3/4"	3/8"	13/16"	13/32"
700CS	5/16"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"
702	1/8"	3/16"	1/16"	1/16"	1/2"	1/4"	9/16"	9/32"
705	3/8"	3/16"	1/16"	1/16"	1"	1/2"	1-1/16"	17/32"
705*	1/2"	3/16"	1/16"	1/16"	1-1/4"	5/8"	1-5/16"	21/32"
711	7/32"	3/16"	1/16"	1/16"	11/16"	11/32"	3/4"	3/8"
711CS	3/8"	3/16"	1/16"	1/16"	1"	1/2"	1-1/16"	17/32"
715	1/4"	3/16"	1/16"	1/16"	3/4"	3/8"	13/16"	13/32"
715CS	5/16"	3/16"	1/16"	1/16"	7/8"	7/16"	15/16"	15/32"

** Use the Adjusta-Studs with 705*

600 Full mortise pin and barrel continuous hinge - steel
700 Full mortise pin and barrel continuous hinge - stainless steel

- 1/4" diameter pin with nylon self-lubricating, medical grade split bearing
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- 1/8" Inset recommended for 1 3/4" doors
- 48" Maximum door width
- Non handed for custom cut lengths
- Bevel or square edge door

Certifications
- Meets ANSI 156.26
- UL10C certified

Standard lengths
- 83", 85", 95", 120"

Standard mounting hardware
- #10 X 1/2" Self Drilling, Self Tapping Screws
- #10 X 1" Wood Screws

Material
- 600 - 1012 Cold-rolled steel
- 700 - 14 Gauge Type 304 stainless steel

Finishes

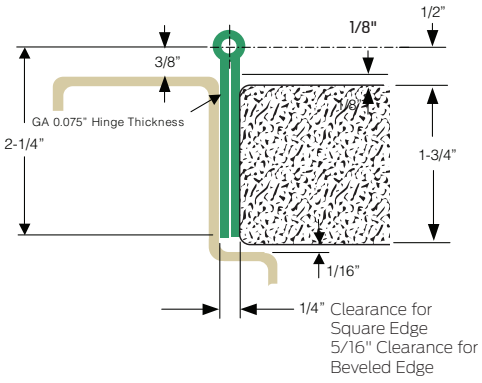
BHMA	Description	Substrate	Finish
600	Grey primer paint	Steel	USP
630	Satin stainless steel	Stainless steel	US32D

Custom paint available on 600 series, consult factory.

Options
- HT.....Hospital tip
- EPT .....Electric power transfer
- TW8 .....Electrical through wire
- CON.....Allegion Connect

Optional mounting hardware
- SECHM.....Security screws - hollow metal door and frame
- SECWDHM.....Security screws - 1/2 wood, 1/2 hollow metal
- SECWDWD .....Security screws - wood door and frame
- WD.....Wood door and frame

For single door applications:
For pairs of doors see chart and general information



700CS Full mortise pin and barrel continuous hinge w/ decorative cover

- Patented cover protects hinge knuckle and creates a cleaner and neater appearance
- XY adjustability feature allows for better door alignment during installation
- Patented, medical grade, nylon winged bearings
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- 1/16" door inset
- 48" Maximum door width
- Non handed
- Bevel or square edge door

Certifications

- Meets ANSI 156.26
- UL10C certified

Standard lengths

- 83", 85", 95", 120"

Standard mounting hardware

- 12-24 X 3/4" Self drilling, self tapping screws

Material

- 14 Gauge Type 304 stainless steel

Finishes

BHMA	Description	Substrate	Finish
441	Satin stainless anodized	Aluminum/Steel	US32DAN
600	Grey primer paint	Aluminum/Steel	USP
628	Clear aluminum anodized	Aluminum/Steel	US28
688	Satin brass anodized	Aluminum/Steel	US4AN
709	Satin bronze anodized	Aluminum/Steel	US10AN
710	Dark bronze anodized	Aluminum/Steel	313AN
711	Black anodized	Aluminum/Steel	315AN
712	Bright chrome anodized	Aluminum/Steel	US26AN
713	Satin chrome anodized	Aluminum/Steel	US26DAN

Custom paint available, consult factory. Standard custom paint is on cover only. Specify if paint on whole hinge is needed.

Options

- HT.....Hospital tip
- EPT .....Electric power transfer
- TW8 .....Electrical through wire
- CON.....Allegion Connect

Optional mounting hardware

- SECHM.....Security screws - hollow metal door and frame
- WD.....Wood door and frame

For single door applications:

For pairs of doors see chart and general information

602 Full surface pin and barrel continuous hinge - steel
702 Full surface pin and barrel continuous hinge - stainless steel

- 1/4" diameter pin with nylon self-lubricating, medical grade split bearing
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- Flush mounted, no inset
- 48" Maximum door width
- Non handed for custom cut lengths
- Bevel or square edge door

Certifications
- Meets ANSI 156.26
- UL10C certified

Standard lengths
- 83", 85", 95", 120"

Standard mounting hardware
- #10 X 1/2" Self drilling, self tapping screws
- #10 X 1" Wood screws
- Cover clips

Material
- 602 - 1012 Cold-rolled steel
- 702 - 14 Gauge Type 304 stainless steel

Finishes

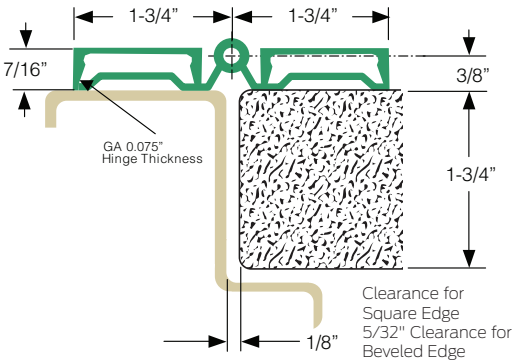
BHMA	Description	Substrate	Finish
600	Grey primer paint	Steel	USP
630	Satin stainless steel	Stainless steel	US32D

Custom paint available on 600 series, consult factory.

Options
- HT.....Hospital tip

Optional mounting hardware
- SECHM.....Security screws - hollow metal door and frame
- SECWDHM.....Security screws - 1/2 wood, 1/2 hollow metal
- SECWDWD .....Security screws - wood door and frame
- WD.....Wood door and frame

For single door applications:
For pairs of doors see chart and general information



705 Full mortise, full wrap pin and barrel continuous hinge - stainless steel

- Full wrap edge guard
- Adjustable for undersized and out of square doors
- 1/4" diameter pin with nylon self-lubricating, medical grade split bearing
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- Flush mounted, no inset
- 48" Maximum door width
- Non handed, handing required for custom cut lengths
- Bevel or square edge door

Certifications
- Meets ANSI 156.26
- UL10C certified

Standard lengths
- 83", 85", 95", 120"

Standard mounting hardware
- #10 X 1/2" Self drilling, self tapping screws
- #10 X 1" Wood screws

Material
- 14 Gauge Type 304 stainless steel

Finishes

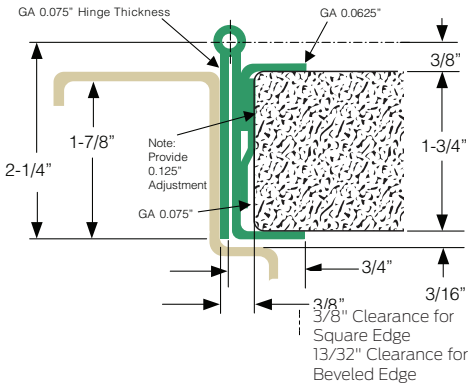
BHMA	Description	Substrate	Finish
630	Satin stainless steel	Stainless steel	US32D

Custom paint available, consult factory.

Options
- HT.....Hospital tip
- EPT .....Electric Power Transfer
- TW8 .....Electrical Through Wire
- CON.....Allegion Connect

Optional mounting hardware
- SECHM.....Security screws - hollow metal door and frame
- SECWDHM.....Security screws - 1/2 wood, 1/2 hollow metal
- SECWDWD .....Security screws - wood door and frame
- WD.....Wood door and frame

For single door applications:
For pairs of doors see chart and general information



* Adjusta-Stud allows up to 3/8" width adjustment which ensures proper alignment and easy installation. Adjusta-Stud also makes it possible for future adjustments of the door on the frame through repositioning.

611 Swing clear pin and barrel continuous hinge - steel
711 Swing clear pin and barrel continuous hinge - stainless steel

- Edge guard
- May be difficult to install on inside walls
- 1/4" diameter pin with nylon self-lubricating, medical grade split bearing
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- 48" Maximum door width
- Non handed, handing required for custom cut lengths
- Square edge door

Certifications
- Meets ANSI 156.26
- UL10C certified

Standard lengths
- 83", 85", 95", 120"

Standard mounting hardware
- #10 X 1/2" Self drilling, self tapping screws
- #10 X 1" Wood screws

Material
- 611 - 1012 cold-rolled steel
- 711 - 14 Gauge Type 304 stainless steel

Finishes

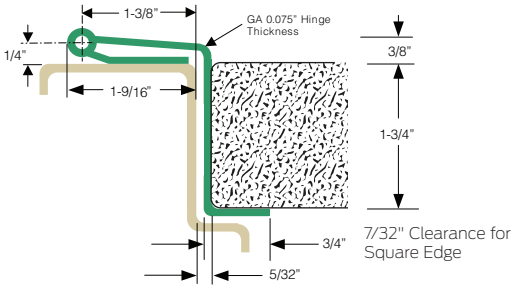
BHMA	Description	Substrate	Finish
600	Grey primer paint	Steel	USP
630	Satin stainless steel	Stainless steel	US32D

Custom paint available on 600 series, consult factory.

Options
- HT.....Hospital tip

Optional mounting hardware
- SECHM.....Security screws - hollow metal door and frame
- SECWDHM.....Security screws - 1/2 wood, 1/2 hollow metal
- SECWDWD .....Security screws - wood door and frame
- WD.....Wood door and frame

For single door applications:
For pairs of doors see chart and general information



711CS Swing clear pin and barrel continuous hinge w/ decorative cover

- Patented cover protects hinge knuckle and creates a cleaner and neater appearance
- XY adjustability feature allows for better door alignment during installation
- Edge guard
- Easy to install mounting location on mortise end of frame
- 2-11/16" minimum frame face requirement
- Patented, medical grade, nylon winged bearings
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- 1/16" door inset
- 48" Maximum door width
- Non Handed, handing required for custom cut lengths
- Square edge door

Certifications

- Meets ANSI 156.26
- UL10C certified

Standard lengths

- 83", 85", 95", 120"

Standard mounting hardware

- 12-24 X 3/4" Self drilling, self tapping screws

Material

- 14 Gauge Type 304 stainless steel

Finishes

BHMA	Description	Substrate	Finish
441	Satin stainless anodized	Aluminum/Steel	US32DAN
600	Grey primer paint	Aluminum/Steel	USP
628	Clear aluminum anodized	Aluminum/Steel	US28
688	Satin brass anodized	Aluminum/Steel	US4AN
709	Satin bronze anodized	Aluminum/Steel	US10AN
710	Dark bronze anodized	Aluminum/Steel	313AN
711	Black anodized	Aluminum/Steel	315AN
712	Bright chrome anodized	Aluminum/Steel	US26AN
713	Satin chrome anodized	Aluminum/Steel	US26DAN

Custom paint available, consult factory. Standard custom paint is on cover only. Specify if paint on whole hinge is needed.

Optional mounting hardware

- SECHM.....Security screws - hollow metal door and frame
- WD.....Wood door and frame

For single door applications:

For pairs of doors see chart and general information

715 Full mortise, half wrap pin and barrel continuous hinge - stainless steel

- Half wrap edge guard
- 1/4" diameter pin with nylon self-lubricating, medical grade split bearing
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- 1/16" door inset
- 48" Maximum door width
- Non handed, handing required for custom cut lengths
- Square edge door

Certifications
- Meets ANSI 156.26
- UL10C certified

Standard lengths
- 83", 85", 95", 120"

Standard mounting hardware
- #10 X 1/2" Self Drilling, Self Tapping Screws
- #10 X 1" Wood Screws

Material
- 14 Gauge Type 304 Stainless Steel

Finishes

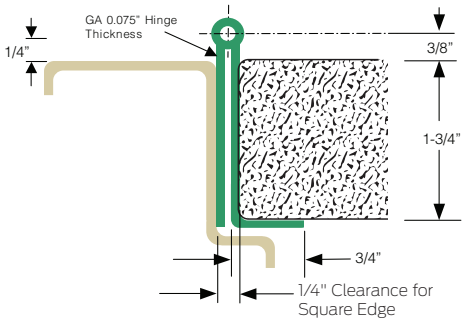
BHMA	Description	Substrate	Finish
630	Satin stainless steel	Stainless steel	US32D

Custom paint available on 600 series, consult factory.

Options
- HT.....Hospital tip
- EPT .....Electric power transfer
- TW8 .....Electrical through wire
- CON.....Allegion Connect

Optional mounting hardware
- SECHM.....Security screws - hollow metal door and frame
- SECWDHM.....Security screws - 1/2 wood, 1/2 hollow metal
- SECWDWD .....Security screws - wood door and frame
- WD.....Wood door and frame

For single door applications:
For pairs of doors see chart and general information



715CS Full mortise, half wrap pin and barrel continuous hinge w/ decorative cover

- Patented cover protects hinge knuckle and creates a cleaner and neater appearance
- XY adjustability feature allows for better door alignment during installation
- Half wrap edge guard
- Patented, medical grade, nylon winged bearings
- For doors weighing up to 300 pounds without reinforcing. 600 pounds with reinforcing
- Flush mounted, no inset
- 48" Maximum door width
- Non handed, handing required for custom cut lengths
- Square edge door

Certifications

- Meets ANSI 156.26
- UL10C certified

Standard lengths

- 83", 85", 95", 120"

Standard mounting hardware

- 12-24 X 3/4" Self drilling, self tapping screws

Material

- 14 Gauge Type 304 stainless steel

Finishes

BHMA	Description	Substrate	Finish
441	Satin stainless anodized	Aluminum/Steel	US32DAN
600	Grey primer paint	Aluminum/Steel	USP
628	Clear aluminum anodized	Aluminum/Steel	US28
688	Satin brass anodized	Aluminum/Steel	US4AN
709	Satin bronze anodized	Aluminum/Steel	US10AN
710	Dark bronze anodized	Aluminum/Steel	313AN
711	Black anodized	Aluminum/Steel	315AN
712	Bright chrome anodized	Aluminum/Steel	US26AN
713	Satin chrome anodized	Aluminum/Steel	US26DAN

Custom paint available, consult factory. Standard custom paint is on cover only. Specify if paint on whole hinge is needed.

Options

- EPT .....Electric power transfer

Optional mounting hardware

- SECHM.....Security screws - hollow metal door and frame
- WD.....Wood door and frame

For single door applications:

For pairs of doors see chart and general information

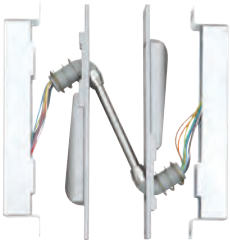
The door rests on the bottom pivot in this application. This reduces the stress on the frame by distributing the weight of the door throughout the floor and structure. By taking advantage of the strength of the structure, this makes a pivot the ideal solution for your heavy doors. Center and pocket pivots also provide an aesthetic option for your opening.

Used in conjunction with rescue hardware, center hung pivots allows a bi-directional door swing in emergency situations. When a patient becomes trapped behind an inward swing door, the center tong depresses allowing the door to swing in the opposite direction without causing damage to the frame.

Electric power transfer accessories

EPT Electrical power transfer

PNT Pneumatic transfer



Electric Power Transfer provides a means of transferring electrical power from a door frame to the edge of a swinging door. The units are completely concealed when the door is in the closed position, and are ideal for installations involving abuse or heavy traffic.

Two models are available; EPT-2, two 18 gauge wires and EPT-10, ten 24 gauge wires. The EPT-2 and EPT-10 are U/L listed as "miscellaneous door accessory".

UL Listed for use on fire doors.

Door applications:

Degree of opening	Hinge type	Door thickness
0-180	Up to 5" butt hinges	1 3/4"
0-180	Up to 3/4" offest pivots	1 3/4"
0-130	5 1/2" butt hinges	1 3/4"
0-110	6" butt hinges	1 3/4"
0-90	Swing clear hinges	1 3/4"

Finishes

SP28 (sprayed aluminum)

SP313 (sprayed duranodic).

Dimensions

Housing	9" x 1 1/4" x 1 5/8" (229mm x 32mm x 38mm)
EPT-2	Two 18 gauge wires, Up to 2 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
EPT-10	Ten 24 gauge wires, Up to 1 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
PNT-1	5/32" Tubing

To order, specify:

1. EPT-2 ,EPT-10 or PNT-1.
2. Finish, SP28 or SP313.

Electromagnetic locks

Schlage has a rich heritage in electronic security. For years we have led the industry by providing a broad portfolio of solutions to meet the diverse needs of the market. Today, our electromagnetic locking portfolio continues to evolve to meet your changing needs.

Schlage electromagnetic locks are used to secure the door in conjunction with push bars, request to- exit devices, or credential readers for fail-safe applications when code compliance permits. You can use them on a single standalone door or as part of an access control system. Electromagnetic locks do not contain moving parts, making them extremely durable and preferred for high security applications.

Electromagnetic locks consist of an armature and a coil assembly, which become magnetized when an electric current passes through them. This magnetic field secures the door. Electromagnetic locks are fail-safe by design. To unlock the door simply remove power.

M400 Series electromagnetic locks

The M400 Series is a robust line of electromagnetic locks with unique new design elements that make them easy to install and secure.

Features:

- Auto voltage selection is standard
- Plus Package (P) adds magnetic bond sensor, relocking time delay, door status monitor
- Optional mounting kits available including: Top Jamb Mount, Double and Glass Door

Certifications:

- UL 1034
- UL 10C 3 hour fire rating
- BHMA Grade 1
  - M420 – 500 lb. hold force for traffic control
  - M450 – 1000 lb. hold force for high security
  - M490 – 1500 lb. hold force for max security

Electromagnetic specialty locks

Schlage's electromagnetic specialty locks provide flexibility for a variety of applications. They offer a depth of features and a proven record of performance.

Features and certifications:

M490DE: Delays egress with 15 second timer: includes integrated alarm

- Designed to meet NFPA 101 & BOCA, UL 10C 3 hr fire rating, UL 294, and BHMA 1500 lb. hold force

M490G: Gate lock is weather resistant for exterior swinging and sliding gates

- BHMA 1500 lb. hold force rated GF3000: Concealed locking mechanism enhances security and appearance
- UL 10C 3 hr fire rating, BHMA 1500 lb. hold force 320M: MiniLine is mortise designed for interior sliding doors
- UL 10C 3 hr fire rating, UL 1034 listed

40/70 Series Electromagnetic Locks

Ease of installation makes the 40/70 Series a perfect choice for retrofit applications. It is also easy to select and stock.

Features and Certifications:

- Magnetic bond sensor and door status monitor standard
- UL 10C 1 hour fire rating and BHMA Grade 1:

- 40 Series – 500 lb. hold force
- 70 Series – 1000 lb. hold force

261 Flush bolt - 4"

- An exceptionally smooth working flush bolt with sharp, crisp lines
- Double action spring design provides automatic holding of brass bolt in projected or retracted position, and assures ease of operation in conjunction with deep cup finger hole
- Made from polished cast brass
- Bolt tip is 5/16" Diameter
- Bolt throw is 3/4"
- Bolt backset is 15/32"

Certifications

- Meets ANSI A156.16, L04201

Mounting

- 5 X 5/8" FPHSMS
- 8 X 3/4" FPHSMS

Dimensions

Body size (Width X Length X Depth)	Strike size (Width X Length)
3/4" x 4" x 1-1/8"	5/8" x 1-1/2"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
609	Satin brass	Brass	US5
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

Custom finishes are available as engineering special, consult customer service

262 Flush bolt - 6" square end

- An exceptionally smooth working flush bolt with sharp, crisp lines
- Double action spring design provides automatic holding of brass bolt in projected or retracted position, and assures ease of operation in conjunction with deep cup finger hole
- Made from polished cast brass
- Bolt tip is 1/2" diameter
- Bolt throw is 1"
- Bolt backset is 15/32"

Certifications

- Meets ANSI A156.16, L04201

Mounting

- 5 X 5/8" FPHSMS
- 8 X 3/4" FPHSMS

Dimensions

Body size (Width X Length X Depth)	Strike size (Width X Length)
3/4" x 6" x 1-11/32"	7/8" x 1-3/4"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
609	Satin brass	Brass	US5
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

Custom finishes are available as engineering special, consult customer service.

265 Flush bolt - 6" round end

- A flush bolt with radiused bottom faceplate designed specifically for simple one-step router installation
- Double action spring design provides automatic holding of brass bolt in projected or retracted position, and assures ease of operation in conjunction with deep cup finger hole
- Faceplate is polished solid brass; bolt is made from aluminum zinc alloy
- Bolt tip is 1/2" diameter
- Bolt throw is 1"
- Bolt backset is 1/2"

Certifications

- Meets ANSI A156.16, L042011

Mounting

- 5 X 5/8" FPHSMS
- 8 X 3/4" FPHSMS

Dimensions

Body size (Width X Length X Depth)	Strike size (Width X Length)
3/4" x 6" x 1-7/16"	7/8" x 1-3/4"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
609	Satin brass	Brass	US5
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

Custom finishes are available as engineering special, consult customer service.

FB358 Top or bottom bolts

- When the active door is opened, the lever can be moved to the 'up' position, retracting the bolt and allowing the inactive leaf to be opened. When the inactive leaf is closed, the lever can be moved to the 'down' position, projecting the bolt into the strike and securely locking the inactive leaf
- Reduces installation costs; requires only simple router mortise at top and bottom corners of doors
- Door strength and rigidity maintained by tying door faces to reinforcing extensions on guide with machine screws and bearing washers, not supplied
- Non-handed
- Bolt tip 1/2" diameter
- Bolt throw is 3/4" with a 7/8" vertical adjustment
- Bolt backset is 3/4"
- Not available for rabbeted door installations

Certifications

- Meets ANSI A156.16, L04261
- UL Listed 90 Minute fire doors 8'0" X 10'0". Fire rated openings require top and botom bolt.

Mounting

- 8 X 1" FPHSMS
- 8 X 3/4" FPHSMS

Dimensions

Body size (Width X Length X Depth)	Guide Size (Width X Length X Thickness)	Strike size (Width X Length X Thickness)
1" x 6-3/4" x 1-3/8"	1" x 2-1/2" x 5/64"	15/16" x 2-1/4" x 5/64"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
622	Matte black	Brass	BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	–

Custom finishes are available as engineering special, consult customer service.

Available accessory items

- DP1 and DP2 dust proof strike, see page C16

FB457 Top or bottom bolts

- When the active door is opened, the lever can be moved to the 'up' position, retracting the bolt and allowing the inactive leaf to be opened. When the inactive leaf is closed, the lever can be moved to the 'down' position, projecting the bolt into the strike and securely locking the inactive leaf.
- Simplified installation in metal frames. Round bolt head requires only a punched hole. Use of strike optional. Special design of guide and flat sided bolt tip to prevent bolt rotation.
- Non-handed
- Bolt tip 1/2" diameter
- Bolt throw is 3/4" with a 7/8" vertical adjustment
- Bolt backset is 3/4"
- Standard rod length is 12", which is measured from the center of the flush bolt body to the bolt tip

Certifications

- Meets ANSI A156.16, L04261
- UL Listed 3 Hour fire doors 8'0" X 10'0". Fire rated openings require top and bottom bolt.

Mounting

- 8-32 X 1" FPHMS

Dimensions

Body size (Width X Length X Depth)	Guide Size (Width X Length X Thickness)	Strike size (Width X Length X Thickness)
1-1/4" x 6-3/4" x 1-1/8"	1" x 2" x 5/64"	15/16" x 2-1/4" x 5/64"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
622	Matte black	Brass	BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	–

Custom finishes are available as engineering special, consult customer service.

Available options

- Optional rod lengths available for top bolt only on non-fire rated openings—18", 24" for fire rated doors with AHJ approval, 36" and 48" for non-fire rated doors

Available accessory items

- DP1 and DP2 dust proof strike, see page C16

FB458 Top or bottom bolts

- When the active door is opened, the lever can be moved to the 'up' position, retracting the bolt and allowing the inactive leaf to be opened. When the inactive leaf is closed, the lever can be moved to the 'down' position, projecting the bolt into the strike and securely locking the inactive leaf.
- Simplified installation in metal frames. Round bolt head requires only a punched hole. Use of strike optional. Special design of guide and flat sided bolt tip to prevent bolt rotation.
- Non-handed
- Bolt tip 1/2" diameter
- Bolt throw is 3/4" with a 7/8" vertical adjustment
- Bolt backset is 3/4"
- Standard rod length is 12", which is measured from the center of the flush bolt body to the bolt tip

Certifications

- Meets ANSI A156.16, L04261
- UL Listed 3 Hour fire doors 8'0" X 10'0". Fire rated openings require top and bottom bolt.

Mounting

- 8-32 X 1" FPHMS

Dimensions

Body size (Width X Length X Depth)	Guide Size (Width X Length X Thickness)	Strike size (Width X Length X Thickness)
1" x 6-3/4" x 1-1/8"	1" x 2" x 5/64"	15/16" x 2-1/4" x 5/64"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
609	Blackened brass	Brass	US5
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
622	Matte black	Brass	BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
643e/716	Aged bronze	Brass	–

Custom finishes are available as engineering special, consult customer service.

Available options

- Optional rod lengths available for top bolt only on non-fire rated openings—18", 24" for fire rated doors with AHJ approval, 36" and 48" for non-fire rated doors

Available accessory items

- DP1 and DP2 dust proof strike, see page C16

SB360

Surface bolt

- Surface bolt has 1 1/4" throw for maximum security
- Jimmy-resistant design, bolt locks automatically when thrown, can be released only be pressing knob toward door while retracting
- Ideal for all types of doors
- Available in 12" length
- Unit locks in both the up and down position
- Accepts padlock (not furnished) with maximum 3/8" diameter shackle, minimum 1 3/4" shackle opening height
- Units packed with one-way wood screws for added security
  - Standard wood screws also supplied
- Units packed with a universal top strike (US)

Available mortise strike

Specifications

Material substrate	Heavy duty steel
Certifications	▪ Meets ANSI/BHMA A156.16 ▪ UL10C Listed (3 hour) fire doors up to 10'0" ▪ Miami Dade County NOA listed ▪ Florida Building Commission listed ▪ FEMA 361 and 320 listed

Dimensions

Bar	Overall width	Overall projection	Top strike	Available mortise strike
3/4" W x 3/4" T	2 1/32"	2 1/16"	1 1/2" W x 1 1/2" L x 3/16" T	1 5/8" W x 3 1/2" L x 1/8" T

Finish

BHMA	Description	Substrate	Finish
604	Clear Zinc	Steel	US2C

Available accessories

- Through bolt
- Mortise bottom strike (MS)

SB453

Surface bolt

- Surface bolt has 1 3/16" throw for maximum security
- Strong tension springs prevent creep
- Ideal for all types of doors
- Available 8" and 12" lengths
- Units packed with standard wood screws and machine screws to meet most field conditions
- Units packed with both a universal top strike (US) and a mortise bottom strike (MS)

Specifications

Material substrate	Heavy duty steel
Certifications	▪ Meets ANSI/BHMA A156.16 L84161 ▪ UL10C Listed (3 hour) fire doors up to 10'0"

Dimensions

Bar	Overall width	Overall projection	Top strike	Bottom strike
3/4" W x 3/4" T	2 1/32"	1 5/16"	1 1/2" W x 1 1/2" L x 3/16" T	1 5/8" W x 3 1/2" L x 1/8" T

Finishes

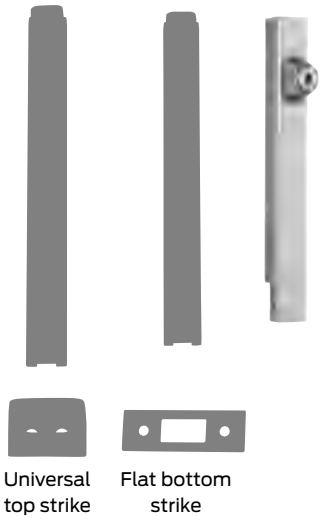
BHMA	Description	Substrate	Finish
604	Clear Zinc	Steel	US2C
631	Matte Black	Steel	BLK
632*	Bright Brass	Steel	US3
633*	Satin Brass	Steel	US4
639	Satin Bronze	Steel	US10
640	Oil Rubbed Bronze	Steel	US10B
643e/716	Aged Bronze	Steel	643e/716
646	Satin Nickel	Steel	US15
652	Satin Chrome	Steel	US26D

* Only available in 8" bolt length. For other colors, consult factory.

Available accessories

- Through bolt
- Through bolts (machine screws with cap nuts) not intended for use as security screws

SB1630/SB1640



Universal top strike

Flat bottom strike

Surface bolt

- Standard surface bolt has 1" throw for maximum security
- Ideal for all types of doors
- Fully concealed mounting prevents vandalism
- Units packed with wood and machine screws to meet most field conditions
- Comes end plug and end plug stud package
- Available in locking version, unit locks in both the up and down position
  - Locking bolts are furnished with 2 keys in 4 keying variations

Specifications

Material substrate	▪ 1630 Series is constructed of heavy duty steel ▪ 1640 Series is constructed of brass
Certifications	▪ 1630 Meets ANSI/BHMA A156.16 L84161 and UL10C Listed (3 hour) fire doors up to 8'0" ▪ 1640 Meets ANSI/BHMA A156.16 L24161

Dimensions

Body	Overall knob or lock housing projection	Top strike	Bottom strike
8" L x 7/8" W x 3/4" T	1 1/2"	1 1/4" W x 7/8" L x 15/16" D	3" L x 1" W x 1/8" T

Strike options

- **T** Top strike only
- **B** Bottom strike only
- **TB** Top and bottom strike*
- **TL** Locking bolt with top strike only
- **BL** Locking bolt with bottom strike only
- **TBL** Locking bolt with top and bottom strike*

* Available on SB1630 Only

Key code

- 1289 Standard key code
- 1360
- 1390
- 1395

SB1630 Finishes

BHMA	Description	Substrate	Finish
603	Clear Zinc	Steel	US2G
640	Oil Rubbed Bronze	Steel	US10B
652	Satin Chrome	Steel	US26D

SB1640 Finishes

BHMA	Description	Substrate	Finish
605	Bright Brass	Brass	US3
613	Oil Rubbed Bronze	Brass	US10B
626	Satin Chrome	Brass	US26D

For other colors, consult factory.

Available accessories

- Security pin screw
- Through bolts available
- End plug and end plug stud package
- Cylinder package
- Replacement strike packages

SB1600M1/SB1600M2

Surface bolt

- Standard surface bolt has 3 1/2" throw for maximum security and for doors with larger undercuts
- Sleek handle design
- Ideal for all types of doors
- Fully concealed mounting prevents vandalism
- Available in locking version. Unit locks in both the up and down position
  – Locking bolts are furnished with 2 keys in 4 keying variations
- Units packed with wood and machine screws to meet most field conditions
- M1 version has Actuator tab pointing away from the door
- M2 version has Actuator tab pointing towards the door

SB1600M1 SB1600M2 SB1600M2-TL

Optional flat bottom strike

Optional universal strike

Specifications

Material substrate	Constructed of heavy duty steel
Certifications	Meets ANSI/BHMA A156.16 L84161 and UL10C Listed (3 hour) fire doors up to 8'0"

Dimensions

Bar	Top strike	Bottom strike
11" L x 3/4" W x 3/4" T, locking version 1 1/2" thick	1 1/4" W x 7/8" T x 15/16" D	3" L x 1" W x 1/8" T

Strike options

- **T** Top strike only
- **B** Bottom strike only
- **TL** Top locking strike only
- **BL** Bottom locking strike only

Key code

- 1289 Standard key code
- 1360
- 1390
- 1395

Finishes

BHMA	Description	Substrate	Finish
631	Matte Black	Steel	BLK
689	Aluminum Painted	Steel	SP28
691	Dull Bronze Painted	Steel	SP10
695	Dark Bronze Painted	Steel	SP313
706	Dull Brass Painted	Steel	SP4

For other colors, consult factory.

Available accessories

- Security pin screw
- Through bolts available
- End plug and end plug stud package
- Cylinder package
- Replacement strike packages

40

Surface bolt, decorative light duty

- Recommended for 1 3/8" and 1 3/4" hollow core doors or door partitions
- Concealed screw design enhances appearance and security
- Exceptional strength and durability provided by interlocking construction of heavy gauge track and rod
- Permanent stop prevents rod disengagement from track
- Tension spring holds bolt in desired position
- Track assures smooth operation and interlocks with side edges of rod to eliminate marring
- Decorative 5/8" diameter knob designed to facilitate bolt operation
- Available in 3", 4" and 6" lengths
- Units packed with wood screws
- Packed with both universal and mortise strikes

Universal strike

Mortise strike

Specifications

Material substrate	Made from extruded brass
Certifications	Meets ANSI/BHMA A156.16

Dimensions

Throw	Projection	Width	Length
11/16"	3/4"	11/16"	3", 4" or 6

Finishes

BHMA	Description	Substrate	Finish
605	Bright Brass	Brass	B3
609	Blackened Brass	Brass	B5
613	Oil Rubbed Bronze	Brass	B10B
619	Satin Nickel	Brass	B15
622	Matte Black	Brass	BLK
625	Bright Chrome	Brass	B26
626	Satin Chrome	Brass	B26D
643e/716	Aged Bronze	Brass	643e/716

For other colors, consult factory.

253

Surface bolt, decorative heavy duty

- Recommended for 1 3/4" or larger doors
- Heavy duty, decorative bolt ideal where extra strength required
- Decorative 1 1/4" diameter knob fits well with any décor and designed to facilitate bolt operation
- Available in 8" and 12" lengths. Optional lengths available, consult factory.
- Units packed with wood screws
- Packed universal strike (US) and mortise strike (MS)

Universal strike

Mortise strike

Specifications

Material substrate	Made from solid brass
Certifications	Meets ANSI/BHMA A156.16

Dimensions

Throw	Projection	Half round rod	Overall width	Length
1 1/8"	1 5/16"	5/8"	1 5/8"	8" or 12"

Finishes

BHMA	Description	Substrate	Finish
605	Bright Brass	Brass	B3
613	Oil Rubbed Bronze	Brass	B10B
626	Satin Chrome	Brass	B26D

For other colors, consult factory.

054

Dutch door bolt

- Practical, rugged, attractive bolt for application on Dutch doors as well as other areas
- Chamfered rod end draws the two leaves of door tightly together
- Sufficient tolerance provided in strike opening to allow for misalignment of door leaves and also prevents binding of bolt
- Decorative 1" diameter knob designed to facilitate bolt operation
- Units packed with wood screws
- Packed with Standard Strike (SS), Mortise Strike (MS) and Universal Strike (US)

Standard strike | Mortise strike | Universal strike

Specifications

Material substrate	Made from solid brass
Certifications	Meets ANSI/BHMA A156.16

Dimensions

Throw	Projection	Half round rod	Overall width	Rod length	Overall length
5/8"	1 1/8"	5/8"	1 5/8"	4 1/4"	Specify 4 3/8" (including knob)

Finishes

BHMA	Description	Substrate	Finish
605	Bright Brass	Brass	B3
606	Satin Brass	Brass	B4
612	Satin Bronze	Brass	B10
613	Oil Rubbed Bronze	Brass	B10B
619	Satin Nickel	Brass	B15
625	Bright Chrome	Brass	B26
626	Satin Chrome	Brass	B26D

For other colors, consult factory.

S48

Mortise door bolt

- Brass oval turn knob and escutcheon
- Steel bolt for extra strength
- Rack is milled for precision fit with pinion
- Units packed with wood screws

Specifications

Material substrate	Made from brass and steel
Certifications	Meets ANSI/BHMA A156.16

Dimensions

Throw	Projection	Half round rod	Overall width	Rod length
1 3/4"	1/2"	1/2"	2 1/2" L x 9/16" D	1 3/4" H x 7/8" W

Finishes

BHMA	Description	Substrate	Finish
605	Bright Brass	Brass	B3
609	Blackened Brass	Brass	B5
613	Oil Rubbed Bronze	Brass	B10B
619	Satin Nickel	Brass	B15
625	Bright Chrome	Brass	B26
626	Satin Chrome	Brass	B26D

For other colors, consult factory.

How to order COR and accessories

COR 52 US28 FL20 D 36"

COR size:
32, 42, 52, 60, 72

Finishes:
US28, US26D, 315AN

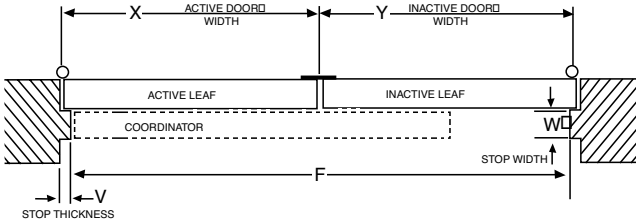
Filler bar (if desired):
FL20, FL32, FL44

Vertical rod exit device cutout type (if applicable):
A, B, C, D, E, F, G
If other vertical rod exit device not listed on chart, from page C16, include information as shown on page C16.

Active door size – Required for ALL vertical rod exit device applications

To determine the size COR you need:

- Start with the active door width (X)
- Next consider the overall frame opening between stops (F)
- Preferably, the coordinator would equal the active door width (X) + approximately 1/2 inactive door width (Y). The coordinator must be 6" longer than the active door width (X) and less than the overall frame opening between stop (F).



Examples:

- Pair of 30" doors, 5/8" stops
  Active Door Size, X = 30"
  Overall frame opening between stops, F = 58-3/4"
  Recommended coordinator: COR42

- Pair of 36" doors, 5/8" stops
  Active door size, X = 36"
  Overall frame opening between stops, F = 70-3/4"
  Recommended coordinator: COR52

- 36" Active door, 18" Inactive door, 5/8" stops
  Active door size, X = 36"
  Overall frame opening between stops, F = 52-3/4"
  Recommended coordinator: COR42

- 48" Active door, 24" Inactive door, 5/8" stops
  Active door size, X = 48"
  Overall frame opening between stops, F = 94-3/4"
  Recommended coordinator: COR60

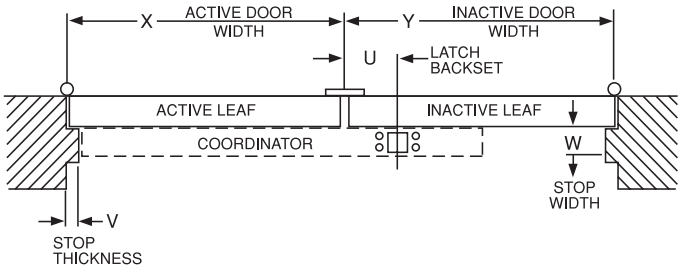
Special factory preparation for use with vertical rod exit devices

Coordinators may need to be prepared at the factory for use with some surface or concealed vertical rod exit devices. (See chart)

Exit device manufacturer	Exit device number	Device backset	Maximum active door	Coordinator size needed	Coordinator cutout type	Mounting bracket needed
Von Duprin	5547-F	2-3/8"	33" 43" 51" 63"	42" 52" 60" 72"	Type A	None
Von Duprin	8827-F	2-3/4"	33" 43" 51" 63"	42" 52" 60" 72"	Type B	MB1V, MB2V or MB3V see page C22
Von Duprin	8847-F	2-3/8"	33" 43" 51" 63"	42" 52" 60" 72"	Type C	None
Von Duprin	33/3547 33/3547-F 98/9947 98/9947-F	2-3/4"	33" 43" 51" 64"	42" 52" 60" 72"	Type D	None
Von Duprin	33/3548 33/3548-F 98/9948 98/9948-F	2-3/4"	33" 43" 51" 64"	42" 52" 60" 72"	Type D	None
Von Duprin	33/3547WDC 33/3547WDC-F 98/9947WDC 98/9947WDC-F	1-5/16"	33" 43" 51" 66"	42" 52" 60" 72"	Type E	None
Falcon	17-C F-17-C 18-C F-18-C XX-C F-XX-C 24-C F-24-C 25-C F-25-C	2-3/4"	33" 43" 51" 63"	42" 52" 60" 72"	Type F	None
Falcon	17-C -WDC F-17-C -WDC 18-C -WDC F-18-C -WDC XX-C -WDC F-XX-C -WDC 24-C-WDC F-24-C -WDC 25-C-WDC F-25-C-WDC	2-13/16"	33" 43" 51" 63"	42" 52" 60" 72"	Type G	None

If the exit device is not listed the following information is needed.

- Exit device manufacturer and model no.
- Active door size, "X"
- Inactive door size, "Y"
- Exit device backset, "U"
- Stop width, "W"
- Stop thickness if other than 5/8", "V"



COR Bar coodinators

- The COR Series coordinators are designed for use on pairs of doors when one door needs to close before the other.
- All COR units function easily. The active door lever, located nearest to the active stop, holds the active door open until the trigger mechanism is released by the closing of the inactive leaf.
- All COR units do not function correctly with swingclear hinges. Consult factory when used with 3/4" offset pivots.
- All COR units are equipped with an adjustable override feature which allows the active door to close under extreme pressure.
- All COR units are compatible with flush bolts.
- For openings where doors are unequal size. The coordinator length should equal the active door width plus approximately 1/2 the inactive door width. The coordinator must be 6" longer than the active door width and shorter than the overall frame opening between stops.
- The COR Series does not cover the entire length of the stop, so a FL filler bar can be provided to maintain architecturally clean lines.

Certifications

- Meets ANSI A156.3 Type 21A
- UL Listed for installation on labeled frame

Material Substrate

- Aluminum 6000 Series

Sizes

- The COR Series is available in five sizes for variable door opening widths.

Coordinator number	Length of channel	For opening widths	Common applications
COR32	32"	34" - 52"	Pair of 2'0" Doors
COR42	42"	52" - 72"	Pair of 2'6" Doors
COR52	52"	62" - 92"	Pair of 3'0" Doors
COR60	60"	70" - 108"	Pair of 3'6" Doors
COR72	72"	84" - 132"	Pair of 4'0" Doors

Finishes

BHMA	Description	Substrate	US
628	Satin alumium	Aluminum	US28
711	Black anodized	Aluminum	315AN
713	Satin chrome	Aluminum	US26D

Custom finishes are available as engineering special, consult customer service

Available options

- Optional filler bars: FL20 - 20", FL32 - 32" and FL44 - 44", available to maintain clean line.
- Security pin screws
- Special prep cut-outs: Required for certain vertical exit device applications. See page C18 for common examples. If other vertical rod exit device not listed on chart is required, include required information as shown on page C18. Consult customer service for other applications.

Available accessory items

- Optional mounting brackets available: MB1, MB2, MB1F, MB2F, MB3F, MB1V, MB2V and MB3V for other stop applied hardware.
- Security pin screws
- Replacement mounting package
- Replacement rub plate package

FL Filler bars

- The COR Series does not cover the entire length of the stop, so a FL filler bar can be provided to maintain architecturally clean lines.
- The FL filler bars are available in three sizes for variable frame openings.
- FL filler bars are field sized to frame opening.

Certifications

- Meets ANSI A156.3 Type 21A
- UL Listed for installation on labeled frame

Material Substrate

- Aluminum 6000 Series

Sizes

Filler Bar number	Length	Dimensions (Width X Depth X Length)
FL20	20"	1-5/8" x 5/8" x 20"
FL32	32"	1-5/8" x 5/8" x 32"
FL44	44"	1-5/8" x 5/8" x 44"

Finishes

BHMA	Description	Substrate	US
628	Satin alumium	Aluminum	US28
711	Black anodized	Aluminum	315AN
713	Satin chrome	Aluminum	US26D

Custom finishes are available as engineering special, consult customer service

Available accessory items

- Security pin screws

MB1 and MB2 Mounting brackets

- Allows stop mounted hardware to be properly installed without damaging the COR coordinator, such as a parallel arm closer or a non-fire-rated surface vertical rod strike.
- Stop mounted hardware will need to be lowered to compensate for the height of the coordinator and mounting bracket.

Certifications

- Meets ANSI A156.3 Type 21A

Material substrate

- Aluminum A380

Sizes

Product	Jamb depth	Stop width	Dimensions
MB1	4-3/4" Min	Over 2-1/2"	4" W x 3" D x 15/16" T
MB2	4-3/4" Min	Up to 2-1/2"	4" W x 3-1/4" D x 1-5/8" T

Finishes

BHMA	Description	Substrate	US
600	Primed for paint	Aluminum	USP
–	Flat black painted	Aluminum	BLK
689	Aluminum painted	Aluminum	SP28

Custom finishes are available as engineering special, consult customer service.

MB1V

MB2V

MB3V

MB1F, MB2F and MB3F Mounting brackets
MB1V, MB2V and MB3V

- Allows for stop mounted hardware to be properly installed without damaging the COR Coordinators, such as surface vertical rod exit device strikes.
- Latch will need to be lowered to compensate for the height of the coordinator and mounting bracket.
- MB-V are designed for Von Duprin 8827-F soffit latch.

Certifications

- Meets ANSI A156.3 Type 21A

Material substrate

- Cold rolled steel

Sizes

Product	Jamb depth	Stop width	Dimensions
MB1F	5"	1-1/2" - 2-1/4"	4" W x 3" D x 1-5/8" T
MB1V	5"	1-1/2" - 2-1/4"	4" W x 3" D x 1-5/8" T
MB2F	5-7/8"	2-3/8" - 3-1/4"	4" W x 3" D x 1-5/8" T
MB2V	5-7/8"	2-3/8" - 3-1/4"	4" W x 3" D x 1-5/8" T
MB3F	6-7/8"	Over 3-3/8"	4"W x 3-1/2" D x 1"T
MB3V	6-7/8"	Over 3-3/8"	4"W x 3-1/2" D x 1"T

Finishes

BHMA	Description	Substrate	US
600	Primed for paint	Steel	USP
–	Flat black painted	Steel	BLK
689	Aluminum painted	Steel	SP28

Custom finishes are available as engineering special, consult customer service

COR7G and COR9G Gravity coordinators

- When active door is open, coordinator prevents active door from closing until inactive door bypasses. Closing of inactive door causes strike plate on top of door to contact cam and lift arm, allowing active door to close. As inactive door continues closing, roller rides over strike plate on to door bracket, holding arm above active door.
- Non-handed.
- Gravity action arm and door bracket are adjustable on the job for ease of installation. Rubber roller provides quiet and efficient operation, and helps protect the astragal and doors from damage.
- Nylon roller on short arm glides smoothly over door bracket and strike, ensuring silent operation.

Certifications

- Meets ANSI A156.3 Type 21B
- UL Listed for fire doors

Mounting

- 8-32 X 1" FPHMS

Material substrate

- Forged brass

Sizes

- COR7G 7" projection
  - COR7G for use on pairs of doors with astragal on active door up to 4' or with astragal on inactive door up to 3'4" or with astragal on both doors up to 2'10"
- COR9G 9" projection
  - COR9G for use on pairs of doors with astragal on active over 4' or with astragal on inactive door over 3'4" or with astragal on both doors over 2'10"

Finishes

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

Custom finishes are available as engineering special, consult customer service.

Available accessory items

- Security pin screws
- Replacement mounting package
- Replacement roller and bolt package
- Replacement rubber roller and pin package
- Replacement rub plate package

CB1 Carry Bar

- Used when it is possible for the inactive door to be opened before the active door
- Prevents damage to the doors and other hardware
- Nylon roller insures quiet and efficient operation
- Non-handed
- Standard through bolts for mounting

Certifications

- Meets ANSI A156.3 Type 21A

Material substrate

- All-steel construction

Dimensions

Door closed	Door open
1.5/8" X 5.3/4"	1.5/8" X 2.1/2"

Finishes

BHMA	Description	Substrate	US
600	Primed for paint	Steel	USP
632	Bright brass	Steel	US3
633	Satin brass	Steel	US4
639	Satin bronze	Steel	US10
640	Dark satin bronze	Steel	US10B
651	Bright chrome	Steel	US26
652	Satin chrome	Steel	US26D
–	Flat black coated	Steel	BLK

Custom finishes are available as engineering special, consult customer service.

Available accessory items

- Security pin screws
- Replacement nylon roller and pin package

How to order:

PR8303-8 US32D 4X16 N 1-3/4"

Single/Pair	Model	Center to center	Finish	Plate W X H	Mounting	Door thickness
PR	8303	8	US32D	4 X 16	N	1-3/4"

Single/Pair

"Blank"	Single pull machined with standard threads
PR	Pair of pulls and plates - One pull machined with standard threads and one pull machined for back to back mounting
Nsgl	Single pull machined for back to back mounting

Model

8200	Push Plate
8300	Pull plate (less pull)
8302	Pull plate (with 8102 pull)
8303	Pull plate (with 8103 pull)
8305	Pull plate (with 8105 pull)
8311	Pull plate (with 8111 pull)

Pull center to center

5	5-1/4" (8111 only)
6	6" (8102HD and 8105 only)
8	8" (8102HD, 8103HD, 8105 only)
0	10" (8102HD, 8103HD, 8105 only)
2	12" (8103HD only)

Finish

605	Buff Brass	US3
606	Satin Brass	US4
612	Satin Bronze	US10
613	Antique Bronze	US108
619	Satin Nickel	US15
625	Buff Chrome	US26
626	Satin Chrome	US26D
626-AM	Satin Chrome - Anti-Microbial	US260-AM
628	Satin Clear Anodized	US28
629	Buff Stainless	US32D
630	Satin Stainless	US32D
630-AM	Satin Stainless - Anti-Microbial	US32D-AM
643e/716	Aged Bronze	---
BLK	Matte black	---

Plate width x height

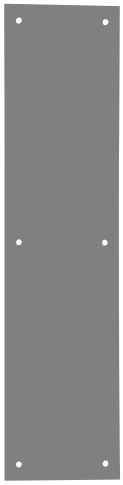
3X12	3" Wide X 12" High
3.5X15	3-1/2" Wide X 15" High
4X16	4" Wide X 16" High
6X16	6" Wide X 16" High
8X16	8" Wide X 16" High

Mounting hardware

STD	Thru-bolt with decorative washer
A	Concealed mount - aluminum doors
F	Thru-bolt with countersunk hole
G	Concealed mount with pull plates
I	Concealed mount - wood doors
J	Back to back mount (8102 only)
L	Concealed mount - hollow metal doors
N	Back to back mount

Door thickness

1-3/4"	Standard
2"	Optional
2-1/4"	Optional



8200 Push plate
8300 Pull plate, prep for pull (less pull)

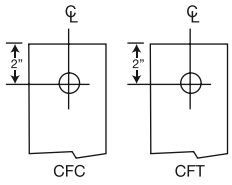
Certifications
- Meets ANSI A156.6 for J301 Materials

Mounting
- Standard mounting package
  - #6X5/8 oval head screws
- Optional TEK/TORX package
  - #6X5/8 Self-drilling, Self-tapping screws
  - #6X5/8 Torx screws

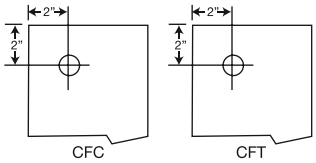
Widths and heights
- 3" X 12"
- 3-1/2" X 15"
- 4" X 16"
- 6" X 16"
- 8" X 16"

Optional pull center to center spacing
- For 8300 pull plates, plates are prepped with 2 3/8" holes for pull machining
- For holes prepped for G mounting hardware, consult customer service.
  - 5-1/4"
  - 6"
  - 8"
  - 10"
  - 12"

For plates up to 4"



For plates greater than 4" (RH shown)

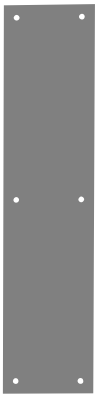


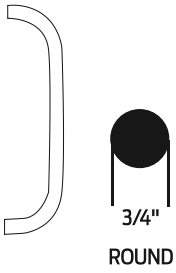
Finishes
- Available in Aluminum, Brass, and Stainless Steel substrates. See general information section for specific BHMA finish code, finish description, US finish code, and substrate information.
- Standard finishes available;
  605, 606, 612, 613, 619, 625, 626, 626-AM, 628, 630, 630-AM, BLK
- *Custom finishes are available as engineering special, consult customer service.*

Additional information
- Specify PR when ordering a set of plates for back to back mounting
- *Custom widths, heights, and special cut-outs are available as engineering special, consult customer service.*

Plates cut for cylinder or thumbturns
Plates are available with cutout for cylinder or thumbturn; standard cutout is 2" from top and centered on plates up to 4" wide. For plates wider than 4" cutout is located 2" from outer edge, specify LH or RH. When pull location interferes with standard cutout location a detail drawing should be furnished with the order.

- Standard cutout is 1-1/4" for cylinder and 3/8" for thumbturn.
- Specify CFC for cutout for cylinder or CFT for cutout for thumbturn.





8302 Pull plate

Certifications
- Meets ANSI A156.06

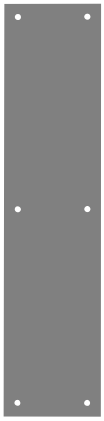
Mounting
- Heavy duty mounting hardware exceeds industry standards
- 5/16-18 mounting hardware
- Specify door thickness. Standard mounting hardware for door thickness of 1-1/2" to 1-3/4" unless otherwise specified. Optional package available for 2" and 2-1/4" thick doors.
- Comes standard with thru-bolt screws and decorative washers.
- Optional mounting hardware available (see general information section for details) F, G, I, J, L
- *Mounting hardware for other door thicknesses are available as engineering special, consult customer service.*
- Standard mounting package for plate
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package
  - #6 X 5/8 Self-drilling, Self-tapping screws and
  - #6 X 5/8 Torx screws
- Plate prepped with 2 pull mounting holes spaced at 6", 8", or 10" center to center

Widths and heights
- 3-1/2" X 15"
- 4" X 16"
- 6" X 16

Pull center to center
- 6"
- 8"
- 10"

Finishes
- Available in Aluminum, Brass, and Stainless Steel substrates. See general information section for specific BHMA finish code, finish description, US finish code, and substrate information.
- Standard finishes available;
  605, 606, 612, 613, 619, 625, 626, 626-AM, 628, 630, 630-AM, 643e/716, BLK
- *Custom finishes are available as engineering special, consult customer service.*

Additional information
- Specify PR when ordering a set of pulls for back to back mounting
- For one back to back machined pull, specify Jsgl
- *Custom widths, heights, and special cut-outs are available as engineering special, consult customer service.*



8303 Pull plate

Certifications
- Meets ANSI A156.06

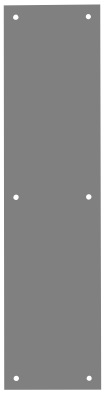
Mounting
- Heavy duty mounting hardware exceeds industry standards
- 3/8-16 mounting hardware
- Specify door thickness. Standard mounting hardware for door thickness of 1-1/2" to 1-3/4" unless otherwise specified. Optional package available for 2" and 2-1/4" thick doors.
- Comes standard with thru-bolt screws and decorative washers.
- Optional mounting hardware available (see general information section for details) A, F, G, I, L, N
- *Mounting hardware for other door thicknesses are available as engineering special, consult customer service.*
- Standard mounting package for plate
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package
  - #6 X 5/8 Self-drilling, Self-tapping screws and
  - #6 X 5/8 Torx screws
- Plate prepped with 2 pull mounting holes spaced at 8" or 10" center to center

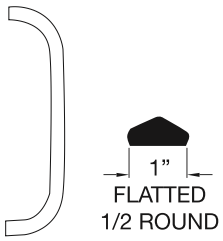
Widths and heights
- 3-1/2" X 15"
- 4" X 16"
- 6" X 16"

Pull center to center
- 8"
- 10"

Finishes
- Available in Aluminum, Brass, and Stainless Steel substrates. See general information section for specific BHMA finish code, finish description, US finish code, and substrate information.
- Standard finishes available;
  605, 606, 612, 613, 619, 625, 626, 626-AM, 628, 630, 630-AM, 643e/716, BLK
- *Custom finishes are available as engineering special, consult customer service.*

Additional information
- Specify PR when ordering a set of pulls for back to back mounting
- For one back to back machined pull, specify Nsgl
- *Custom widths, heights, and special cut-outs are available as engineering special, consult customer service.*





8305 Pull plate

Certifications
- Meets ANSI A156.06

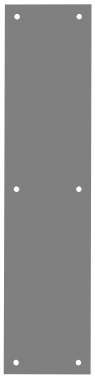
Mounting
- 1/4-20 mounting hardware
- Specify door thickness. Standard mounting hardware for door thickness of 1-1/2" to 1-3/4" unless otherwise specified. Optional package available for 2" and 2-1/4" thick doors.
- Comes standard with thru-bolt screws and decorative washers.
- Optional mounting hardware available (see general information section for details)
  F
- *Mounting hardware for other door thicknesses are available as engineering special, consult customer service.*
- Standard mounting package for plate
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package
  - #6 X 5/8 Self-drilling, Self-tapping screws and
  - #6 X 5/8 Torx screws
- Plate prepped with 2 pull mounting holes spaced at 6", 8", or 10" center to center

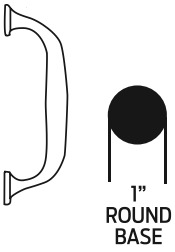
Widths and heights
- 3-1/2" X 15"
- 4" X 16"
- 6" X 16"

Pull center to center
- 6"
- 8"
- 10"

Finishes
- Available in Aluminum, Brass, and Stainless Steel substrates. See general information section for specific BHMA finish code, finish description, US finish code, and substrate information.
- Standard finishes available;
  605, 606, 612, 613, 619, 625, 626, 626-AM, 628, 630, 630-AM, 643e/716, BLK
- *Custom finishes are available as engineering special, consult customer service.*

Additional information
- Specify PR when ordering a set of pulls for back to back mounting
- For one back to back machined pull, specify Nsgl
- *Custom widths, heights, and special cut-outs are available as engineering special, consult customer service.*





8311 Pull plate

Certifications
- Meets ANSI A156.06

Mounting
- 1/4-20 mounting hardware
- Specify door thickness. Standard mounting hardware for door thickness of 1-1/2" to 1-3/4" unless otherwise specified. Optional package available for 2" and 2-1/4" thick doors.
- Comes standard with thru-bolt screws and decorative washers.
- Optional mounting hardware available (see general information section for details)
  F, G
- *Mounting hardware for other door thicknesses are available as engineering special, consult customer service.*
- Standard mounting package for plate
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package
  - #6 X 5/8 Self-drilling, Self-tapping screws and
  - #6 X 5/8 Torx screws
- Plate prepped with 2 pull mounting holes spaced at 5-1/4" center to center

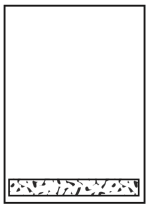
Widths and heights
- 3-1/2" X 15"
- 4" X 16"
- 6" X 16"

Pull center to center
- 5-1/4"

Finishes
- Available in Aluminum, Brass, and Stainless Steel substrates. See general information section for specific BHMA finish code, finish description, US finish code, and substrate information.
- Standard finishes available;
  605, 606, 612, 613, 619, 625, 626, 626-AM, 628, 630, 630-AM, 643e/716, BLK
- *Custom finishes are available as engineering special, consult customer service.*

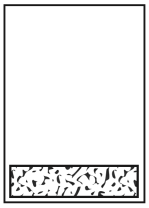
Additional information
- Specify PR when ordering a set of pulls for back to back mounting
- *Custom widths, heights, and special cut-outs are available as engineering special, consult customer service.*

Types of protection plates



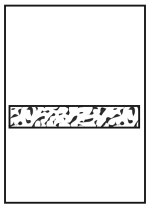
Mop plates

- Protect the bottom of the pull side of door subject to cleaning and mopping procedures.
- Size Ranges: 4” to 6” high, 22” to 48” wide



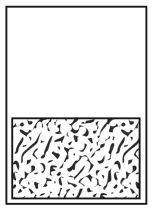
Kick plates

- Protect the bottom of the push side of doors subject to scuffing from foot traffic.
- Recommended for all doors subject to normal use (especially doors using a closer).
- Size Ranges: 8” to 24” high, 22” to 48” wide



Stretcher plates

- Protect doors at specific areas where consistent contact is made by stretchers, service carts or other equipment.
- Usually applied to push side of doors.
- Specify “B4E” Option for beveled edges.
- Size Ranges: 6” to 8” high, 22” to 48” wide



Armor plates

- Protect lower half of doors from abuse by hard carts, trucks and rough usage.
- Usually applied to push side of single doors and both sides of double acting doors.
- Size Ranges: 26” to 48” high, 22” to 48” wide

8400 Commercial protection plates
8402 UL Commercial protection plates

- Door protection plates are available in .050" thick brass, stainless steel or aluminum; and 1/8" thick high impact polyethylene in clear or black.
- All plates, metal and plastic, come standard with four beveled edges and countersunk mounting holes (B-CS).
- Protection plates must be ordered in 1/2" increments. Available in other sizes, consult customer service
- *For 8402 UL Plates, UL mark appears in upper right corner. Not available on plastic protection plates.*

Certifications
- Meets ANSI A156.6 for J301
- UL protection plates certified to UL10C

Mounting
- Standard mounting package, 16 per pack
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package, specify TK-TX
  - #6 X 5/8 Self-drilling, Self-tapping screws
  - #6 X 5/8 Torx screws

Finishes
- Aluminum 5005 Series, Brass C26800 Series, Stainless Steel 300 Series, Plastic

BHMA	Description	Substrate	Finish	Max sizes
605	Bright Brass	Brass	US3	24"X48"
606	Satin Brass	Brass	US4	24"X48"
612	Satin Bronze	Brass	US10	24"X48"
613	Oil rubbed Bronze	Brass	US10B	36"X48"
619	Satin Nickel	Brass	US15	24"X48"
625	Bright Chrome	Brass	US26	36"X48"
626	Satin Chrome	Brass	US26D	24"X48"
628	Satin Aluminium	Aluminium	US28	48"X48"
629	Bright Stainless Steel	Stainless Steel	US32	48"X48"
630	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
654	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
BLK	Matte black	Stainless Steel	BLK	24"X48"
P-BLK	Black	Plastic	P-BLK	48"X48"
CLR	Clear	Plastic	CLR	48"X48"

Number of screw packs required by plate size (specify TEK Screws or TORK screws)

	22"-25"	26"-33"	34"-41"	42"-48"
4"-8"	1	1	1	1
9"-16"	1	1	1	1
17"-24"	1	1	1	2
25"-32"	1	1	2	2
33"-40"	1	2	2	2
41"-48"	2	2	2	2

- Custom finishes are available as engineering special, consult customer service.

Available options
- Specify B-NH for no mounting holes. (Not available on 8402. Available only with US32D, US32, US3, US4, US28, Clear, Black only)
- Specify B-NHA for no mounting holes with adhesive.
- Specify ERS prepped with extra row of screws.
- Special Cut-outs are available as engineering special, consult customer service.

Available accessory
- Gasket tape kit tape is recommended when using a brass plate on a metal door to reduce tarnishing from electrolytic oxidation. One tape pack will cover an the perimeters of a 8" x 34" kickplate. Order 8401 gasket tape.

The Schlage® L Series mortise locks

Security has always been at the heart of all our products. But, today we offer so much more. Since our beginning nearly 100 years ago, Schlage® has consistently delivered innovation and continuous improvement to the solutions you've grown to trust. And the L Series mortise locks are no exception.

Proven technology

The L Series is built to withstand the rigors of daily use without fail and is among the most durable, dependable and intelligent family of products on the market today. When you choose a Schlage lock you can have confidence you've chosen a solution that will provide protection at the most critical moments.

Comprehensive offering for every opening

Mechanical, wired electrified, wireless electronic and multi-point solutions allow a common aesthetic and consistent user experience throughout the building while lowering the total cost of ownership.

And, with an extensive list of functions, keying, trim, levers and finish options the L Series works for any application.

Mortise lock comparison

L mechanical

Applications

The Schlage L Series has long been the benchmark for mortise locks. Beyond strength and security – it offers tremendous flexibility to allow it to meet the needs of most every application.

The ability to suite across electronic, tubular, exit trim, and multi-point locks allows the Schlage L Series mortise lock to integrate seamlessly into any environment.

Key features

- Exceeds ANSI/BHMA Grade 1 operational and security standards
- Expansive list of configurations and options, including retrofit indicators
- 50 standard mechanical functions, custom functions also offered
- "The Original" universal lock case allows creation of 10 functions from a single lock body
- 14 finishes and 33 levers, two knobs, five roses and three escutcheon designs
- Supports standard, SFIC and FSIC cylinder formats
- Multiple key systems available – open, patented, restricted, geographic exclusive, UL 437

L wired electrified

Applications

The wired electrified L Series is ideal for new construction and high traffic areas where hardwired power ensures continuous operation and where electrified door prep, hinges and wiring can easily be incorporated into the building.

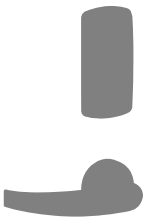
The electrified L Series is regularly used as part of an access control system for high security areas, or independently in areas that require a remote access switch.

Key features

All mechanical features plus:

- Auto-detect 12/24 VDC
- Selectable EL/EU
- 10 electrified functions
- Advanced features: RX, DPS, latchbolt monitor and deadbolt monitor for application flexibility
- Leading energy efficiency that eliminates "hot levers"
- Advanced motor-driven electrified functions – quieter, smoother, more secure operation

LE wireless electronic



Applications

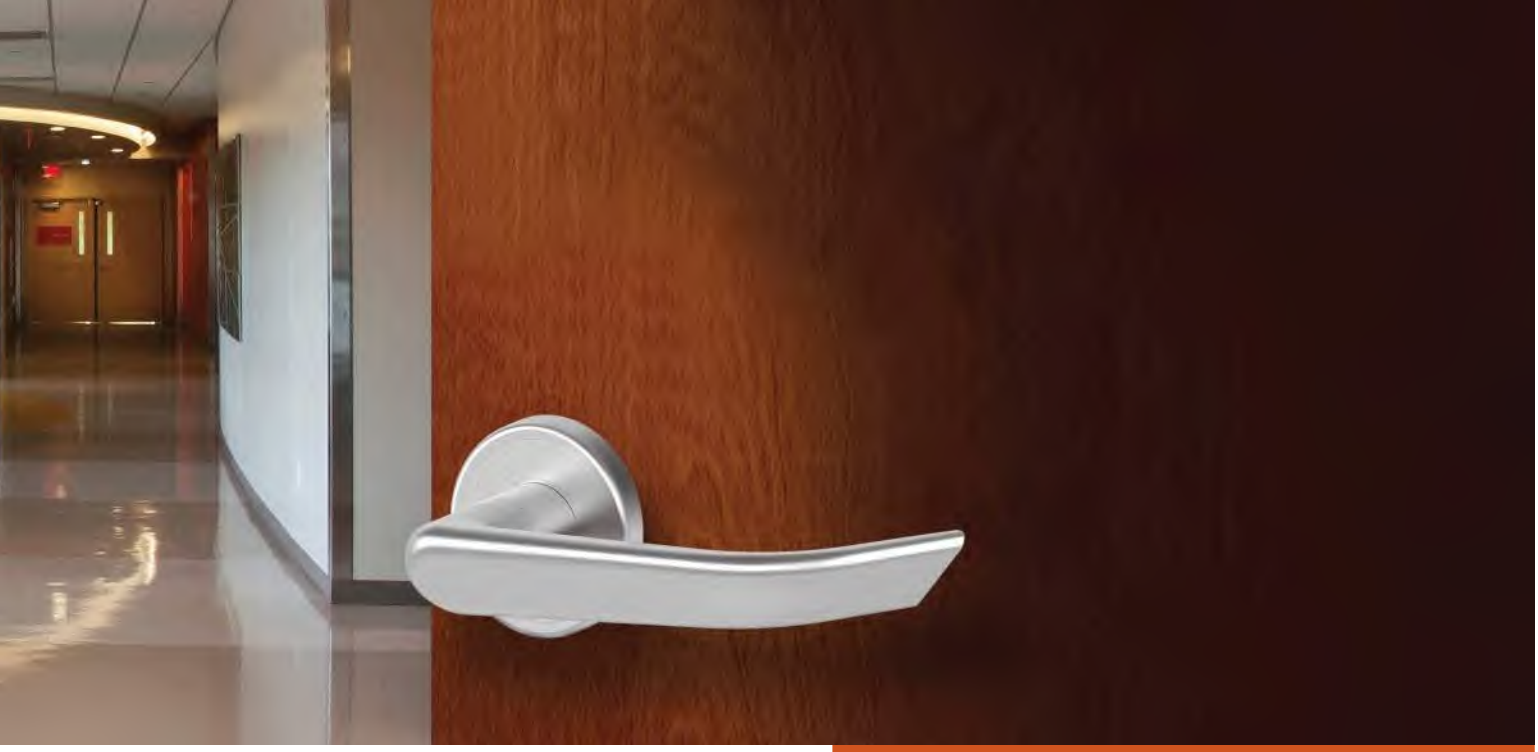
The Schlage LE wireless mortise lock with ENGAGE™ technology is designed to affordably extend electronic access control deeper into the building beyond traditional perimeter and high security openings.

The LE is ideal for commercial real estate, K-12, higher education, assisted living, medical offices, or multi-family applications. Facilities can benefit from the enhanced security, efficiency, and convenience of upgrading to electronic credentials.

Key features

All mechanical features[1] plus:

- Six functions with LED indicator, deadbolt, and interior pushbutton options
- Sectional and escutcheon trim options
- 31 levers, 2 knobs and 9 finishes
- Integrated multi-technology card reader, door position sensor (DPS) and request to exit (RX)
- Built-in Bluetooth® enables wireless configuration from smart phones/tablets
- Built-in Wi-Fi® enables automatic daily updates sent directly from host software
- Capable of networked real-time communication with the ENGAGE Gateway and software alliances
- Up to 2 years of battery life



SMART

Smart means using innovation to make solutions more efficient, flexible, and easier to install and use.

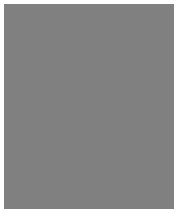
- One platform, three solutions (mechanical, wired electrified, wireless electronic)—same look and feel throughout the building for a common user experience and lower cost of ownership
- Wired electrified lock has autodetecting 12/24V input and selectable EL/EU operation
- RX switch monitors the inside lever to balance security with lever actuation sensitivity
- Energy efficient design allows multiple locks on a single power supply with no "hot levers"
- Wireless electronic locks with ENGAGE™ can be managed with an access control system or with convenient ENGAGE web and mobile applications
- Wireless electronic locks provide the option to leverage existing network infrastructure for offline or real-time applications

SCHLAGE®

More than just locks, Schlage delivers a complete portfolio and an infrastructure of support throughout the entire build and ownership process.

- From mechanical locks and keys to wireless electronic locks, readers and credentials, Schlage ensures you can create the most secure, efficient and convenient solution – all with a single brand
- Schlage products suite with other Allegion brands including Von Duprin® exit devices, LCN® door closers, Ives accessories and Steelcraft® doors and frames
- A trusted partner for nearly 100 years - consistently delivering proven and innovative solutions to serve the needs of our customers
- Comprehensive support from our sales offices including consultation, master key development and training; industry and code training, specification writing, and product service

L400 mechanical



Applications

L400 Series locks are designed for use as primary locks where no latching is required, such as restrooms and small doors to utility spaces.

It also offers optimum security when used as an auxiliary lock in other applications.

Key features

- Six available functions
- 12 finishes
- 1" (25 mm) stainless steel throw deadbolt
- Deeper retainer groove in cylinder shell increases security against wrenching and pullout; all cylinders backward compatible
- 6-pin Everest® 29 cylinder with patented keys standard
- Steel case and parts are corrosion resistant

LM9200 multi-point

Applications

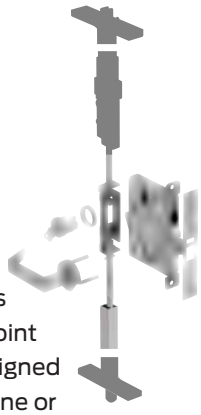
The Schlage LM9200 series lock utilizes latches in the top and bottom of the door, rather than the side on single or double sets of doors.

Compatible with wood or hollow metal doors, the LM9200 Series is ideal for conference rooms, corridors, office suites, elevator lobbies, and openings where flush bolts and coordinators are not desired.

Key features

- Concealed vertical cables provide simple installation and reliable performance
- Compatible with sectional and escutcheon trim; does not require “backer plates” or metal wraps for fire protection
- Fire-rated for up to 60 minutes for wood door applications; 90 minute fire rating for hollow metal door applications
- 33 lever designs
- 13 functions (mechanical and electrified)
- Available without the bottom latch for single point latching

LM9300 multi-point



Applications

The LM9300 Series is part of a three-point locking system designed for tornado, hurricane or high security applications, providing superior protection with familiar operation.

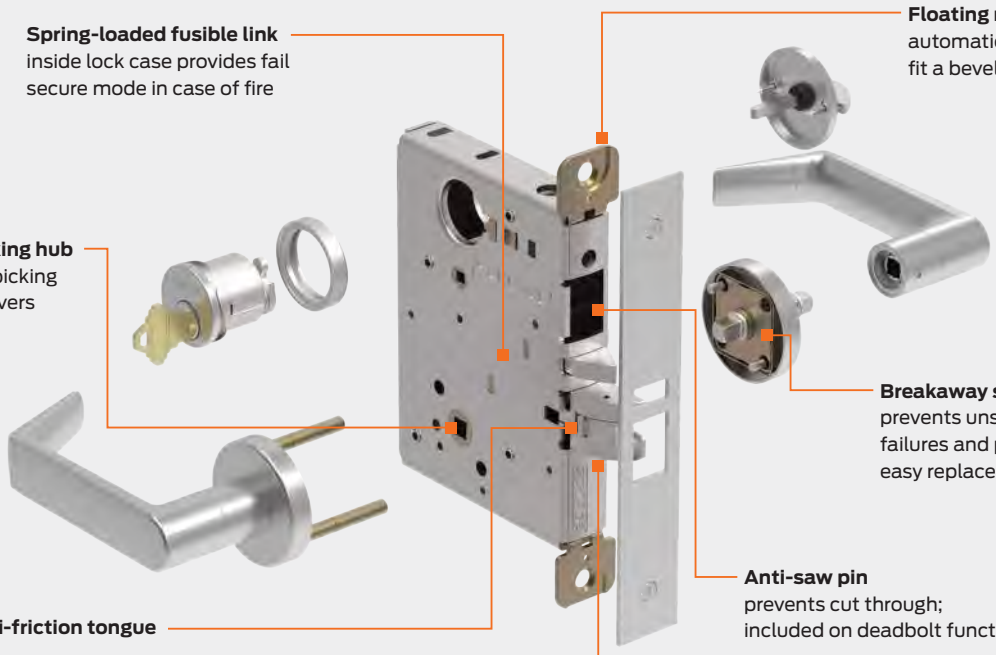
Latches at the top, side and bottom of the door provide protection from high wind speeds and 15-lb. projectile impacts up to 100 mph when paired with a Steelcraft Paladin tornado-resistant door.

Key features

- All three latches engage when the door is shut and retract simply by rotating the lever
- Compatible with sectional and escutcheon trim
- 33 lever designs
- Six available functions
- Complies with FEMA 361 and ICC500 tornado shelter guidelines and Florida Building Code Enhanced Protection Area (EHPA) standard when paired with appropriate Steelcraft doors
- Vertical rods ship pre-aligned and pre-installed with Steelcraft doors, enabling quick and simple installation

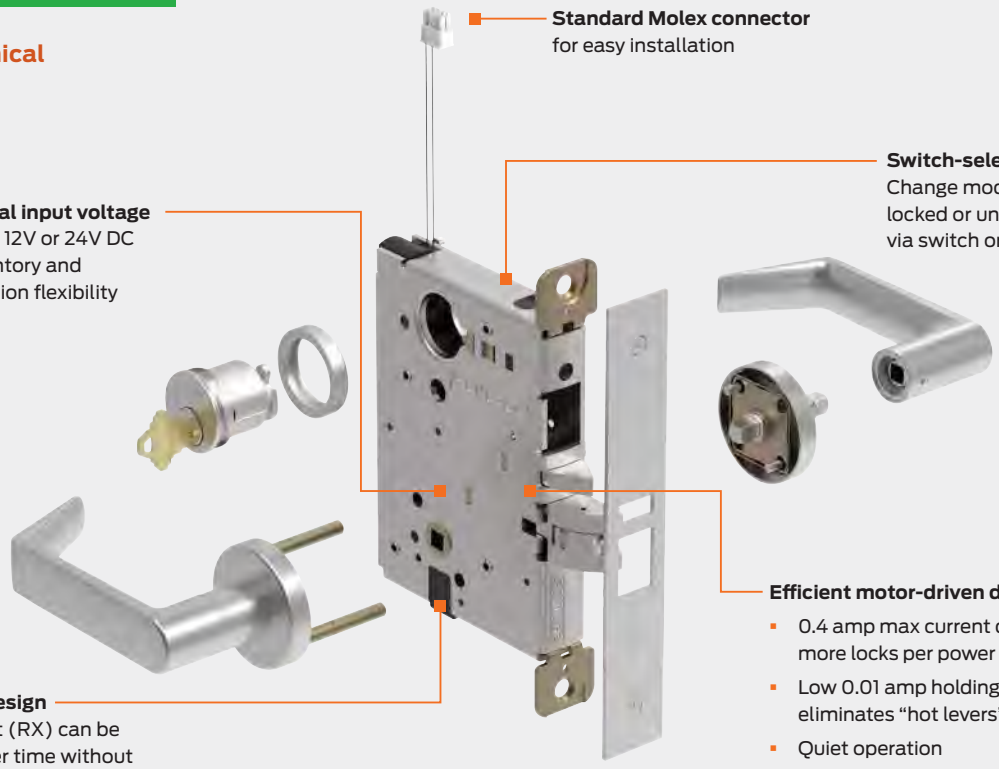
A detailed look...

L mechanical



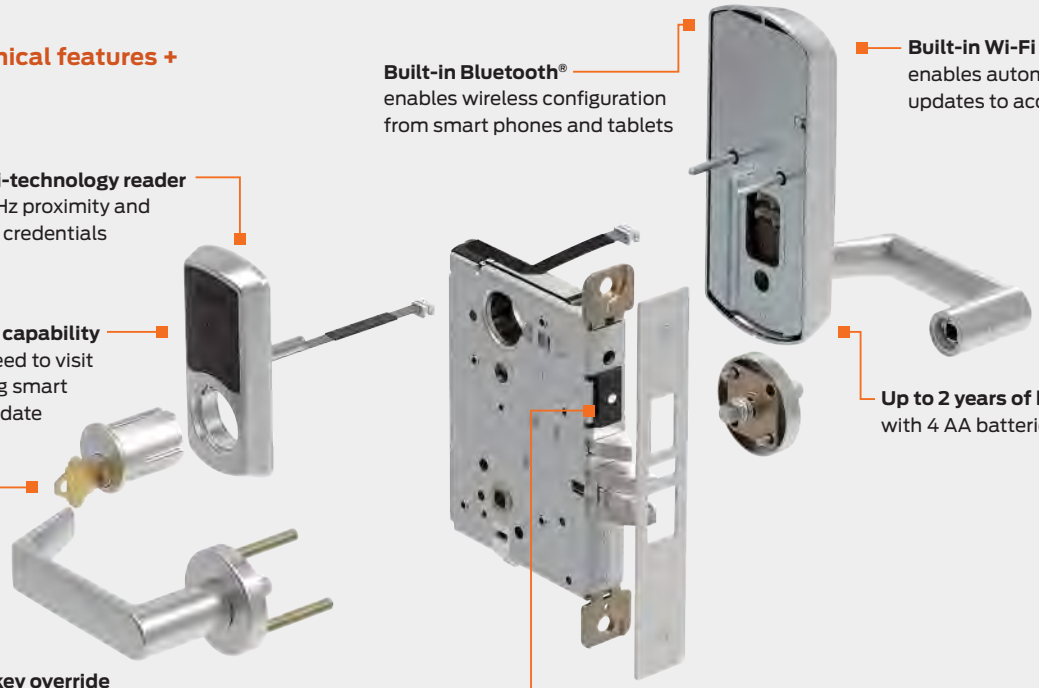
L wired electrified

All mechanical features +



LE wireless electronic

Most mechanical features +



Built-in Bluetooth® enables wireless configuration from smart phones and tablets

Built-in Wi-Fi enables automatic updates to access rights

Integrated multi-technology reader reads both 125 kHz proximity and 13.56 MHz smart credentials

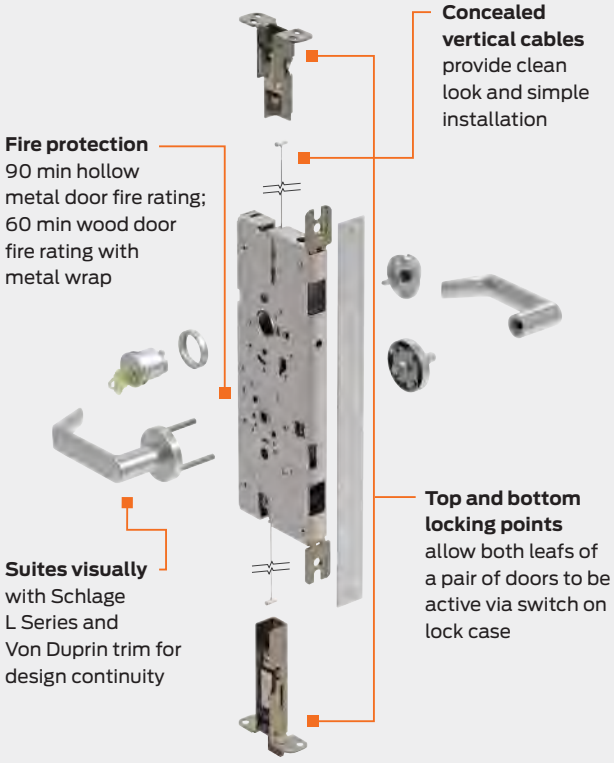
Built-in No-Tour capability eliminates the need to visit the locks by using smart credentials to update access rights

Up to 2 years of battery life with 4 AA batteries

Mechanical key override compatible with most popular key systems

Integrated door position switch requires no additional prep on MS and MB chassis options

LM9200 multi-point



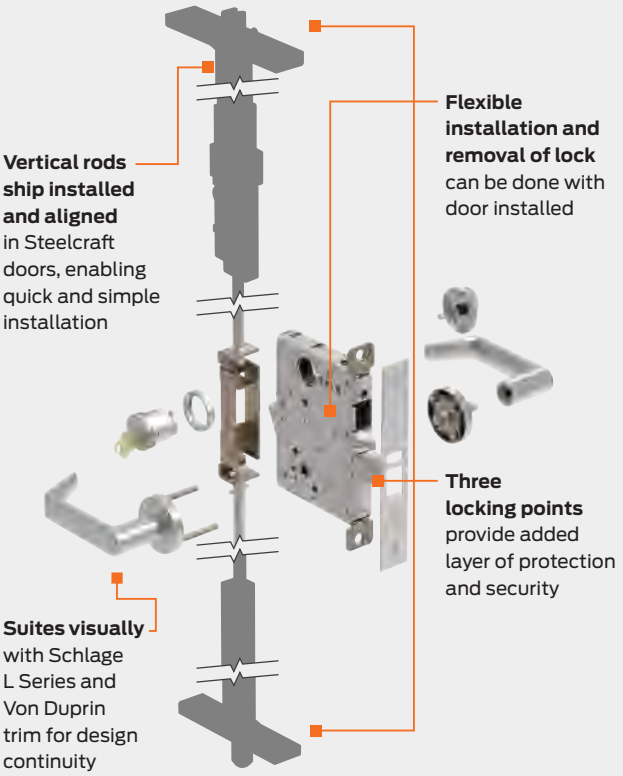
Concealed vertical cables provide clean look and simple installation

Fire protection 90 min hollow metal door fire rating; 60 min wood door fire rating with metal wrap

Suites visually with Schlage L Series and Von Duprin trim for design continuity

Top and bottom locking points allow both leafs of a pair of doors to be active via switch on lock case

LM9300 multi-point



Vertical rods ship installed and aligned in Steelcraft doors, enabling quick and simple installation

Flexible installation and removal of lock can be done with door installed

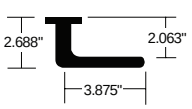
Three locking points provide added layer of protection and security

Suites visually with Schlage L Series and Von Duprin trim for design continuity

The Standard Collection

The Standard Collection levers can be paired with exit devices and locks from our trusted Schlage and Von Duprin brands. And, they are built to the same exacting standards. Our Standard Collection levers offer a more traditional style that is appropriate for use in a number of commercial applications.

01



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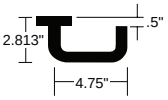

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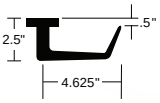

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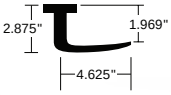

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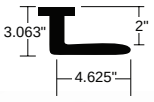

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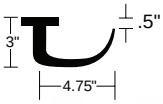

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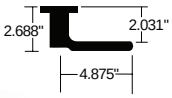
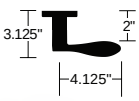


Accent



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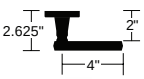
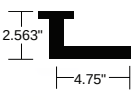


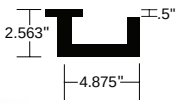
Latitude



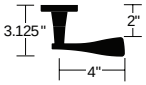
Note: Levers shown with Schlage L Series mortise "A" rose. Knobs shown with rose that is unavailable in the L Series. Additional rose and escutcheon designs available.

The Standard Collection

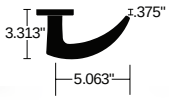
Longitude



Merano



Omega



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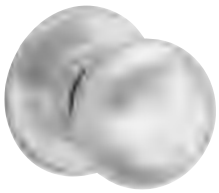

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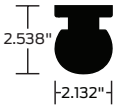
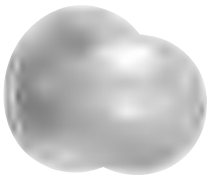
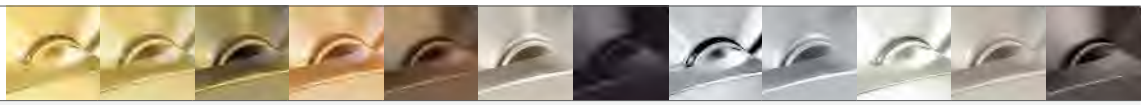




L Series finish options



Color	Bright brass	Satin brass	Antique bronze	Satin bronze	Oil rubbed bronze	Satin nickel	Matte black	Bright chrome	Satin chrome	Bright stainless steel	Satin stainless steel	Aged bronze
ANSI/BHMA	605	606	609	612	613	619	622	625	626/ 626AM	629	630/ 630AM	643e
US	US3	US4	US5	US10	US10B	US15	US19	US26	US26D	US32	US32D	US11
Mechanical	■	■	■	◆*	◆*	■	■	■	■	■**	■**	■
Wired electrified	■	■	■	◆*	◆*	■	■	■	■	■**	■**	■
Wireless electronic	■	■		◆*		■	■	■	■			■
Multi-point	■	■	■	◆*	◆*	■	■	■	■	■**	■**	■

◆ Standard levers only
* Not available on Latitude, Longitude, Accent, Asti, Merano
**Not available on Accent, Asti, Merano

Escutcheons and roses

Three escutcheons and five roses are available to help to match the design and performance needed for your application.

Escutcheons

L full face

Specify by adding 'L' after lever design.

Material: Cold-forged brass, bronze or stainless steel

Finishes: 605, 606, 609, 612, 613, 619, 622, 625, 626, 629, 630, 643e

Size: 8" x 1 3/4" x 7/16" (203 mm x 44 mm x 11 mm)

L concealed

Specify by adding 'C' suffix to function and by adding 'L' after lever design.

Material: Cold-forged brass, bronze or stainless steel

Finishes: 605, 606, 609, 612, 613, 619, 622, 625, 626, 629, 630, 643e

Size: 8" x 1 3/4" x 7/16" (203 mm x 44 mm x 11 mm)

N full face

Specify by adding 'N' after lever design.

Material: Heavy wrought reinforced brass, bronze or stainless steel

Finishes: 605, 606, 609, 612, 613, 619, 622, 625, 626, 629, 630, 643e

Size: 8" x 2 9/16" x 7/16" (203 mm x 65 mm x 11 mm)

Roses

A rose

2 1/8" (54 mm) diameter
Available for use on L Series knob and lever designs. Specify by adding 'A' after lever design

Finishes: 605, 606, 609, 612, 613, 619, 622, 625, 626, 629, 630, 643e

B rose

2 9/16" (65 mm) diameter
Available for use on L Series knob and lever designs. Specify by adding 'B' after lever design.

Finishes: 605, 606, 609, 612, 613, 619, 622, 625, 626, 629, 630, 643e

C rose

2 5/8" (66 mm) diameter
Available for use on L Series knob and lever designs. Specify by adding 'C' after lever design.

Finishes: 605, 606, 609, 619, 622, 625, 626, 629, 630, 643e

AVA rose

2 5/8" (66 mm) diameter
Available for use on ACC lever, other levers upon request.

Finishes: 605, 606, 609, 619, 622, 625, 626, 643e

MER rose

2 5/8" (66 mm) diameter
Available for use on MER lever, other levers upon request.

Finishes: 605, 606, 609, 619, 622, 625, 626, 643e

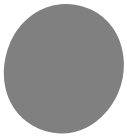
Thumbturns and indicators

Choose from these variations of thumbturn locks that help you meet the demands of specialized projects.

Thumbturns

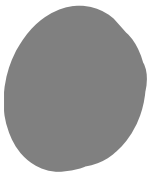
Standard turn
09-509

ADA turn
09-509 x L583-363
Available with all thumbturn-function L Series locks except L9463 and L463



Coin turn
L283-124
For lock functions L9044 and L9444 with rose trim.

Emergency button
K510-330
For lock functions L9040 and L9440



Ligature resistant turn
09-029

Cylinder turn
09-90x
For L463 and L9463 classroom function deadlocks

Indicators

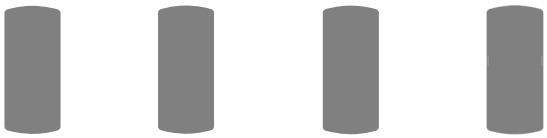
The 180 degree visibility indicator offers unparalleled visibility and flexibility. The unique features of the indicator make it ideally suited for classroom security applications as well as traditional occupied/vacant applications.

- 2" x ½" display for easy viewing at a distance
- 180° window for visibility at any angle
- High-mount placement for quick assessment
- High contrast colors for ease of reading
- Available for over 30 functions, inside or outside of door (see Functions section for availability)
- Retrofit kit allows indicator upgrades to already installed L Series mortise locks
- Indicator text available in English or French

N escutcheon indicators

Cylinder Thumbturn Cointurn Emergency key

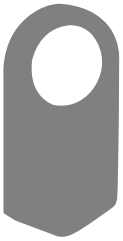
Sectional indicators



Cylinder Thumbturn Cointurn Emergency key

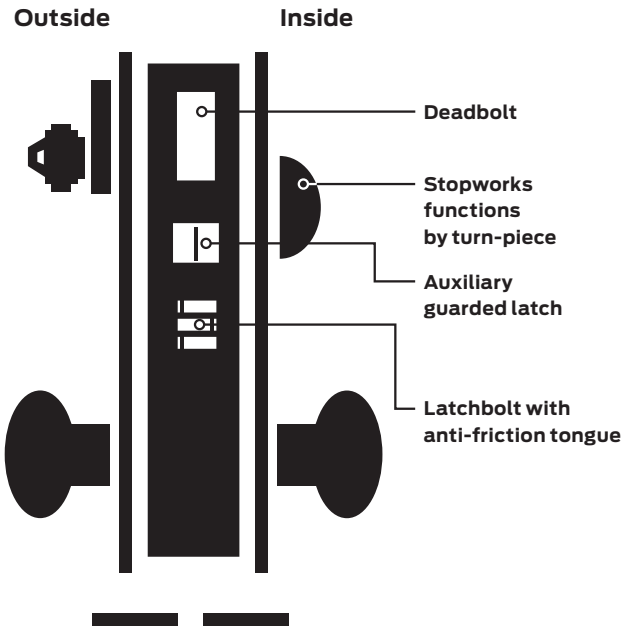
	LOCKED / UNLOCKED	OCCUPIED / VACANT	DO NOT DISTURB	
Inside trim	L283-711	L283-712	L283-713	L283-714
Outside trim	L283-721	L283-722	L283-723	L283-724

Legacy indicator



Hotel occupancy indicator
09-611
For lock function L9486P, used with A or B roses on section trim. Three available messages: “OCCUPIED”, “DO NOT DISTURB” or “LOCKED”.

Legend



Key

- Cylinder
- Outside knob or lever
- Inside knob or lever
- Thumbturn
- Thumbturn cylinder
- Coin turn
- Solid spindle
- Two-piece spindle
- Emergency turn piece
- DO NOT DISTURB — Occupancy indicator
- Electrified function

LV Vandlgard function allows exterior lever to rotate freely down, while remaining securely locked.

180 degree messaging indicator available. See options section in price book for details.

Product identification guide

L/LV 9 4 53 P

Lock series
L = standard
LV = Vandlgard®

0 = dummy trim without lock case
9 = functions with lock case

0 = no deadbolt
1 = dummy trim
4 = with deadbolt

Function

Cylinder suffix

P	= Conventional 6-pin full-face cylinder
L	= Less conventional cylinder
C	= Concealed cylinder
W	= Less concealed cylinder
Z	= Conventional Everest 29 SL 7-pin cylinder
R	= Full size interchangeable core
F	= Full size interchangeable core less Schlage logo
M	= Full size interchangeable core Everest 29 SL 7-pin
T	= Full size construction core
J	= Less full size interchangeable core (FSIC)
B	= Less small format interchangeable core (SFIC) (for Falcon, Best, etc.)
G	= Small format Everest 29 Patented core
H	= Small format keyed brass construction core
BDC	= Small format plastic construction core

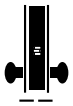
Non-keyed functions

Schlage ANSI

L9010 F01

Passage latch

- Latchbolt retracted by lever/knob from either side at all times
- Inside lever always free for immediate egress



Schlage ANSI

L9025 F31

Exit lock

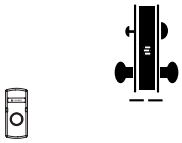
- No outside trim
- Inside lever always free for immediate egress

Schlage ANSI

L9040 F22
LV9040

Bath/bedroom privacy lock

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by inside thumbturn
- Actuating inside lever or closing door unlocks outside lever
- To unlock from outside remove emergency button, insert emergency thumbturn in access hole and rotate
- Inside lever always free for immediate egress

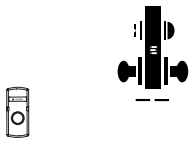


Schlage ANSI

L9044 –
LV9044

Privacy with coin turn outside

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by inside thumbturn or outside coin turn
- Actuating inside lever, closing door, or rotating outside coin turn unlocks outside lever

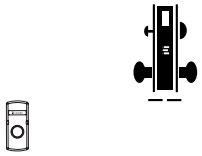


Schlage ANSI

L9440 F19
LV9440

Privacy with deadbolt

- Latchbolt retracted by lever/knob from either side
- Deadbolt actuated by inside thumbturn
- Throwing deadbolt locks outside knob/lever
- Inside lever retracts both deadbolt and latchbolt and unlocks outside lever
- To unlock from outside remove emergency button, insert emergency thumbturn in access hole and rotate
- Inside lever always free for immediate egress

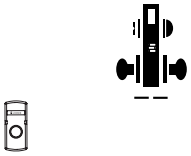


Schlage ANSI

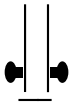
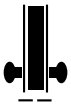
L9444 –
LV9444

Privacy with deadbolt and coin turn outside

- Latchbolt retracted by lever/knob from either side
- Deadbolt actuated by inside thumbturn or outside coin turn
- Throwing deadbolt locks outside knob/lever
- Inside lever retracts both deadbolt and latchbolt and unlocks outside lever
- Rotating coin turn retracts deadbolt and unlocks outside lever
- Inside lever always free for immediate egress



Non-keyed dummy functions

Schlage	ANSI	Schlage	ANSI	Schlage	ANSI	Schlage	ANSI
L0170	–	**L0172**	–	**L9175**	–	**L9176**	–
Half dummy trim · Fixed lever/knob on one side		**Full dummy trim** · Fixed lever/knob on both sides		**Half dummy trim with lock case** · Fixed lever/knob on one side · Includes lock case and blank armor plate		**Full dummy trim with lock case*** · Fixed lever/knob on both sides · Includes lock case and blank armor plate	
							

*In a double-door application where the dummy will be used as the strike order 10-091 armored front strike separately.

Single cylinder non-deadbolt functions

Schlage ANSI

L9026 **–**

Exit lock with cylinder

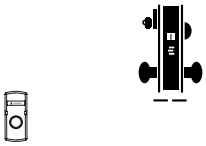
- No outside trim
- Outside cylinder retracts latchbolt
- Inside lever always free for immediate egress
- Auxiliary latch deadlocks latchbolt when door is locked

Schlage ANSI

L9050 **F04**
LV9050

Office and inner entry lock

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by key or thumbturn
- With outside locked, latchbolt retracted by key or inside lever
- Outside lever locked until unlocked by thumbturn or key
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

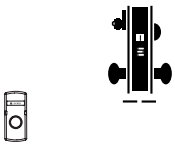


Schlage ANSI

L9056 **–**
LV9056

L9050 with automatic unlocking

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by key or thumbturn
- With outside locked, latchbolt retracted by key or inside lever
- Outside lever locked until unlocked by thumbturn or key
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

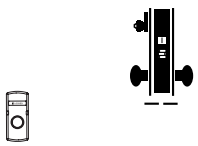


Schlage ANSI

L9070 **F05**
LV9070

Classroom lock

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by key
- Unlocked from outside by key
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

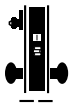


Schlage ANSI

L9076 **F06**
LV9076

Classroom holdback lock

- Latchbolt retracted by lever/knob from either side unless outside lever is locked by key
- When locked, latchbolt retracted by key or inside lever
- Auxiliary latch deadlocks latchbolt when door is closed
- Holdback feature activated by turning inside lever/knob and rotating key 360°
- Inside lever always free for immediate egress



Schlage ANSI

L9080 **F07**
LV9080

Storeroom lock

- Latchbolt retracted by lever/knob inside or key outside
- Outside lever/knob is always inoperable
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Single cylinder deadbolt functions

Schlage ANSI

L9453 **F20**
LV9453

Entrance lock

- Latchbolt retracted by lever/knob from either side unless outside locked by 20° thumbturn rotation
- Deadbolt actuation through 90° thumbturn rotation
- When locked, outside key or inside lever/knob retracts both deadbolt and latchbolt
- Outside lever/knob locked until thumbturn is restored to vertical position
- Throwing deadbolt locks outside lever/knob
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Single cylinder deadbolt functions

Schlage ANSI

L9456 F13
LV9456

Corridor lock

- Latchbolt retracted by lever/knob from either side
- Deadbolt actuation by key or thumbturn rotation
- Throwing deadbolt locks outside lever/knob
- Turning inside knob/lever retracts both deadbolt and latchbolt and unlocks outside lever/knob
- Inside lever always free for immediate egress

Schlage ANSI

L9465 –

Closet/storeroom lock

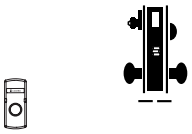
- Latchbolt retracted by lever/knob from either side
- Deadbolt actuation by key

Schlage ANSI

L9473 F21

Dormitory/bedroom lock

- Latchbolt retracted by lever/knob from either side
- Deadbolt actuation by outside key or inside thumbturn

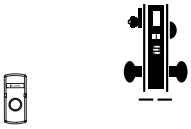


Schlage ANSI

L9480 –
LV9480

Storeroom lock with deadbolt

- Latchbolt retracted by outside key or inside knob/lever
- Outside knob/lever always fixed
- Deadbolt actuation by outside key or inside thumbturn
- Inside knob/lever actuation retracts both deadbolt and latchbolt
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

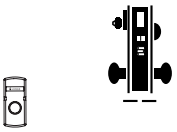


Schlage ANSI

L9485 –
LV9485

Faculty/hotel/restroom lock

- Latchbolt retracted by outside key or inside knob/lever
- Outside knob/lever always fixed
- Deadbolt actuation by thumbturn
- All keys (except emergency and display keys) inoperative when deadbolt is thrown
- Inside knob/lever retracts both deadbolt and latchbolt
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress



Schlage ANSI

L9486 F15
LV9486

L/LV9485 with 09-611 “DO NOT DISTURB” indicator for rose trim

- Latchbolt retracted by outside key or inside knob/lever
- Outside knob/lever always fixed
- Deadbolt actuation by thumbturn
- When deadbolt is thrown “DO NOT DISTURB” message is displayed and all keys (except emergency and display keys) become inoperative
- Inside knob/lever retracts both deadbolt and latchbolt
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Schlage ANSI

L9486 x L583-375 –
LV9486 x L583-375

L/LV9485 with “OCCUPIED” indicator for rose trim

- Latchbolt retracted by outside key or inside knob/lever
- Outside knob/lever always fixed
- Deadbolt actuation by thumbturn
- When deadbolt is thrown “OCCUPIED” message is displayed and all keys (except emergency and display keys) become inoperative
- Inside knob/lever retracts both deadbolt and latchbolt
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Schlage ANSI

L9496 –

Privacy with 09-611 “OCCUPIED” indicator for rose trim

- Latchbolt retracted by knob/lever from either side
- Deadbolt actuation by outside key or inside thumbturn
- Thrown deadbolt displays “OCCUPIED” message and locks outside lever
- Inside knob/lever retracts both deadbolt and latchbolt and unlocks outside lever
- Inside lever always free for immediate egress

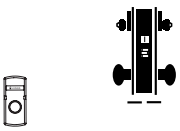
Double cylinder non-deadbolt functions

Schlage ANSI

L9060 F09
LV9060

Apartment entrance lock

- Latchbolt retracted by knob/lever from either side unless outside is locked by key from inside
- When locked, latchbolt retracted by outside key or inside knob/lever
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress



Schlage ANSI

L9071 F32
LV9071

Classroom security lock

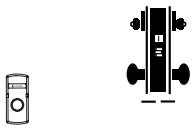
- Latchbolt retracted by knob/lever from either side unless outside is locked by key from either side
- When locked, latchbolt retracted by outside key or inside knob/lever
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Schlage ANSI

L9077 –
LV9077

Classroom security holdback lock

- Latchbolt retracted by knob/lever from either side unless outside is locked by key from either side
- When locked, latchbolt retracted by outside key or inside knob/lever
- Auxiliary latch deadlocks latchbolt when door is closed
- Rotate inside lever/knob and turn key 360° to enable holdback feature
- Inside lever always free for immediate egress

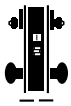


Schlage ANSI

L9082 F30
LV9082

Institution lock*

- Latchbolt retracted by key from either side
- Knob/lever on both sides always inoperative
- Auxiliary latch deadlocks latchbolt when door is closed



Double cylinder deadbolt functions

Schlage ANSI

L9457 F33
LV9457

Classroom security lock with deadbolt

- Latchbolt retracted by lever/knob from either side
- Deadbolt actuated by either key
- Throwing deadbolt locks outside lever/knob
- Actuating inside lever/knob retracts both deadbolt and latchbolt and unlocks outside lever
- Inside lever always free for immediate egress

Schlage ANSI

L9458 F34
LV9458

Classroom security lock w/ deadbolt and auxiliary latch

- Latchbolt retracted by knob/lever from either side
- Deadbolt actuated by either key
- When door is locked outside lever inoperative
- Inside lever retracts deadbolt and latchbolt and unlocks outside lever
- Auxiliary latch deadlocks latchbolt when door is closed
- Inside lever always free for immediate egress

Schlage ANSI

L9466 F14

Store/utility room lock with deadbolt*

- Latchbolt retracted by knob/lever from either side
- Deadbolt actuated by either key

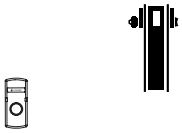
* **Caution:** Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.

Mortise deadlock functions

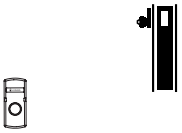
Schlage ANSI
L9460 F17
Cylinder x thumbturn lock
- Deadbolt actuated by key or thumbturn

Schlage ANSI
L9462 F16
Double cylinder lock*
- Deadbolt actuated by either key

Schlage ANSI
L9463 F29
Classroom lock
- Deadbolt actuated by key
- Thumbturn retracts deadbolt but cannot extend it



Schlage ANSI
L9464 F18
Cylinder lock
- Deadbolt actuated by key
- No trim opposite side



Small mortise deadlock functions

Schlage ANSI
L460 E06071
Cylinder x thumbturn lock
- Deadbolt actuated by key or thumbturn

Schlage ANSI
L462 E06061
Double cylinder lock*
- Deadbolt actuated by either key

Schlage ANSI
L463 E06091
Classroom lock
- Deadbolt actuated by key
- Thumbturn retracts deadbolt but cannot extend it

Schlage ANSI
L464 E06081
Cylinder lock
- Deadbolt actuated by key
- No trim opposite side

Schlage ANSI
L480 –
Door bolt
- Deadbolt actuated by thumbturn
- No trim opposite side

Schlage ANSI
L496 –
Deadbolt with "OCCUPIED" indicator
- Deadbolt actuated by key or thumbturn
- When deadbolt is thrown "OCCUPIED" message is displayed

* **Caution:** Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.

Special functions

Schlage ANSI

L9110 x XL11-741 –

Double dummy with active trim

- Knobs/levers active
- Lock case and armor front included
- Can receive deadbolt with XL11-743 armor front

Schlage ANSI

L9040 x XL11-446 – LV9040 x XL11-446

Privacy with turn both sides

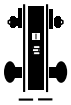
- Latchbolt retracted by either lever
- Rotating either thumbturn locks outside lever
- Actuating inside lever, closing door, or rotating either thumbturn unlocks outside lever

Schlage ANSI

L9066 x XL11-897 –

Storeroom lock*

- Either key retracts latchbolt
- Either key locks or unlocks both levers



Schlage ANSI

L9412 x XL11-907 –

Exit lock with deadbolt

- Latchbolt retracted by inside lever
- Outside lever always fixed
- Thumbturn actuates deadbolt
- Inside lever retracts deadbolt and latchbolt
- Auxiliary latch deadlocks latchbolt when door is locked

Schlage ANSI

L9460 x XL11-635 –

L9460 with fixed dummy trim

- Both knobs/levers fixed
- Deadbolt actuation by key or thumbturn

Schlage ANSI

L9460, L9462, L9464 x XL11-886 –

Inside lever deadbolt retraction

- L9460 x XL11-886
  - Deadbolt actuation by key or thumbturn
  - Outside lever always fixed
  - Inside lever active when deadbolt is thrown
  - Inside lever retracts deadbolt
- L9462 x XL11-886
  - Same as L9460 except deadbolt actuated by key from either side
- L9464 x XL11-886
  - Same as L9460 except deadbolt actuated by key from one side

Schlage ANSI

L9482 x XL11-543 – LV9482 x XL11-543

Institution lock with deadbolt*

- Latchbolt retracted by either key
- Both levers always inoperative
- Deadbolt actuated by either key
- Auxiliary latch deadlocks latchbolt when door is locked

Schlage ANSI

L9485 x XL11-557 –

Prison function lock

- Latchbolt retracted by outside key or inside knob/lever
- Outside knob/lever always free spinning
- Deadbolt actuation by guard key
- Inside knob/lever fixed when deadbolt is thrown
- Prisoner key only retracts latchbolt
- Tamper resistant Torx screws standard

* **Caution:** Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.

Universal transformation instructions

Instructions for base model L9050

Schlage ANSI

L9050 F04

Office with thumbturn
Latchbolt operated by lever either side except when outside lever is made inoperative by a stop or other mechanical means other than key. When outside lever is locked, latchbolt is retracted by key from outside or by operating inside lever. Auxiliary deadlatch.

Transformation instructions
Install cloverleaf cam cylinder on outside; install thumbturn assembly 09-509-027 on inside.

No additional parts required.

Schlage ANSI

L9010 F01

Passage
Latchbolt operated by lever from either side at all times.

Transformation instructions
Do not install thumbturn unit 09-509-027 on inside or cylinder outside. Install chassis in the unlocked position.

No additional parts required.

Schlage ANSI

L9070 F05

Classroom
Latchbolt operated by lever either side except when outside lever is locked from outside by key or push button mechanism. When outside is locked latchbolt is retracted by key or by operating key or push button, and outside lever from outside or by operating inside lever.
Auxiliary deadlatch.

Transformation instructions
Install cloverleaf cam cylinder on outside; do not install thumbturn assembly 09-509-027 on inside.

No additional parts required.

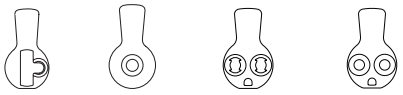
Schlage ANSI

L9080 F07

Storeroom
Latchbolt operated by key outside or by operating inside lever. Outside lever always inoperative. Auxiliary deadlatch.

Transformation instructions
Do not install thumbturn 09-509-027 on inside. Install chassis in the locked position. Replace cloverleaf cam L583-153 with straight cam B502-948 (Everest), L583-255 with K510-680 (IC and SFIC) and install on outside.

Additional part(s)
Cams B502-948 (Everest), K510-680 (IC and SFIC) or L583-476 or L583-477 for modular cylinders.



Schlage ANSI

L9060 F09

Apartment entrance
Latchbolt operated by lever either side, except when made inoperative by key from inside. When outside is locked latchbolt is retracted by key from outside or by operating inside lever.
Auxiliary deadlatch.

Transformation instructions
Do not install thumbturn 09-509-027 on inside. Install cloverleaf cam cylinder on inside. Replace clover leaf cam L583-153 with straight cam B502-948 (Everest), L583-255 with K510-680 (IC and SFIC) and install on outside.

Additional part(s)
Mortise cylinder assembly and cams B502-948 (Everest), K510-680 (IC and SFIC) or L583-476 or L583-477 for modular cylinders.

Schlage ANSI

L9025 F31

Exit lock
Latchbolt operated by inside lever. Non-removable blank trim or no trim outside.

Transformation instructions
Do not install thumbturn unit 09-509-027 on inside. Install chassis in the locked position. Install inside lever with L285-150 mounting plate; do not install outside lever or cylinder.

Additional part(s)
Mounting plate L283-150.

Universal transformation instructions

Instructions for base model L9050

Schlage ANSI

L9071 F32

Classroom security
Latchbolt retracted by lever either side except when outside lever is locked by key from inside or outside. When outside lever is locked latchbolt is retracted by key either side or by inside lever. Auxiliary deadlatch.

Transformation instructions
Do not install thumbturn unit 09-509-027 on inside. Install cloverleaf cam cylinder on inside and outside.

Additional part(s)
Mortise cylinder assembly and cam L583-153.

Mortise cylinder assembly L583-153 L583-274 L583-275

Schlage ANSI

L9026 –

Exit lock with cylinder
Latchbolt operated by key outside or by operating inside lever. No outside lever. Auxiliary deadlatch.

Transformation instructions
Do not install thumbturn unit 09-509-027 on inside. Install chassis in the locked position. Replace cloverleaf cam L583-153 with straight cam B502-948 (Everest), L583-255 with K510-680 (IC and SFIC) and install on outside. Install inside lever with L285-150 mounting plate; do not install outside lever.

Additional part(s)
Cams B502-948 (Everest), K510-680 (IC and SFIC), mounting plate L283-150or L583-476 or L583-477 for modular cylinders.

L283-150 B502-948 K510-680 L583-476 L583-477

Schlage ANSI

L9080 –

Utility (less inside trim)
Latchbolt retracted by key outside; outside lever always inoperative. No inside trim. Auxiliary deadlatch.

Transformation instructions
Do not install thumbturn unit 09-509-027 on inside. Install chassis in the locked position. Replace cloverleaf cam L583-153 with straight cam B502-948 (Everest), L583-255 with K510-680 (IC and SFIC) and install on outside. Install inside lever on outside with L283-150 mounting plate; do not install inside lever.

Additional part(s)
Cams B502-948 (Everest), K510-680 (IC and SFIC), mounting plate L283-150 or L583-476 or L583-477 for modular cylinders.

L283-150 B502-948 K510-680 L583-476 L583-477

Schlage ANSI

L9070 –

Closet (less inside trim)
Latchbolt operated by lever on outside except when outside lever is locked from outside by key. When outside is locked latchbolt is retracted by key or by operating key from outside lever. Auxiliary deadlatch.

Transformation instructions
Install cloverleaf cam cylinder on outside; do not install thumbturn assembly 09-509-027 on inside. Install inside trim on outside with L283-150 mounting plate.

Additional part(s)
Mounting plate L283-150.

L283-150

ALLEGION™

VON DUPRIN®

33A/35A™ Series

Exit devices

Introduction

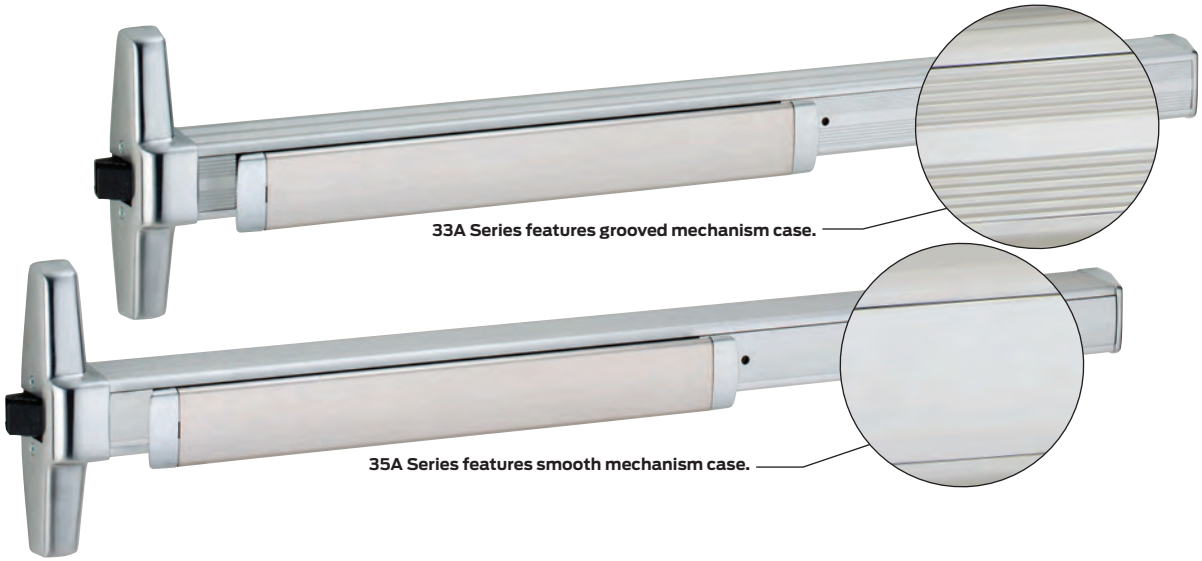
Invest in longevity

Von Duprin® devices are engineered to add value over time. The robust materials and unique engineering add to the longevity, while the flexible design improves the value. The universal center case allows users to change or upgrade features on their current device as security needs evolve.

The 33A/35A Series is a narrow stile push pad device popular for its vast application coverage. With many field configurable and upgradeable solutions available, it's easy to enhance the functionality of an existing device. Mechanical and electronic options include quiet electric latch retraction, delayed and controlled egress, concealed vertical cables and security indicators. It's one way Von Duprin protects its customers' investments long into the future.

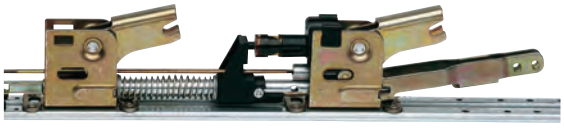
Passion driving performance

With superior products comes exceptional customer care. Von Duprin customers are supported by industry-leading expertise. Allegion's representatives average more than 15 years of experience, so you're assured to receive knowledgeable advice on fire and life safety codes, installation resources and more. And for those looking to take their skills to the next level, Allegion offers instructor-led workshops, videos and online courses. It's another way Von Duprin stands by our customers—today, tomorrow and for years to come.



Von Duprin pushpad exit devices are available in two external surface styles, designated 33A Series and 35A Series. The two styles are mechanically and dimensionally identical and provide a wide selection of appearance options.

The Quiet One®
A fluid damper decelerates the pushpad on its return stroke and eliminates most noise associated with exit device operations. Furnished on all 33A/35A Series exit devices.



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Options and accessories

Applications & trim operation	Trim selection Optional trim
Trim options	Optional levers Optional trim Trim selection Operation options
Strike options	Optional strikes
Additional information	ANSI Grade, type & function Device dimensions Finishes Fire label ratings/applications Handing How-to-order information Nomenclature Popular double door applications Minimum stile information

Symbols

Indicates fire rated application Indicates ADA products

Electrical options	**ALK** Exit alarm kit **CX** Chexit delayed exit **RX** Request to exit **WP-RX** Request to exit **E**-Trim **LX** Latch bolt monitoring **EL** Electric latch retraction **QEL** Electric latch retraction **SS** Signal switch **PN** Pneumatic **LBR/LBL** Less bottom rod/latch **PL** Pullman Latch **RG-27** Vertical rod and latch guard Dummy pushpad **CD** Cylinder dogging **CDK, HDK** Cylinder dogging and Hex key dogging kits **GBK** Glass bead kit Cylinders **CON** Allegion Connect
Electrical accessories	**Power supplies** PS902 PS914 **EPT** Electric power transfer

How to order information

Rim devices, specify:

1. Exit device model number with trim selection. Examples: 33A-EO (exit only with no outside trim). 33A-NL (includes 386NL trim). 33A-NL-OP (includes the 388 trim less pull).
2. Size 4' (1219mm) for door sizes 2' 10" (940mm) to 4' (1219mm). Size 3' (914mm) for door sizes 2' 4" (792mm) to 3' (914mm) is shipped standard.
3. Door thickness if other than 1 3/4" (44mm).
4. Door and frame material if other than aluminum.
5. Finish, see page 38.
6. Handing required on "L", "SS", or "386NL". Specify LHR or RHR. See page 7.

Vertical rod devices, specify:

1. Exit device model number with trim selection. Examples: 3327A-EO (exit only with no outside trim.) 3327A-TL-OP (includes 360T Control) 3327A-TL (includes 374T and 386DT).
2. Size 2' (1219mm) for door sizes 2' (610mm).
   Size 3' (914mm) for door sizes 2' 2" (792mm) to 3' (914mm) is shipped standard.
   Size 4' (1219mm) for door sizes 2' 8" (940mm) to 4' (1219mm).
3. Door thickness if other than 1 3/4" (44mm).
4. Door height if greater than 7' (2134mm) surface vertical rod device (8' 4" for concealed devices) or extension rods will be supplied.
5. Door and frame material if other than aluminum or hollow metal.
6. Finish, see page 38.
7. Handing required on "L", "SS", or "386NL". Specify LHR or RHR. See page 7.

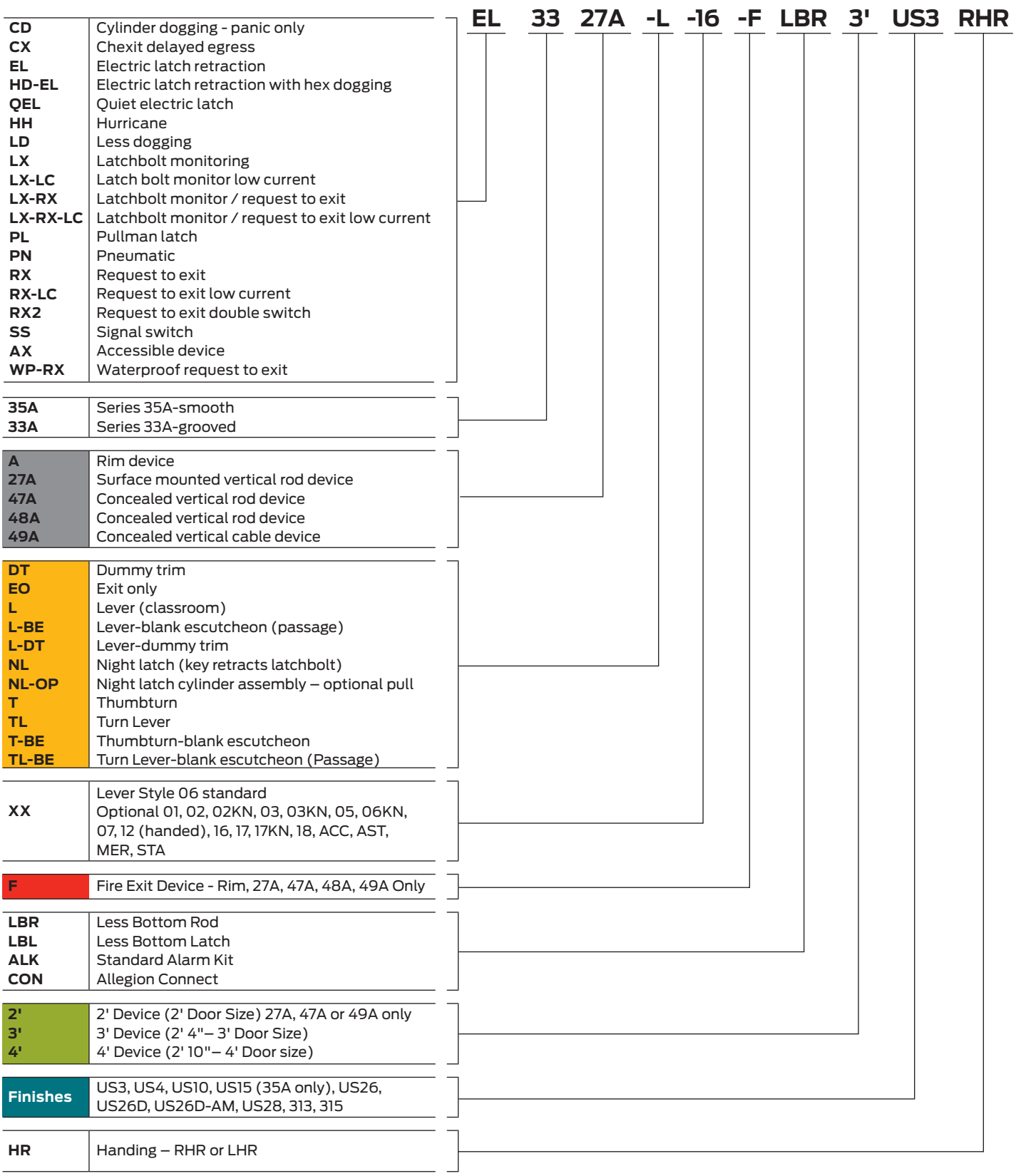
Pullman latches are optional for 3327A/3527A and 3347A/3547A devices. Latchbolts remain extended at all times. Specify "Pullman Latch" when required.

Device trim, cross-reference*:

33/35 Devices	Status	33A/35A Devices
333NL-TP	Replaced	386NL
333DT	Replaced	386DT
337NL-TP	Replaced	386NL
337DT	Replaced	386DT
334	Replaced	388
334 x 550	Replaced	388 x 550
370L	Replaced	360L
370T	Replaced	360T
372L	Replaced	360L
374T x 333DT	Replaced	374T x 386DT
—	New	374T x 392-6
376T x 337DT	Replaced	376T x 386DT
—	New	376T x 392-6
3308NL	Obsolete	—
3308DT	Obsolete	—
—	New	388 x Ives 8190 Series Pull
—	New	360T x Ives 8190 Series Pull

*New trims not compatible with old devices, neither are old trims with new devices.

Nomenclature – how to order



CD	Cylinder dogging - panic only
CX	Chexit delayed egress
EL	Electric latch retraction
HD-EL	Electric latch retraction with hex dogging
QEL	Quiet electric latch
HH	Hurricane
LD	Less dogging
LX	Latchbolt monitoring
LX-LC	Latch bolt monitor low current
LX-RX	Latchbolt monitor / request to exit
LX-RX-LC	Latchbolt monitor / request to exit low current
PL	Pullman latch
PN	Pneumatic
RX	Request to exit
RX-LC	Request to exit low current
RX2	Request to exit double switch
SS	Signal switch
AX	Accessible device
WP-RX	Waterproof request to exit

35A	Series 35A-smooth
33A	Series 33A-grooved

A	Rim device
27A	Surface mounted vertical rod device
47A	Concealed vertical rod device
48A	Concealed vertical rod device
49A	Concealed vertical cable device

DT	Dummy trim
EO	Exit only
L	Lever (classroom)
L-BE	Lever-blank escutcheon (passage)
L-DT	Lever-dummy trim
NL	Night latch (key retracts latchbolt)
NL-OP	Night latch cylinder assembly – optional pull
T	Thumbturn
TL	Turn Lever
T-BE	Thumbturn-blank escutcheon
TL-BE	Turn Lever-blank escutcheon (Passage)

XX	Lever Style 06 standard Optional 01, 02, 02KN, 03, 03KN, 05, 06KN, 07, 12 (handed), 16, 17, 17KN, 18, ACC, AST, MER, STA

F	Fire Exit Device - Rim, 27A, 47A, 48A, 49A Only

LBR	Less Bottom Rod
LBL	Less Bottom Latch
ALK	Standard Alarm Kit
CON	Allegion Connect

2'	2' Device (2' Door Size) 27A, 47A or 49A only
3'	3' Device (2' 4"– 3' Door Size)
4'	4' Device (2' 10"– 4' Door size)

Finishes	US3, US4, US10, US15 (35A only), US26, US26D, US26D-AM, US28, 313, 315

HR	Handing – RHR or LHR

Lever styles

Decorative Levers

M51
Knurling available

M52
Knurling available

M53

M54

M55

M56

M57 [1]

M61
(Handed)

M62 [1]
(Handed)

M63
(Handed)

M81
Knurling available

M82

M83

M84

M85
(Handed)

ME1 [2]
(Handed)

ME2 [2]
(Handed)

ME3 [2]

1. Available in Stainless Steel substrate ONLY.
2. Designed with Gensler as product design consultant.

Standard Levers

01

02
Knurling available

03*
Knurling available

05

06*
Default lever
Knurling available

07

12
(Handed)

16
(Omega)

17*
Knurling available

18

ACC
(Accent)
(Handed)

AST
(Asti)
(Handed)

MER
(Merano)
(Handed)

LAT*
Latitude

LON*
Longitude

* Available in stainless steel - specify SS when ordering.

Introduction

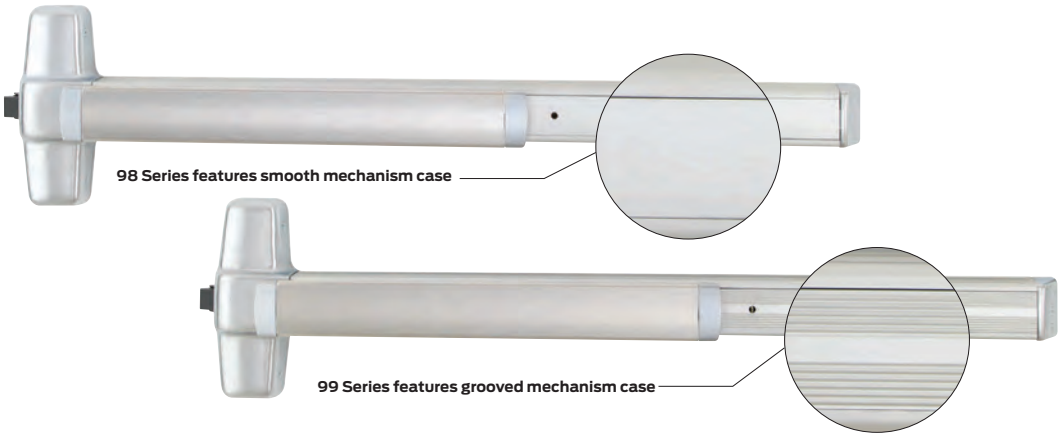
Engineered for value

Von Duprin® devices are designed with our customers in mind. The robust materials and unique engineering add to the longevity of our products, while the flexible design improves their value.

The universal center case provides a simple path to new technology without the cost of replacing the entire device. Whether it's adding trim, switching handing or introducing new features, Von Duprin makes it simple with a wide variety of upgradeable kits for the 98/99 Series. In addition to evolving with security needs, Von Duprin' exit devices are manufactured to meet the highest performance and safety standards.

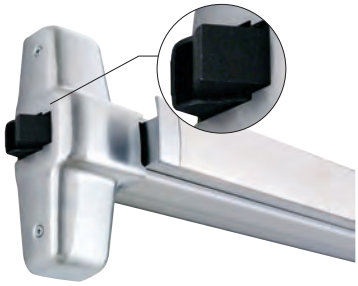
Passion driving performance

With superior products comes exceptional customer care. Von Duprin customers are supported by industry-leading expertise. Allegion's representatives average more than 15 years of experience, so you're assured to receive knowledgeable advice on fire and life safety codes, installation resources and more. And for those looking to take their skills to the next level, Allegion offers instructor-led workshops, videos and online courses. It's another way Von Duprin stands by our customers—today, tomorrow and for years to come.



Von Duprin exit devices are available in two external surface styles, designated 98 and 99 Series.

The Quiet One®
A fluid damper decelerates the pushpad on its return stroke and eliminates most noise associated with exit device operations. Furnished on all 98/99™ Series exit devices.



Latch bolt
Deadlocking latchbolt provides security and improved performance at standard device cost.

VON DUPRIN
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Options and accessories

Applications and trim operation	Single and double door applications Door handing Outside trim operation Lever styles

Trim options	Knob Thumbpiece Lever Electrified outside lever trim (E996L) Breakaway lever Thumbturn control Hospital pull Offset pull Vandal resistant pull AD-Series adaptable electronic trim

Strike options	Strike/Stile information Strikes
Dogging options	Cylinder dogging Cylinder dogging with Security Indicator Hex key dogging Hex dogging with Security Indicator Less dogging Dogging keys Special center case dogging Double cylinder Double cylinder with Security Indicator

Symbols

Indicates fire rated application

Indicates ADA products

Electrical options	**RX** Request to exit **LX** Latchbolt monitoring **SS** Signal switch **CX** Chexit® **ALK** Alarm kit **E** Electric mortise lock device **EL** Electric latch retraction **QEL** Quiet electric latch retraction **CON** Allegion Connect
Electrical accessories	Power supplies Electric power transfer

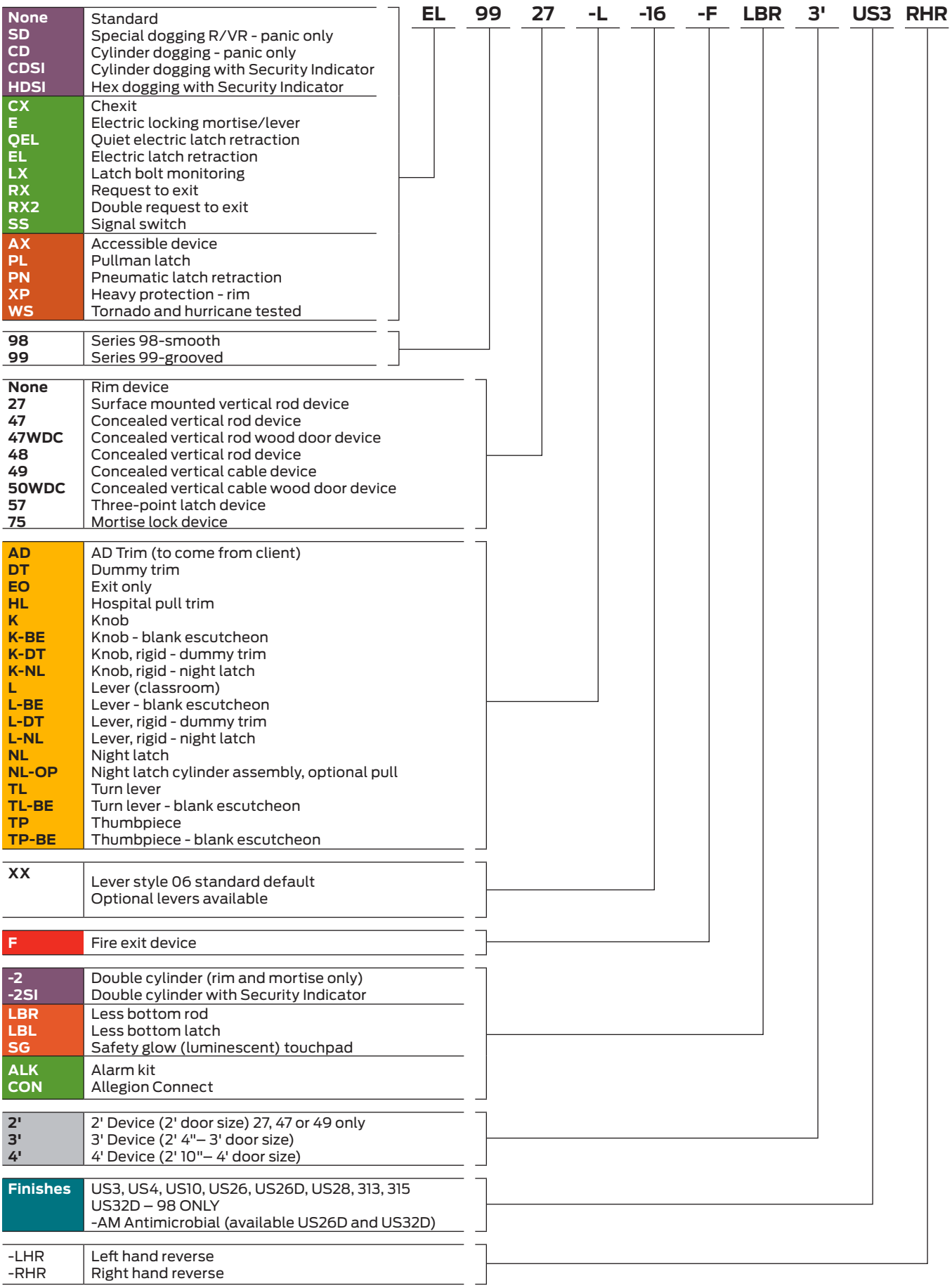
Mechanical options	XP98/99 rim exit device WS Surface vertical rod exit device Less bottom rod AX Accessible device Pullman latch Dummy push pad Braille, embossed, knurled and safety glow (Luminescent) touchpads
Pneumatic options	Pneumatic controlled exit devices Pneumatic power transfer

Device accessories	Glass bead kit Vertical rod and latch guard Cover plate kits Cylinders Mullions Sex bolts

Additional information	ANSI Function, grade and type Ul fire labeling and opening size

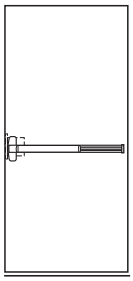
Finishes	Standard and special finishes

Nomenclature – how to order

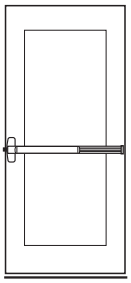


Popular double door applications

Single door applications

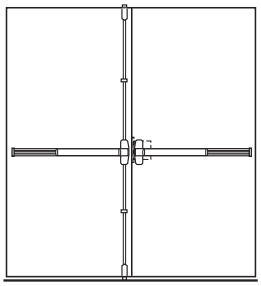


Single mortise lock device

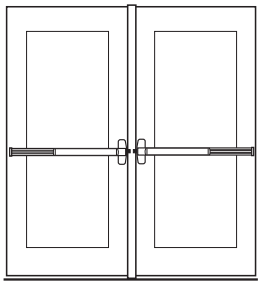


Single rim device

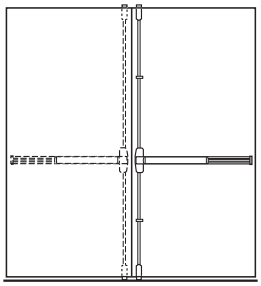
Double door applications



Mortise lock and surface mounted or concealed vertical cable/rod device combination—same direction

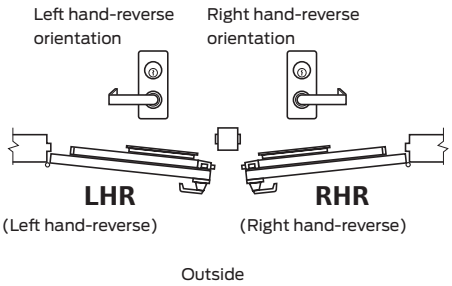


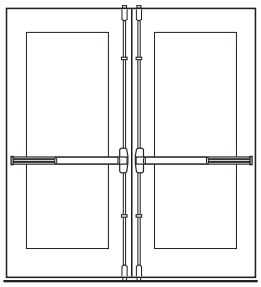
Two rim devices with mullion—same direction



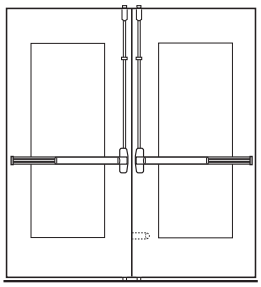
Two vertical rods—double egress

Door handing

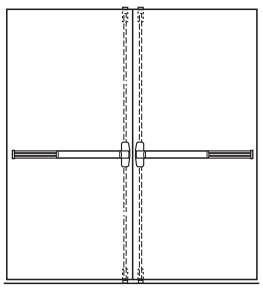




Two surface mounted vertical rod devices—same direction (do not use with overlapping astragal)



Two fire exit hardware vertical cables/rods with auxilary fire latch-LBR option

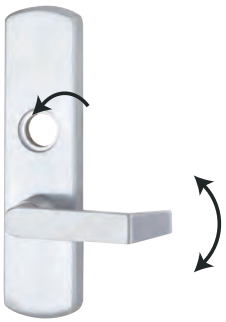


Two concealed vertical cables/rods

Outside trim operation

Trim operation lever or knob

Standard



Key locks and unlocks lever or knob. e.g., 996L (Classroom)

Night latch

Key retracts latch bolt. Lever or knob is rigid. Use NL suffix, e.g. 996LNL. (Storeroom)

Blank escutcheon

Lever or knob always active. Use BE suffix, e.g., 996L-BE. (Passage)

Dummy

Lever or knob rigid for pull operation. Use DT suffix, e.g., 996L-DT.

996L Breakaway™ lever

The 996L Breakaway trim has become the standard lever trim offering on the 98L/99L Series devices. The Breakaway design is especially effective in areas where vandalism to door hardware is a problem. The design intent is to discourage costly repairs from becoming necessary. The Breakaway feature is not available on the NL (night-latch) or DT (dummy trim) versions.

374T/376T Series thumbturn control

Standard operation, key locks and unlocks thumbturn. Optional operation, key unlocks thumbturn, re-locks when key is removed. This operation is created by changing the cylinder plate included with control. Use 1 1/4" mortise cylinder with a straight cam. Schlage cam reference L583-477. Use with a pull trim (990DT pictured).

Lever styles

Decorative Levers

M51
Knurling available

M52
Knurling available

M53

M54

M55

M56

M57 [1]

M61
(Handed)

M62 [1]
(Handed)

M63
(Handed)

M81
Knurling available

M82

M83

M84

M85
(Handed)

ME1 [2]
(Handed)

ME2 [2]
(Handed)

ME3 [2]

1. Available in Stainless Steel substrate ONLY.
2. Designed with Gensler as product design consultant.

Standard Levers

01

02
Knurling available

03*
Knurling available

05

06*
Default lever
Knurling available

07

12
(Handed)

16
(Omega)

17*
Knurling available

18

ACC
(Accent)
(Handed)

AST
(Asti)
(Handed)

MER
(Merano)
(Handed)

LAT*
Latitude

LON*
Longitude

* Available in stainless steel - specify SS when ordering.

98/99 Rim exit device

The 299 Strike ships standard, optional strikes available

98 and 99 Rim exit devices for all types of single and double doors with mullion, UL listed for panic exit hardware. Devices are ANSI A156.3 – 2014 Grade 1. The 98 device has a smooth mechanism case and the 99 device has a grooved case. The rim device is non-handed except when the following device options are used: SD (special dogging), -2 (double cylinder) or SS (signal switch). See Opposite page for available outside trim and device functions. Covers stock hollow metal doors with 86 or 161 cutouts on single doors (may cover cutouts on pairs – consult template).

Finishes – US3, US3A, US4, US4A, US10, US26, US26D, US26D-AM Antimicrobial, US28, 313, 315 and 643E. US15 and US32D available with 98 Series only.

Hex key dogging comes standard on 98/99 Rim exit devices

Specifications

Device functions	Device ships EO/DT/NL. Field selectable. For TP, K or L remove NL drive screw from device.	
Device lengths	3'	2'4" to 3' (711mm to 914 mm) Door size
	4'	2'10" to 4' (864 mm to 1219 mm) Door size
Device centerline from finished floor	39 13/16" (1011 mm) 39 11/16" (1008 mm) with mullion	
Center case	8" x 2 3/4" x2 3/8" (203mm x 70mm x 60mm)	
Mechanism case	2 1/4" x 2 1/4" (57mm x 57mm)	
Projection	Pushbar neutral – 3 13/16" (97 mm) Pushbar depressed – 3 1/16" (78 mm)	
Latch bolt	Deadlocking, 3/4" (19mm) throw	
Fasteners and sex bolts (SNB)	Includes screw pack for 1 3/4" (44mm) and 2 1/4" (57mm) thick metal or wood doors. Optional 425 SNB available, see page 9 for quantities.	
Electric options	**LX**	Latchbolt monitor switch
	RX	Pushpad monitor switch
	RX2	Double pushpad monitor switch
	E	Electric locking and unlocking trim
	EL	Electric latch retraction
	QEL	Quiet electric latch retraction
	SS	Signal switch
	CX	Chexit delayed exit
	ALK	Alarm exit kit
	WP-RX	Waterproof request to exit
	CON	Allegion Connect
Mechanical options	**-2**	Double cylinder
	-2SI	Double cylinder with Security Indicator
	AX	Accessible device
	GBK	Glass bead kit
	PN	Pneumatic latch retraction
	XP	Extra protection
	SNB	Sex bolts
	SEC	Security screws
Dogging feature	Hex key dogging standard	
Dogging options	**CD**	Cylinder dogging
	CDSI	Cylinder dogging with Security Indicator
	HDSI	Hex dogging with Security Indicator
	SD	Special center case dogging
	LD	Less dogging
	DI	Dogging indicator
	CI	Cylinder dogging indicator
Strikes	**299** – Dull black	

XP
Extra protection
- 90° latch-to-strike contact
- Force resistance of 2,000+ lbs.

CDSI
Cylinder dogging with Security Indicator
- Visual indication of whether device is dogged or undogged

QEL
Quiet electric latch retraction
- Bolt retraction via switch
- Converts exit door to push-pull operation

RX
Pushpad monitor switch
- Signals use of an opening
- SPDT switch to monitor pushpad

CX
Chexit delayed exit
- Meets NFPA 101 requirements
- Self-contained controls, locking, alarm

AX
Accessible device
- UL certified to meet new 5 lb. maximum operating force requirement
- Exceeds ANSI/BHMA requirements

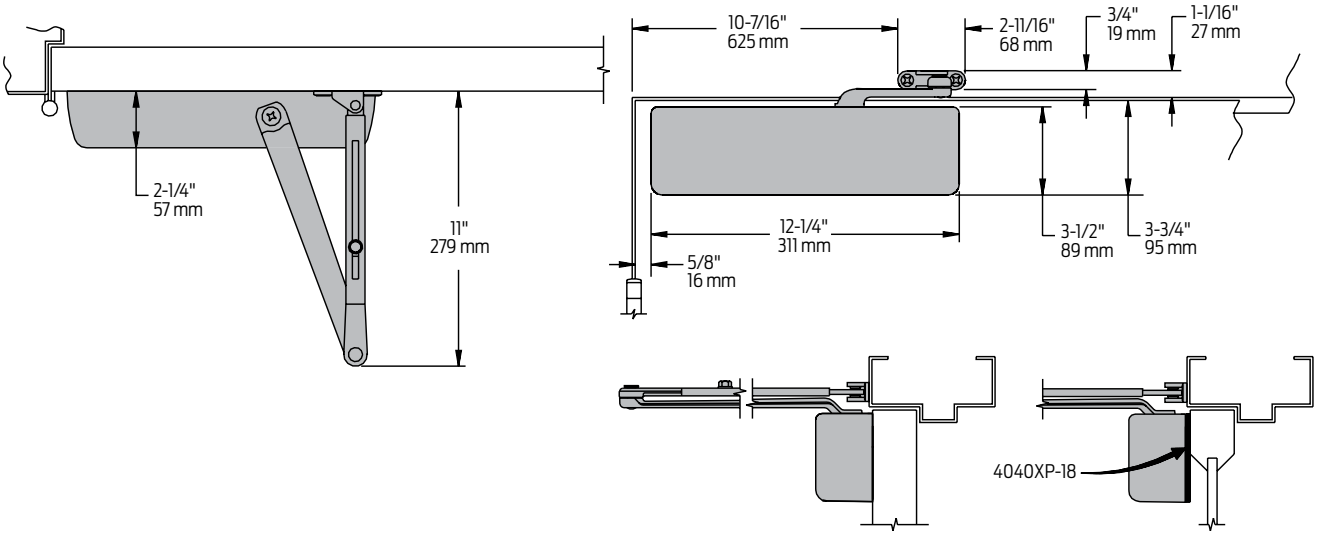
EL
Electric latch retraction
- Enables remote unlatching
- Alternative to manual dogging

ALK
Alarm exit kit
- Unauthorized opening triggers 85-decibel horn
- Set in armed or disarmed mode by key

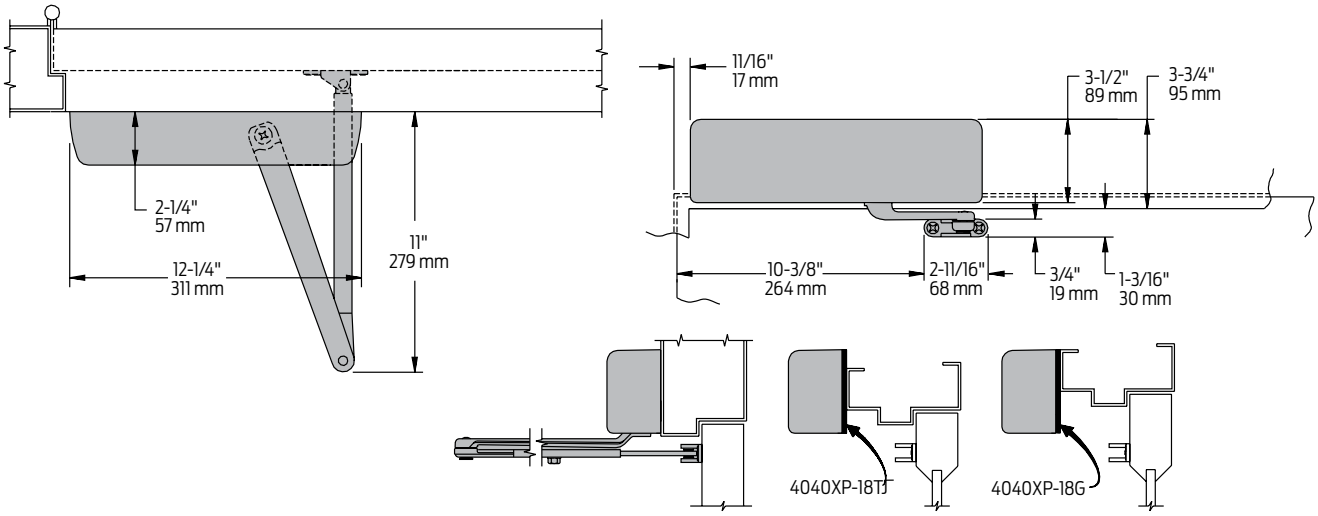
PN
Pneumatic latch retraction
- For areas where electrical devices banned
- Special linkage for mechanical or pneumatic dogging

CON
Allegion Connectors
- Common connectors to connect various door hardware all the way to the power supply

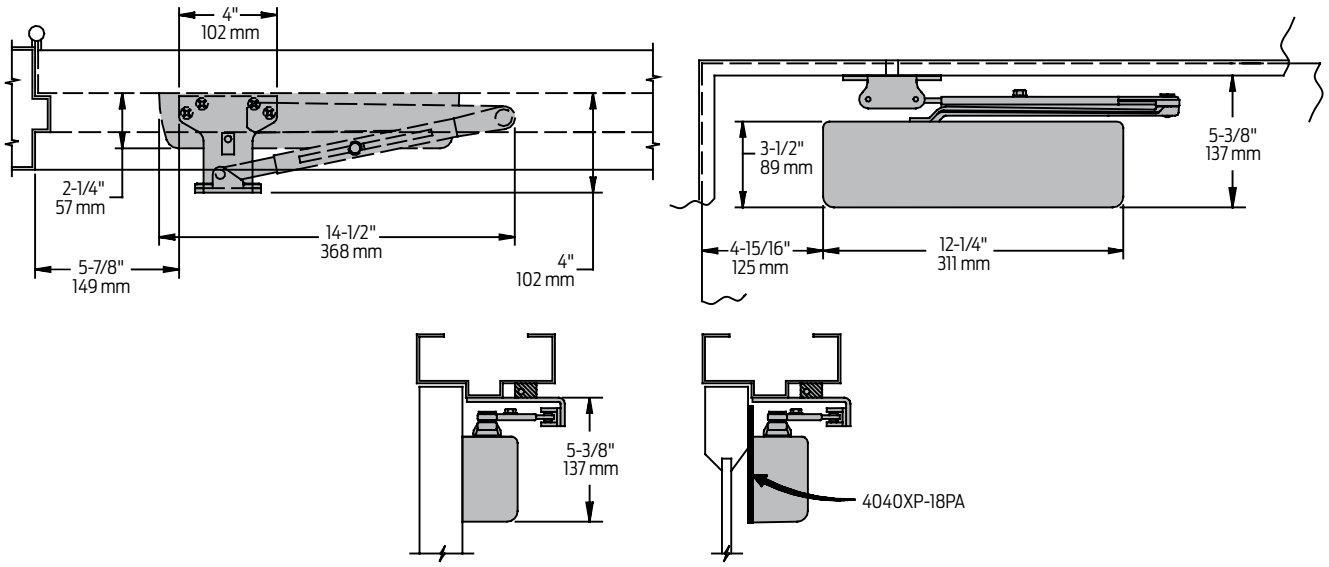
Hinge (Pull Side) Mounting



Butt Hinges	■ Should not exceed 5″ (127 mm) in width
Auxiliary Stop	■ Recommended at hold-open point or where a door cannot swing beyond 120º
Reveal	■ Should not exceed 3/4″ (19 mm) for regular arm or hold-open arm
Top Rail	■ Less than 3-3/4″ (95 mm) requires PLATE, 4040XP-18. Plate requires 2″ (51 mm) minimum
Clearance	■ 2-3/8″ (60 mm) behind door required for 90º installation
Delayed Action	■ Incorporates standard 4041 cylinder, without XP cylinder ■ Delays closing from 120º to 70º ■ Delay time adjustable up to approximately 1 minute
Maximum Opening	■ Templating allows up to 120º. ■ Hold-open points 90º up to 120º with hold-open arm.



Butt Hinges	Should not exceed 5″ (127 mm) in width		
Auxiliary Stop	Recommended at hold-open point or where a door cannot swing beyond 120°		
Reveal	Arm Type	Reveal	Max Opening
	Regular Arm	2-9/16″	Up to 120°
	Long	4-13/16″	Up to 120°
	Hold-Open	2-9/16″	Up to 120°
	Long Hold-Open Arm	8″	Up to 120°
Top Rail	■ Requires 1-1/4″ (32 mm) minimum ■ 2-1/4″ (57 mm) minimum with closer on PLATE, 4040XP-18TJ ■ 3″ (76 mm) minimum with closer on PLATE, 4040XP-18G		
Head Frame	■ Less than 3-1/2″ (89 mm) requires PLATE, 4040XP-18TJ ■ With flush ceiling, use PLATE, 4040XP-18G. Either plate requires 1-3/4″ (44 mm) minimum		
Maximum Opening	■ Templating allows up to 120°. ■ Hold-open points 85° up to 120° with hold-open arm.		
Delayed Action	■ Incorporates standard 4041 cylinder, without XP cylinder ■ Delays closing from 120° to 70° ■ Delay time adjustable up to approximately 1 minute		



Butt Hinges	Should not exceed 5″ (127 mm) in width
Auxiliary Stop	Recommended at hold-open point, where the door cannot swing 180º, or where CUSH-N-STOP arm is not used
Reveal	Should not exceed 7/32″ (6 mm)
Top Rail	Less than 5-3/8″ (137 mm) measured from the stop requires PLATE, 4040XP-18PA. Plate requires 2″ (51 mm) minimum from the stop
Head Frame	Flush or rabetted requires PA SHOE ADAPTER, 4040XP-419
Stop Width	Minimum 1″ (25 mm). CUSH arm requires minimum 1-1/2″ (38 mm)
Blade Stop	Clearance requires 1/2″ (13mm) BLADE STOP SPACER, 4040XP-61.
Clearance	■ 4040XP-62PA shoe is 4″ (102 mm) from door face. ■ EDA shoe projects 5-1/2″ (140 mm) from door face. ■ CUSH shoe projects 6″ (152 mm) from door face
Delayed Action	■ Incorporates standard 4041 cylinder, without XP cylinder ■ Delays closing from 120º to 70º. ■ Delay time adjustable up to approximately 1 minute.
Maximum Opening	■ 180º opening/hold-open points with all except CUSH arms ■ 110º opening/hold-open with CUSH arms

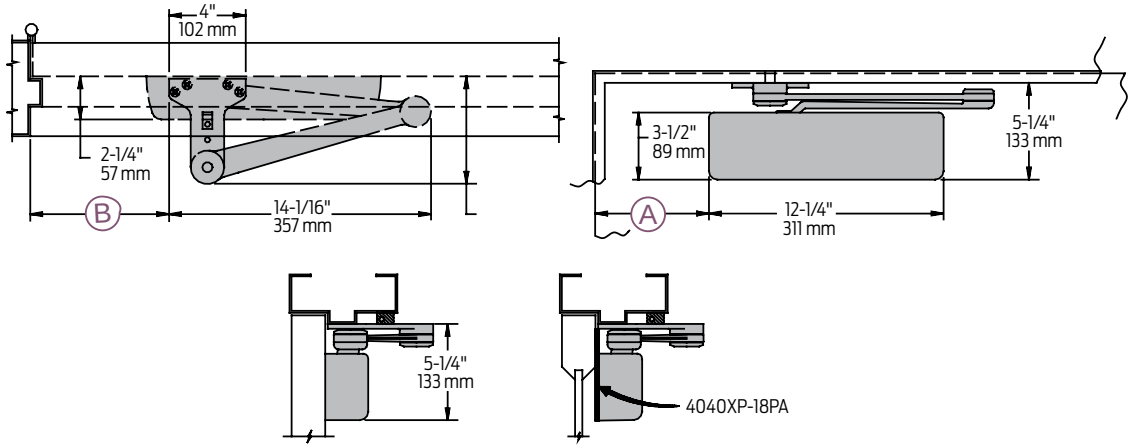
Notes:

• Optional mounting requires PA SHOE, 4040XP-62PA for regular or HOLD-OPEN arms

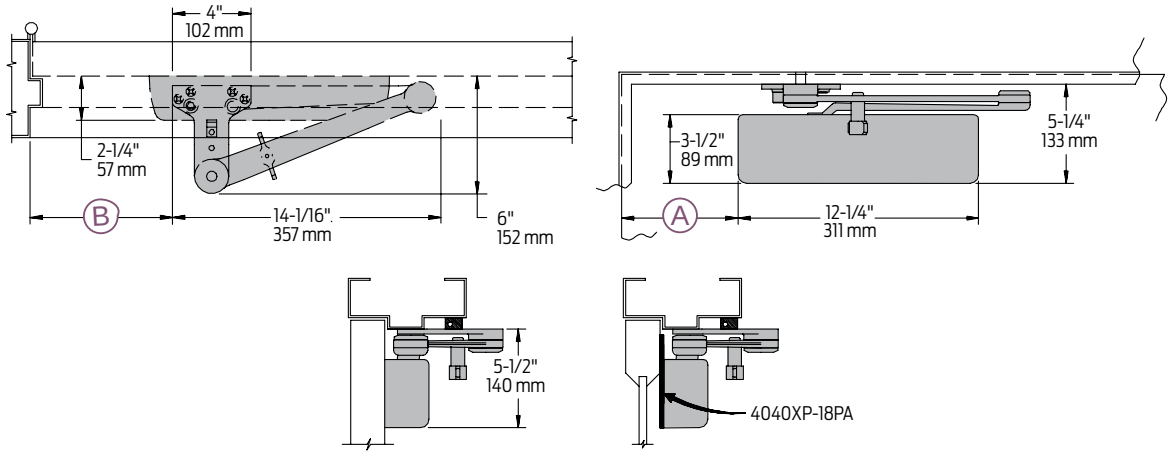
• Add prefix "P" to closer description (eg. P4040XP)

• P4040XP closer includes 4040XP-201 FIFTH HOLE SPACER to support PA SHOE

EDA mount



CUSH mount



Clearance	4040XP-62EDA is 5-1/2″ (140 mm) from door face. 6″ (152 mm) for CUSH	
Head Frame	Flush or rabetted requires CUSH FLUSH PANEL ADAPTER, 4040XP-419	
CUSH ARM	Requires SHOE SUPPORT, 4040XP-30 for fifth screw anchorage where reveal is less than 3-1/16″ (78 mm)	
Delayed Action	▪ Incorporates standard 4041 cylinder, without XP cylinder. ▪ Delays closing from maximum opening to ; 115˚ with 180˚ template, 95˚ with 110˚ template, 85˚ with 100˚ template, 75˚ with 90˚ template. Delay time adjustable up to approximately 1 minute.	
Maximum Opening	EDA arm can be templated for points at:	CUSH arms can be templated for opening/hold-open point at:
	110º: A = 6-3/8″ (162 mm) B = 7-3/4″ (197 mm)	85º: A = 7-15/16″ (202 mm) B = 9-1/8″ (232 mm)
	or 180º: A = 2-7/8″ (73 mm) B = 4-1/4″ (108 mm)	90º: A = 7-3/16″ (183 mm) B = 8-1/2″ (216 mm)
	Hold-open points up to maximum opening with HEDA arm	100º: A = 6-1/16″ (154 mm) B = 7-1/4″ (184 mm)
		or 110º: A = 5-1/16″ (129 mm) B = 6-3/8″ (162 mm)

Notes:

- *4040XP Series closers ordered with EDA or CUSH arms include 4040XP-201 FIFTH HOLE SPACER to support the shoe*
- *Spring Cush stop points are approximately 5˚ more than templated stop point*
- *Hold open at templated stop points*

Cylinders

4040XP-3071
Cast Iron Cylinder Assembly

- Non-handed
- Heavy duty

4041-3071 DEL
Cast Iron Cylinder Assembly

- Used for delayed action closing
- Non-handed
- Heavy duty

Covers

4040XP-72
Plastic Cover

- Includes 4040XP-54 snap-on cover clip
- Non-handed
- Standard

4040XP-72MC
Metal Cover

- Handed
- Required for plated finishes and custom powder coat finishes
- Optional

Installation Accessories

4040XP-18
Plate

- Required for hinge side mount where top rail is less than 3-3/4″ (95 mm)
- Requires minimum 2″ (51 mm) minimum top rail

4040XP-18G
Plate

- Locates top jamb mounted closer flush with top of head frame face in flush ceiling condition
- Requires 1-3/4″ (44 mm) minimum head frame

4040XP-18TJ
Plate

- Centers top jamb mounted closer vertically on head frame where face is less than 3-1/2″ (89 mm). Plate requires 1-3/4″ (44 mm) minimum head frame

4040XP-18PA
Plate

- Required for parallel arm mounting where top rail is less than 5-1/2″ (140 mm), measured from the stop
- Requires 2″ (51 mm) minimum top rail

4040XP-62PA
PA Shoe

- Required for parallel arm mounting

Arms

4040XP-3077
Regular Arm

- Non-handed
- Mounts pull side or top jamb with shallow reveal P4041 closer includes PA SHOE, 4040XP-62PA required for parallel arm mounting

4040XP-3077L
Long Arm

- Non-handed
- Includes LONG ROD AND SHOE, 4040XP-79LR for top jamb mount
- Optional

4040XP-3077ELR
Extra Long Arm

- Non-handed
- Includes EXTRA LONG ROD AND SHOE, 4040XP-79ELR for top jamb mount with deep reveal
- Optional

4040XP-3049
Hold-Open Arm

- Non-handed
- Mounts pull side or top jamb with shallow reveal, hold-open adjustable shoe
- 4040XP closer includes 4040XP-62PA shoe required for parallel arm mounting
- Optional

4040XP-3049L
Long Hold-Open Arm

- Non-handed
- Includes LONG HEAD AND TUBE, 4040XP-3048L for top jamb mount
- Optional

4040XP-3077EDA
Extra Duty Arm

- Non-handed
- Features forged, solid steel main and forearm for potentially abusive installations
- Optional

4040XP-3049EDA
Hold-Open Extra Duty Arm

- Handed
- Parallel arm features forged, solid steel main and forearm for potentially abusive installations
- Hold-open function is adjusted at the shoe
- Optional

4040XP-3077EDA/62G
Extra Duty Arm with 62G

- Non-handed
- Features forged, solid steel main and forearm for potentially abusive installations
- 62G shoe provides additional blade stop clearance
- Optional

4040XP-3049EDA/62G
Hold-Open Extra Duty Arm with 62G

- Handed
- Features forged, solid steel main and forearm for potentially abusive installations
- 62G shoe provides additional blade stop clearance. Hold-open function is adjusted at the shoe
- Optional

4040XP-3077CNS
Cush-N-Stop® Arm

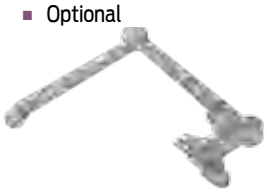
- Non-handed
- Features solid forged steel main arm and forearm with stop in soffit shoe.
- Optional

4040XP-3049CNS
HCUSH Arm

- Non-handed
- Hold-open function with templated stop/hold-open points
- Handle controls hold-open function
- Optional

4040XP-3077SCNS
Spring CUSH Arm

- Non-handed
- For abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe
- Optional



4040XP-3049SCNS
Spring HCUSH Arm

- Non-handed
- For abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe
- Handle controls hold-open function
- Optional

Installation Accessories cont.

4040XP-30
CUSH Shoe Support

- Provides anchorage for fifth screw used with CUSH arms, where reveal is less than 3-1/16″ (78 mm)
- Optional

4040XP-61
Blade Stop Spacer

- Required to lower parallel arm shoe to clear 1/2″ (13 mm) blade stop
- Optional

4040XP-419
PA Flush Panel Adapter

- Provides horizontal mounting surface for parallel arm shoe on single rabetted or flush frame
- Optional

4040XP-62A
Auxiliary Shoe

- Requires a top rail of 7″ (178 mm)
- Shoe replaces -62PA for parallel arm mounting of regular arm with overhead holder/stop
- Optional

4040XP-54
Snap-On Cover Clip

- Used to secure 4040XP-72 Plastic Cover to cylinder body

How-to-order 4040XP Series closers

1. Select finish
☐ Standard Powder Coat _____
Aluminum, Dark Bronze, Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:
- Standard cylinder
- Standard cover
- Regular arm
- Self-reaming and tapping screws
unless options listed below are selected.

Closer options

Cylinder
☐ Delayed Action (4041 DEL)

Cover
☐ Metal (specify right or left hand) (MC)

Finish
☐ Custom Powder Coat (RAL) _____
(handed metal cover required)
☐ Plated Finish, US _____
(handed metal cover required)
☐ SRI primer (use with powder coat finishes only)

Arm
☐ Regular (REG)
☐ Regular w/62PA (Rw/PA)
☐ Regular w/62A (R/62A)
☐ Long (LONG)
☐ Extra Long (XLONG)
☐ Hold-Open (H)
☐ Hold-Open w/62PA (Hw/PA)
☐ Long Hold-Open (HLONG)
☐ Extra Duty Arm (EDA)
☐ Extra Duty Arm with 62G (EDA/62G)
☐ Hold Open Extra Duty Arm (HEDA) (Handed)
☐ Hold Open Extra Duty Arm with 62 (HEDA/62G) (Handed)
☐ Cush-N-Stop (CUSH)
☐ HCush-N-Stop (HCUSH)
☐ Spring Cush (SCUSH)
☐ Spring HCush (SHCUSH)

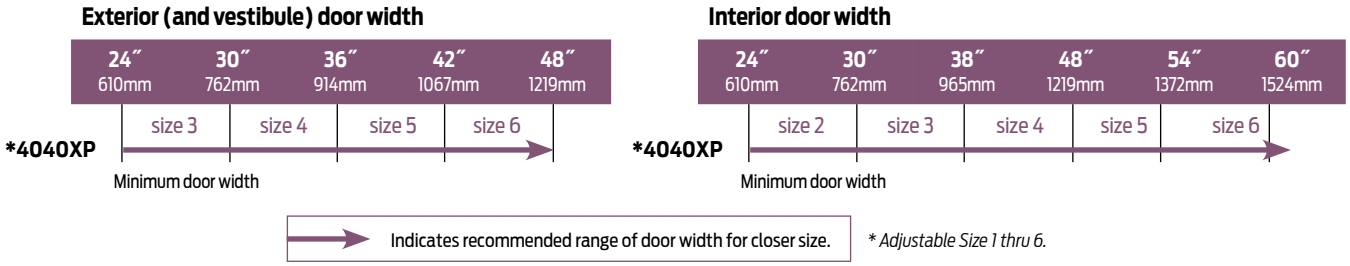
Optional Screw Packs
☐ TB* w/Self-Reaming and Tapping (TBSRT)
☐ Wood & Machine Screw (WMS)
☐ TB*, Wood & Machine Screw (TBWMS)
☐ TORX Machine Screw (TORX)
☐ TB* & TORX Machine Screw (TBTRX)
* Specify door thickness if other than 1-3/4″.

Installation Accessories
☐ Plate, 4040XP-18
☐ Plate, 4040XP-18TJ
☐ Plate, 4040XP-18G
☐ Plate, 4040XP-18PA
☐ CUSH Shoe Support, 4040XP-30
☐ Blade Stop Spacer, 4040XP-61
☐ Auxiliary Shoe, 4040XP-62A
☐ PA Flush Panel Adapter, 4040XP-419

Special Template
☐ ST- _____

Table of sizes

- 4040XP cylinders are adjustable from size 1 through size 6 and is shipped set to size 3
- Closing power of 4040XP Series closers may be adjusted 50%



Reduced opening force 4040XP Series closers

CAUTION ! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

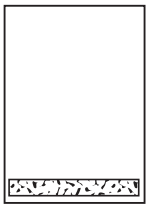
Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without effecting closing power.

	DOOR WIDTH	36″	42″	48″
	8.5* lbs.	4040XP	4040XP	4040XP
	5.0* lbs.	4040XP	4040XP	4040XP

Maximum opening force.

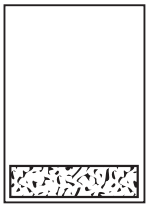
Notes

Types of protection plates



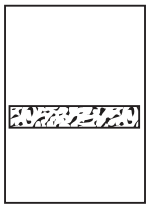
Mop plates

- Protect the bottom of the pull side of door subject to cleaning and mopping procedures.
- Size Ranges: 4” to 6” high, 22” to 48” wide



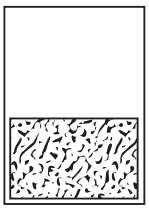
Kick plates

- Protect the bottom of the push side of doors subject to scuffing from foot traffic.
- Recommended for all doors subject to normal use (especially doors using a closer).
- Size Ranges: 8” to 24” high, 22” to 48” wide



Stretcher plates

- Protect doors at specific areas where consistent contact is made by stretchers, service carts or other equipment.
- Usually applied to push side of doors.
- Specify “B4E” Option for beveled edges.
- Size Ranges: 6” to 8” high, 22” to 48” wide



Armor plates

- Protect lower half of doors from abuse by hard carts, trucks and rough usage.
- Usually applied to push side of single doors and both sides of double acting doors.
- Size Ranges: 26” to 48” high, 22” to 48” wide

8400 Commercial protection plates
8402 UL Commercial protection plates

- Door protection plates are available in .050" thick brass, stainless steel or aluminum; and 1/8" thick high impact polyethylene in clear or black.
- All plates, metal and plastic, come standard with four beveled edges and countersunk mounting holes (B-CS).
- Protection plates must be ordered in 1/2" increments. Available in other sizes, consult customer service
- *For 8402 UL Plates, UL mark appears in upper right corner. Not available on plastic protection plates.*

Certifications
- Meets ANSI A156.6 for J301
- UL protection plates certified to UL10C

Mounting
- Standard mounting package, 16 per pack
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package, specify TK-TX
  - #6 X 5/8 Self-drilling, Self-tapping screws
  - #6 X 5/8 Torx screws

Finishes
- Aluminum 5005 Series, Brass C26800 Series, Stainless Steel 300 Series, Plastic

BHMA	Description	Substrate	Finish	Max sizes
605	Bright Brass	Brass	US3	24"X48"
606	Satin Brass	Brass	US4	24"X48"
612	Satin Bronze	Brass	US10	24"X48"
613	Oil rubbed Bronze	Brass	US10B	36"X48"
619	Satin Nickel	Brass	US15	24"X48"
625	Bright Chrome	Brass	US26	36"X48"
626	Satin Chrome	Brass	US26D	24"X48"
628	Satin Aluminium	Aluminium	US28	48"X48"
629	Bright Stainless Steel	Stainless Steel	US32	48"X48"
630	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
654	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
BLK	Matte black	Stainless Steel	BLK	24"X48"
P-BLK	Black	Plastic	P-BLK	48"X48"
CLR	Clear	Plastic	CLR	48"X48"

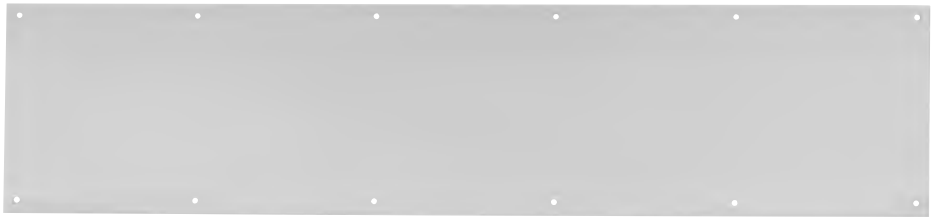
Number of screw packs required by plate size (specify TEK Screws or TORK screws)

	22"-25"	26"-33"	34"-41"	42"-48"
4"-8"	1	1	1	1
9"-16"	1	1	1	1
17"-24"	1	1	1	2
25"-32"	1	1	2	2
33"-40"	1	2	2	2
41"-48"	2	2	2	2

- Custom finishes are available as engineering special, consult customer service.

Available options
- Specify B-NH for no mounting holes. (Not available on 8402. Available only with US32D, US32, US3, US4, US28, Clear, Black only)
- Specify B-NHA for no mounting holes with adhesive.
- Specify ERS prepped with extra row of screws.
- Special Cut-outs are available as engineering special, consult customer service.

Available accessory
- Gasket tape kit tape is recommended when using a brass plate on a metal door to reduce tarnishing from electrolytic oxidation. One tape pack will cover an the perimeters of a 8" x 34" kickplate. Order 8401 gasket tape.



WS401CCV & WS402CCV

WS401/402CVX (Convex) wall bumpers
WS401/402CCV (Concave) wall bumpers

- Constructed in heavy-duty cast brass
- Special retainer ring makes rubber tamper resistant
- Grey rubber bumper
- WS401/402CVX – convex rubber bumper, packed with fasteners for drywall/wood applications
- WS401/402CCV – concave rubber bumper which avoids damage to locks with projecting buttons, packed with fasteners for drywall/wood applications

Certifications

- WS401/402CVX Meets ANSI/BHMA 156.16, L12101
- WS401/402CCV Meets ANSI/BHMA 156.16, L12251

Material substrate

- Made from cast brass

Dimensions

- Base diameter: 2-1/2"
- Base thickness: 3/8"
- Overall projection: 1"

Finishes - Brass

BHMA	Description	Substrate	Finish
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

For other colors, consult factory.

WS404CVX (Convex) wall bumpers

- Compact size
- Constructed in cast brass
- Totally concealed mounting discourages vandalism or tampering
- Unit furnished with grey convex rubber bumper
- Packed with fasteners for drywall/wood applications

Material substrate

- Made from cast brass

Dimensions

- Base diameter: 1"
- Overall projection: 17/32"

Finishes - Brass

BHMA	Description	Substrate	Finish
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
609	Blackened brass	Brass	US5
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
622	Matte black	Brass	BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
---	Aged bronze	Brass	643e/716

For other colors, consult factory.

WS406CVX & WS407CVX

WS406/407CVX (Convex) wall bumpers
WS406/407CCV (Concave) wall bumpers

- Constructed in sturdy yet economical wrought base of brass or stainless steel construction
- Feature concealed tamper-proof mounting
- Shipped factory preassembled backplate to reduce installation cost
- Easy installation by inserting screwdriver through small hole in rubber
- WS406/407CVX – convex rubber bumper, packed with fasteners for drywall/wood applications
- WS406/407CCV – concave rubber bumper which avoids damage to locks with projecting buttons, packed with fasteners for drywall/wood applications

Certifications

- WS406/407CVX Meets ANSI/BHMA 156.16, L22201 for brass and L52201 for stainless steel
- WS406/407CCV Meets ANSI/BHMA 156.16, L22251 for brass and L52251 for stainless steel

Material substrate

- Made from brass and stainless steel

Dimensions

- Base diameter: 2-1/2"
- Base thickness: 3/8"
- Overall projection: 1"

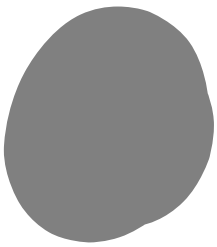
Finishes - Brass

BHMA	Description	Substrate	Finish
605	Bright brass	Brass	US3
606	Satin brass	Brass	US4
609	Blackened brass	Brass	US5
612	Satin bronze	Brass	US10
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
622	Matte black	Brass	BLK
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D
---	Aged bronze	Brass	643e/716

Finishes - Stainless steel

BHMA	Description	Substrate	Finish
630	Stainless steel	Stainless steel	US32D

For other colors, consult factory.



411R-W Wall bumper - adhesive

- Adhesive-backed wall door stop for use on clean, smooth, flat surfaces only
- Non-marring white rubber
- Concave design permits knob to strike stop without damaging or engaging lock mechanism

Material substrate

- Made from rubber

Dimensions

- Base diameter: 1-7/8"
- Base thickness: 3/8"
- Overall projection: 1-1/16"

Finishes

BHMA	Description	Substrate	Finish
---	White	Rubber	R-W

63 Flexible door stops

- Utilizes heavy gauge spring to maintain rigid protections
- Simple to install - only a screwdriver required
- Packed disassembled for quick installation
- White rubber tip
- Packaged with fastener for wood applications

Material substrate
- Made from wrought steel

Available accessory items
- Replaceable white rubber tip available
- Replaceable black rubber tip available

Dimensions
- Base diameter: 1"
- Tip diameter: 9/16"
- Projection: 3"

Finishes

BHMA	Description	Substrate	Finish
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	F3
638	Blackened brass	Steel	F5
---	Aged bronze	Steel	F-643E/716
646	Satin nickel	Steel	F15
651	Bright chrome	Steel	F26
652	Satin chrome	Steel	F26D
---	White	Steel	F-W

For other colors, consult factory.

64 Base door stop

- Base door stop features deluxe one-piece styling
- Easily screws into base
- Designed with hexagonal head to accommodate wrench or pliers when installing
- White rubber tip
- Packaged with fastener for wood applications

Material substrate
- Made from solid brass or aluminum

Available accessory items
- Replaceable white rubber tip available
- Replaceable black rubber tip available

Dimensions
- Base diameter: 1"
- Tip diameter: 9/16"
- Projection: 3-1/4"

Finishes - Brass

BHMA	Description	Substrate	Finish
605	Bright brass	Brass	B3
606	Satin brass	Brass	B4
609	Blackened brass	Brass	B5
612	Satin bronze	Brass	B10
613	Oil rubbed bronze	Brass	B10B
619	Satin nickel	Brass	B15
622	Matte black	Brass	B-BLK
625	Bright chrome	Brass	B26
626	Satin chrome	Brass	B26D
---	Aged bronze	Brass	B-643e/716

Finishes - Aluminum

BHMA	Description	Substrate	Finish
666	Bright brass	Aluminum	A3
703	Oil rubbed bronze	Aluminum	A10B
673	Aluminum clear coat	Aluminum	A92

For other colors, consult factory.

69 Hinge pin door stops

- Economical solution for use on low frequency, light weight, residential 3 1/2 or 4" hinged doors where the installation of a standard door stop or overhead is not desirable
- Adjustable for 70° to 100° Door Openings
- Positive slip proof adjustment
- White non-marring rubber tips
- Removable bushings accommodate 1/4" to 5/16" diameter hinge pins
- Easy installation—only a screwdriver required

Material substrate

- Made from burnished wrought steel

Available accessory items

- Replaceable white rubber tip available

Dimensions

- Base diameter: 1"
- Tip diameter: 9/16"
- Projection: 3-1/4"

Finishes

BHMA	Description	Substrate	Finish
631	Matte black	Steel	F-BLK
632	Bright brass	Steel	F3
638	Blackened brass	Steel	F5
639	Satin bronze	Steel	F10
640	Oil rubbed bronze	Steel	F10B
645	Bright nickel	Steel	F14
---	Aged bronze	Steel	F-643E/716
646	Satin nickel	Steel	F15
647	Bright nickel	Steel	F15A
651	Bright chrome	Steel	F26
652	Satin chrome	Steel	F26D

For other colors, consult factory.

ALLEGION™

ZERO INTERNATIONAL

Door sealing systems

Explore ›

ALLEGION™

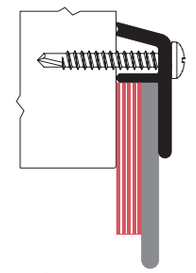
The standard for quality in door sealing hardware

Allegion's Zero International brand is recognized as the standard for quality in door sealing hardware. Our perimeter seals and thresholds are engineered for durability and reliable performance even under the most challenging installation and operating conditions. Our sealing products also support green building applications by promoting heating and cooling efficiency.

The comprehensive Zero product line includes advanced sound-control gasketing and a full array of other specialized sealing systems for doors and windows, as well as intumescent fire and smoke protection systems. We also offer a line of flood barrier shields with proven value for protecting door openings and building contents in flood-prone areas.

Sound trap system

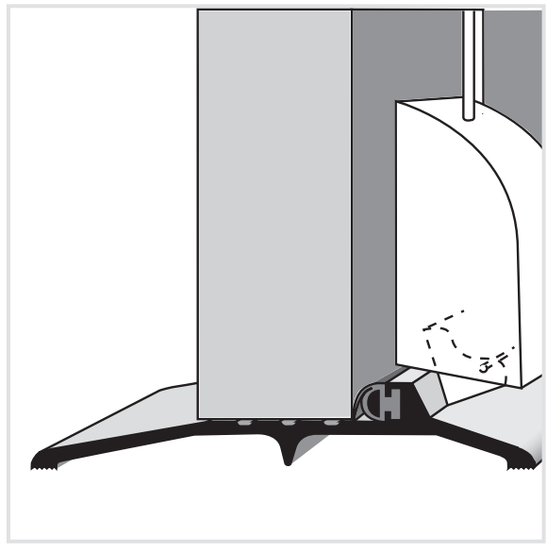
Patented automatic door bottom technology

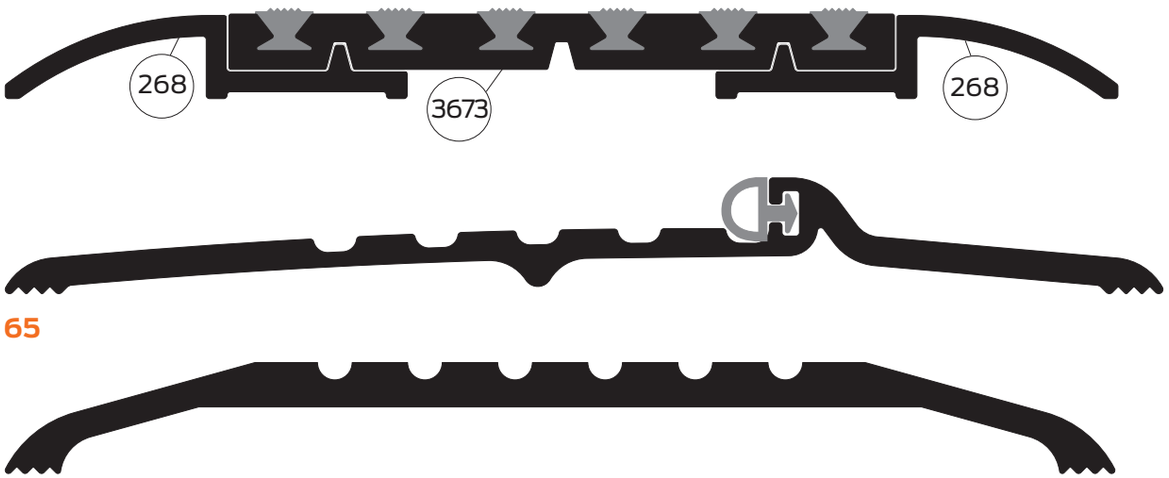


Gap solutions- restore lost fire rating

Thresholds

Zero's thresholds feature top quality materials and construction to endure the demands of heavy traffic applications as well as those with extreme temperature differentials. They can be drilled or screwed directly into concrete without the common issues that arise when using lighter commercial materials, such as buckling under heavy loads or loose screws. A variety of types of thresholds are available to accommodate your project's specific needs.





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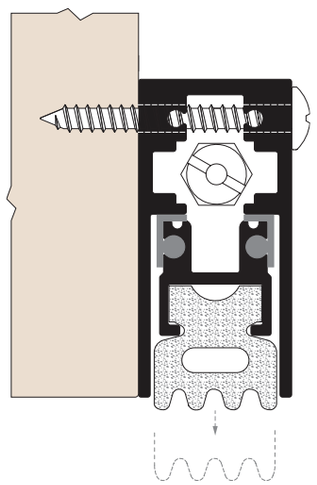
Automatic door bottoms

The patented automatic door bottom technology from Zero ensures an efficient seal against the floor or saddle. As the door is closed, the adjustable plunger is compressed against the door frame, activating a concealed flat spring mechanism. This mechanism drops the seal smoothly from the housing in a scissor-like motion. Door bottoms are available in specialized versions for various applications, including light spring (LS options). Zero door bottoms are designed to block penetration by air, sound, smoke and flames.



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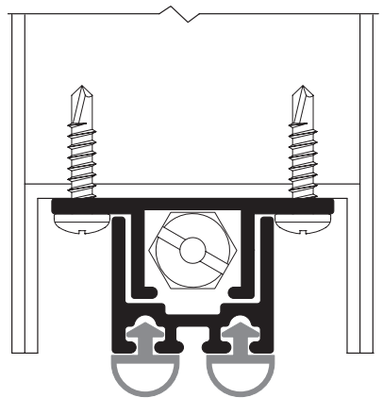

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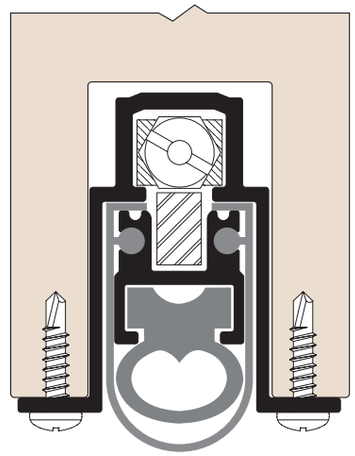

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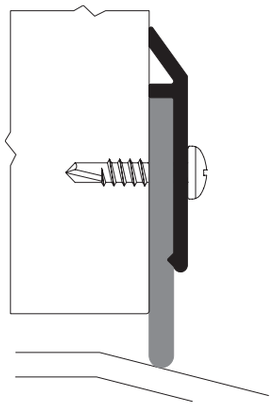
Perimeter seals

Zero's door gaskets for protecting head, jamb, sill and meeting stiles are engineered for reliable performance in demanding environments. Constructed from top-quality materials, they are built to last. When you need the best seal to satisfy codes, or field conditions are less than perfect, Zero's mechanically fastened gasketing provides many choices. The offering includes a range of features, aesthetic options and specialized solutions.



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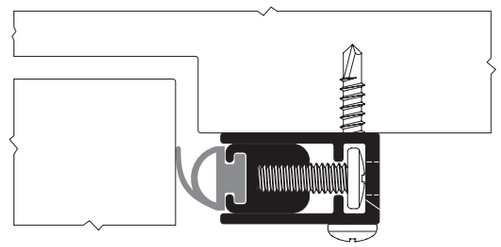

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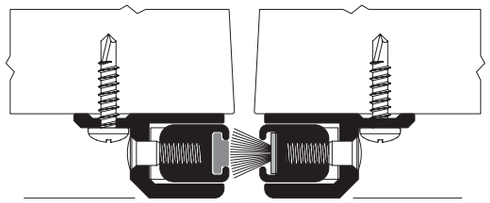

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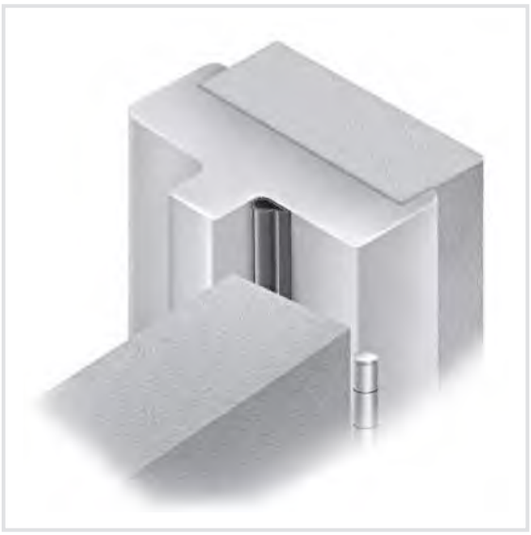
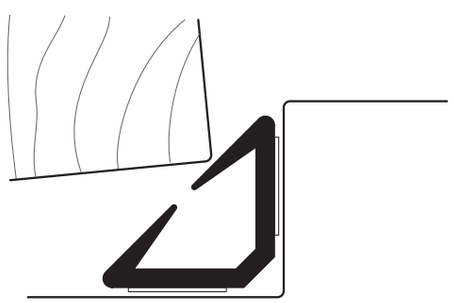
Weatherstripping

A comprehensive selection of kerf seals and pressure-sensitive adhesive (PSA) rubber seals is available in a variety of materials. With a broad portfolio, Zero offers solutions for a variety of challenging applications—and your common sealing needs. Special features, such as state of the art adhesive, set Zero apart. And a variety of material options make it easy to customize solutions to meet the needs of each opening in your project.





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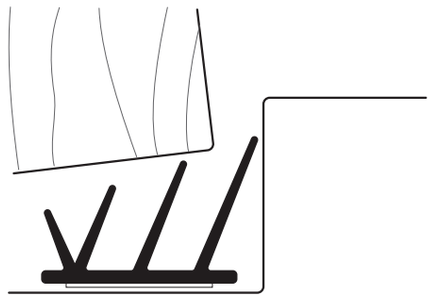

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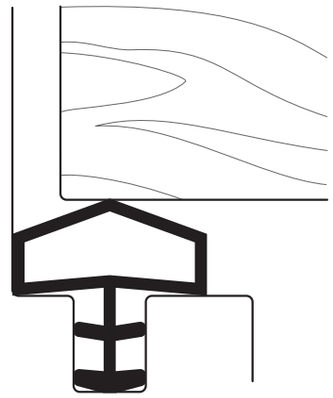

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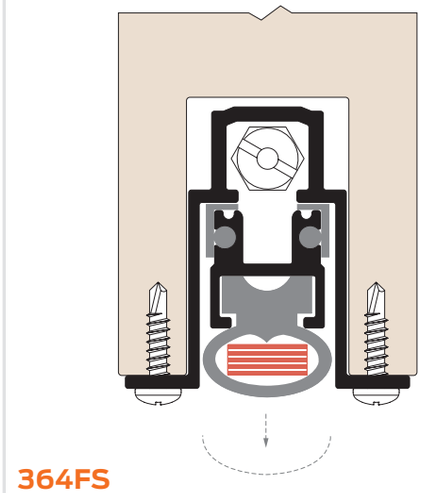
Intumescent solutions

Zero's many years of leadership in developing fire and smoke seals have produced top-quality gasketing systems that meet the highest standards, including intumescent technology. Zero's positive pressure seals are tested and listed according to U.S. listing agencies' classifications for Category G edge sealing systems and Category H smoke and draft control systems.



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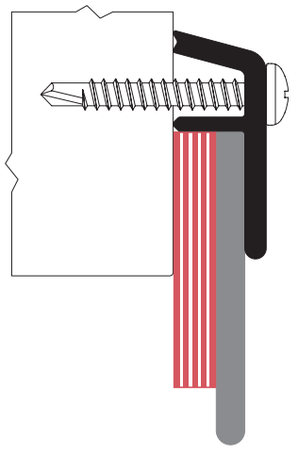

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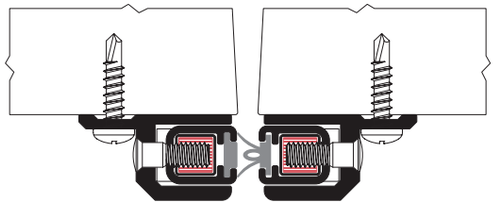
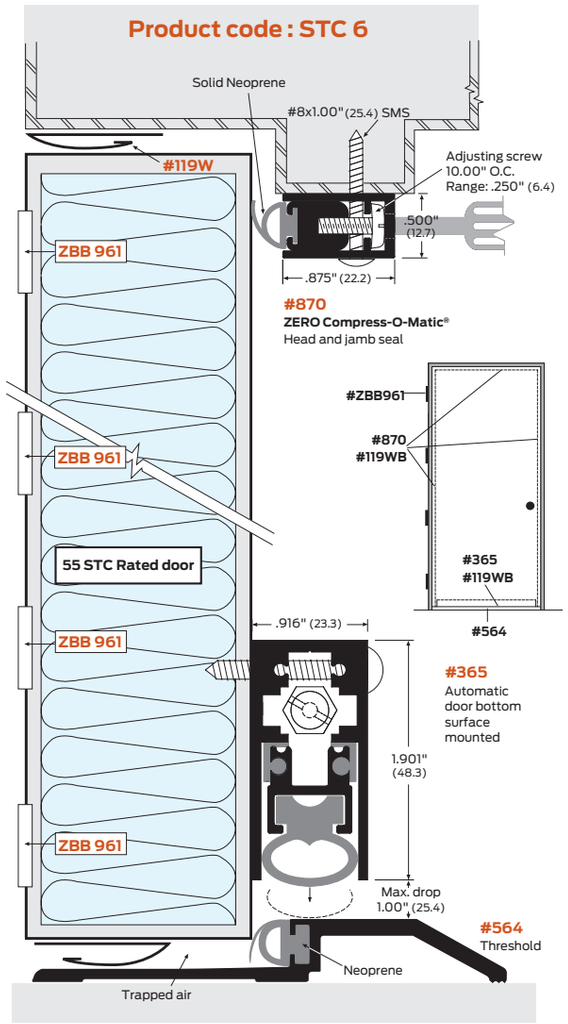


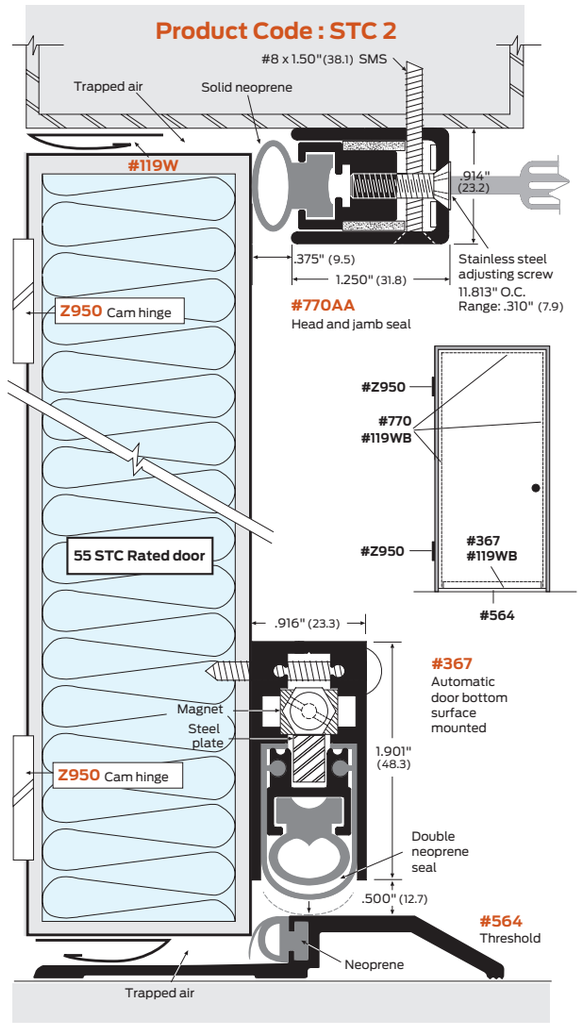
55FS **555FS**

Sound control solutions

Sounds control is a common desire in facilities like hospitals, schools, performing arts centers, recording studios, commercial offices, churches, hotels and apartment buildings. Zero uses advanced technology to master two critical challenges: creating an effective sound barrier at the perimeter of the door and preventing gaps in that barrier for the life of the assembly.



Sound Trap 49 STC sealing system



Sound Trap 52 STC sealing system

Specialty solutions

Piecing a solution together across multiple product and manufacturers adds time, complexity and risk. Instead, ZERO offers proven solutions for a variety of applications, including: sound control, fire and smoke seals, flood barriers to ADA access systems and more. In addition, ZERO offers many unique products for challenging applications, such as:

- Finger guards
- Ligature-resistant gaseketing
- Flood barrier shield
- Cam lift full mortise hinges
- Specialty head and jamb protection

Service and support

Customer support: 877-671-7011

support@allegion.com

us.allegion.com service/help

About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a $2 billion company, with products sold in almost 130 countries.

For more, visit **www.allegion.com**

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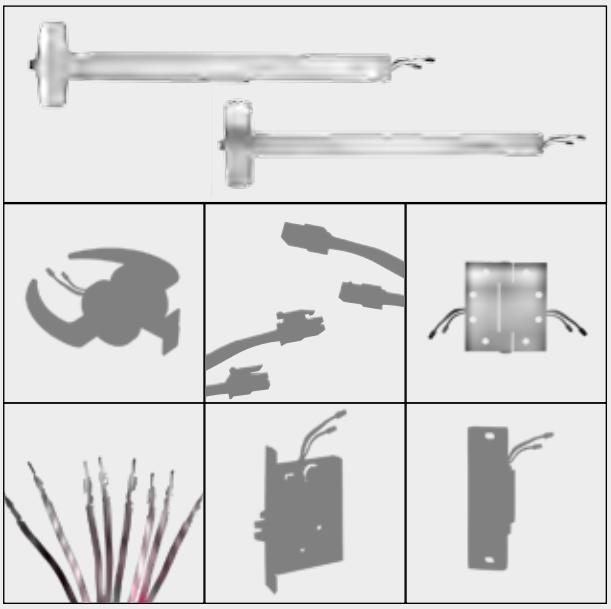
013055, Rev. 06/19
www.allegion.com/us

Intro ›

Allegion Connect

Cross category electrified solution for FAlcon, IVES, Schlage and Von Duprin



Overview

Allegion Connect is a cross-category electrified solution utilizing common interconnect components to our electrified options. Allegion Connect is a quick and easy way to connect power sources; all the way from your power supply to electrified door hardware. There is no wire cutting; reducing installation and maintenance time ultimately cutting cost. After installation, Allegion Connect continues to provide benefits throughout the lifetime of the opening by offering a comprehensive service kit. Our cross category product offering is interchangeable which allows for simple upgrades and replacements.

Features and benefits

- **Quick:** common connections reducing installation time
- **Perfect connections:** these factory installed connectors ensure the right wires match up every time
- **Protective:** the connectors protect the connection points throughout the installation process and lifetime of the opening
- **Interchangeable:** all Allegion Connect products utilize the same connectors
- **Maintenance:** you no longer need to cut away wire to disconnect Allegion products, also available are service kits specifically for Allegion Connect

Available products

Von Duprin	Exits	22, 33A/35A, 98/99 Series
	Electric strikes	6100, 6200 Series
	EPT	10
Schlage	Locks	ND Series - 10, 12, 80, 96 functions L Series - 9080, 9082 functions
Falcon	Exits	24, 25 Series
	Locks	T Series - 851, 881 functions MA Series - 851, 881 functions
IVES	Architectural hinges	3CB1, 5BB1 Standard and heavyweight
	Geared hinges	112, 224
	Pin/barrel hinges	600, 700, 715

For more visit www.allegion.com/us or call 877-671-7011.

Allegion Connect - the perfect connection

Locks, exits, hinges and accessories

How to order

1. Specify CON for Connect electronic options

   Example: EL-99-EO-CON (99 Series Electrified Latching exit only with ConneX connectors)

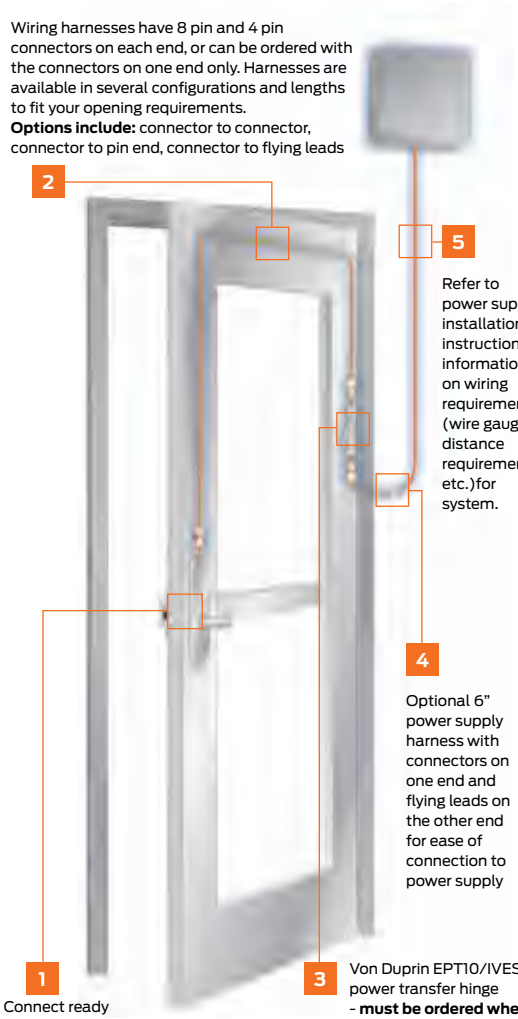
2. Specify harness length; Consult door manufacturer for harness length

3. Specify Von Duprin EPT10-CON or Ives 7200 power transfer hinge

   Note: Must be ordered with exit devices and locks

Note: You will need to purchase a separate wiring harness to go from exit device to EPT/hinge/electric strike. We recommend the use of our 6" power supply harness (connectors on one end, flying lead on the other) to tie into wiring coming out from power supply or access control system.

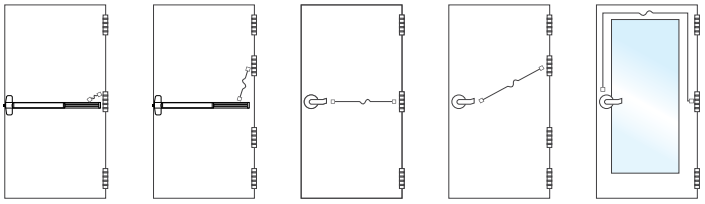
Wiring harnesses have 8 pin and 4 pin connectors on each end, or can be ordered with the connectors on one end only. Harnesses are available in several configurations and lengths to fit your opening requirements.
Options include: connector to connector, connector to pin end, connector to flying leads



How to order examples

Von Duprin	CX-99-EO-**CON**
	EPT-10-**CON**
Schlage locks	ND80PDEL-RHO-626-**CON**
	L9080EUP-03A-626-**CON**
Falcon exits	EL-25-R-L-US26D-RHR-**CON**
Falcon locks	MA-851P-24-DG-626-**CON**
IVES	5BB-1-HW-4.5x4.5-626-**CON**-TW8
	112HD-CL-83-TW8-**CON**
	700-630-83-TW8-**CON**

Wire run options



Note: For illustration purposes only. Consult your door manufacturer for harness length requirements.

Harness lengths

Harness length	Connectors on both ends	Connectors on one end, crimped pins on other end (recommended for doors with narrow channel)
6 inches	CON-6	CON-6P
12 inches	CON-12	CON-12P
26 inches	CON-26	CON-26P
32 inches	CON-32	CON-32P
38 inches	CON-38	CON-38P
44 inches	CON-44	CON-44P
50 inches	CON-50	CON-50P
192 inches	CON-192	CON-192P
Optional power supply wire harness: Connectors on one end, stripped leads on the other end, offereing a direct connection to the power supply		
6 inches	CON-6W - wire extension to power supply	

Note: Wiring harnesses are used to connect the door hardware (lock, exit device) to the EPT/hinge, and an additional wiring harness can be used to route from the EPT/hinge to locations outside of the frame. Wiring harnesses are not to be used to connect system to power supply, refer to your power supply installation instructions for more information. We recommend the use of our optional 6" power supply harness (connectors on one end, flying leads on the other) to tie into wiring coming out from power supply or access control system. Consult door manufacturer for harness length requirements.

Harness part numbers with ordering information can be located in the Schlage, Von Duprin and Falcon pricebooks.

A service kit is available for order in the Schlage, Von Duprin and Falcon pricebooks. Included in this kit are male end plugs, female end plugs and pins to customize harnesses to your application.

Contact your local Allegion Representative today at 877-671-7011 or visit allegion.com/us to learn how our Connect solution can simplify your installation and maintenance processes.

About Allegion

Allegion (NYSE: ALLE) creates peace of mind by pioneering safety and security. As a $2 billion provider of security solutions for homes and businesses, Allegion employs more than 8,000 people and sells products in more than 120 countries across the world. Allegion comprises more than 25 global brands, including strategic brands CISA®, Interflex®, LCN®, Schlage® and Von Duprin®. For more, visit **www.allegion.com.**

aptiQ ■ LCN ■ SCHLAGE ■ STEELCRAFT ■ VON DUPRIN

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010220, Rev. 10/14
www.allegion.com/us

Request for Information	RFI #	Date May 2, 2025

Project CMHA

To	Ferguson Construction	**From**	J&M Connections
Attention	Kaylynn Morgan-Stulgis	**Contact**	Toni DeAngelo
Phone	614-876-8496	**Phone**	614-679-3609
Fax		**Fax**	

Question or Concern

By Toni DeAngelo

Subject Voice and Data Wiring System 271500

Question

1) **Specifications 271500-1.04 Manufacturers state Hubbell or OTDI approved equal for both cabling and 2.01 connectors for voice and data. CAN LEVITON CONNECTORS AND LEVITON/BERKTEK CABLE BE SUBSTITUTED FOR THE HUBBELL? LEVITON NOW OWNS AND MANUFACTURES THE BERKTEK CABLE AND IS IN THE PROCESS OF CHANGING THE NAME. PLEASE SEE THE ATTACHED CUT SHEETS.**

Suggestion

The above is a change ☐ **No** ☐

Response

Response

Leviton is an acceptable equal.

Michael Evans - Prater Engineering

Accepted **Yes** ☒ **No** ☐

Signature 5/12/25 **Date**

LANmark-1000 Enhanced Cat 6 Plenum Rated Cable

APPLICATION

LANmark-1000 offers best-in-class electrical performance. Engineers designed LANmark-1000 to ensure that all crosstalk parameters have 5 dB of headroom over the Cat 6 standard. As a result, the Power Sum Attenuation to Crosstalk Ratio (PSACR) is nearly three times better than the standard (at 250 MHz), allowing for much greater signal strength and less vulnerability to noise interference.

BENEFITS

- Optimal support for Gigabit Ethernet with headroom
- Power sum characterization gives highest performance using existing applications
- Addition of balance requirements improves overall cable performance and reduces cable emissions which results in reduced transmission errors
- Characterized to 350 MHz, 100 MHz greater than the standard
- Able to bundle 312 cables to support 100 W PoE
- Available in smartPAK™ 1500 ft boxes which reduce cardboard waste up to 15% for a more sustainable future

FEATURES

- Full Power Sum Performance
- Documented balance characteristics (TCL, ELTCTL)
- 23 AWG copper conductors
- Two insulated conductors twisted together to form a pair and four such pairs laid up with crossfiller to form the basic unit, jacketed with flame-retardant PVC
- Performance to these beyond standard specifications are independently verified by ETL as part of the LM Verified Performance program
- Made with Leviton's advanced FLX-1™ technology for maximum flexibility, tighter bend radius and smoother pulls

STANDARDS & REGULATIONS

- ANSI/TIA 568.2-D
- ISO/IEC 11801
- IEEE 802.3bt PoE Type 1 (15.4 watts, formerly 802.3af) Type 2 (30 watts, formerly 802.3at), Type 3 (60 watts), Type 4 (90 watts)
- Cisco UPOE (60 watts), UPOE+ (90 watts), Power over HDBaseT™ PoH (95 watts)
- UL 444
- RoHS Compliant

FIRE RATING

- Plenum - NFPA 262
- CMP - Plenum Rated
- ETL Listed

WARRANTY INFORMATION

For Leviton product warranties, go to leviton.com/ns/warranty

LANmark-1000 Enhanced Cat 6 Plenum Rated Cable

I23 SS2013-CA-US ENv5
Revised September 2023

LEVITON Network Solutions

TECHNICAL SPECIFICATIONS

Mechanical Properties	
Min. bending radius	1.0 inches (25.4 mm)
Max. installation tension	25 lb. (110 N)
Nominal cable weight	26 lbs/kft (38.70 kg/km)
Usage Characteristics	
Field of application	Indoor
Category	Cat. 6
Recommended installation temp. range	0 °C .. 50 °C
Recommended operating temp. range	-20 °C .. 60 °C
Listed jacket temp.	75 °C
Electrical Properties (-20 °C ± 5 °C)	
DC resistance	Max. 9.38 Ω/100 m max.
DC resistance unbalance	Max. 5% at 20 °C
Mutual capacitance	Nom. 5.1 nf/100 m at 1 kHz
Pair-to-ground unbalance	330 pf/100 m max.
Nominal velocity of propagation	68%
Delay skew	45 ns/100 m

CHARACTERISTICS

Physical Properties		
Conductor	Bare copper wire	23 AWG
Insulation	Thermoplastic	Ø 0.040 inches (1.016 mm)
Twisting	4 twisted pairs, 2 single conductors paired Twisted pair color code: 1: White/Blue 2: White/Orange 3: White/Green 4: White/Brown	
Number of pairs	4 pairs	
Type of cable	UTP	
Nominal OD	0.225 inches (5.72 mm)	

GUARANTEED PRODUCT PERFORMANCE TRANSMISSION CHARACTERISTICS

Freq.	RL (dB)		NEXT (dB)		PS NEXT (dB)		ACR (dB/100 m)†		PSACR (dB/100 m)†	
MHz	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee
1	20.0	20.0	74.3	79.3	72.3	77.3	72.3	77.3	70.3	75.3
4	23.0	23.6	65.3	70.3	63.3	68.3	61.5	66.5	59.5	64.5
10	25.0	26.0	59.3	64.3	57.3	62.3	53.3	58.4	51.3	56.4
16	25.0	26.0	56.2	61.2	54.2	59.2	48.7	53.7	46.7	51.7
20	25.0	26.0	54.8	59.8	52.8	57.8	46.3	51.4	44.3	49.4
31.25	23.6	25.0	51.9	56.9	49.9	54.9	41.2	46.3	39.2	44.3
62.5	21.5	23.5	47.4	52.4	45.4	50.4	32.0	37.1	30.0	35.1
100	20.1	22.5	44.3	49.3	42.3	47.3	24.5	29.6	22.5	27.6
150	18.9	21.6	41.7	46.7	39.7	44.7	16.9	22.1	14.9	20.1
200	18.0	21.0	39.8	44.8	37.8	42.8	10.8	16.0	8.8	14.0
250	17.3	20.5	38.3	43.3	36.3	41.3	5.5	10.7	3.5	8.7
300	—	20.1	—	42.1	—	40.1	—	6.0	—	4.0
350	—	19.8	—	41.1	—	39.1	—	1.6	—	—
400*	—	19.5	—	40.3	—	38.3	—	—	—	—
450*	—	19.2	—	39.5	—	37.5	—	—	—	—
500*	—	19.0	—	38.8	—	36.8	—	—	—	—

*LANmark-1000 is guaranteed between 1 MHz and 350 MHz; any values above 350 MHz should be marked as reference only and not a part of the product guarantee.

† PSACR is guaranteed for LANmark-1000 to 250 MHz. ACR and PSACR for the TIA Spec are provided as calculation reference only.

GUARANTEED PRODUCT PERFORMANCE TRANSMISSION CHARACTERISTICS, CONTINUED

Freq.	IL (dB/100 m)		ACRF (dB/100 m)		PSACRF (dB/100 m)		LCL/TCL (dB)	EL TCTL (dB)
MHz	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee	TIA Spec	Product Guarantee	Product Guarantee	Product Guarantee
1	2.0	2.0	67.8	72.8	64.8	69.8	40.0	35.0
4	3.8	3.8	55.8	60.8	52.8	57.8	40.0	23.0
10	6.0	5.9	47.8	52.8	44.8	49.8	40.0	15.0
16	7.6	7.5	43.7	48.7	40.7	45.7	38.0	10.9
20	8.5	8.4	41.8	46.8	38.8	43.8	37.0	9.0
31.25	10.7	10.6	37.9	42.9	34.9	39.9	35.1	—
62.5	15.4	15.3	31.9	36.9	28.9	33.9	32.0	—
100	19.8	19.7	27.8	32.8	24.8	29.8	30.0	—
150	24.7	24.5	24.3	29.3	21.3	26.3	28.2	—
200	29.0	28.8	21.8	26.8	18.8	23.8	27.0	—
250	32.8	32.6	19.8	24.8	16.8	21.8	26.0	—
300	—	36.2	—	23.3	—	20.3	25.2	—
350	—	39.5	—	21.9	—	18.9	24.6	—
400*	—	42.7	—	20.8	—	17.8	24.0	—
450*	—	45.7	—	19.7	—	16.7	23.5	—
500*	—	48.6	—	18.8	—	15.8	23.0	—

*LANmark-1000 is guaranteed between 1 MHz and 350 MHz; any values above 350 MHz should be marked as reference only and not a part of the product guarantee.

I23 SS2013-CA-US ENv5
Revised September 2023

PART NUMBERS

Description	Color	Packaging	Field Application	Part No.
LANmark-1000 Plenum	Dark gray	Box	Indoor	11091087
LANmark-1000 Plenum	Yellow	Reel	Indoor	10032089
LANmark-1000 Plenum	Yellow	Box	Indoor	10032090
LANmark-1000 Plenum	White	Reel	Indoor	10032091
LANmark-1000 Plenum	White	Box	Indoor	10032092
LANmark-1000 Plenum	Blue	Reel	Indoor	10032093
LANmark-1000 Plenum	Blue	Box	Indoor	10032094
LANmark-1000 Plenum	Green	Reel	Indoor	10032096
LANmark-1000 Plenum	Green	Box	Indoor	10032097
LANmark-1000 Plenum*	Violet	Box	Indoor	10033809
LANmark-1000 Plenum*	Pink	Box	Indoor	10033811
LANmark-1000 Plenum*	Red	Box	Indoor	10033996
LANmark-1000 Plenum*	Orange	Box	Indoor	10033997
LANmark-1000 Plenum*	Black	Box	Indoor	10035304
LANmark-1000 Plenum*	Brown	Box	Indoor	10043530
LANmark-1000 Plenum	Yellow	Reel in a box	Indoor	10065427
LANmark-1000 Plenum	Blue	Reel in a box	Indoor	10065423
LANmark-1000 Plenum	White	Reel in a box	Indoor	10065424
LANmark-1000 Plenum	Dark gray	Reel in a box	Indoor	10065425
LANmark-1000 Plenum	Green	Reel in a box	Indoor	10065428
LANmark-1000 Plenum	Dark gray	Reel	Indoor	11098533
LANmark-1000 Plenum 1500 ft. smartPAK	Blue	Box	Indoor	11074694
LANmark-1000 Plenum 1500 ft. smartPAK	White	Box	Indoor	11074738
LANmark-1000 Plenum 1500 ft. smartPAK	Dark gray	Box	Indoor	11074739
LANmark-1000 Plenum 1500 ft. smartPAK	Yellow	Box	Indoor	11074894
LANmark-1000 Plenum 1500 ft. smartPAK	Green	Box	Indoor	11074895

*Make to order

Print Legend:
BERK-TEK LANMARK-1000 23 AWG CMP 75C C(ETL)US ETL VERIFIED TIA-568.2-D CAT 6 [DATE] [COUNTER] [UID]

For further support information, visit leviton.com/ns/support

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I23 SS2013-CA-US ENv5
Revised September 2023

Flat QUICKPORT™ Patch Panels

APPLICATION

QUICKPORT Patch Panels are compatible with all QUICKPORT modular connectors to maximize versatility with a variety of media applications and enable easy upgrades.

and cabinets.

49x55-H24

49x55-H48

49255-48N

49255-L24

49255-L48

SPECIFICATION

Patch panels shall be made of 16 AWG steel, and shall have

above or below each port. The panel shall be offered in
The panel shall have the ability to allow for single port replacement of inoperative ports. Panels with label holders shall magnify the label printing.

DESIGN CONSIDERATIONS

- Mounts on 19-inch equipment racks
- Accepts all QUICKPORT-style connectors
- Includes port numbers
- 49255-H24, 49255-H48, 49255-48N, and 49355-Hxx include write-on blocks
- Includes mounting location for rear cable management bar (49005-CMB)
- Magnifying lens ensures visibility of port labels (49255-L24, 49255-L48)

STANDARDS & REGULATIONS

- ANSI/TIA-568
- c(UL)us Listed

MECHANICAL SPECIFICATIONS

Capacity:	24- and 48-port
Materials:	16 AWG steel;
Dimensions:	See page two
Mounting:	19-inch rack mount
Color:	Black
Temp. (Storage):	-40 ºC to +70 ºC (-40 °F to +158 °F)
Temp. (Installation):	Refer to cable installation temperature
Temp. (Operating):	-10 ºC to +60 ºC (+14 °F to +140 °F)
Humidity (Max.):	95% relative humidity, non-condensing

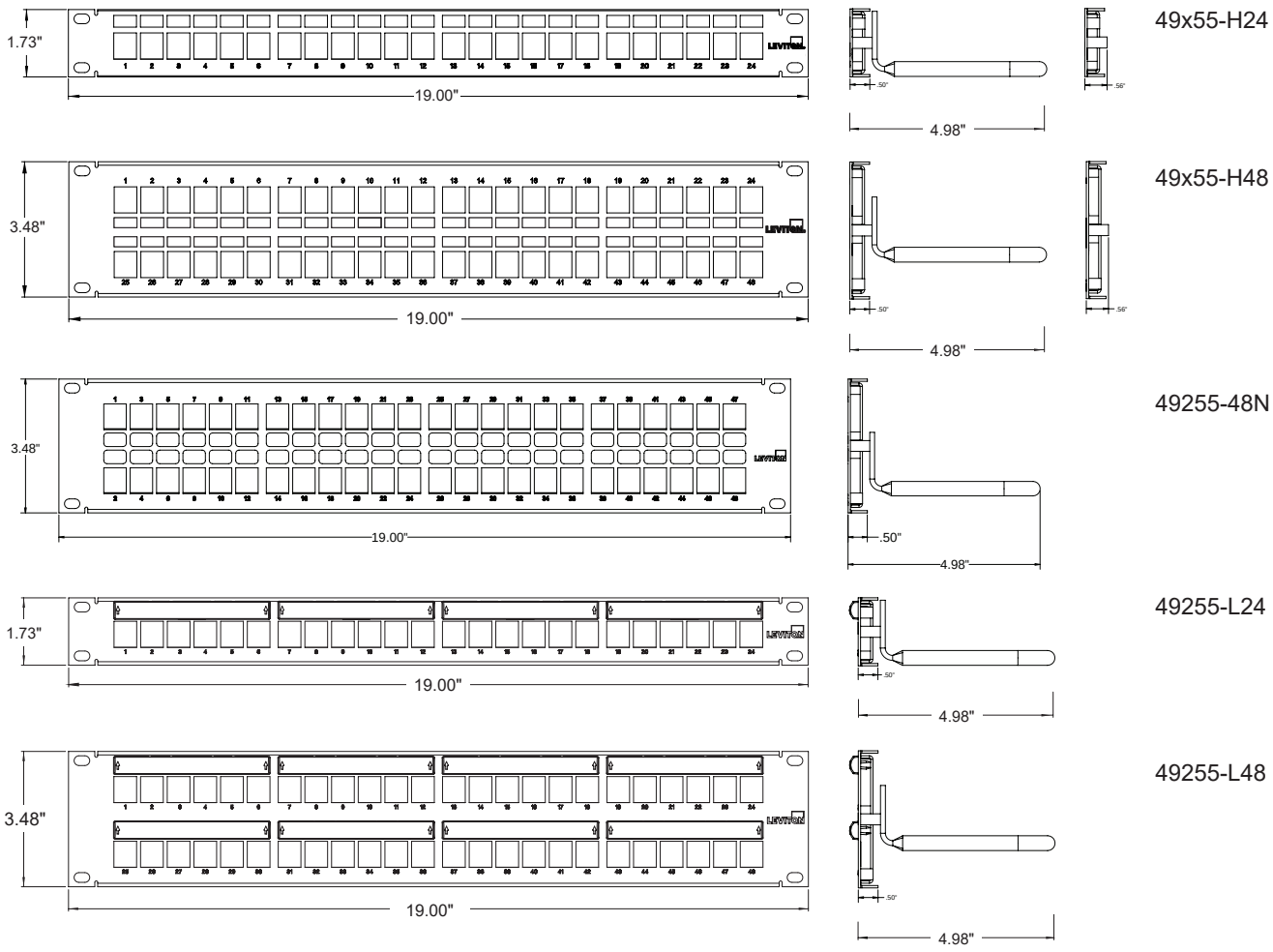
COUNTRY OF ORIGIN

49x55-H24:	Taiwan
49x55-H48:	Taiwan
49255-48N:	Taiwan
49255-Lxx:	Please Contact Customer Service

WARRANTY INFORMATION

For Leviton product warranties, go to leviton.com/ns/warranty

H23 SS1051-GL ENv5
Revised August 2023



PART NUMBERS

Description	Part No.
QUICKPORT™ Patch Panel, 1RU, 24-port, cable management bar included, black	49255-H24
QUICKPORT Patch Panel, 2RU, 48-port, cable management bar included, black	49255-H48
QUICKPORT Patch Panel with vertical numbering, 2RU, 48-port, cable management bar included, black	49255-48N
QUICKPORT Patch Panel with Magnifying Lens Label Holder, 1RU, 24-port, cable management bar included, black	49255-L24
QUICKPORT Patch Panel with Magnifying Lens Label Holder, 2RU, 48-port, cable management bar included, black	49255-L48
QUICKPORT Patch Panel, 1RU, 24-Port, without cable management bar, black	49355-H24
QUICKPORT Patch Panel, 2RU, 48-Port, without cable management bar, black	49355-H48

For further support information, visit leviton.com/ns/support

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H23 SS1051-GL ENv5
Revised August 2023

LEVITON
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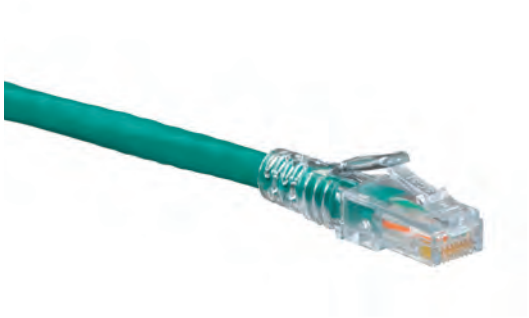
Cat 6 SlimLine Boot UTP Patch Cords

APPLICATION

Cat 6 SlimLine Boot UTP
strain-relief boots to support high-density panels and switches. The snagless design makes the patch cords an excellent choice in environments with frequent moves, adds, and changes.



SPECIFICATION

Patch cords shall meet or exceed electrical transmission performance requirements of links and channels as described in ANSI/TIA-568.2-D (Cat 6) and ISO/IEC 11801-1 (Class E) and EN 50173-1 (Class E). Patch cords shall be stranded conductor with an 8-position modular plug on each end. The cords shall include a high-density boot design that allows for easy removal of the cord without snagging. Patch cord plug shall be clear and contacts shall have industry-standard, ANSI/TIA-1096-A compliant 50 microinches of gold plating. Patch cord country of origin shall be USA.

COUNTRY OF ORIGIN

USA

WARRANTY INFORMATION

For Leviton product warranties, go to leviton.com/ns/warranty

FEATURES

- T
  for TIA, ISO/IEC, and EN standards.
- Snagless plug design
-
- Enhanced strain relief
- Improved plug access in tight spaces
- Manufactured by Leviton using Berk-Tek cable

DESIGN CONSIDERATIONS

- ANSI/TIA channel performance limits total length of patching and equipment cords to 32 feet (10 meters) per ANSI/TIA-568.2-D
- A variety of colors for color coding or organization
-

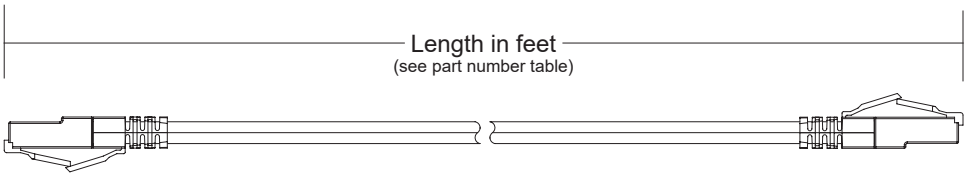
STANDARDS & REGULATIONS

- ANSI/TIA-568.2-D (Cat 6)
- ISO/IEC 11801-1 (Cat 6)
- EN 50173-1 (Cat 6)
- ANSI/TIA-1096-A (formerly FCC Part 68)
- UL 444 CM Rated
- IEEE 802.3bt PoE Type 1, 2, 3, 4 (90 watts max)
- Cisco UPOE, UPOE+ (90 watts max)
- Power over HDBaseT™ PoH (95 watts max)
- For 100 watt applications - Up to 100 cables in a bundle
- cULus Listed (UL 1863)
- RoHS 3

MECHANICAL SPECIFICATIONS

Dimensions:	See page two
Outer Diameter:	0.250 inches
Materials:	24 AWG, UTP stranded conductor, modular non-keyed 8P8C
Colors:	White, yellow, red, orange, violet, blue, green, gray, and black
Environmental Conditions:	Operating Temperature: -20 ºC to +75 ºC Installation Temperature: 0 ºC to +50 ºC
Voltage Rating:	300V

D23 SS1127-US ENv2
Revised April 2023



O.D.: 0.250"

PART NUMBERS

Description	Part No.
Cat 6 SlimLine Boot UTP Patch Cord, COO: USA	6D560-xx*

* = Color: White (W), Yellow (Y), Red (R), Orange (O), Violet (V), Blue (L), Green (G), Gray (S), Black (E)

xx = length in feet (1 - 200 feet)

For assistance customizing your patch cords, please visit
www Tech Support at 800.824.3005.

Make to order!

For further support information, visit leviton.com/ns/support

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D23 SS1127-US ENv2
Revised April 2023

PRODUCT SPECIFICATIONS
61110-xx6

LEVITON
Network Solutions

EXTREME™ Cat 6 Component-Rated UTP QUICKPORT™ Jack

61110-xx6

APPLICATION

The EXTREME Cat 6 jack is designed to be used with all QUICKPORT compatible products. The jack includes patented Retention Force Technology (RFT) which promotes consistent performance over the life of the system. It features unique pair separation towers allowing for quicker and easier terminations.

FEATURES & BENEFITS

- Terminates 26 to 22 AWG solid conductors and 24 to 22 AWG stranded conductors
- Terminates 26 AWG stranded conductors up to 5 times
- Capable of multiple re-terminations
- Gas-tight IDC jacks prevent corrosion
-
- Patented Retention Force Technology protects tines from damage and increases system longevity
- Pair Separation Tower design facilitates separation of conductors and minimizes untwisting
-
- Available in 13 ANSI/TIA-606-C compatible colors for color coding or organization
- Available individually, in bulk packages of 25, and in bulk packages of 150 with a JackRapid™ Punchdown Tool
- Select colors available in 200 pack Sustainably Smart Packaging that uses no single-use plastic and is fully recyclable

SPECIFICATION

The jack shall meet or exceed the requirements for channel and component-level electrical transmission performance as described in ANSI/TIA-568.2-D (Cat 6), ISO/IEC 11801-1 (Class E), and EN 50173-1 (Class E). The jack shall be compliant with ANSI/TIA-1096-A,

transmission performance and power delivery. In addition to Category 6 compliance, the jack shall have the ability to support high megabit and shared-sheath applications. All

retardant with a UL -0. Termination of all jacks shall be 110-type insulation displacement connectors (IDC). The jack shall provide a ledge directly adjacent to the 110-style termination against which the wires can be terminated and cut in one action by the installation craftsperson. Jack wiring is universal and will accommodate installation color codes for T568A and T568B wiring schemes. The jack shall be individual snap-in style and the termination The jack shall include a snap on dust cap with high pullout force and shall

The jack shall be compliant with IEEE 802.3 PoE Type 1, 2, 3, 4 (100 watts max).

DESIGN CONSIDERATIONS

- Use in any QUICKPORT housing to support EXTREME Cat 6 UTP
- Can be used in conjunction with other QUICKPORT snap-in modules for voice/data and video applications over UTP,

STANDARDS & REGULATIONS

- ANSI/TIA-568.2
- ISO/IEC 11801-1
- EN 50173-1
- ANSI/TIA-1096-A (formerly FCC Part 68)
- IEC 60512-99-002
- IEC 60603-7 (includes IEC 60512-5-2)
- c(UL)us Listed (UL 1863)
- UL
- IEEE 802.3bt PoE Type 1, 2, 3, 4 (100 watts max)
- Cisco UPOE, UPOE+ (90 watts max)
- Power over HDBaseT™ PoH (95 watts max)
- ETL
  support of IEEE 802.3 Type 4 PoE (100-watt) applications

COUNTRY OF ORIGIN

USA

C25 SS1053-GL ENv6
Revised March 2025

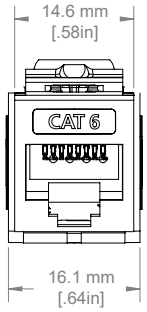
LEVITON
Network Solutions

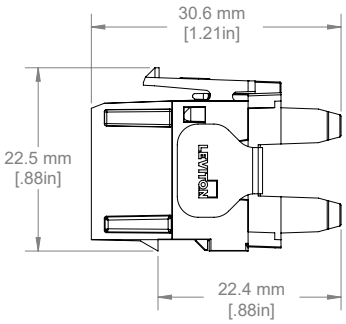
MECHANICAL SPECIFICATIONS

Dimensions:	See below
Materials:	**Connector Body:** High-impact, 94V-0.
	Spring-Wire Contacts: High quality, copper-based alloy (phosphor bronze), plated with 50 microinches of gold over 130 microinches (nominal) of nickel plating for lowest contact resistance and maximum life
Temp. (Storage):	-40 ºC to +70 ºC (-40 ºF to +158 ºF)
Temp. (Installation):	Refer to cable installation temperature
Temp. (Operating):	-10 ºC to +60 ºC (+14 ºF to +140 ºF)
Humidity (Max.):	95% relative humidity, non-condensing

WARRANTY INFORMATION

For Leviton product warranties, go to leviton.com/ns/warranty





PART NUMBER				
Description	**1-Pack**	**QUICKPACK™ 25-Pack/Bag**	**150-Pack/Bag with JackRapid™ Tool**	**GREENPACK™ 200-Pack**
EXTREME™ Cat 6 Component-Rated UTP QUICKPORT™ Jack, white	61110-RW6	61110-BW6	61110-JW6	61110-2W6
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, ivory	61110-RI6	61110-BI6	61110-JI6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, orange	61110-RO6	61110-BO6	61110-JO6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, blue	61110-RL6	61110-BL6	61110-JL6	61110-2L6
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, black	61110-RE6	61110-BE6	61110-JE6	61110-2E6
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, light almond	61110-RT6	61110-BT6	61110-JT6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, gray	61110-RG6	61110-BG6	61110-JG6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, crimson	61110-RC6	61110-BC6	61110-JC6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, yellow	61110-RY6	61110-BY6	61110-JY6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, green	61110-RV6	61110-BV6	61110-JV6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, purple	61110-RP6	61110-BP6	61110-JP6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, brown	61110-RB6	61110-BB6	61110-JB6	—
EXTREME Cat 6 Component-Rated UTP QUICKPORT Jack, dark red	61110-RR6	61110-BR6	61110-JR6	—

For further support information, visit leviton.com/ns/support

JackRapid™ is a trademark of Fluke Networks.

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C25 SS1053-GL ENv6
Revised March 2025

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.
2. Sliding doors.
3. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section “Hollow Metal Frames”.
2. Division 08 Section “Flush Wood Doors”.
3. Division 08 Section “Aluminum-Framed Entrances and Storefronts”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:

    a. Type, style, function, size, label, hand, and finish of each door hardware item.
    b. Manufacturer of each item.
    c. Fastenings and other pertinent information.
    d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    e. Explanation of abbreviations, symbols, and codes contained in schedule.
    f. Mounting locations for door hardware.
    g. Door and frame sizes and materials.
    h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of

the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
b. Complete (risers, point-to-point) access control system block wiring diagrams.
c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.4 CLOSEOUT SUBMITTALS

A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.5 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that

indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.

4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hardware shall not have any visible manufacturer names on exposed materials, except cylinders, when the door is in a closed position.

2.2 BUTT HINGES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

    a. Two Hinges: For doors with heights up to 60 inches.
    b. Three Hinges: For doors with heights 61 to 90 inches.
    c. Four Hinges: For doors with heights 91 to 120 inches.
    d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

    a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
    b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

    a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
    b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

    a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for all out-swinging lockable doors.

5. Manufacturers:

a. McKinney (MK) - TA/T4A Series, 5-knuckle.

2.3 CONTINUOUS HINGES

A. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:.

a. Pemko (PE).

2.4 POWER TRANSFER DEVICES

A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

a. Pemko (PE) - EL-CEPT Series.
b. Securitron (SU) - EL-CEPT Series.

B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
b. McKinney (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

a. McKinney (MK) - QC-C Series.

2.5 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
5. Manufacturers:

    a. Rockwood (RO).

B. Coordinators: ANSI/BHMA A156.3 door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.

1. Manufacturers:

    a. Rockwood (RO).

C. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls, where applicable, shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
6. Manufacturers:

    a. Rockwood (RO).

2.6 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer's Standard.

C. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. ~~New~~ Existing System: Key locks to ~~a new~~ match the existing key system ~~as directed by the Owner~~.

D. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

E. Construction Keying: Provide construction master keyed cylinders.

F. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.7 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:

a. Lund Equipment (LU).
b. MMF Industries (MM).
c. Telkee (TK).

P. Electronic Key Management System: Provide an electronic key control system with Stand-alone Plug and Play features including advanced RFID technology. Touchscreen interface with PIN access for keys individually locked in place. Minimum 1,000 system users and 21 iFobs for locking receptors. System shall have a minimum 250,000 audit events screen displayed or ability to be exported via USB port.

1. Manufacturers:

a. Medeco (MC).

2.8 MORTISE LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.

1. Manufacturers:

a. ASSA ABLOY ACCENTRA (YA) - 8800FL Series.
b. Corbin Russwin Hardware (RU) - ML2000 Series.
c. Sargent Manufacturing (SA) - 8200 Series.

2.9 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.10 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.

1. Manufacturers:

    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.

2.11 SURFACE DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.

2. Manufacturers:

a. ASSA ABLOY ACCENTRA (YA) - 4400 Series.
b. Corbin Russwin Hardware (RU) - DC6000 Series.
c. Norton Rixson (NO) - 7500 Series.
d. Sargent Manufacturing (SA) - 351 Series.

2.12 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and

provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:

    a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:

    a. Rockwood (RO).

2.13 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

    a. Rockwood (RO).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

    a. Norton Rixson (RF).
    b. Rockwood (RO).
    c. Sargent Manufacturing (SA).

2.14 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where

indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. Pemko (PE).

2.15 ELECTRONIC ACCESSORIES

A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.

1. Manufacturers:

a. Securitron (SU) - DPS Series.

B. Intelligent Switching Power Supplies: Provide the least number of power supplies at the appropriate amperage level sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.

1. Power supplies shall meet all functions and features as specified herein.

a. UL listed dual voltage 12 or 24 VDC field selectable continuous output.
b. Dedicated fast charger to prolong battery life with low battery cutoff to protect batteries from deep discharge.

c. Enhanced surge immunity for input/output protection
d. Separate, dedicated battery charging circuit to keep locks cooler.
e. Dual-color LED visual notification to prevent applying incorrect voltages to the power supply.
f. Instant auto-switch to battery on AC loss.
g. Expandable up to 16 outputs in the standard enclosure
h. Integrated fire alarm interface to allow main output shutdown or disconnect on a per output basis when using an R8 output module.
i. Network ready and remotely manage locks and connected devices when using an M8 managed output module on network models.
j. Lifetime replacement, no-fault, no questions asked warranty.

2. Manufacturers:

a. Securitron (SU) - AQL Series.

2.16 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.17 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

2.18 ALTERNATE MANUFACTUERES

A. The following are acceptable alternative manufacturers for the respective hardware types:

1.	Ives:	Butt Hinges, Continuous Hinges, Door Operating Trim, Architectural Trim, and Door Stops and Holders.
2.	Von Duprin:	Power Transfer Devices, Conventional Exit Devices, and Electronic Accessories.
3.	Schlage:	Mortise Locks and Latching Devices.
4.	LCN:	Surface Door Closers.
5.	Zero:	Architectural Seals.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.

E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
2. The supplier is responsible for handing and sizing all products.
3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer's Abbreviations:

1. MK - McKinney
2. PE - Pemko
3. SU - Securitron
4. RO - Rockwood
5. SA - SARGENT
6. YA - ASSA ABLOY ACCENTRA
7. HS - HES
8. RF - Rixson
9. NO - Norton
10. OT - Other
11. AK - Alarm Controls

Hardware Sets

Set: 1.0

Doors: 100, 101A
Description: PR EXISTING ALUM

2	Electric Power Transfer	EL-CEPT	630	SU	
1	Card Reader	By Division 28			OT
2	ElectroLynx Harness	QC-CxxxP (Frame)			MK
2	ElectroLynx Harness	QC-CxxxP (Door)			MK
2	Position Switch	DPS		SU	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.

Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Application:
-Field verify existing conditions and field modify existing door and frame, as required, to accept new hardware specified.
-Immediately inform the Architect of product that may not work with the existing frame and door conditions.
-Use above new hardware, all other hardware to remain.

Set: 2.0

Doors: 101B, 128A, S102A
Description: SGL EXISTING EAC

1	SMART Pac Bridge Rectifier	2005M3	HS	
1	Card Reader	By Division 28		OT
1	ElectroLynx Harness	QC-CxxxP (Frame)		MK
1	ElectroLynx Harness	QC-CxxxP (Door)		MK
1	Position Switch	DPS	SU	
1	Detector	SREX-100	AK	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)	SU	
1	Wiring Diagram	By Division 28	OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Application:
-Field verify existing conditions and field modify existing door and frame, as required, to accept new hardware specified.
-Immediately inform the Architect of product that may not work with the existing frame and door conditions.
-Use above new hardware, all other hardware to remain.

Set: 2.1

Doors: 123A, 132A, 133A, S101A, S101B, S102B
Description: SGL NEW EAC

1	Electric Strike	1600-CLB	630	HS
1	SMART Pac Bridge Rectifier	2005M3	HS	
1	Card Reader	By Division 28		OT
1	ElectroLynx Harness	QC-CxxxP (Frame)		MK
1	ElectroLynx Harness	QC-CxxxP (Door)		MK
1	Position Switch	DPS	SU	

1	Detector	SREX-100		AK	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Application:
-Field verify existing conditions and field modify existing door and frame, as required, to accept new hardware specified.
-Immediately inform the Architect of product that may not work with the existing frame and door conditions.
-Use above new hardware, all other hardware to remain.

Set: 3.0

Door: 131A
Description: SGL EXT ELEC STORAGE - CLOSER w OHS

1	Continuous Hinge	CFM_SLF-HD1 PT x Length Required			PE
1	Electric Power Transfer	EL-CEPT	630	SU	
1	Rim Exit Device, Storeroom	55 56 AD8504 862		US26D	SA
1	Conc Overhead Stop	6-x36		630	RF
1	Surface Closer	7500	626	NO	
1	Gasketing	by door mfg			OT
1	Rain Guard	346C			PE
1	Sweep	345C			PE
1	Threshold	252x__FG			PE
1	Card Reader	By Division 28			OT
1	ElectroLynx Harness	QC-CxxxP (Frame)			MK
1	ElectroLynx Harness	QC-CxxxP (Door)			MK
1	Position Switch	DPS		SU	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Set: 4.0

Door: 147A
Description: PR EXISTING WD

1	Electric Power Transfer	EL-CEPT	630	SU	
1	Card Reader	By Division 28			OT
1	ElectroLynx Harness	QC-CxxxP (Frame)			MK
1	ElectroLynx Harness	QC-CxxxP (Door)			MK
1	Position Switch	DPS		SU	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Application:
-Field verify existing conditions and field modify existing door and frame, as required, to accept new hardware specified.
-Immediately inform the Architect of product that may not work with the existing frame and door conditions.
-Use above new hardware, all other hardware to remain.

Set: 5.0

Doors: 121A, 121B
Description: SGL ELEC INT STORAGE - CLOSER w WALL STOP - EXIT

3	Hinge, Full Mortise	TA2714 QC* (size per spec, NRP as applicable)		US26D	MK
1	Electric Power Transfer	EL-CEPT	630	SU	
1	Rim Exit Device, Storeroom	55 56 AD8504 862		US26D	SA
1	Surface Closer	7500	626	NO	
1	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Wall Stop	409		US26D	RO
1	Gasketing	608			PE
1	Card Reader	By Division 28			OT
1	ElectroLynx Harness	QC-CxxxP (Frame)			MK
1	ElectroLynx Harness	QC-CxxxP (Door)			MK
1	Position Switch	DPS		SU	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.

Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Set: 6.0

Door: 110A
Description: PR INT PASSAGE - OHS

6	Hinge, Full Mortise, Hvy Wt	T4A3786 (size per spec, NRP as applicable)	US26D	MK	
1	Flush Bolt	2842		US32D	RO
1	Dust Proof Strike	570	US26D	RO	
1	Passage Latch	8215 LSJ	US26D	SA	
1	Coordinator	1700		Black	RO
2	Surf Overhead Stop	10-x36		630	RF
2	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Astragal	357		PE	
1	Gasketing	608			PE

Set: 6.1

Door: 122
Description: PR INT PUSH/PULL - CLOSER w OHS

6	Hinge, Full Mortise, Hvy Wt	T4A3786 (size per spec, NRP as applicable)	US26D	MK	
1	Push Plate	70C-RKW		US32D	RO
1	Pull Plate	110x70C		US32D	RO
1	Coordinator	1700		Black	RO
2	Surf Overhead Stop	10-x36		630	RF
2	Surface Closer	7500	626	NO	
2	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Astragal	357		PE	
1	Gasketing	608			PE

Set: 6.2

Door: 126B
Description: PR INT PASSAGE - OHS

6	Hinge, Full Mortise, Hvy Wt	T4A3786 (size per spec, NRP as applicable)	US26D	MK	
1	Flush Bolt	2842		US32D	RO
1	Dust Proof Strike	570	US26D	RO	
1	Office Latch	8205 LSJ		US26D	SA
1	Coordinator	1700		Black	RO
2	Floor Stop	446		US26D	RO
2	Kick Plate	K1050 10" High CSK BEV		US32D	RO

Set: 7.0

Doors: 104, 110, 121A, 121B
Description: SGL ELEC INT STORAGE - CLOSER w WALL STOP

3	Hinge, Full Mortise	TA2714 QC* (size per spec, NRP as applicable)		US26D	MK
1	Electric Power Transfer	EL-CEPT	630	SU	
1	Storeroom/Closet Lock	RX 56 8204 LSJ US26D	SA		
1	Surface Closer	7500	626	NO	
1	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Wall Stop	409 US26D RO			
1	Gasketing	608 / S88 at fire rated openings		PE	
1	Card Reader	By Division 28			OT
1	ElectroLynx Harness	QC-CxxxP (Frame)			MK
1	ElectroLynx Harness	QC-CxxxP (Door)			MK
1	Position Switch	DPS		SU	
1	Power Supply	AQL_ x Amps x Relays (consolidate as applicable)		SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Set: 8.0

Doors: 142
Description: SGL INT STORAGE - CLOSER w STOP

3	Hinge, Full Mortise	TA2714 (size per spec, NRP as applicable)		US26D	MK
1	Storeroom/Closet Lock	8204 LSJ	US32D	SA	
1	Surface Closer	CPS7500	626	NO	
1	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Gasketing	608			PE

Set: 9.0

Doors: 140
Description: SGL INT ELEC STORAGE - CLOSER w OHS

3	Hinge, Full Mortise	TA2714 QC* (size per spec, NRP as applicable)		US26D	MK
1	Storeroom/Closet Lock	RX 56 8204 LSJ US26D	SA		
1	Surf Overhead Stop	9-x36		630	RF
1	Surface Closer	7500	626	NO	
1	Kick Plate	K1050 10" High CSK BEV		US32D	RO
1	Gasketing	608			PE
1	Card Reader	By Division 28			OT

1	ElectroLynx Harness		QC-CxxxP (Frame)		MK
1	ElectroLynx Harness		QC-CxxxP (Door)		MK
1	Position Switch	DPS		SU	
1	Power Supply		AQL_ x Amps x Relays (consolidate as applicable)	SU	
1	Wiring Diagram	By Division 28		OT	

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

Set: 10.0

Doors: 129
Description: SGL INT PASSAGE - CLOSER w WALL STOP

3	Hinge, Full Mortise		TA2714 (size per spec, NRP as applicable)	US26D	MK
1	Passage Latch	8215 LSJ		US26D	SA
1	Surface Closer	2800ST	626	NO	
1	Kick Plate		K1050 10" High CSK BEV	US32D	RO
1	Wall Stop		409	US26D	RO
1	Gasketing		608		PE

Set: 11.0

Doors: 131B
Description: SGL INT PASSAGE - CLOSER w OHS

3	Hinge, Full Mortise, Hvy Wt		T4A3786 (size per spec)	US26D	MK
1	Push Plate		70C-RKW	US32D	RO
1	Pull Plate		110x70C	US32D	RO
1	Surface Closer	UNI7500	600x689	NO	
1	Kick Plate		K1050 10" High CSK BEV	US32D	RO
1	Gasketing		608		PE

Set: 12.0

Doors: 133B
Description: SGL ELEC INT STORAGE - CLOSER w STOP

3	Hinge, Full Mortise		TA2714 QC* (size per spec, NRP as applicable)	US26D	MK
1	Storeroom/Closet Lock	RX 56 8204 LSJ	US26D	SA	
1	Surface Closer	CPS7500	626	NO	
1	Kick Plate		K1050 10" High CSK BEV	US32D	RO
1	Gasketing		608		PE
1	Card Reader		By Division 28		OT
1	ElectroLynx Harness		QC-CxxxP (Frame)		MK

1	ElectroLynx Harness		QC-CxxxP (Door)	MK
1	Position Switch	DPS		SU
1	Power Supply		AQL_ x Amps x Relays (consolidate as applicable)	SU
1	Wiring Diagram	By Division 28		OT

Notes: Door normally closed and locked.
Entrance by valid card to card-reader.
Free egress at all times.
Loss of power maintains security from locked side of opening - Entrance by mechanical key only.
Door monitored for door ajar or forced open.

END OF SECTION

SECTION 09 54 29

LINEAL WOOD CEILINGS

PART 1 GENERAL

1.01 WORK INCLUDED

A. Suspended lineal wood panel ceiling system, complete with wood veneer planks, felt strips, suspension system and all accessories and components for complete and secure installation.

1.02 RELATED SECTIONS

A. Acoustical Panel Ceilings: Section 09 51 13.

B. Sustainable Design Requirements: Section 01 81 13.

1.03 SUBMITTALS

A. Manufacturer's Data: Submit 2 copies of manufacturer's specifications and installation instructions for each component of the ceiling system. Include reports and other data as may be required to show compliance with these specifications.

B. Shop Drawings: Submit shop drawing details and reflected ceiling plans of ceiling system and all component parts. Show location of ceiling units and other items of work which are to be coordinated with the ceiling system and show framing and support details for work supported by the ceiling system.

C. Maintenance Instructions: Submit manufacturer's recommendations for removal, replacement and cleaning of each component system of the ceiling system. Include precautions against materials and methods that may be detrimental to finishes.

D. Samples: Samples of wood with specified veneer and finish.

E. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.

1. Ceiling Units: Furnish quantity of full-size units equal to 2.0 percent of amount installed.
2. Suspension System Components: Furnish quantity of each exposed suspension component equal to 1.0 percent of amount installed.

F. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.

F. Sustainable Design Documentation Submittals: Comply with Section 01 81 13.

1. VOC Limits: Include documentation verifying product Low Emitting Material Building Product Disclosures and Optimization.

1.04 QUALITY ASSURANCE

A. Fire Performance Characteristics: Identify ceiling components with appropriate applicable, testing, including:

1. Surface Burning Characteristics: As follows, tested per ASTM E84 and complying with Class A fire performance as follows:
   a. Flame Spread: 25 or less
   b. Smoke Developed: 50 or less

B. Woodworking Standards: Manufacturer must comply with specified provisions of Architectural Woodworking Institute quality standards.

C. Coordination of Work: Coordinate ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.05 JOB CONDITIONS

A. System Layout: Coordinate layout with other work which penetrates or is supported by the ceiling system.

B. Installer shall consult other trades and Contractors involved prior to start of ceiling work, to determine areas of potential interference. Do not start installation until interference has been resolved to the satisfaction of the Installer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver system components in manufacturer's original, unopened packages clearly labeled with the following information: item number and quantity, manufacturer's name and address, client name and address and site address.

B. Store components in a fully enclosed dry space where they will be protected against damage from moisture, direct sunlight, surface contamination and other construction activities.

C. Exercise care in handling components to prevent damage to the surfaces and edges and prevent distortion or other physical damage.

PART 2 PRODUCTS

2.01 LINEAL WOOD CEILING

A. Wood Veneer Planks

1. Type: Wood veneer laminated to wood. Return veneer on sides.
2. Surface Texture: Smooth
3. Composition: Class A fire-rated.
4. Finish: As indicated.
5. Species: As indicated, Grade A
6. Size: 4 1/2 inch X ¾ inch. Length as indicated
7. Reveal: 3/4 inch with black fleece strip.
8. Edge Banding and Trim: To match face veneer

B. Suspension System:

1. Components: All linear carriers: Commercial quality hot dipped galvanized steel as per ASTM A653. Linear carriers are double-web steel construction with 15/16 in type concealed flange design. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Linear carriers shall have rotary stitching.
   a. Structural Classification: ASTM C 635 Heavy Duty.
   b. Color: Black.
   c. Clips: Integral, factory-applied, spring steel clips on linear carriers; quantity as determined by system manufacturer.
2. Attachment Devices: Size for five times design load indicated in ASTM C635, Table 1, Direct Hung unless otherwise indicated.
3. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.
4. Accessories/Edge Moldings and Trim
   a. Wall Molding: Provide manufacturer's standard angle molding or shadow molding as indicated. Black.
   b. Side and alignment clips between planks.
5. NRC: 0.50.

C. Sound-Absorbent Fabric Layer: Provide fabric layer consisting of black, nonwoven, nonflammable, sound-absorbent material with surface-burning characteristics for flame-spread index of 25 or less and smoke-developed index of 50 or less, as determined by testing per ASTM E 84.

D. Provide miscellaneous materials and fasteners as required for a complete installation.

E. Basis of Design: ARMSTRONG - ARCHITECTURAL COMPONENTS GROUP, INC. Linear Open Series 2 wood ceiling system.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect the area where the ceiling system is to be installed for conditions that may affect the work and notify the Contractor in writing of any unsatisfactory conditions before proceeding.

B. Verify that all work above the ceiling system is complete prior to start of the ceiling installation.

C. All unsatisfactory conditions potentially affecting the ceiling system are to be corrected prior to the start of ceiling installation.

3.02 PREPARATION

A. Verify and confirm ceiling layouts by actual field measurements to balance borders and minimize out-of-square conditions. Coordinate all work that penetrates the ceiling.

B. Cutouts for lights, speakers, sprinklers or other items can be done on site.

3.03 INSTALLATION

A. Supply hangers for installation to the respective trade in ample time and with clear instructions for their correct placement. Provide additional hangers as required.

B. Install wood panel ceiling system in accordance with approved drawings and in accordance with manufacturer's recommendations.

C. Install ceiling system in a manner capable of supporting all superimposed loads.

1. Maximum Deflection Permitted: 1/360 of span
2. Maximum Surface Deviation: 1/8" in 10'
3. Planks: Installed true and plumb to within manufacturing tolerance of 1/8” within 8’ of length.

D. Install after major work is above ceiling complete.

E. Coordinate the location of hangers and braces with other work.

F. Layout of hangers and carrying channels shall be located to accommodate fittings and units of equipment that are to be placed after the installation of ceiling systems.

G. Spacing of Hangers: Where interrupted, reinforce the nearest adjacent hangers and related carrying channels as required to span the required distance.

H. Hang ceiling system independently of walls and columns.

I. Where carrying members are spliced, avoid visible displacements of longitudinal axis or face plane of adjacent members.

J. Fixtures

1. Do NOT support fixtures from or on main runners of cross runner if weight of the fixture causes the total dead load to exceed the deflection capability.
2. Support fixture loads by installing extra hangers within 6 inches of each corner, or support fixtures independently from structure above.
3. Do NOT install fixtures so that main runners and cross runners will be eccentrically loaded.
4. Where fixture installation would produce rotation of runners, provide stabilizer bars.

K. Complete work shall produce finished ceilings true to lines and levels, free from warped, soiled and damaged panels and components; complete with trim pieces.

3.04 ADJUST AND CLEAN

A. Adjust components to provide uniform tolerances.

B. Replace all panels that are scratched, dented or otherwise damaged.

C. Clean exposed surfaces as recommended by manufacturer.

END OF SECTION

SECTION 27 05 28.36

CABLE TRAY FOR COMMUNICATIONS SYSTEMS

PART 1 GENERAL

1.01 SCOPE

A. Furnish and install a complete cable tray system as Specified. Cable tray shall be a continuous-run around all obstructions. Provide all elbows, tees, hangers, splice plates, barrier strips, end plates, dropouts, expansion plates, hardware, etc as required for a complete system installation.

1.02 STANDARDS

A. All equipment shall be UL listed and labeled in accordance with applicable NEMA and ANSI standards and NEC Article 392.

1.03 SUBMITTALS

A. Submit product data sheets of cable tray and accessories for review. Refer to Specification section 26 00 10, “General Provisions” for submittal process. Also refer to Specification section 26 01 20, “Operation and Maintenance Manuals” for O & M submittal process.

1.04 MANUFACTURERS

A. Cable Tray

1. Cabolfil
2. B-Line
3. Chalfant
4. Hubbell

PART 2 PRODUCTS

2.01 CABLE TRAY

A. Furnish and install a complete cable tray system as Specified and as shown on the Drawings. Cable tray shall be a continuous-run around all obstructions. Provide all elbows, tees, hangers, splice plates, barrier strips, end plates, dropouts, expansion plates, hardware, etc as required for a complete system installation.

B. Unless noted otherwise, all cable tray show on the drawings shall be 18” wide with 4” loading depth equal to Hubbell HLS06 **(ladder tray) and Hubbell HBT06 (basket tray)**. Cable tray shall not be loaded to more than 40% full at completion of project.

C. System to include all splice plates, trapeze-style supports, clamps and fittings. All devices to be UL listed for proper grounding of cable tray system.

D. Cable tray shall be a wire mesh cable management system for distribution through the building. Wire mesh shall be hot-dipped galvanized steel with double wire side rails for

increased load strength. All wire to be rolled over and ground smooth to eliminate cable damage. Cable tray in equipment rooms shall be cable runway type ladder tray.

E. Cable tray shall support a minimum of 16 pounds per foot based on a 10 foot span. Cable tray shall be installed per manufacturer's instructions to support 100% cable fill condition.

F. Cable tray layout and material submittal shall be submitted to the owner for approval prior to release for order.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install cable tray and components in accordance with manufacturer's written instructions **and NEMA VE 2-2006 or latest edition**.

B. Coordinate layout of cable tray including specific routing and mounting elevations with building structure and work of other trades. Provide additional elbows and fittings as required to facilitate changes in elevation of cable tray to avoid conflicts with building structure and work of other trades.

C. All splice plates shall be installed in a manner to maintain the integrity of the cable tray as an equipment-grounding conductor. Install bonding jumpers across expansion and adjustable splice plates. Install expansion splice plates where cable tray crosses building expansion joints.

D. Install cable dropouts on cable tray where cables will be exiting tray.

E. Install end plates on cable tray ends.

F. Conduits attached to cable tray supports shall be secured with approved conduit clamps.

G. Where cable tray penetrates walls, **transition to conduit and firestop**.

H. Cable trays carrying low voltage cables shall be kept a minimum of 12 inches away from power wiring or lighting fixture ballasts.

I. Cable tray shall be located above suspended ceilings below HVAC ductwork and piping systems. Cable tray shall be safely accessible and shall not be installed above inaccessible ceiling types.

J. Cable trays shall be supported by trapeze-style supports utilizing a segment of unistrut suspended by 3/8" threaded rod. Threaded rod shall have ½" EMT sleeve over threads to protect communications cabling.

K. Cable trays shall be bonded to the communications system ground system with a #6 AWG grounding conductor. Ensure the grounding continuity throughout the length of the tray. Where there are breaks in the tray due to structural, mechanical, or other construction obstacles provide a bonding strap to bridge the void as directed by the manufacturer.

END OF SECTION

SECTION 27 05 28

CONDUITS AND BACKBOXES FOR COMMUNICATIONS SYSTEMS

PART 1 GENERAL

1.01 SCOPE

A. Furnish and install complete telephone conduit system, including riser, telephone terminal boards and junction boxes as shown on the Drawings.

PART 2 PRODUCTS

2.01 STANDARDS

A. Conduits for communication wall outlets shall be minimum of 1". Conduits for floor outlets shall be 1-1/2” minimum.

B. A dedicated conduit shall serve each outlet box.

C. Communication boxes shall be 4-11/16”(h) x 4-11/16”(w) x 2-1/8”(d), equipped with a 2-gang cover/plaster ring. Wall-phone outlets will be equipped with a single-gang cover/plaster ring.

D. Each conduit stub shall be bonded to the grounding system.

E. Pull boxes, if needed, shall be accessible. Pull boxes shall not be installed above fixed ceilings, HVAC ducts, or piping systems.

F. Cable that is run above accessible ceilings shall be supported by J-hooks.
1. J-hooks shall be furnished and installed under this contract.
2. Supports shall be installed every 4 to 5 feet on-center.

G. Cable that is run above non-accessible ceilings shall be in conduit.

H. Provide conduit sleeves to transition cabling in cable tray or j-hooks through walls.

PART 3 EXECUTION

3.01 INSTALLATION

A. No more than two (2) 90 degree bends in telephone conduit without a pull box or slip sleeve. LB type fittings shall not be used in lieu of conduit bends.

B. Bends in conduits, and in particular conduits larger than 2", shall be long sweep bends.

C. Provide #14 steel pull wires or nylon pull cords to all empty conduits.

D. **Conduit system shall be continuous from all outlets to above accessible ceiling and utilize J-Hooks to cable tray or nearest Technology Room. Provide a grounding bushing on each conduit stub and bond to the building grounding system with #10 copper ground conductor.**

E. For conduit two (2) inches in diameter and smaller the recommended 90-degree bend radius is six (6) times the internal diameter.

F. Approved UL fire stop must be used when penetrating fire rated walls or floors.

H. Penetrations

1. Structural Engineer must approve any core drilling for cable pathways that must run through solid (cement, etc.) walls, floors, or ceilings.

2. Furnish and install fire stop and sleeves for firewall penetrations as required by NEC code and in accordance with ANSI/EIA/TIA-569, Annex A (normative) Firestopping.

3. Seal all unused openings created for the job.

4. Sealing material and application of sealing material to comply with local fire and building authorities requirements.

END OF SECTION

SECTION 27 15 00

VOICE AND DATA WIRING SYSTEMS

PART 1 GENERAL

1.01 SCOPE

A. Furnish and install all cables, cable supports, wall plates, connectors, line cords, patch cords, adapters, outlets, boxes, brackets and all other accessories and parts required for a complete system.

B. Types of cable systems, specified in this section include the following:

1. Telephone/Voice Communication Cable Systems
2. Data Communication Cable System

1.02 STANDARDS

A. All equipment shall meet the applicable requirements of UL and shielding requirements of the Federal Communications Commission.

B. Wire and cable shall meet the applicable requirements of NEC Articles 770 and 800, NFPA 72, NFPA 101, NEMA and IEEE.

C. Comply with applicable portions of NEMA-250 standards (et. al.) pertaining to grounding of electrical and/or communication equipment and enclosures.

D. Comply with EIA/TIA-568, 568A, 569, 607 and TSB 75 standards for commercial building wiring for voice and data communications as applicable.

E. Eligible equipment manufacturers and installers shall be those regularly engaged in the manufacture and installation of telephone/voice and data communication cabling system of the types and as specified herein and on the Drawings, whose products have been satisfactory used and installed in similar service for not less than five years.

F. Contractor shall have at least five years of successful installation experience with projects utilizing intrabuilding telephone/voice and data communication cabling system work similar to that required for this project. Cable, wire, and outlet installation shall be performed by personnel that have been certified by an organization such as BICSI (Building Industry Consulting Service International) or have at least 5 years' experience in the telecommunications industry and shall be certified by the manufacturer of the installed system. Contractor shall be certified by the manufacturer of the system to be installed and provide a manufacturer's warranty. Contractor shall have on staff a full-time RCDD listed with the company on the BICSI website.

G. The A/E and the owner reserve the right to disqualify manufacturers, equipment suppliers, and installers, who, in their sole opinions, do not comply with the requirements of these specifications.

1.03 SUBMITTALS

A. For Review:

1. A minimum of five (5) reference accounts at which similar work, both in scope and design, have been completed by the Contractor within the last five (5) years.
2. Product data sheets of all components must be sent to for approval before material is purchased.
3. As-built riser/wiring diagrams and plans of the entire communication wiring system showing all cable runs, outlet locations, distribution frame layouts, connector block locations, etc. shall be submitted upon completion of the project. All documentation must be sent to owner prior to Life Safety Inspection. The bid documents will be available in AutoCAD format for use in developing the as-built drawings.
4. Product data sheets of test equipment
5. System certification and warranty statement
6. Completed materials list with quantities stated. Attached spreadsheet shall be submitted with proposal.

B. To be included in Record and Information Manuals:
1. One copy of each approved submittal
2. Cable test reports
3. Record drawings of the actual installation of the telephone/voice and data communication wiring system

1.04 MANUFACTURERS

A. Horizontal User Voice and Data Cables
1. Panduit
2. Hubbell
3. General Cable

B. Patch Cables and Line Cords
1. Panduit
2. Hubbell
3. General Cable

C. Voice/Data Outlets
1. Hubbell
2. Leviton
3. Panduit

1.05 COMMUNICATIONS CABLING SYSTEM OVERVIEW

A The cable system shall be a single star topology for the horizontal cable distribution as defined by ANSI/EIA/TIA-568-A.

B. The installation shall be a certified system with supporting test results and a cable management system for tracking moves, additions and changes. The system shall meet ANSI/EIA/TIA cabling standards to ensure a flexible system that will support mutli-vendor operating systems.

C. All copper voice station cables shall originate from the telephone board identified on the drawings.

D. All copper data station cables shall originate from the data patch panels identified on the drawings.

E. All fire rated wall and floor penetrations shall be fire-stopped with appropriate materials to maintain the integrity of the rating.

F. Horizontal Station Cables

1. Voice-Data Outlet: two (2) Category-6 UTP cables shall be used.
2. Voice-Only Outlet: one (1) Category-6 UTP cable shall be used.
3. Data-Only Outlet: one (1) Category-6 UTP cable shall be used.

G. Manufacturer's Instructions

1. Compliance: Require compliance with instructions in full detail, including each step in sequence.
2. Conflict: In cases where the manufacturer's instructions conflict with the Construction Documents, the contractor shall request clarification from the Manufacturer, owner and the design A/E before proceeding. Owner and the design A/E's permission to proceed is required in cases of conflict.

H. Furnish all patch cords from the patch panels to owner's active network equipment to provide for a complete and working system.
1. Furnish three foot, yellow patch cords in the closet in a quantity corresponding to 100% of the data jacks used on the project.
2. Furnish ten foot, grey patch cords on the user end corresponding to 100% of the data jacks used on the project.
3. All patch cords must be tested for functionality.
4. For each work area outlet provide one 1' and one 10' CAT 6 patch cord of the same manufacturer and level of the structured cabling system. Basis for design: Hubbell #HC6xx01 and #HC6xx10.

PART 2 PRODUCTS

2.01 CABLES

A. Horizontal User Voice and Data Cable
1. Four (4) twisted pairs UTP, 24 AWG solid copper conductors, 100 Ohm, color coded per the band strip color coding conventional standard as follows:
Pair #1 – White/blue and blue/white
Pair #2 – White/orange and orange/white
Pair #3 – White/green and green/white
Pair #4 – White/brown and brown/white

2. Cable shall be performance rated Category 6, as noted herein.

2.02 CONNECTOR HARDWARE

A. Voice/data Outlets
1. All components of the structured cabling system shall be Component Certified to meet he appropriate category of cabling being installed. The manufacturer shall provide Category 6 component compliance certificates from a recognized third party testing organization upon request. All jacks, faceplates, patch panels, and patch cords shall be of one manufacturer and supplied by the contractor. At no time are "modular plugs" for terminations acceptable.
A. Minimum requirements for work area Technology outlets (TOs), except for wireless access points and wall phone outlets shall be Category 6, black RJ45 jacks.

B. Basis of design and Performance: Hubbell #HXJ6BK or approved equal through the owner.
C. Minimum requirements for Wireless Access points (WAPs) will be one Category 6, gray RJ45 jack. The jack will be terminated within a single opening surface mount box. A 1' CAT6 patch cord will be supplied for each end and will be channel tested for performance.
D. Basis for design and performance: Hubbell #HJ6GY or approved equal through the owner.

2. The faceplate shall stainless steel or plastic in accordance with the architectural design. The faceplate shall have four or six modular openings designed to accommodate the jacks described above. Openings without jacks installed shall have blank inserts installed. Stainless steel covers shall be used in auditoriums, classrooms, and where frequent use or abuse is more likely.
A. Plastic faceplates basis of design and performance: Hubbell - IFPL26TI or equal approved by the owner.
B. Blanks for faceplates basis for design and performance: Hubbell SFBI10 or equal approved by the owner.

3. Wall phones outlets shall be stainless steel, equipped with a flush CAT6 data jack, and designed for modular mounting of wall phones. Basis of design: Hubbell part #SP6F or equal approved by the owner. The mounting must be ADA compliant.

B. Data-Only Outlets

1. Data-Only Outlets shall be similar to Voice/data outlets except without the standard telephone plug in the middle.

C. Voice-Only Outlets

1. Voice-Only Outlets shall have only the telephone jack and no data jacks.

D. Wall Phone Oultet

1. Wall phone outlet shall have a single gang faceplate with mounting lugs – Provide Suttle SE 630AC6-44. Provide station cable to patch panel in the designated Telecommunications Room.

MANUFACTURERS

A. Manufacturer certified Data/Voice Structured Cabling system shall be selected from the following approved manufacturer components:

1. Belden/CDT Media Twist Category 6 UTP.
2. Berk-Tek/Nexans LANMark 1000 Category 6 UTP.
3. CommScope UltraMedia Category 6 UTP.
4. Hubbell Premise Wiring Mission Critical Copper Cabling System Termination Components.
5. Leviton Voice & Data Division NetLAN or NetSync Copper Cabling System Termination Components.
6. Mohawk/CDT AdvanceNet Category 6 UTP.
7. Panduit Network Connectivity Group Netkey Cabling System Termination Components with Certification Plus.
8. Superior Essex NextGain Category 6 UTP.

B. It shall be the responsibility of the bidder to confirm all design reference part numbers, listed herein, as current and suitable for the items described and specified and shall file a formal RFI for all perceived discrepancies prior to bidding.

2.2 SYSTEM REQUIREMENTS

A. Coordinate the features of materials and equipment so that they form an integrated system as per manufacturer certification program requirements. Match components and interconnections for optimum future performance and appearance.

B. Match components and interconnections for optimum future performance and appearance.

2.3 MOUNTING ELEMENTS

A. Building Cable Trays (except within MDF and IDF spaces) shall be provided by the Electrical Contractor as per Section 27 05 28.36. Ladder tray shall be provided by this Contractor within MDF and IDF spaces per section B-C below.

B. General: Provide heavy-duty (solid bar - welded) type ladder rack to run horizontally above equipment rack line-up to support and train cable equipment racks below. Center ladder racks on the equipment racks.

C. Provide ladder racks with the following features:
1. 24-inch wide “Telco style” ladder rack with welded solid bar fabrication.
2. 3-inch channel rack to runway mounting plates.
3. 3-inch wall angle support kits for each wall termination.
4. Butt splice kits to extend rack lengths.
5. Provide clamp-on bar type side rails to extend capacity of rack.
   a. Bars to be 4 inches in height and spaced every 6 inches on-center for the entire length of the rack system.
6. Ladder Rack and Accessories
   b. Approved Manufacturers: Hubbell, Cabolfil, B-line, Chalfant.
7. Extend a #6 ground conductor to each conduit entering the telecom room, each equipment rack, each overhead ladder rack.

D. Conduit, In-Wall, and Floor Boxes shall be provided by the Electrical Contractor. This Contractor shall be responsible to coordinate with the Electrical Contractor, to confirm that proper box sizes shall be provided, and immediately notify the Electrical Contractor of any errors or inconsistencies encountered.

E. Any required metallic surface raceway shall be provided by the Electrical Contractor. This Contractor shall be responsible to coordinate with the Electrical Contractor to confirm that proper box styles and sizes shall be provided, and immediately notify the Electrical Contractor of any errors or inconsistencies encountered.

F. Floor boxes and surface raceway installations shall be reviewed and approved by owner before installation.

2.4 HORIZONTAL UTP CABLE FOR DATA

A. Data cables shall be Category 6 rated, consisting of 4-Pair 24 AWG UTP, listed CMP with transmission characteristics that meet and exceed those of ANSI/TIA/EIA-568-B performance specifications.

B. Hubbell #HC6 or approved equal.

C. CAT6 Plenum Cable – Hubbell #C6RPB or approved equal through the owner.

D. Cable shall be white in color.

E. Design Reference: Belden Media Twist, BerkTek LANMark 1000, CommScope UltraMedia, Mohawk/CDT AdvanceNet, Superior Essex NextGain.

2.5 HORIZONTAL UTP CABLE FOR VOICE

A. Voice cable shall be Category 6 rated, consisting of 4-pair 24 AWG UTP, listed CMP with transmission characteristics that meet and exceed those of ANSI/TIA/EIA-568-B performance specifications.

B. Hubbell #HC6 or approved equal.

C. CAT6 Plenum Cable – Hubbell #C6RPB or approved equal through the owner.

D. Cable shall be white in color.

E. Design Reference: Belden Media Twist, BerkTek LANMark 1000, CommScope UltraMedia, Mohawk/CDT AdvanceNet, Superior Essex NextGain.

2.7 TELEPHONE BACKBONE (RISER) UTP CABLE

A. Multi-pair Telephone Backbone (Riser) cables shall consist of solid 24 AWG UTP, specified in 25-Pair increments, listed CMP with transmission characteristics of Category 3 at minimum.

B. Multi-pair Telephone Backbone (Riser) cables shall be from the same manufacturer as Horizontal 4-pair UTP and shall be included in the structured cabling system warranty.

C. Cables shall be gray in color.

2.8 VERTICAL CABLE MANAGERS

A. Existing to remain.

2.9 HORIZONTAL CABLE MANAGERS

A. Horizontal Cable Managers with cover shall be 19 inches wide by 3.5 inches high and shall be black in color. Front management capabilities shall be provided. Front Cable Managers shall be ring style from left to right across each 3.5” horizontal as depicted in project drawings.

2.10 BLANK FILLER PANELS

A. Blank Filler Panels shall be 19 inches wide by 1.75 inches, and 3.5 inches high. Panels shall be black in color.

2.12 MODULAR COPPER PATCH PANELS

A. 48-Port High Density RJ-45 Modular Patch Panels with 110-style connecting blocks for the termination all UTP cables, as required.

B. Patch Panels must meet or exceed all transmission performance requirements for Category 6.

C. Each RJ-45 port will be terminated with 4-Pairs of UTP cable, unless otherwise directed (example: “Rack-to-Wall Tie Cabling”).

D. All Patch Panel Ports shall be black in color.

2.14 MODULAR COPPER JACKS AND CONNECTORS FOR DATA

A. Flush mounted modular RJ-45 Jacks to fit in a double gang, 3-1/2 inch deep box and/or fit in optional surface mounted wiremold or floor boxes as shown on drawings.

B. RJ-45 Modular Jacks shall be 110 style 8-position universal configurations and shall meet at minimum, the transmission performance requirements of Category 6. Punch down cable pairs at all termination points for 568A terminations.

C. RJ-45 Modular Jacks shall be UL listed and meet ANSI/TIA/EIA-568-B.2 requirements.

D. RJ-45 Modular Jacks shall be mounted in Modular Faceplates for six openings.

E. All Category 6 Outlet “Data” modules shall be black in color.

2.15 MODULAR COPPER JACKS AND CONNECTORS FOR WIRELESS ACCESS POINTS

A. Provide a single-port biscuit jack Hubbell ISB1EI with Cat 6 gray jack located above the ceiling for wireless access points.
B. Cat 6 cable from access point outlet to nearest Telecommunications Room.
C. Provide a 1’ CAT 6 patch cord for each end and permanent link test for performance.
D. Provide 10’ service loop with excess cable stored on j-hook.
E. Provide single-gang Caddy Bracket in ceiling tile for support of access point.

2.16 MODULAR COPPER JACKS AND CONNECTORS FOR WALL TELEPHONES

A. Wall phone outlets shall be stainless steel, equipped with a flush CAT6 data jack, and designed for modular mounting of wall phones.

B. Basis of design: Hubbell #SP6F or equal approved by the owner.

C. Mounting shall be ADA compliant**.**

2.17 MODULAR WORK AREA FACEPLATES

A. Modular Work Area Faceplates with the number of modular openings as shown on project drawings. Faceplates shall contain four, six, eight, or ten openings.

B. Provide modular mounting frames as required in surface wiremold.

C. Faceplates shall be provided to match plates as specified in Section 16140 WIRING DEVICES. Where stainless steel plates are required, this Contractor shall make provisions for such plates, up to and including fabrication of custom plates designed to accept termination hardware for the certified manufacturer solution proposed for telephone, data, and video cabling.

D. All faceplates shall contain integral protected label slots with transparent plastic covers (windows). Labels shall be produced with font style and size as compatible with the EIA/TIA-606 Standard.

2.18 COPPER PATCH CORDS

A. Category 6, 8-conductor stranded copper Patch Cords with RJ-45 Plugs.

B. All Patch Cords shall be tested and included in the structured cabling system warranty for the manufacturer-certified solution proposed.

2.19 D-RINGS

A. Provide 4” wide aluminum D-rings, open or split to allow placement of cross-connect wire.

B. Design Reference: AllenTel GB series or approved equal.

2.22 EQUIPMENT RACKS

1. Existing to be re-used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine pathway elements intended for Data/Voice Structured Cabling. Check conduits, raceways, cable trays, and other elements for compliance with space allocations, installation tolerances, hazards to cable installations, and other conditions affecting installation. Proceed with installation only after any unsatisfactory conditions have been corrected.

B. Allow sufficient cable length for work area outlet details such that wall locations can be adjusted anywhere within the assigned room prior to and until time of installation.

3.2 APPLICATION OF MEDIA

A. Backbone Cable for Telephone Service: Where the digital PBX is applied, Category 3, ~~100-Pair~~ multi-pair backbone cable shall be run between the MDF (Main Distribution Frame) and the IDF (Intermediate Distribution Frame).

B. Horizontal Cable for Voice Service: Telephone cables running form MDF and IDF spaces to Work Area Outlets shall be Category 6, 4-Pair UTP.

C. Horizontal Cable for Voice Service: Data cables running from MDF and IDF spaces to Work Area Outlets shall be Category 6, 4-Pair UTP.

D. Horizontal Cable for Wireless Access Points: Data cables running from MDF and IDF spaces to Access Points shall be Category 6, 4-Pair UTP

3.3 INSTALLATION

A. Wiring Method: Install copper in cable tray above the suspended ceiling and in conduit or J-Hooks except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces where un-enclosed wiring may be used. Wiring in walls shall be run in conduit. Where special circumstances prevent installation of conduit, surface raceway shall be provided and installed by this Contractor.

B. The maximum length of horizontal cables shall be limited to 295 feet (90 meters) from the Work Area Outlet to the HC (Horizontal Cross-connect) in the MDF or IDF.

C. Communications cables shall not be supported from or come into contact with ductwork, piping, plumbing, and mechanical equipment or on top of lay-in ceiling tile. Voice/data cabling shall not share raceways with other low voltage systems.

D. Install cables without damaging conductors, shield, or jacket. Cables shall not be painted – painted cables will be replaced to maintain cable warranties.

E. Observe caution such that during and upon completion of the installation, all cables are maintained free of kinks, sharp bends, twists, gouges, cuts, or any other physical damage that may cause alterations to the physical or electrical characteristics of the cabling.

F. Pull cables without exceeding cable manufacturer's recommended pulling tensions.

1. Pull cables simultaneously if more than one is being pulled in the same raceway.

2. Use pulling compound or lubricant if necessary. Use compounds that will not damage conductor or insulation.

3. Use pulling means, including fish tape, cable, rope, and basket-weave or cable grips, that will not damage media or raceway.

G. All horizontal cable must be free of tension at both ends as well as over the length of the run.

H. Whenever possible, primary cable routing paths shall follow the logical structure of the building. Install exposed cables parallel and perpendicular to surfaces or exposed structural members and follow surface contours where possible. When a wall must be breached, provide sleeved openings. No diagonal runs shall be permitted, unless otherwise specifically noted.

I. Secure and support cable at intervals not exceeding 48 inches and not more than 6 inches from cable tray, latter racks, sleeves, conduits, cabinets, boxes, fittings, outlets, racks, frames, and terminals.

J. All cables shall be neatly combed and bundled using Velcro style ties. All ties shall be rated plenum or non-plenum based upon the area in which they are installed. Plastic cable ties of any type are not acceptable.

K. Wiring within Wiring Closets and Enclosures: Provide conductors of adequate length. Train conductors to terminal points with no excess. Using lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.

L. Separation of Wires: comply with ANSI/TIA/EIA-569-a and ANSI/NECA/BICSI 568-2001 Standard for separating unshielded copper voice and data communications cabling from potential EMI sources, including electrical power lines and equipment.

M. All cables shall be installed as continuous "home run" pulls from connector block to connector block, or work area outlet to patch panel. No in-line connectors or splices shall be permitted.

N. Install cables using techniques, practices, and methods that are consistent with Category 6 rating of components and that ensure Category 6 performance of completed and linked signal paths, end to end.

O. Install all modules in accordance with manufacturer's instructions using a 110-style ~~66-style~~ impact insertion tool for cable terminations.

P. Work area outlet horizontal cabling shall be arranged on the patch panels in sequential alpha-numeric order according to the faceplate numbering scheme.

Q. Faceplate outlet numbering shall be in sequential and consecutive order from left to right and top to bottom.

R. Telephone riser cables shall be arranged on 110 block fields in the MDF organized in sequential and consecutive order by cable pair from left to right, top to bottom. Riser cables shall be terminated in rack-mounted patch panels in the IDFs. Terminate 1 cable pair per patch panel port.

S. Cable routing from the cable tray onto the distribution frame shall be neatly organized and supported by cable brackets, clips, loops, etc., as required to minimize stress and tension on the terminations. MDF 110 block column height shall be arranged so as to allow the entire cable bundle to be combed and contained behind the block mounting. Provide D-Rings or spools as needed for a manageable cross-connect field.

3.4 GROUNDING

A. Comply with ANSI J-STD-607, Commercial Building Grounding and Bonding Requirements for Telecommunications.

B. Furnish and install TMGB (Telecommunications Main Grounding Bus) bar with standoff insulators in MDF. Bond to power grounding system.

C. Furnish and install TGB (Telecommunications Grounding Bus) bar in each IDF. Isolate from electrical grounding system.

D. Furnish and install TBB (Telecommunications Bonding Backbone) from TMGB to TGB in each IDF and MDF space. TBB shall be 6 AWG solid copper, minimum.

E. Ground all signal raceways within each MDF and IDF to Signal Ground Bus. Maintain electrical separation from all raceways outside MDF an IDF spaces. Provide 6 AWG bare copper ground connection from TMGB or TGB to each isolated section of cable tray unless otherwise detailed on plans.

F. Ground cable shields, drain conductors, and equipment to eliminate shock hazard and to minimize ground loops, common mode returns, noise pickup, crosstalk, and other impairments.

G. Bond shields to ground at only one point in each circuit.

H. The DC resistance from the TGB in the furthest IDF (longest ground cable) to the building earth shall not exceed 0.5 ohms.

3.5 INSTALLATION IN EQUIPMENT ROOMS AND TELCOMMUNICATIONS ROOMS

A. Mount patch panels, terminal strips, and other connecting hardware on open frame equipment racks and wall mounted plywood backboards, unless otherwise indicated.

B. Group connecting hardware for cables into separate logical field as indicated on project drawings for Data/Voice.

C. Use patch panels to terminate cables entering the space, unless otherwise indicated.

D. “Ring runs” shall be provided in all MDF and IDF spaces to keep jumper (cross-connect) wire organized. “Rings” shall consist of 4-inch wide aluminum “D-Style” screw mounted. The bottom of the “D-Ring” shall be mounted 2 inches above, and centered over, the space between each vertical column of blocks. “D” rings shall be open or split to allow placement of cross-connect wire.

3.6 INSTALLATION STANDARDS

A. Comply with requirements of ANSI/TIA/EIA-568-B and ANSI/TIA/EIA-569-A.

3.7 IDENTIFICATION

A. Comply with general requirements of ANSI/TIA/EIA-606-A.

B. Refer to detail on T-series drawings.

C. Post cable schedule in a prominent location in each MDF and IDF. List incoming and outgoing cables and their designations, origins, and destinations. Protect with rigid frame and clear plastic cover. Furnish an electronic copy of final comprehensive schedules in Microsoft Excel format for inclusion in O&M Manuals.

3.8 FIELD QUALITY CONTROL

A. Perform the following tests and inspections and prepare test reports for inclusion in the O&M Manuals.

1. Operational Test: After installation of cables and connectors, demonstrate product capability and compliance with requirements. Test each signal path for end-to-end performance from each end of all pairs installed. Remove temporary connections when tests have been satisfactorily completed.

2. Copper Cable Procedures: Inspect for physical damage and test each conductor signal path for continuity and shorts. Use Class 3, Bi-directional, Category 6 Tester. Test for faulty connectors, splices, and terminations. Test according to ANSI/TIA/EIA-568B Category 6 parameters including, Wiremap, Length, NEXT, Insertion Loss (Attenuation), PSNEXT, ELFEXT, PSELFEXT, Structural Return Loss, Propagation Delay, Delay Skew.

B. Remove malfunctioning units, repair or replace with new units, and re-test as specified above.

END OF SECTION

SECTION 28 10 00

ELECTRONIC ACCESS CONTROL AND INTRUSION DETECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Work Included:
1. Providing all aspects of the access control system and intrusion detection system including, but not limited to, all conduit, junction boxes, wire, 110 VAC, access control hardware, mounting and terminating, interfacing with other systems, programming, testing and training for a complete system.
2. Card readers identified for use on the Access Control and Alarm Monitoring System (ACAMS) shall match the existing readers and be furnished and installed as detailed on the drawings and specified herein.
3. Provide Access Control and Alarm Monitoring System (ACAMS)

B. Related Work Specified Elsewhere:
1. Section 08 71 00: Door Hardware
2. Division 26 00 00: Electrical

1.02 REFERENCES

A. The access control system shall be installed in accordance with all applicable national, state and local codes including, but not limited to, the most recent editions (as adopted) of the following:

- Americans with Disabilities Act (ADA)
- Building, Life Safety, and Fire Codes as adopted by the State of Ohio.
- Building Officials & Code Administrators International, Inc., (BOCA), National Building Code
- National Fire Protection Association, National Electric Code (NFPA 70)
- National Fire Protection Association Life Safety Code (NFPA 101)
- Underwriter’s Laboratories (UL), Access Control System Units (UL 294)
- Underwriters Laboratories (UL) Applicable Standards for Safety
- Underwriter’s Laboratories (UL), Anti-Theft Alarms and Devices (UL 1037)
- Underwriter’s Laboratories (UL), Proprietary Burglar - Alarm Systems (UL 1076)

1.04 DEFINITIONS

A. The following definitions will apply for security and access control.

1. ACAMS – Access Control and Alarm Monitoring System
2. Cardholder - As identified within the software application “one who maintains valid credentials for access to the building.
3. Customer – CMHA
4. Front End Equipment- Refers to hardware and software required to maintain the main operating systems and application software for the security system proposed.
5. ISC – Intelligent System Controller (hardware panel)
6. Security Architecture – the configuration of hardware and software components which when assembled provide for the complete system structure.
7. Server – Computer file server
8. System – Also referred to as the ACAMS
9. TCP/IP – Transmission Control Protocol/Internet Protocol
10. Workstation – a computer station where application software is installed.

1.05 SYSTEM DESCRIPTION

A. The contractor shall include all permits and inspections required to install a complete and operating system.

B. The existing e3 eMERGE access control system shall be expanded as required to add the additional access-controlled doors.

C. All field hardware should be mounted and communicating with the security file server, along with all points cataloged and configured within the system prior to beginning the installation.

D. The owner will make available for deployment of the security architecture (backbone) a TCP/IP network port designated to facilitate the transmission of all security-related data traffic.

E. The ACAMS shall be designed to support advanced distributed network architecture, whereas the Intelligent System Controller does not need to have a home-run wire to the database server. Intelligent System Controller shall be networked with a dedicated Windows based PC that is licensed to run the ACAMS software. Also, the Intelligent System Controller shall be connected to a Local Area Network / Wide Area Network via industry standard TCP/IP communication protocol. Network based Intelligent System Controller shall be able to communicate back with the database server through industry standard network switches and routers and shall not have to be on the same subnet. Provide all firmware and flashware within the new equipment for compatibility with the existing campus-wide host computer. Provide lithium battery in Intelligent System Controllers to maintain local event memory and local databases.

G. Depending upon the configuration, the ACAMS field hardware must be able to include any or all of the following components:

1) Intelligent System Controller (ISC)

2) Input Control Module (ICM)

3) Output Control Module (OCM)

4) Provide new card readers compatible with the existing system

5) Dual Reader Interface Module (DRI)

6) Panel Power Supplies AL400ULX
Power supplies shall be provided with lead-acid batteries to maintain 4 hours of operation upon line voltage power failure.

1.06 SEQUENCE OF OPERATIONS

A. The system will consist of a security workstation, intelligent system controller, input control module, output control module, card reader interface modules, system power supplies, card readers and associated door hardware connections. The system will be networked via an RS 485 cabling system. The system will be a connected to the owner's Digital Alarm Communicator Transmitter and the ACAMS for monitoring, reporting, acknowledgement and card management. The 16-channel digital communicator shall be connected and programmed to report independent alarms for each tenant, each perimeter door, fire alarm system alarms and fire alarm system trouble signals. The workstation in the building will allow the User to manage Cardholder access cards, monitor alarms and review transaction history. The ISC will be connected to the appropriate data switch in the Net-Shelter Enclosure.

B. The system shall be capable of communicating to the ACAMS over a TCP/IP internet protocol primary path with a voice-grade dial-up secondary path.

C. The system will continue to monitor, communicate and report fire alarm system common alarm, trouble and supervisory signals and fire suppression system common alarm and trouble signals. The signals will continue to be integrated via a input control module.

D. Doors controlled by the ACAMS shall be provided with a card reader, a dual card reader interface module and connections to electrified door hardware devices. Upon a valid card swipe, the door lock will release the door for a predetermined period of time and shunt (ignore) the door position contacts until the person passes through the door and the door is closed again. Actuating the door hardware from the secure side of the door will send a request-to-exit signal to the controller to shunt (ignore) any alarm signals until the person passes through the door and the door is closed again. The door and latch contacts will confirm the door position and protect against any propped door conditions. Doors forced open or opened from the non-secured sided without a valid card swipe will send an alarm signal to the monitoring station.

F. Doors monitored by the ACAMS that are not provided with a card reader will be provided with door position and latch position switches. Doors forced open or opened from the non-secured sided without a valid card swipe will send an alarm signal to the monitoring station.

G. Doors identified as egress doors will be furnished with hardware that will remain locked during a commercial power failure. Door hardware power supplies will be supplied with battery back-up.

H. All ACAMS control module doors shall be provided with door tamper switches. Doors shall provide alarm signals to the ACAMS when the cabinets are opened.

I. The ACAMS shall monitor for normal AC power failures, 12 VDC power failures and low battery conditions in any and all power supplies, ACAMS controllers and ACAMS modules. The system shall report the failure to the ACAMS when any of the trouble conditions occur.

1.07 SUBMITTALS

A. Product Data: Submit manufacturers' technical product data for each access control item. Include all information necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.

B. Submit eMERGE Certification documents for the vendor furnishing the system components and the personnel installing, terminating, programming and commissioning the system.

C. As Built Documents: Submit product data and as-built drawings for access control system.

1.08 QUALITY ASSURANCE

A. Access Control Hardware Contractor Qualifications: Access control hardware contractor shall have a minimum of 5 years of experience providing, installing and servicing e3 eMERGE Access Control systems. The Access Control Contractor shall be certified by eMERGE to be a Prime Integrator and as an eMERGE-Authorized Value-Added Reseller (VAR) of eMERGE OnGuard systems.

B. Access control hardware contractor must have an established office. This office must have at least (10) full-time employees.

C. Must have at least (5) factory certified service technicians who have up-to-date certifications. A copy of the technician certifications MUST be included in the bid documents. If the technicians are not currently certified, the vendors quotation will be rejected.

E. Must have a minimum of (5) local reference. References will be called for verification. If verification of references cannot be made, the vendor's quotation will be rejected.

F. Shall provide 24-hour, 7-day per week services for the entire system.

G. COORDINATION

1. Ensure that adequate conduit is provided and that equipment backbones are adequate for system installation.
2. Ensure that adequate power has been provided and properly located for the security system equipment.
3. Coordinate with the Construction Manager to ensure that doors and door frames are properly prepared for electric locking hardware and door position switches.
4. Coordinate locations of all devices with the Construction Manager prior to installation.
5. Coordinate and verify the location of each piece of rack mounted equipment with the owner.
6. Coordinate custom ACAMS report requirements with the owner. Submit report formats to the owner for review and acceptance.
7. Coordinate all initial database partitioning and setup with the owner prior to initial programming and card holder data entry.

8. The access control system must be interfaced with the HVAC system per the description in the HVAC/Access section.

1.09 DELIVERY STORAGE AND HANDLING

A. Provide secure lock-up for electronic hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation. Defective pieces shall be rejected, removed and replaced by new pieces of applicable quality, at no additional cost to the owner.

B. Keep exposed trim suitably covered during construction period.

1.10 WARRANTY

A. The Vendor shall provide written warranty, signed by the Vendor, agreeing to replace/repair within one year from the date that the customer sign off is received. The warranty shall cover all costs for service, parts, labor, prompt field service, pickup, transportation and delivery. The warranty period for service shall cover the period starting with the FINAL CERTIFICATION DATE of each system and shall continue for an initial period of one (1) year. Warranty service shall be required during normal business hours Monday – Friday, not including holidays or weekends.

The vendor shall present the owner with a service contract proposal when the system is signed off on based on service requirements as agreed upon between both parties.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements, provide products as manufactured by eMERGE Systems International, Inc.

2.02 INTELLIGENT SYSTEM CONTROLLER (ISC)

An Intelligent System Controller (ISC) shall link the ACAMS Software to all other field hardware components (Thumbprint Readers, Keypads, Intrusion Detection Panels, Output and Input Control Modules). The ISC shall provide full distributed processing of access control & alarm monitoring operations. Access levels, hardware configurations, and programmed alarm outputs assigned at the administration client workstation shall be downloaded to the ISC, which shall store this information and function using its high speed, local 32-bit microprocessor.

All access granted/denied and arm/disarm decisions must be made at the ISC to provide fast responses to Thumbprint reader and keypad transactions. A fully configured ISC with 32 Thumbprint readers shall require less than one-half (0.5) seconds to grant access to an authorized cardholder or deny access to an unauthorized cardholder.

The SYSTEM Access Control Field Hardware shall provide a network based ISC. The network ISC shall be a 10 MB Ethernet based panel that has the capability to reside on a local area network (LAN) or wide area network (WAN) without connectivity to a PCserial port. The ISC shall contain an integral network interface card to deliver this functionality. Network based Intelligent System Controllers shall be able to communicate back with the database server through industry

standard switches and routers and shall not have to be on the same subnet.

The ISC is required to continue to function normally (stand-alone) in the event that it loses communication with the SYSTEM software. While in this off-line state, the ISC is required to make access granted/denied and arm/disarm decisions and maintain a log of the events that have occurred. Events shall be stored in local memory, and then uploaded automatically to the SYSTEM database after communication has been restored. The ISC must contain the following features:

- UL 294, ULC, and CE Certified
- Support for Host Communications Speed of 115,200 bps
- Support for Direct Connect, Remote Dial Up, or Local Area Network (LAN) Connection
- Support for Dual Path Host Communications - Secondary Path shall be either Direct Connect, Local Area Network (LAN) Connection, or Remote Dial Up Connection.
- Support for 8 MB of On-Board Memory
- LAN Support shall utilize RJ45 (10/100baseT) Ethernet Interface.
- Flash Memory for real time program updates and overall host communications
- Support for four 2 wire downstream ports
- Memory storage of up to 5,000 cardholders/100,000 events, with memory expansion of up to 350,000 cardholders/1,000,000 events
- Base ISC with standard memory download from the SYSTEM shall require no more than ten (10) minutes
- Downstream ports shall be for connecting Thumbprint readers and data gathering panels via RS-485 multi-drop wiring configuration
- Support for up to 32 devices consisting of Reader Interface Modules, Input Control Modules, and Output Control Modules in any combination desired with a maximum of 16 ICMs per ISC
- Support of multiple card technologies
- Supervised Communications between ISC and SYSTEM Software
- Multi – drop support for up to eight ISC's per SYSTEM communications port
- Support of up to eight card formats and facility codes
- RS-485 Full Duplex, UL 1076 Grade AA communication channel to the SYSTEM head-end
- Integration to other manufacturer’s card readers
- Uninterruptible Power Supply (UPS) with battery backup

- 32-bit Microprocessor
- An ISC downstream serial port shall multi-drop 16-access control field hardware devices using an RS-485 UL 1076 Grade A communication format allowing a distance of 4,000 feet using Belden 9842 cable.
- 12 VAC or 12 VDC input power
- Issue Code Support for Magnetic Stripe Formats
- Individual Shunt Times (ADA Requirement)
- Up to Nine Digit PIN Codes
- Downstream serial RS-232 device support
- Status LEDs for normal component and communication status

2.03 INPUT CONTROL MODULE (ICM)

The Input Control Module shall monitor all system alarm inputs.

A) Grade A Inputs

The Input Control Module shall provide up to 16 UL 1076 Grade A analog supervised alarm input zones to monitor and report line fault conditions (open, short, ground, or circuit fault), alarm conditions, power faults and tampers. When an alarm input is activated, the associated alarm condition shall be reported to both the ISC and subsequently to the SYSTEM alarm monitoring client workstation. Status LEDs shall provide information about the sixteen-alarm zone inputs, cabinet tamper, and power fault. For each status LED, a slow flash shall imply a "No Alarm" condition and a fast flash shall indicate an alarm condition, and a solid LED shall indicate a “Zone Fault” (open, short, ground, or circuit fault).

B) Grade AA Inputs

The Input Control Module must provide up to 16 UL 1076 Grade AA alarm input zones to monitor and report line fault conditions, alarm conditions, power faults and tampers.

When an alarm input is activated, the associated alarm condition shall be reported to both the ISC and subsequently to a SYSTEM alarm monitoring client workstation. Status LEDs shall provide information about the sixteen-alarm zone inputs, cabinet tamper, and power fault. For each status LED, a slow flash shall imply a "No Alarm" condition, a fast flash shall indicate an “Alarm Condition”, and a solid LED shall indicate a “Zone Fault” (open, short, ground, or circuit fault).

The Input Control Modules must also be able to operate independently and in conjunction with Output Control Modules (OCM), which will send an output signal to a corresponding output device upon alarm input activation. Once an alarm has been received, the Input Control Module shall activate any or all alarm outputs within the Output Control Module. The Output Control Module shall provide 16 Form C outputs rated at 5A @ 30VDC.

Upon an alarm input from the Input Control Module, the Output Control Module shall transmit an activating signal to a corresponding output device.

Up to 16 ICMs shall be connected to an available ISC using RS-485 cabling. Diagnostic LEDs shall indicate ISC communication, input zone scanning, and Input Control Module heartbeat.

The ICM must contain the following features:

- UL 294, ULC, and CE Certified
- Alarm contact status scanning at up to 180 times per second for each zone
- Eight configuration DIP switches to assign unit addresses and communications speed
- A low power CMOS microprocessor
- Filtered data for noise rejection to prevent false alarms
- Up to 16 Grade A, or AA Supervised Inputs in any Combination
- 12 VAC or 12 VDC Input Power
- 2 Form C Contacts for load switching
- 2 dedicated inputs for tamper and power status

2.04 OUTPUT CONTROL MODULE (OCM)

The Output Control Module shall incorporate 16 Output Relays that are capable of controlling a corresponding output device upon any input activation or on command from the SYSTEM. Output relays shall be capable of responding to:

- Input alarms from within the same ISC.
- Commands from a System Operator.
- Time zone control commands for automatic operation.

Output relays shall be capable of:

- Pulsing for a predetermined duration. Duration shall be programmable for each relay individually.
- "Following" any input point an ICM attached to the same ISC (on with alarm, off when clear, or as required).
- Responding on command from the System Operator to pulse, command on, command off, or reset to normal state.

Each OCM shall provide 16 Form C relays rated at 5A @ 30 VDC. The OCM shall control the

relays by digital communication. Upon an input from the ICM or command from the System Operator, the ICM shall transmit an activating signal to a corresponding relay. The OCM shall be UL 294 and CE Certified.

2.05 DUAL READER INTERFACE MODULE (DRI)

The Dual Reader Interface Module shall provide an interface between the ISC and Thumbprint readers. The Dual Reader Interface Module must operate with any Thumbprint reader that produces a standard Wiegand (Data 1 / Data 0 or Clock and Data) communication output. As with other Thumbprint reader types listed above, a single ISC shall be able to multi-drop as many as 32 Dual Reader Interface Modules.

Each DRI shall support two Thumbprint readers, each of which shall be up to 500' away from the DRI. Up to sixteen (16) DRIs shall be connected to each port on the ISC.

The DRI shall monitor per Thumbprint reader - door position, exit push button, and 4 auxiliary alarm inputs. It shall also control the electric strike and provide four auxiliary relay outputs.

The DRI shall support an integrated Thumbprint reader/keypad and shall support three access modes upon loss of communication with the ISC; locked, unlocked, and facility code.

The DRI shall offer the following features:

a) UL 294, ULC, and CE Certified

b) 12VDC or 12VAC Input Power

c) Support for up to eight Wiegand Card and Magnetic formats

d) Support for Clock/Data and Data1/Data 0 Wiegand Communications

e) 4 Programmable Inputs and 4 Programmable Relay Outputs per Reader

2.06 AL400ULX: FIELD HARDWARE POWER SUPPLIES

Power Supplies for field hardware shall be designed specifically for the SYSTEM equipment installed. These power supplies shall be regulated, isolated versions for the ISC, ICM, Thumbprint Readers and other equipment. Each version shall be available in UPS with battery back-up. All power supplies shall also allow mounting space for the ISC, ICM, SRI, DRI or other device/panel required.

Minimum Specifications:

a) Type UL Listed Class II power limited

b) Input 120 VAC hard wired

c) Output Regulated and filtered DC

d) Alarm outputs Individual low battery and power fail

e) Battery backup Four hours of rechargeable backup for the connected load

f) Battery support Battery charger to maintain battery

g) Battery Sealed gel type

h) Enclosure Key lockable wall mount housing with tamper switch

2.07 HID 230 MAGNETIC STRIPE / PROXIMITY CARD READERS

The SYSTEM shall support a variety of card readers and keypads that must encompass a wide functional range. The SYSTEM may combine any of the card readers described below for installations requiring multiple types of card reader capability (i.e., magnetic swipe cards, proximity cards, etc.). These card readers, described below, shall be used in Wiegand communication format only.

All magnetic stripe/proximity card readers are to be housed in an aluminum bezel with a wide lead
–in for easy card entry. Each card reader shall contain read head electronics, a micro ISC, and a sender to encode digital door control signals. A bi-color LED (s) (red and green) shall be used to indicate card reader status and access status.

A flashing red LED shall indicate the card reader is waiting for a card to be entered. A solid red LED is to indicate that the card reader has defaulted to a locked mode of operation. A solid green LED shall indicate the card reader has defaulted to an unlocked mode of operation. The green LED must illuminate upon a valid credential swipe/PIN entry for the duration of the door strike time.

Card Readers must be able to support a user defined downloadable off-line mode of operation (locked, unlocked, or facility code), which will go in effect during loss of communication with the ISC.

All card readers shall provide audible feedback to indicate access granted/denied decisions. Upon a card swipe, two beeps shall indicate access granted and three beeps shall indicate access denied. All keypad buttons shall provide tactile audible feedback. As many as 32 card readers of any type described below shall be able to be connected to a single ISC port. All card readers may optionally include card reader back boxes for conduit installations.

a) Standard Card Readers with Wiegand Communications and Clock/Data Output

The standard card readers with Wiegand Communications and Clock/Data Output shall be provided without a keypad. The standard card reader with Wiegand Communications and Clock/Data Output must offer the following features:

- UL 294, ULC, and CE Certified
- Low Power/Surface Mount Card Reader
- 600,000 pass read head
- Small, rugged, die cast aluminum
    - Bi-directional card swipe

- Compatible with HID Proximity formats up to 36 bits and Dorado EMPI proximity formats.

- Weatherized Finishes

- LEDs for access and card reader status

- 12VDC or 5VDC Input Power
- RJ-45 Jack for Quick Installation

PART 3 - EXECUTION

3.01 INSTALLATION

A. Wiring Techniques

1) All Security System wiring shall be run within concealed conduit. No exposed cabling or conduit is acceptable.

2) Provide code compliant fire proofing techniques for all penetrations of fire rated partitions and slabs, where the penetrations are made by or used for installation of the Security System.

3) Route all wire and cable as required to prevent interference and signal contamination of both security system cable and cable associated with other systems. Coordinate the routing of wire and cable requiring isolation from power, radio frequency (RF), telephone, etc., with all other trades.

4) Separate 120 VAC and other line voltage cables from low voltage cables within enclosures.

5) Wire nuts shall not be an acceptable means of connecting wire and cable.

6) Door monitoring contact switches shall be concealed in the door frame or integral to the door hardware. Surface-mounted door contacts shall not be provided.

B. Splices

1) Run all wire and cable continuous from device location to the final point of termination. No minimum cable splices will be allowed.

2) Securely fasten junction boxes to the building structure.

3) Secure junction box covers with tamperproof screws

4) Provide compression type fittings to secure cable at junction box openings.

5) Make cable connection for device terminations in junction boxes with crimp type connectors. Connectors shall provide a hermetic seal and test probe access such that the circuit may be checked without breaking the connection.

C. Component Connections

1) Prepare wire ends for attachment to components in accordance with Vendor recommendations.

2) Wherever possible, and unless otherwise recommended by the Vendor, connect individual wire conductors with crimp type spade lugs.

D. Grounding

1) Establish an earth ground connection within the security server room and in each FIELD HARDWARE location. The intent of the earth ground is to prevent ground loops within security system circuits, ensure proper communications between system components and devices, and isolate security equipment from building electrical system noise.

2) Under no conditions shall the AC neutral, either in a power panel or in receptacle outlets, be used for a reference ground.

3) Provide all necessary hardware and cable to properly ground security equipment.

4) Ground all equipment according to the Vendor recommendations for each piece of equipment. The vendor shall be responsible for any damage to equipment or communications problems that may occur due to improper grounding.

E. Conduits, Boxes And Raceways

1) Install all conduit necessary for a complete installation in finished areas concealed in chases, furrings, concrete slabs and/or above suspended ceilings. No exposed conduit shall be installed within public areas.

2) Conduit shall be carefully installed, properly and adequately supported as required to comply with the requirements outlined herein and as required by the NEC to provide a neat, workmanlike installation. Horizontal conduit runs shall be supported by clamps, pipe straps, special brackets or heavy iron tie, tied to the black iron structural members supporting the ceiling. Fastening of conduit to masonry walls, floor or partitions require malleable pipe clips with screws and suitable expansion sleeves.

3) All conduit shall be cut accurately to measurements established at the building and shall be installed without springing or forcing.

4) All required inserts shall be drilled-in and all openings required through concrete or masonry shall be saw cut or core drilled with tools specifically designed for this purpose.

5) Swab Out and remove all burrs from conduit before any wires are pulled.

6) Lay out and inspect conduit runs as to avoid proximity to hot pipes. In no case shall a conduit be run within 12” of such pipes, except where crossings are unavoidable and then the conduit shall be kept at least 6” from the insulated covering of the pipe crossed.

7) Provide fire stops where conduits penetrate fire rated walls and/or floors.

8) All conduit installation, whether run exposed or concealed, shall be approved prior to installation.

F. Power Requirements

1) 120 VAC power dedicated to security will be provided by electrical contractor. Coordinate with the owner to establish locations of security dedicated 120 VAC circuits.

2) Connect to the AC power (provided by electrical vendor) and provide UL listed power supplies and transformers to distribute low voltage power to the system components as required.

3) Provide hinged cover terminal cabinets with tamper switches for all power supplies, transformers and power distribution terminal strips.

G. Surge Protection

1) Provide protection against spikes, surges, noise, and other line problems for all system equipment and components.

2) Protect all exterior control, power, signal cables and conductors against power surges.

3.02 SYSTEM PROGRAMMING

A. System Programming and Data Entry

1. Provide all initial system programming and setup of the ACAMS including, but not limited to, the following:

a) Graphical maps and icons. Coordinate with the Construction Manager to obtain AutoCAD architectural backgrounds for implementation as graphical maps. Import all AutoCAD background information provided by the Construction Manager and produce graphical maps for the conversion of the project.

b) ACAMS Thumbprint reader information. Coordinate all Thumbprint reader values descriptors, alarm messages, map call up and identification with the owner.

c) Input and output points for the ACAMS. Coordinate all input and Output priorities and text, including descriptors, alarm messages, and map call up and identification with the owner.

d) Initial system Thumbprint Reader information. Coordinate all Thumbprint Reader values and text including descriptors, alarm messages, map call up and identification, with the owner.

e) Alarm monitoring and automatic shut down information for the UPS interface.

3.03 SYSTEM TESTING

A. Final testing of the Work will be conducted in coordination with the owner.

B. Conduct a complete test of the entire Security System and provide the owner with a written report on the results of that test. During the course of this test, calibrate and test all equipment, place the integrated Security System in service, and test the integrated system.

C. Following completion of the initial testing and correction of any noted deficiencies, conduct a five-day burn-in test. The intent of such test shall be to prove the Security System by placing it in near real operating conditions.

During this period the Security System shall be fully functional and programmed such that all points, interfaces, controls, reports, messages, prompts, etc., can be exercised and validated. Record and correct any system anomaly, deficiency, or failure noted during this period. Scheduling of the final acceptance test shall be based on a review of the results of this burn-in test.

D. Deliver a report describing the results of functional tests, burn-in tests, diagnostics, calibrations, corrections, and repairs including written certification to the owner showing that the installed Security System has been calibrated, tested, and is fully functional as specified herein.

Upon written notification from the vendor that the Security System is completely installed, integrated and operational, and the burn-in testing completed, the owner will conduct a final acceptance test of the entire system.

1. Prior to any final acceptance testing, submit two sets of preliminary (draft) record drawings to the owner. The preliminary record drawings are to be used by the owner to conduct the system final test.

2. Upon final acceptance of the work, the Contractor shall submit record documentation to the owner within 30 days from the date of final acceptance.

3. Record documentation shall include all information required in the prefabrication submittals but revised to reflect “as installed” conditions. Record documentation shall include the following:

    - Floor plan drawings indicating device locations with device legends indicating manufacturers and model numbers for each device.

    - Floor plan drawings indicating conduit and wire routing and junction box locations. Wire routing shall include cable identification and terminal strip numbers.

    - Mounting details for all equipment and hardware.

    - Functional block diagrams for each system.

    - Wiring details showing rack elevations, equipment wiring, terminations and inter-rack wiring.

    - Wiring diagrams for all custom circuitry.

- Point to point wiring diagrams.

- Layout details for each riser location, including security panels, power supplies, junction boxes, conduit and any other security-related equipment located in the riser.

4. During the course of the final acceptance test by the owner, the Vendor shall be responsible for demonstrating that, without exception, the completed and integrated system complies with the contract requirements.

5. In order to sufficiently demonstrate the Security System's functionality, the Vendor will be requested to perform certain daily operations inherent to the Security System. These operations may include, but not be limited to, manually locking and unlocking of doors within the ACAMS, verifying the status of current alarm/control points within the ACAMS, responding to alarms, adding/deleting personnel from the Thumbprint holder database, etc. As all of these operations depend heavily on the training outlined within the Specification, the Vendor shall have completed all of the required training prior to initiation of the final acceptance test.

6. Demonstrate the functionality of the various interfaces between systems. This will include, but not be limited to, generation of alarms from related systems failure (e.g., loss of communications, UPS alarms, etc.), fire alarm system fail safe lock release, and interface to any externally controlled devices and/or database system(s).

7. All equipment shall be on and fully operational during any and all testing procedures. Provide all personnel, equipment, and supplies necessary to perform all site testing. Provide a minimum of two employees familiar with the system for the final acceptance test. One employee shall be responsible for monitoring and verifying alarms while the other will be required to demonstrate the function of each device. Supply at least two two-way radios for use during the test.

   A Vendor's representative shall be present on site to answer any question, if the Vendor so elects or by specific request of the owner, at no charge to the owner.

8. The owner shall withhold Certification of the system until the owner deems, at its sole discretion, the system to be accepted. Acceptance will be made when system is fully functional for a period of thirty (30) days without failure. Should problems arise during this final period, Vendor shall correct the problems, and the thirty (30) day non-failure period shall start over.

END OF SECTION 28 10 00

2 PLAN LEVEL 02 - PARTIAL DEMOLITION
1/8" = 1'-0"

1 PLAN LEVEL 1 - DEMOLITION
1/8" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS

1. X

DEMOLITION LEGEND

XXX	ROOM NUMBER
	EXISTING WALLS / PARTITIONS TO REMAIN
	EXISTING 1 HR RATED WALLS TO REMAIN
	OTHER CONSTRUCTION TO REMAIN
	CONSTRUCTION TO BE REMOVED
	DOOR TO REMAIN
	DOOR TO BE REMOVED
	EXISTING 2'x2' ACOUSTIC CEILING TO BE REMOVED
	EXISTING 2'x2' ACOUSTIC CEILING TO REMAIN
	EXISTING GYPSUM CEILING TO REMAIN
	NOT IN ARCHITECTURAL SCOPE. REFER TO OTHER DISCIPLINES FOR WORK IN THIS AREA.

DEMOLITION KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
D01	REMOVE EXISTING FLOORING AND WALL BASE COMPLETE. PATCH AND REPAIR SLAB, AS REQUIRED AND PREPARE FOR NEW FLOOR FINISH. PATCH AND REPAIR EXISTING CONSTRUCTION SCHEDULED TO REMAIN INTACT, AS REQUIRED, FOR SMOOTH FINISHED SURFACE.
D02	REMOVE GLAZING AND FRAME SYSTEM COMPLETE.
D03	REMOVE DOOR, FRAME AND HARDWARE COMPLETE. THIS INCLUDES SIDELITE FRAME AND GLAZING IN SOME LOCATIONS.
D04	REMOVE EXISTING OPERABLE PARTITION AND SUPPORT STRUCTURE COMPLETE.
D05	REMOVE WALL AS INDICATED AND/OR REQUIRED TO COMPLETE NEW WORK. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO REMOVING ELECTRICAL SWITCHES, OUTLETS, CONDUIT, PIPES, ETC.
D06	NO ARCHITECTURAL DEMOLITION IN THIS AREA. REFER TO OTHER DISCIPLINES FOR DEMOLITION SCOPE IN THIS AREA.
D07	REMOVE EXISTING ACOUSTICAL CEILING SYSTEM. SALVAGE ACOUSTICAL PANELS FOR RE-USE. THIS INCLUDES, BUT IS NOT LIMITED TO: GRIDS, TILES, LIGHT FIXTURES, SUPPLY REGISTERS. COORDINATE CEILING DEMOLITION WITH FIRE SUPRESSION, ELECTRICAL, MECHANICAL, AND FIRE ALARM CONTRACTORS.
D08	REMOVE EXISTING CASEWORK. THIS INCLUDES, BUT IS NOT LIMITED TO: BASE CABINETS, DRAWERS, SHELVES, COUNTERTOPS, AND WALL CABINETS.
D09	LIMIT FLOORING OF DEMOLITION.
D10	ALTERNATE #2: REMOVE EXISTING PARKING SPACES, CURBS AND PAVEMENT.
D11	REMOVE EXISTING DOOR AND HARDWARE. EXISTING FRAME TO REMAIN. SALVAGE HARDWARE FOR RE-USE.
D13	REMOVE EXISTING GRADE AS REQUIRED FOR NEW CONCRETE PAD. COORDINATE WITH NEW WORK.
D14	REMOVE EXISTING PLUMBING FIXTURE(S) COMPLETE.
D15	REMOVE EXISTING BIFOLD DOORS, FRAME, MOUNTING TRACK AND HARDWARE COMPLETE.
D16	REMOVE EXISTING LIMESTONE SILL AND WALL BELOW GLAZING..
D17	REMOVE EXISTING WIRE MESH PARTITION.
D18	REMOVE EXISTING FRAMELESS MIRROR - SALVAGE FOR RE-USE.
D20	ALTERNATE #2: REMOVE EXISTING ALUMINUM RAILIG AND GATE.
D21	ALTERNATE #2: REMOVE EXISTING BUSHES.
D22	ALTERNATE #5: REMOVE EXISTING WALL ABOVE STRINGER, AND WALL MOUNTED HANDRAIL.
D23	ALTERNATE #5: REMOVE EXISTING WALL ABOVE FLOOR.
D24	ALTERNATE #6: REMOVE EXISTING PLUMBING FIXTURE AND CASEWORK. THIS INCLUDES, BUT IS NOT LIMITED TO: BASE CABINETS, DRAWERS, SHELVES, AND COUNTERTOPS.
D25	REMOVE EXISTING CARPET - SALVAGE FOR RE-USE.
D26	ALTERNATE #7: REMOVE EXISTING PLUMBING FIXTURE, COUNTER, BACKSPLASH, SIDE SPLASHES AND BASE CABINETS COMPLETE.
D28	ALTERNATE #2: REMOVE EXISTING BRICK PAVERS.
D29	REMOVE EXISTING CARD READER. NEW CARD READER TO BE INSTALLED IN CURRENT LOCATION.
D31	ALTERNATE #3: REMOVE FLOORING IN THIS ROOM.
D32	REMOVE EXISTING WALL MOUNTED TELEVISION, MOUNTING BRACKET, ELECTRICAL AND DATA OUTLETS COMPLETE.
D33	REMOVE EXISTING WALLCOVERING COMPLETE. PREPARE WALL SURFACES FOR PAINT.
D35	SAW-CUT AND REMOVE PORTION OF EXISITNG SLAB TO PROVIDE A PATH FOR POWER TO NEW FURNITURE SYSTEM GROUP.
D36	SAW-CUT AND REMOVE PORTION OF EXISITNG BRICK VENEER TO ACCOMODATE NEW EXHAUST DUCT AND LOUVER. SEE HVAC DRAWINGS.
D37	ALTERNATE #1: SAWCUT AND REMOVE PAVEMENT AND CURB AS NEEDED TO RUN CONDUIT FOR EV CHARGERS. COORDINATE EXACT EXTENT AND PATH WITH ELECTRICAL DRAWINGS.

#	DATE	CHANGE DESCRIPTION
1	4/30/2025	ADDENDUM #2
2	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
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COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:

LEVEL 01 - DEMOLITION PLAN

03/28/2025
25011.01

AD101

CONSTRUCTION DOCUMENTS

FILE NAME: A-CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 3/13/2025 9:30:41 AM
FILE PATH: A:\Active Docs\25011 CMHA Easton Office Renovation - R25\25011_CMHA Easton Office Renovation_ARCH_R25.rvt

FLOOR PLAN GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF WALL (UNLESS NOTED OTHERWISE).
2. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF ALL STEEL REINFORCING IN WALL & FLOOR CONSTRUCTION.
3. SEE FINISH SCHEDULE FOR ADDITIONAL INFORMATION OF LOCATIONS AND TYPES OF FINISH MATERIALS.
4. SEE ELEVATIONS AND STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION & CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE. SEE DETAILS ON **AXXX**.
5. MECHANICAL & ELECTRICAL EQUIPMENT SHALL BE ON HOUSEKEEPING PADS. PADS ARE TO BE PROVIDED BY THE TRADE SUPPLYING THE EQUIPMENT. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WORK TO BE COORDINATED THROUGH THE GENERAL TRADES CONTRACTOR. PADS 4" MIN. 4" THICK W/ W.W.F., UNLESS NOTED OTHERWISE).
6. PATCH AND REPAIR ALL OPEN AND DAMAGED DRYWALL TO ORIGINAL SPECIFICATION, UNO

CODED NOTE LEGEND

1. ALIGN
2. INFILL WALL TO MATCH EXISTING CONSTRUCTION.
3. CENTER WALL ON MULLION.
4. PATCH AND REPAIR GYPSUM BOARD WALL. PREP FOR PAINT OR OTHER SCHEDULED FINISH.
5. EXTEND PARTITION FRAMING AND GYPSUM BOARD TO DECK, TYPICAL BOTH SIDES. PROVIDE SOUND-ATTENUATING ACOUSTICAL INSULATION AND SEAL GAPS AROUND PERIMETER OF DRYWALL WITH ACOUSTICAL SEALANT.
6. REINSTALL SALVAGED MIRRORS. MOUNT BOTTOM AT 12" ABOVE FLOOR.
7. PROVIDE CONCRETE PAD TO MATCH EXISTING SIMILAR CONDITIONS.
8. CUSTOM CASEWORK DESK
9. ALTERNATE #1: ELECTRIC CAR CHARGERS - SEE ELECTRICAL DRAWINGS.
10. ALTERNATE #2: NEW BUSHES TO MATCH EXISTING
11. 1 ALTERNATE #1: PATCH AND REPAIR PAVEMENT AND CURB TO ORIGINAL CONDITIONS.

FLOOR PLAN LEGEND

- EXISTING WALLS / PARTITIONS
- EXISTING 1 HR RATED WALLS
- NEW NON-INSULATED WALLS / PARTITIONS
- NEW SOUND-INSULATED WALLS / PARTITIONS
- NOT IN ARCHITECTURAL SCOPE. REFER TO OTHER DISCIPLINES FOR WORK IN THIS AREA.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
03 30 00.A1	ALTERNATE #2: CONCRETE SLAB ON GRADE TO MATCH EXISTING PATIO.
03 30 00.A2	ALTERNATE #2: CONCRETE CURB TO MATCH EXISTING.
03 30 00.A3	ALTERNATE #2: 36" X 36" X 12" CONCRETE FOOTING. TOP OF CINCRETE AT 24" BELOW GRADE.
04 00 00.A1	ALTERNATE #2: BRICK VENEER ON 20" X 20" CMU PIER OVER 28"X 28" X 24" CMU FOUNDATIO WITH LIMESTONE CAP TO MATCH EXISTING.
05 70 00.A1	ALTERNATE #2: ALUMINUM RAILING AND GATE TO MATCH EXISTING.
05 73 13.A1	ALTERNATE #5: STAINLESS STEEL FRAME WITH GLASS PANEL GUARDRAIL WITH STAINLESS STEEL HANDRAIL. SEE DETAIL ON SHEET A801.
05 73 13.A2	ALTERNATE #5: STAINLESS STEEL WALL MOUNTED HANDRAIL. SEE DETAIL ON SHEET A801.
05 73 13.A3	ALTERNATE #5: STAINLESS STEEL FRAME WITH GLASS PANEL GUARDRAIL. SEE DETAIL ON SHEET A801.
06 40 00.E1	ALTERNATE #5: SOLID SURFACE (SS-3) TRIM ON FLOOR
06 40 00.E2	ALTERNATE #5: SOLID SURFACE (SS-3) CAP ON EXISTING WALL
06 40 00.F1	18" DEEP PLASTIC LAMINATE COUNTER AT 34" A.F.F.
06 40 00.G2	FIXED SHELF AND COAT ROD
10 22 21.A1	DEMOUNTABLE GLASS PARTITION SYSTEM
10 44 00.B3	SEMI-RECESSED FIRE EXTINGUISHER CABINET
11 31 00.B1	TELEVISION PROVIDED AND INSTALLED BY OWNER
11 31 00.B2	TELEVISION PROVIDED AND INSTALLED BY OWNER
11 31 00.B3 2	TELEVISION PROVIDED AND INSTALLED BY OWNER
11 52 23.A1	WALL MOUNTED TELEVISION BRACKET

#	DATE	CHANGE DESCRIPTION
1	4/30/2025	ADDENDUM #2
2	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: 614-461-4664

DRAWING TITLE:

LEVEL 01 - FLOOR PLAN

03/28/2025

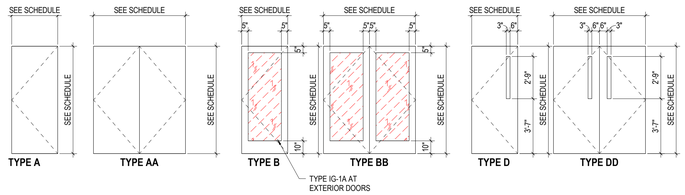
25011.01

A101

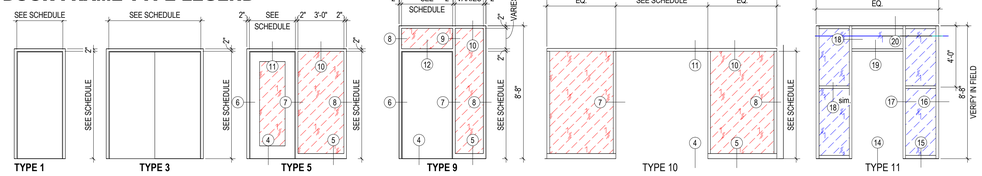
CONSTRUCTION DOCUMENTS

FILE NAM: A-CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 5/13/2025 9:34:48 AM
FILE INFO: Autodesk Docs://25011 CMHA Easton Office Renovation - R25/25011_CMHA Easton Office Renovation_ARCH_R25.rvt

DOOR PANEL TYPE LEGEND



DOOR FRAME TYPE LEGEND

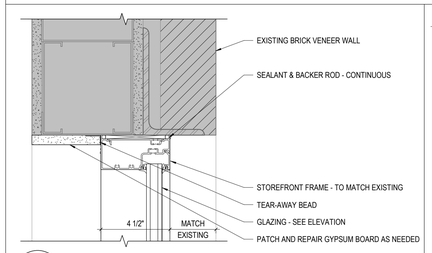


DOOR SCHEDULE

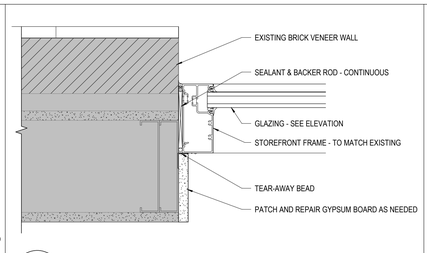
DOOR						FRAME		FIRE		CARD	DETAILS - SHEETS A700 AND A701			
NUMBER	ROOM NAME	WIDTH	HEIGHT	MATERIAL	ELEV	MATERIAL	ELEV	RATING	HDW SET	READER	HEAD	JAMB	SILL	REMARKS
104	EXECUTIVE SUITE	3'-0"	7'-0"	WD	B	HM	1	--	7.0	Yes	3	2	1	
110	CORRIDOR	3'-0"	7'-0"	WD	B	HM	1	--	7.0	Yes	3	2	1	
110A	COATS	6'-0"	7'-0"	WD	BB	HM	3	--	6.0	1 No	3	2	1	
121A	EMPLOYEE LOUNGE	3'-0"	7'-0"	WD	B	SF	5	--	5.0	Yes	10, 11	6, 7, 8	4, 5	
121B	EMPLOYEE LOUNGE	3'-0"	7'-0"	WD	B	SF	5	--	5.0	Yes	10, 11	6, 7, 8	4, 5	
122	1 KITCHEN	6'-0"	7'-0"	WD	BB	HM	3	--	6.1	1 No	3	2	1	
126	FITNESS	6'-0"	7'-0"	WD	BB	SF	10	--	6.2	No	10, 11	7, 8	4, 5	
129	HUB	3'-0"	7'-0"	WD	B	HM	1	--	10.0	No	3	2	1	
131-A	VESTIBULE	3'-4"	7'-0"	AL	B	SF	11	--	3.0	Yes	19, 20	16, 17, 18	14, 15	
131B	VESTIBULE	3'-4"	7'-0"	WD	A	SF	9	--	11.0	No	10, 11, 12, 13	6, 7, 8, 9	4, 5	
133B	OPEN OFFICE	3'-0"	7'-0"	WD	B	SF	5	--	12.0	Yes	10, 11	6, 7, 8	4, 5	
134	HUDDLE	3'-0"	7'-0"	WD	B	EX-HM	1	--	--	No	--	--	--	REUSE EXISTING HARDWARE
140	NEW CORRIDOR	3'-0"	7'-0"	WD	B	HM	1	--	9.0	Yes	3	2	1	
142	OPEN OFFICE	3'-0"	7'-0"	WD	A	HM	1	--	8.0	No	3	2	1	

DOOR SCHEDULE - EXISTING DOORS

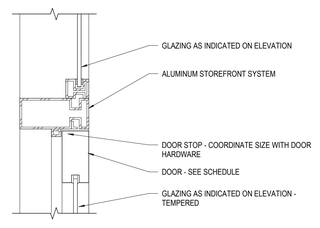
DOOR						FRAME		FIRE		CARD	DETAILS - SHEETS A700 AND A701			
NUMBER	ROOM NAME	WIDTH	HEIGHT	MATERIAL	ELEV	MATERIAL	ELEV	RATING	HDW SET	READER	HEAD	JAMB	SILL	REMARKS
100	VESTIBULE	6'-0"	7'-0"	EX-AL	BB	EX-SF	EX	--	1.0	Yes	--	--	--	REPLACE EXISTING CARD READER
101A	VESTIBULE	6'-0"	7'-0"	EX-AL	BB	EX-SF	EX	--	1.0	Yes	--	--	--	REPLACE EXISTING CARD READER
101B	VESTIBULE	6'-9"	8'-0"	EX-AL	--	EX-SF	EX	--	2.0	Yes	--	--	--	REPLACE EXISTING CARD READER
123A	MDF	3'-0"	7'-0"	EX-WD	A	EX-HM	EX	--	2.1	Yes	--	--	--	NEW CARD READER
128A	TRAINING ROOM	3'-10"	7'-10"	EX-AL	B	EX-SF	EX	--	2.0	Yes	--	--	--	REPLACE EXISTING CARD READER
132A	LOBBY	3'-0"	7'-0"	EX-WD	A	EX-SF	EX	--	2.1	Yes	--	--	--	NEW CARD READER
133A	ELEVATOR LOBBY	3'-0"	7'-0"	EX-WD	A	EX-SF	EX	--	2.1	Yes	--	--	--	NEW CARD READER
147A	LOADING DOCK	7'-8"	7'-8"	EX-HM	DD	EX-HM	EX	--	4.0	Yes	--	--	--	REPLACE EXISTING CARD READER
S101A	STAIR	3'-10"	7'-10"	EX-AL	B	EX-SF	EX	--	2.1	Yes	--	--	--	NEW CARD READER
S101B	STAIR	3'-0"	7'-0"	EX-HM	A	EX-HM	EX	EX-1HR	2.1	Yes	--	--	--	NEW CARD READER
S102A	STAIR	3'-10"	7'-10"	EX-AL	B	EX-SF	EX	--	2.0	Yes	--	--	--	REPLACE EXISTING CARD READER
S102B	STAIR	3'-0"	7'-0"	EX-HM	A	EX-HM	EX	EX-1HR	2.1	Yes	--	--	--	NEW CARD READER



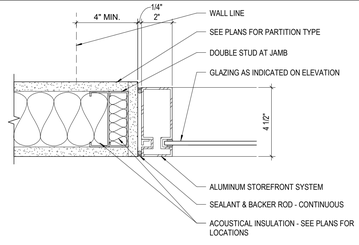
20 DETAIL HEAD AT EXTERIOR
3" = 1'-0"



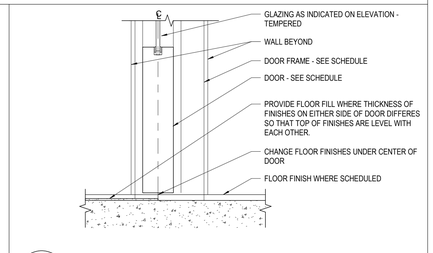
16 DETAIL EXTERIOR JAMB
3" = 1'-0"



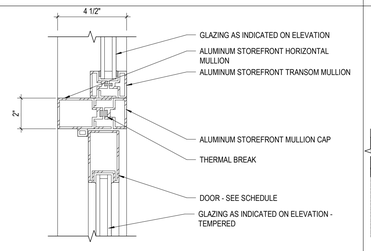
12 DETAIL @ STOREFRONT TRANSOM HEAD
3" = 1'-0"



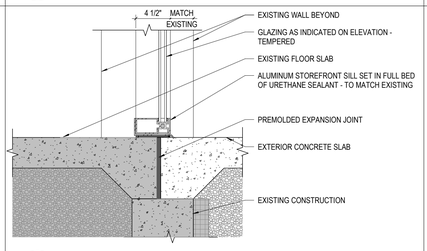
8 DETAIL INT. STOREFRONT SIDELITE JAMB
3" = 1'-0"



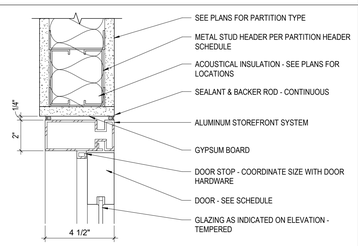
4 DETAIL TYPICAL INTERIOR STOREFRONT DOOR SILL
3" = 1'-0"



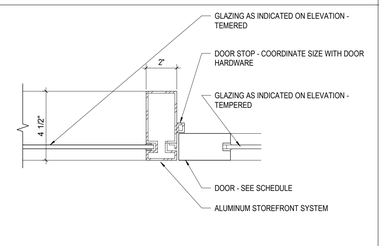
19 DETAIL STOREFRONT TRANSOM
3" = 1'-0"



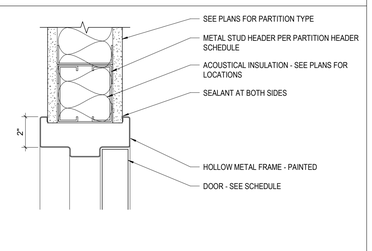
15 DETAIL STOREFRONT DOOR SILL - EXTERIOR
1 1/2" = 1'-0"



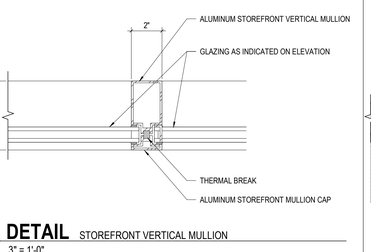
11 DETAIL INT. STOREFRONT HEAD DETAIL
3" = 1'-0"



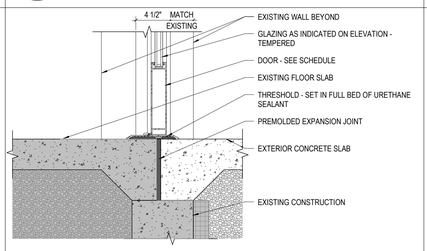
7 DETAIL INT. STOREFRONT JAMB W/ SIDELITE
3" = 1'-0"



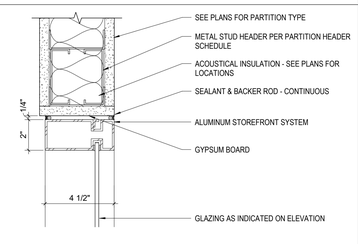
3 DETAIL TYP. HOLLOW METAL HEAD DETAIL
3" = 1'-0"



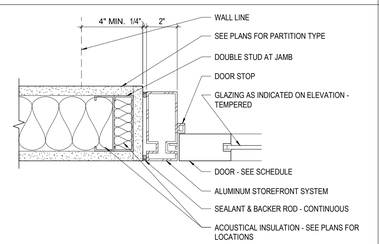
18 DETAIL STOREFRONT VERTICAL MULLION
3" = 1'-0"



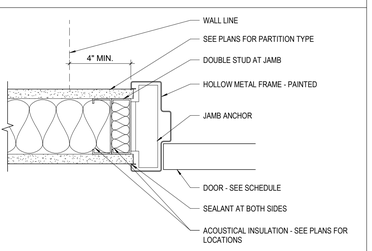
14 DETAIL SIDE LIGHT SILL - EXTERIOR
1 1/2" = 1'-0"



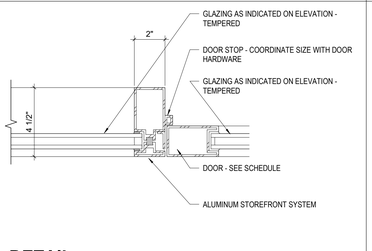
10 DETAIL INT. STOREFRONT SIDELITE HEAD
3" = 1'-0"



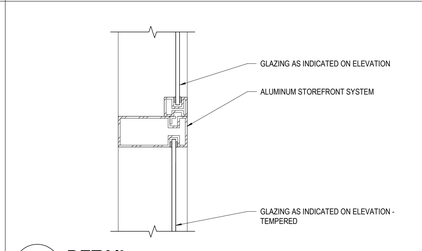
6 DETAIL TYP. INT. STOREFRONT DOOR JAMB
3" = 1'-0"



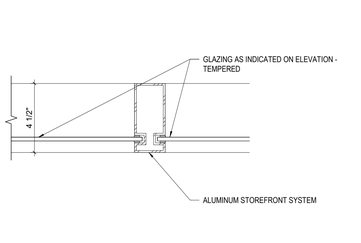
2 DETAIL TYP. HOLLOW METAL JAMB
3" = 1'-0"



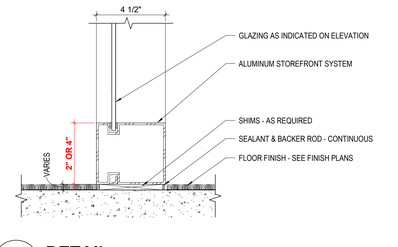
17 DETAIL STOREFRONT JAMB W/ SIDELITE
3" = 1'-0"



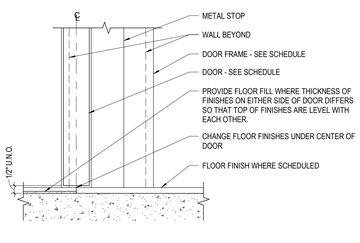
13 DETAIL @ STOREFRONT TRANSOM HEAD
3" = 1'-0"



9 DETAIL INT. STOREFRONT JAMB W/ SIDELITE
3" = 1'-0"



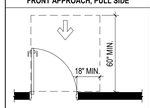
5 DETAIL @ INT. STOREFRONT SIDELITE SILL
3" = 1'-0"



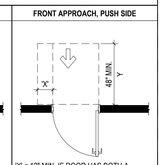
1 DETAIL TYPICAL INTERIOR DOOR SILL
3" = 1'-0"

DOOR CLEARANCES

FRONT APPROACH, PULL SIDE

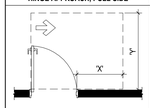


FRONT APPROACH, PUSH SIDE



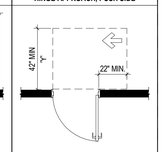
"X" = 12" MIN. IF DOOR HAS BOTH A CLOSER AND LATCH.
"Y" = 52" MIN. ICC A117.1 2017

HINGE APPROACH, PULL SIDE



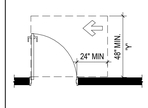
"X" = 36" MIN. IF "Y" = 60" MIN.
"X" = 42" MIN. IF "Y" = 54" MIN.

HINGE APPROACH, PUSH SIDE



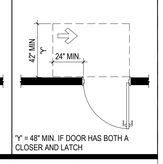
"Y" = 48" MIN. IF DOOR HAS A CLOSER (A117.1 2017) OR A CLOSER AND A LATCH (ADA OR A117.1 2009)ICC A117.1 2017

LATCH APPROACH, PULL SIDE



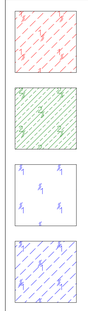
"Y" = 54" MIN. IF DOOR HAS BOTH A CLOSER AND LATCH

LATCH APPROACH, PUSH SIDE



"Y" = 48" MIN. IF DOOR HAS BOTH A CLOSER AND LATCH

GLAZING TYPES



GL-1 INTERIOR GLAZING (CLEAR TEMPERED)

GL-2 INTERIOR GLAZING (CLEAR LAMINATED)

IG-1 INSULATE GLAZING (CLEAR)

IG-1A INSULATE GLAZING (CLEAR TEMPERED)

#	DATE	CHANGE DESCRIPTION
1	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:

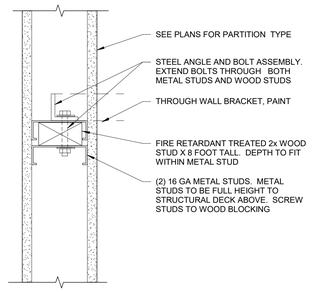
DOOR SCHEDULE AND DETAILS

03/28/2025
25011.01
A700
CONSTRUCTION DOCUMENTS

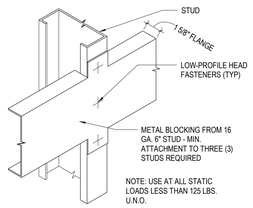
FILE NAM: A-CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 3/13/2025 9:34:52 AM
FILE INFO: Autodesk Docs://25011 CMHA Easton Office Renovation - R25/25011_CMHA Easton Office Renovation_ARCH_R25.rvt

FINISH LEGEND

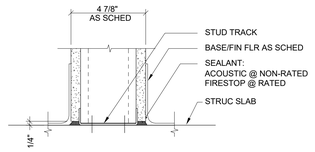
Finish Group	FINISH TYPE	TAG	MANUFACTURER	STYLE	COLOR/FINISH	SIZE	COMMENTS
BASE							
BASE	RUBBER BASE	RB-1	TARKETT	MILLWORK OBLIQUE	BLACK	3"	EXECUTIVE SUITE WALL BASE
BASE	RUBBER BASE	RB-2	TARKETT	STANDARD	BLACK/MATCH EXISTING	4"	
BASE	TILE BASE	TWB-1	FLORIDA TILE	NY2LA	RIVERSIDE STEEL	3X24 BULLNOSE	P43N9-NY2
CEILINGS							
CEILINGS	ACOUSTICAL CEILING TILE	A1	ARMSTRONG	CORTEGA SECOND LOOK II - #QR2767D	-	2X4	MATCH EXISTING
CEILINGS	ACOUSTICAL CEILING TILE	A2	ARMSTRONG	ULTIMA - TEGULAR - #1912LEC	-	2'X2'	9/16" GRID
CEILINGS	ACOUSTICAL CEILING TILE	A3	ARMSTRONG	ULTIMA - TEGULAR - #1911LEC	-	2'X2'	15/16" GRID
CEILINGS	BAFFLE CEILING	B1	ACGI/ARMSTRONG	Wood Baffle Series 1 [WB1-3400-C]	BLACK WOOD LOOK	3.5"X3/4" THICK	SEE SECTION 09 54 29
CEILINGS	EXPOSED STRUCTURE	E1					
FLOORS							
FLOORS	CARPET TILE	CR-1	MOHAWK	RELAXING FLOORS - MELOW D	SOLITUDE	18X36	INSTAL ASHLAR
FLOORS	CARPET TILE	CR-2	MOHAWK	RELAXING FLOORS - MELOW D	EASY BREEZY	12" X 36"	INSTALL ASHLAR
FLOORS	ENTRANCE CARPET	EC-1	MILLIKEN	OBEX™ TILE	CUT/CORSS DARK GREY	24X24	
FLOORS	LUXURY VINYL TILE	LV-1	INTERFACE	BRUSHED LINES	KOHL	9.8X39.3	
FLOORS	LUXURY VINYL TILE	LV-2	INTERFACE	BRUSHED LINES	GALENA	9.8X39.3	
FLOORS	RUBBER FLOOR	RF-1	EXISTING STOCK	EXISTING STOCK	-	-	USE OWNER EXISTING STOCK
FLOORS	SEALED CONCRETE	SC-1		-	-	-	
FLOORS	TILE FLOOR	TF-1	FLORIDA TILE	NY2LA	RIVERSIDE STEEL	12X24	FTINY23012X24
MISCELLANEOUS							
MISCELLANEOUS	CORNER GUARD	CG-1	INPRO	STAINLESS STEEL		1" WING, 4' HIGH	@ LOCATIONS NOTED ON FINISH PLAN; MATCH EXISTING CORNER GUARD HEIGHT
MISCELLANEOUS	GROUT	GR-1	MAPEI		107 IRON		
MISCELLANEOUS	GROUT	GR-2	MAPEI		47 CHARCOAL		
MISCELLANEOUS	PLASTIC LAMINATE	PL-1	FORMICA	WALNUT RIFTWOOD	-	-	CASEWORK @ RECEPTION DESK AND MOTHERS ROOM
MISCELLANEOUS	PLASTIC LAMINATE	PL-2	FORMICA		BLACK	PLEX FINISH	CASEWORK @ KITCHENETTES, AND YOGA MAT STORAGE
MISCELLANEOUS	PLASTIC LAMINATE	PL-3	WILSONART		LINEN		ALT. COUNTER @ MOTHER'S ROOM
MISCELLANEOUS	QUARTZ	QZ-1	CAMBRIA		MAMMOTH CAVE		TRANSACTION TOP RECEPTION DESK
MISCELLANEOUS	QUARTZ	QZ-2	DUPONT		SNOW WHITE		
MISCELLANEOUS	SOLID SURFACE	SS-1	CORIAN	-	GLACIER WHITE	-	
MISCELLANEOUS	SOLID SURFACE	SS-2	CORIAN		SILVER GREY		
MISCELLANEOUS	SOLID SURFACE	SS-3	CORIAN		CARBON AGGREGATE		CAP AT STAIRS
MISCELLANEOUS	TRANSITIONS/TRIM	T-1	SCHLUTER	JOLLY			@ EXPOSED TILE CORNERS
MISCELLANEOUS	TRANSITIONS/TRIM	T-2	FRY REGLET	"L TRIM"			
WALLS							
WALLS	PAINT	PT-1	SHERWIN WILLIAMS	PROMAR 200	ROCK CANDY	-	
WALLS	PAINT	PT-4	SHERWIN WILLIAMS	PROMAR 200	IRON ORE		
WALLS	SPECIALTY WALL	SW-1	PLANTHROPY	-	-	-	PRESERVED MOSS ELEMENT BEHIND RECEPTION DESK.
WALLS	WALL COVERING	WC-1	WOLF GORDON	SERRA	SRR5213 CARBON	-	
WALLS	WALL TILE	WT-1	ERGON	STONE PROJECT	BLACK FALDA LAPP	12X24	USE GR-2; USE OWNER EXISTING STOCK
WALLS	WALL TILE	WT-2	CROSSVILLE	DRESSCODE	WHITE GLOSS PIANO	6X5	USE GR-1;



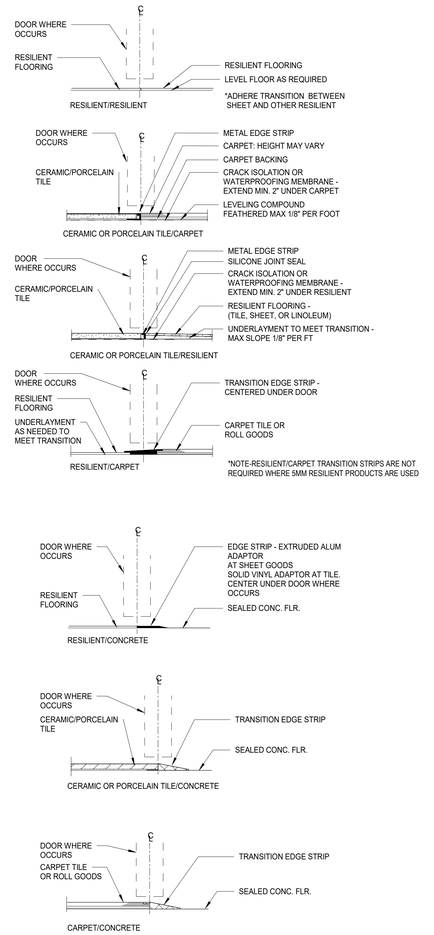
4 DETAIL CSWK-COUNTER SUPPORT DETAIL
3" = 1'-0"



3 DETAIL METAL BLOCKING TYP.
3" = 1'-0"



2 DETAIL TYP WALL BASE DETAIL
3" = 1'-0"



1 FLOORING TRANSITIONS
3" = 1'-0"

GENERAL NOTES - FINISH PLANS

1. STANDARDS AND PROCEDURES FOR THE PREPARATION AND APPLICATION OF INTERIOR FINISHES ARE DEFINED IN THE PROJECT MANUAL. FINISH (SUB) CONTRACTORS ARE REQUIRED TO READ, UNDERSTAND AND FOLLOW ALL RELEVANT SECTIONS OF THE PROJECT MANUAL.
2. FINISH MATERIALS ARE LISTED IN THE LEGEND COMPONENT OF THE FINISH SCHEDULE. SPECIFICATIONS ARE INCLUDED IN THE PROJECT MANUAL. ANY CONFLICTS OR DISCREPANCIES BETWEEN THESE TWO SHOULD BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
3. NO FINISH MATERIAL SUBSTITUTIONS WILL BE ACCEPTED EXCEPT IN THE SPECIFIC CIRCUMSTANCES ENUMERATED IN THE PROJECT MANUAL.
4. PAINTED HOLLOW METAL DOORS AND FRAMES TO BE PAINTED TO MATCH ADJACENT WALL COLOR UNLESS NOTED OTHERWISE. MATERIAL, FINISH AND COLOR INFORMATION FOR ALL OTHER DOORS AND FRAMES IS CONTAINED IN THE DOOR SCHEDULE AND ITS ASSOCIATED LEGENDS. IF WALLS ON OPPOSITE SIDES OF DOOR FRAME ARE DIFFERENT COLORS THE PAINT COLORS SHOULD BE SPLIT AT THE JAMB OF THE FRAME.
5. ALL VERTICAL TRANSITIONS BETWEEN DIFFERING WALL FINISHES ARE TO BE MADE AT INSIDE CORNERS (UNLESS NOTED OTHERWISE).
6. FLOORING MATERIAL DESIGNATED FOR STAIRS IS TO INCLUDE STAIR AND ALL ASSOCIATED TREADS, RISERS, LANDINGS, ETC. (UNLESS NOTED OTHERWISE).
7. PAINT DESIGNATED FOR METAL STAIR COMPONENTS IS TO INCLUDE ALL EXPOSED METAL COMPONENTS ASSOCIATED WITH THE STAIR SYSTEM ITSELF. ALL EXPOSED STRUCTURAL STEEL COMPONENTS SUPPORTING THE STAIR SYSTEM (UNLESS NOTED OTHERWISE), AND ALL EXPOSED METAL COMPONENTS OF THE HANDRAIL AND GUARDRAIL SYSTEMS (UNLESS NOTED OTHERWISE). UNDERSIDES OF STAIR RUNS AND LANDINGS ARE CONSIDERED "EXPOSED" IN ALL SITUATIONS.
8. FOR CLARITY, SOME FINISH INFORMATION HAS BEEN PRESENTED GRAPHICALLY IN THE FORM OF FINISH AND FLOORING PLANS. SHOULD THERE BE A DISCREPANCY BETWEEN THE FINISH SCHEDULE AND THESE PLANS, THE ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY. FOR THE PURPOSE OF BIDDING, INFORMATION DETAILED ON THE FINISH FLOOR PLANS AND FLOORING PLANS IS TO TAKE PRECEDENCE OVER THE FINISH SCHEDULE UNTIL FURTHER CLARIFICATION CAN BE GIVEN. FOR AREAS NOT SPECIFICALLY DETAILED ON THESE PLANS, THE FINISH SCHEDULE PERTAINS.
9. PAINT DESIGNATED FOR EXPOSED OVERHEAD STRUCTURE IS TO INCLUDE ALL EXPOSED COMPONENTS INCLUDING (BUT NOT EXCLUSIVE TO) DECKING, STRUCTURAL MEMBERS, MECHANICAL AND ELECTRICAL DELIVERY SYSTEMS, FIRE PROTECTION SYSTEMS (EXCLUDING SPRINKLER HEADS), AND ALL OTHER MISCELLANEOUS BUILDING SYSTEMS LOCATED OVERHEAD. EACH OF THE AFOREMENTIONED CATEGORIES IS TO INCLUDE ANY AND ALL ASSOCIATED SUPPORTS, FASTENERS, HANGERS, STRUTS, BRACES, BRACKETS, ETC.
10. WHERE RESILIENT BASE IS SPECIFIED (VINYL OR RUBBER) PROVIDE COVE PROFILE BASE AT ALL RESILIENT FLOORS AND STRAIGHT BASE FOR ALL CARPET AREAS (UNLESS OTHERWISE NOTED). HEIGHT AND COLOR TO BE AS INDICATED ON FINISH LEGEND.
11. REFER TO REFLECTED CEILING PLANS AND SPECIFICATION MANUAL FOR ALL CEILING MATERIAL AND FINISH INFORMATION.
12. ALL DRYWALL SOFFITS TO BE PAINTED FLAT CEILING WHITE UNLESS NOTED OTHERWISE ON CEILING PLANS.
13. CERAMIC WALL TILE TO EXTEND FULL WIDTH AND FULL HEIGHT FOR ANY AND ALL SCHEDULED TILED WALLS (UNLESS NOTED OTHERWISE).
14. FOR EPOXY OR INTUMESCENT PAINT COLOR REFER TO PAINT SCHEDULE NUMBERS.
15. WITHIN FINISH SCHEDULE CELLS: SLASH MARKS INDICATE DIFFERENCES IN FINISH MATERIAL WHILE COMMAS INDICATE DIFFERENCES IN PATTERN OR COLOR WITHIN A SPECIFIC MATERIAL.
16. APPROPRIATE METAL OR VINYL TRANSITION STRIPS MUST BE PROVIDED AT ALL FINISH MATERIAL FLOORING CHANGES. GENERAL CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL FLOORING TRANSITIONS AND AREAS IN WHICH FLOORING PATTERNS ARE SHOWN. SEE FLOOR FINISH PLANS, DETAILS AND NOTES FOR SPECIFIC INFORMATION.
17. WALL PAINT INDICATED FOR CURTAIN WALL LOCATIONS APPLIES TO ALL ASSOCIATED DRYWALL COMPONENTS (CURBS, HEADERS, BULKHEADS, ETC.) AND SHOULD NOT BE INTERPRETED AS APPLYING TO CURTAIN WALL COMPONENTS OR GLASS.
18. FLOORING CONTRACTOR(S) IS RESPONSIBLE FOR COORDINATING FINISHED FLOOR ELEVATIONS WITH ALL/ANY FLOOR MOUNTED COMPONENTS (RECEPTACLES, ACCESS PANELS, ETC.) SO THAT COMPONENTS ARE INTEGRATED AND FLUSH.
19. PAINT ALL GYPSUM BOARD WALLS ON FIRST FLOOR PAINT PT-1. THIS DOES NOT INCLUDE ROOMS 106, 109A, 123A, 136, 146, 148, 148A, S101, AND S102,

CODED NOTE LEGEND

1. ALIGN
2. SW-1: GREEN WALL ELEMENT; REFER TO ELEVATIONS, FINISH LEGEND AND SPECS FOR MORE INFORMATION.
3. BRANDED RAISED LETTER SIGNAGE/DIRECTORY.
4. NOT USED.
5. RB BASE AT CARPET, TILE BASE AT TILE.
6. PATCH WITH MATCHED/SALVAGED EXISTING CARPET TILE.
7. PATCH WITH MATCHING EXISTING FLOORING; ALTERNATE #3: REPLACE FLOORING WITH CR-2; SEE FINISH LEGEND FOR DETAILS.
8. ALTERNATE #3: REPLACE FLOORING (CARPET AND RESILIENT) WITH CR-1; SEE FINISH LEGEND FOR DETAILS.
9. ALTERNATE #7: REPLACE BACKSPLASH WITH TILE AS INDICATED.
10. BRANDING/ARTWORK PLACEHOLDER. KEEP WALL CLEAR OF DEVICES.
11. BRANDING/ARTWORK PLACEHOLDER. KEEP WALL CLEAR OF DEVICES. PROVIDE IN WALL BLOCKING.
12. USE OWNER'S EXISTING STOCK
13. DECORATIVE GLASS FILM; O.F.C.I.

#	DATE	CHANGE DESCRIPTION
1	4/30/2025	ADDENDUM #2
2	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

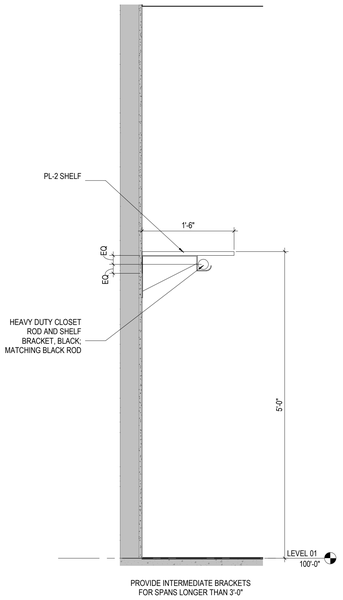
Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:

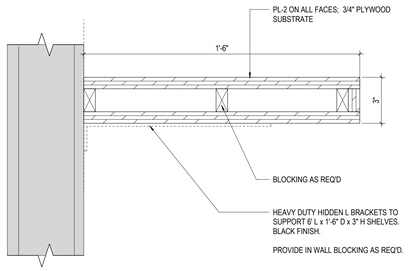
FINISH SCHEDULE/LEGEND

03/28/2025
25011.01
A800
CONSTRUCTION DOCUMENTS

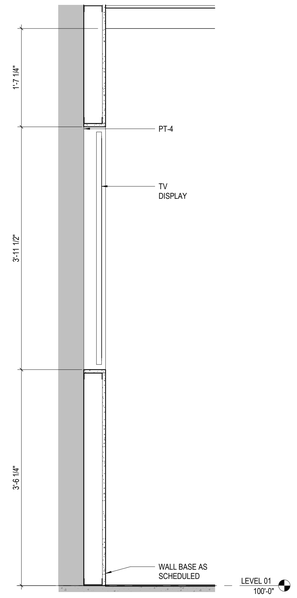
FILE NAME: A-CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 5/13/2025 9:34:54 AM
FILE INFO: Autodesk Docs://25011 CMHA Easton Office Renovation - R25/25011_CMHA Easton Office Renovation_ARCH_R25.rvt



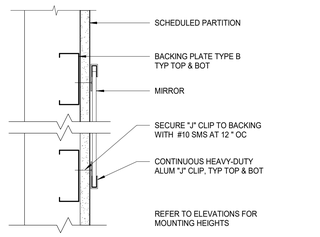
17 DETAIL COAT ROD AND SHELF
1" = 1'-0" REF: 1 / A101



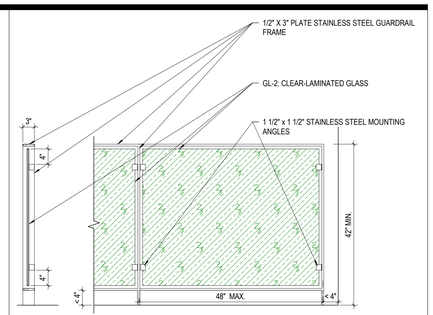
16 DETAIL FLOATING SHELF
3" = 1'-0"



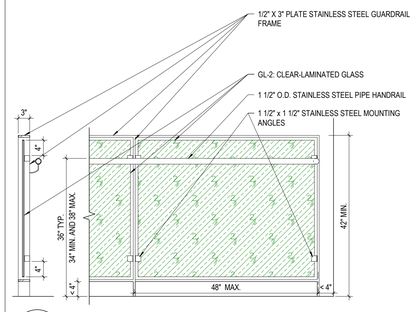
15 DETAIL RECESSED DIGITAL DISPLAY
1" = 1'-0" REF: 8 / A801



14 DETAIL WALL MIRROR
3" = 1'-0"



13 DETAIL ALT. #5 - INFILL GLASS PANEL GUARDRAIL AT 2ND FLOOR
3/4" = 1'-0"



12 DETAIL ALT. #5 - INFILL GLASS PANEL GUARDRAIL AT STAIR
3/4" = 1'-0"

GEN. NOTES - INTERIOR ELEVATIONS

1. ALL DIMENSIONS ARE TO FACE OF WALL (UNLESS NOTED OTHERWISE).
2. SEE FINISH PLANS AND LEGEND FOR ADDITIONAL INFORMATION OF LOCATIONS AND TYPES OF FINISH MATERIALS.
3. ALL MOUNTING HEIGHTS ARE ABOVE FINISHED FLOOR (AFF). SEE SHEET A800.
4. REFER TO PME DRAWINGS FOR OTHER REQUIREMENTS NOT SHOWN ON INTERIOR ELEVATIONS. NOTIFY ARCHITECT OF DISCREPANCIES FOR CLARIFICATION.
5. PROVIDE BLIND CABINETS WHERE APPLICABLE.
6. CONTRACTOR TO PROVIDE BLOCKING IN WALL AS REQUIRED FOR ALL OWNER FURNISHED WALL MOUNTED EQUIPMENT AND ACCESSORIES. COORDINATE FINAL LOCATION WITH OWNER.
7. PROVIDE SCRIBES / FILLERS BETWEEN ALL WALLS AND CABINET ENDS, U.N.O. PROVIDE MINIMUM 2" FILLERS BETWEEN THE CORNER CABINETS IN AN "L" SHAPE CONFIGURATION.
8. PROVIDE CORNER CLOSURE PIECE UNDER THE WALL CABINETS IN AN "L" SHAPE CONFIGURATION.
9. WALL BASE AND WALL FINISH ARE TO EXTEND BEHIND EQUIPMENT
10. COORDINATE LOCATIONS OF GROMMETS WHERE NECESSARY FOR COMPUTER CORDS WITH OWNER, U.N.O.
11. CASEWORK MANUFACTURER SHALL VERIFY/MEASURE ALL FIELD CONDITIONS PRIOR TO FABRICATION OF CASEWORK / COUNTERTOPS. ANY ALTERATION TO CASEWORK REQUIRES AS A RESULT OF FIELD CONDITIONS SHALL BE APPROVED BY THE ARCHITECT AND OWNER PRIOR TO FABRICATION OR INSTALLATION. CASEWORK MANUFACTURER SHALL COORDINATE WITH CONTRACTOR INSTALLATION OF BLOCKING.
12. PROVIDE FINISHED ENDS/SIDES OF ALL EXPOSED END CABINETS.

(#) CODED NOTES - INTERIOR ELEVATIONS

1. EXISTING KITCHEN EQUIPMENT
2. OWNER FURNISHED, CONTRACTOR INSTALLED SIGNAGE/DIRECTORY. DESIGN/PRODUCT TBD BY OWNER.
3. CUSTOM MOSS LOGO, SEE FINISH SCHEDULE SW-1 FOR MORE DETAIL.
4. 85" DISPLAY, SEE TECHNICAL DRAWINGS AND SPECS FOR MORE INFORMATION.
5. FLOATING SHELVES WITH HEAVY DUTY, HIDDEN METAL L BRACKETS (BLACK)

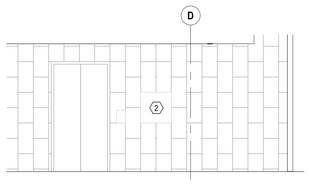
GLAZING TYPES

GL-1 INTERIOR GLAZING (CLEAR TEMPERED)

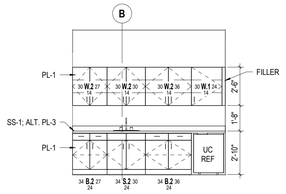
GL-2 INTERIOR GLAZING (CLEAR LAMINATED)

IG-1 INSULATE GLAZING (CLEAR)

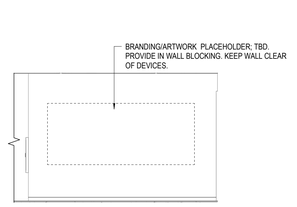
IG-1A INSULATE GLAZING (CLEAR TEMPERED)



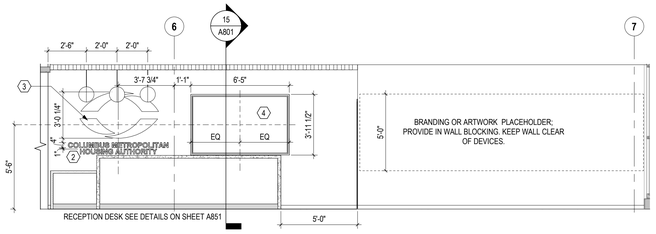
11 ELEVATION ELEVATOR LOBBY EAST
1/4" = 1'-0" REF: 1 / A101



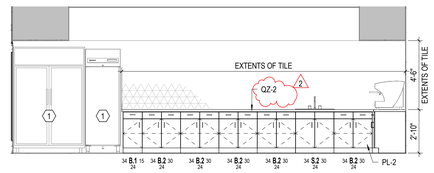
10 ELEVATION MOTHER'S ROOM -WEST
1/4" = 1'-0" REF: 1 / A101



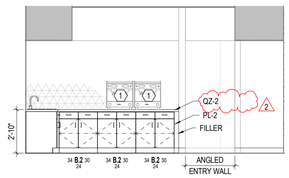
9 ELEVATION ELEVATOR LOBBY - NORTH
1/4" = 1'-0" REF: 1 / A101



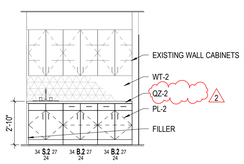
8 ELEVATION LOBBY - NORTH
1/4" = 1'-0" REF: 1 / A101



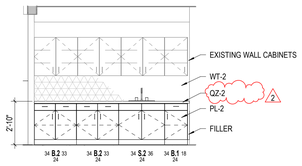
7 ELEVATION ALTERNATE #6 - KITCHEN - EAST
1/4" = 1'-0" REF: 1 / A101



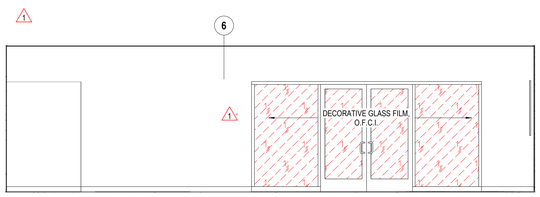
6 ELEVATION ALTERNATE #6 - KITCHEN - SOUTH
1/4" = 1'-0" REF: 1 / A101



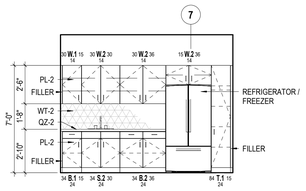
5 ELEVATION ALTERNATE #7 - EAST KITCHENETTE
1/4" = 1'-0" REF: 1 / A101



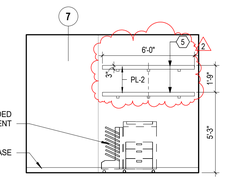
4 ELEVATION ALTERNATE #7 - WEST KITCHENETTE
1/4" = 1'-0" REF: 1 / A101



3 ELEVATION FITNESS ROOM-126 - SOUTH ELEVATION
1/4" = 1'-0" REF: 1 / A101



2 ELEVATION EXECUTIVE KITCHEN - SOUTH
1/4" = 1'-0" REF: 1 / A101



1 ELEVATION EXECUTIVE KITCHEN - NORTH
1/4" = 1'-0" REF: 1 / A101

#	DATE	CHANGE DESCRIPTION
1	4/30/2025	ADDENDUM #2
2	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:

INTERIOR ELEVATIONS AND DETAILS

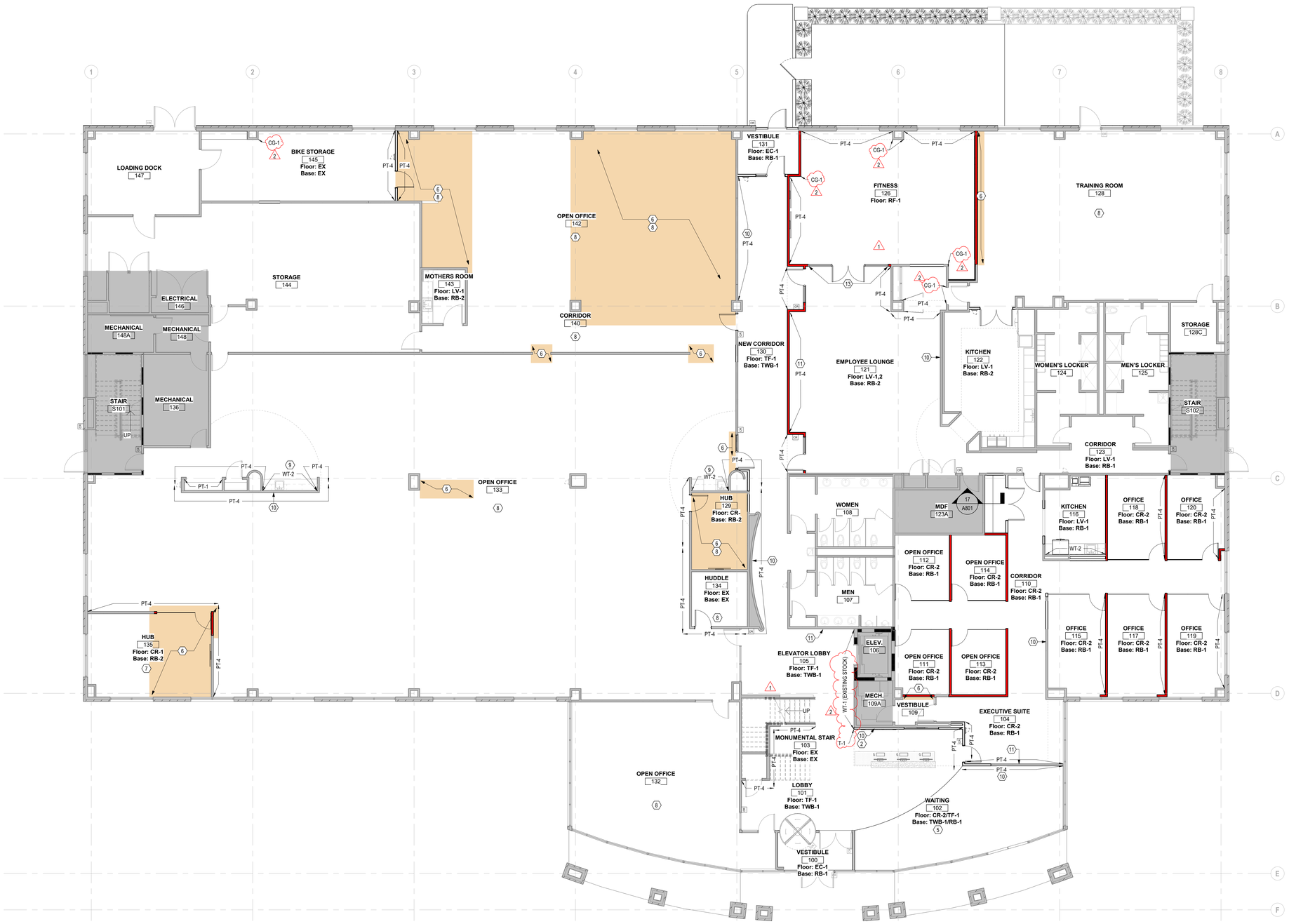
03/28/2025

25011.01

A801

CONSTRUCTION DOCUMENTS

FILE NAM: A:\CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 5/13/2025 9:34:58 AM
FILE INFO: Autodesk Docs://25011 CMHA Easton Office Renovation - R25/25011_CMHA Easton Office Renovation_ARCH_R25.rvt



1 PLAN LEVEL 01 - FINISHES
1/8" = 1'-0"

GENERAL NOTES - FINISH PLANS

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3. NO FINISH MATERIAL SUBSTITUTIONS WILL BE ACCEPTED EXCEPT IN THE SPECIFIC CIRCUMSTANCES ENUMERATED IN THE PROJECT MANUAL.
4. PAINTED HOLLOW METAL DOORS AND FRAMES TO BE PAINTED TO MATCH ADJACENT WALL COLOR UNLESS NOTED OTHERWISE. MATERIAL, FINISH AND COLOR INFORMATION FOR ALL OTHER DOORS AND FRAMES IS CONTAINED IN THE DOOR SCHEDULE AND ITS ASSOCIATED LEGENDS. IF WALLS ON OPPOSITE SIDES OF DOOR FRAME ARE DIFFERENT COLORS THE PAINT COLORS SHOULD BE SPLIT AT THE JAMB OF THE FRAME.
5. ALL VERTICAL TRANSITIONS BETWEEN DIFFERING WALL FINISHES ARE TO BE MADE AT INSIDE CORNERS (UNLESS NOTED OTHERWISE).
6. FLOORING MATERIAL DESIGNATED FOR STAIRS IS TO INCLUDE STAIR AND ALL ASSOCIATED TREADS, RISERS, LANDINGS, ETC. (UNLESS NOTED OTHERWISE).
7. PAINT DESIGNATED FOR METAL STAIR COMPONENTS IS TO INCLUDE ALL EXPOSED METAL COMPONENTS ASSOCIATED WITH THE STAIR SYSTEM ITSELF. ALL EXPOSED STRUCTURAL STEEL COMPONENTS SUPPORTING THE STAIR SYSTEM (UNLESS NOTED OTHERWISE), AND ALL EXPOSED METAL COMPONENTS OF THE HANDRAIL AND GUARDRAIL SYSTEMS (UNLESS NOTED OTHERWISE). UNDERSIDES OF STAIR RUNS AND LANDINGS ARE CONSIDERED "EXPOSED" IN ALL SITUATIONS.
8. FOR CLARITY, SOME FINISH INFORMATION HAS BEEN PRESENTED GRAPHICALLY IN THE FORM OF FINISH AND FLOORING PLANS. SHOULD THERE BE A DISCREPANCY BETWEEN THE FINISH SCHEDULE AND THESE PLANS, THE ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY. FOR THE PURPOSE OF BIDDING, INFORMATION DETAILED ON THE FINISH FLOOR PLANS AND FLOORING PLANS IS TO TAKE PRECEDENCE OVER THE FINISH SCHEDULE UNTIL FURTHER CLARIFICATION CAN BE GIVEN. FOR AREAS NOT SPECIFICALLY DETAILED ON THESE PLANS, THE FINISH SCHEDULE PERTAINS.
9. PAINT DESIGNATED FOR EXPOSED OVERHEAD STRUCTURE IS TO INCLUDE ALL EXPOSED COMPONENTS INCLUDING (BUT NOT EXCLUSIVE TO) DECKING, STRUCTURAL MEMBERS, MECHANICAL AND ELECTRICAL DELIVERY SYSTEMS, FIRE PROTECTION SYSTEMS (EXCLUDING SPRINKLER HEADS), AND ALL OTHER MISCELLANEOUS BUILDING SYSTEMS LOCATED OVERHEAD. EACH OF THE AFOREMENTIONED CATEGORIES IS TO INCLUDE ANY AND ALL ASSOCIATED SUPPORTS, FASTENERS, HANGERS, STRUTS, BRACES, BRACKETS, ETC.
10. WHERE RESILIENT BASE IS SPECIFIED (VINYL OR RUBBER) PROVIDE COVE PROFILE BASE AT ALL RESILIENT FLOORS AND STRAIGHT BASE FOR ALL CARPET AREAS (UNLESS OTHERWISE NOTED). HEIGHT AND COLOR TO BE AS INDICATED ON FINISH LEGEND.
11. REFER TO REFLECTED CEILING PLANS AND SPECIFICATION MANUAL FOR ALL CEILING MATERIAL AND FINISH INFORMATION.
12. ALL DRYWALL SOFFITS TO BE PAINTED FLAT CEILING WHITE UNLESS NOTED OTHERWISE ON CEILING PLANS.
13. CERAMIC WALL TILE TO EXTEND FULL WIDTH AND FULL HEIGHT FOR ANY AND ALL SCHEDULED TILED WALLS (UNLESS NOTED OTHERWISE).
14. FOR EPOXY OR INTUMESCENT PAINT COLOR REFER TO PAINT SCHEDULE NUMBERS.
15. WITHIN FINISH SCHEDULE CELLS: SLASH MARKS INDICATE DIFFERENCES IN FINISH MATERIAL WHILE COMMAS INDICATE DIFFERENCES IN PATTERN OR COLOR WITHIN A SPECIFIC MATERIAL.
16. APPROPRIATE METAL OR VINYL TRANSITION STRIPS MUST BE PROVIDED AT ALL FINISH MATERIAL FLOORING CHANGES. GENERAL CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL FLOORING TRANSITIONS AND AREAS IN WHICH FLOORING PATTERNS ARE SHOWN. SEE FLOOR FINISH PLANS, DETAILS AND NOTES FOR SPECIFIC INFORMATION.
17. WALL PAINT INDICATED FOR CURTAIN WALL LOCATIONS APPLIES TO ALL ASSOCIATED DRYWALL COMPONENTS (CURBS, HEADERS, BULKHEADS, ETC.) AND SHOULD NOT BE INTERPRETED AS APPLYING TO CURTAIN WALL COMPONENTS OR GLASS.
18. FLOORING CONTRACTOR(S) IS RESPONSIBLE FOR COORDINATING FINISHED FLOOR ELEVATIONS WITH ALL/ANY FLOOR MOUNTED COMPONENTS (RECEPTACLES, ACCESS PANELS, ETC.) SO THAT COMPONENTS ARE INTEGRATED AND FLUSH.
19. PAINT ALL GYPSUM BOARD WALLS ON FIRST FLOOR PAINT PT-1. THIS DOES NOT INCLUDE ROOMS 106, 109A, 123A, 136, 146, 148, 148A, S101, AND S102.

CODED NOTE LEGEND

1. ALIGN
2. SW-1: GREEN WALL ELEMENT; REFER TO ELEVATIONS, FINISH LEGEND AND SPECS FOR MORE INFORMATION.
3. BRANDED RAISED LETTER SIGNAGE/DIRECTORY.
4. NOT USED.
5. RB BASE AT CARPET, TILE BASE AT TILE.
6. PATCH WITH MATCHED/SALVAGED EXISTING CARPET TILE.
7. PATCH WITH MATCHING EXISTING FLOORING; ALTERNATE #3: REPLACE FLOORING WITH CR-2, SEE FINISH LEGEND FOR DETAILS.
8. ALTERNATE #3: REPLACE FLOORING (CARPET AND RESILIENT) WITH CR-1, SEE FINISH LEGEND FOR DETAILS.
9. ALTERNATE #7: REPLACE BACKSPLASH WITH TILE AS INDICATED.
10. BRANDING/ARTWORK PLACEHOLDER. KEEP WALL CLEAR OF DEVICES.
11. BRANDING/ARTWORK PLACEHOLDER. KEEP WALL CLEAR OF DEVICES. PROVIDE IN WALL BLOCKING.
12. USE OWNER'S EXISTING STOCK
13. DECORATIVE GLASS FILM; O.F.C.I.

#	DATE	CHANGE DESCRIPTION
1	4/30/2025	ADDENDUM #2
2	5/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:
LEVEL 01 - FINISH PLAN

03/28/2025
25011.01
A901
CONSTRUCTION DOCUMENTS

FILE NAME: A-CMHA EASTON RENOVATION
REVIT VERSION: 2025
PRINT DATE: 5/13/2025 9:35:02 AM
FILE PATH: Autodesk Docs://25011 CMHA Easton Office Renovation - R25/25011_CMHA Easton Office Renovation_ARCH_R25.rvt

LINE TYPE LEGEND

LINETYPE INDICATES EXISTING ELECTRICAL EQUIPMENT/DEVICES TO REMAIN.

LINETYPE INDICATES EXISTING ELECTRICAL EQUIPMENT/DEVICES TO BE REMOVED.

DEMOLITION NOTES

A. THE EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING, DOCUMENTATION AND FIELD OBSERVATIONS. ACTUAL CONDITIONS MAY VARY. CONTRACTOR SHALL FIELD VERIFY EXISTING WORK AND CONDITIONS, WHETHER SHOWN OR NOT, AND MAKE MINOR ADJUSTMENTS NECESSARY TO COMPLETE NEW WORK. IF EXISTING CONDITIONS ARE FOUND THAT PROHIBITS NEW WORK AS DIRECTED, NOTIFY THE ENGINEER IN WRITING FOR REDIRECTION AS REQUIRED.

B. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, AND WIRING DEVICES, ETC. SHOWN IN DARK/DASHED SHALL BE REMOVED. CABLING AND CONDUIT FROM DEVICES SHALL BE REMOVED COMPLETELY BACK TO SOURCE OR NEXT UPSTREAM EQUIPMENT TO REMAIN. MAINTAIN ALL EXISTING CABLING TO ITEMS THAT ARE TO REMAIN IN USE. PROVIDE CONDUIT AND CABLING TO PROVIDE FEED THROUGH SERVICE TO REMAINING EQUIPMENT.

C. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, AND WIRING DEVICES, ETC. SHOWN IN THIN LINES WITH SUBSCRIPT "E" ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY. KEEP IN OPERATION AS NECESSARY FOR A COMPLETE SYSTEM.

D. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, DATA AND WIRING DEVICES, ETC. SHOWN WITH SUBSCRIPT "REL" INDICATE DEVICE TO BE RELOCATED. REMOVE DEVICE AND STORE FOR FUTURE USE. SEE POWER AND LIGHTING PLANS FOR NEW LOCATIONS. MAINTAIN AND PROTECT DURING DEMOLITION AND CONSTRUCTION.

E. SEE ARCHITECTURAL DEMOLITION PLANS FOR WALLS AND CEILINGS TO BE REMOVED.

F. REMOVE ALL SWITCHES, RECEPTACLES, AND DATA/COMMUNICATIONS OUTLETS IN ALL WALLS TO BE REMOVED AND IN ALL AREAS WHERE NEW DEVICES ARE SHOWN.

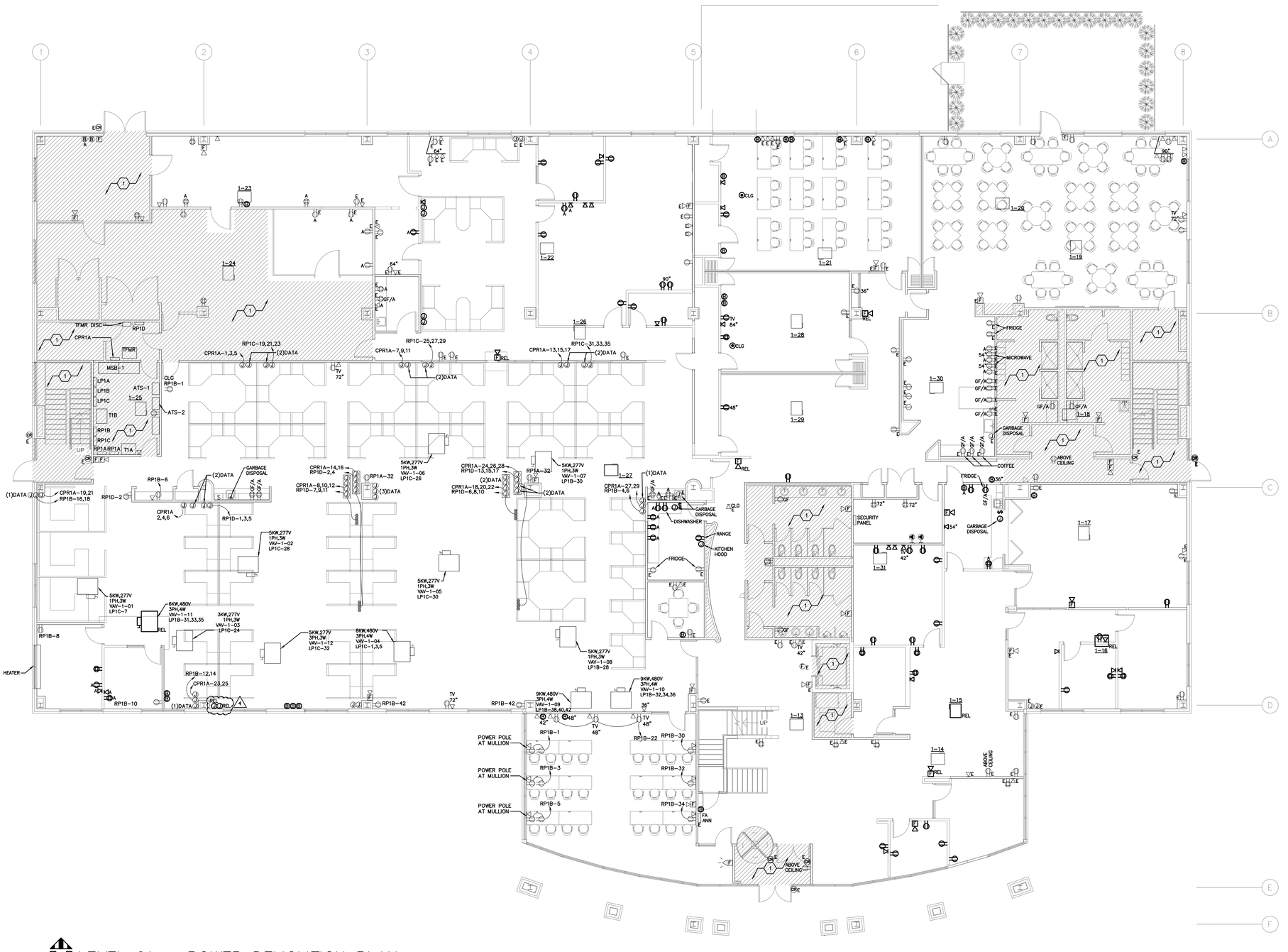
G. REFER TO HVAC, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ALL EQUIPMENT TO BE REMOVED BY OTHER TRADES. DISCONNECT & REMOVE ELECTRICAL CONNECTIONS TO EQUIPMENT DESIGNATED TO BE REMOVED BY OTHER TRADES.

H. ABANDONED OUTLET BOXES IN PLASTER OR MASONRY WALLS TO REMAIN SHALL BE CLOSED WITH BLANK COVER PLATES. DEVICES IN DRYWALL SHALL BE REMOVED AND PATCHED.

I. LOW VOLTAGE DEVICES SHOWN IN DARK/DASHED SHALL BE REMOVED. ALL LOW VOLTAGE CAT 6 TO BE COILED AND STORED ABOVE CEILING FOR FUTURE USE. MARK QUANTITIES OF CABLES STORED THIS WAY ON AS-BUILT DRAWINGS FOR OWNER'S REFERENCE. ALL OTHER CABLING FROM DEVICES SHALL BE REMOVED COMPLETELY BACK TO SOURCE OR NEXT UPSTREAM EQUIPMENT TO REMAIN. (4)

CODED NOTES

1. AREA IS NOT IN CONTRACT. ALL DEVICES IN THIS AREA ARE EXISTING TO REMAIN. KEEP IN OPERATION AS NEEDED.



LEVEL 01 – POWER DEMOLITION PLAN
SCALE: 1/8"=1'-0"

#	DATE	CHANGE DESCRIPTION
2	04/30/2025	ADDENDUM #2
4	05/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
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CMHA

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DRAWING TITLE:
LEVEL 01 - POWER DEMOLITION PLAN

ED101-25075.DWG
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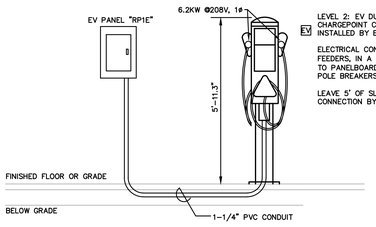
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
E.ROE	E.ROE	G.OWENS	25075

STATE OF OHIO
GREGORY S. OWENS
E-63408
PROFESSIONAL ENGINEER

03/31/2025
25011.01
ED101
CONSTRUCTION DOCUMENTS



LEVEL 2: EV DUAL HEAD CHARGER: CHARGEPOINT CT4021 FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

ELECTRICAL CONTRACTOR SHALL PROVIDE 2 FEEDERS, IN A SINGLE 1-1/4" CONDUIT BACK TO PANELBOARD AND PROVIDE (2) 40 AMP, 2 POLE BREAKERS.

LEAVE 5' OF SLACK FEEDERS FOR FINAL CONNECTION BY OTHERS.

EV CHARGING BOLLARD DETAIL
SCALE: NONE

GENERAL NOTES

A. THE EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING, DOCUMENTATION AND FIELD OBSERVATIONS. ACTUAL CONDITIONS MAY VARY. CONTRACTOR SHALL FIELD VERIFY EXISTING WORK AND CONDITIONS, WHETHER SHOWN OR NOT, AND MAKE MINOR ADJUSTMENTS NECESSARY TO COMPLETE NEW WORK. IF EXISTING CONDITIONS ARE FOUND THAT PROHIBITS NEW WORK AS DIRECTED, NOTIFY THE ENGINEER IN WRITING FOR REDIRECTION AS REQUIRED.

B. ALL DEVICES, FIXTURES, AND EQUIPMENT SHOWN ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE. SUCH ITEMS ARE LABELED WITH AN "E" OR NOTED AS EXISTING FOR ADDITIONAL CLARITY. MAINTAIN AND PROTECT DURING DEMOLITION AND CONSTRUCTION. IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR BECOMES FAMILIAR WITH EXISTING CONDITIONS IN FIELD PRIOR TO BIDDING.

C. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, AND WIRING DEVICES, ETC. SHOWN IN THIN LINES WITH SUBSCRIPT "E" ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY. KEEP IT AND ALL ASSOCIATED WIRING AND COMPONENTS IN OPERATION AS NECESSARY FOR A COMPLETE SYSTEM.

D. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, DATA AND WIRING DEVICES, ETC. SHOWN WITH SUBSCRIPT "REL" INDICATE RELOCATED DEVICE. EXTEND CABLING AS NECESSARY FOR A COMPLETE SYSTEM. COORDINATE FINAL LOCATION WITH ARCHITECT AND LOW VOLTAGE CONTRACTOR.

E. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.

F. VERIFY AND COORDINATE THE POWER CONNECTION REQUIREMENTS FOR EACH PIECE OF EQUIPMENT TO BE INSTALLED. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE PROPER LOCATION OF THE DISCONNECT OR OUTLET TO AVOID CONFLICTS.

GENERAL NOTES

G. ALL HOMERUNS FOR POWER CIRCUITS SHALL USE MINIMUM #12 AWG WIRING AND COMPLY WITH VOLTAGE DROP REQUIREMENTS.

H. ALL WIRING SHALL BE RUN IN CONDUIT, EMT OR RIGID. MINIMUM CONDUIT SIZE SHALL BE 3/4". MC CABLE MAY BE USED ONLY IN CONCEALED LOCATIONS AND SHALL BE PROPERLY SUPPORTED. A MAXIMUM LENGTH OF 6'-0" OF FLEXIBLE CONDUIT MAY BE USED FOR FINAL CONNECTIONS ONLY (FROM JUNCTION BOXES TO LIGHT FIXTURES, APPLIANCES, MOTORS, ETC.). TYPE BX, ROMEX, ARMORED CABLE (AC) OR SIMILAR SHALL NOT BE ACCEPTABLE.

I. ALL CONDUITS AND ALL CIRCUITS SHALL BE PROVIDED WITH AN INSULATED GREEN GROUNDING CONDUCTOR.

J. CONDUITS SHALL BE: MOUNTED AS HIGH AS POSSIBLE WHERE RUN OVERHEAD, ROUTED TO AVOID CONFLICTS WITH OTHER WORK, PROVIDED WITH WIDE SWEEPING ELBOWS AND BUSHED ENDS TO HELP PROTECT THE CABLE THAT IS PULLED THROUGH IT.

K. COORDINATE THE LOCATIONS OF NEW WORK AND ROUTING OF NEW CONDUITS TO AVOID CONFLICTS WITH THE EXISTING CONDITIONS AND OTHER NEW WORK.

L. COORDINATE LOCATION OF LANDLORD'S UNDERGROUND UTILITIES PRIOR TO TRENCHING.

M. ALL RECEPTACLES LOCATED IN FOOD PREPARATION AND KITCHEN AREAS, OR WITHIN 6'-0" OF THE OUTSIDE EDGE OF A SINK, OR INDOOR WET LOCATIONS, SHALL BE GFCI PROTECTED PER NEC 210.8. SUCH LOCATIONS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO: THE BACK-OF HOUSE AND FOOD PREPARATION AREAS, COOKLINE AND DISH WASHING. RECEPTACLES LOCATED BEHIND EQUIPMENT OR OTHERWISE INACCESSIBLE LOCATIONS SHALL BE GFCI PROTECTED AT THE CIRCUIT BREAKER.

N. ALL DUPLEX CONVENIENCE RECEPTACLES IN PUBLICLY ACCESSIBLE AREAS SHALL BE TAMPER RESISTANT TYPE.

O. FIRE ALARM DEVICES SHOWN FOR BIDDING PURPOSES ONLY. ELECTRICAL CONTRACTOR TO RETAIN THE SERVICES OF A FIRE ALARM VENDOR TO SUBMIT FIRE ALARM PERMIT AND CONSTRUCTION DRAWINGS. PRIOR TO SUBMITTING THE FIRE ALARM DRAWINGS FOR PERMITTING, CONTRACTOR SHALL SUBMIT TO THE ENGINEER ONE COPY FOR REVIEW. FIRE ALARM DRAWINGS SHALL INCLUDE ALL REQUIRED EQUIPMENT CUT SHEETS BATTERY CALCULATIONS, VOLTAGE AND WIRE SIZING CALCULATIONS, SCALED FLOOR PLANS WITH NEW AND EXISTING DEVICE LOCATIONS AND A RISER DIAGRAM WHERE APPLICABLE. UPON REVIEW BY THE ENGINEER AND ALL CORRECTIONS TO THE DRAWINGS HAVE BEEN MADE, THIS CONTRACTOR SHALL OBTAIN THE FIRE ALARM PERMIT AND COORDINATE ~~RC~~ CFE SAFETY INSPECTIONS FOR TIMELY OCCUPANCY. EXISTING FIRE ALARM SYSTEM IS SIEMENS FIREFINDER.

P. REUSE EXISTING UNUSED PREVIOUSLY COILED CAT6 CABLE WHERE ABLE FOR A COMPLETE AND OPERATIONAL SYSTEM. (4)

CODED NOTES ⬡

1. AREA IS NOT IN CONTRACT. ALL DEVICES IN THIS AREA ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. KEEP IN OPERATION AS NEEDED.
2. TIE RECEPTACLE INTO EXISTING CIRCUIT AS SHOWN.
3. RELOCATE DEVICE TO NEW LOCATION SHOWN. EXTEND CABLING AS NECESSARY FOR A COMPLETE SYSTEM. COORDINATE FINAL LOCATION WITH ARCHITECT AND LOW VOLTAGE CONTRACTOR.
4. REFER TO DETAIL A ON SHEET E301 FOR ADDITIONAL INFORMATION.
5. REFER TO DETAIL B ON SHEET E301 FOR ADDITIONAL INFORMATION.
6. ROUGH-IN FOR CARD READER. REFER TO TELECOM SHEETS FOR ADDITIONAL INFORMATION.
7. TRANSFORMER SHALL BE FLOOR MOUNTED ON SLAB. COORDINATE MOUNTING WITH OWNER/ARCHITECT. REFER TO EXISTING RISER DIAGRAM ON SHEET E301 FOR ADDITIONAL INFORMATION.
8. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN FOR DUAL HEAD PEDESTAL MOUNTED EV CHARGING STATION. EXTEND 1-1/4" CONDUIT BACK TO EV PANEL. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN. REFER TO DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.
9. EXTEND TO INTEGRAL CIRCUIT BREAKER OR DISCONNECT SWITCH. INSTALL CONDUIT AND WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
10. RELOCATED FAN POWERED VAV BOX. 277V-1Ø, 20A/2P. EXTEND EXISTING WIRING, CONDUIT, AND ALL ASSOCIATED ACCESSORIES AS NEEDED FOR A COMPLETE SYSTEM. RELOCATE EXISTING FIRE ALARM SYSTEM ADDRESSABLE MODULE FOR UNIT SHUTDOWN UPON ALARM.
11. PROVIDE WIRING AND CONDUIT TO FURNITURE. PROVIDE TWO (2) 4" SQUARE JUNCTION BOX FOR THE POWER AND ONE (1) 4-11/16" DEEP SQUARE JUNCTION BOX FOR THE COMMUNICATIONS CONNECTIONS TO THE FURNITURE SYSTEM. FLUSH MOUNT THE WALL MOUNTED JUNCTION BOX AT 18" AFF. COORDINATE FINAL LOCATION AND MOUNTING HEIGHT WITH THE FURNITURE CONTRACTOR PRIOR TO ROUGH-IN. EXTEND TWO (2) 1.25" CONDUIT FROM THE COMMUNICATION JUNCTION BOX ABOVE THE CEILING. THE ELECTRICAL CONTRACTOR SHALL MAKE THE FINAL CONNECTION TO THE FURNITURE SYSTEM AND POWER JUNCTION BOX. CIRCUIT FROM PANELBOARD "CPR1A" TO PROVIDE POWER TO THE WORKSTATION PC RECEPTACLE. CIRCUIT FROM PANELBOARD "RP1D" TO PROVIDE POWER TO THE CONVENIENCE RECEPTACLE.
12. PROVIDE COMBINATION POWER AND COMMUNICATION FLOOR BOX. FLOOR BOX SHALL BE EQUAL TO WIREMOLD EVOLUTION SERIES EFB4S5-OG WITH FLUSH STYLE DIE-CAST ALUMINUM COVER AND WIREMOLD EFBB-MB MOUNTING BRACKET. COORDINATE THE FINAL LOCATION WITH THE ARCHITECT AND GENERAL TRADES CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE WITH TWO (2) 20 AMP DEVICES AND STUB TWO (2) 1" COMMUNICATION CONDUITS FROM EACH FLOOR BOX UNDER THE FLOOR, EXTEND AND TERMINATE IN AN ACCESSIBLE LOCATION. PROVIDE WIREMOLD EFB10-B BLANK DEVICE PLATE FOR EMPTY GANG LOCATIONS.
13. RELOCATED FAN POWERED VAV BOX. 277V-1Ø, 20A/3P. EXTEND EXISTING WIRING, CONDUIT, AND ALL ASSOCIATED ACCESSORIES AS NEEDED FOR A COMPLETE SYSTEM. RELOCATE EXISTING FIRE ALARM SYSTEM ADDRESSABLE MODULE FOR UNIT SHUTDOWN UPON ALARM.
14. PROVIDE COMBINATION POWER AND COMMUNICATION FLOOR BOX FOR FURNITURE FEED. FLOOR BOX SHALL BE EQUAL TO WIREMOLD RFBA SERIES WITH FURNITURE FEED ALUMINUM COVER. COORDINATE THE FINAL LOCATION WITH THE ARCHITECT AND GENERAL TRADES CONTRACTOR PRIOR TO ROUGH-IN. EXTEND TWO (2) 1.25" COMMUNICATION CONDUITS FROM EACH FLOOR BOX TO ABOVE THE CEILING. DO NOT DAISY CHAIN THE COMMUNICATION CONDUITS. CIRCUIT FROM PANELBOARD "CPR1A" TO PROVIDE POWER TO THE WORKSTATION PC RECEPTACLE. CIRCUIT FROM PANELBOARD "RP1D" TO PROVIDE POWER TO THE CONVENIENCE RECEPTACLE.
15. PROVIDE WIRING DEVICES WITHIN RECEPTIONIST DESK AS SHOWN – EXTEND MC CABLE HORIZONTALLY THROUGH THE FRAMING MEMBERS BETWEEN DEVICES SHOWN.
16. EC SHALL INSTALL NEW RECEPTACLE IN SECOND FLOOR MDF ROOM 214 AT THIS LOCATION FOR ACCESS CONTROL EQUIPEMENT. PROVIDE 20A-1P CIRCUIT BREAKER FOR THIS DEVICE. INSTALL CIRCUIT BREAKER INTO PANEL UPA, LOCATED IN THE SAME ROOM, UTILIZING THE FIRST AVAILABLE SPACE. TIE CIRCUIT FROM SHOWN DEVICE TO BREAKER INSTALLED THIS WAY. REFER TO TELECOM SHEETS FOR ADDITIONAL INFORMATION.
17. MODIFY POWER POLE TO PROVIDE HARDWIRE CONNECTION FOR FURNITURE SYSTEMS. (4)

#	DATE	CHANGE DESCRIPTION
2	04/30/2025	ADDENDUM #2
4	05/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
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FOR
CMHA

Moody Nolan
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DRAWING TITLE:
LEVEL 01 - POWER PLAN

E101-25075.DWG
PRATER
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6130 Wilcox Road (614) 766 4896
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DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
E.ROE	E.ROE	G.OWENS	25075

STATE OF OHIO · GREGORY S. OWENS · E-63408 · REGISTERED PROFESSIONAL ENGINEER

03/31/2025
25011.01
E101
CONSTRUCTION DOCUMENTS

LEVEL 01 – POWER PLAN
SCALE: 1/8"=1'-0"

Panel ID: RP1B — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
EXISTING	20/1	EX	1.000	1	A	2	0.960	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	3	B	4	1.440	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	5	C	6	1.800	EX	20/1	EXISTING
REC - OFFICE 117,119	**20/1**	EX	1.080	7	A	8	1.800	EX	20/1	EXISTING
REC - RM 102,104,110	**20/1**	EX	0.900	9	B	10	1.800	EX	20/1	EXISTING
REC - OFFICE 115,117	**20/1**	EX	0.900	11	C	12	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	0.720	13	A	14	1.000	EX	20/1	EXISTING
REC - OFFICE 119,120	**20/1**	EX	0.900	15	B	16	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	17	C	18	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	19	A	20	1.000	EX	20/1	EXISTING
COPIER - RM 116	**20/1**	EX	0.360	21	B	22	1.000	EX	20/1	EXISTING
GD - RM 116	**20/1**	EX	1.200	23	C	24	1.000	EX	20/1	EXISTING
REC - RM 116	**20/1**	EX	0.360	25	A	26	1.000	EX	20/1	EXISTING
EXISTING	20/2	EX	0.750	27	B	28	1.000	EX	20/1	EXISTING
-	-	EX	0.750	29	C	30	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	31	A	32	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	33	B	34	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.000	35	C	36	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.200	37	A	38	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.200	39	B	40	1.000	EX	20/1	EXISTING
EXISTING	20/1	EX	1.200	41	C	42	1.000	EX	20/1	EXISTING

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
29.1 KVA — Phase A: 20.9 KVA — 173.8 AMPS — HT - Handle Tie
80.7 AMPS — Phase B: 21.1 KVA — 175.4 AMPS — LO - Lock-On Device
Phase C: 21.4 KVA — 178.0 AMPS — GF - GND Fault CKT Interrupter
Total Demand Load — Total: 63.3 KVA — EX - Existing to Remain
166.8 AMPS — SH - Shunt Trip Breaker

Panel ID: RP1C — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) SUB FEED	100/1	EX	1.080	1	A	2	0.960	EX	20/1	EXISTING
-	100/1	EX	1.080	3	B	4	1.440	EX	20/1	EXISTING
-	100/1	EX	1.080	5	C	6	1.800	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	7	A	8	1.800	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	9	B	10	1.800	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	11	C	12	1.200	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	13	A	14	1.200	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	15	B	16	1.200	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	17	C	18	1.080	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	19	A	20	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	21	B	22	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	23	C	24	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	25	A	26	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	27	B	28	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	29	C	30	0.775	EX	20/1	EXISTING
REC - OFFICE 111,113	**20/1**	EX	1.080	31	A	32	0.775	EX	20/1	EXISTING
EXISTING	20/1	EX	1.080	33	B	34	0.775	EX	20/1	EXISTING
REC - OFFICE 111,112	**20/1**	EX	1.080	35	C	36	0.775	EX	20/1	EXISTING
REC - OFFICE 112,114	**20/1**	EX	0.900	37	A	38	0.775	EX	20/1	EXISTING
REC - OFFICE 118,120	**20/1**	EX	1.080	39	B	40	0.775	EX	20/1	EXISTING
REC - RM 121	**20/1**	EX	0.900	41	C	42	0.900	EX	**20/1**	**REC - RM 121**

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
31.0 KVA — Phase A: 14.4 KVA — 120.3 AMPS — HT - Handle Tie
86.1 AMPS — Phase B: 15.1 KVA — 125.8 AMPS — LO - Lock-On Device
Phase C: 12.9 KVA — 107.4 AMPS — GF - GND Fault CKT Interrupter
Total: 42.4 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

Panel ID: RP1D — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) FURNITURE	20/3	EX	0.775	1	A	2	0.775	EX	20/2	(EX) FURNITURE
(EX) FURNITURE	-	EX	0.775	3	B	4	0.775	EX	-	(EX) FURNITURE
(EX) FURNITURE	-	EX	0.775	5	C	6	0.775	EX	20/3	(EX) FURNITURE
(EX) FURNITURE	20/3	EX	0.775	7	A	8	0.775	EX	-	(EX) FURNITURE
(EX) FURNITURE	-	EX	0.775	9	B	10	0.775	EX	-	(EX) FURNITURE
(EX) FURNITURE	-	EX	0.775	11	C	12	0.775	EX	20/2	**FURNITURE**
(EX) FURNITURE	20/3	EX	0.775	13	A	14	0.775	EX	-	-
(EX) FURNITURE	-	EX	0.775	15	B	16	0.000	EX	20/3	(EX) SPARE
(EX) FURNITURE	-	EX	0.775	17	C	18	0.000	EX	-	-
FURNITURE	20/2	EX	0.775	19	A	20	0.000	EX	-	-
-	-	EX	0.775	21	B	22	0.775		**20/2**	**FURNITURE**
REC - CORR 130	**20/1**		0.360	23	C	24	0.775		-	-
REC - LOBBY 102	**20/1**		0.540	25	A	26	0.775		**20/3**	**FURNITURE**
SPARE	**20/1**		0.000	27	B	28	0.775		-	-
~~REC - LOBBY 102~~	**20/1**		0.720	29	C	30	0.775		-	-
SPACE	-		0.000	31	A	32	0.000		-	SPACE
SPACE	-		0.000	33	B	34	0.000		-	SPACE
SPACE	-		0.000	35	C	36	0.000		-	SPACE
SPACE	-		0.000	37	A	38	0.000		-	SPACE
SPACE	-		0.000	39	B	40	0.000		-	SPACE
SPACE	-		0.000	41	C	42	0.000		-	SPACE

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
19.4 KVA — Phase A: 6.7 KVA — 56.2 AMPS — HT - Handle Tie
54.0 AMPS — Phase B: 6.2 KVA — 51.7 AMPS — LO - Lock-On Device
Phase C: 6.5 KVA — 54.2 AMPS — GF - GND Fault CKT Interrupter
Total: 19.4 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

Panel ID: CPR1A — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.C.B. — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) FURNITURE	20/3	EX	1.800	1	A	2	1.800	EX	20/3	(EX) FURNITURE
-	-	EX	1.800	3	B	4	1.800	EX	-	-
-	-	EX	1.800	5	C	6	1.800	EX	-	-
(EX) FURNITURE	20/3	EX	1.800	7	A	8	1.800	EX	20/3	(EX) FURNITURE
-	-	EX	1.800	9	B	10	1.800	EX	-	-
-	-	EX	1.800	11	C	12	1.350	EX	-	-
(EX) FURNITURE	20/3	EX	1.800	13	A	14	1.350	EX	20/2	(EX) FURNITURE
-	-	EX	1.800	15	B	16	1.350	EX	-	-
-	-	EX	1.800	17	C	18	1.800	EX	20/3	(EX) FURNITURE
(EX) FURNITURE	20/2	EX	0.960	19	A	20	1.800	EX	-	-
-	-	EX	0.480	21	B	22	1.800	EX	-	-
(EX) FURNITURE	20/2	EX	0.960	23	C	24	1.800	EX	20/3	(EX) FURNITURE
-	-	EX	0.960	25	A	26	1.800	EX	-	-
(EX) FURNITURE	20/2	EX	1.440	27	B	28	1.800	EX	-	-
-	-	EX	0.960	29	C	30	0.775		**20/2**	**FURNITURE**
FURNITURE	**20/2**		0.775	31	A	32	0.775		-	-
-	-		0.775	33	B	34	0.775		**20/2**	**FURNITURE**
FURNITURE	**20/3**		0.775	35	C	36	0.775		-	-
-	-		0.775	37	A	38	0.000		-	SPACE
-	-		0.775	39	B	40	0.000		-	SPACE
SPACE	-		0.000	41	C	42	0.000		-	SPACE

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
58.3 KVA — Phase A: 18.2 KVA — 151.6 AMPS — HT - Handle Tie
161.8 AMPS — Phase B: 18.2 KVA — 151.6 AMPS — LO - Lock-On Device
Phase C: 16.4 KVA — 136.6 AMPS — GF - GND Fault CKT Interrupter
Total: 52.8 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

NOTE: BREAKERS SHOWN IN BOLD ARE NEW

Panel ID: RP1A — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.C.B. — Main Size: 150 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) DOWNLIGHTS	20/1	EX	0.850	1	A	2	0.360	EX	20/1	(EX) FA PANEL
(EX) REC BATHROOM	20/1	EX	0.720	3	B	4	1.000	EX	20/1	EXISTING
SPARE	20/1	EX	0.000	5	C	6	1.250	EX	30/2	(EX) GENERATOR
(EX) EX FAN	20/1	EX	0.360	7	A	8	1.250	EX	-	(EX) GENERATOR
(EX) REC ELEV PIT	20/1	EX	0.360	9	B	10	0.750	EX	20/1	(EX) DOWNLTS
(EX) ELEV EQUIP	20/1	EX	1.000	11	C	12	0.750	EX	20/1	(EX) DOWNLTS
(EX) ELEV CAB	20/1	EX	0.850	13	A	14	0.750	EX	20/1	(EX) DOWNLTS
(EX) LTS-LOBBY TRACK	20/1	EX	0.850	15	B	16	0.750	EX	20/1	(EX) DOWNLTS
(EX) LTS-STAIR	20/1	EX	1.000	17	C	18	0.750	EX	20/1	(EX) DOWNLTS
(EX) LTS-COORIDOR	20/1	EX	1.000	19	A	20	0.750	EX	20/1	(EX) DOWNLTS
(EX) LTS-COFFEE	20/1	EX	1.000	21	B	22	0.540	EX	20/1	**REC - CONF 135**
(EX) MICROWAVE	20/1	EX	1.200	23	C	24	0.540	EX	20/1	**REC - CONF 129**
(EX) COPIER	20/1	EX	0.360	25	A	26	0.000	EX	20/1	**SPARE**
(EX) REC-DOCK	20/1	EX	0.360	27	B	28	0.000	EX	20/1	**SPARE**
(EX) REC-RM 139	20/1	EX	0.720	29	C	30	0.000	EX	20/1	(EX) DOWNLTS
(EX) REC-RM 139	20/1	EX	0.720	31	A	32	0.000	EX	20/1	(EX) COPIER
(EX) DED REC 141	20/1	EX	0.360	33	B	34	0.000	EX	20/1	(EX) REC-CORR 109
(EX) DED REC 141	20/1	EX	0.360	35	C	36	0.000	EX	20/1	(EX) REC-CONF 117
(EX) DED REC 141	20/1	EX	0.360	37	A	38	0.000	EX	20/1	(EX) REC-CONF 117
(EX) 1ST FL HW TANK	30/2	EX	1.750	39	B	40	0.750	EX	20/1	(EX) LTS-102,122
-	-	EX	1.750	41	C	42	0.750	EX	20/1	(EX) DOWNLTS

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
29.8 KVA — Phase A: 14.4 KVA — 119.6 AMPS — HT - Handle Tie
82.6 AMPS — Phase B: 15.9 KVA — 132.4 AMPS — LO - Lock-On Device
Phase C: 16.6 KVA — 138.1 AMPS — GF - GND Fault CKT Interrupter
Total Demand Load — Total: 46.8 KVA — EX - Existing to Remain
119.3 AMPS — SH - Shunt Trip Breaker

Panel ID: B — Voltage: 208 / 120 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 150 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
~~(EX) SIGN~~	~~20/1~~	~~EX~~	~~1.200~~	1	A	2	0.960	EX	20/1	(EX) NORTH BASE
CARD READER	20/1	EX	0.200	3	B	4	1.440	EX	20/1	(EX) NORTH BASE
CARD READER	20/1	EX	0.200	5	C	6	1.800	EX	20/1	(EX) COPIER
~~(EX) REC~~	~~20/1~~	~~EX~~	~~0.720~~	7	A	8	1.800	EX	20/1	**TREADMILL - RM 126**
(EX) REC	20/1	EX	0.720	9	B	10	1.800	EX	20/1	**TREADMILL - RM 126**
(EX) REC	20/1	EX	0.720	11	C	12	0.600	EX	20/1	**ELLIPTICAL - RM 126**
(EX) WATER HEATER	40/2	EX	1.250	13	A	14	0.600	EX	20/1	**STAIR MACH. - RM 126**
-	-	EX	1.250	15	B	16	0.360	EX	20/1	**REC - FITNESS 126**
SPARE	50/2	EX	0.000	17	C	18	~~0.900~~	~~EX~~	~~20/1~~	~~REC - FITNESS 126~~
-	-	EX	0.000	19	A	20	0.200	EX	20/1	**CARD READER**
SPARE	20/1	EX	0.000	21	B	22	0.200	EX	20/1	**CARD READER**
SPARE	20/1	EX	0.000	23	C	24	~~0.000~~	~~EX~~	~~20/1~~	~~(EX) LTS CONTROL~~

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
14.0 KVA — Phase A: 13.5 KVA — 112.3 AMPS — HT - Handle Tie
38.9 AMPS — Phase B: 12.7 KVA — 105.6 AMPS — LO - Lock-On Device
Phase C: 10.7 KVA — 89.4 AMPS — GF - GND Fault CKT Interrupter
Total: 36.9 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

Panel ID: CPL2A — Voltage: 480 / 277 — Panel Type: GE A SERIES
Location: ELEC RM 244 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.C.B. — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) LTS - STAIRS	20/1	EX	2.200	1	A	2	0.000	EX	20/1	(EX)LTS - 2ND FLR BATH
(EX)LTS - 1ST FLR BATH	20/1	EX	2.200	3	B	4	0.000			SPACE
LTS - 1ST FLR EM	20/1	EX	1.380	5	C	6	0.000			SPACE
(EX) LTS - 2ND FLR EM	20/1	EX	2.200	7	A	8	0.000			SPACE
(EX) LTS - 2ND FLR EM	20/1	EX	2.200	9	B	10	0.000			SPACE
(EX) LTS - 2ND FLR EM	20/1	EX	2.200	11	C	12	0.000			SPACE
(EX) LTS - 2ND FLR EM	20/1	EX	2.200	13	A	14	0.000			SPACE
SPACE		EX	0.000	15	B	16	0.000			SPACE
SPACE		EX	0.000	17	C	18	0.000			SPACE
SPACE		EX	0.000	19	A	20	0.000			SPACE
SPACE		EX	0.000	21	B	22	0.000			SPACE
SPACE		EX	0.000	23	C	24	0.000			SPACE
SPACE		EX	0.000	25	A	26	0.000			SPACE
SPACE		EX	0.000	27	B	28	0.000			SPACE
SPACE		EX	0.000	29	C	30	0.000			SPACE
(EX) UPS		80/3	0.000	31	A	32	0.000			SPACE
-		-	0.000	33	B	34	0.000			SPACE
-	-	-	0.000	35	C	36	0.000			SPACE
(EX) XFMR TC2A	-	110/3	0.000	37	A	38	0.000		-	**UNUSED SPACE**
-	-	-	0.000	39	B	40	0.000		-	**UNUSED SPACE**
-	-	-	0.000	41	C	42	0.000		-	**UNUSED SPACE**

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
18.2 KVA — Phase A: 6.6 KVA — 23.8 AMPS — HT - Handle Tie
21.9 AMPS — Phase B: 4.4 KVA — 15.9 AMPS — LO - Lock-On Device
Phase C: 3.6 KVA — 12.9 AMPS — GF - GND Fault CKT Interrupter
Total: 14.6 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

Panel ID: LP1A — Voltage: 480 / 277 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 600 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
(EX) TIME CLOAD PHOTC	20/1	EX	0.775	1	A	2	0.775	EX	20/2	(EX) R.V. PLUG
(EX) POLE LTS	30/1	EX	0.775	3	B	4	0.775	EX	-	-
(EX) POLE LTS	20/1	EX	0.775	5	C	6	2.500	EX	20/1	(EX) OFFICE LTS
(EX) POLE LTS	20/1	EX	0.775	7	A	8	2.500	EX	20/1	(EX) OPEN OFFICE LTS
(EX) CANOPY LTS	20/1	EX	0.775	9	B	10	3.275	EX	20/1	**LTS - NORTH OFFICE**
CUH-1	**25/1**		5.000	11	C	12	0.200	EX	20/1	**EF-1**
(EX) GND MTD FLOODS	201	EX	0.775	13	A	14	3.275	EX	20/1	**LTS - SOUTH OFFICE**
SPACE			0.000	15	B	16	0.000	EX	20/1	(EX) SPARE
SPACE			0.000	17	C	18	1.500	EX	30/2	(EX) WH-1
SPACE			0.000	19	A	20	1.500	EX	-	-
SPACE			0.000	21	B	22	0.775			SPACE
SPACE			0.000	23	C	24	0.775		-	SPACE
SPACE			0.000	25	A	26	0.000		-	SPACE
SPACE	-		0.000	27	B	28	2.200	EX	30/2	(EX) POLE LTS
SPACE	-		0.000	29	C	30	2.200	EX	-	-
XFMR 75KVA	**100/3**		9.360	31	A	32	0.000		-	SPACE
-	-		9.360	33	B	34	0.000		-	SPACE
-	-		6.240	35	C	36	0.000		-	SPACE
(EX) XFMR 75KVA	110/3	EX	0.000	37	A	38	0.000		-	UNUSED SPACE
-	-	EX	0.000	39	B	40	0.000		-	UNUSED SPACE
-	-	EX	0.000	41	C	42	0.000		-	UNUSED SPACE

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
35.9 KVA — Phase A: 19.7 KVA — 71.2 AMPS — HT - Handle Tie
43.2 AMPS — Phase B: 17.9 KVA — 64.7 AMPS — LO - Lock-On Device
Phase C: 19.2 KVA — 69.3 AMPS — GF - GND Fault CKT Interrupter
Total: 56.9 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

FIXTURE SCHEDULE

NOTE : FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS: CL–CEILING MOUNTED; S–STEM SUSPENDED; W–WALL MOUNTED; R–CEILING RECESSED; WR–WALL RECESSED; CV–COVE MOUNTED; UC–UNDER CABINET; RF–ROOF MOUNTED; P–POST; GR–GROUND; H–MOUNTED IN HOOD; C–CHAIN MOUNTED.

FIXTURE NUMBER	DESCRIPTION	MANUFACTURER (EQUALS)	CATALOG NUMBER	LAMPS NUMBER	REMARKS
R1	2'X2' RECESSED LED WITH 3307 LUMENS, 0–10V DIMMING AND 3500K COLOR TEMPERATURE.	METALUX (LSI INDUSTRIES, LITHONIA)	22FP3235C	(1) 29.2W LED (INCLUDED)	
R1E	SAME AS "R1" BUT WITH EMERGENCY BATTERY.	METALUX (LSI INDUSTRIES, LITHONIA)	22FP3235C–EL10W	(1) 29.2W LED (INCLUDED)	
R2	2'X4' RECESSED LED WITH 4000 LUMENS, 0–10V DIMMING AND 3500K COLOR TEMPERATURE.	LITHONIA (LSI INDUSTRIES, METALUX)	2BLT4 30L ADP GZ10 LP830	(1) 22.5W LED (INCLUDED)	
R2E	SAME AS "R2" BUT WITH EMERGENCY BATTERY.	LITHONIA (LSI INDUSTRIES, METALUX)	2BLT4 30L ADP GZ10 LP830 EL14L	(1) 22.5W LED (INCLUDED)	
R3	6" ROUND DOWNLIGHT WITH 3500 LUMENS, 0–10 DIMMING AND 3500K COLOR TEMPERATURE	COOPER LIGHTING (LITHONIA, METALUX)	HC635D010–HM63040835–61	(1) 33.7W LED (INCLUDED)	
R3E	SAME AS "R3" BUT WITH EMERGENCY BATTERY.	COOPER LIGHTING (LITHONIA, METALUX)	HC635D010REM7–HM63040835–61	(1) 33.7W LED (INCLUDED)	
S1	4' STRIP LIGHT WITH 400 LUMENS PER FOOT, 0–10V DIMMING, AND 3500K COLOR TEMPERATURE	PEERLESS (LITHONIA, METALUX)	SQMS LSL 4FT MSL4 80CRI 35K 400LMF DARK ZT 277V SCT	(1) 4.8W/FT LED (INCLUDED)	
S2	12" GLOBE PENDANT WITH 1800 LUMENS, 0–10V DIMMING AND 3000K COLOR TEMPERATURE	VISA LIGHTING (OR APPROVED ALTERNATE)	OP2130 SOLIDCAP I30K(H) MVOLT XX FRST	(1) 27W LED (INCLUDED)	FINISH TO BE BLACK. VERIFY CABLE LENGTH WITH ARCHITECT/OWNER.
S3	CUSTOM LENGTH STRIP FIXTURE WITH 3500 LUMENS, 0–10V DIMMING AND 3500K COLOR TEMPERATURE	FOCAL POINT (LITHONIA, METALUX)	FSM2BS–BWBW–625DN–250UP–35K–1C–UNV–LD1	(1) 8W/FT LED (INCLUDED)	VERIFY CABLE LENGTH WITH ARCHITECT/OWNER. SEE FLOOR PLANS FOR LENGTH OF FIXTURE.
W1E	WALL MOUNTED EGRESS FIXTURE	LITHONIA (METALUX, CURRENT)	WDGE1 LED P1 30K 80CRI VW MVOLT E4WH	(1) 4W LED (INCLUDED)	MOUNT ABOVE EGRESS DOOR
EX1	RECESSED EDGE LIT EXIT SIGN SINGLE FACE	COMPASS (SURE LITES)	CELR1RN	LED (INCLUDED)	REFER TO FLOOR PLANS FOR ARROWS

NOTE: VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH–IN.

LIGHTING CONTROL NOTES

1. ENCLOSED OFFICES SHALL BE MANUAL ON, AUTO OFF, & MANUAL DIM.
2. CONFERENCE, MEETING, MULTIPURPOSE, CLASSROOM, LECTURE & TRAINING ROOMS SHALL BE MANUAL ON, AUTO OFF, & MANUAL DIM.
3. AUTOMATIC SHUTOFF IS NOT REQUIRED FOR SPACES WHERE AUTOMATIC SHUTOFF WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS (INCLUDING STAIRWELLS, ELECTRICAL ROOMS, MECHANICAL ROOMS).
4. ALL OTHER SPACES SHALL BE MANUAL ON, AUTO OFF, UNLESS NOTED/SHOWN OTHERWISE. REFER TO LIGHTING CONTROL LEGEND FOR DEVICE TYPES & ASSOCIATED CONTROL SEQUENCE.
5. POWER PACKS & WIRING ARE SHOWN ON THE DRAWINGS FOR SPECIFIC CIRCUITING & SWITCHING, EXCEPT WHEN CONTROL INTENT IS CLEAR (EX.–BOUND BY A ROOM). ALL SWITCH CONTROLS & POWER PACKS SHALL BE FURNISHED & INSTALLED AS REQUIRED. IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE & FUNCTIONAL BRANCH CIRCUIT WIRING & CONTROL SYSTEM IS FURNSHED & INSTALLED.

LIGHTING CONTROL LEGEND

LINE VOLTAGE CONTROL

$ OD	WALL MOUNTED SELF–ADJUSTING 2400 SQ. FT. SINGLE–CIRCUIT DUEL TECHNOLOGY (ULTRA/PIR) SENSOR WITH 180° FIELD OF VIEW, AND DIMMING – ACUITY CONTROLS MODEL#WSX–PDT–D. EXTEND 0–10V DIMMING WIRING TO ALL FIXTURES WITHIN THE ROOM FOR FULL RANGE DIMMING CONTROL. SWITCH SHALL BE PROGRAMMED FOR AUTO OFF AND MANUAL ON.
$ O	WALL MOUNTED SELF–ADJUSTING 2400 SQ. FT. SINGLE–CIRCUIT DUEL TECHNOLOGY (ULTRA/PIR) SENSOR WITH 180° FIELD OF VIEW – ACUITY CONTROLS MODEL#WSX–PDT. SWITCH SHALL BE PROGRAMMED FOR AUTO OFF AND AUTO ON.
$ V	WALL MOUNTED SELF–ADJUSTING 2400 SQ. FT. SINGLE–CIRCUIT DUEL TECHNOLOGY (ULTRA/PIR) SENSOR WITH 180° FIELD OF VIEW – ACUITY CONTROLS MODEL#WSX–PDT. SWITCH SHALL BE PROGRAMMED FOR AUTO OFF AND MANUAL ON.

LOW VOLTAGE CONTROL

$ D	WALL MOUNTED LOW VOLTAGE (LV) MANUAL ON/OFF AND RAISE LOWER – ACUITY CONTROLS MODEL#nPODM–DX. EXTEND 0–10V DIMMING WIRING TO ALL FIXTURES WITHIN THE ROOM FOR FULL RANGE DIMMING CONTROL. SWITCH SHALL BE PROGRAMMED FOR AUTO OFF AND MANUAL ON. REFER TO WIRING DIAGRAM.
OS OS	LOW VOLTAGE CEILING / WALL MOUNTED SELF–ADJUSTING 2000 SQ. FT. DUAL TECH. MOTION SENSOR WITH 360° FIELD OF VIEW. ACUITY CONTROLS nLIGHT #nCM PDT 10 RBJ. JUNCTION BOX MOUNTED POWER PACK – ACUITY CONTROLS NLIGHT #NPP16 D. 120/277 VOLT INPUT, 16A LOAD RATING, 15VDC, 40 mA OUTPUT, INSTALL ABOVE ACCESSIBLE CEILING. REFER TO WIRING DIAGRAM.
P P	LOW VOLTAGE CEILING / WALL MOUNTED LOW VOLTAGE CONTINUOUS DIMMING DAYLIGHT SENSOR PHOTOCELL. DAYLIGHT HARVESTING FOR 0–10V DIMMING DRIVERS NLIGHT NCM ADCX RJB NLIGHT NCM ADCX RJB. JUNCTION BOX MOUNTED POWER PACK – ACUITY CONTROLS NLIGHT #NPP16 D. 120/277 VOLT INPUT, 16A LOAD RATING, 15VDC, 40 MA OUTPUT, INSTALL ABOVE ACCESSIBLE CEILING. REFER TO WIRING DIAGRAM.

NOTE:
(a) LETTERING IN PARENTHESIS INDICATES LIGHTING CONTROL ZONE ASSOCIATED TO FIXTURE WITH SAME TAG

NOTES:
ALL OCCUPANCY SENSOR SHALL BE PROGRAMMED TO AUTOMATIC CONTROL LIGHTING FIXTURES TO "OFF" ONLY.

THIS CONTRACTOR SHALL INCLUDED FACTORY SET UP, TESTING AND COMMISSIONING OF ALL THE LIGHTING CONTROL. THE FINAL LOCATION OF SENSORS SHALL BE DESIGNED BY THE MANUFACTURER TO REDUCE FALSE ON'S AND OFF'S FROM HVAC SYSTEMS OR ADJACENT AREAS. UNLESS OTHERWISE DIRECTED, SET OCCUPANCY SENSOR TIME DELAY FUNCTION TO 30 MINUTES.

LIGHTING CONTROLS SHALL BE FIELD TESTED, DOCUMENTED SHOWING FUNCTION OF THE SYSTEM AND COMMISSIONING REPORTS SHALL BE SUBMITTED. COMMISSIONING DOCUMENTATION SHALL DETAIL THE SYSTEM AND ALL COMPONENTS ARE CALIBRATED, ADJUSTED, AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. FIELD TESTING SHALL OCCUR WHEN FURNITURE, HVAC EQUIPMENT IS OPERATIONAL AND OWNER EQUIPMENT IS INSTALLED.

ALL SENSOR COMPONENTS AND CONNECTIONS SHALL BE INSTALLED WITHIN A 4" SQUARE JUNCTION BOX.

ACCEPTABLE EQUIVALENT PRODUCTS SHALL BE BY WATTSTOPPER, LUTRON, HUBBELL, OR COOPER LIGHTING CONTROLS. WIRELESS SOLUTIONS ARE NOT CONSIDERED EQUAL TO BASIS OF DESIGN.

Panel ID: LP1B — Voltage: 480 / 277 — Panel Type: GE A SERIES
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 600 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
VAV-13	20/3	EX	3.000	1	A	2	3.000	EX	20/1	HTR
-	-	EX	3.000	3	B	4	3.000	EX	20/1	WALL HTR W.STAIR
-	-	EX	3.000	5	C	6	3.000	EX	20/1	ENTRY HTR
VAV-12	20/3	EX	3.000	7	A	8	3.000	EX	20/1	WALL HTR E.STAIR
-	-	EX	3.000	9	B	10	6.000	EX	30/1	VAV-10
-	-	EX	3.000	11	C	12	7.000	EX	30/1	VAV-24
DOCK LIFT PUMP	20/3	EX	4.000	13	A	14	7.000	EX	30/1	VAV-24A
-	-	EX	4.000	15	B	16	3.600	EX	20/3	VAV-26
-	-	EX	4.000	17	C	18	3.600	EX	-	-
VAV-14	20/3	EX	3.000	19	A	20	3.600	EX	-	-
-	-	EX	3.000	21	B	22	4.000	EX	20/3	VAV-6
-	-	EX	3.000	23	C	24	4.000	EX	-	-
UNIT HTR RM.140	20/3	EX	4.000	25	A	26	4.000	EX	-	-
-	-	EX	4.000	27	B	28	5.000	EX	30/1	VAV-1-08
-	-	EX	4.000	29	C	30	3.000	EX	20/3	VAV-1-10
VAV-1-11	20/3	EX	2.000	31	A	32	3.000	EX	-	-
-	-	EX	2.000	33	B	34	3.000	EX	-	-
-	-	EX	2.000	35	C	36	2.300	EX	20/3	VAV-1-09
VAV-7	-	EX	4.000	37	A	38	2.300	EX	-	-
VAV-8	-	EX	5.500	39	B	40	2.500	EX	-	-
VAV-9	-	EX	5.500	41	C	42	5.000	EX	30/1	VAV-1-07

Connected Load Panel Summary — Breaker Options (If Used):
Phase A: 48.9 KVA — 176.5 AMPS — HT - Handle Tie
Phase B: 51.6 KVA — 186.3 AMPS — LO - Lock-On Device
Phase C: 41.9 KVA — 151.3 AMPS — GF - GND Fault CKT Interrupter
Total: 142.4 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

Panel ID: RP1E — Voltage: 208 / 120 — Panel Type: SEE SPEC
Location: ELEC RM 144 — Phase: 3 — Enclosure: NEMA-1
Mounting: SURFACE — Wire: 4
Main Type: M.L.O — Main Size: 225 Amps

REFER TO "CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS" CHART FOR WIRE SIZES

BRANCH CIRCUIT DESCRIPTION	CKT BKR SIZE	CKT BKR OPTION	CONN. LOAD (KVA)	CKT NO.	PHASE	CKT NO.	CONN. LOAD (KVA)	CKT BKR OPTION	CKT BKR SIZE	BRANCH CIRCUIT DESCRIPTION
EV CHARGER	40/2	-	3.120	1	A	2	0.000	-	40/2	FUTURE
-	-	-	3.120	3	B	4	0.000	-	-	-
EV CHARGER	40/2	-	3.120	5	C	6	0.000	-	40/2	FUTURE
-	-	-	3.120	7	A	8	0.000	-	-	-
EV CHARGER	40/2	-	3.120	9	B	10	0.000	-	40/2	FUTURE
-	-	-	3.120	11	C	12	0.000	-	-	-
EV CHARGER	40/2	-	3.120	13	A	14	0.000	-	40/2	FUTURE
-	-	-	3.120	15	B	16	0.000	-		-
SPACE	-	-	0.000	17	C	18	0.000	-	-	SPACE
SPACE	-	-	0.000	19	A	20	0.000	-	-	SPACE
SPACE	-	-	0.000	21	B	22	0.000	-	-	SPACE
SPACE	-	-	0.000	23	C	24	0.000	-	-	SPACE

Demand Load Panel Summary — Connected Load Panel Summary — Breaker Options (If Used):
25.0 KVA — Phase A: 9.4 KVA — 78.0 AMPS — HT - Handle Tie
69.3 AMPS — Phase B: 9.4 KVA — 78.0 AMPS — LO - Lock-On Device
Phase C: 6.2 KVA — 52.0 AMPS — GF - GND Fault CKT Interrupter
Total: 25.0 KVA — EX - Existing to Remain
SH - Shunt Trip Breaker

CONDUIT & WIRE SCHEDULE BRANCH CIRCUITS

	WIRE SIZE	2 WIRE+GROUND	3 WIRE+GROUND	4 WIRE+GROUND
15A	#12 WIRE, #12 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
20A	#12 WIRE, #12 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
25A	#10 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
30A	#10 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
35A	#8 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
40A	#8 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
45A	#6 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	3/4" CONDUIT
50A	#6 WIRE, #10 GROUND	3/4" CONDUIT	3/4" CONDUIT	1" CONDUIT
60A	#4 WIRE, #10 GROUND	1" CONDUIT	1" CONDUIT	1–1/4" CONDUIT
70A	#4 WIRE, #8 GROUND	1" CONDUIT	1" CONDUIT	1–1/4" CONDUIT
80A	#3 WIRE, #8 GROUND	1–1/4" CONDUIT	1–1/4" CONDUIT	1–1/4" CONDUIT
90A	#2 WIRE, #8 GROUND	1–1/4" CONDUIT	1–1/4" CONDUIT	1–1/4" CONDUIT

NOTES:
WIRE SIZE BASED UPON THHN COPPER WIRING, EMT CONDUIT.
PROVIDE WIRE FOR EACH PHASE, NEUTRAL, AND GROUND AS NOTED.
BRANCH CIRCUIT WIRING SHALL MATCH CIRCUIT BREAKER/FUSE SIZE.

VOLTAGE DROP:
20A, 120V BRANCH CIRCUITS (3% VD) – USE #12 FOR UP TO 60 FT, #10 FROM 61 FT TO 100 FT, #8 FROM 101 FT TO 150 FT.
20A, 277V BRANCH CIRCUITS (3% VD) – USE #12 FOR UP TO 130 FT, #10 FROM 131 FT TO 200 FT, #8 FROM 201 FT TO 320 FT.

NOTES TO BIDDERS

DESIGN DRAWINGS ARE DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING CONDITIONS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL LABOR AND MATERIALS NECESSARY FOR MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS TO THE DESIGN AND INCLUDE IN HIS BID ALL COSTS, LABOR AND MATERIALS NECESSARY TO MEET THE DESIGN INTENT. CLARIFICATIONS PROVIDED BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING SHALL BE FINAL AND SHALL BE IMPLEMENTED AT THE CONTRACTOR'S EXPENSE.

ALL BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES. CONTRACTORS SHALL INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH INSTALLING ALL WORK IN STRICT COMPLIANCE WITH GOVERNING CODES, THE PLANS SPECIFICATIONS AND NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT THE ARCHITECT, ENGINEER OR OWNER TO ANY APPARENT DISCREPANCIES BETWEEN THE GOVERNING CODES AND THE DESIGN INTENT.

E401–25075.DWG

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DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
E.ROE	E.ROE	G.OWENS	25075

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING HGT. TO CENTER UNLESS OTHERWISE NOTED
○	CEILING OUTLET	
⊢○	WALL OUTLET	SEE DRAWINGS
○ ▢ ▭	LUMINAIRE – NORMAL POWER	CLG/WALL
⊘ ▨	LUMINAIRE – EMERGENCY (LIFE SAFETY) POWER	CLG/WALL
J	WIRED JUNCTION BOX	SEE DRAWINGS
⊖	DUPLEX RECEPTACLE	18"
⊖ A	DUPLEX RECEPTACLE – ABOVE COUNTER	AB COUNTER
●	POWER AND VOICE/DATA POKE THROUGH	FLOOR MTD.
⊖ WP	DUPLEX RECEPTACLE WEATHERPROOF / GROUND FAULT	18"
⊖ GF	DUPLEX RECEPTACLE W/ GROUND FAULT INTERRUPTER	18"
⊖ GF/A	DUPLEX RECEPTACLE W/ GFCI – ABOVE COUNTER	AB COUNTER
⊖ U	DUPLEX RECEPTACLE W/ DUAL USB OUTLETS	18"
⊖ U/A	DUPLEX RECEPTACLE W/ DUAL USB OUTLETS – AB COUNTER	AB COUNTER
⊜	220V RECEPTACLE	18"
⊕	DOUBLE DUPLEX RECEPTACLE	18"
⊕ A	DOUBLE DUPLEX RECEPTACLE – ABOVE COUNTER	AB COUNTER
⊖	SIMPLEX RECEPTACLE	18"
$ $3 $4	TOGGLE SWITCH – SINGLE, 3–WAY & 4–WAY	42"
◁	DATA OUTLET ROUGH IN	18"
◁A	DATA OUTLET ROUGH IN – ABOVE COUNTER	AB COUNTER
◁W	WALL TELEPHONE OUTLET	48"
◁C	DATA OUTLET – CEILING	CLG MTD
◁WAP	WIRELESS ACCESS POINT	CLG MTD
⊗	CEILING MOUNTED EXIT LIGHT	
⊢⊗	WALL MTD. EXIT LIGHT	AB DOOR
⊗↑ ⊗ ↓⊗	CEILING MOUNTED EXIT LIGHT W/ DIRECTIONAL ARROWS	
▬	ELECTRICAL PANEL – SURFACE MOUNT, FLUSH MOUNT INSTALL AT 48" TO HIGHEST CIRCUIT BREAKER IN APT UNITS.	6'–0" TO TOP
―	PLYWOOD TELEPHONE BACKBOARD	SEE DRAWINGS
30/15/3	SAFETY SWITCH – (DISCONNECT SIZE/FUSE SIZE/POLES)	AS REQUIRED
⊠	COMBINATION MOTOR STARTER	AS REQUIRED
–◇–	MANUAL MOTOR STARTING SWITCH W/ PILOT LIGHT	42"
–+–	MANUAL MOTOR CONTROLLER/DISCONNECT	42"
T	LINE VOLTAGE THERMOSTAT	60"
○–○	EMERGENCY BATTERY UNIT	90"
F	FIRE ALARM MANUAL PULL STATION	42"
F◁	FIRE ALARM SIGNAL – AUDIO VISUAL	80"
F▷	FIRE ALARM SIGNAL – STROBE ONLY	80"
F○	FIRE ALARM SIGNAL – AUDIO	80"
▷F◁	FIRE ALARM SIGNAL – AUDIO VISUAL	CLG. MTD.
◁F▷	FIRE ALARM SIGNAL – STROBE ONLY	CLG. MTD.
F	SMOKE DETECTOR – DUCT MOUNTED	SEE DRAWINGS
F	SMOKE DETECTOR – CEILING	
H	HEAT DETECTOR – CEILING	
CO	CARBON MONOXIDE DETECTOR – CEILING	
SD	DUCT SMOKE DETECTOR W/ SMOKE DAMPER	
FA	FIRE ALARM CONTROL RELAY	AS REQ'D
AM	FIRE ALARM MONITOR MODULE	AS REQ'D
DH	FIRE ALARM MAGNETIC DOOR HOLDER	AS REQ'D
FS	SPRINKLER SYSTEM FLOW SWITCH	
TS	SPRINKLER SYSTEM TAMPER SWITCH	
PS	SPRINKLER SYSTEM PRESSURE SWITCH	
▣	PUSH BUTTON STATION – DOORBELL ON UNIT PLANS	42"
DO	ELECTRIC DOOR OPERATOR PUSH PLATE	42"
AO	DOOR HARDWARE AUTO OPERATOR	AB. DOOR
CR	ACCESS CONTROL CARD READER	42"
RX	ACCESS CONTROL REQUEST TO EXIT/PANIC	42"
DC	ACCESS CONTROL DOOR CONTACT	AS REQ'D
ML	ACCESS CONTROL MAGNETIC LOCK	AS REQ'D
MS	ACCESS CONTROL MOTION SENSOR	CLG. MTD.
ES	ACCESS CONTROL ELECTRIC STRIKE/LOCK	AS REQ'D
EL	ACCESS CONTROL ELECTRIC LOCK CONCEALED RODS	AS REQ'D
EPT	DOOR HARDWARE ELECTRIC POWER TRANSFER	AS REQ'D
EH	DOOR HARDWARE ELECTRIC HINGE	AS REQ'D
PS	DOOR HARDWARE POWER SUPPLY	AB. DOOR
DE	DOOR HARDWARE DELAYED EGRESS DEVICE	AB. DOOR
◁PB	PANIC BUTTON ROUGH IN – SINGLE GANG BOX W/ 3/4" CONDUIT PATHWAY TO AB ACCESSIBLE CEILING.	BELOW DESK
◁DR	DOOR RELEASE ROUGH IN – SINGLE GANG BOX W/ 3/4" CONDUIT PATHWAY TO AB ACCESSIBLE CEILING.	BELOW DESK

ELECTRICAL LEGEND NOTES

1. DEVICES WITH SUBSCRIPT "A" INDICATE DEVICES INSTALLED ABOVE COUNTER UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT, OTHERWISE INSTALL AT 42" A.F.F. TO CENTER OF RECEPTACLE.

CIRCUIT IDENTIFICATION

CIRCUIT IDENTIFICATION REQUIREMENTS

A. ALL DISCONNECTING MEANS SHALL BE MARKED TO INDICATE ITS SPECIFIC PURPOSE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
B. PROVIDE CIRCUIT LABEL FOR ALL NEW RECEPTACLES.
C. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES FOR ALL LIGHTING AND APPLIANCE PANELBOARDS. PROVIDE CIRCUIT IDENTIFICATION LABELS AT EACH SWITCH AND/OR CIRCUIT BREAKER IN SWITCHBOARDS. DIRECTORIES AND IDENTIFICATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE. EVERY NEW CIRCUIT OR ALTERED CIRCUIT SHALL BE IDENTIFIED AS TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE AND USE. THE IDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHER CIRCUITS. DO NOT COPY THESE SCHEDULES AS FINAL PANELBOARD INDEX INFORMATION. UTILIZE THE EXISTING PANELBOARD DIRECTORY TO POPULATE THE NEW DIRECTORY WITH INFORMATION THAT ACCURATELY REFLECTS EXISTING TO REMAIN CONDITIONS AND ALL ADDITIONS, DELETIONS, OR MODIFICATIONS TO THE BRANCH CIRCUITS MADE DURING DEMOLITION AND CONSTRUCTION.
D. FIELD COORDINATE FINAL CIRCUIT NUMBERS SHOWN IN CONJUNCTION WITH THE EXISTING TO REMAIN CIRCUITS. UPON COMPLETION OF THE DEMOLITION PHASE THIS CONTRACTOR SHALL IDENTIFY THE EXISTING TO REMAIN CIRCUITS AND ALTER THE FINAL CIRCUITS NUMBERS TO ACCOMMODATE THE REMAIN CIRCUITS. MAINTAIN THE CIRCUIT DENSITY SHOWN ON THE ELECTRICAL DRAWINGS.

#	DATE	CHANGE DESCRIPTION
2	04/30/2025	ADDENDUM #2
4	05/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
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COLUMBUS, OHIO 43215

PHONE: 614-461-4664

DRAWING TITLE:
ELECTRICAL SCHEDULES, LEGENDS, AND DETAILS

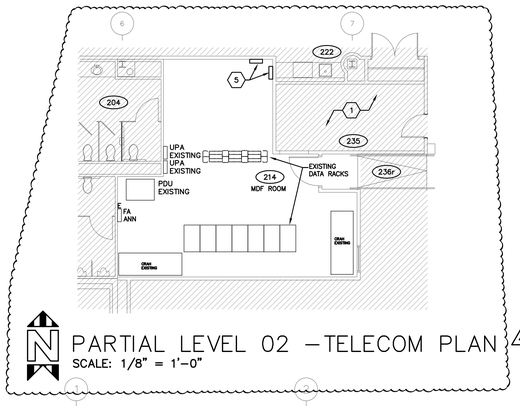
GREGORY S. OWENS
E–63408

03/31/2025

25011.01

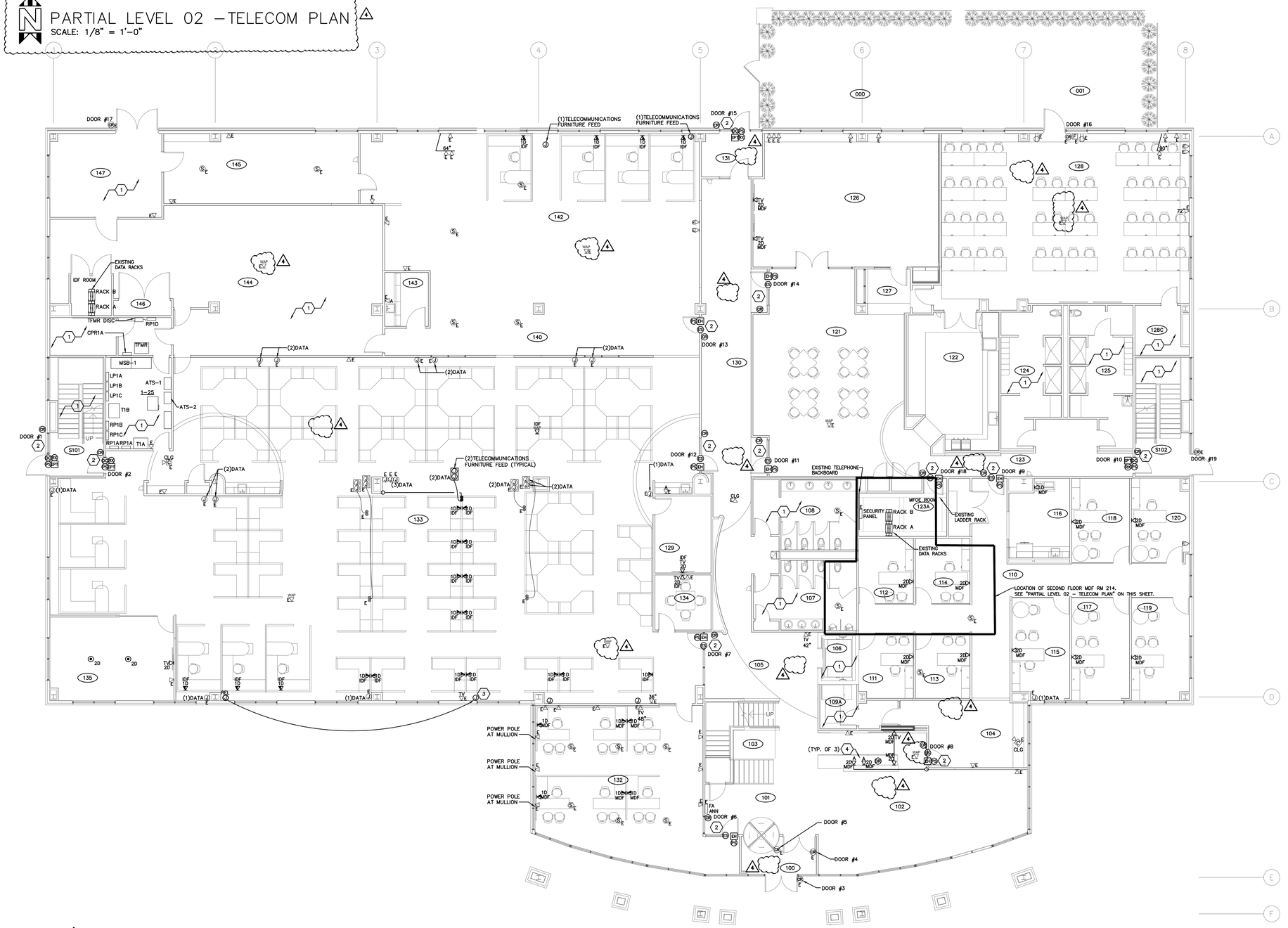
E401

CONSTRUCTION DOCUMENTS



PARTIAL LEVEL 02 – TELECOM PLAN

SCALE: 1/8" = 1'-0"



LEVEL 01 – TELECOM PLAN

SCALE: 1/8"=1'-0"

T101-25075.DWG

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DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
E.ROE	E.ROE	–	25075

GENERAL NOTES

A. THE EXISTING WORK SHOWN ON PLANS IS FROM PREVIOUS ENGINEERING, DOCUMENTATION AND FIELD OBSERVATIONS. ACTUAL CONDITIONS MAY VARY. CONTRACTOR SHALL FIELD VERIFY EXISTING WORK AND CONDITIONS, WHETHER SHOWN OR NOT, AND MAKE MINOR ADJUSTMENTS NECESSARY TO COMPLETE NEW WORK. IF EXISTING CONDITIONS ARE FOUND THAT PROHIBITS NEW WORK AS DIRECTED, NOTIFY THE ENGINEER IN WRITING FOR REDIRECTION AS REQUIRED.

B. ALL DATA DEVICES, FIXTURES, AND EQUIPMENT SHOWN ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE. SUCH ITEMS ARE LABELED WITH AN "E" OR NOTED AS EXISTING FOR ADDITIONAL CLARITY. MAINTAIN AND PROTECT DURING DEMOLITION AND CONSTRUCTION. KEEP IT AND ALL ASSOCIATED WIRING AND COMPONENTS IN OPERATION AS NECESSARY FOR A COMPLETE SYSTEM. IT IS RECOMMENDED THAT THE GENERAL CONTRACTOR BECOMES FAMILIAR WITH EXISTING CONDITIONS IN FIELD PRIOR TO BIDDING.

C. ALL CABLING SHALL BE BLUE, PLENUM RATED CAT6A.

D. PROVIDE FIRESTOP MATERIAL FOR EACH PENETRATION OF SLAB AND THROUGH RATED FIRE RATED WALLS.

E. THE "#D" DESIGNATION NEXT TO A DATA OUTLET REPRESENTS THE NUMBER OF CAT6A MODULAR CONNECTORS AT THAT LOCATION (i.e. 2D = (2) CATEGORY 6 MODULAR CONNECTORS). PROVIDE EACH NEW WAP WITH (2) CAT6 MODULAR CONNECTORS. EXTEND (1) CAT6 DATA CABLE FROM EACH MODULAR CONNECTOR TO THE NEW PATCH PANEL IN THE EXISTING RACK IN THE ROOM DESIGNATED NEXT TO THE DEVICE. PROVIDE A PATCH CORD FOR EACH CABLE DROP. PROVIDE (2) TWENTY-FOUR PORT PATCH PANELS FOR EACH DATA RACK.

4

F. PROVIDE A 25' CABLE SERVICE LOOP AT EACH WIRELESS ACCESS POINT (WAP) LOCATION.

G. REUSE EXISTING UNUSED PREVIOUSLY COILED CAT6 CABLE WHERE ABLE FOR A COMPLETE AND OPERATIONAL SYSTEM.

CODED NOTES ⬡

1. AREA IS NOT IN CONTRACT. ALL DEVICES IN THIS AREA ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. KEEP IN OPERATION AS NEEDED.
2. REFER TO ELEVATION ON SHEET T201.
3. RELOCATE DEVICE TO NEW LOCATION SHOWN. PROVIDE NEW CABLING FROM THE EXISTING RACK TO THE NEW LOCATION.
4. PROVIDE WIRING DEVICES WITHIN RECEPTIONIST DESK AS SHOWN – EXTEND LOW VOLTAGE CABLES HORIZONTALLY THROUGH THE FRAMING MEMBERS BETWEEN DEVICES SHOWN.
5. NEW ACCESS CONTROL EQUIPMENT. COORDINATE FINAL LOCATION OF EQUIPMENT IN THE FIELD.

4

#	DATE	CHANGE DESCRIPTION
2	04/30/2025	ADDENDUM #2
4	05/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

CMHA EASTON OFFICE RENOVATION
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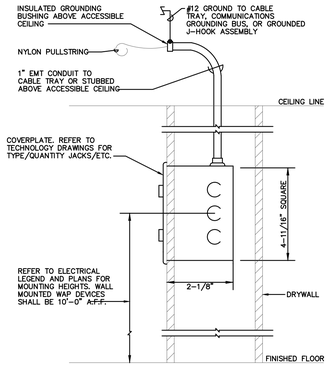
DRAWING TITLE:
LEVEL 01 - TELECOM PLAN

STATE OF OHIO
GREGORY S. OWENS
E-63408
REGISTERED PROFESSIONAL ENGINEER

	03/31/2025
	25011.01
	T101
	CONSTRUCTION DOCUMENTS

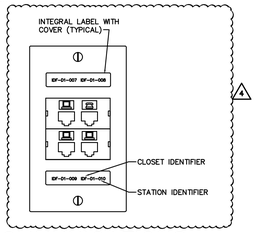


TELECOM OUTLET DETAIL

SCALE: NONE

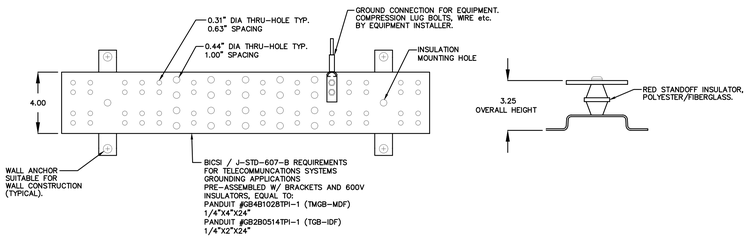
TYPICAL FOR ALL COMMUNICATIONS WALL DEVICES. CEILING WAPs SIMILAR, WITH BOX MOUNTED AT STRUCTURE ABOVE IN LIEU OF WALL, AND WAP AND BRACKET (FURNISHED BY OWNER INSTALLED BY CONTRACTOR) MOUNTED TO THE CEILING SYSTEM BY THIS CONTRACTOR.

AT EACH ▽ LOCATION SHOWN ON THESE PLANS, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A 4" SQUARE BACKBOX WITH A SINGLE GAND ADAPTER AND A FOUR (4) PORT PLATE FOR TELEPHONE/VOICE/DATA DEVICES. SEE COMMUNICATIONS OUTLET DETAIL, THIS SHEET. RUN A 3/4" CONDUIT WITH PULLSTRING, FROM OUTLET TO 6" ABOVE ACCESSIBLE CEILING. REAM AND BUSH ENDS OF CONDUIT.



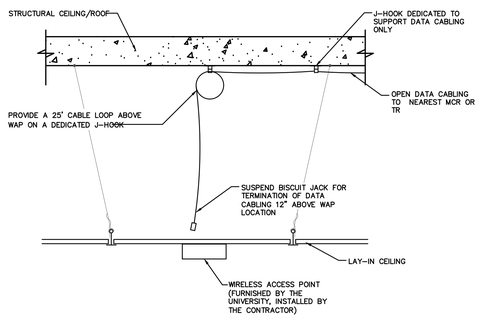
COMMUNICATIONS OUTLET DETAIL

NTS



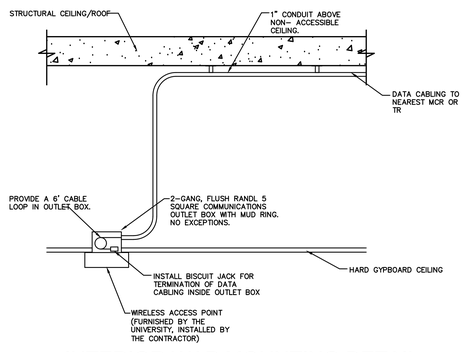
GROUNDING BUS DETAIL TMGB & TGB

SCALE: NONE



INTERIOR WAP MOUNTING DETAIL AT ACCESSIBLE CEILINGS

SCALE: NONE



INTERIOR WAP MOUNTING DETAIL AT NON-ACCESSIBLE CEILINGS

SCALE: NONE

TELECOMMUNICATIONS ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	JUNC	JUNCTION
AFG	ABOVE FINISHED GRADE	MFGR	MANUFACTURER
BC	BONDING CONDUCTOR	MECH	MECHANICAL
BFG	BELOW FINISHED GRADE	PNL	PANEL
BLDG	BUILDING	RECEPT	RECEPTACLE
CAB	CABINET	SW	SWITCH
CLG	CEILING	SYS	SYSTEM
C	CONDUIT	TBB	TELECOMMUNICATIONS BONDING BACKBONE
CONN	CONNECTION / CONNECTOR	T.C.	TELECOMMUNICATION CONTRACTOR
CONTR	CONTRACTOR	TELE	TELECOMMUNICATION
CONT	CONTROL	TFMR	TRANSFORMER
DTL	DETAIL	TMGB	TELECOMMUNICATION MAIN GROUNDING BUSBAR
DIAG	DIAGRAM	TGB	TELECOMMUNICATION GROUNDING BUSBAR
E.C.	ELECTRICAL CONTRACTOR	TR	TELECOMMUNICATION ROOM
EF	EQUIPMENT FACILITY	TYP	TYPICAL
ER	EQUIPMENT ROOM	UON	UNLESS OTHERWISE NOTED
EXH	EXHAUST	WP	WEATHERPROOF
G.C.	GENERAL CONTRACTOR		
GRD	GROUND		
H.C.	MECHANICAL CONTRACTOR		

TELECOMMUNICATIONS LEGEND

SYMBOL	DESCRIPTION	MOUNTING HGT. TO CENTER UNLESS OTHERWISE NOTED
▽	TELECOMMUNICATION WALL OUTLET OR OVERHEAD OUTLET	18"/CLG
▼	FURNITURE OUTLET	ON FURNITURE
WAP ▽	WIRELESS ACCESS POINT CONNECTION	ABOVE CEILING
◉	SPECIAL OUTLET WALL / FLOOR MOUNTED	DIV 26
TV ▽	TELEVISION OUTLET	SEE DRAWINGS
J	JUNCTION BOX	SEE DRAWINGS
	LADDER RACK	DIV 26
S	SPEAKER	ABOVE CEILING
C	CCTV CAMERA	CEILING
DS	DOOR SWITCH/CONTACT, REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
CR	CARD READER, REFER TO TECHNOLOGY DOOR DETAILS	48"
PS	DOOR POWER SUPPLY, REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
RX	REQUEST TO EXIT, REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
ES	ELECTRIC STRIKE, REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
EH	ELECTRIC HINGE, INTEGRAL TO DOOR HARDWARE REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
EPT	ELECTRIC HINGE, INTEGRAL TO DOOR HARDWARE REFER TO TECHNOLOGY DOOR DETAILS	AS REQ'D
C	CCTV CAMERA	CEILING

TELECOMMUNICATIONS NOTES

A. INSTALLER QUALIFICATIONS : ENGAGE AN EXPERIENCED FACTORY-AUTHORIZED AND BICSI CERTIFIED INSTALLER TO PERFORM WORK OF THIS SECTION.

B. COMPLY WITH THE LATEST VERSIONS OF THE ELECTRONIC INDUSTRIES ASSOCIATION/ TELECOMMUNICATIONS INDUSTRY (EIA/TIA) APPLICABLE STANDARDS.

C. PRODUCTS SHALL BE MANUFACTURED BY THE LEVITON, SIEMON COMPANY, BELDEN, BERK-TEK, PANDUIT, OR HUBBELL.

D. DATA FACEPLATE COLOR AND FINISH SHALL BE APPROVED BY THE ARCHITECT. PLASTIC FACEPLATES SHALL BE EQUAL TO HUBBELL IFP26TI. FACEPLATES SHALL HAVE FOUR OR SIX MODULAR OPENINGS. REFER TO PLANS FOR REQUIREMENTS.

E. CAT 6 CABLE – PLENUM EQUAL TO PANDUIT, BERK-TEK, GENERAL CABLE CAT6A UTP BLUE COLOR.

F. CAT 6 INSERT SHALL BE EQUAL TO PANDUIT #CJK6A88TGBL.

G. MODULAR PATCH PANELS SHALL BE EQUAL TO PANDUIT #DP48688TGY.

H. DATA OUTLETS SHALL BE 8-POSITION/8 CONDUCTOR CATEGORY 6 OUTLETS WITH INSULATION DISPLACEMENT #110 CONNECTOR WHICH ACCEPTS #23 AWG SOLID WIRE.

I. CONDUIT SYSTEM SHALL BE CONTINUOUS FROM OUTLETS TO TELEPHONE BACKBOARD OR ACCESSIBLE CEILING.

J. ALL WORKSTATIONS OUTLETS AND BOTH ENDS OF THE DATA CABLE SHALL BE IDENTIFIED BY CLEARLY LISTING THE IT ROOM AND JACK POSITION TO MATCH THE EXISTING LABELING SCHEME. THE RESPECTIVE IDENTIFICATION SHALL BE AT THE CORRESPONDING PATCH PANEL. ALL ID TAGS SHALL BE TYPE-WRITTEN AND COORDINATED WITH THE OWNER ALONG WITH FINAL COLOR CODING.

K. DATA CABLING SHALL BE 4-PAIR, UNSHIELDED TWISTED PAIR (UTP) #23 AWG SOLID COPPER CONDUCTORS WITH A BLUE HIGH-DENSITY POLYETHYLENE INSULATION, NEC TYPE CMP OR BETTER, EIA/TIA CATEGORY 6.

L. TEST EACH CATEGORY 6 UTP CABLE IN ACCORDANCE WITH CURRENT EIA/TIA TESTING STANDARDS. USE A LEVEL II TEST SET FOR TESTING CABLES. PROGRAM THE TEST SET TO TEST CATEGORY 6 CABLING. SUBMIT DOCUMENTATION THAT THE TEST SET HAS BEEN CALIBRATED BY THE MANUFACTURER WITHIN THE LAST 12-MONTHS. PROVIDE AT LEAST 10-DAYS NOTICE IN WRITING WHEN THE CABLING IS READY FOR FINAL ACCEPTANCE TESTING. ALL TESTING SHALL BE IN THE PRESENCE OF THE OWNER AND/OR THE A/E. WRITTEN TEST RESULTS SHALL BE PROVIDED TO THE OWNER AND A/E FOR REVIEW, UTILIZING REPORT FORMATS PER EIA/TIA STANDARDS. ANY CABLE THAT FAILS TO MEET ITS SPECIFIED CHARACTERISTICS SHALL BE REPLACED WITH A NEW CABLE AND RETESTED. CORRECT DEFICIENCIES INDICATED BY TESTS AND COMPLETELY RETEST WORK AFFECTED BY SUCH DEFICIENCIES. IT SHALL BE THE JUDGEMENT OF THE A/E TO REQUIRE ADDITIONAL TESTING SHOULD CONDUCTORS SHOW DEFICIENCIES IN THEIR PERFORMANCE. THE ADDITIONAL TESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND NOT THE OWNER OR A/E. TAG ALL CABLES, OUTLETS, AND OTHER COMPONENTS FOR WHICH TESTS HAVE BEEN SATISFACTORILY COMPLETED. TAGGING ADMINISTRATION SHALL BE IN ACCORDANCE WITH EIA/TIA STANDARDS. LABEL ALL DATA OUTLETS WITH MACHINE-WRITTEN LABELS WITH UNIQUE IDENTIFIERS PER THE OWNER'S ESTABLISHED LABELING SCHEME.

M. ALL LABELING SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO INSTALLATION.

N. COORDINATE ALL VOICE/DATA WORK WITH OWNER..

#	DATE	CHANGE DESCRIPTION
2	04/30/2025	ADDENDUM #2
4	05/12/2025	ADDENDUM #4

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

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3400 MORSE CROSSING
COLUMBUS, OHIO 43219
FOR
CMHA

Moody Nolan
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: 614-461-4664

DRAWING TITLE:
TELECOM LEGEND AND DETAILS

T201-25075.DWG
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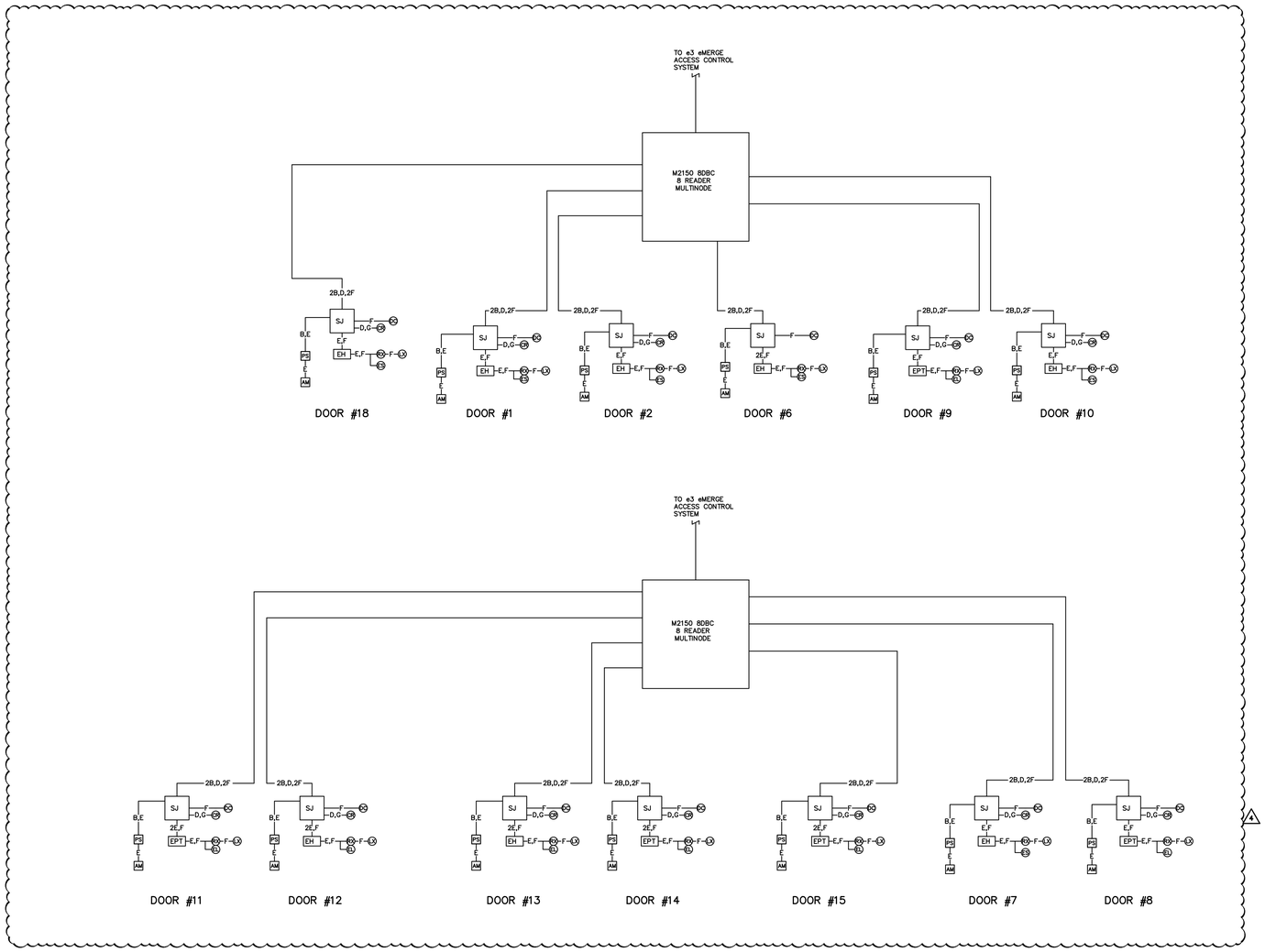
6130 Wilcox Road
Dublin, Ohio 43016
(614) 766 4896
FAX: (614) 766 2354

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
E.ROE	E.ROE	–	25075

STATE OF OHIO
GREGORY S. OWENS
E-63408
REGISTERED PROFESSIONAL ENGINEER

03/31/2025
25011.01
T201 2
CONSTRUCTION DOCUMENTS



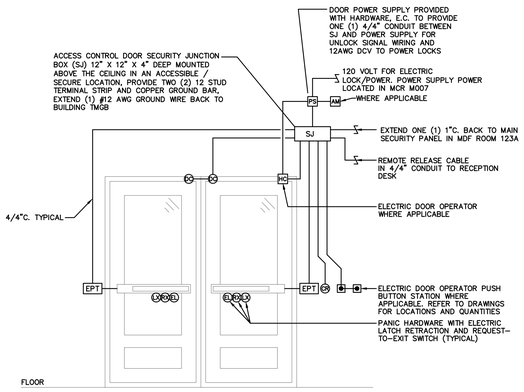
ACCESS CONTROL RISER DIAGRAM
SCALE: NONE

CABLE LEGEND

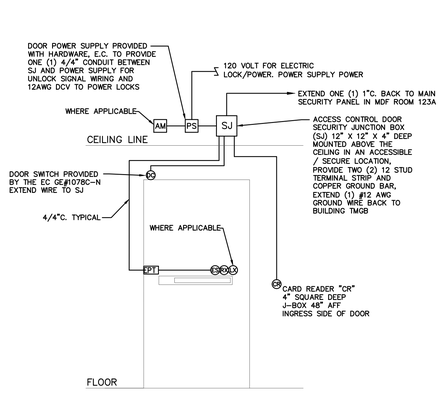
ID	DESCRIPTION	CONFIGURATION	CABLE NOTES
A	120 VOLT POWER	2 #12 + 1 #12 GROUND	THHN IN 4/4" CONDUIT
B	12 VOLT DC CONTROL	1 PAIR TW SH 18 AWG	BELDEN 5341FE IN 4/4" CONDUIT
C	RS-485 DATA	2 PAIR TW SH 24 AWG	BELDEN 9842 IN 4/4" CONDUIT
D	CARD READER CABLE	6 CONDUCTOR SH 22 AWG	BELDEN 5504FY IN 4/4" CONDUIT
E	POWER SUPPLY CONTROL	2 CONDUCTOR TW SH 14 AWG	BELDEN 6100FE IN 4/4" CONDUIT
F	DOOR/LATCH CONTACT	4 PAIR TW SH 18 AWG	BELDEN 9157 IN 4/4" CONDUIT
G	NETWORK CABLE	CATEGORY 6, 4-PAIR UTP	IN NETWORK PATHWAY

ACCESS CONTROL LEGEND

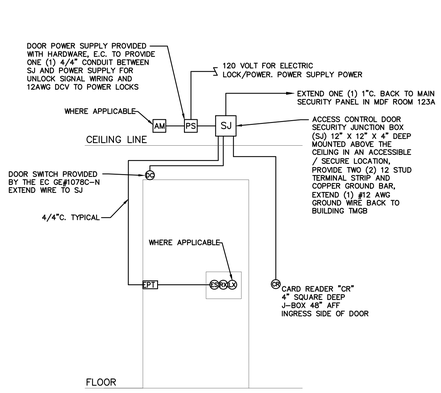
SYMBOL	DESCRIPTION	MOUNTING HGT. TO CENTER UNLESS OTHERWISE NOTED
EPT	ELECTRIC POWER TRANSFER	AS REQ'D
EH	ELECTRIC HINGE	AS REQ'D
CR	ACCESS CONTROL CARD READER	42"
DC	ACCESS CONTROL DOOR CONTACT	AS REQ'D
LX	ACCESS CONTROL LATCH BOLT DETECTION	AS REQ'D
RX	REQUEST TO EXIT SWITCH	AS REQ'D
EL	DOOR HARDWARE LATCH RETRACTION	CLG. MTD.
PB	ELECTRIC DOOR OPERATOR PUSH BUTTON	42"
PS	POWER SUPPLY	STRUCTURE ABOVE
SJ	SECURITY JUNCTION BOX	STRUCTURE ABOVE
AM	FIRE ALARM ADDRESSABLE MODULE	STRUCTURE ABOVE
DR	DUAL READER INTERFACE/LENEL CABINET	STRUCTURE ABOVE
DO	DOOR OPERATOR AT RECEPTIONIST DESK	AS REQ'D
ES	DOOR HARDWARE ELECTRIC STRIKE	AS REQ'D



TYPICAL ENTRY DOOR ROUGH-IN
SCALE: NONE
NOTE: REFER TO ACCESS CONTROL & CABLE LEGEND.
REFER TO DRAWINGS AND RISER FOR LOCATIONS AND QUANTITIES OF DEVICES.

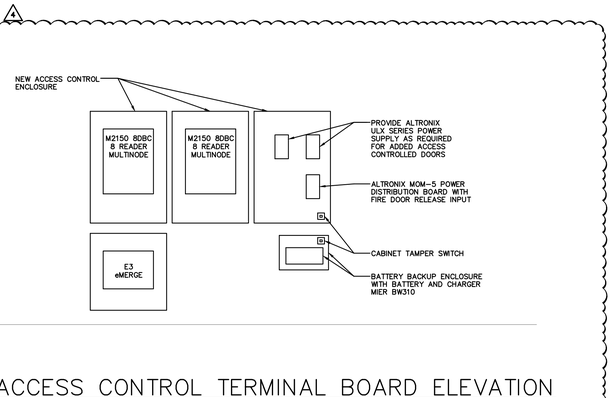


ACCESS CONTROL DOOR DETAIL
SCALE: NONE
NOTE: REFER TO ACCESS CONTROL & CABLE LEGEND. SINGLE DOOR SHOWN - DOUBLE DOORS SIMILAR.
REFER TO DRAWINGS AND RISER FOR LOCATIONS AND QUANTITIES OF DEVICES.



ACCESS CONTROL DOOR DETAIL
SCALE: NONE
NOTE: REFER TO ACCESS CONTROL & CABLE LEGEND. SINGLE DOOR SHOWN - DOUBLE DOORS SIMILAR.
REFER TO DRAWINGS AND RISER FOR LOCATIONS AND QUANTITIES OF DEVICES.

4



ACCESS CONTROL TERMINAL BOARD ELEVATION
SCALE: NONE
NOTE: INSTALL NEW PANELS IN EXISTING MDF ON THE 2ND FLOOR. FIELD COORDINATE EXACT LOCATION OF NEW EQUIPMENT WITH THE EXISTING EQUIPMENT. TIE NEW ACCESS CONTROLLED DOORS INTO THE EXISTING E3 EMERGE ACCESS CONTROL SYSTEM. PROVIDE ALL NECESSARY POWER SUPPLIES, ACCESS CONTROL PANELS, COMPONENTS, WIRING, AND PROGRAMMING FOR A COMPLETE AND OPERATIONAL SYSTEM.

T202-25075.DWG

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