Portland Parks & Recreation

ELECTRONIC LOCKING PROJECT

PHASE I List of Facilities

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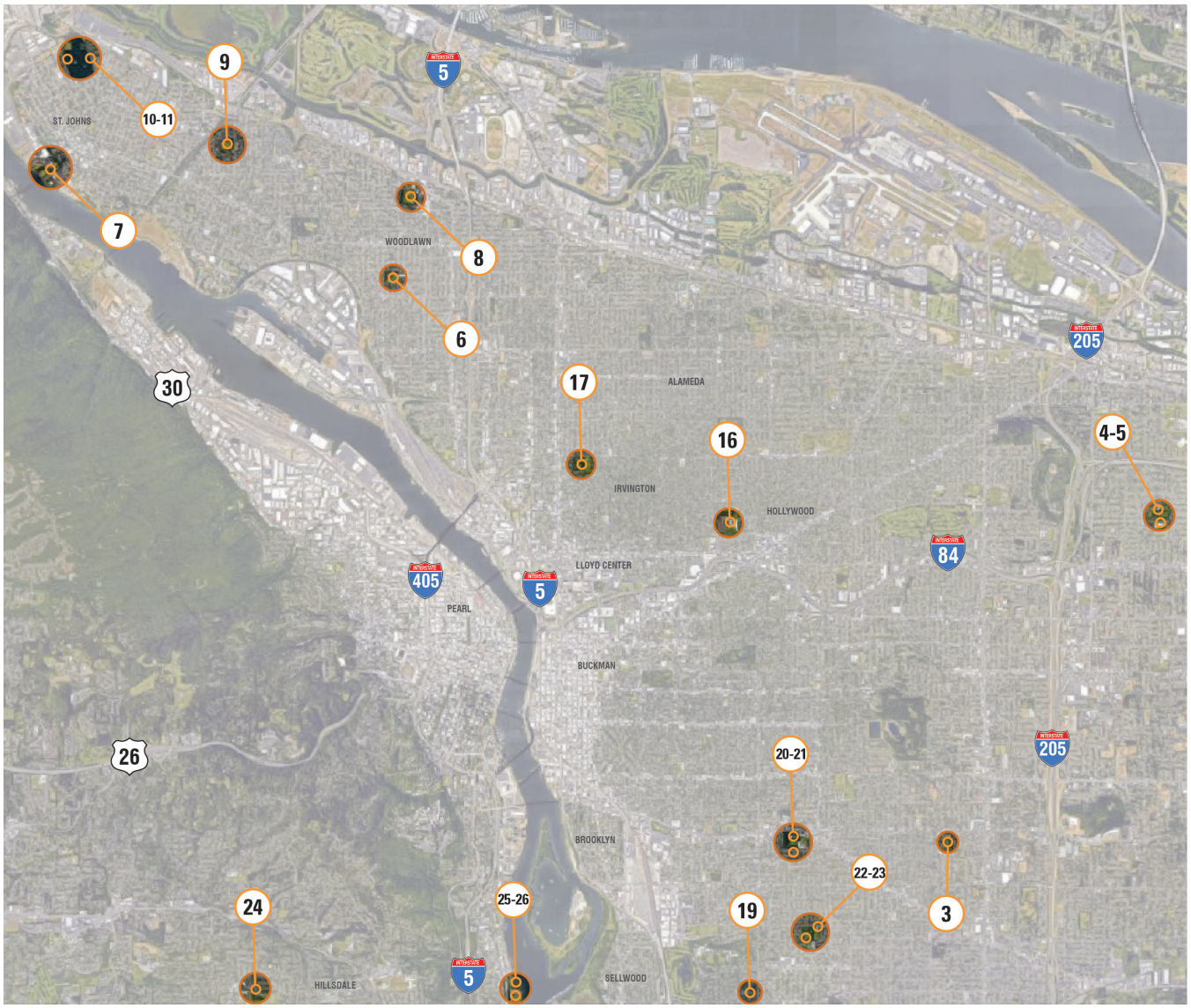
PROJECT OVERVIEW | CONTEXT

Portland Parks & Recreation currently manages and maintains a broad range of the City's open spaces, recreational venues, and support structures, including dozens of restroom facilities dispersed throughout the City's districts and neighborhoods. Currently, access management of these dispersed facilities requires a large amount of time by park rangers and other employees. One goal of this project is to upgrade the facilities' doors, frames, and hardware to provide more automated access to the restrooms, freeing up time for rangers to better serve the needs of park users, instead of traveling to each facility to lock down or open the rooms, depending on the hours of operation.

Facilities Key

- 03 Essex Park
- 04-05 Knott Park
  - A - East Restroom
  - B - West Restroom
- 06 Arbor Lodge Park
- 07 Cathedral Park
- 08 Kenton Park
- 09 Northgate Park
- 10-11 Pier Park
  - C - South Restroom
  - B - North Restroom
- 16 Grant Park
- 17 Irving Park
- 19 Berkeley Park
- 20-21 Creston Park
  - B - West Restroom
  - A - East Restroom
- 22-23 Woodstock Park
  - B - North Restroom
  - A - South Restroom
- 24 Gabriel Park
- 25-26 Willamette Park
  - A - Restroom
  - B - Restroom | Pump Station



		#	Facility	Address
1	E	3	Essex Park - Restroom A - Restroom-Storage	SE 79th Ave. and Center St.
		4	Knott Park - Restroom A - Restroom	NE 117th Ave. and Knott St.
		5	Knott Park - Restroom B - Restroom-Storage	NE 117th Ave. and Knott St.
	N	6	Arbor Lodge Park - Restroom A - Restroom-Storage	N Bryant St. and N Delaware Ave.
		7	Cathedral Park - Restroom A - Restroom-Storage	N Edison St. and Pittsburgh Ave.
		8	Kenton Park - Restroom A - Restroom-Storage	8417 N Brandon Ave.
		9	Northgate Park - Restroom A - Restroom-Storage	N Geneva Ave. and Fessenden St.
		10	Pier Park - Restroom C - Restroom-Storage	N Lombard St. and Bruce Ave.
		11	Pier Park - Restroom B - Restroom-Storage	N Lombard St. and Bruce Ave.
	NE	16	Grant Park - Restroom A - Restroom-Storage	NE 33rd Ave. and US Grant Pl.
		17	Irving Park - Restroom A - Restroom-Storage	NE 7th Ave. and Fremont St.
	SE	19	Berkeley Park - Restroom A - Restroom	SE Cesar E Chavez Blvd. and Bybee Blvd.
		20	Creston Park - Restroom B - Restroom	SE 44th Ave. and Powell Blvd.
		21	Creston Park - Restroom A - Restroom	SE 44th Ave. and Powell Blvd.
		22	Woodstock Park - Restroom B - Restroom-Storage	SE 47th Ave. and Steele St.
		23	Woodstock Park - Restroom A - Restroom-Storage	SE 47th Ave. and Steele St.
	SW	24	Gabriel Park - Restroom A - Restroom	SW 45th Ave. and Vermont St.
		25	Willamette Park - Restroom A - Restroom	6805 SW Macadam Ave.
		26	Willamette Park - Pump Station	6805 SW Macadam Ave.

No. of Restrooms	No. of Doors	Renovation Approach			Remarks
		New Hardware Required	New Door Required	New Frame Required	
2	2	✓	✓	✓	Wood Door, Cylinder Lock
1	1	✓	✓	✓	Cylinder Lock, Grouted Frame
1	1	✓	✓	✓	Cylinder Lock, Grouted Frame
2	2	✓	✓	✓	Wood Door, Cylinder Lock
2	2	✓	✓	✓	Wood Door, Keyed Lever, Grouted Frame
2	2	✓	✓	✓	Wood Door & Frame
2	2	✓	✓	✓	Wood Door, Keyed Lever, Hinge Issues
1	1	✓	✓	✓	Wood Door & Frame, Keyed Lever
2	2	✓	✓	✓	Keyed Lever, Possible Grouted Frame
2	2	✓	✓	✓	Wood Door, Keyed Lever Lock
3	3	✓	✓	✓	Wood Door, Cylinder Lock
2	2	✓	✓	✓	Wood Door, Cylinder Lock
2	1	✓	✓	✓	Wood Door & Frame
2	2	✓	✓	✓	Wood Door, Keyed Lever, existing auto lock and timer
2	2	✓	✓	✓	Wood Door, Cylinder Lock
1	1	✓	✓	✓	Wood Door, Cylinder Lock
3	3	✓	✓	✓	Cylinder Lock, Possible Grouted Frame
4	4	✓	✓	✓	Wood Door, Keyed Lever Lock
4	4	**Set 3**			Unique Solution Required, existing Mortise Lockset

Note: In general, in most locations **Hardware Set 1** *is to be utilized, but in several isolated locations,* **Hardware Set 2** *is to be used to provide accessibility for these specific door conditions. See individual facility sheets for notes and other information in these locations.*

HARDWARE SET COMPONENTS

Automated access for these upgraded door assemblies is to be accomplished by the following approach:

- Connect electronic hardware to a timer on the premises, typically an electrical room adjacent to the restroom(s).

The work shown on the following pages documents the steps needed to accomplish local timer-control for each facility. Catalog cut-sheets of this hardware is included at the end of this document.

Hardware Set 1 is the typical hardware set for restroom doors in this project. In most cases hardware is installed in a new hollow metal door and frame, but see additional specifics on following pages, specific for each facility location. *Note that not every door requires its own (03) Transformer and (SA-01) Timer, typically one of these per facility location is sufficient to service all that location's restroom doors. Note also that the typical undercut for doors is 1/2" but 1" is used in specific locations for increased ventilation. The Door Contacts are listed here, to be installed with this set and the wiring, in order that they will be in place for connection to remote monitoring, when that upgrade is installed.*

Door Hardware Set 1

Mark	Type	Manf.	Product	Finish
01	Lockset	Best	45H-7TD15H x VIB (Tice type C x Security Screws)	630
02a	Electronic Strike	Assa Abloy	1006 x HM x *2005M3 - *FAIL SECURE*	630
02b	Power Supply	Assa Abloy	*2005M3 SMART Pac III *(electric strike accessory)*	
02c	Latch Protector	Don-Jo	LP-111	630
03	Transformer	Siemens	050BB1224J	
04	Butts	Stanley	FBB191 4.5 x 4.5 NRP	32D
05	Closer	Allegion	LCN 4040XP (Push and Pull Mounting Varies)	689
06	Kickplate	Trimco	K0050 10 x 2" L.D.W. B4E	630
07	Stop	Trimco	1270CV	630
08	Threshold	Pemco	176A SSMS x ES (LAR)	Alum
09	Gasketing	Pemco	S88 *(Head and Jambs)	
10	Rain Drip	Pemco	346 (Full width of header)	Alum
11	Door Bottom	Pemco	18062 NB (LAR)	Alum
12	Door Contact	GE	1076W	
SA-01	Timer	Intermatic	ET8215C	

Hardware Set 2 is used in several facilities with doors that don't have adequate push-side clearance for accessibility compliance. In these cases, an Auto Operator and Activating Door Plate Package is required. *Set 2 is similar to Set 1 with the exception of this Auto Operator/Actuator Mark 05A.*

Door Hardware Set 2

Mark	Type	Manf.	Product	Finish
01	Lockset	Best	45H-7TD15H x VIB (Tice type C x Security Screws)	630
02a	Electronic Strike	Assa Abloy	1006 x HM x *2005M3 - *FAIL SECURE*	630
02b	Power Supply	Assa Abloy	*2005M3 SMART Pac III *(electric strike accessory)*	
02c	Latch Protector	Don-Jo	LP-111	630
03	Transformer	Siemens	050BB1224J	
04	Butts	Stanley	FBB191 4.5 x 4.5 NRP	630
05A	Auto Operator	Allegion	LCN 9540 (*LH HL36 Typical *Contractor verify* and include with Activating Door Plate Package)	689
06	Kickplate	Trimco	K0050 10 x 2" L.D.W. B4E	630
07	Stop	Trimco	1270CV	630
08	Threshold	Pemco	176A SSMS x ES (LAR)	Alum
09	Gasketing	Pemco	S88 *(Head and Jambs)	
10	Rain Drip	Pemco	346 (Full width of header)	Alum
11	Door Bottom	Pemco	18062 NB (LAR)	Alum
12	Door Contact	GE	1076W	
SA-01	Timer	Intermatic	ET8215C	

Hardware Set 3 is used in a unique case where the existing lockset and other hardware componets are adequate, but where an electronic strike must be installed in an existing metal frame, along with the other hardware components to control the electronic strike.

Door Hardware Set 3

Mark	Type	Manf.	Product	Finish
02a	Electronic Strike	Assa Abloy	1006 x HM x *2005M3 - *FAIL SECURE*	630
02b	Power Supply	Assa Abloy	*2005M3 SMART Pac III *(electric strike accessory)*	
02c	Latch Protector	Don-Jo	LP-111	630
03	Transformer	Siemens	050BB1224J	
12	Door Contact	GE	1076W	
SA-01	Timer	Intermatic	ET8215C	

Facilities | Locations

03 Essex Park - Restroom

SE 79th Avenue and Center Street,
Portland, OR

Existing Conditions:

The Essex Park Restroom has an exterior brick cladding on clay tile with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Extensive wear, heavy corrosion at base of frame
- 3'-0"x 7'-0" Wood Door
- HM Welded Frame

Hardware

- Minimal wear
- Push / Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

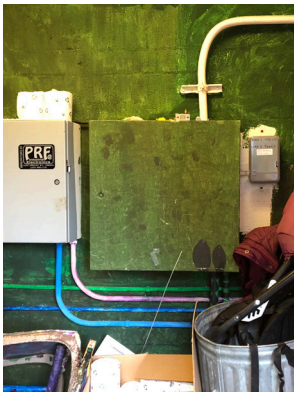
Electrical

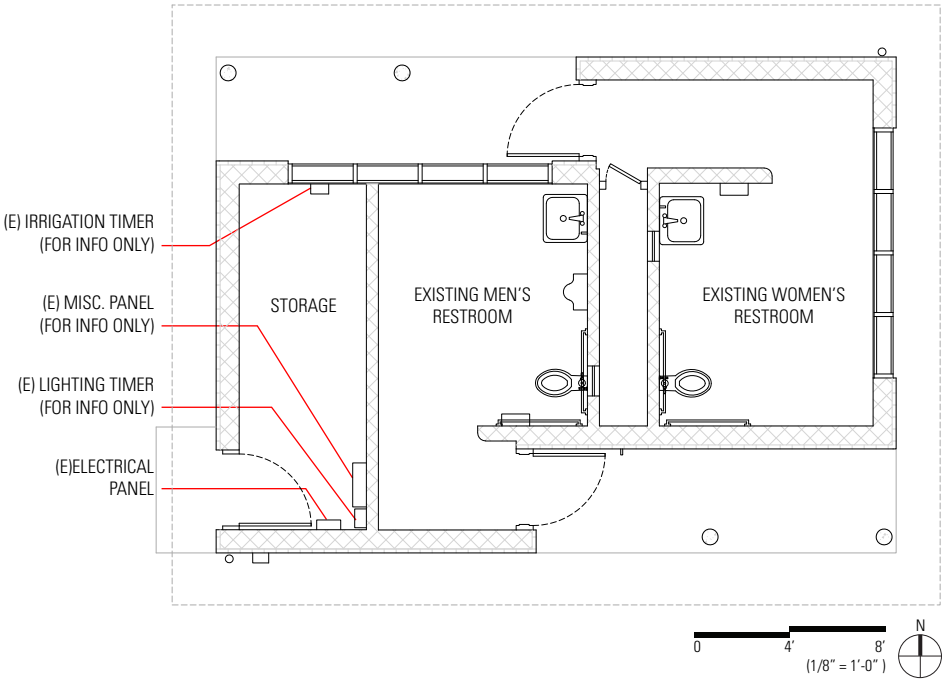
- Electrical panel located in adjacent storage area, separated from restrooms by CMU partition
- Existing building light timer adjacent to panel
- Electric meter locked and painted
- CB Voltage is 120
- One 15A spare circuit breaker available (slot 14)
- One space available in electric panel
- Structure is entirely hard concrete and no ceiling access is available. Wire will need to be routed through concrete wall.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted plaster, clay tiles and CMU
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles

Essex Park





03 Essex Park - Restroom

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 2)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

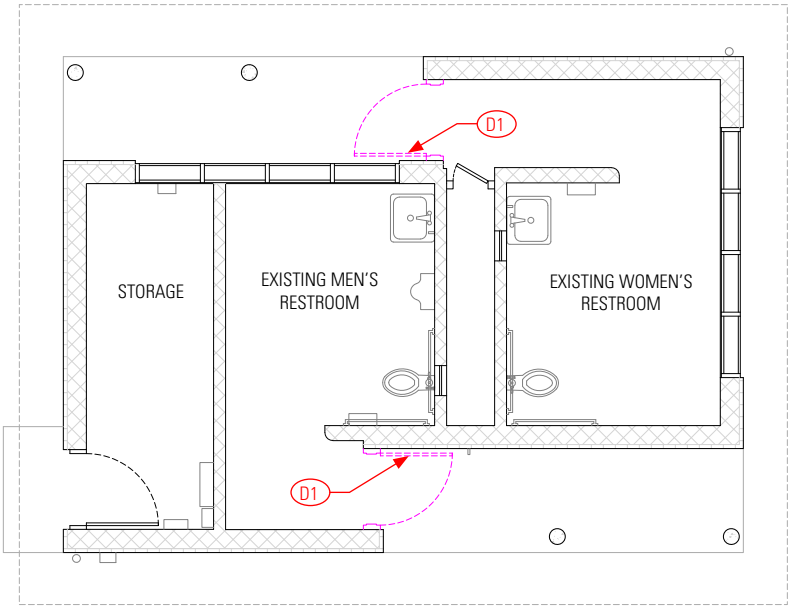
1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 2)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

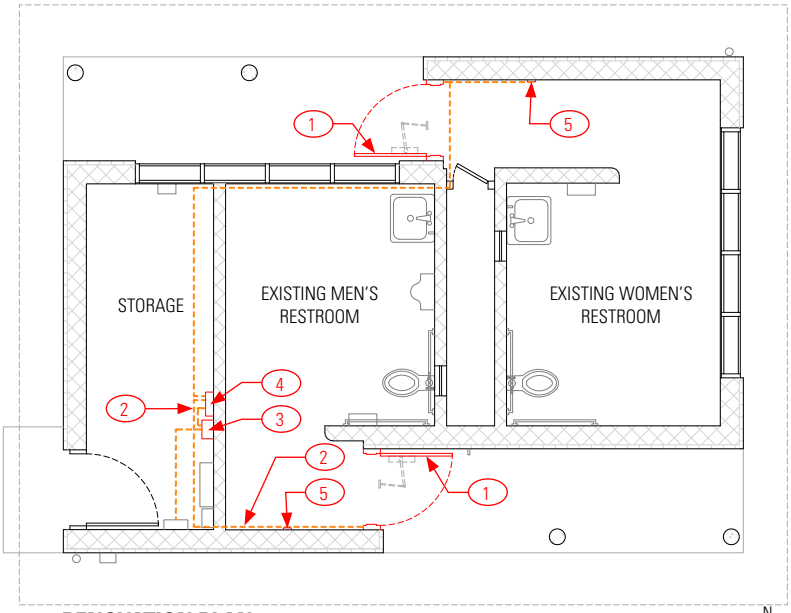
3 Provide new Electronic Time Switch. (See Door Hardware: Set 2)

4 Provide new Transformer. (See Door Hardware: Set 2)

5 For door operation and access compliance an actuator / opener is necessary due to the inadequate push side clearance. Provide new door actuator and install according to manufacturer's instructions and ADA required mounting heights and clearances. Route electrical as necessary for proper installation and full system functionality (Install similarly to other wiring.)



DEMO PLAN



RENOVATION PLAN

0 4' 8'
(1/8" = 1'-0")
N

ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks. Utilize existing 15A spare to wire door strike control circuit. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For men's restroom: Route conduit above panel, then run wire south along east wall of storage area, through wall between storage room and men's restroom, along south wall to men's room door frame. Wire down to men's room door strike. For women's restroom: Route conduit above panel, north along east wall, through storage wall along men's room north wall then north along women's room west wall to above women's door frame. Wire to door strike.

Install and wire two electronically controlled door strikes. Remove 1 existing space and install 20A circuit breaker for the ADA door actuator circuit. Install an ADA door actuator adjacent to each restroom door as shown in drawing. Run additional conduit from above each restroom door frame to the actuators. Wire 120 VAC to ADA door closers followed by ADA door actuators and return. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

04 Knott Park - Restroom A (East)

NE 117th Avenue and Knott Street,
Portland, OR

Existing Conditions:

The Knott Park Restroom has exterior CMU units with interior ceramic tiles and a wood framed standing metal roof assembly with acrylic skylight.

Exterior Door + Frame

- Extensive wear, heavy corrosion at base of door
- 3'-0"x 7'-0" HM Door
- HM Welded Frame, Grouted with T-Strap Masonry Anchors

Hardware

- Moderate wear
- Push / Pull | Stainless (painted)
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

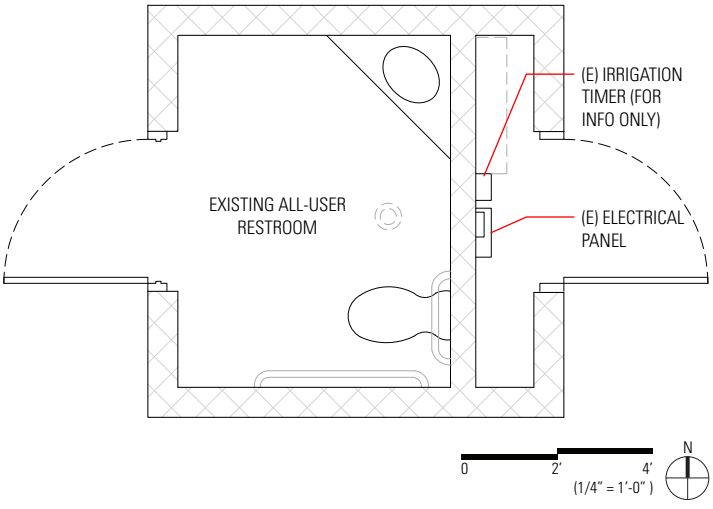
Electrical

- Electrical panel located in adjacent plumbing chase, separated from restroom by CMU partition
- Existing irrigation timer adjacent to panel
- Voltage is 240/120
- No spare circuit breaker slots available (panel schedule is not available)
- No spaces available in electric panel (two slots read "Do Not Remove Twist-out")
- Conduit will be required to route along concrete and tile. Ceiling is open for wiring access.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Full-Height Ceramic Tile on all interior walls
  - Metal Grating Ceiling, 8-'0" AFF
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles in door and below ceiling

Knott Park - A



04 Knott Park - Restroom A (East)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1) (Note: the existing door is grouted in place.)

DEMO KEYNOTES:

D1 Remove existing hollow metal door, frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electrical panel and prepare for new panel.

RENOVATION KEYNOTES:

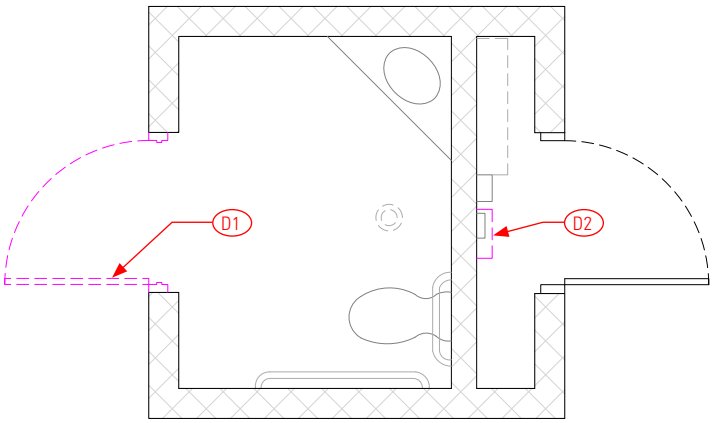
1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (*Note: at this location to undercut door 1" for ventilation*) (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

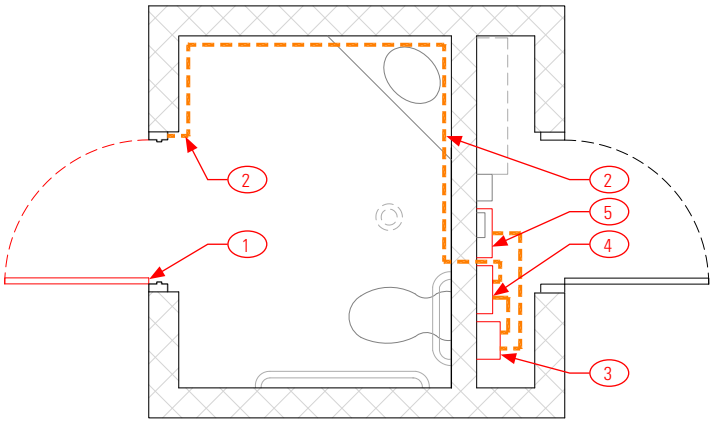
3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

5 Provide and coordinate installation of new electrical panel.



DEMO PLAN



RENOVATION PLAN

0 2' 4'
(1/4" = 1'-0")
N

ELECTRICAL ASSESSMENT NOTES:

Remove panel and install a new 12 circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits, a 20A breaker door lock circuit and two spare 20A breakers. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the plumbing chase. Program Intermatic ET8215C for single door lock. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to door strike.

Route conduit above panel, via ceiling space and along northern ceiling of bathroom to above door frame, then down along tile to door frame.

Install and wire electronically controlled door strike. Run signal wire for door contact through conduit to door frame and install contact. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

05 Knott Park - Restroom B (West)

NE 117th Avenue and Knott Street,
Portland, OR

Existing Conditions:

The Knott Park Restroom has exterior CMU units with interior ceramic tiles and a wood framed standing metal roof assembly with acrylic skylight.

Exterior Door + Frame

- Moderate wear, corrosion of grill in door
- 3'-0"x 7'-0" HM Door
- HM Welded Frame, Grouted with T-Strap Masonry Anchors

Hardware

- Minimal wear
- Push / Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

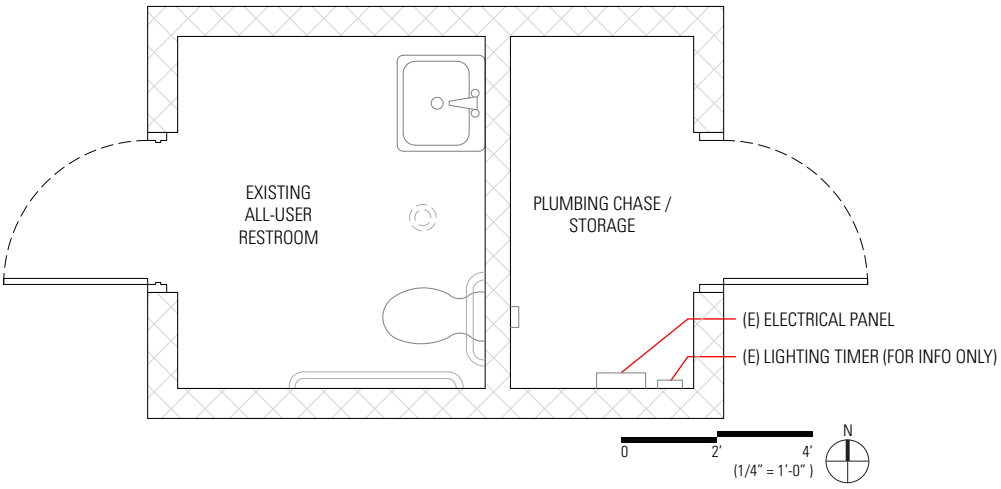
Electrical

- Electrical panel located in adjacent plumbing chase, separated from restroom by CMU partition
- Existing light timer adjacent to panel
- Voltage is 240/120
- One unlabeled 20A circuit breaker (slot 1)
- No spaces available in electric panel
- Conduit will be required to route along concrete above panel and above restroom door. Ceiling is open for wiring access.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted CMU
  - Metal Grating Ceiling, 8-'0" AFF
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles in door and below ceiling

Knott Park - B



05 Knott Park - Restroom B (West)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1) (Note: the existing door is grouted in place.)

DEMO KEYNOTES:

D1 Remove existing hollow metal door, frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electrical panel and prepare for new panel.

RENOVATION KEYNOTES:

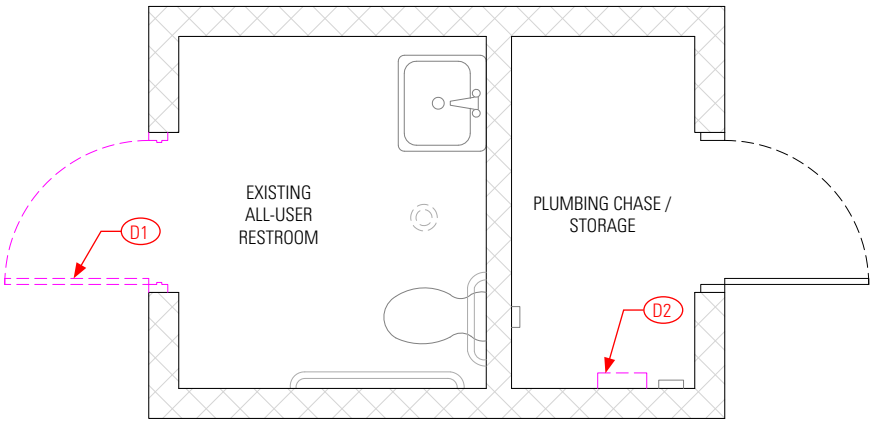
1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (*Note: at this location to undercut door 1" for ventilation*) (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

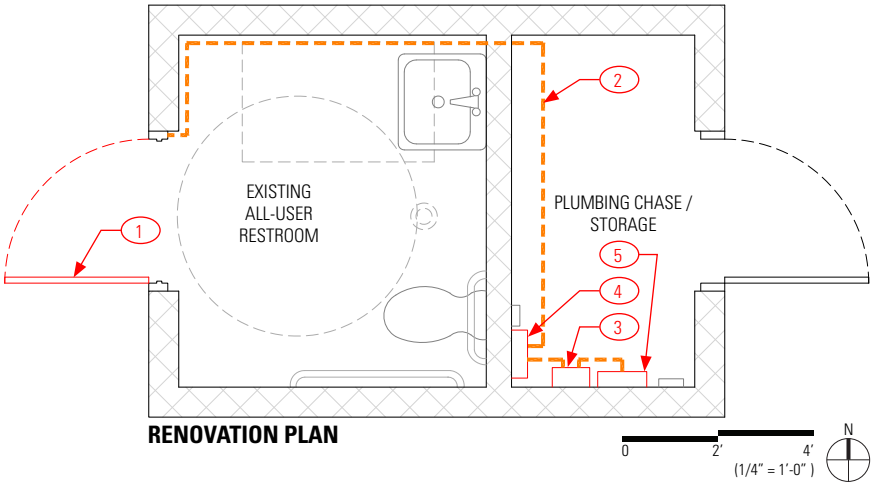
3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

5 Provide and coordinate installation of new electrical panel.



DEMO PLAN



RENOVATION PLAN

ELECTRICAL ASSESSMENT NOTES:

Remove panel and install a new 12 circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits, a 20A breaker door lock circuit and two spare 20A breakers. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the plumbing chase. Program Intermatic ET8215C for single door lock coordinating with existing light control. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to door strike.

Route conduit above panel along concrete, via ceiling space and along northern ceiling of bathroom to above door frame, then down along concrete wall to door frame.

Install and wire electronically controlled door strike. Run signal wire for door contact through conduit to door frame and install contact. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

06 Arbor Lodge Park - Restroom A

N Bryant Street and N Delaware Avenue,
Portland, OR

Existing Conditions:

The Arbor Lodge Park Restroom is a mixture of clay tile and CMU structure with exterior finishes of brick, tile and plaster. Interior metal stud partitions separate the two restrooms from the storage area and a wood framed asphaltic roof assembly encloses the space.

Exterior Door + Frame

- Serviceable condition, Minimal overall wear
- 3'-0"x 7'-0" Wood Door
- HM Welded Frame

Hardware

- Minimal wear
- Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer

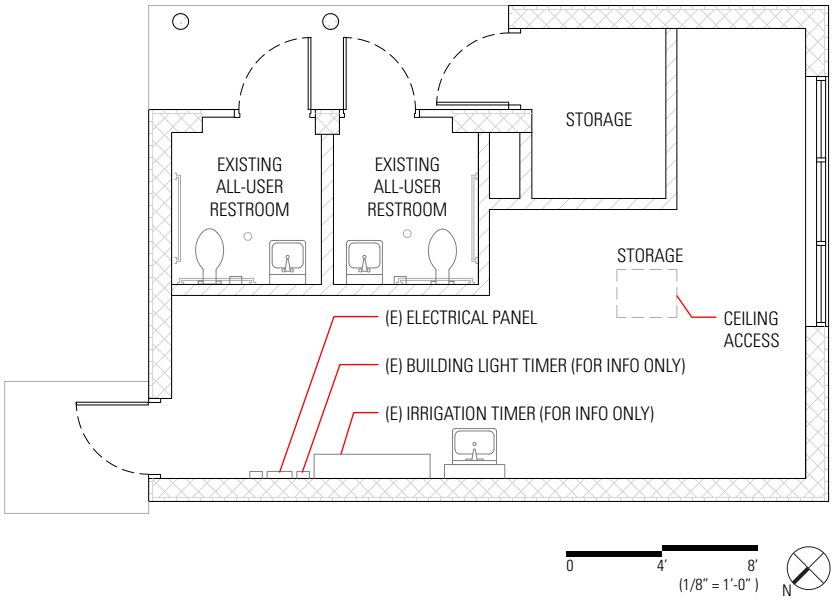
Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by CMU and metal stud partitions
- Existing lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- No spare circuit breaker slots available
- Spaces available in electric panel (many breakers have dual handle breakers but spaces are still available.)
- Conduit will be required to route along concrete above panel. Ceiling is open for wiring access.

Miscellaneous

- Interior Finishes
  - Tile on Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Exhaust Fans

Arbor Lodge Park- A



06 Arbor Lodge Park - Restroom A

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

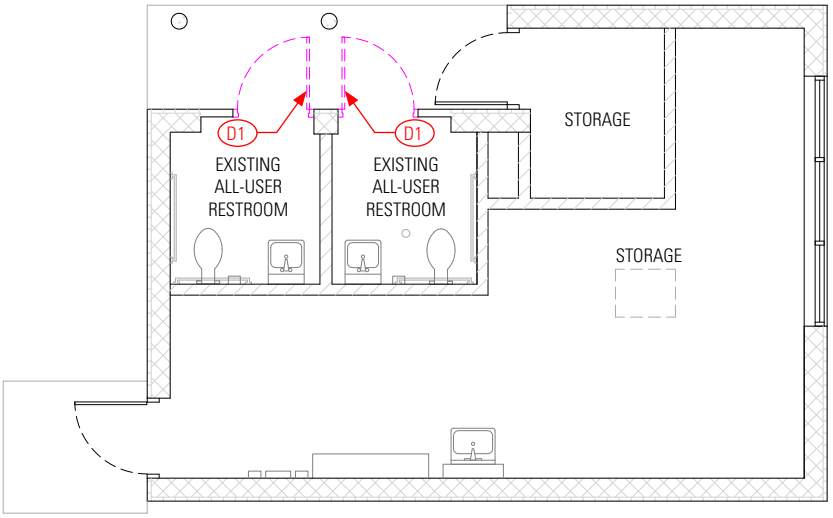
RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

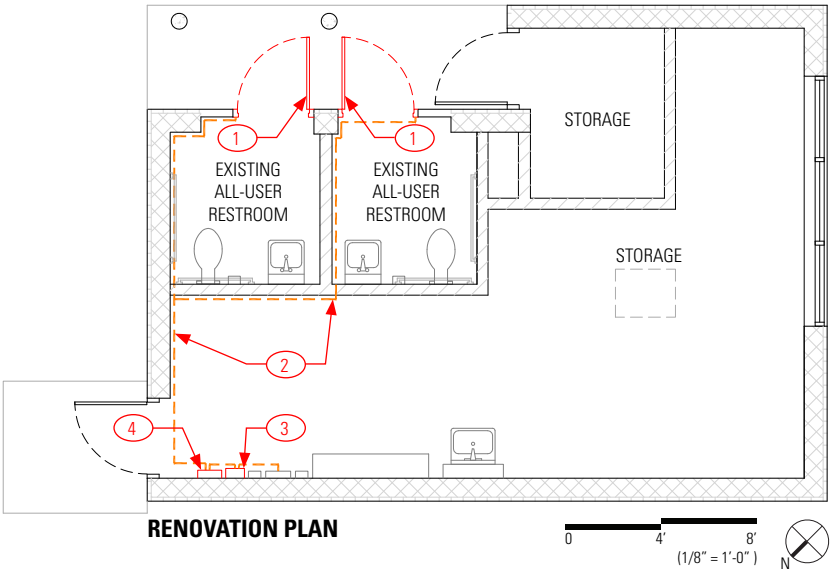
2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)



DEMO PLAN



RENOVATION PLAN

ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Remove 1 existing space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Route conduit above panel, then run wire for both restrooms southeast through storage ceiling and above wall between two all-user restrooms. Route above each door frame to the northeast and southwest respectively, and down to two separate restroom door strikes.

Install and wire two electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

07 Cathedral Park - Restroom A

N Edison Street and Pittsburgh Avenue,
Portland, OR

Existing Conditions:

The Cathedral Park Restroom is a CMU structure with wood framed standing seam metal roof assembly.

Exterior Door + Frame

- Moderate wear, slight corrosion on frame
- 3'-0"x 7'-0" Wood Door
- HM Welded Frame, Grouted

Hardware

- Minimal wear
- Keyed Lever + Keyed Knob | Stainless
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

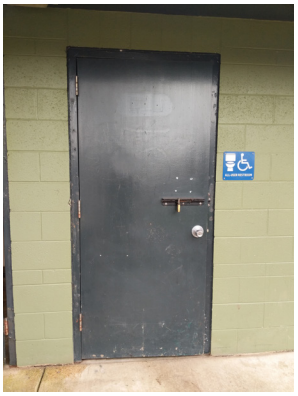
Electrical

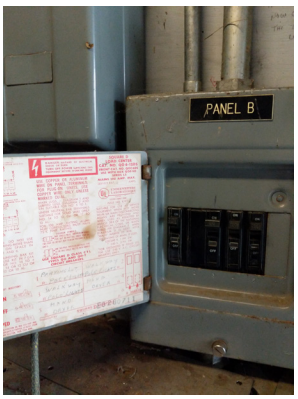
- Two electrical panels located in adjacent plumbing chase, separated from restrooms by CMU partition
- Voltage is 240/120
- One 30A spare circuit breaker available (PNL A-5)
- Spaces available in PNL A-6 and PNL B-6 electric panels
- Conduit will be required to route along concrete above panel and above restroom door. Storage room ceiling is open for wiring access.

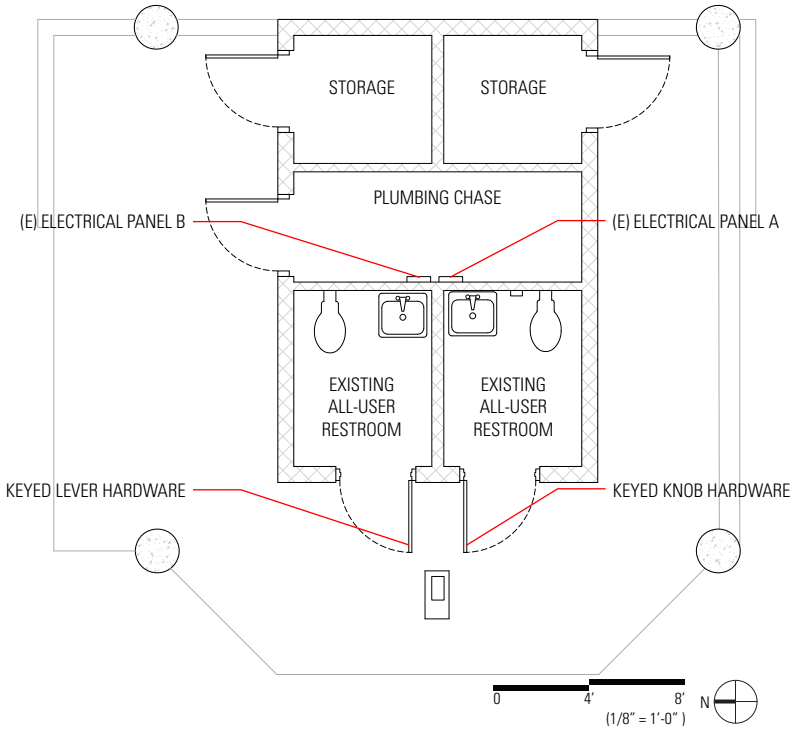
Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted CMU with framed walls above extending to roof
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Exhaust Fans

Cathedral Park- A







07 Cathedral Park - Restroom A

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1) (Note: the existing door is grouted in place.)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

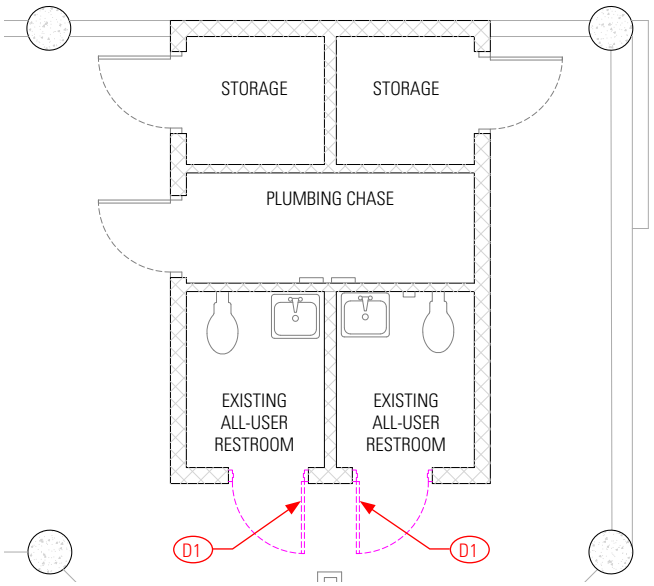
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

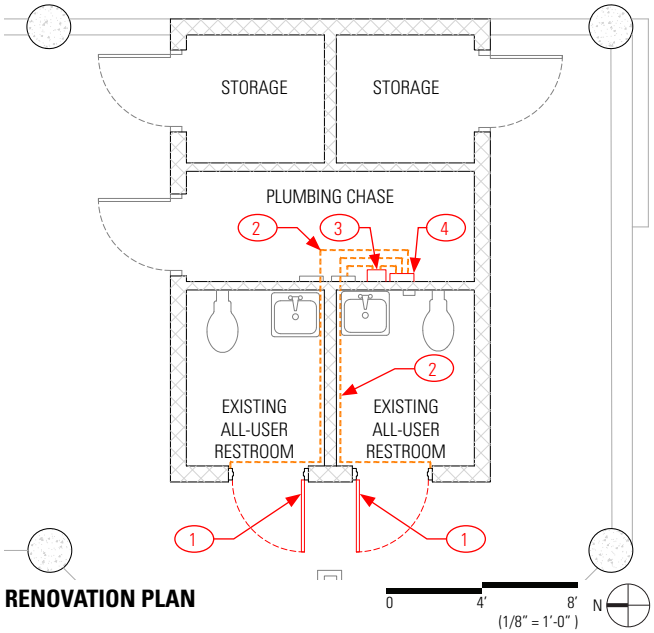
Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Remove 1 existing space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Route conduit above panel, then run wire for both restrooms west through plumbing chase open ceiling and upper wall between two all-user restrooms and split down to two separate restroom door strikes.

Install and wire two electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.



DEMO PLAN



RENOVATION PLAN

08 Kenton Park - Restroom A

8417 N Brandon Avenue,
Portland, OR

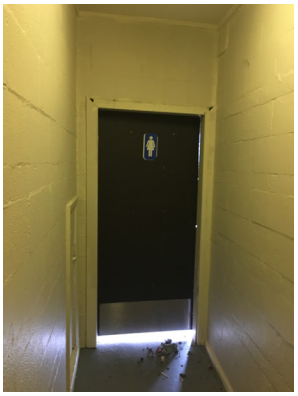
Kenton Park- A

Existing Conditions:

The Kenton Park Restroom has an exterior brick cladding on CMU with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear, door veneer worn away in areas
- 3'-0"x 6'-8" Wood Door
- Wood Frame



Hardware

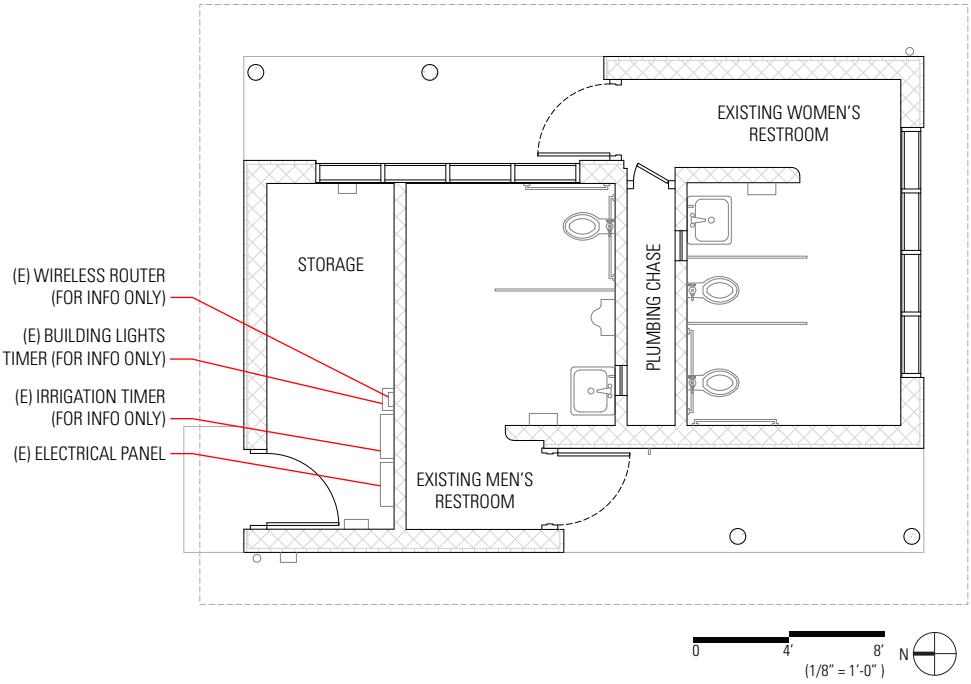
- Minimal wear
- Locking by Surface Mounted Slide Bolt with Padlock

Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by CMU partition
- Existing lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- No spare circuit breaker slots available
- One space available in electric panel
- Conduit will be required to route along concrete above panel and above restroom door.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted CMU
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles



08 Kenton Park - Restroom A

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 2)

DEMO KEYNOTES:

D1 Remove existing wood door, wood frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electrical panel and prepare for new panel.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 2)

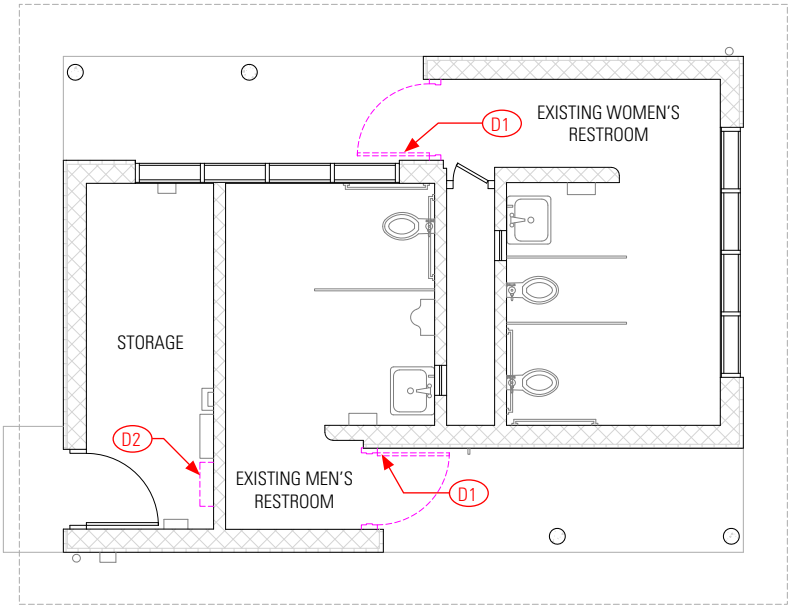
2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 2)

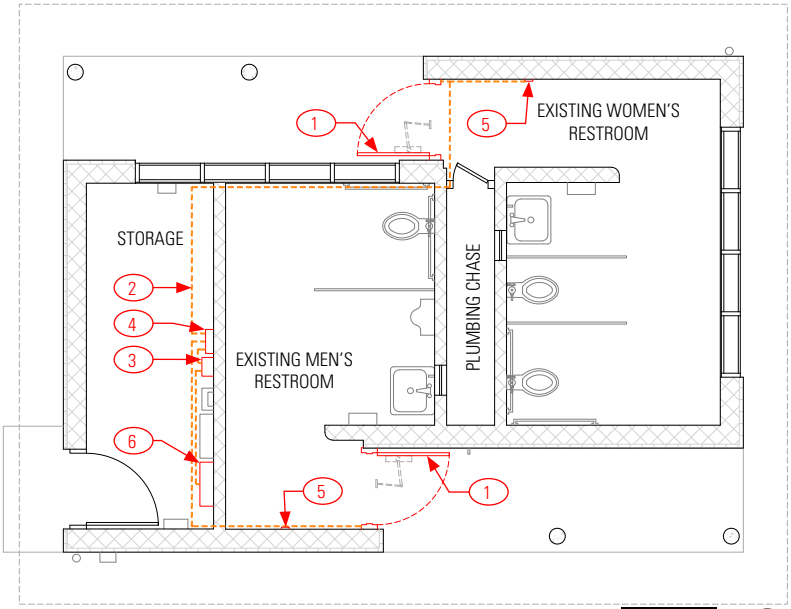
4 Provide new Transformer. (See Door Hardware: Set 2)

5 For door operation and access compliance an actuator/opener is necessary due to the inadequate push side clearance. Provide new door actuator and install according to manufacturer's instructions and ADA required mounting heights and clearances. Route electrical as necessary for proper installation and full system functionality (Install similarly to other wiring.)

6 Provide and coordinate installation of new electrical panel.



DEMO PLAN



RENOVATION PLAN

0 4' 8' N
(1/8" = 1'-0")

ELECTRICAL ASSESSMENT NOTES:

Remove panel and install new 200A 30 circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits along with a 20A door lock circuit, a 20A ADA actuator circuit and two 20A spares. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Wire Intermatic ET8215C followed by transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For men's restroom: Route conduit above panel, then run wire west along south wall of storage area, through wall between storage room and men's restroom, along west wall to men's room door frame. Wire down to men's room door strike. For women's restroom: Route conduit above panel, east along south wall, through storage wall along men's room east wall then west along women's room north wall to above women's door frame. Wire to door strike.

Install and wire two electronically controlled door strikes. Install an ADA door actuators adjacent to each restroom door as shown in drawing. Run additional conduit from above each restroom door frame to the actuators. Wire 120 VAC to ADA door closers followed by ADA door actuators and return. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

09 Northgate Park - Restroom A

N Geneva Avenue and Fessenden Street,
Portland, OR

Existing Conditions:

The Northgate Park Restroom is a mixture of painted concrete and ceramic tile cladding on precast concrete walls with a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear, corrosion at base of frame
- 2'-8"x 6'-8" Wood Door
- HM/KD Frame

Hardware

- Extensive wear, hinges in poor condition
- Keyed Lever + Keyed Knob | Stainless
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

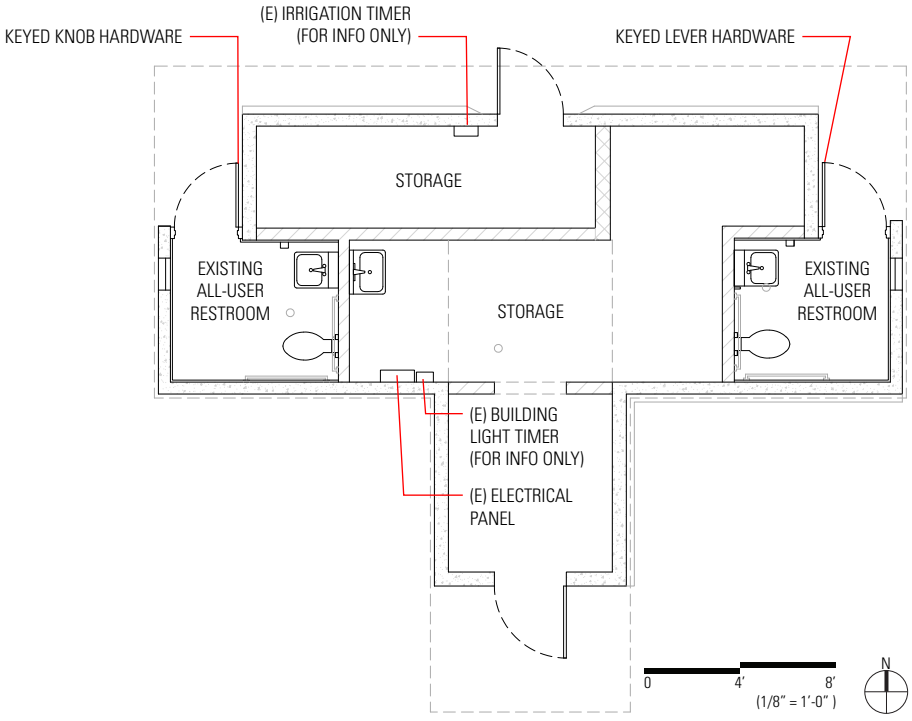
Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by CMU partition
- Existing lighting timer adjacent to panel
- Voltage is 240/120
- One 20A spare circuit breaker available (slot 4)
- Spaces available in electric panel
- Conduit will be required to route along concrete above panel and above restroom door.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Exhaust Fans

Northgate Park- A



09 Northgate Park - Restroom A

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 2)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

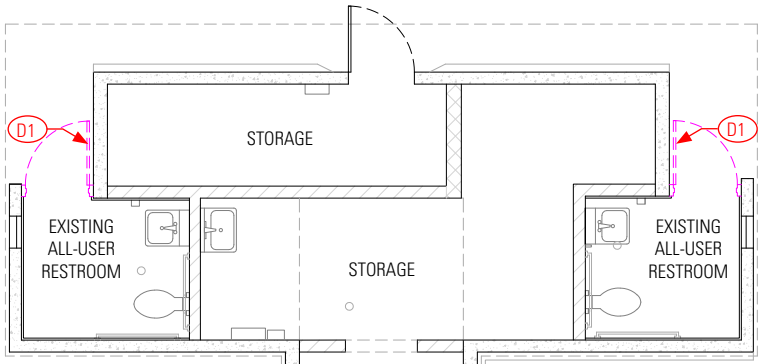
1 Install new hollow metal door, door frame and hardware. Provide new louvered transom to replace existing glass transom. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 2)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

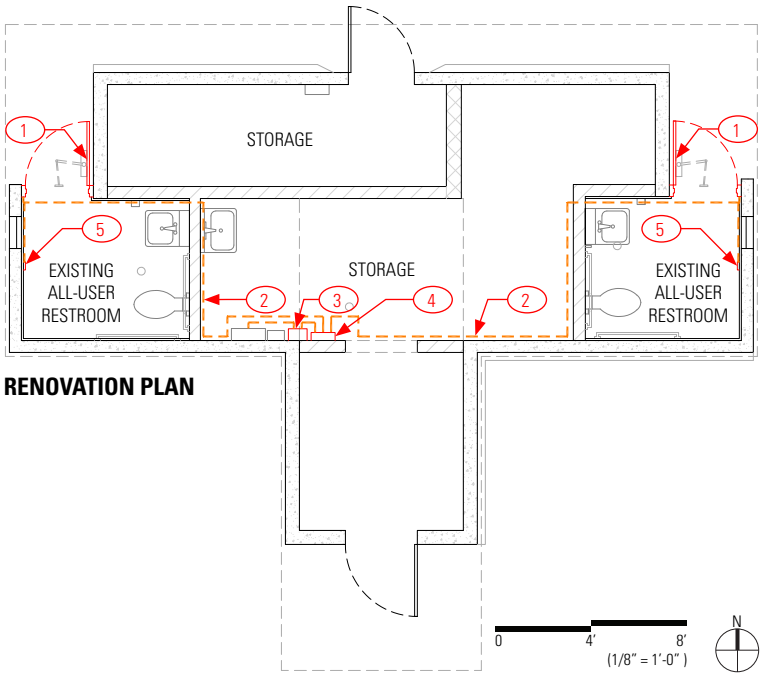
3 Provide new Electronic Time Switch. (See Door Hardware: Set 2)

4 Provide new Transformer. (See Door Hardware: Set 2)

5 For door operation and access compliance an actuator/ opener is necessary due to the inadequate push side clearance. Provide new door actuator and install according to manufacturer's instructions and ADA required mounting heights and clearances. Route electrical as necessary for proper installation and full system functionality (Install similarly to other wiring.)



DEMO PLAN



RENOVATION PLAN

ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Utilize existing 20 A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For west restroom: Route conduit above electrical panel, run wire west via south wall and then north via west wall to door frame. Wire to door strike. For east restroom: Route conduit above electrical panel, run wire east via south wall and then north via east wall to door frame. Wire to door strike.

Install and wire two electronically controlled door strikes. Remove 1 existing space and install 20A circuit breaker for the ADA door actuator circuit. Install an ADA door actuators adjacent to each restroom door as shown in drawing. Run additional conduit from above each restroom door frame to the actuators. Wire 120 VAC to ADA door closers followed by ADA door actuators and return. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

10 Pier Park - Restroom C (South)

N Lombard Street and Bruce Avenue,
Portland, OR

Existing Conditions:

The Pier Park Restroom has an exterior brick cladding on clay tile with interior clay tile partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear
- 3'-0"x 7'-0" Wood Door
- Wood Frame

Hardware

- Minimal wear
- Keyed Lever | Stainless
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

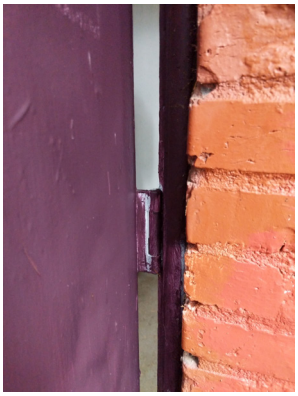
Electrical

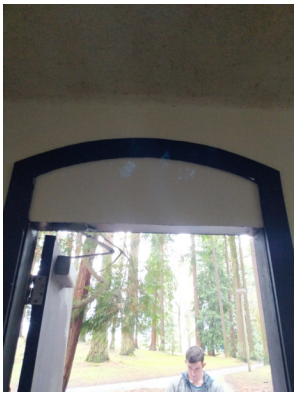
- Electrical panel located in adjacent storage area, separated from restrooms by clay tile partition
- Existing lighting timer adjacent to panel
- Voltage is 240/120 (load main, exterior meter was locker)
- One 20A spare circuit breaker available (slot 12)
- Spaces available in electric panel
- Conduit will be required to route along concrete above panel, along eastern storage room wall to above restroom door.

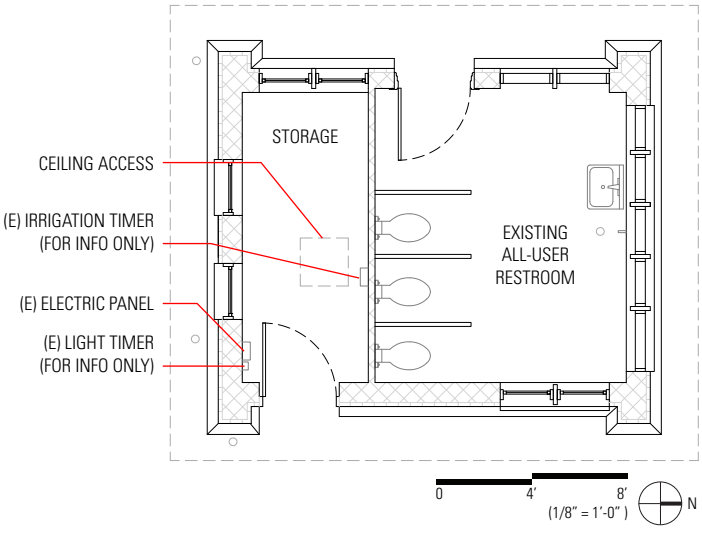
Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted Plaster Walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles

Pier Park- C







10 Pier Park - Restroom C (South)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, wood frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Provide new louvered transom to replace existing transom. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

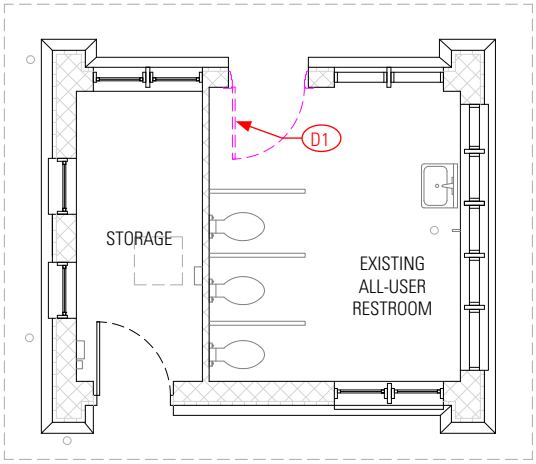
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

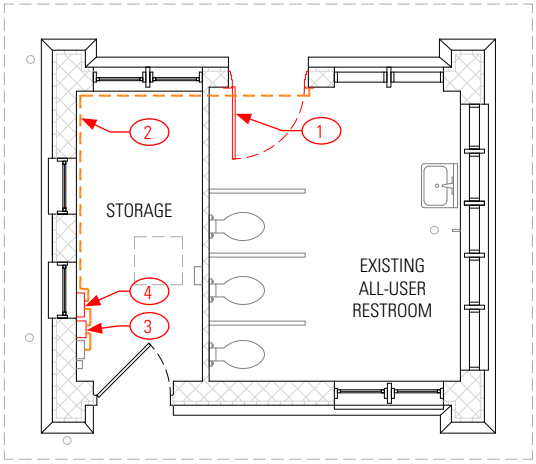
Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for door lock coordinating with existing light control. Utilize existing 20 A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to door strike.

Route conduit above electrical panel, along storage room ceiling to the east, then north along wall of storage room then east via northern wall to door frame. Wire to door strike.

Install and wire electronically controlled door strike. Run signal wire for door contact through conduit to door frame and install contact. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.



DEMO PLAN



RENOVATION PLAN

0 4' 8'
(1/8" = 1'-0")
N

11 Pier Park - Restroom B (North)

N Lombard Street and Bruce Avenue,
Portland, OR

Existing Conditions:

The Pier Park Restroom has a CMU structure with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear
- 3'-0"x 7'-0" HM Door
- HM/KD Frame

Hardware

- Moderate wear
- Keyed Lever | Stainless
- Door Closer
- Patch over removed Cylinder Lock

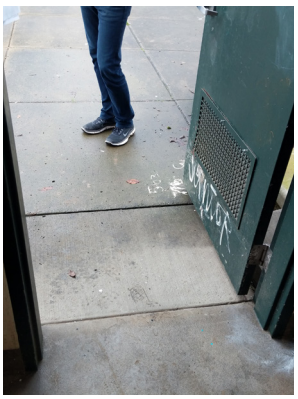
Electrical

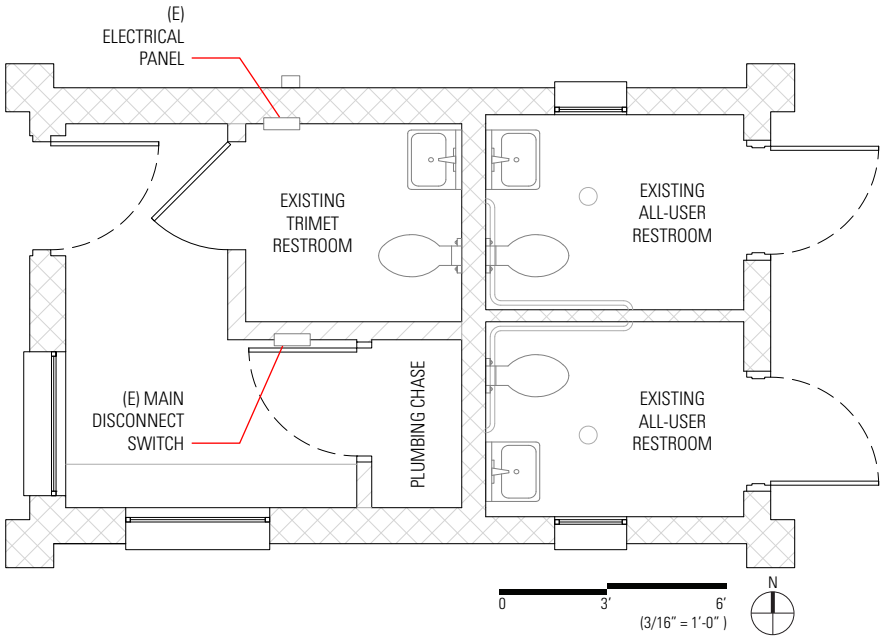
- Electrical panel located in adjacent room separated from restrooms by CMU partition, which is currently for TriMet use only, (locating a panel in a restroom is not to code due to difficulty accessing the panel in an emergency)
- Existing lighting timer adjacent to panel
- Voltage is 240/120
- No spare circuit breaker slots available
- Spaces available in electric panel
- Conduit will be required to route along wall above panel, along eastern plumbing chase wall and along upper bathroom wall to above restroom doors.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted Gyp. Board Walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles in door

Pier Park - B





11 Pier Park - Restroom B (North)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1) (Note: the existing door may be grouted in place.)

DEMO KEYNOTES:

D1 Remove existing hollow metal door, frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove and relocate existing electrical panel and controls.

RENOVATION KEYNOTES:

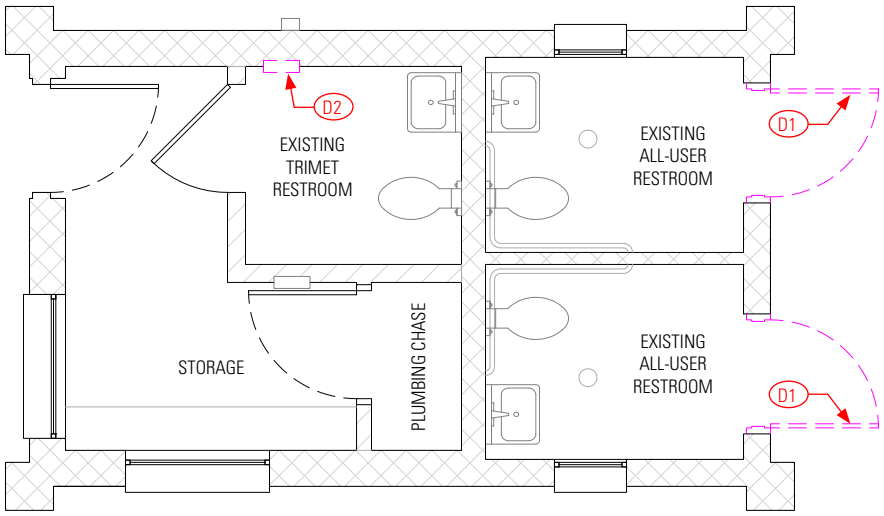
1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (*Note: at this location to undercut door 1" for ventilation*) (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

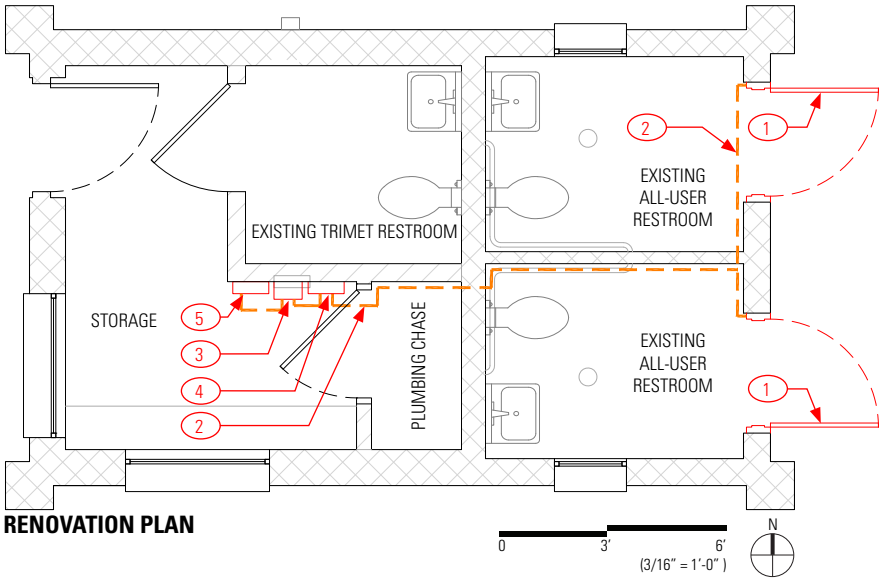
3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

5 Install relocated electrical panel and controls.



DEMO PLAN



RENOVATION PLAN

ELECTRICAL ASSESSMENT NOTES:

Relocate electric panel and existing controls with 3 feet of front clearance, to TriMet lounge, coordinate relocation with TriMet and Portland Parks & Recreation. Mount Intermatic ET8215C and transformer adjacent to relocated electrical panel in TriMet lounge. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Remove 1 existing space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Route conduit above electrical panel, run conduit east via upper north wall of plumbing chase, then east along wall between two all-gender restrooms. Split conduit and run to each door frame. Wire to door strikes.

Install and wire two electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

16 Grant Park - Restroom

NE 33rd Avenue and US Grant Place,
Portland, OR

Existing Conditions:

The Grant Park Restroom has an exterior brick cladding on clay tile with interior metal stud partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear
- 3'-0"x 6'-8" Wood Door
- HM/KD Frame

Hardware

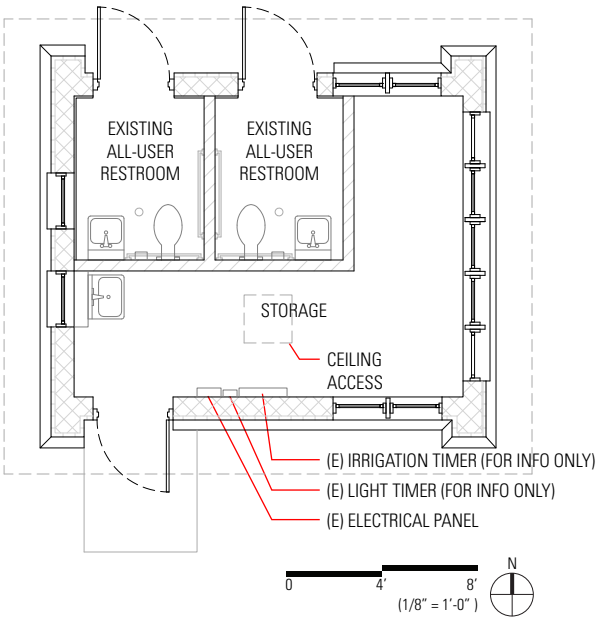
- Minimal wear
- Keyed Lever | Stainless
- Door Closer

Electrical

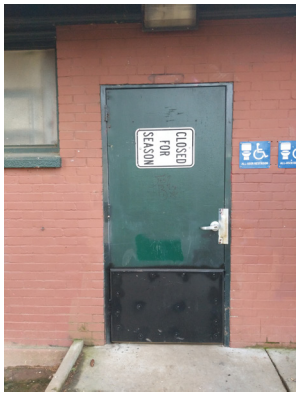
- Electrical panel located in adjacent storage area, separated from restrooms by metal stud partitions
- Existing lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- No spare circuit breaker slots available
- No space available in electric panel (slot 7 is not labeled)
- Conduit will be required to route along concrete above panel.

Miscellaneous

- Interior Finishes
  - Tile on Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Ceiling Exhaust Fans



Grant Park



16 Grant Park - Restroom

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electrical panel and prepare for new panel.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

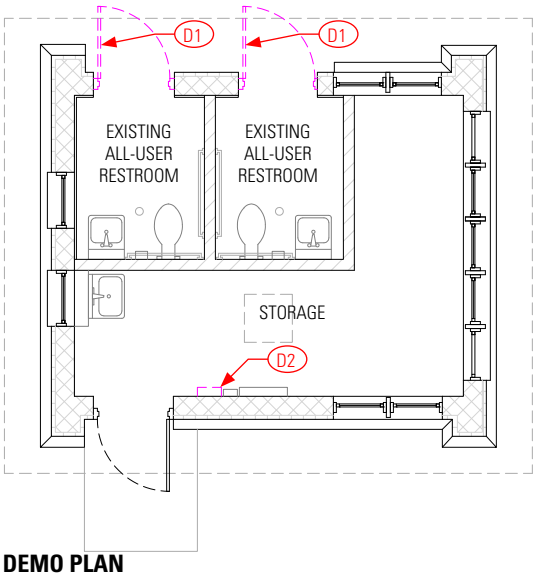
5 Provide and coordinate installation of new electrical panel.

ELECTRICAL ASSESSMENT NOTES:

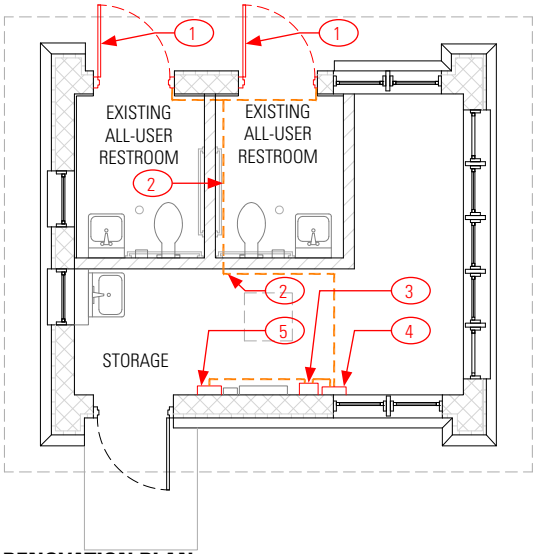
Remove panel and install new 100A 30 circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits along with a 20A door lock circuit and two 20A spares. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Route conduit above electrical panel into ceiling, then run wire north above wall between two all-gender restrooms. Split and run into two separate door frames. Wire to door strikes.

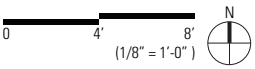
Install and wire two electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.



DEMO PLAN



RENOVATION PLAN



17 Irving Park - Restroom

NE 7th Avenue and Fremont Street,
Portland, OR

Existing Conditions:

The Irving Park Restroom has a brick structure with porcelain tile or stucco exterior finish. CMU or wood framing partitions separate the bathrooms and storage areas and a concrete roof encloses the structure.

Exterior Door + Frame

- Minimal wear
- 3'-0"x 6'-8" Wood Door
- HM Welded Frame

Hardware

- Minimal wear
- Pull / Push | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer

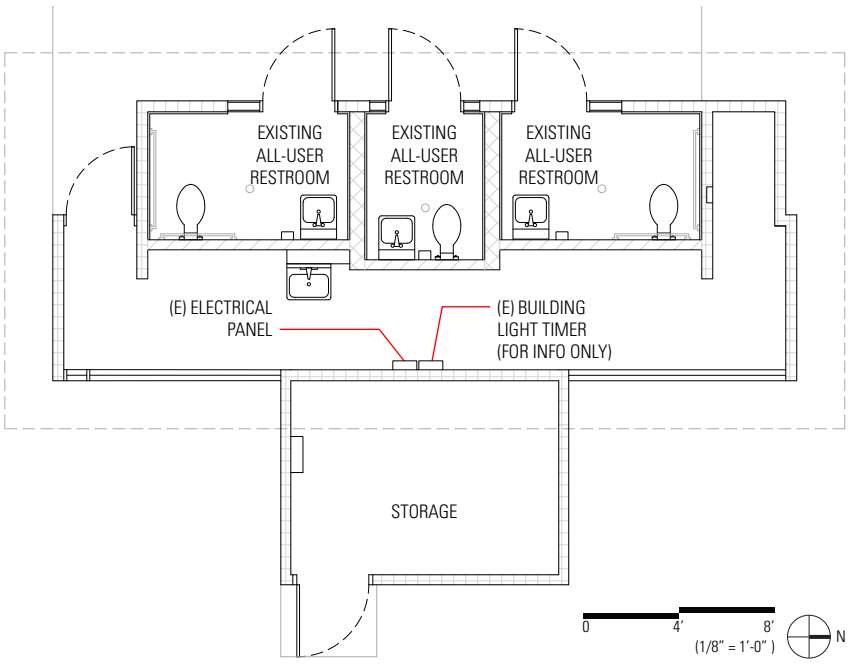
Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by CMU and wood stud partitions
- Existing lighting timer adjacent to panel
- CB Voltage is 120
- No spare circuit breaker slots available
- Spaces available in electric panel
- This site will need a controller that has a control slot for three door locks, or multiple controllers to accommodate three restrooms. Conduit will be required to route along concrete above panel, along ceiling and along tile in restroom.

Miscellaneous

- Interior Finishes
  - Tile on Concrete Slab Floor
  - Ceramic Tile on all interior walls
  - Gyp. Board Ceiling
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Exhaust Fans

Irving Park



17 Irving Park - Restroom

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1) (Note: the existing door may be grouted in place.)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

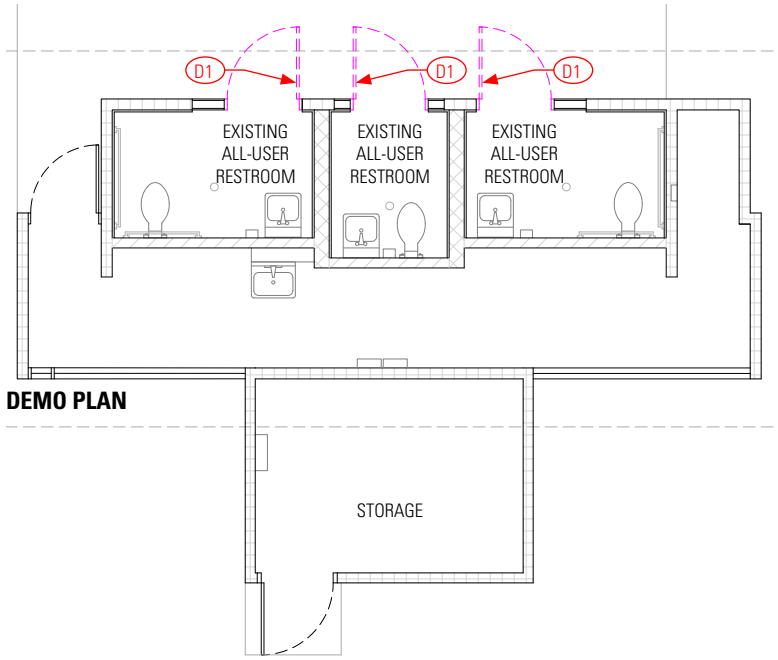
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

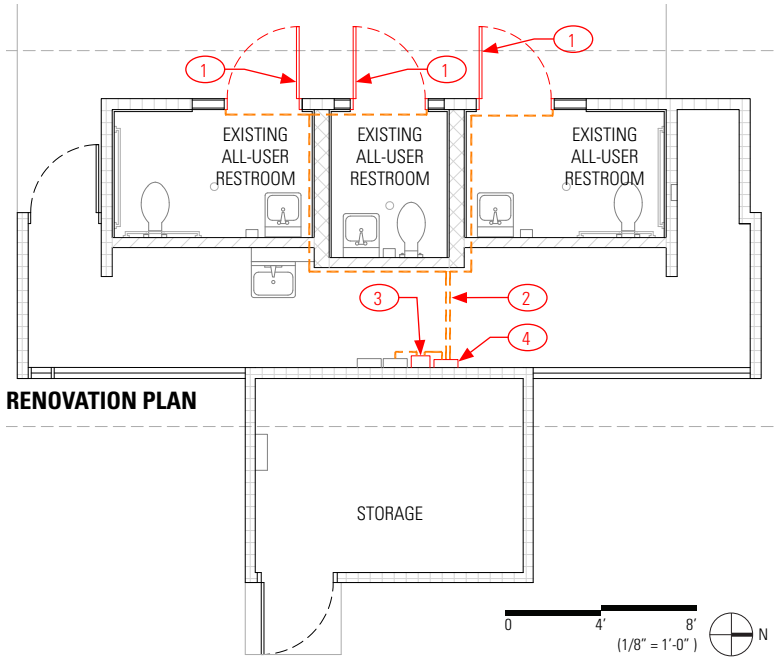
Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 3 door locks coordinating with existing light control. Remove space from panel and install 20A breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Route conduit above electrical panel, along storage room ceiling to the west, split wires for two door locks to the south and the third door lock to the north. Route conduit for south bathrooms west between the southernmost bathroom and middle bathroom to door frame and wire to door strike through door frames. Route conduit for north bathroom west between the north bathroom and middle bathroom to door frame and wire to door strike through door frame.

Install and wire electronically controlled door strike. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. *Note: a controller with 3 outputs to accommodate 3 door locks is required.*



DEMO PLAN



RENOVATION PLAN

19 Berkeley Park - Restroom

SE Cesar E Chavez Boulevard and Bybee Boulevard,
Portland, OR

Existing Conditions:

The Berkeley Park Restroom has an exterior brick cladding on CMU with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear
- 3'-0"x 6'-8" Wood Door
- HM Welded Frame

Hardware

- Minimal wear
- Pull / Push | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer

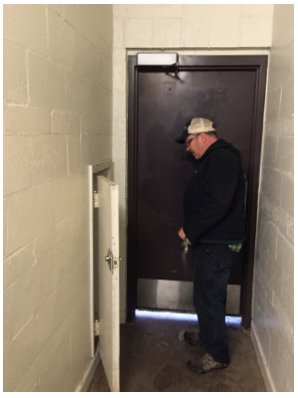
Electrical

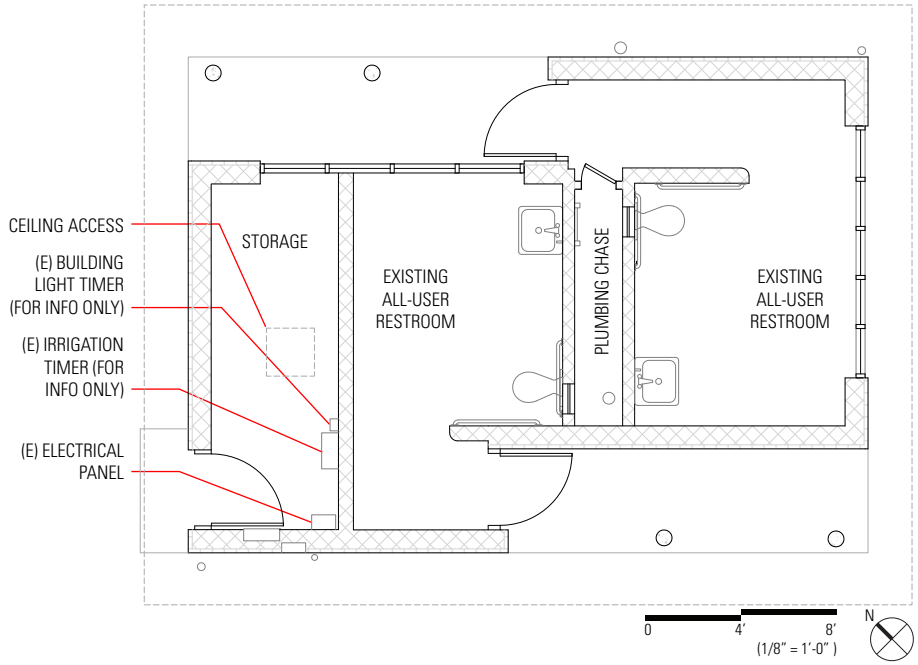
- Electrical panel located in adjacent storage area, separated from restrooms by CMU partitions
- Existing lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- Two 20A spare circuit breakers available (slots 13 and 14)
- Spaces available in electric panel
- Conduit will be required to route along concrete above panel and above restroom door. One of two spares on the electrical panel may be used.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted CMU walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles

Berkeley Park





19 Berkeley Park - Restroom

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 2)

DEMO KEYNOTES:

D1 Remove existing hollow metal door, frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 2)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 2)

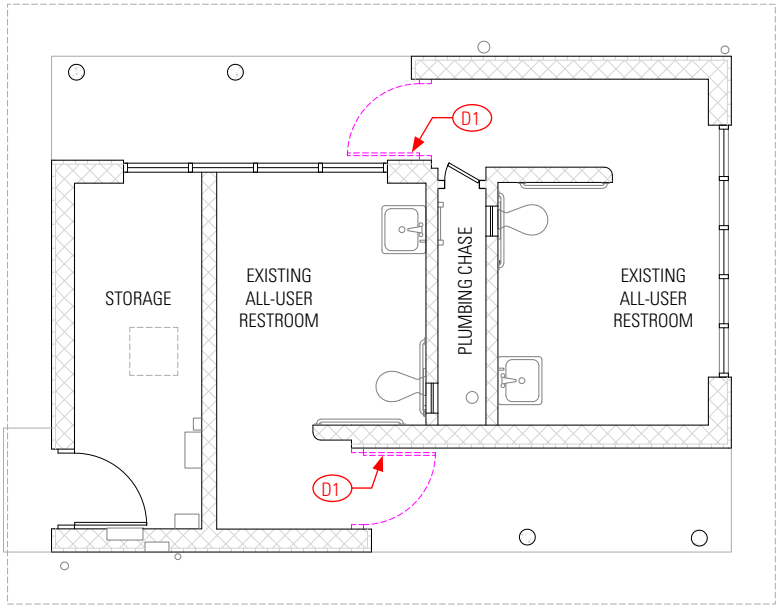
4 Provide new Transformer. (See Door Hardware: Set 2)

5 For door operation and access compliance an actuator / opener is necessary due to the inadequate push side clearance. Provide new door actuator and install according to manufacturer's instructions and ADA required mounting heights and clearances. Route electrical as necessary for proper installation and full system functionality (Install similarly to other wiring.)

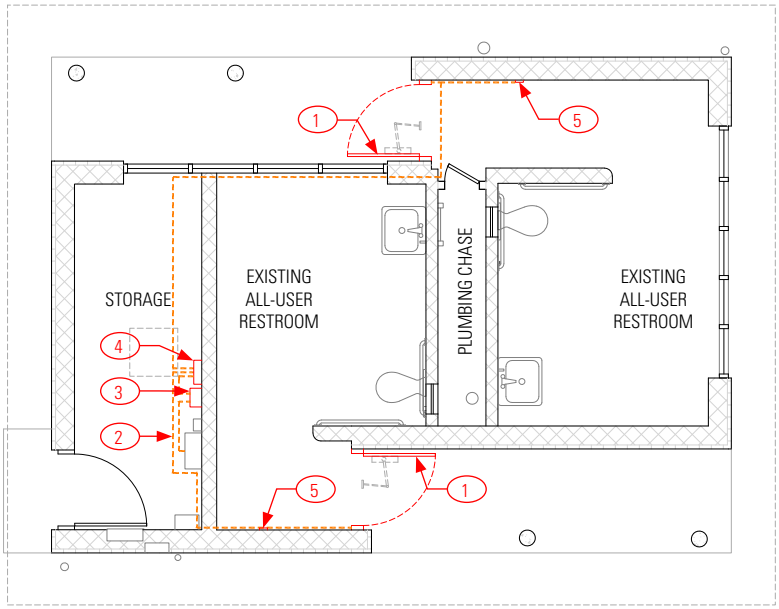
ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 2 door locks coordinating with existing light control. Remove 1 existing space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For west restroom: Route conduit above panel, then run wire southwest along southeast wall of storage area, through wall between storage room and west restroom, along southwest wall to west room door frame. Wire down to west room door strike. For east restroom: Route conduit above panel, northeast along southeast wall, through storage wall along west room northeast wall then northeast along east room north wall to above east room door frame. Wire to door strike.



DEMO PLAN



RENOVATION PLAN

Install and wire two electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.

20 Creston Park - Restroom B (West)

SE 44th Avenue and Powell Boulevard, Portland, OR

Existing Conditions:

The Creston Park Restroom has an exterior brick cladding on clay tile with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Minimal wear
- 3'-0"x 7'-0" Wood Door
- Wood Frame

Hardware

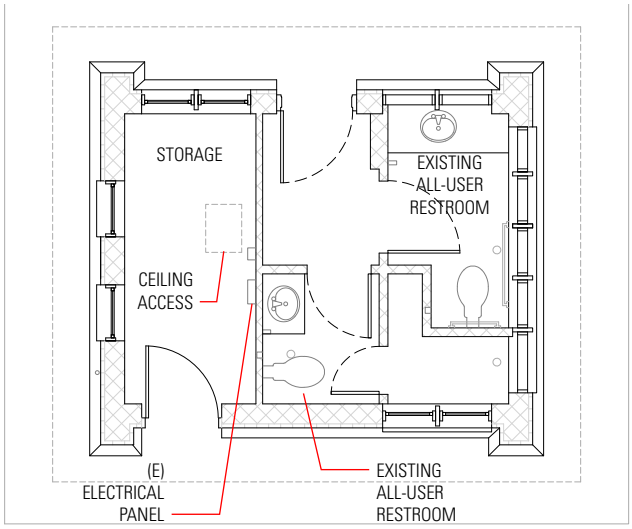
- Minimal wear
- Locking by Surface Mounted Slide Bolt with Padlock

Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by CMU partitions
- Voltage is 240/120
- No circuit breaker slots available
- No space available in electric panel
- Electrical room requires a unique ZA1 key. A single electronic lock will be used for the exterior door which grants access to both restrooms.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles



Creston Park - B

20 Creston Park - Restroom B (West)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, wood frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electrical panel.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

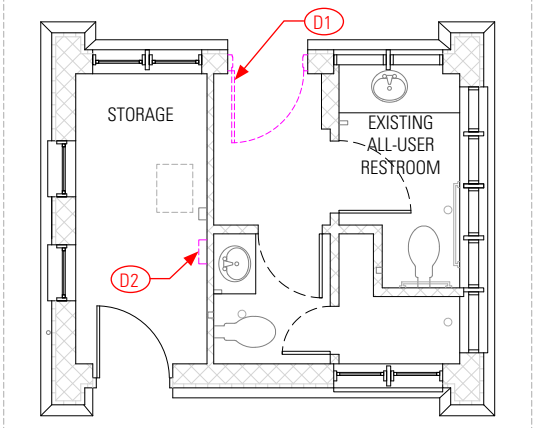
5 Provide and coordinate installation of new electrical panel.

ELECTRICAL ASSESSMENT NOTES:

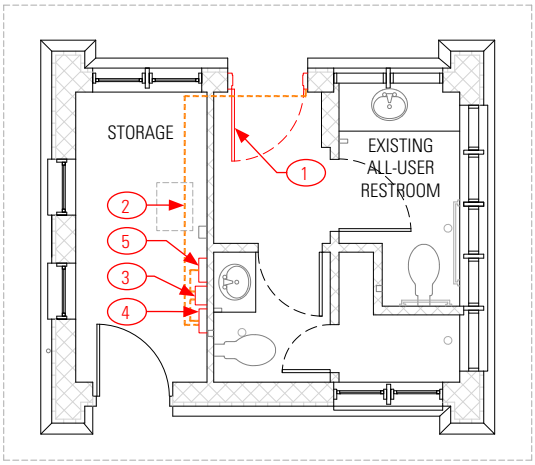
Remove panel and install a new 100A 12 circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits, a 20A breaker door lock circuit and two spare 20A breakers. Fill out panel schedule with all circuit breaker information and place in door. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the storage room. Program Intermatic ET8215C for door lock. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to door strike.

Route conduit above panel into ceiling, then run wire north to exterior door frame. Route conduit down to door on interior side. Wire to door strike via door frame.

Install and wire electronically controlled door strike. Run signal wire for door contact through conduit to door frame and install contact. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.



DEMO PLAN



RENOVATION PLAN

0 4' 8'
(1/8" = 1'-0")
N

21 Creston Park - Restroom A (East)

SE 44th Avenue and Powell Boulevard,
Portland, OR

Existing Conditions:

The Creston Park Restroom has an exterior brick cladding on clay tile with interior CMU partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear, Corrosion at base of door
- 3'-0"x 6'-8" Wood Door
- HM/KD Frame

Hardware

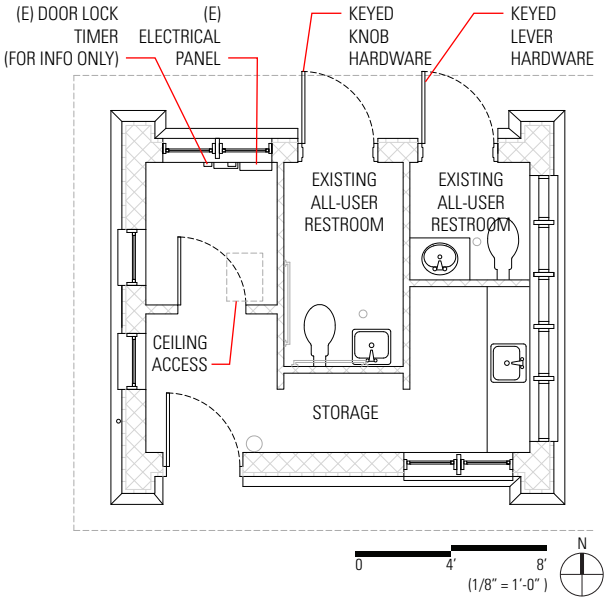
- Moderate wear, hinges rusting
- Keyed Lever + Keyed Knob | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior
- Door Closer

Electrical

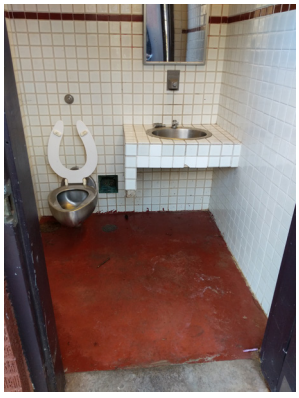
- Electrical panel located in adjacent storage area, separated from restrooms by CMU and metal stud partitions
- Existing lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- Test control slots to determine if they are in use. (Existing lock tied to "Toilet Lights & Locks" panel slot, verify lighting controls still function properly when removing and replacing existing locks.)
- No space available in electric panel
- Electronic door strikes already exist but are not functioning correctly. Door lock controller is an Intermatic EC7000/120. Both door strikes are warm. Existing conduit to door locks may be used. *Note: unique key required to access electrical room.*

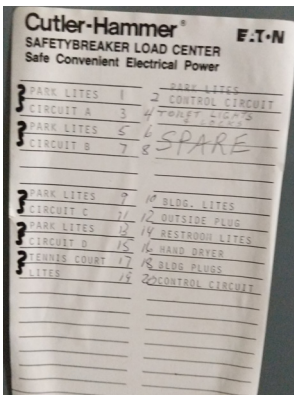
Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles



Creston Park - A





21 Creston Park - Restroom A (East)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electronic door strike and prepare for new.

D3 Remove existing electrical panel and prepare for new panel.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

4 Provide new Transformer. (See Door Hardware: Set 1)

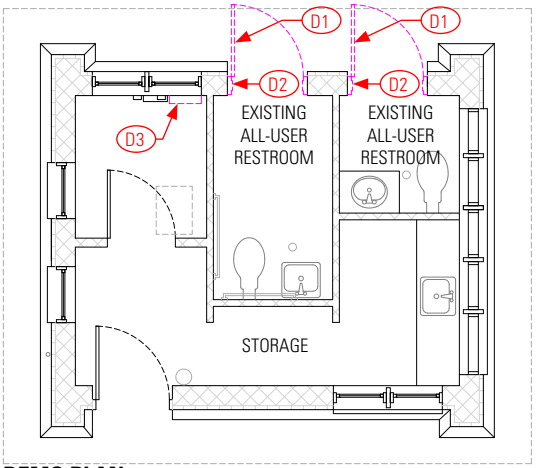
5 Provide and coordinate installation of new electrical panel.

ELECTRICAL ASSESSMENT NOTES:

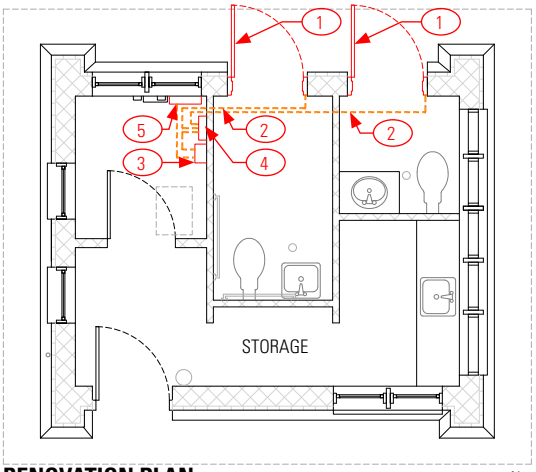
Remove existing door lock controller. Remove panel and install new circuit panel with 3 feet of front clearance, a main breaker matching existing size to accommodate existing circuits along with a 20A door lock circuit and two 20A spares. Mount Intermatic ET8215C and transformer adjacent to new electrical panel in the storage room. Program Intermatic ET8215C for two door locks coordinating with existing light timer. Determine and use existing door lock circuit on electrical panel. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Utilize existing conduit and wiring if adequate.

Install and wire new door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas.



DEMO PLAN



RENOVATION PLAN

0 4' 8'
(1/8" = 1'-0")
N

22 Woodstock Park - Restroom B (North)

SE 47th Avenue and Steele Street,
Portland, OR

Existing Conditions:

The Woodstock Park Restroom has a brick structure with CMU interior partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear, corrosion at base of door
- 3'-0"x 7'-0" Wood Door
- HM/KD Frame

Hardware

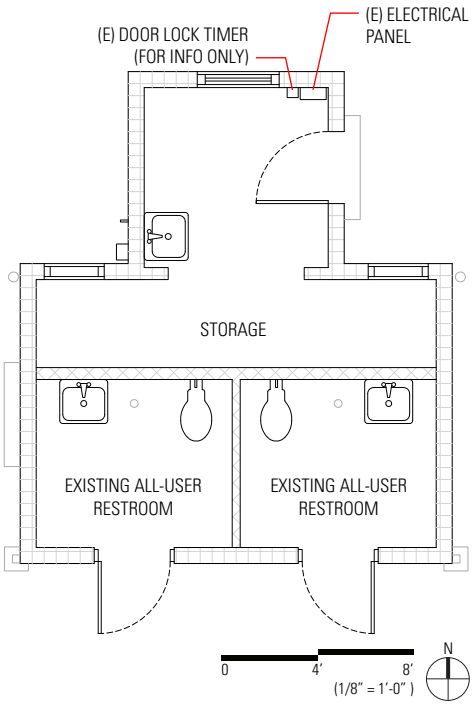
- Minimal wear
- Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer
- Seasonal Locking by Surface Mounted Slide Bolt with Padlock

Electrical

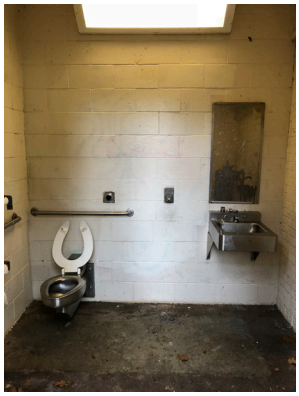
- Electrical panel located in adjacent storage area, separated from restrooms by CMU partition
- Existing door lock / lighting timer adjacent to panel
- Voltage is 240/120
- No circuit breaker slots available, no label for door lock controller
- Spaces available in electric panel
- Electronic door strikes already exist but are not being used. Door lock controller is Intermatic T103. Lights are also controlled by this controller. One door strike is hot, one cool. Panel schedule has not been filled out.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Painted brick and CMU
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles



Woodstock Park - B



22 Woodstock Park - Restroom B (North)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electronic door strike and prepare for new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

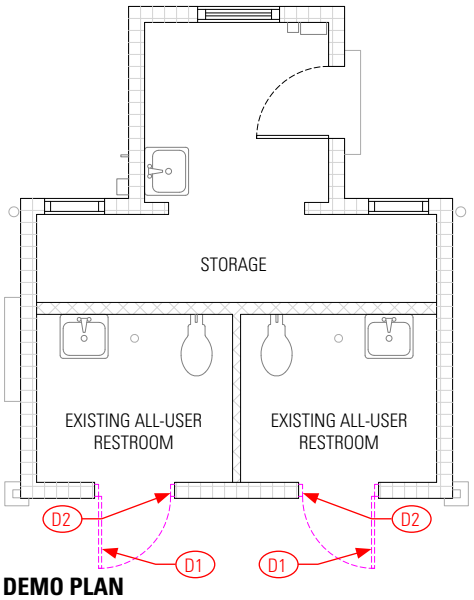
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

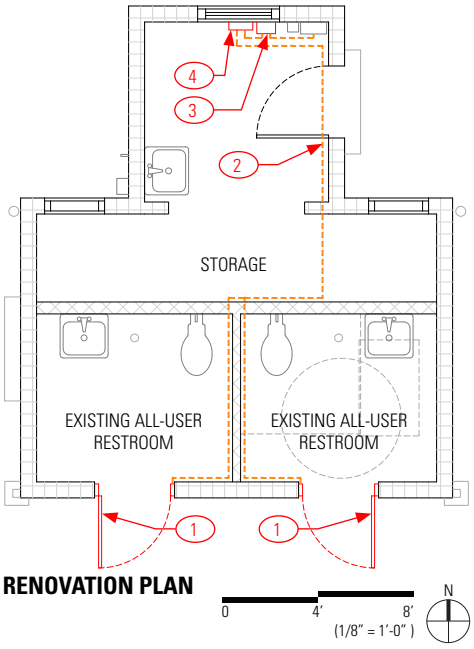
Remove existing door lock controller. Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for two door locks. Determine and use existing door lock circuit on electrical panel. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

Utilize existing conduit and wiring if adequate.

Install and wire new door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. Determine location of existing door lock circuit on panel and label. Fill out panelboard schedule and store in door.



DEMO PLAN



RENOVATION PLAN

23 Woodstock Park - Restroom A (South)

SE 47th Avenue and Steele Street,
Portland, OR

Existing Conditions:

The Woodstock Park Restroom has a brick structure with CMU interior partitions and a wood framed asphaltic roof assembly.

Exterior Door + Frame

- Moderate wear
- 2'-10"x 7'-0" Wood Door
- HM/KD Frame

Hardware

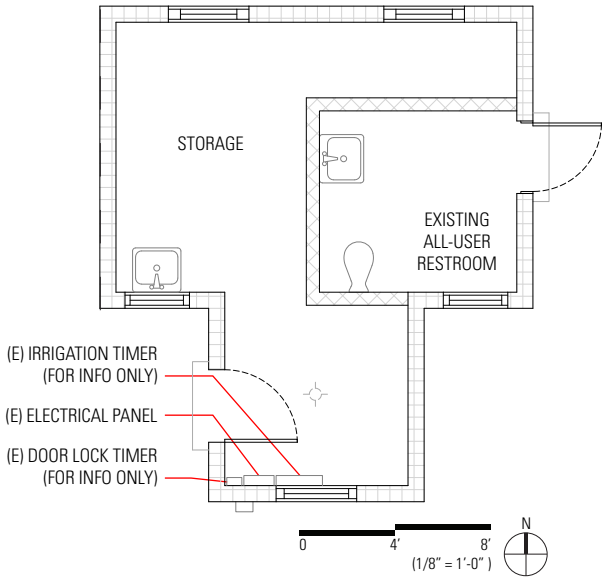
- Minimal wear
- Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer

Electrical

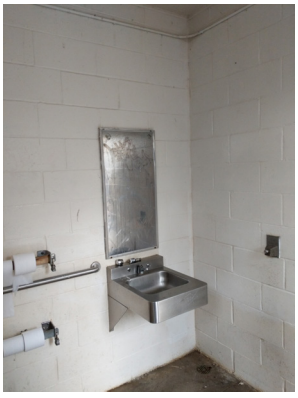
- Electrical panel located in adjacent storage area, separated from restroom by CMU partition
- Existing door lock / lighting and irrigation timers adjacent to panel
- Voltage is 240/120
- Use existing circuit breaker labeled "Door Lock" (slot 9)
- Spaces available in electric panel
- There is existing door lock conduit, wiring and electrical panel slot, but a door strike has not been installed on the door.

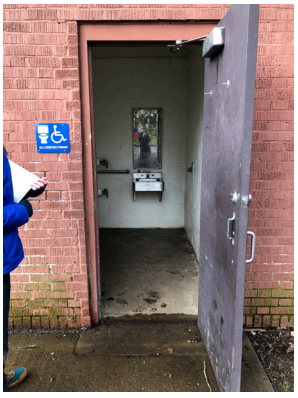
Miscellaneous

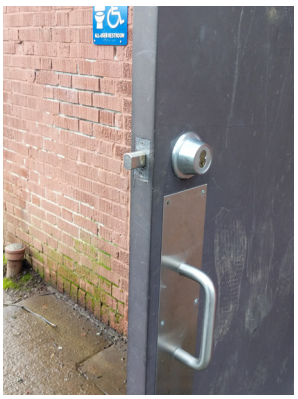
- Interior Finishes
  - Concrete Slab Floor
  - Painted brick and CMU
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural ventilation through exterior grilles



Woodstock Park - A







23 Woodstock Park - Restroom A (South)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

D2 Remove existing electronic door strike and prepare for new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

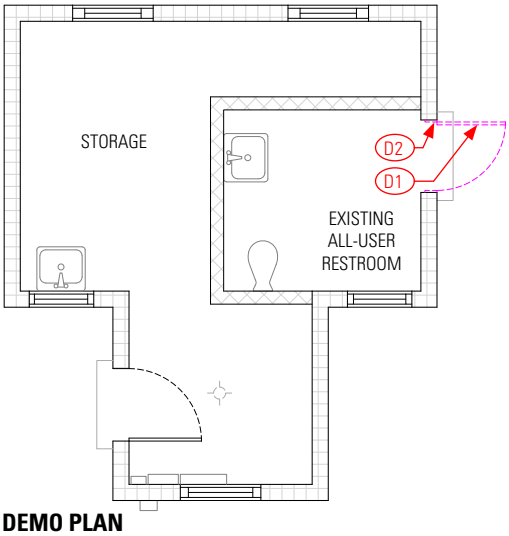
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

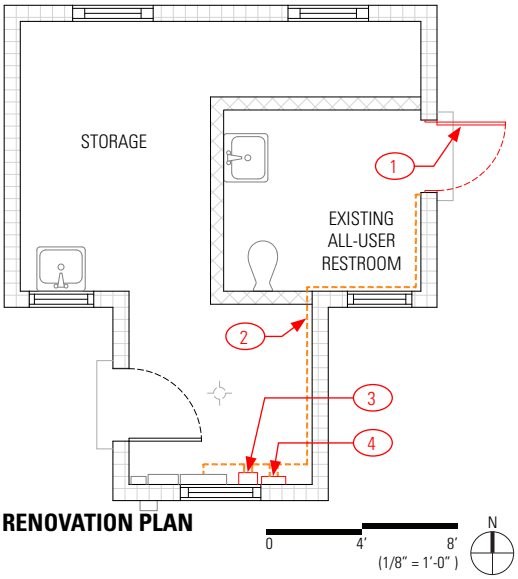
Remove existing door lock controller. Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for door lock. Use existing door lock circuit on electrical panel. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to door strike.

Utilize existing conduit and wiring if adequate.

Install and wire new door strikes. Run signal wire for door contact through conduit to door frame and install contact. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. Determining panel loads to fill out panel schedule. Panel was installed upside down. Fill out panel schedule with all installed electrical fixtures.



DEMO PLAN



RENOVATION PLAN

24 Gabriel Park - Restroom A

SW 45th Avenue and Vermont Street,
Portland, OR

Existing Conditions:

The Gabriel Park Restroom is a concrete structure with interior wood stud partitions.

Exterior Door + Frame

- Minimal wear
- (2) 2'-10"x 7'-0" + (1) 2'-8"x 7'-0" HM Door
- HM/KD Frame

Hardware

- Minimal wear
- Push / Pull | Stainless
- Cylinder Lock | Keyed Exterior / Thumb-turned Interior (non-ADA)
- Door Closer

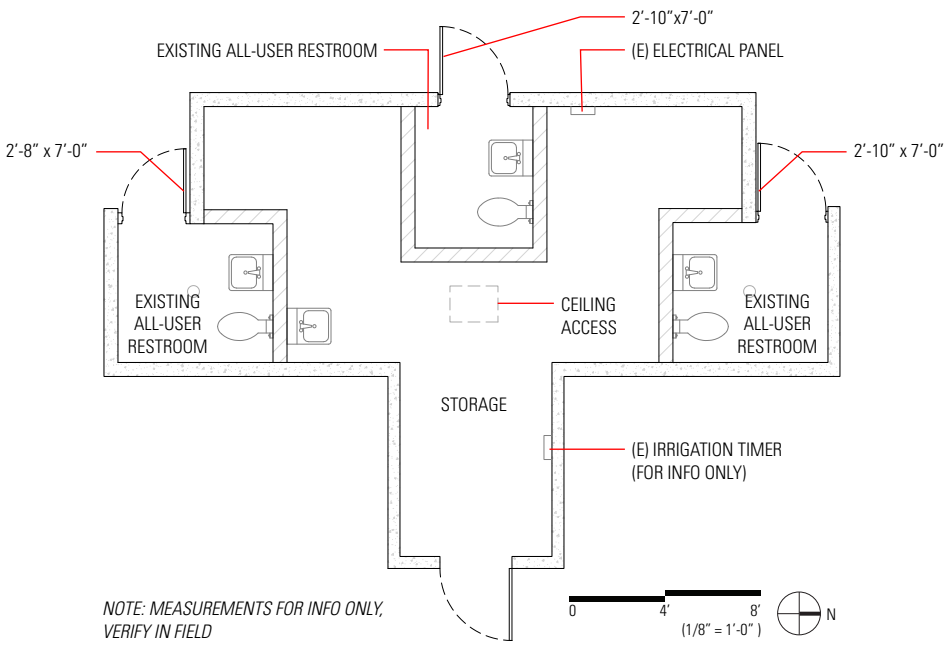
Electrical

- Electrical panel located in adjacent storage area, separated from restrooms by wood stud partitions
- Existing irrigation timer in storage area
- Voltage is 240/120
- No circuit breaker slots available
- Spaces available in electric panel
- Conduit will be required to route above panel, along ceilings to restroom doors.

Miscellaneous

- Interior Finishes
  - Tile on Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Mechanical Exhaust Fans

Gabriel Park- A



24 Gabriel Park - Restroom A

Electronic Locking Hardware Renovation Scope:

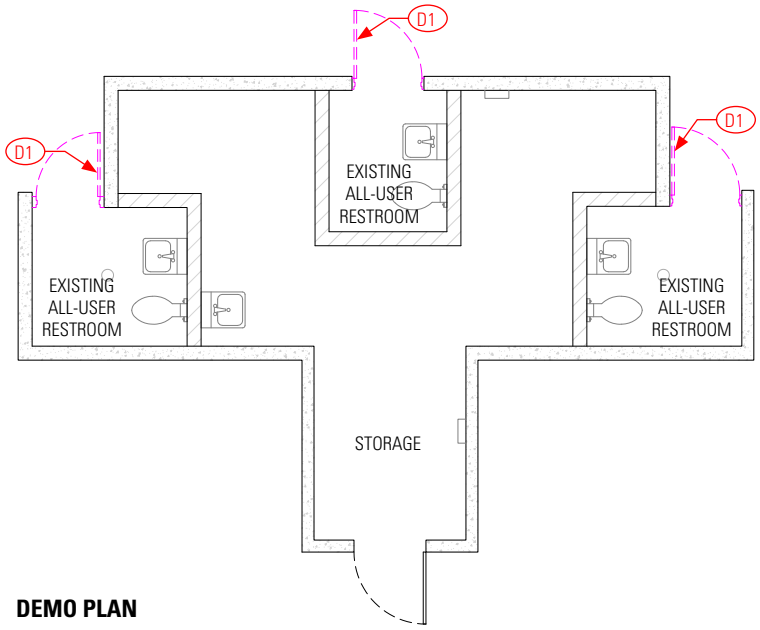
1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1 + 2) (Note: the existing door may be grouted in place.)

DEMO KEYNOTES:

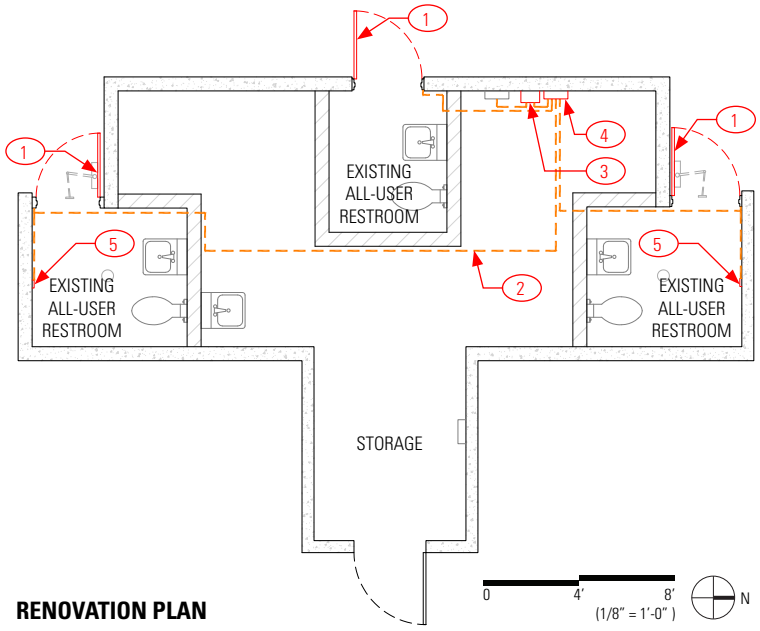
D1 Remove existing hollow metal door, frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1. Install new hollow metal door and hardware. Provide new louvered transom to replace existing louvered transom. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1 + 2)
2. Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)
3. Provide new Electronic Time Switch. (See Door Hardware: Set 1 + 2)
4. Provide new Transformer. (See Door Hardware: Set 1 + 2)
5. For door operation and access compliance an actuator/ opener is necessary due to the inadequate push side clearance. Provide new door actuator and install according to manufacturer's instructions and ADA required mounting heights and clearances. Route electrical as necessary for proper installation and full system functionality (Install similarly to other wiring.)



DEMO PLAN



RENOVATION PLAN

ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 3 door locks. Remove space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For south restroom: Route conduit above panel then east along the wall between the center restroom and storage room, then south along the east wall of middle bathroom, then south across storage room ceiling, along west wall of the south bathroom, through wall into door frame to door strike. For center restroom: Route conduit up above panel, then south through space above the north wall of the center restroom, along the west wall to door frame and via door frame to door strike. For north restroom: Route conduit above panel, then run conduit north on storage ceiling to north storage room wall, west on north wall to west wall of north bathroom, through north wall to east restroom door frame. Wire through door frame to door strike.

Install and wire two electronically controlled door strikes. Remove 1 existing space and install 20A circuit breaker for the ADA door actuator circuit. Install an ADA door actuators adjacent to each restroom door as shown in drawing. Run additional conduit from above each restroom door frame to the actuators. Wire 120 VAC to ADA door closers followed by ADA door actuators and return. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. Panel was installed upside down. *Note: a controller with 3 outputs to accommodate 3 door locks is required.*

25 Willamette Park - Restroom A

6805 SW Macadam Avenue,
Portland, OR

Existing Conditions:

The Willamette Park Restroom is a wood framed structure with acrylic skylights and a standing seam metal roof.

Exterior Door + Frame

- Minimal wear
- (3) 2'-8"x 6'-8" + (1) 3'-0"x 6'-8" Wood Doors
- Welded HM Frame

Hardware

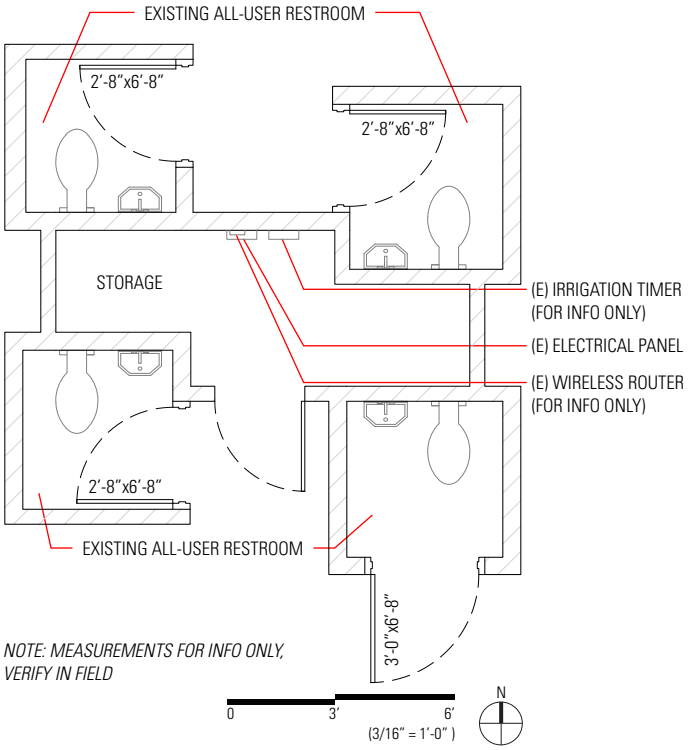
- Minimal wear
- Keyed Lever | Stainless
- Door Closer

Electrical

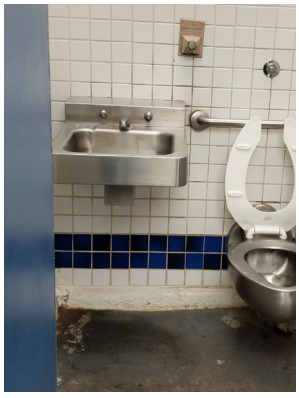
- Electrical panel located in adjacent storage area, separated from restrooms by wood stud partitions
- Existing irrigation timer adjacent to panel
- Voltage is 240/120
- No circuit breaker slots available
- One spaces available at slot 7 in electric panel (two spaces indicate they are not to be used)
- Conduit will be required to route above panel, along open ceiling to restrooms. Restrooms have attractive skylights so care must be taken not to obstruct these with wiring or conduit.

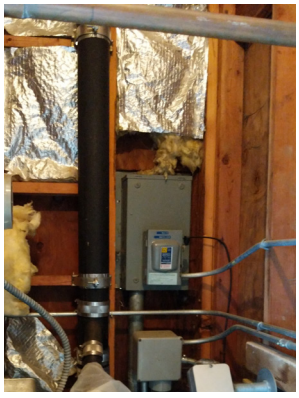
Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Ceramic Tile on all interior walls
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural Ventilation



Willamette Park- A





25 Willamette Park - Restroom A

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door, frame and hardware with new. (See Door Hardware: Set 1)

DEMO KEYNOTES:

D1 Remove existing wood door, hollow metal frame and any misc. appurtenances and prepare opening to receive new.

RENOVATION KEYNOTES:

1 Install new hollow metal door, door frame and hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 1)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

3 Provide new Electronic Time Switch. (See Door Hardware: Set 1)

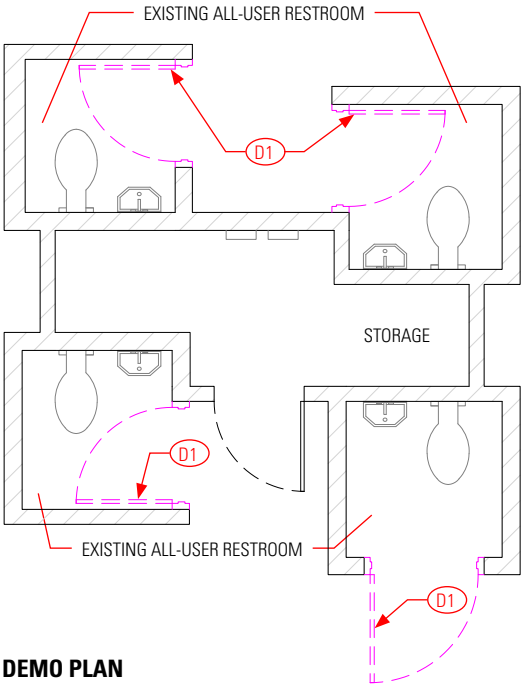
4 Provide new Transformer. (See Door Hardware: Set 1)

ELECTRICAL ASSESSMENT NOTES:

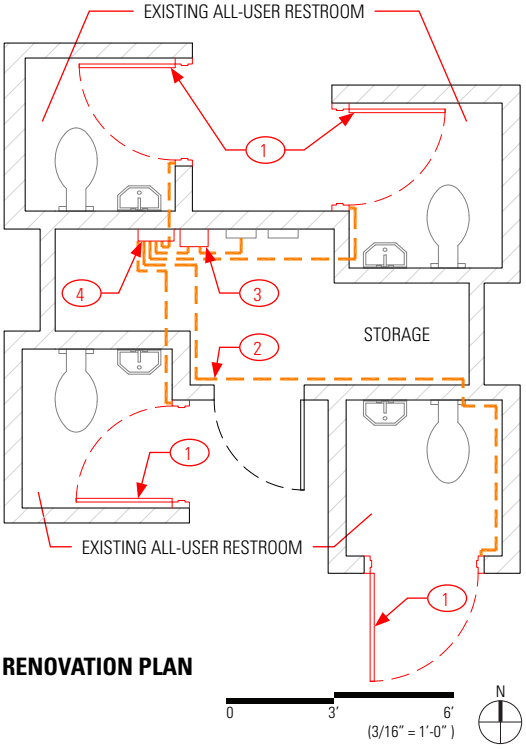
Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 4 door locks. Remove space and install 20A circuit breaker. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

For northwest restroom: Route conduit up and run wire into north storage wall, then west to east wall of northeast restroom, then run wire to northeast restroom door frame door strike. For northeast restroom: Route conduit up and run wire into north storage wall, then east to west wall of northwest restroom, then run wire to northwest restroom door frame door strike. For southwest restroom: Route conduit up and across storage ceiling to the southwest, then run wire into east southwest restroom wall to door frame and door strike. For southeast restroom: Route conduit up and across storage ceiling to the northwest, then run wire into west southeast restroom wall, then through door frame to door strike.

Install and wire four electronically controlled door strikes. Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. *Note: a controller with 4 outputs to accommodate 4 door locks is required.*



DEMO PLAN



RENOVATION PLAN

26 Willamette Park - Restroom B (Pump Station)

6805 SW Macadam Avenue,
Portland, OR

Existing Conditions:

The Willamette Park Pump Station Restroom is a concrete structure with metal partition separating (3) all-user restrooms and (1) accessible restroom.

Exterior Door + Frame

- Excellent condition
- 3'-4"x 6'-8" Metal Door
- Welded Metal Frame

Hardware

- Excellent condition
- Lever | Stainless
- Cylinder Lock, Occupancy Indicator | Keyed Exterior / Lever Release Interior
- Door Closer

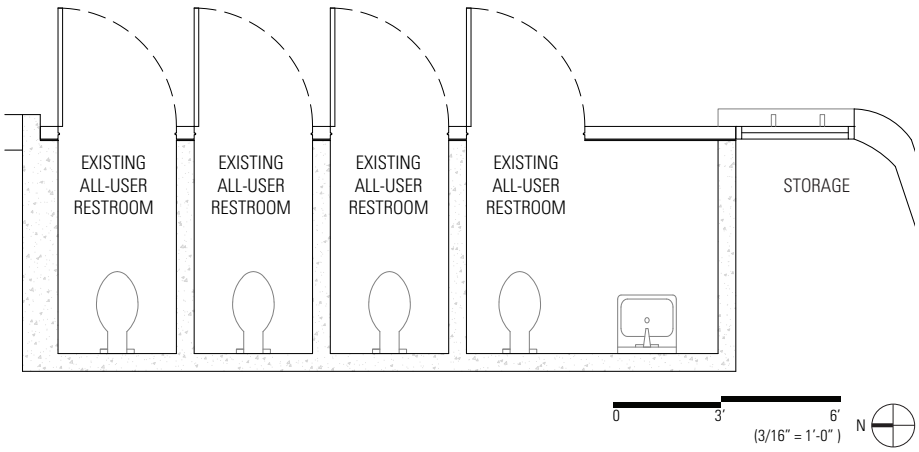
Electrical

- Electrical Panel location shown on vicinity plan on following page
- Voltage is 3 Phase 240/120
- Two 20A spare circuit breakers available (slots 12 and 14) (slot 23 also reads that there is a spare but no circuit breaker is installed)
- Spaces available in electric panel (do not use Phase B)
- Conduit will need to be routed above electrical panel, through wall above restrooms along wall partitions and drop down to frames. One half of spare on panel board may be used.

Miscellaneous

- Interior Finishes
  - Concrete Slab Floor
  - Concrete / Powder coated metal partitions
- Plumbing - Stainless steel wall-mounted security fixtures, floor drain
- Ventilation - Natural Ventilation through exterior grilles in door

Willamette Park- B



26 Willamette Park - Restroom B (Pump Station)

Electronic Locking Hardware Renovation Scope:

1. The approach to provide electronic locks is to replace the door strike with new. (See Door Hardware: Set 3)

DEMO KEYNOTES:

D1 Modify door frame to accept new electronic strike. Conceal wiring in door frame or surface mount conduit. *Note: After review of existing hardware specifics and operation, confirm with owner that existing locksets are to remain in place.*

RENOVATION KEYNOTES:

1 Install new hardware. Patch and paint all surfaces as necessary for a neat and clean finish. (See Door Hardware: Set 3)

2 Provide power connection from electrical panel to electronic time switch to transformer to door frame and within frame to electronic strike. Conceal wiring as much as possible within wall and ceiling voids. Where exposed to view, run galvanized rigid conduit, painted to match adjacent surfaces. Patch and paint all penetrations created during renovations as necessary. Also provide low-voltage signal wiring from door contact to location near power supply for future connection to remote monitoring control. Route alongside power wiring if possible, or treat similarly, (concealed where possible or within galvanized rigid conduit where exposed.)

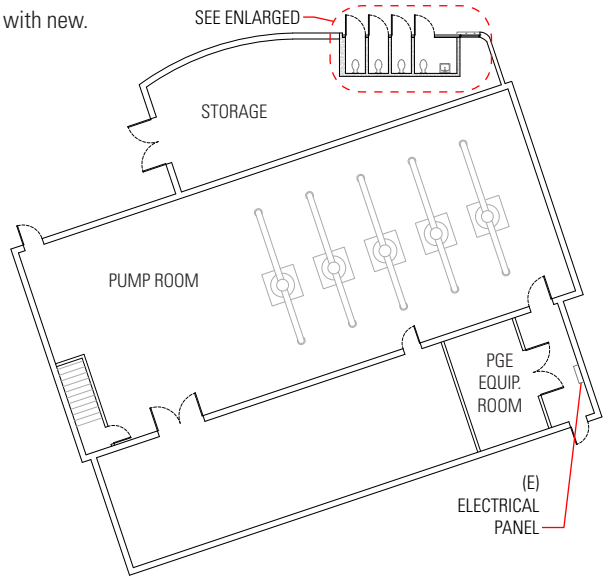
3 Provide new Electronic Time Switch. (See Door Hardware: Set 3)

4 Provide new Transformer. (See Door Hardware: Set 3)

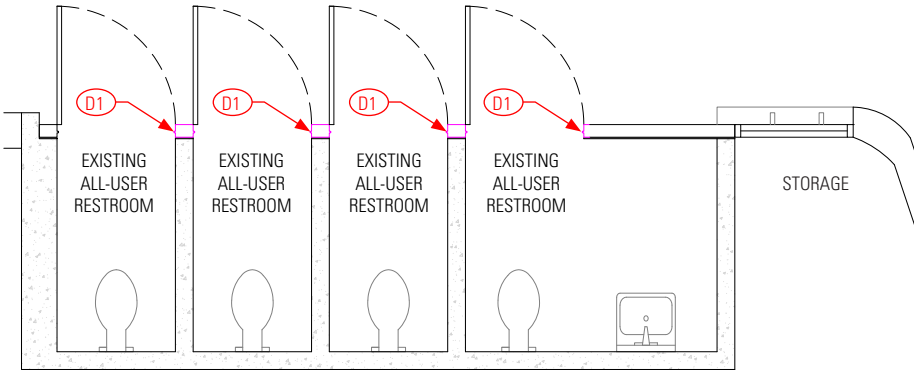
ELECTRICAL ASSESSMENT NOTES:

Mount Intermatic ET8215C and transformer adjacent to electrical panel in the storage room. Program Intermatic ET8215C for 4 door locks. Install new 20A breaker at slot 7. Wire circuit breaker to Intermatic ET8215C followed by the transformer. Daisy chain output of transformer through SmartPac AC/DC converter to each individual door strike.

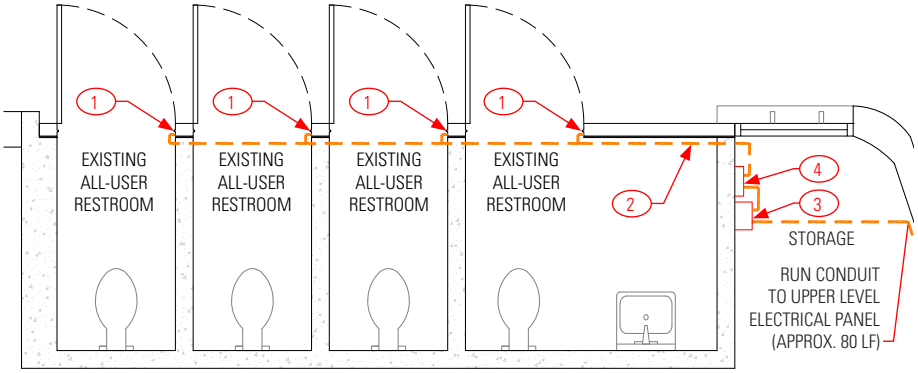
Route conduit for all four restrooms above panel, through east wall of panel room, above restrooms, then split to route along each of the east restroom wall partitions. Wire door strike via door frame.



VICINITY PLAN *(SHOWING REMOTE ELECTRICAL ROOM LOCATION)* 0 16' 32' (1/32" = 1'-0") N



DEMO PLAN 0 3' 6' (3/16" = 1'-0") N



RENOVATION PLAN 0 3' 6' (3/16" = 1'-0") N

Install and wire four electronically controlled door strikes. Correct spare note on panelboard at slot 23 to read "SPACE". Run signal wire for door contacts through conduit to door frame and install contacts. Coil excess door contact wire for future connection adjacent to electrical panel. Use GRC conduit in public areas. Access to Water Bureau's building is required. *Note: a controller with 4 outputs to accommodate 4 door locks is required.*

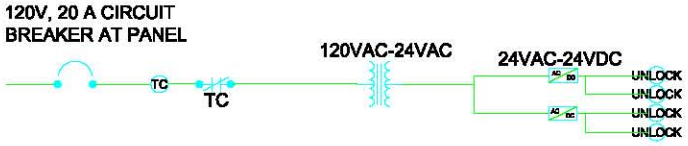
Door Lock Control Schematic

LEGEND

TC: TIME CLOCK - THIS IS ALWAYS POWERED AND IS SET TO LOCK DOORS AT APPROXIMATELY DUSK AND UNLOCK DOORS AT APPROXIMATELY DAWN
UNLOCK: DOOR STRIKE - DOOR IS UNLOCKED WHEN ACTUATOR IS POWERED (FAIL SECURE)
PS: POWER SUPPLY, CONVERTS POWER FROM 120 VAC TO 24 VDC
PB: PUSH BUTTON, LOCATED INTERIOR SIDE OF DOOR ONLY

NOTE 1: IT IS HIGHLY RECOMMENDED THAT SAFETY DOOR HANDLES BE USED SO THAT USERS MAY OPEN THE RESTROOM DOOR IN THE CASE OF LOST POWER.

NOTE 2: FOR PARKS THAT HAVE EXISTING INTERIOR RESTROOM LIGHTING CONTROLS, DOOR LOCK TIME CLOCKS CAN BE COORDINATED TO LOCK THE DOORS FIVE MINUTES BEFORE LIGHTS TURN OFF SO THAT USERS CAN SEE TO EXIT THE RESTROOM.

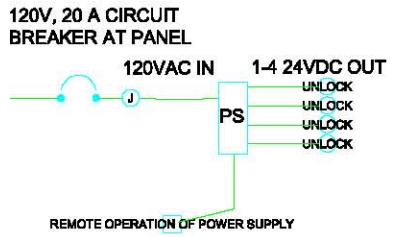


THE TIME CLOCK (TC) TIMER OPENS THE NORMALLY CLOSED TC CONTACT AT DUSK WHICH LOCKS THE NORMALLY UNLOCKED DOOR BY REMOVING POWER FROM THE UNLOCK ACTUATOR

THE DOOR WILL UNLOCK IN THE CASE THAT A USER INSIDE MANUALLY TURNS THE INNER DOOR HANDLE OR IF THE LOCK IS MANUALLY RELEASED BY PARK STAFF OR WHEN THE TIME CLOCK CLOSES THE CONTACT AGAIN AT DAWN.

NOTE: THIS CONFIGURATION IS ACCEPTABLE UNDER THE CONDITION THAT TWO DOOR STRIKES COMBINED CURRENT RATING IS LESS THAN 750 MA AT 25 DEG C. FOR ALTERNATIVE PRODUCTS, CONSULT PRODUCT SPECIFICATIONS AND CONFIGURE AS RATINGS ALLOW.

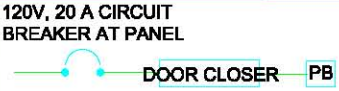
DOOR LOCK CIRCUIT PRESENT FUNCTION:
FAIL SECURE (DOOR IS LOCKED WHEN POWER GOES OUT) NORMALLY POWERED DOOR LOCK (OPTIONALLY COORDINATE WITH EXISTING LIGHT CONTROL)



REMOTE OPERATION CONTROLS THE POWER SUPPLY TO THE DOOR LOCKS SO THAT THE DOOR LOCKS AT DUSK AND UNLOCKS AT DAWN.

THE DOOR WILL UNLOCK IN THE CASE THAT A USER INSIDE MANUALLY TURNS THE INNER DOOR HANDLE OR IF THE LOCK IS MANUALLY RELEASED BY PARK STAFF OR WHEN INDICATE VIA REMOTE OPERATION.

DOOR LOCK CIRCUIT FUTURE FUNCTION:
FAIL SECURE (DOOR IS LOCKED WHEN POWER GOES OUT) NORMALLY POWERED DOOR LOCK (OPTIONALLY COORDINATE WITH EXISTING LIGHT CONTROL)



ADA ACTUATOR CIRCUIT - ONLY USED IN SOME CASES

PP&R Electronic Locking Hardware -
01 - Lockset - Best 45H - 7TD-15H-VIB

40H SERIES: HEAVY DUTY MORTISE LOCKS

40H Series

Heavy Duty Mortise Locks

Best 45H 7TD 15H VIB
(Tice Type C with Security Screws)

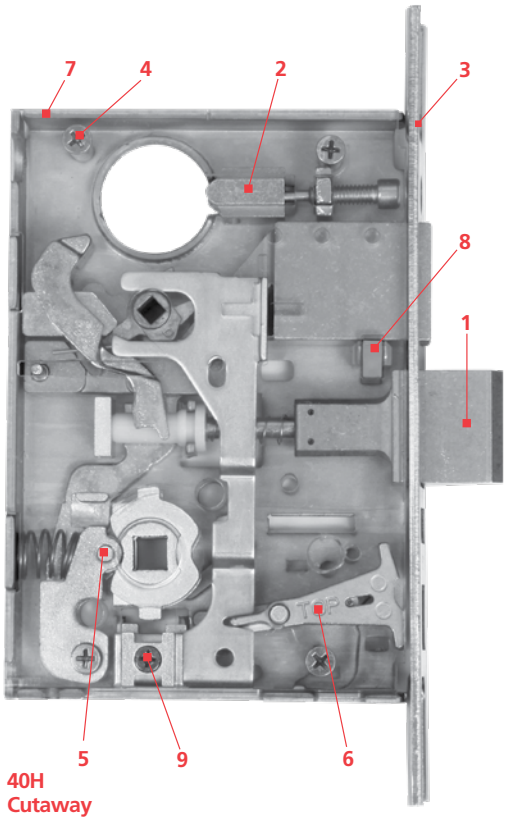
dormakaba

BEST: Setting the Standard for Security

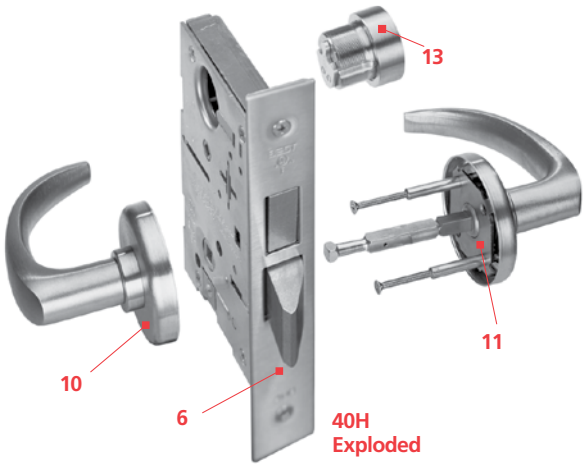
TABLE OF CONTENTS

Features

1. Solid one-piece stainless steel anti-friction latch provides 50% more surface contact with strike for superior strength and security. Reversible latch rotates 180 degrees for easy handing change without opening case. Precision-engineered curve provides enhanced cycle life with reduced wear to the strike.
2. Non-handed cylinder retainer.
3. Armored front completely surrounds latch and deadbolt providing increased lateral strength. Staked assembly design allows the armored front to self-align with the door bevel during installation.
4. Enhanced case integrity achieved through four case cover screws (one at each corner), plus interlocking armored front and cover design at the latch.
5. Roller bearing hub mechanism provides smooth, wear resistant operation.
6. Locking toggle includes clear indication of "locked" and "unlocked" states.
7. 40H case, cover, and armored front manufactured from 0.095" cold rolled steel for strength and durability.
8. Fusible link.
9. Four position hub toggle design determines whether each hub is always locked, always unlocked, or locked by key for easy handing change without opening case.
10. Lever return spring mechanism located in trim for enhanced protection against lever droop, providing a firm, positive return of the lever to the horizontal position.
11. Self-aligning trim mechanism for fast, easy, and accurate installation.
12. Curved lip strike and strike box assembly provides an aesthetic, non-handed solution to complement field reversible case.
13. Solid machined cylinder rings with wavy washer provides resistance to wrenching of cylinder. Cylinder security screw prevents removal of cylinder without first removing interchangeable core.
14. Visual indicator options show a padlock icon open for unlocked and padlock icon closed and painted red for locked.
15. Non-handed stainless steel auxiliary bolt for ease of changing hand. (not shown)



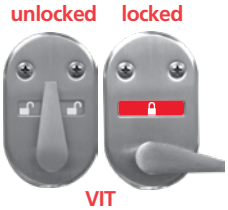
40H
Cutaway



40H
Exploded

Strike Box &
Strike

VIN



VIT

14
Visual Indicator Options

Specifications

ADA-Americans With Disabilities Act:
45H Series – The design and operation of the BEST® mortise lock meets the intent of the standard for ANSI A117.1 section 404.2.6.

Builders Hardware Manufacturers Association:
45H Series – ANSI A156.13, Series 1000, Grade 1 Operation and Strength, Grade 2 Security. To meet Grade 1 Security, a drill resistant core (1CD, 1CDP, 1CDF, or 1CDX) must be used with escutcheon trims, and 1EK7K4 high security cylinder must be used with sectional trims.

47H Series – ANSI A156.13, Series 1000, Grade 1 Operational, Strength, and Security.

Underwriters Laboratories® – The 40H series is listed by Underwriters Laboratories for use on a 3 hour A label doors. These locks also carry the C-UL mark which is officially accepted in all of Canada, indicating compliance with appropriate Canadian standards and codes. The 47H series locks conform to UL437 standard for key locks, referencing door locks. The 1EJ7J4 cylinder used in the 47H series also conforms to UL437 standard for key locks, referencing high security cylinders, and is listed for Canada as well as the United States.

Florida Building Code (FBC) Listed and Miami-Dade County Code Compliance Office – See certification listing for all 40H series lock functions that are certified for use in applications requiring a design pressure rating as specified.

Description	Model	Single Door	Double Door
PSF w/o DeadBolt	45H and 47H	+-60	+-35
PSF w/ DeadBolt	45H and 47H	+-100	+-50
PSF w/ DeadBolt	48H and 49H	+-50	+-50

The 40H series lock has received a notice of acceptance from Miami-Dade County and is considered Miami-Dade County product. "WS" option must be ordered for the lock to include a "Miami-Dade County Product Control Approved" label for inspection purposes.

Auxiliary bolt – Stainless steel, non-handed.

Backset – 2 3/4"

Case – 0.095" cold rolled steel, 5 7/8" H x 7/8" D x 4 1/16" W. Steel is zinc dichromate plated for corrosion protection.

Deadbolt – Stainless steel, 1" throw.

Latchbolt – Solid stainless steel, 3/4" throw. Latch is oil-impregnated for anti-friction operation. Reversible without opening case.

Strike – For complete strike package spec's see page 5.

Door Thickness – Standard lock configuration designed for doors 1 3/4" thick. Thick door configuration available for doors up to 5" thick (specify thickness when ordering).

Faceplate – Stainless steel, brass or bronze material, 8" H x 1 1/4" W x 1/16" T. Lock face automatically adjusts to proper bevel during installation.

Products protected by one or more of the following patents:
4,873,853 5,590,555 5,794,472

Finishes –

- 605 – bright brass, clear coated
- 606 – satin brass, clear coated
- 611 – bright bronze, clear coated
- 612 – satin bronze, clear coated
- 613* – oxidized satin bronze, oil rubbed
- 618 – bright nickel plated, clear coated (brass base material)
- 619 – satin nickel plated, clear coated (brass base material)
- 622 – flat black coated (brass base material)
- 625 – bright chromium plated (brass base material)
- 626 – satin chromium plated (brass base material)
- 629 – bright stainless steel
- 630 – satin stainless steel
- 690* – dark bronze coated (brass base material)

*613 finish is designed to wear over time, providing an "antique" appearance.
*690 finish will continue as a dark brown appearance over time.

Antimicrobial Finish –

- 626AM – satin chrome plated with UltraShield™ antimicrobial protected coating
- 630AM – satin stainless steel with UltraShield™ antimicrobial protected coating

The BEST UltraShield finish inhibits the growth of bacteria and other microbes on the surface of the hardware.

NOTE: BEST UltraShield™ option is recommended for use on any hardware application where product cleanliness is a high priority. i.e;. Hospital/Healthcare, Elderly Care, Education, Transportation, Food-Service, Hospitality.

Specifications

#4 Knob – Diameter – 2 1/8" ; Projection on door – 2 7/8" Material machined from solid brass or bronze.

Decorative and Special Order Lever Handles – Stainless steel base material with applied finish.

Standard Lever Handles – Brass, bronze, or stainless steel base material for standard lever designs. Lever styles #3, #14, and #15 return to a minimum of 1/2" of door surface. Lever styles #3 and #14 conform to California Titles 19 and 24. Lever styles 12, 16 and 17 do not return. Levers project 2 15/16" from door surface with H, J, R and S trim. Levers project 3 1/64" with M and N trim.

Roses – Wrought brass, bronze, or stainless steel base material.

H – Flat w/ round edge, 2 3/4" diameter.

R – Contoured w/ round edge, 2 3/4" diameter.

S – Flat w/ beveled edge, 3 1/2" diameter.

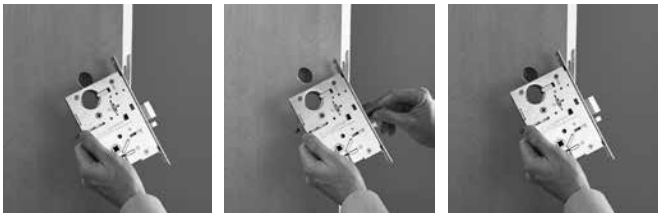
Escutcheons – J – Wrought brass, bronze, or stainless steel base material, 7 1/2" H x 2 9/32" W x 17/32" T. M & N – Forged brass or bronze, 8" H x 2 1/8" W x 37/64" T, through bolt mounted (no exposed screws outside). M – Standard cylinder; N – Concealed cylinder.

Vandal Trim – VT–Vandal trim is available in standard finish for H, J, M, N, R, and S trims in either #14 or #15 levers.

NOTE: Not available in single or dummy trim functions. If compliance to California Building Code Title 19 & 24 is required, the #14 lever design must be specified.

Visual Indicators – VIN–Visual indication uses an unlocked padlock or locked padlock image with red background to indicate lock state. VIT–Visual indication uses a thumb-turn with color coded locked and unlocked icons – red indicates door is secure and green indicates door is unsecure.

Universal Lock Design Concept



Strength, Durability…and now Flexibility. Sure, a mortise lock is one of the strongest and longest lasting locks available. But who says it has to be the most complex to order and install? When designing the 40H mortise lock, BEST® decided to focus on things that would make the lock easier to use, while at the same time maintaining the strength, durability, and dependability you would expect in a BEST® mortise lock.

In addition to the ability to quickly change the lock handing, the universal case design of the 40H provides the ability to reconfigure a lock into many different functions easily and quickly, often by rearranging existing parts without disassembling the lock case. The efficiency of the design enables over 12 of the most commonly used lock functions to be included in just 3 case configurations.

The 40H provides the ability to postpone decisions on how the lock will be configured all the way up to the point of installation, making it one of the most flexible and user-friendly mortise locks available. This translates into value for anyone involved in the process, whether they're an architect, specification writer, distributor, or end-user.

Flexibility in Ordering

BEST offers three ways in which to order the 40H mortise lock. YOU get to choose which method meets your needs.

Function Specific Lock - If you know exactly what you need in a mortise lock, and are confident that your needs won't change, then order your 40H locks in the traditional way by specifying the exact function, trim, finish, and handing. BEST® will build the locks to work exactly as specified, so they may or may not have the ability to be converted to another function in the future.

Universal Lock - If you want to keep your options open, this method of ordering the 40H is for you. BEST® has developed three "universal" functions that can be configured to a variety of common functions, all without opening the lock case. When any of the universal functions are ordered as a complete lock, all the necessary parts (including trim) are provided to configure any of the functions in that group. Universal locks can only be ordered with sectional trim. If escutcheon trim is needed, order a three-part lock.

UNR	ANSI	UNT	ANSI	UNAB	ANSI
A – office	F04	L – privacy	F19	AB – office	F20
AT – office	F04	T – dormitory	F13	TA – dormitory	F12
D – storeroom	F07			TD – dormitory	
N – passage	F01				
NX – exit	F31				
R – classroom	F05				

Four-Part Lock - For the maximum flexibility in ordering a mortise lock, BEST® provides a way to order your 40H lock in four parts: Inside Trim, Case Only, Outside Trim and Strike Packages. The kits that make up these four parts have been carefully designed so that when all three are combined you have everything found in a complete 40H lock. This order method is ideal for customers wanting to stock a variety of trim designs with a minimal number of lock cases.

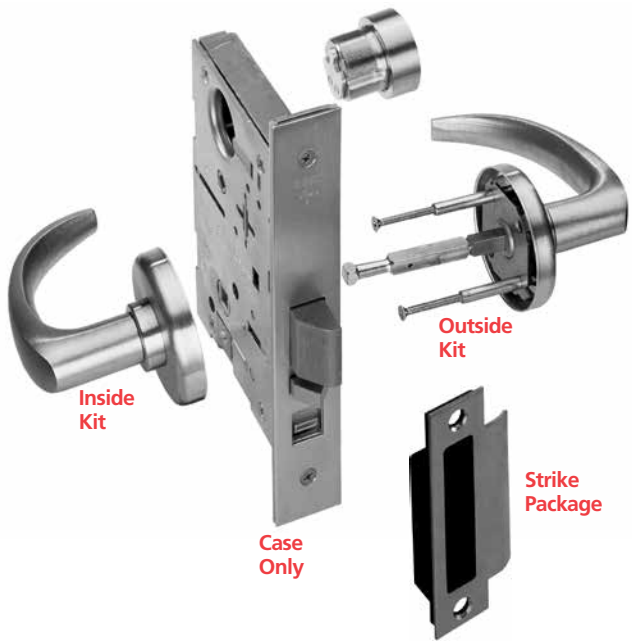
Parts Ordering Made Easy - No more searching through service manuals or calling technical support for the right part numbers. BEST® has developed a variety of kits you can order when you only need part of a 40H mortise, rather than the whole lock.

Case Only - A Case Only lock includes all parts normally included with a complete lock that are not specifically associated with either the inside or outside trim, including: lock case, face plate, strike and strike box, fasteners (for case and strike), and installation instructions.

Case Only mortise locks will be shipped in the standard mortise packaging, allowing trim kits to be included at a future date to make a complete lock.

Trim Kit - A 40H Trim Kit is simply one half of a complete trim package. An Outside Trim Kit must always be matched up with an Inside Trim Kit to operate with a lock. Each kit includes all the necessary parts (including fasteners) required for installation that are associated with just the one side of the door.

FOUR-PART LOCK



Lever Set - A lever set kit provides the inside lever assembly (with set screw) and outside lever assembly (with spindle attached). Thick Door and Tactile Lever options are available for this kit.

Faceplate Kit - Face Plate kit includes a finished faceplate and the appropriate screws. Security Head screws are an option for this kit.

Replacement Spindle - As a security feature, the outside spindle on the 40H is designed to twist off during abuse before any internal damage to the lock occurs. The Replacement Spindle kit is a quick, easy, and inexpensive way to replace any spindles damaged by attack or abuse. This kit includes the inside and outside spindles, plus the pin to attach the outside lever.

Screw Kit - Nothing's more frustrating than spending time searching for the part number of a single screw. With the 40H Screw Kits, you don't have to worry about that anymore. These kits have been designed to provide all the necessary fasteners for one lock in a single bag. All you need to know is the trim style and finish, and you're set. Security head screws are an option for this kit.

Function Letter Chart

ANSI	45H/47H
	1DT
	2DT
F04	A
F20	AB
F04	AT
F21	B
	B5
	B7
F08/F10	BA
	BW
F09	C
	CHB
F07	D
F14	G
F15	H
F15	HJ
F34	INA
F33	IND
F32	INL

ANSI	45H/47H
F19	L
F02	LB
	LT
F01	N
F31	NX
F05	R
F06	RHB
F35	S
F13	T
F12	TA
	TD
F30	W
F17	AD
F29	RD
F16	WD
F18	YD
	UNR
	UNT
	UNAB

Strike Packages

S1 – Standard strike: 4 7/8" x 1 1/4" x 3/32", non-handed, curved lip, 1 1/4" lip to center strike. Fits standard door frame ANSI A115.1, and comes with plastic strike box.

S5 – Latchbolt-only strike: 4 7/8" x 1 1/4" x 3/32", handed, curved lip, 1 1/4" lip to center strike. Fits standard door frame ANSI A115.1, and comes with wrought steel strike box.

S6 – Latchbolt/Deadbolt strike: 4 7/8" x 1 1/4" x 3/32", handed, curved lip, 1 1/4" lip to center strike. Fits standard door frame ANSI A115.1, and comes with wrought steel strike box.

How to Order

How to order: 45H

45H	7	R	14	H	626	RH	
Series	**Core Housing**	**Function Code**	**Lever Style**	**Trim Style**	**Finish**	**Door Hand**	**Options**
45H– standard mortise lock	0– non keyed or dummy trim 7– 7 pin housing accepts all BEST cores	A– office D– storeroom L– privacy N– passage R– classroom T– dormitory etc.	Standard Levers: ♿3– solid tube/return ♿12– solid tube/no return ♿14– curved return ♿15– contour/angle return ♿16– curved/no return ♿17– gull wing Knobs: 4– round	H– 2 3/4" dia. R– 2 3/4" dia. S– 3 1/2" dia. J– wrought M– forged N– forged (concealed cyl.)	618 626 630 690 **Satin** 606 612 613 619 **Bright** 605 611 622 625 629 **Antimicrobial** 626AM 630AM	RH RHRB LH LHRB	LL– lead lined SH– security head screws Thick Door– (specify thickness if other than1 3/4") TAC– tactile lever/knob 7/8 LTC– 7/8" lip-to-center strike VIN*– visual indicator S1– standard strike S5– latchbolt-only strike S6– latchbolt/deadbolt strike VT– vandal trim VIT*– visual indicator thumb-turn VIB*– double visual indicator WS– windstorm label
		pages 15-18			page 3	page 9	

CONTRACTOR TO VERIFY SWING

How to order: 47H

47H	7	R	14	M	626	RH	
Series	**Core Housing**	**Function Code**	**Lever Style**	**Trim Style**	**Finishes**	**Door Hand**	**Options**
47H– lever / knob high security mortise lock	7–7 pin housing, must use 5C cores and long blade keys	A– office D–storeroom R–classroom T– dormitory etc.	Standard Levers: ♿3– solid tube/return ♿12– solid return no return ♿14– curved return ♿15– contour/angle return ♿16– curve/no return ♿17– gull wing Knobs: 4– round	H– 2 3/4" dia. R– 2 3/4" dia. S– 3 1/2" dia. M– forged	626 630 **Antimicrobial** 626AM 630AM	RH RHRB LH LHRB	K– non UL cylinder LL– lead lined Thick Door– (specify thickness if other than 1 3/4") TAC– tactile lever/knob 7/8 LTC– 7/8" lip-to-center strike VIN*– visual indicator S1– standard strike S5– latchbolt-only strike S6– latchbolt/deadbolt strike VT– vandal trim WS– windstorm label
		pages 15-18			page 3	page 9	

*VIT option only compatible with H, R, S, J & M trim styles. VIN & VIB options only compatible with H, R & J trim styles.

How to order: 45H Case Only

45HCA	R	626	RH	
Series	**Function Code**	**Finishes**	**Door Hand**	**Options**
45HCA– case only mortise lock	A– office D– storeroom R– classroom T– dormitory etc.	605 606 611 612 613 618 619 622 625 626 629 630 690	RH RHRB LH LHRB	SH– security head screws 7/8 LTC– 7/8" lip-to-center strike
	pages 15-18	page 3	page 9	

How to Order

How to order: 40H Replacement Spindles

40HRS	2	
Series	**Function Code**	**Options**
40HRS– replacement spindle kits	2– 40H split spindle (standard) 4– 40H hook spindle *	Thick Door– (specify thickness if other than 1 3/4") *Hook spindle is available for 1 3/4" thick door only.
	page 5	

How to order: 40H Vandal Trim Retrofit Kit

40HVTK	14	626	
Series	**Lever Style**	**Finishes**	**Options**
40HVTK– vandal trim	14*– curved return 15– contour/angle return	605, 606, 611, 612, 613 618 619, 622, 625, 626, 629, 630, 690	Thick Door– (specify thickness if other than 1 3/4")

*Complies with California Building Code Title 10 and Title 24, part 12

How to order: 40H Screw Kits

40HSK	1	626	
Series	**Kit Number**	**Finishes**	**Options**
40HSK– screw kits	1– H, R. S, J trim screw kit 2– M, N trim screw kit 3– special purpose fasteners screw kit 4– surface mounted trim screw kit 5– VIN trim screw kit	606 612 613 622 626	Thick Door– (specify thickness if other than 1 3/4") SH– security head
	page 5	page 3	

How to order: 40H Visual Indicator Laminate & Thumb-turn

Part Description	Part Number
Indicator Laminate	
Thumb-turn Indicator Kit	86329
Thumb-turn Escutcheon Indicator Kit	86829

Series	Trim Style	Finishes	Options
Indicator Thumb-turn			
40HVIT	H– 2 3/4" Dia. R– 2 3/4" Dia. S– 3 1/2" Dia. M– forged J– wrought	605 606 611 612 613 618 619 622 625 626 629 630 690 626AM 630AM	Thick Door– (specify thickness if other than 1 3/4")

Special Features

Lead Lined Feature

The 40H mortise lock can be lead lined to protect against x-rays. Since the majority of lead lined doors contain the lead in the surface of the door, the 40H provides lead lining for the holes cut in the door when preparing the door for the trim. The cylinder hole is lead lined.
To order: designate "LL" on order procedure (page 6-7)

Security Head Screws

Security head screws.
To order: designate **"SH"** on 45H/47H in order procedure (page 6-7).

Tactile Feature Knob/Lever

This option is for use in applications where special notice is needed to warn the blind about safety or accessibility environments. Depending on the style ordered, the knob or lever will receive either grooves or knurling as the tactile feature.

To order: designate **"TL"** on 45H/47H knobs/levers in order procedure (page 6-7).

Visual Indicator Feature

This option adds a visual indicator for certain functions that visually reflects whether the lockset is in the locked or unlocked state. This option is available for the following functions: TD– Dormitory, IND– Intruder, INL– Intruder, L– Privacy, LT– Privacy, S– Storeroom. Visual indicator feature is standard on the H– Hotel function (page 2).

Vandal Trim

VT–Vandal trim is available in standard finish for H, J, M, N, R, and S trims in either #14 or #15 levers.

Note: Not available in single or dummy trim functions. If compliance to California Building Code Title 19 & 24 is required, the #14 lever design must be specified.

Service Equipment

ED211 Mortise Cylinder Wrench
The BEST mortise cylinder wrench and test handle is an essential dual-purpose tool. It is used primarily to install or remove BEST mortise cylinders without marring the cylinder surface finish. The single end may be used to test the lock operation, as well as aligning the throw pins. **To order specify:** ED211 mortise cylinder wrench.


ED211

ED212 Mortise Cylinder Cam Assembly Tool
Mortise cylinder cams are quickly changed with the use of this tool. Approx. length 1 3/4".
To order specify: ED212 assembly tool.


ED212

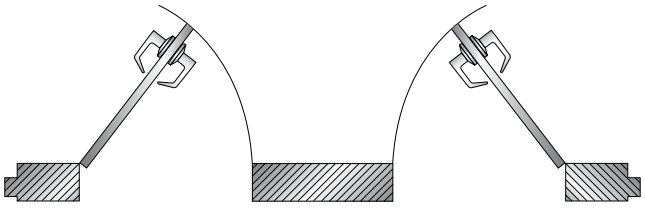
ED221 Mortise Cylinder Thread Repair Die
Tool for rethreading 1 5/32" diameter cylinders. **To order specify:** ED221 thread repair die.

ED225 Hole Tap for 1 5/32" Mortise Cylinder
Tap tool used to rethread housing threads for 1E Mortise Cylinders.
To order specify: ED225 hole tap.

KD316 Spanner Wrench (C54466)
All "H" locksets require the use of the KD316 spanner wrench for door mounting. This tool is include with every (10) locksets ordered.
To order specify: KD316 spanner wrench.

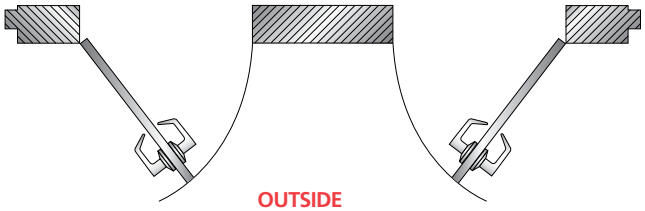

KD316

Hand of Door



Left hand (LH)

Right hand (RH)



Left hand reverse bevel (LHRB)

Right hand reverse bevel (RHRB)

Mortise Sample Specifications

A. Locksets and Latchsets:
[BEST] - [_____.] [_____.]

1. Base Specification: BEST components as listed in Hardware Schedule per Article 3.05.

2. Locksets and latchsets of other acceptable manufacturers must conform to the requirements of Subparagraphs 3 and 4.

3. Mortise Type:

A. Locksets shall be tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C

B.Locksets shall be mortise type with solid 3/4 inch throw one-piece radiused latchbolt made of self-lubricating stainless steel. Deadbolt functions shall be one inch projection stainless steel construction. Both deadbolt and latchbolt to extend into lock case with reinforcing a minimum of 3/8 inch when fully extended.

C. Knobs to be [_____] design.
Levers to be [_____] design.

D. Furnish locksets and latchsets with sufficient strike lip to protect door trim.

E. Provide locksets with 7 pin [BEST] interchangeable core cylinders. [All mortise cylinders shall have a concealed internal set screw for securing the cylinder to the lockset. The internal set screw will be accessible only by removing the core from the cylinder body with a control key]

F. All mortise locksets and latchsets must conform to ANSI A156.13, Series 1000, Operational Grade 1 [Security Grade 2 for locksets in security areas] and be listed by UL. [High Security Option: All mortise locksets must conform to ANSI A156.13, Series 1000, Operational Grade 1, Security Grade 1 and listed by UL, and must include interchangeable core cylinders which conform to High Security Cylinder requirements of UL 437.]

G. Locksets must fit ANSI A115.1 door preparation.

H. Locksets and latchsets to have self-aligning through-bolted trim.

I. Locksets and latchsets must have the ability to change handing without opening case.

J. Auxiliary latch to be made of one-piece self-lubricating stainless steel.

K. Locksets must be available with tactile or knurled knobs or levers for identification of hazardous areas.

L. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1.

Subparagraphs m through r describe quality features of BEST mortise locksets which may or may not be available from other lock manufacturers. Edit accordingly.

M. [Spindle to be such that if forced it will twist first, then break, thus preventing forced entry.]

N. [Knobs and levers to be operated with a roller bearing spindle hub mechanism.]

O. [Permanent core face must be the same finish as the lockset finish.]

P. Cylinder retaining screw, auxiliary latch, and strike must be non-handed.]

Q. [Locking toggle on face of door must clearly indicate whether mortise lock is in the "locked" or "unlocked" state.]

R. [Cover and armored front must interlock at the latch, preventing the cover from spreading or bowing while under duress.]

Subparagraphs s through x describe quality features of BEST mortise locksets which may or may not be available from other lock manufacturers. Subparagraphs s, t, and u should remain as a group, and subparagraphs v, w, and x should remain as a group. Choose either s-u or v-x, but not both groups.

S. [Mortise lock to offer a complete lock (including trim) with the ability to be configured in the field to any of the following ANSI functions: F01, F04, F05, F07, F31.]

T. [Mortise lock to offer a complete lock (including trim) with the ability to be configured in the field to any of the following ANSI functions: F19, F13]

U. [Mortise lock to offer a complete lock (including trim) with the ability to be configured in the field to any of the following ANSI functions: F12, F20]

V. [Mortise lock to offer a multi-function case with the ability to be configured in the field to any of the following ANSI functions: F01, F04, F05, F07, F09, F30, F31, F32.]

W. [Mortise lock to offer a multi-function case with the ability to be configured in the field to any of the following ANSI functions: F13, F19, F33.]

X. [Mortise lock to offer a multi-function case with the ability to be configured in the field to any of the following ANSI functions: F12, F15, F20]

40H Series - Standard Levers, Knob & Trims

Knob- 4
Rose - H

Knob- 4
Rose - R

Knob- 4
Rose - S

Knob- 4
Escutcheon - J

Knob- 4
Escutcheon - N

Lever- 3
Rose - H

Lever- 12
Rose - H

Lever- 14
Rose - H

Lever- 15
Rose - H

Lever- 16
Rose - H

Lever- 17
Rose - H

Lever- 3
Rose - R

Lever- 12
Rose - R

Lever- 14
Rose - R

Lever- 15
Rose - R

Lever- 16
Rose - R

Lever- 17
Rose - R

Lever- 3
Rose - S

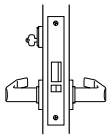
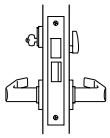
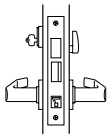
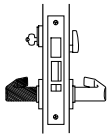
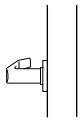
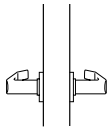
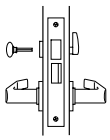
Lever- 12
Rose - S

Lever- 14
Rose - S

Lever- 15
Rose - S

Lever- 16
Rose - S

Lever- 17
Rose - S

	Description	Outside Lever or Knob			Inside Knob/Lever	
Function & Diag. (ANSI No.)	**Latch operated by**	**Deadbolt operated by**	**Locked by**	**Unlocked by**	**Locked by**	**Unlocked by**
Single Keyed (continued)						
Classroom Holdback (RHB) F06 	• Rotating inside lever, • Turning key in outside cylinder, • O/S lever except when locked by outside key, • Latchbolt held retracted by turning O/S key while holding up I/S lever.	N/A	Turning key in outside cylinder	Turning key in outside cylinder	Cannot be locked	Always unlocked
	The latchbolt is deadlocked with an auxiliary deadlatch					
Dormitory (T) F13 	• Rotating inside lever, • Rotating outside lever—only when deadbolt is retracted • Turning key in out side cylinder.	• Turning key in outside cylinder, • Inside turn lever, • Inside lever retracts deadbolt and latch simultaneously.	• Turning key in outside cylinder, • Turning inside turn lever.	• Turning key in outside cylinder, • Turning inside turn lever. • Rotating inside lever.	Cannot be locked	Always unlocked
Dormitory (TA) F12 	• Rotating inside lever, • Rotating O/S lever only when locking toggle is in unlocked position and deadbolt is retracted, • Turning key in outside cylinder.	• Turning key in outside cylinder, • Turning inside turn lever. (Rotating inside lever retracts deadbolt and latch simultaneously.)	• Placing locking toggle in locked position, • Projecting deadbolt by key or turning inside turn lever.	Turning key in outside cylinder and placing locking toggle in unlocked position	Cannot be locked	Always unlocked
Dormitory (TD) 	• Rotating inside lever, • Turning key in outside cylinder.	• Turning inside turn lever, • Rotating inside lever retracts deadbolt and latch simultaneously.), • Turning key in outside cylinder.	Always locked	Cannot be unlocked	Cannot be locked	Always unlocked
	The latchbolt is deadlocked with an auxiliary deadlatch					
Non-Keyed						
Single Dummy Trim (1DT) 	This is a single, surface-mounted lever for an inactive door or a non-latching door					
Double Dummy Trim (2DT) 	This is a through bolt mounted pair of matching levers for an inactive door or a non-latching door					
L-Privacy (F19) 	• Rotating inside lever, • Rotating outside lever only when deadbolt is retracted.	• Turning the emergency key, • Turning inside turn lever. (Rotating inside knob/ lever retracts deadbolt and latch simultaneously.)	• Turning inside turn lever, • Turning the emergency key.	• Turning inside turn lever, • Rotating inside lever retracts latch and dead-bolt simultaneously, • Turning the emergency key.	Cannot be locked	Always unlocked

PP&R Electronic Locking Hardware -
02a - Electric Strike - Assa Abloy - 1006 HM (2005M3 SMART Pac III)

HES® 1006 Electric Strike

Works with all cylindrical and mortise locksets with or without a deadbolt

The strongest, most versatile electric strike available.

The 1006 series is the strongest and most versatile electric strike available. The dual interlocking plunger design and heavy duty stainless steel construction, enables it to exceed every standard developed for electric strikes. With multiple faceplate options, the 1006 will fully accommodate every lock designed to work within an ANSI 4-7/8" strike plate. Tested to exceed 3,000 lbs of static strength, 350 ft-lbs of dynamic strength and factory tested to exceed 1 million cycles of operation, the 1006 is in a class of its own.

Features

Assa Abloy 1006 HM 2005M3 (Smart Pac III)

Standard Features

- Stainless steel construction
- Tamper-resistant
- Static strength 2,500 lbs
- Dynamic strength 350 ft-lbs (fail secure)
- Endurance 1 million cycles
- Fail secure (Standard)
- Non-handed
- Accommodates up to 1" deadbolt
- Plug-in connector
- Full keeper shims for horizontal adjustment
- Trim enhancer
- Strike body depth 11/16"
- SecuriCare five-year, no fault, no questions asked warranty

Optional Features

- **LBM** Latchbolt monitor
- **LBSM** Latchbolt strike monitor
- Fail safe
- Interchangeable faceplates
- Monitor switches may not work with all faceplate options

Accessories

- **1000-102** Rain guard
- **1006-103** Full keeper shims
- **1000-104** Lip extension trim adapter
- **1006-105** Trim enhancer BLK (goof plate)
- **1006-109** Trim adapter
- **1000-110** Replacement strike plate
- **1000-130** KD filler plate
- **150** Strike latch guard
- **HESCUT-MTK** Metal template kit
- **2005M3** SMART Pac® III

Grade 1 · 5 Year SecuriCare Warranty · Mortise Locks with Deadbolt · Mortise Locks without Deadbolt · Cylindrical Locksets · Rim Exit Devices · Specialty Locksets · 12/24 Dual Voltage · Fire Rated · Windstorm Resistant · Outdoor Rated · Burglary Rated

Dimensions

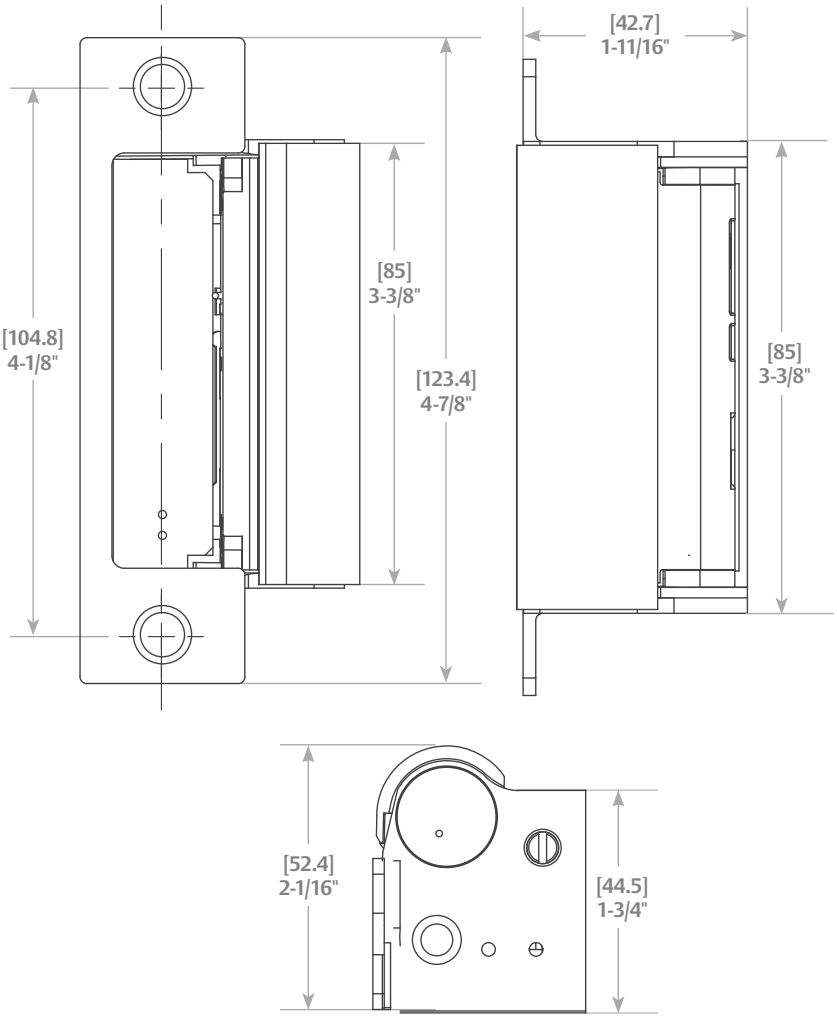


Diagram shown with cylindrical faceplate

Specifications

Certifications

- ANSI/BHMA A156.31, Grade 1
- UL 1034 burglary-resistant listed and suitable for outdoor use
- UL 294 (6th Edition) listed
- RoHS compliant
- UL 10C fire-rated, 3 hour single door (fail secure only)
- UL 10C fire-rated, 1-1/2 hour double door (fail secure only)
- CAN/ULC-S104 fire door conformant
- NFPA-252 fire door compliant
- ASTM-E152 fire door compliant
- ANSI/SDI A250.13 windstorm resistant
- Florida Building Code approved TAS 201, 202, 203
- ANSI-ASTM E330
- Sustainability documentation

Frame Application

- Metal
- Wood

Electrical (DC Continuous Duty)

- Dual Voltage 12/24 VDC
- 450 mA at 12 VDC / 250 mA at 24 VDC

Note: DC must be well filtered with ripple less than 1 volt 12ms.

How to Order

Series	Model	Fail Safe / Secure	Finish*	Option (s)
1006	HM	– F	– 630	– LBM
1006 Universal Electric Strike Faceplates ordered separately	**CS*** Complete Electric Strike; Includes the SMART Pac II and J, KD, KM, HM, ND faceplates and brackets	**F** Fail Safe / Secure	**605** Bright Brass	**LBM** Latchbolt Monitor
		(blank) Fail Secure (standard)	**606** Satin Brass	**LBSM** Latchbolt Strike Monitor
			612 Satin Bronze	
	CS* Complete Electric Strike; Includes the SMART Pac II and J, KD, KM, HM, ND faceplates and brackets		**613** Bronze Toned	
			629 Bright Stainless Steel	
	CDB* Complete Electric Strike for Deadbolt Locks; Includes the ND and HM faceplates		**630** Satin Stainless Steel	
	CAS* Complete Electric Strike for Deadbolt Locks; Includes the N, ND and NM faceplates			

**Complete Pacs are only available in the 630 finish*

HES 1006 Series Faceplate Options

Mortise Locks without Deadbolt

Operation: *After releasing the latchbolt, the keeper returns to the locked position*

4-7/8" × 1-1/4"

KD Option

For use with: Mortise locksets up to 3/4" throw latchbolt

Compatible locksets: Dorma 9500, Jackson, Sargent (7700 & 8100), Schlage, Yale (8700)

» **ANSI/BHMA Numbers:** E09321, E09322, E09323

4-7/8" × 1-1/4"

KM Option

For use with: Mortise locksets up to 3/4" throw latchbolt

Compatible locksets: Accurate, Arrow, Baldwin, Best, Corbin Russwin, Falcon, Marks, PDQ, Sargent (7800, 8200 & 9200), Yale (8800)

» **ANSI/BHMA Numbers:** E09321, E09322, E09323

Mortise Locks with Deadbolt

Operation: *Lockout function. The electric strike will not release if the deadbolt is extended. The deadbolt is retracted during traffic hours. The latchbolt is retracted by the keeper. The keeper returns to the locked position.*

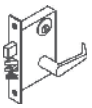
4-7/8" × 1-1/4"

HM Option

For use with: Mortise locksets with a 1" deadbolt. Strike will not release when deadbolt is extended

Compatible locksets: Accurate, Arrow, Baldwin, Best, Corbin Russwin, Falcon (45H, 47H, 34H & 37H), Marks, Omnia, PDQ, Sargent (7800, 8200 & 9200), Yale (8800)

» **ANSI/BHMA Numbers:** 09391, E09392, E09393, E09331, E09332, E09333



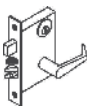
4-7/8" × 1-1/4"

HTD Option

For use with: tise locksets with a 1" deadbolt and no deadlatch or a center positioned deadlatch. Strike will not release when deadbolt is extended

Compatible locksets: Sargent (7700 & 8100), Schlage, Yale (8700)

» **ANSI/BHMA Numbers:** E09391, E09392, E09393, E09331, E09332, E09333



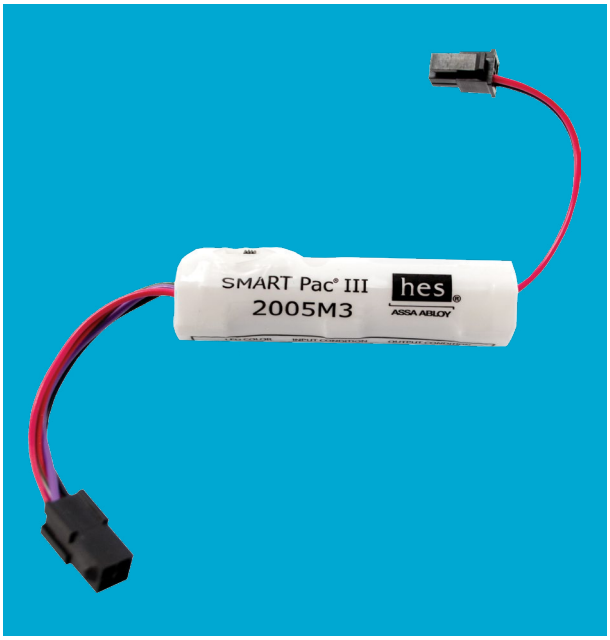
"For use with" information is offered as a recommendation only. Reference should be made to the lockset manufacturer for proper installation instructions necessary to meet compatibility requirements.

Continued on next page »

HES® 2005M3 SMART Pac®III

PP&R Electronic Locking Hardware -
02b - Power Supply - Assa Abloy 2005M3 SMART Pac III

The global leader in door opening solutions



In-line power controller able to receive input voltages from 12-32VAC or DC

Longer Strike Life

- FREE warranty upgrade with installation
- Provides cooler, more efficient operation
- Self-resetting fuse protects strike against over-current condition

Versatile

- Can be used with all HES, Adams Rite or Folger Adam electric strikes
- Accepts wide range of input voltage: 12-32 Volts AC or DC
- Supports fail secure or fail safe configured electric strikes

Intelligent

- Diagnostics for voltage detection
- Output 12VDC or 24VDC, depending on input voltage
- Continuous duty; reduces initial voltage by 25% after a fixed period of time

Features

Standard Features

- Built-in bridge rectifier
- Reduces initial voltage by 25% to extend the life of the electric strike
- Includes built-in resettable fuse, MOV, voltage regulation and input voltage level indicating and unit status
- For use with 1006, input voltage must be DC

Optional Features

Addition of SMART Pac® III to any electric strike extends the 5-year no-fault warranty to a 10-year no-fault warranty.

10 Year SecuriCare Warranty

12/24 Dual Voltage 12/24

ELECTRONIC SECURITY HARDWARE
HES | Securitron
800.626.7590 | assaabloyesh.com | customerservice.esh@assaabloy.com

ESH-HES-28-0818

PP&R Electronic Locking Hardware - 02c - Latch Protector - Don-Jo LP-111

DON-JO MFG., INC.

A Complete Line of Architectural Hardware Accessories

Latch Protector LP 111

Product Specifications

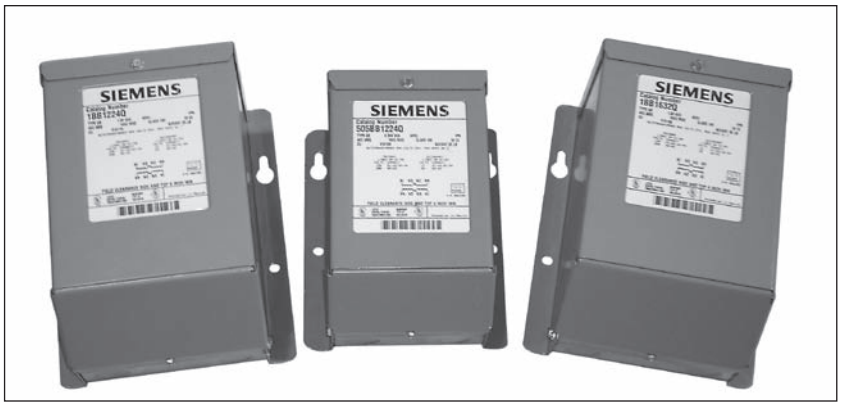
Number	LP 111
Dimensions	3" x 11"
Gauge	12 ga., ,104
Material	Stainless Steel
Shelf pack	10
Features	Furnished with carriage bolts, washers & acorn cap nuts
Finishes	630
Competitor part	ELP-220

P.O. Box 929 - Sterling, MA 01564-0929 - TEL: 978-422-3377 FAX: 978-422-3467
EMAIL: info@don-jo.com - http://www.don-jo.com

Warehouse Stock Transformers

Warehouse Stock

Selection



Buck-Boost Application Description and Selection

The Buck-Boost Transformer has four separate windings, two-windings in the primary and two-windings in the secondary. The unit is designed for use as an insulating transformer or as an autotransformer. As an autotransformer the unit can be connected to Buck (decrease) or Boost (increase) a supply voltage. When connected in either the Buck or Boost mode, the unit is no longer an insulating transformer but is an autotransformer. Units are designed for 60Hz applications (50Hz units available upon request).

Autotransformers are more economical and physically smaller than equivalent two-winding transformers and are designed to carry the same function as two-winding transformers, with the exception of isolating two circuits. Since autotransformers may transmit line disturbances directly, they may be prohibited in some areas by local building codes. Before applying them, care should be taken to assure that they are acceptable according to local code.

NOTE: Autotransformers are not used in closed delta connections as they introduce into the circuit a phase shift which makes them uneconomical.

As insulating transformers these units can accommodate a high voltage of 120, 240 or 480 volts. For units with two 12 volt secondaries, two 16 volt secondaries, or two 24 volt secondaries, the output can be wired for either secondary voltage, or for 3-wire secondary. The unit is rated (kVA) as any conventional transformer.

Operation

Electrical and electronic equipment is designed to operate on a standard supply voltage. When the supply voltage is constantly too high or too low, (usually greater than ± 5%), the equipment fails to operate at maximum efficiency. A Buck-Boost transformer is a simple and economical means of correcting this off-standard voltage up to ± 20%. A Buck-Boost transformer will NOT, however, stabilize a fluctuating voltage. Buck-Boost transformers are suitable for use in a three phase autotransformer bank in either direction to supply 3-wire loads. They are also suitable for use in a three phase autotransformer bank which provides a neutral return for unbalanced current. They are NOT suitable for use in a three phase autotransformer bank to supply a 4-wire unbalanced load when the source is a 3-wire circuit.

Construction

Buck-Boost Transformers are contained within a NEMA 3R, non-ventilated weatherproof enclosure. Wiring compartments are located at the bottom. Core and coil assemblies are encapsulated. Insulation system temperature is 130° C and the widing temperature rise is 95° C for units up through 1 kVA. Insulation system temperature is 180° C and the winding temperature rise is 135° C for units 1.5 kVA and above.

How To Select The Proper Transformer

To select the proper Transformer for Buck-Boost applications, determine:

1. Input line voltage — The voltage that you want to buck (decrease) or boost (increase). This can be found by measuring the supply line voltage with a voltmeter.
2. Load voltage — The voltage at which your equipment is designed to operate. This is listed on the nameplate of the load equipment.
3. Load kVA or Load Amps — You do not need to know both — one or the other is sufficient for selection purposes. This information usually can be found on the nameplate of the equipment that you want to operate.
4. Number of phases — Single or three phase line and load should match because a transformer is not capable of converting single to three phase. It is however a common application to make a single phase transformer connection from a three phase supply by use of one leg of the three phase supply circuit. Care must always be taken not to overload the leg of the three phase supply. This is particularly true in a Buck-Boost application because the supply must provide for the load kVA, not just the nameplate rating of the Buck-Boost transformer.
5. Frequency — The supply line frequency must be the same as the frequency of the equipment to be operated — either 50 or 60 cycles.

How To Use Selection Charts

1. Choose the selection table with the correct number of phases for single or three phase applications.
2. Line/Load voltage combinations are listed across the top of the selection table. Select a line/load voltage combination which comes closest to matching your applications.
3. Follow the selected column down until you find either the kVA or load amps of your application. If you do not find the exact value, go on the next highest rating.
4. Now follow across the table to the far left-hand side to find the catalog number and the kVA of the transformer you need.
5. Follow the column of your line/load voltage to the bottom to find the connection diagram for this application.
   NOTE: Connection diagrams show low voltage and high voltage connection terminals. Either can be input or output depending on Buck or Boost application.
6. In the case of three phase loads either two or three single phase transformers are required as indicated in the "quantity required" line at the bottom of the table. The selection is dependent on whether a Wye connected bank of three transformers with a neutral is required or whether an open Delta connected bank of two ransformers for a Delta connected load will be suitable.
7. For line/load voltage not listed on the selection tables, use the pair listed on the table that is slightly above your application for reference. Then apply the first formula at the bottom of the table to determine "new" output voltage. The new kVA rating can be found using the second formula.

Warehouse Stock Transformers

Buck-Boost

120 × 240 Volts Primary — 12/24 Volts Secondary, 60 Hz, No Taps, Wall Mounted

Single Phase — Table 1			Boosting								Bucking					
Catalog Number*	Line Voltage (Available)		96	100	105	109	189	208	215	220	125	132	229	245	250	252
Insulating Transformer Rating	Load Voltage (Output)		115	120	115	120	208	229	237	242	114	120	208	222	227	240
050BB1224J		kVA	.24	.25	.50	.50	.43	.48	.49	.50	.52	.55	.48	.51	.52	1.05
.050 kVA	Load	Amps	2.08	2.08	4.17	4.17	2.08	2.08	2.08	2.08	4.59	4.59	2.29	2.29	2.29	4.38
100BB1224J		kVA	.48	.50	.96	1.00	.87	.95	.99	1.01	1.04	1.10	.95	1.02	1.04	2.10
.100 kVA	Load	Amps	4.17	4.17	8.33	8.33	4.17	4.17	4.17	4.17	9.16	9.16	4.58	4.58	4.58	8.75
150BB1224J		kVA	.72	.75	1.44	1.50	1.30	1.43	1.48	1.51	1.55	1.65	1.43	1.53	1.56	3.15
.150 kVA	Load	Amps	6.25	6.25	12.50	12.50	6.25	6.25	6.25	6.25	13.75	13.75	6.88	6.88	6.88	13.13
205BB1224J		kVA	1.19	1.25	2.40	2.50	2.17	2.38	2.47	2.52	2.60	2.75	2.38	2.54	2.60	5.25
.250 kVA	Load	Amps	10.42	10.42	20.83	20.83	10.42	10.42	10.42	10.42	22.92	22.92	11.46	11.46	11.46	21.88
505BB1224J		kVA	2.37	2.50	4.80	5.00	4.33	4.77	4.94	5.04	5.18	5.50	4.77	5.09	5.20	10.50
.500 kVA	Load	Amps	20.83	20.83	41.67	41.67	20.83	20.83	20.83	20.83	45.83	45.83	22.92	22.92	22.92	43.75
705BB1224J		kVA	3.56	3.75	7.19	7.50	6.50	7.15	7.41	7.56	7.77	8.25	7.15	7.63	7.80	15.75
.750 kVA	Load	Amps	31.25	31.25	62.50	62.50	31.25	31.25	31.25	31.25	68.75	68.75	34.38	34.38	34.38	65.63
1BB1224J		kVA	4.75	5.00	9.58	10.00	8.67	9.53	9.88	10.08	10.36	11.00	9.53	10.17	10.40	21.00
1.00 kVA	Load	Amps	41.67	41.67	83.33	83.33	41.67	41.67	41.67	41.67	91.66	91.66	45.83	45.83	45.83	87.50
105BB1224J		kVA	7.13	7.50	14.38	15.00	13.00	14.30	14.81	15.13	15.54	16.50	14.30	15.26	15.61	31.50
1.50 kVA	Load	Amps	62.50	62.50	125.00	125.00	62.50	62.50	62.50	62.50	137.50	137.50	68.75	68.75	68.75	131.25
2BB1224J		kVA	9.50	10.00	19.17	20.00	17.33	19.07	19.75	20.17	20.72	22.00	19.07	20.35	20.81	42.00
2.00 kVA	Load	Amps	83.33	83.33	166.66	166.66	83.33	83.33	83.33	83.33	183.33	183.33	91.66	91.66	91.66	175.00
3BB1224J		kVA	14.25	15.00	28.75	30.00	26.00	28.60	29.63	30.25	31.08	33.00	28.60	30.53	31.21	63.00
3.00 kVA	Load	Amps	125.00	125.00	250.00	250.00	125.00	125.00	125.00	125.00	275.00	275.00	137.50	137.50	137.50	262.50
5BB1224J		kVA	23.75	25.00	47.92	50.00	43.33	47.67	49.37	50.42	51.79	55.00	47.67	50.88	52.02	105.00
5.00 kVA	Load	Amps	208.33	208.33	416.66	416.66	208.33	208.33	208.33	208.33	458.33	458.33	229.17	229.17	229.17	437.50
Connection Diagram (pg. 8-25)			B	B	A	A	D	D	D	D	D	A	D	D	D	C

Three Phase — Table 2			Boosting									Bucking				
Catalog Number*	Line Voltage (Available)		189Y/ 109	195Y/ 113	200Y/ 115	208Y/ 120	416Y/ 240	416Y/ 240	189	208	220	218	229	250	255	264
Insulating Transformer Rating	Load Voltage (Output)		208Y/ 120	234Y/ 135	240Y/ 139	229Y/ 132	458Y/ 264	437Y/ 252	208	229	242	208	208	227	232	240
050BB1224J		kVA	1.50	.84	.86	1.65	1.65	3.15	.75	.83	.87	1.58	.83	.90	.92	.95
.050 kVA	Load	Amps	4.17	2.08	2.08	4.17	2.08	4.17	2.08	2.08	2.08	4.39	2.29	2.29	2.29	2.29
100BB1224J		kVA	3.00	1.69	1.73	3.30	3.30	6.29	1.50	1.65	1.75	3.15	1.65	1.80	1.84	1.90
.100 kVA	Load	Amps	8.33	4.17	4.17	8.33	4.17	8.33	4.17	4.17	4.17	8.75	4.58	4.58	4.58	4.58
150BB1224J		kVA	4.50	2.54	2.60	4.96	4.96	9.44	2.26	2.48	2.62	4.73	2.48	2.71	2.76	2.86
.150 kVA	Load	Amps	12.50	6.25	6.25	12.50	6.25	12.50	6.25	6.25	6.25	13.13	6.88	6.88	6.88	6.88
205BB1224J		kVA	7.50	4.22	4.33	8.30	8.25	15.75	3.75	4.13	4.37	7.88	4.13	4.50	4.61	4.76
.250 kVA	Load	Amps	20.83	10.42	10.42	20.83	10.42	20.83	10.42	10.42	10.42	21.88	11.46	11.46	11.46	11.46
505BB1224J		kVA	15.01	8.44	8.66	16.60	16.50	31.50	7.50	8.26	8.73	15.76	8.26	9.01	9.21	9.53
.500 kVA	Load	Amps	41.67	20.83	20.83	41.67	20.83	41.67	20.83	20.83	20.83	43.75	22.92	22.92	22.92	22.92
705BB1224J		kVA	22.52	12.67	12.99	24.90	24.75	47.25	11.26	12.39	13.10	23.64	12.39	13.52	13.82	14.29
.750 kVA	Load	Amps	62.50	31.25	31.25	62.50	31.25	62.50	31.25	31.25	31.25	65.63	34.38	34.38	34.38	34.38
1BB1224J		kVA	30.02	16.89	17.32	33.20	33.00	63.00	15.01	16.51	17.47	31.52	16.51	18.02	18.42	19.05
1.00 kVA	Load	Amps	83.33	41.67	41.67	83.33	41.67	83.33	41.67	41.67	41.67	87.50	45.83	45.83	45.83	45.53
105BB1224J		kVA	45.03	25.33	25.98	49.80	49.50	94.50	22.52	24.77	26.20	47.28	24.77	27.03	27.63	28.53
1.50 kVA	Load	Amps	125.00	62.50	62.50	125.00	62.50	125.00	62.50	62.50	62.50	131.25	68.75	68.75	68.75	68.75
2BB1224J		kVA	60.06	33.77	34.64	66.40	66.00	126.00	30.02	33.03	34.93	63.05	33.03	36.04	36.84	38.11
2.00 kVA	Load	Amps	166.67	83.33	83.33	166.67	83.33	166.66	83.33	83.33	83.33	175.00	91.67	91.67	91.67	91.67
3BB1224J		kVA	90.07	50.66	51.96	99.59	99.00	189.00	45.03	49.54	52.39	94.57	49.54	54.06	55.25	57.16
3.00 kVA	Load	Amps	250.00	125.00	125.00	250.00	125.00	250.00	125.00	125.00	125.00	262.50	137.50	137.50	137.50	137.50
5BB1224J		kVA	150.11	84.44	86.60	165.99	165.00	318.00	75.05	82.56	87.32	157.62	82.56	90.10	92.09	95.26
5.00 kVA	Load	Amps	416.67	208.33	208.33	416.67	208.33	416.66	208.33	208.33	208.33	437.50	229.17	229.17	229.17	229.17
Quantity Required			3	3	3	3	3	3	2	2	2	2	2	2	2	2
Connection Diagram (pg. 8-25)			F	E	E	F	J	K	G	G	G	H	G	G	G	G

* All Buck-Boost transformers listed are available for immediate shipment.

- Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ × Input Actual Voltage = Output New Voltage.
- Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ × Output kVA = New kVA Rating.
- Inputs and outputs may be reversed without affecting kVA capacity. See note on page 8-25

Buck-Boost Transformers

Single Phase, Three Phase

Typical Connection Diagrams

Single Phase

Diagram A

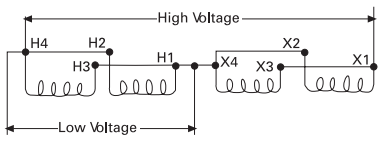


Diagram B

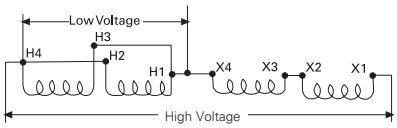


Diagram C

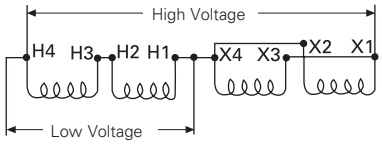
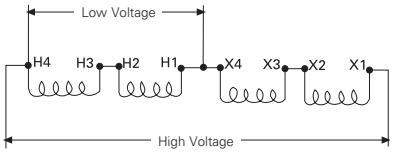
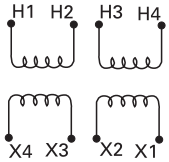


Diagram D



(Standard Step-down Application)*



Three Phase

Note: Contact sales office for diagrams applicable to "J" suffix.

Diagram E①

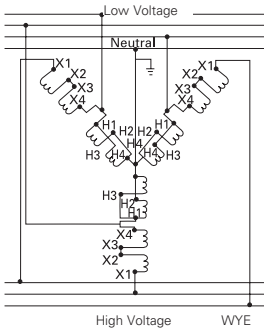


Diagram F①

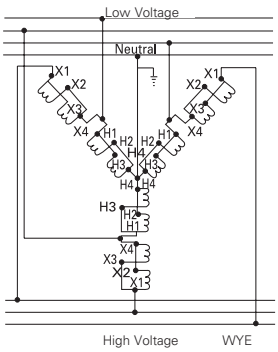


Diagram G②

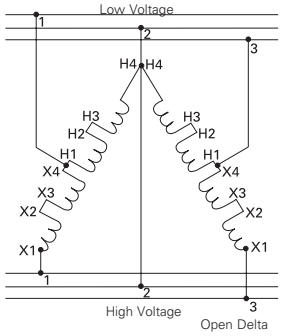


Diagram J①

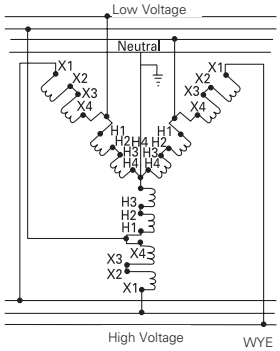


Diagram H②

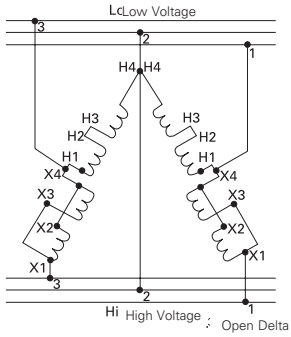
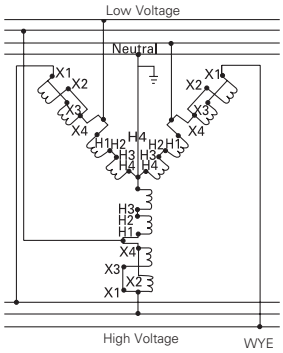


Diagram K①



*Low Voltage Applications:
By using the "Standard Step-down Application" diagram at left, buck boost transformers will convert 120V or 240V to 12, 24, 16 or 32 volts and 240V or 480V to 24 or 48 volts without affecting the nameplate kVA rating of the transformer. Buck boost transformers used in this type of application will become isolation or insulating type transformers.

① These diagrams can only be used when the source is a 4-wire supply.
② The neutral XO should not be used when the source is a three wire supply.

Note:
- Inputs and Outputs may be reversed; kVA capacity remains constant. Exception: Cannot use 3-wire input with 4-wire output to form a neutral and does not apply to standard step-down applications.
- Refer to NEC 450-4 for overcurrent protection of an autotransformer.
- All applications are suitable for 60Hz only, contact factory for 50Hz information.

Drip Shield/Weather Shield Kits for Ventilated Transformers①②

Drip shields are integral to enclosure for Series H transformers and all DOE 2016 Series J transformers. Include DS option code to catalog number to include with single phase Series J transformers. Drip shield kits are available for field installation for Series J and other previously sold series transformers. Call factory for price and availability.

Wall Mounting Brackets for Ventilated Transformers

For Series H transformers, wall brackets are integral to the enclosure up to 30kVA and most 45kVA. A Wall Bracket Kit is available for 45kVA transformers that do not include wall brackets and for most 75kVA transformers. They should be ordered separately for field installation rather than including the W option in the catalog number. Series H wall brackets are not seismic certified. For Series J, include W option code for wall brackets to come with Series J transformers up to 75kVA or order separately for field installation. Call factory for price and availability.

Terminal Lug Kits For Ventilated Transformers⑤

Catalog Number	Single Phase kVA Sizes	Three Phase kVA Sizes	Primary Terminal Lug③ Qty.④	Range	Secondary Terminal Lug③ Qty.④	Cable Range	Primary Hardware Included		Secondary Hardware Included	
							Qty.	Bolt Size	Qty.	Bolt Size
TLK14Q	75, 100	—	4	#6-350 kcmil	8	#6-350 kcmil	4	3/8 x 1 1/2	8	3/8 x 1 1/2
TLK15Q	167.5	—	8	#6-350 kcmil	12	1/0-750 kcmil	8	3/8 x 1 1/2	12	1/2 x 1 1/2
TLK34Q	—	112.5	3	#6-350 kcmil	8	#6-350 kcmil	3	3/8 x 1 1/2	8	3/8 x 1 1/2
TLK35Q	—	150	3	#6-350 kcmil	8	1/0-750 kcmil	3	3/8 x 1 1/2	8	3/8 x 1 1/2
TLK36Q	—	225	6	#6-350 kcmil	16	#6-350 kcmil	6	3/8 x 1 1/2	16	1/2 x 1 1/2
TLK37Q	—	300	6	#6-350 kcmil	16	1/0-750 kcmil	6	3/8 x 1 1/2	16	1/2 x 1 1/2
TLK38Q	—	500	9	#6-350 kcmil	24	1/0-750 kcmil	9	3/8 x 1 1/2	24	1/2 x 1 1/2
TLK39Q	—	750	12	#6-350 kcmil	28	1/0-750 kcmil	12	3/8 x 1 1/2	28	1/2 x 1 1/2

③ May be used on "JST" suffix and "non JST" suffix transformers. Terminal lugs are screw type, lug connectors suitable for both copper and aluminum cable. All lugs are single barrel and suitable for cable ranges shown. 750kcmil lugs are capable of holding (2) 250kcmil cables in lieu of (1) 750kcmil cable. All lugs are rated 90˚C.

④ Lug kits contain quantity required for each kVA based NEC ampacities for cable range indicated. For cable sizes outside the range, hole size of terminal may not be the correct size to mount other lugs. Bolt size in Hardware included column provides indication of hole size.

⑤ Primary and secondary terminal lugs are included on most ventilated transformers. (15kVA - 75kVA 3PH & 15kVA - 50kVA 1PH). Some 45 or 75kVA may not have secondary lugs depending on number and type of additional options. Call factory for confirmation.

Standard Terminal Lug Offerings⑥

(Primary and Secondary) for Ventilated Transformers									
1-Phase					3-Phase				
kVA	120/240V	208V	480V	600V	kVA	120/240V	208V	480V	600V
0-15	Contact customer support				0-15	Contact customer support			
15	#2/0-6	#14-2	#14-2	#14-2	15	#14-2	#14-2	#14-2	#14-2
25	250MCM-6	250MCM-6	#14-2	#14-2	30	#2/0-6	#2/0-6	#14-2	#14-2
37.5	350MCM-6	350MCM-6	#14-2	#14-2	45	250MCM-6	250MCM-6	#14-2	#14-2
50	600MCM-2	600MCM-2	#2/0-6	#2/0-6	75	600MCM-2	350MCM-6	#2/0-6	#2/0-6
>50	Contact customer support				>75	Contact customer support			

⑥ Values listed above are for standard configurations. There may be slight variations depending on requirements. Contact Customer Support for special requirements

Wall Bracket and Drip Shield Kits for Series J DOE 2016 3 Phase Transformers

Series J Wall Bracket Kits⑦							
	Temp Rise			K Factor			
kVA	150C	115C	80C	K1	K4	K13	K20
15	TWB15J	TWB15J	TWB75J	TWB15J	TWB15J	TWB75J	TWB75J
30	TWB75J	TWB75J	TWB75J	TWB75J	TWB75J	TWB75J	TWB75J
45	TWB75J	TWB75J	NA	TWB75J	TWB75J	NA	NA
75⑧	TWB75J	TWB75J	NA	TWB75J	TWB75J	NA	NA

⑦ Wall Bracket Kit not available for 75kVA with Copper Windings.

⑧ See Wall Bracket/Drip Shield Table on Page 8-8 for availability information.

Wall Bracket for Series J SIngle Phase Transformers

Series J Wall Bracket Kits			
	Temp Rise		
kVA	150C	115C	80C
15	TWB15J	TWB15J	TWB75J
25	TWB75J	TWB75J	TWB75J
37.5	TWB75J	TWB75J	TWB75J
50	TWB75J	TWB75J	TWB75J
75	NA	NA	NA
100	NA	NA	NA

① These accessories fit only warehouse stock transformers with JST Catalog Suffix.

② UL Listed for indoor and outdoor use with dripshield installed.

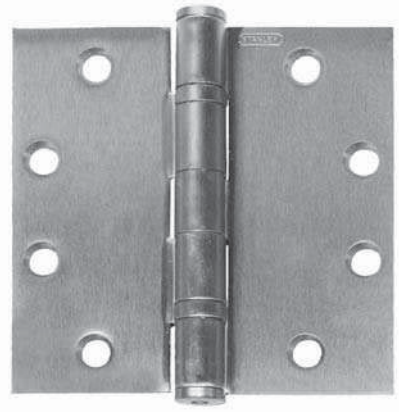
PP&R Electronic Locking Hardware -
04 - Butts - Stanley FBB191 4.5"x4.5" NRP

GES

Standard Weight Ball Bearing

FBB179 – (ANSI A8112) Steel – polished and plated or phosphated and prime coated for painting
FBB191 – (ANSI A2112) Brass or bronze – polished and plated or painted
FBB191 (32) – (ANSI A5112) Stainless steel – highly polished
FBB191 (32D) – (ANSI A5112) Stainless steel – satin finish

- For medium weight doors of average frequency
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames
- Equipped with two Stanley permanently lubricated non-detachable ball bearings
- Pins in non-ferrous hinges are stainless steel
- Hole in bottom tip for easy pin removal
- Reversible flush tips and pins
- Hinges can be furnished as follows:
  - with raised barrel (RB)
  - with electric wires and/or switches (CE and/or CS)
  - with hospital tips (HT)
  - with decorative tips
  - with security studs
  - with non-removable pins (NRP)



Size Open		Gauge of Metal		Flat Head Screws Per Piece		Quantity Per Box	Quantity Per Case	Case Weight			
								Bronze		Steel	
Inches	(mm)	Inches	(mm)	Machine	Wood			Lbs.	(Kg)	Lbs.	(Kg)
3½ x 3	(89 x 76)	.123	(3.1)	6 - 10-24 x ½	6 -10 x 1	3 EA.	90 EA.	58	(26)	54	(24)
3½ x 3½	(89 x 89)	.123	(3.1)	6 - 10-24 x ½	6 -10 x 1	3 EA.	90 EA.	65	(29)	59	(27)
4 x 3½	(102 x 89)	.130	(3.3)	8 - 12-24 x ½	8 -12 x 1¼	3 EA.	48 EA.	43	(19)	39	(18)
4 x 4	(102 x 102)	.130	(3.3)	8 - 12-24 x ½	8 -12 x 1¼	3 EA.	48 EA.	45	(20)	42	(19)
4½ x 4	(114 x 102)	.134	(3.4)	8 - 12-24 x ½	8 -12 x 1¼	3 EA.	48 EA.	55	(25)	52	(24)
4½ x 4½	(114 x 114)	.134	(3.4)	8 - 12-24 x ½	8 -12 x 1¼	3 EA.	48 EA.	59	(27)	55	(25)
5 x 4	(127 x 102)	.146	(3.7)	8 - 12-24 x ½	4 -12 x 1¼	3 EA.	30 EA.	41	(19)	39	(18)
5 x 4½	(127 x 114)	.146	(3.7)	8 - 12-24 x ½	4 -12 x 1¼	3 EA.	30 EA.	45	(20)	43	(19)
5 x 5	(127 x 127)	.146	(3.7)	8 - 12-24 x ½	4 -12 x 1¼	3 EA.	30 EA.	50	(23)	46	(21)
*6 x 4½	(152 x 114)	.160	(4.1)	10 -¼-20 x ½	5 -14 x 1½	3 EA.	24 EA.	43	(19)	36	(16)
*6 x 5	(152 x 127)	.160	(4.1)	10 -¼-20 x ½	5 -14 x 1½	3 EA.	24 EA.	47	(21)	40	(18)
*6 x 6	(152 x 152)	.160	(4.1)	10 -¼-20 x ½	5 -14 x 1½	3 EA.	24 EA.	67	(30)	61	(28)

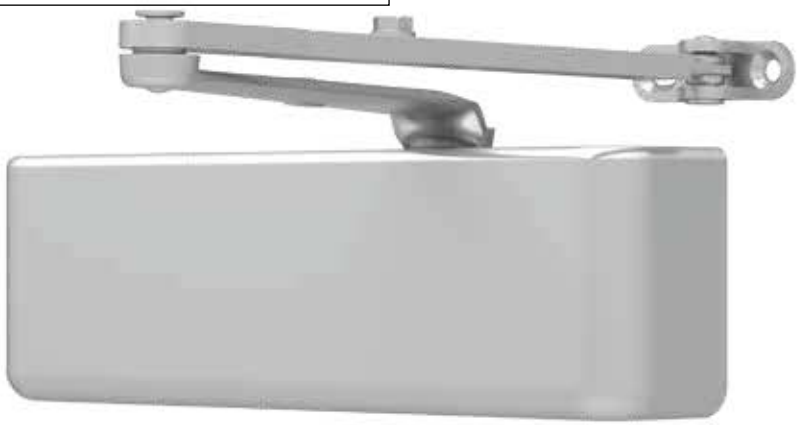
* Available in Steel only
Consult factory for other sizes not listed

STANLEY

5 KNUCKL

4040XP Series

Features

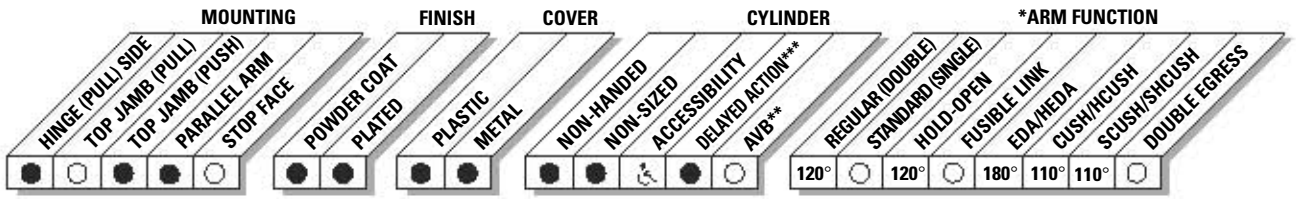


The 4040XP is LCN's most durable and flexible heavy duty closer designed for institutional and other demanding high traffic applications.

Certifications	Grade 1 - ANSI A156.4, UL 10C, ADA, 100 Hour Salt Spray, Meets BAA - Buy American Act
Body Construction	■ Cast Iron Body ■ Full Complement Bearings ■ 1-1/2″ Diameter Piston ■ 3/4″ Diameter Double Heat Treated Pinion Journal
Fluid	All Weather Liquid X Fluid
Handing	Non-Handed
Templating	Peel-n-Stick templates - 2-1/4″ x 5″ Mounting Hole Pattern
Size	Adjustable Spring Size 1-6, includes Patented Green Dial
Warranty	30 years

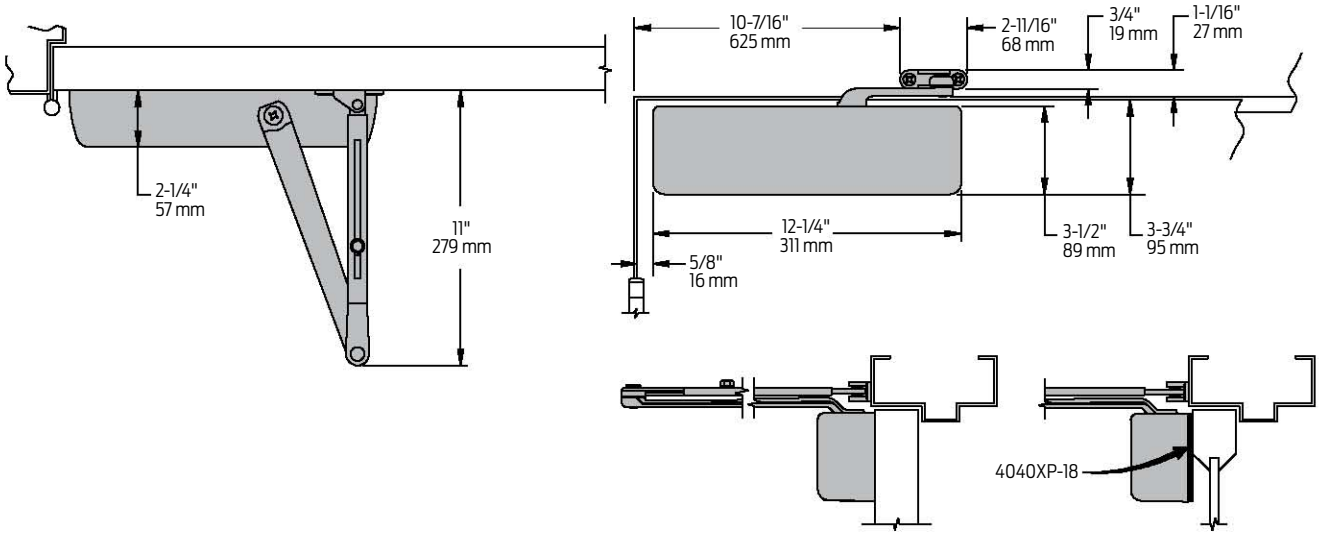
Cover	■ Plastic, Standard ■ Metal, Optional
Fasteners	Self Reaming and Tapping Screws (SRT)
Mounting	Hinge (Pull Side), Top Jamb (Push Side), Parallel Arm (Push Side)
Arms	Regular Arm
Finishes/Colors/ Powder Coat	■ Aluminum (689) ■ Statuary Bronze (690) ■ Light Bronze (691) ■ Black (693) ■ Dark Bronze (695) ■ Brass (696) ■ Custom colors optional ■ Optional SRI primer - powder coat only ■ Optional plated finishes

Special Templates | Customized installation templates or products may be available to solve unusual applications. Contact LCN Product Support for assistance.

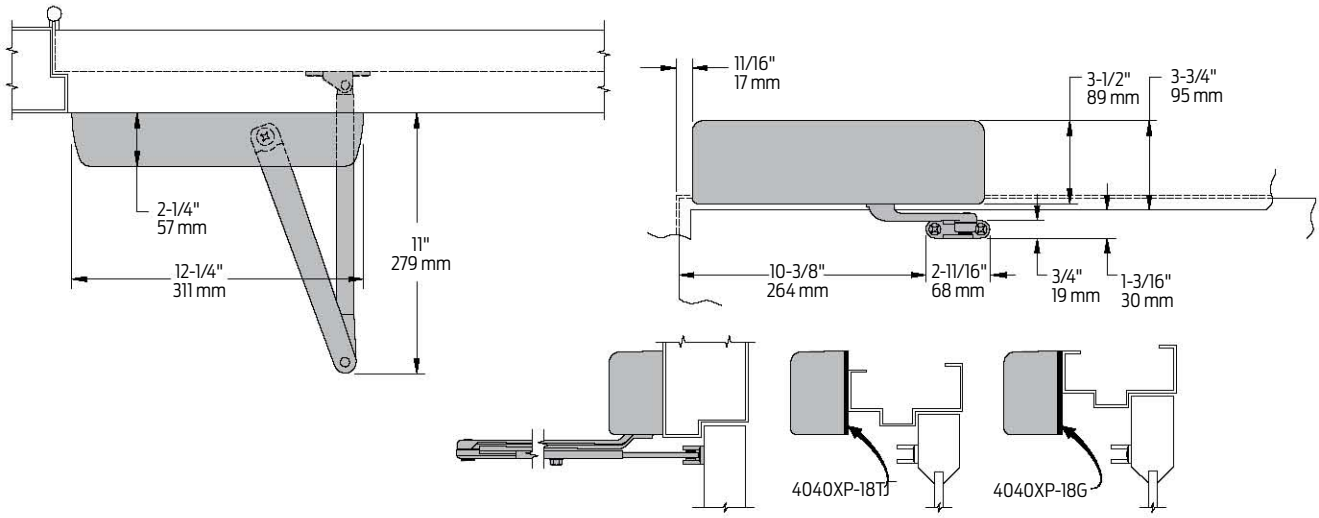


● AVAILABLE
○ NOT AVAILABLE

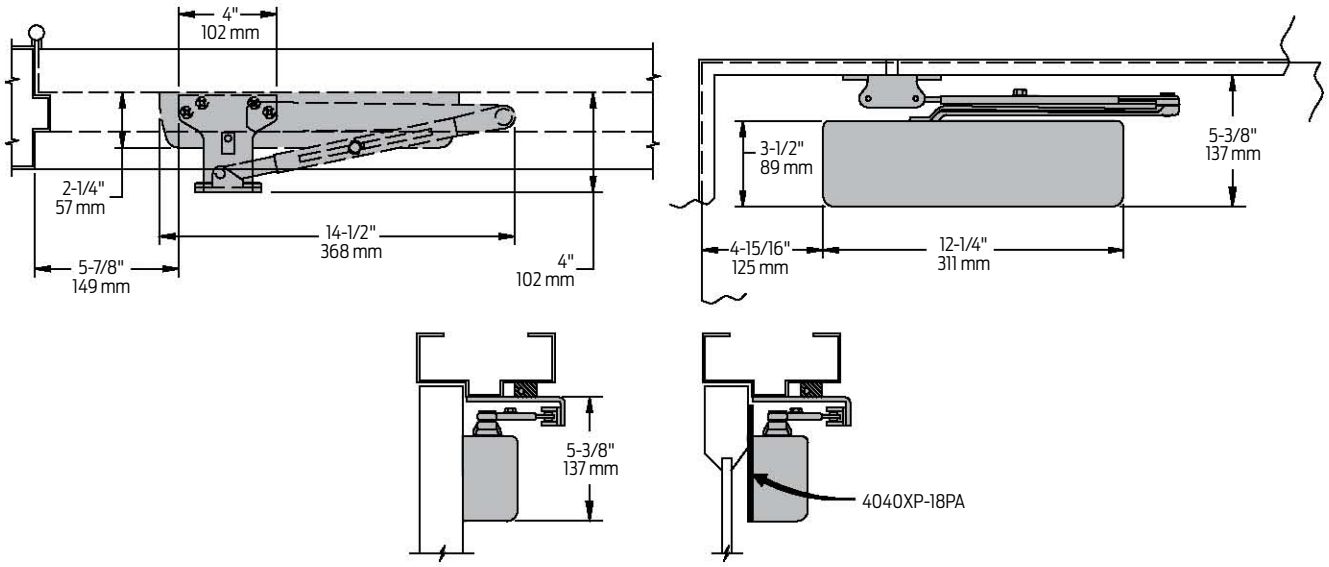
Closer available with less than 5.0 lbs. opening force on 36″ door.
* *Maximum opening/hold-open point with standard template.*
** *Advanced Variable Backcheck.*
*** *Delay feature incorporates standard 4040 cylinder (not XP).*



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	■ 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 90° installation
Delayed Action	■ Incorporates standard 4041 cylinder, without XP cylinder ■ Delays closing from 120° to 70° ■ Delay time adjustable up to approximately 1 minute
Maximum Opening	■ Templating allows up to 120°. ■ Hold-open points 90° up to 120° 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

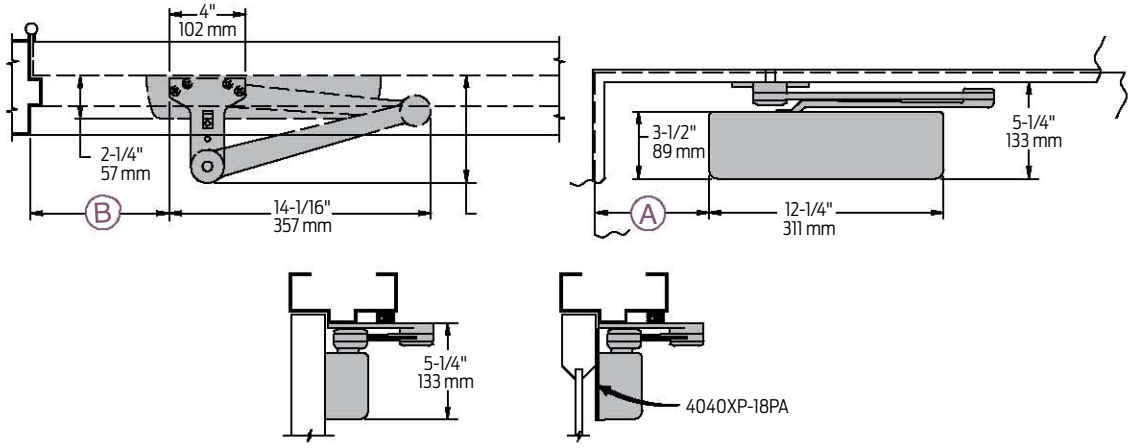
Notes:

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

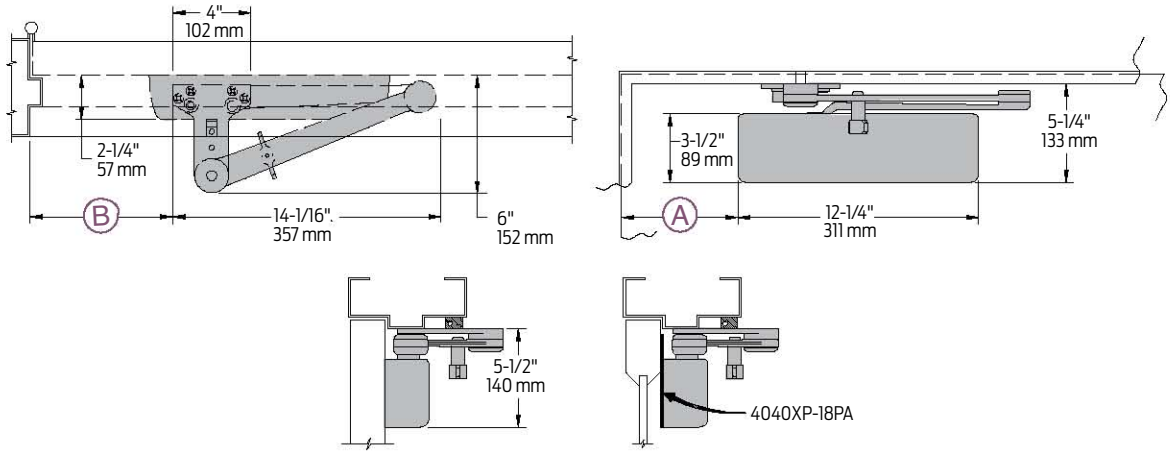
• Add prefix "P" to closer description (eg. P4040XP)

• 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

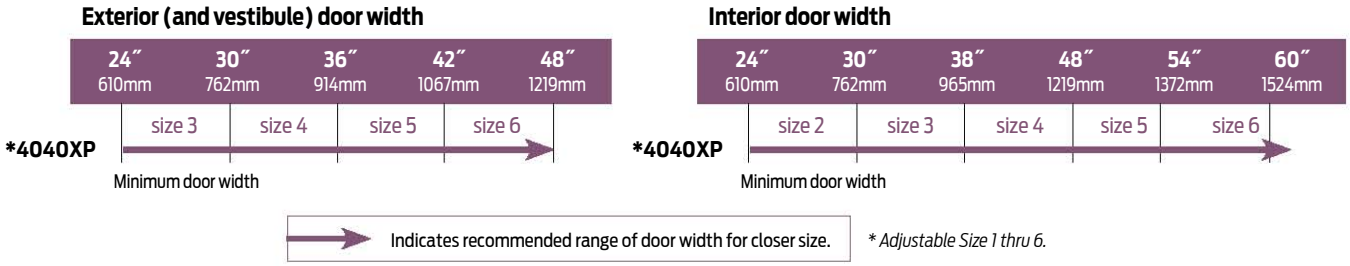
☐ Plate, 4040XP-18
☐ Plate, 4040XP-18TJ
☐ Plate, 4040XP-18G
☐ Plate, 4040XP-18PA
☐ CUSH Shoe Support, 4040XP-30
☐ Blade Stop Spacer, 4040XP-61
☐ Auxiliary Shoe, 4040XP-62A
☐ PA Flush Panel Adapter, 4040XP-419

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.

9540 Series *Senior Swing*

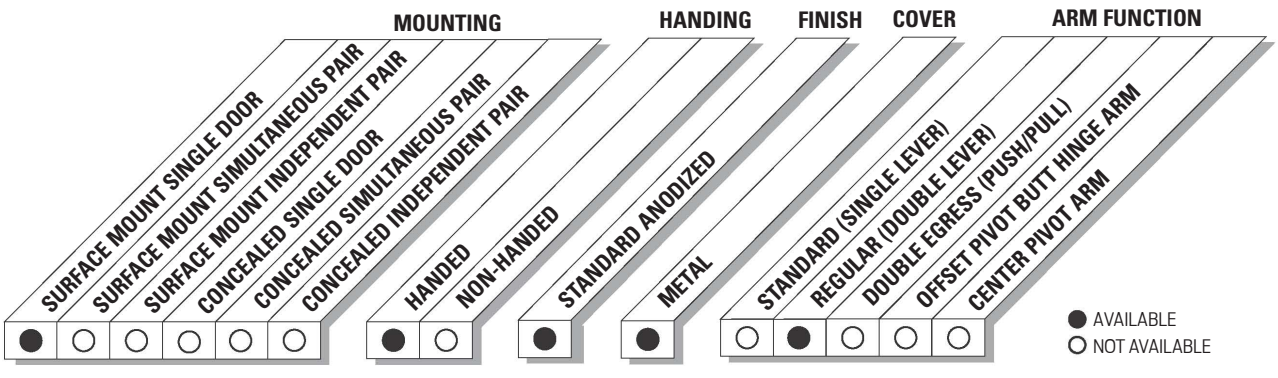
Features

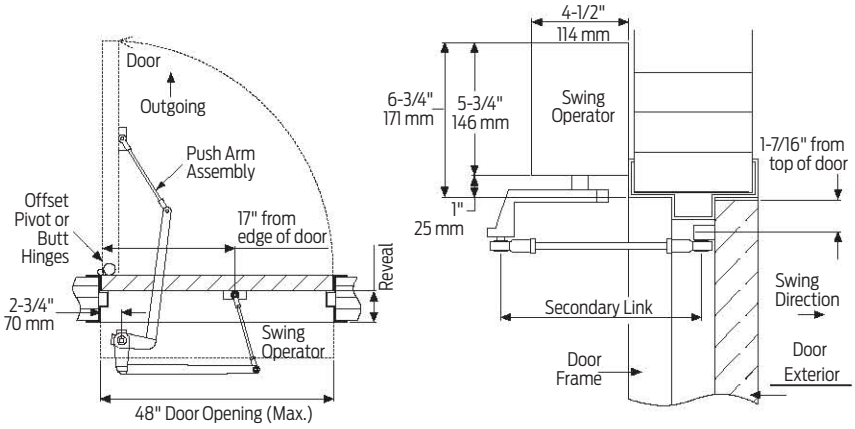
The 9540 SENIOR SWING by LCN is an ADA door operator that is a two-in-one swing door operator. SENIOR SWING operators when activated, opens doors automatically for wheelchair access, yet allows for manual operation for regular pedestrian traffic.

Certifications	Grade 1 - ANSI A156.19, UL325/228, UL1998, ADA, 100 Hour Salt Spray, Meets BAA - Buy American Act
Fluid	All Weather Fluid
Handing	Handed
Door Width	■ Minimum door width 33″ - 48″ ■ Single door - width per leaf 33″ minimum, 48″ maximum
Warranty	2 years

Fasteners	Machine screw pack
Mounting	Single door, surface mount, offset pivot, butt hinge (Push Side)
Arms	Regular Arm (3077)
Finishes/Colors/ Powder Coat	■ Anodized Aluminum ■ Anodized Dark Bronze

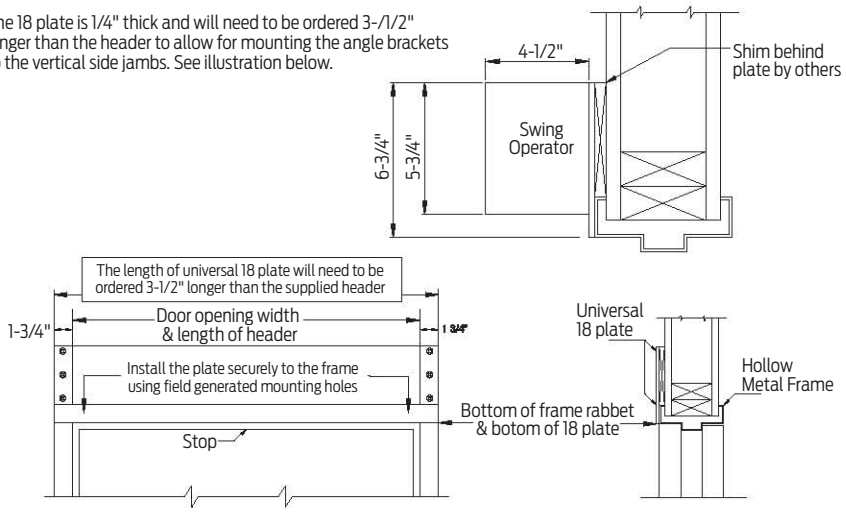
Special Templates | Customized installation templates or products may be available to solve unusual applications. Contact LCN Product Support for assistance.





Offset pivot/butt hinge, center pivot, push
Consult factory for all balance door installations.

The 18 plate is 1/4" thick and will need to be ordered 3-/1/2" longer than the header to allow for mounting the angle brackets to the vertical side jambs. See illustration below.



Hollow metal frame
Suggested Installation.

Butt Hinges	Should not exceed 5˝ (127 mm) in width
Reveal	push installations should not exceed 10˝ (254 mm) for REGULAR ARM and 20˝ (508 mm) for LONG ARM
Head Frame	Minimum 1-3/4˝ (44 mm). Face frame 6-3/4˝ (171 mm) total operator clearance
Top Rail	Minimum 2-3/4˝ (70 mm)
Opening and Closing Time	■ Variable by adjustments to the electronic control box ■ Maximum hold open time adjustable up to approximately 32 seconds
System Diagram	See "AUTOMATIC OPERATORS" section page 51 for typical system wiring and page 53 for electrical data
Maximum Opening	Template allows 90 degree power opening and 90 degree manual opening

Notes:
- *Push N' Go permits non-switch activation with a power boost providing additional latching force*
- *Electromechanical unit with microprocessor control*
- *Digital keypad for easy setup*
- *36" header length is standard. Specify 33" - 48" max*
- *Double door header available up to 98", specify other length 49" - 98" max*
- *Adjustable hold open period of 2 - 32 seconds in automatic or manual mode*
- *Actuators available separately, see pages 115-131*

Motor Gearbox

9540-3454
Motor Gearbox

- Senior swing
- Handed
- Driving mechanism for operator
- Provides maximum 15 lbs opening force

Mount Brackets

9540-275
Mounting Bracket

- Motor gearbox mounting bracket for 2-3/4″ offset pivot or butt hinge installations
- Front bracket

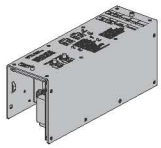
9540-3018
Rear Mounting Bracket

- Motor gearbox mounting bracket
- Rear bracket

9540-334-1
Angled Bracket

- Mounting bracket for surface applications (includes 2 mounting brackets)

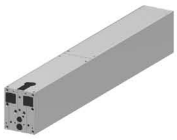
Control Box



9540-3462
Control Box

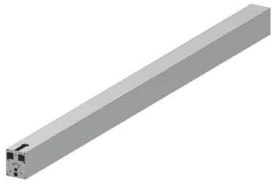
- Electronic controlling device for Senior Swing

Headers



9540-3572HL
Header

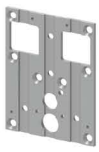
- Single door, single operator
- Specify length 33″ to 48″ maximum
- Standard



9540-3572DD
Header

- Double door, single operator
- Specify length 49″ to 98″ maximum
- Standard

End Caps



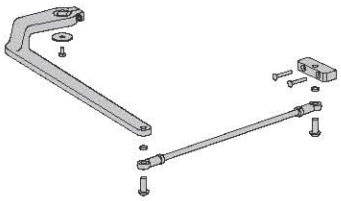
9540-334
Header End Caps

- With openings for wiring

9540-334-2
End Dress Plate

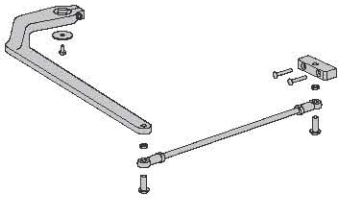
- Metal finish end cap

Arms



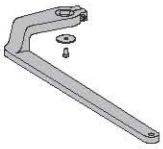
9540-3077
Regular Arm Assembly

- Handed
- Includes 77 main arm assembly and 79 linkage assembly



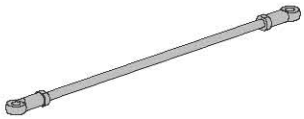
9540-3077L
Regular Long Arm Assembly

- Handed
- Includes 77 main arm assembly and 79LR linkage assembly



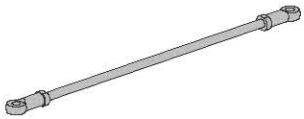
9540-77
Main Arm

- Handed
- Attaches to motor gearbox



9540-79
Linkage Assembly - 15″

- Threaded rod attaches to door
- Extends from main arm



9540-79LR
Linkage Assembly - 32″

- Threaded long rod attaches to door
- Extends from main arm.
- Used for reveal 10″ to 20″

Installation Accessories

9540-11A
Spindle Plate

- Hides bottom of motor gearbox
- Completes header box
- Cutout allows for motor gearbox shaft
- For 2-3/4″ offset pivot or butt hinge installations

9540-12
Filler Plate Blank

- Completes length of header box (specify length)

9540-18
Mounting Plate

- For standard hollow metal door frames
- Specify length 55-1/2″ to 101-1/2″ maximum when using angle brackets
- Specify length 52″ to 98″ maximum when using dress plates
- Optional

NOTE: The length of a universal 18 plate will need to be ordered 3-1/2″ longer than the supplied header when using angle brackets.

How-to-order 9540 Series closers

Specify hand
☐ RH
☐ LH

Specify header/length
☐ HL__ (Specify length 33″ to 48″)
☐ DD__ (Specify length 49″ to 98″)

Specify finish
☐ Standard Anodized Finish _____
Aluminum or Dark Bronze

Operator will be shipped with:
- Standard motor gearbox
- Standard control box
- Header (at specified length, 36″ standard)
- Regular arm (3077)
- 2-3/4″ pivot point
- Machine screw pack

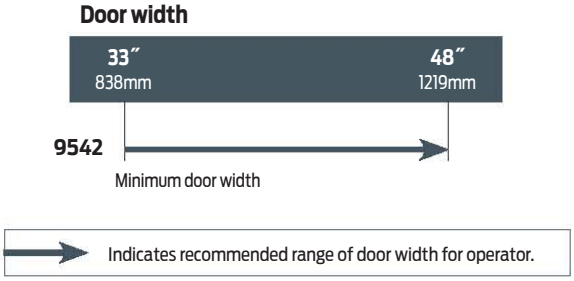
unless options listed below are selected.

Operator options

Mounting plate
☐ Plate, ___ (Specify Length 33″ to 101-1/2″)

Arm
☐ Long Arm (3077L)

Table of sizes



NOTE: For all Senior Swing Series.
Single Door - Width per leaf 33″ minimum, 48″ maximum.

Protection Plates

Trimco's **Protection Plates** are offered with many value-added standard features as well as custom options to meet job specifications. Trimco's Protection Plates are manufactured in the U.S.A. from stainless steel, bronze or brass and include pencil bevel on all four edges standard. Other options include heavy bevel, countersinking and custom cutouts. Multiple material options create an offering that is flexible for most any application.

APPLICATIONS

- Office Buildings
- K-12 Schools
- Hospitality
- Retail & Strip Malls
- Commercial & Industrial Buildings

PRODUCT FEATURES

- Manufactured in the United States.
- Heavy duty .050" stainless steel, brass, bronze or aluminum material standard. Other materials including .038", .062", .125" and custom options available.
- Pencil beveled on all four sides standard.
- Stretcher plates include heavy bevel, countersink and oval head screws standard.
- Custom cutouts, sizes and shapes available.

SPECIFICATIONS

MATERIAL OPTIONS

BR – Brass
BZ – Bronze
AI – Aluminum
SS – Stainless Steel

WARRANTY

Limited Lifetime Warranty

SERIES

KA038	Armor plate, .038", 17"-48" high
KA050	Armor plate, .050", 17"-48" high
KA064	Armor plate, .064", 17"-48" high
K0038	Kick plate, .038", 7"-16" high
K0050	Kick plate, .050", 7"-16" high
K0064	Kick plate, .064", 7"-16" high
K0125	Kick plate, .125", 7"-16" high
KM038	Mop plate, .038", 6" high or less
KM050	Mop plate, .050", 6" high or less
KM064	Mop plate, .064", 6" high or less
KS050	Stretcher plate, .050", countersunk & heavy B4E
KS038	Stretcher plate, .038", countersunk & heavy B4E
K6000	Plastic kick plate, 1/8", 4" -48" high

FINISHES

605	Polished Brass
606	Satin Brass, Dull
612	Satin Bronze
613	Oil Rubbed Bronze
628	Satin Aluminum, Clear Anodized
629	Polished Stainless Steel
630	Satin Stainless Steel
SPEC	Special Options Available

Protection Plates

HOW TO SPECIFY & ORDER

CHOOSE THE FOLLOWING

Type	Height Range	Plate Thickness	Part Number	Finishes	Options
Armor Plates	17"-48"	.038"	KA038	**605** Polished Brass **606** Satin Brass **612** Satin Bronze **613** Oil Rubbed Bronze **628** Satin Aluminum, Clear Anodized **629** Polished Stainless Steel **630** Satin Stainless Steel **SPEC** Special Options Available	**B4E** Heavy **C** Sunk **Cut** Louvre **Cut** Mortise **Cut** Rosette **RC** Round Corner **Adhesive** Tape Mounted
		.050"	KA050		
		.064"	KA064		
Kick Plates	7"-16"	.038"	K0038		
		.050"	K0050		
Mop Plates	6" or Under	.064"	K0064		
		.125"	K0125		
		.038"	KM038		
		.050"	KM050		
Stretcher Plates	Specify	.064"	KM064		
		.038"	KS038		
		.050"	KS050		
Plastic Kick Plates	4"-48"	.125"	K6000	Standard Black & Grey, Other Colors Available: Khaki Brown, Beige, Dove Grey, Frosty White	

EXAMPLE

For a 34" x 34" armor plate manufactured from .050" stainless steel, with countersunk and heavy bevel, specify or order:
KA050.630 34" x 34" B4E-Heavy C-Sunk.

PLASTIC PUSH PLATE COLOR OPTIONS

STANDARD COLORS

1595-60 BLACK

1500-60 GREY

OTHER STANDARD COLORS

D50-60 KHAKI BROWN

1530-60 BEIGE

D92-60 DOVE GREY

1573-60 FROSTY WHITE

*** Dimensions are informational only. Templates are available at www.trimcobbw.com**

SINCE 1949

HEAVY DUTY STOPS & HOLDERS

1270 Series

Wall Bumpers

1270CV.626
(CONCAVE SHOWN)

1270CX.626
(CONVEX SHOWN)

Trimco's **1270 Series** Wall Bumpers are an attractive, metal-encased, rubber stop for use with all styles of locksets and handles. With an anti-vandal design that casts a heavy duty washer into the rubber, this wall bumper is designed for maximum versatility and durability. They are supplied with our convenient combo fastener pack ensuring the right hardware for your application. The Prison Version (PV) adds Torx screws, an expansion shield, and an anti-rotation pin that prevents forceful unscrewing of the bumper from the wall. The School Version (SV) has exposed peripheral mounting screws.

APPLICATIONS

- Schools
- Offices
- Prisons
- Commercial & Industrial Buildings
- Hospitality

PRODUCT FEATURES

- Anti-vandal heavy duty washer cast into rubber
- Our most versatile wall bumper
- Prison and school versions for highly abusive applications

SPECIFICATIONS

STANDARDS

BHMA L02101/L02251

MATERIAL OPTIONS

BR – Brass
BZ – Bronze
SS – Stainless Steel

FASTENERS

Combo Pack supplied includes Wood Screw with Rawl Plug & Plastic Toggler, Machine Screw and Metal Toggle Bolt, Machine Screw & Anchor.

WARRANTY

Lifetime Warranty

NOTES

Patent #6,295,697

FUNCTIONS

1270CV	Cast concave wall bumper
1270WV	Wrought concave wall bumper
1270CX	Cast convex wall bumper
1270WX	Wrought convex wall bumper
1270CVPV	Cast concave prison wall bumper (torx screw, expansion shield & anti-rotation pin)
1270CVSV	Cast concave school wall bumper (surface mounted)
1270CXPV	Cast convex prison wall bumper (torx screw, expansion shield & anti-rotation pin)
1270CXSV	Cast convex school wall bumper (surface mounted)

FINISHES

605	Polished Brass
606	Satin Brass
613	Oil Rubbed Bronze
625	Polished Chrome
626	Satin Chrome
629	Polished Stainless Steel (wrought only)
630	Satin Stainless Steel (wrought only)

1270 Series

Wall Bumpers

HOW TO SPECIFY & ORDER

CHOOSE THE FOLLOWING

SERIES

- **1270CV** Cast concave wall bumper
- **1270WV** Wrought concave wall bumper
- **1270CX** Cast convex wall bumper
- **1270WX** Wrought convex wall bumper
- **1270CVPV** Cast concave prison wall bumper (torx screw, expansion shield & anti-rotation pin)
- **1270CVSV** Cast concave school wall bumper (surface mounted)
- **1270CXPV** Cast convex prison wall bumper (torx screw, expansion shield & anti-rotation pin)
- **1270CXSV** Cast convex school wall bumper (surface mounted)

FINISHES

- **605** Polished Brass (cast only)
- **625** Polished Chrome (cast only)
- **629** Polished Stainless Steel (wrought only)
- **630** Satin Stainless Steel (wrought only)

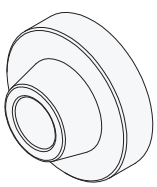
See finish list for all options.

EXAMPLE

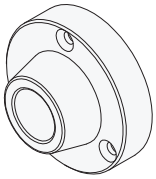
For a satin chrome cast concave prison wall bumper, specify or order: **1270CVPV.626**

FRONT VIEW

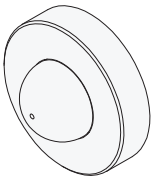
1270CV
1270WV



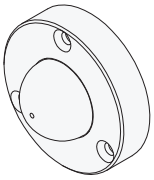
1270CVSV



1270CX
1270WX
1270CXPV

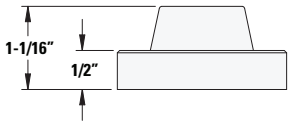


1270CXSV

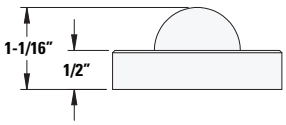


SIDE VIEW

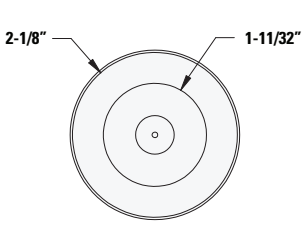
1270CV
1270WV
1270CVSV

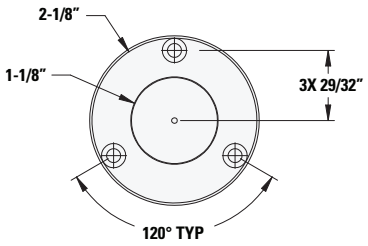


1270CX
1270WX
1270CXPV
1270CXSV



BOTTOM VIEW





HOLE PATTERN ON 1270CVSV AND 1270CXSV ONLY

*** Dimensions are informational only. Templates are available at www.trimcobbw.com**

Architectural Door Accessories

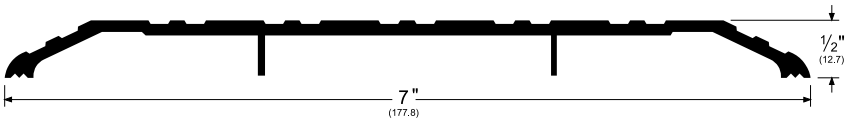
PP&R Electronic Locking Hardware -
08 - Threshold - Pemco 176A SSMSxES (LAR)

Pemko Commercial Thresholds: Saddle Thresholds

The global leader in door opening solutions

176_

AVAILABLE FINISHES: **A, B, D, G**
WIDTH: **7" (177.8 mm)**
HEIGHT: **1/2" (12.7 mm)**



A (Mill Finish Aluminum)
B (Mill Finish Extruded Bronze [Brass])
D (Dark Bronze Anodized)
G (Gold Anodized)

TITLE:
PREPARED FOR:
PREPARED BY:
DATE:
COMMENTS:

Architectural Door Accessories

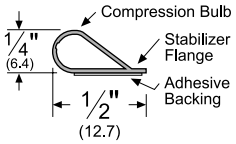
PP&R Electronic Locking Hardware - 09 - Gasketing - Pemco S88

Pemko Adhesive Gasketing: Siliconseal™ Adhesive-backed Fire/Smoke Gasketing

The global leader in door opening solutions

S88_

AVAILABLE FINISHES: **BL, C, D, GR, TAN, W**
AVAILABLE LENGTHS: **17', 18', 20', 21', 25', 30', 204'**
WIDTH: **1/2" (12.7 mm)**
HEIGHT: **1/4" (6.4 mm)**



BL (Black)
C (Clear)
D (Dark Brown)
GR (Gray)
TAN (Tan)
W (White)

TITLE:
PREPARED FOR:
PREPARED BY:
DATE:
COMMENTS:

Architectural Door Accessories

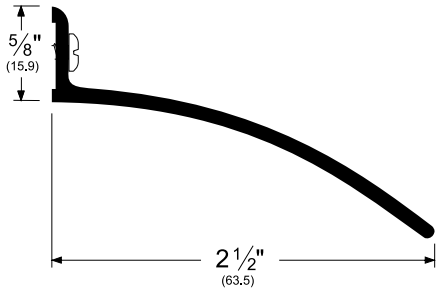
PP&R Electronic Locking Hardware -
10 - Rain Drip - Pemco 346

Pemko Door Bottoms: Door Top Weatherstrip

The global leader in door opening solutions

346_

AVAILABLE FINISHES: **C, D, G, PW**
WIDTH: **2-1/2" (63.5 mm)**
HEIGHT: **5/8" (15.9 mm)**



C (Clear Anodized Aluminum)
D (Dark Bronze Anodized Aluminum)
G (Gold Anodized Aluminum)
PW (Painted White Aluminum)

TITLE:
PREPARED FOR:
PREPARED BY:
DATE:
COMMENTS:

Architectural Door Accessories

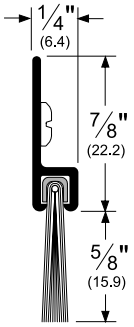
PP&R Electronic Locking Hardware -
11 - Door Bottom - Pemco 18062 NB LAR

Pemko Brush Gasketing: 180° Aluminum Retainers

The global leader in door opening solutions

18062_NB

AVAILABLE FINISHES: **C, D, G, PW**
WIDTH: **1/4" (6.4 mm)**
PROFILE HEIGHT: **7/8" (22.2 mm)**
HEIGHT INCLUDING BRUSH: **1-1/2" (38.1 mm)**



C (Clear Anodized Aluminum)
D (Dark Bronze Anodized Aluminum)
G (Gold Anodized Aluminum)
PW (Painted White Aluminum)

TITLE:
PREPARED FOR:
PREPARED BY:
DATE:
COMMENTS:

Steel Door Contact

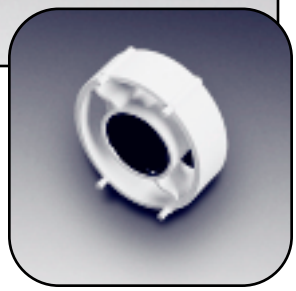
¾" and 1" contacts
1078/1076 Series

Overview

The GE Interlogix 1078 Series Steel Door contacts are designed specifically for use in the steel doors commonly found in commercial building applications. The unique housing design features a rugged unibody construction with flexible ribbed sides for quick, secure installation without gluing. The magnet housing isolates the magnet from the surrounding steel for maximum gap distances, both make and break. Over seven models including: Wide Gap, SPDT, DPDT, and Biased for High Security applications make the 1078 Series the most widely used and comprehensive line available.

On available models a terminal connection (T) makes installation easier. Simply strip the wire, insert it into the terminal block and tighten. The terminal accepts any wire size from 14 to 22 gauge, and has a unique one piece design for added strength.

An optional Rare Earth Magnet is available. It is designed for use in metal entry/exit doors with a channel in the top of the door. The magnet eliminates the need to cut a mounting hole in the door channel. The flexible magnet housing can be compressed to accommodate a variety of channel widths for quick, easy installation. Adhesive is recommended.



Optional 1840 Rare Earth Magnet

Architectural and Engineering Specifications

The contact contains a hermetically sealed magnetic reed switch. The reed shall be potted in the contact housing with a polyurethane based compound. Contact and magnet housing shall snap-lock into a 3/4" or 1" dia. hole. Housings shall be molded of flame retardant ABS plastic. Color of housings shall be off-white, grey or mahogany brown. The magnet shall be made of Alnico V. Rare Earth Magnet shall be made of neodymium iron boron.

Designed for use in Steel Doors

Snap-lock insulation bushing for tight fit and maximum gap in steel.

Both contact and magnet plastic housings are constructed of one piece of thick-walled ABS plastic for maximum strength and durability.

Standard Features

- ***Fly leads and terminal options available***
- ***Designed specifically for use in steel doors***
- ***Special ribbed sides allow for easy installation***
- ***Rugged unibody construction for maximum durability and reliability***
- ***Terminal models available for easier installation***
- ***Regular, Wide Gap, SPDT, DPDT, and High Security models available***
- ***Rare Earth Magnet designed for steel door with top channel available***

Model numbers

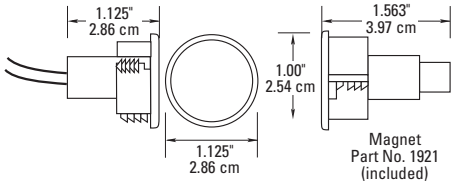
1076, 1076W, 1076C, 1076CW, 1076D, 1078, 1078W, 1078C, 1078CT, (R)1078, 1078CTW

Steel Door Contact

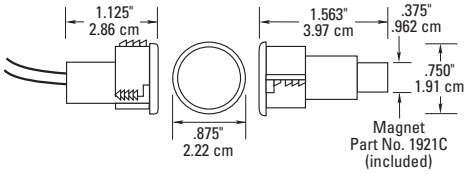
¾" and 1" contacts
1078/1076 Series

Dimensions

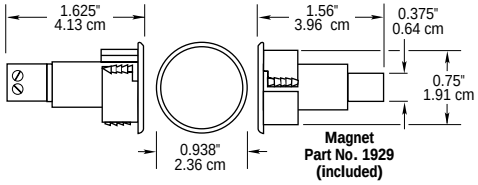
Models:
(R)1078, 1078W, 1076, 1076W, 1076D



Models:
1078C, 1076C, 1076CW, 1076CH



Models:
1078CT, 1076CTW,



(R) prefix indicates Rare Earth Magnet

Specifications

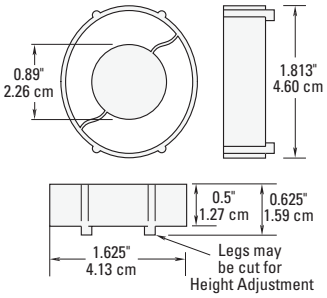
Form A: (R)1078, 1078W, 1078C, 1078CT, 1078CTW

Voltage	*100V AC/DC max.*
Current	*0.5 A max.*
Power	*7.5 W max.*

Form C: 1076, 1076W, 1076D, 1076C(D), 1076CW, 1076CH

Voltage	*30V AC/DC max.*
Current	*0.25 A max.*
Power	*3.0 W max.*

Rare Earth Magnet



Protected by U.S. Patent 5,844,458.

c UL us LISTED

Ordering Information

Model	Dia.	Loop Type	Electrical Config.	Hole Required		Gap Distance*			Color
				Contact	Magnet	Wood*	Steel*	Rare Earth	
1076	1"	Open or Closed	SPDT	1" x 1.125"	1" x 1.563"	1"	Up to 1/2"	Up to 5/8"	M, N, G
1076W	1"	Open or Closed	SPDT	1" x 1.125"	1" x 1.563"	2"	Up to 1"		M, N, G
1076D	1"	Open or Closed	DPDT	1" x 1.125"	1" x 1.563"	3/4"	Up to 3/8"	Up to 5/8"	M, N, G
1078	1"	Closed	N/O	1" x 1.125"	1" x 1.563"	1"	Up to 1/2"	Up to 5/8"	M, N, G
1078W	1"	Closed	N/O	1" x 1.125"	1" x 1.563"	2"	Up to 1"		M, N, G
1076C	3/4"	Open or Closed	SPDT	.75" x 1.125"	.75" x 1.563"	7/8"	Up to 3/8"	Up to 5/8"	M, N, G
1076CW	3/4"	Open or Closed	SPDT	.75" x 1.125"	.75" x 1.563"	2"	Up to 3/4"		M, N
1078C	3/4"	Closed	N/O	.75" x 1.125"	.75" x 1.563"	1/2"	N/A		M, N, G
(R)1078	1"	Closed	N/O	1" x 1.125"	1" x 1.563"	1"	Up to 1/2"	Up to 5/8"	M, N
1078CT	3/4"	Closed	N/O	.75" x 1.625"	.75" x 1.56"	7/8"	1/2"	5/8"	M, N
1078CTW	3/4"	Closed	N/O	.75" x 1.625"	.75" x 1.56"	5/8"	3/4"	N/A	N

* *Gap distances are nominal make distance ±20%. Gap specifications are for switch to make. Break distance is approximately 1.1 to 1.5 times make.*

GE Interlogix

www.GE-Interlogix.com

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Tualatin, OR 97062
Phone: 503-692-4052
USA & Canada: 800-547-2556
Technical Service: 800-648-7424
Faxback: 800-483-2495

2266 Second Street North
North St. Paul, MN 55109
Phone: 651-777-2690
USA & Canada: 800-777-5484
Technical Service: 800-777-2624

C-3617-FLG10K-0403

ET8000 Series
Electronic Time Switches

Project:

Location:

Product Type:

Contact/Phone:

Model #:

ET8000 Series
7-Day Electronic Astronomic Time Switch

The ET8000 Series 7-Day Astronomic Time Switches feature independent 7-Day programming to provide flexibility for applications where load switching differs each day of the week. These time switches provide dependable and uncomplicated performance, plus to-the-minute programming for accurate load control and reduced energy costs. Up to 28 ON/28 OFF (56 events) can be preset to automatically repeat. Each event can be applied to any combo of circuits and days. Each circuit is provided with an independently scheduled Astronomic ON event and Astronomic OFF event. The program can be disabled at an time by placing the time switch in the Manual operating mode. Control buttons provide manual control of each circuit independently regardless of the operating mode. All models come with two industrial-grade AAA alkaline batteries to provide time keeping and automatic carryover for a minimum of three years. The batteries are easily replaced in the field without requiring removal of the time switch mechanism or field wiring. Each time switch is housed in a lockable enclosure to protect from vandalism and unauthorized tampering.

Features

- Program can be repeated on a weekly basis
- Multi-volt operation from 120-277 VAC, 50/60 Hz
- To-the-minute programming for accurate load control and reduced energy costs
- Astronomic feature provides sunset ON and sunrise OFF settings to eliminate the need for separate photo control devices
- Astronomic programming can be combined with independent programs to provide a sunset ON and timed OFF program
- 2-circuit models are field (jumper) configurable for: 2 independent outputs, DPST output, or 1 channel ON pulse OFF pulse output
- Up to 28 ON/28 OFF setpoints or events and 4 Astronomic events
- Dusk/Dawn Astronomic events can be distributed throughout the days of the week
- Automatic Daylight Saving Time (DST) ON/OFF adjustment (factory enabled)
- Non-volatile EEPROM memory protects programming indefinitely
- Temporary override or permanent manual override available via control buttons

Ratings

Enclosure Options:	Standard: Type 1 Gray Painted Steel R-Option: Type 3R Gray Painted Steel PD82 Option: Type 3R Gray High-Impact UV Resistant Polycarbonate Plastic with Clear Cover
Knockouts:	Combination ½" & ¾" Knockouts Bottom: 2, Left: 1, Right: 1, Back: 1
Input Voltage:	120, 208, 240, or 277 VAC 50/60 Hz
Operating Temperature:	-40°F to 155°F (-40°C to 68°C)

ET8015C

ET8115CPD82

ET8215CR

CALIFORNIA TITLE 24 COMPLIANT

INTERMATIC

Energy Controls

ET8000 Series

ET8015, ET8215 Models

N.O. Contact Ratings:	Resistive: 30 Amps @ 120/240 VAC Resistive: 20 Amps @ 28 VDC Inductive: 30 Amps @ 120/240 VAC Tungsten: 5 Amps @ 120/240 VAC Ballast: 20 Amps @ 120-277 VAC Motor: 1 HP @ 120 VAC Motor: 2 HP @ 240 VAC

ET8115 Models

N.O./N.C. Contact Ratings:	Resistive: 20 Amps (N.O.), 10 Amps (N.C.) @ 120/240 VAC Inductive: 20 Amps (N.O.), 10 Amps (N.C.) @ 120/240 VAC Tungsten: 5 Amps (N.O.) @ 120/240 VAC Ballast: 20 Amps (N.O.), 3 Amps (N.C.) @ 120-277 VAC Motor: 1 HP (N.O.), ¼ HP (N.C.) @ 120 VAC Motor: 2 HP (N.O.), ½ HP (N.C.) @ 240 VAC
Pulse Feature:	2-circuit models feature 2-second pulse option for contactor and bell ringing applications.
Auto DST:	Automatic adjustment for Daylight Saving Time
Battery Backup:	Two field-replaceable AAA batteries maintain date and accurate time for a minimum of three years. Batteries can be replaced when power to mechanism is activated.
Wiring Terminals:	#18 to #10 AWG wire
Minimum ON/OFF Time:	1 minute
Maximum ON/OFF Time:	6 days, 23 hours 59 minutes
Warranty:	Limited 1 year

Model Number	Circuits	Switch	Volts AC	Rating	Enclosure	Shipping Weight
ET8015C	1	SPST	120, 208, 240, 277	30 Amps	Type 1 Steel	2.9 lbs. (1.3 kg)
ET8015CPD82	1	SPST	120, 208, 240, 277	30 Amps	Type 3R Plastic	3.6 lbs. (1.6 kg)
ET8015CR	1	SPST	120, 208, 240, 277	30 Amps	Type 3R Steel	3.6 lbs. (1.6 kg)
ET8115C	1	SPDT	120, 208, 240, 277	20/10 Amps	Type 1 Steel	2.9 lbs. (1.3 kg)
ET8115CPD82	1	SPDT	120, 208, 240, 277	20/10 Amps	Type 3R Plastic	3.6 lbs. (1.6 kg)
ET8115CR	1	SPDT	120, 208, 240, 277	20/10 Amps	Type 3R Steel	3.8 lbs. (1.7 kg)
ET8215C*	2	SPST	120, 208, 240, 277	30 Amps	Type 1 Steel	3.0 lbs. (1.4 kg)
ET8215CPD82*	2	SPST	120, 208, 240, 277	30 Amps	Type 3R Plastic	3.6 lbs. (1.6 kg)
ET8215CR*	2	SPST	120, 208, 240, 277	30 Amps	Type 3R Steel	3.7 lbs. (1.7 kg)

*Can be wired to DPST

Specification

The 7-Day Astronomic electronic-type time switch shall be capable of permitting up to 28 ON/28 OFF events. In addition, the time switch shall include selectable Astronomic (dusk/dawn) settings for each day and circuit to allow load switching at sunset and/or sunrise without a photo control device. The time switch shall provide a minimum ON or OFF time of 1 minute. The time switch to be powered by ___ (120)(208)(240)(277) VAC, ___ (50)(60) Hz power supply. The time switch mechanism features a snap-in design to provide easy mechanism removal for mounting the enclosure. The time switch enclosure shall be a _____ (Type 1 Steel)(Type 3R Steel)(Type 3R Plastic) lockable enclosure that shall be painted with an electrostatic process to eliminate the potential for corrosion. The time switch shall provide clear terminal identification on a see-through non-curling terminal insulator. Terminal connections shall be made using teeter-type terminal screws to provide secure connections for wire sizes up to #10 AWG. Switch configuration shall be _____ (SPST)(DPST)(SPDT) with a UL or CSA listed switch rating of:

(If SPST:)

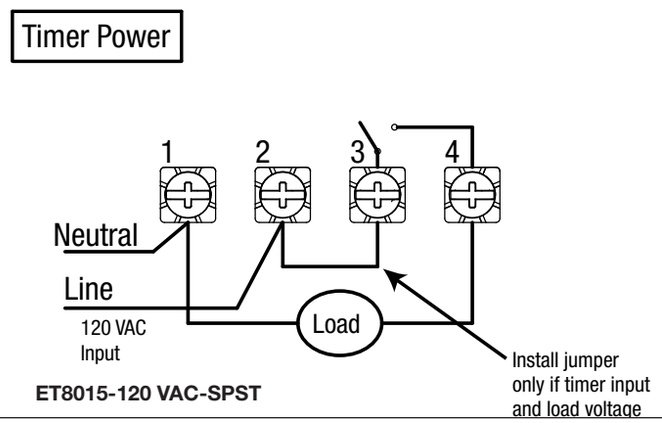
- Resistive: 30 Amps @ 120/240 VAC
- Resistive: 20 Amps @ 28 VDC
- Inductive: 30 Amps @ 120/240 VAC
- Tungsten: 5 Amps @ 120/240 VAC
- Ballast: 20 Amps @ 120-277 VAC
- Motor: 1 HP @ 120 VAC
- Motor: 2 HP @ 240 VAC

(If SPDT:)

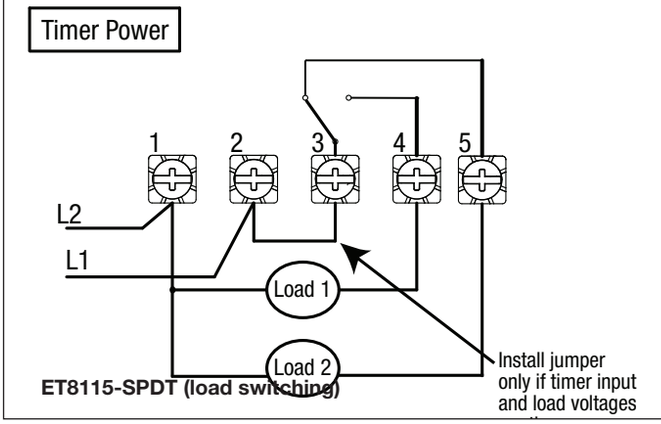
- Resistive: 20 Amps (N.O.), 10 Amps (N.C.) @ 120/240 VAC
- Inductive: 20 Amps (N.O.), 10 Amps (N.C.) @ 120/240 VAC
- Tungsten: 5 Amps (N.O.) @ 120/240 VAC
- Ballast: 20 Amps (N.O.), 3 Amps (N.C.) @ 120-277 VAC
- Motor: 1 HP (N.O.), ¼ HP (N.C.) @ 120 VAC
- Motor: 2 HP (N.O.), ½ HP (N.C.) @ 240 VAC

The time switch shall be UL or CSA listed under UL category 916 Energy Management Equipment and shall be Intermatic model _____(See Model Numbers Listed).

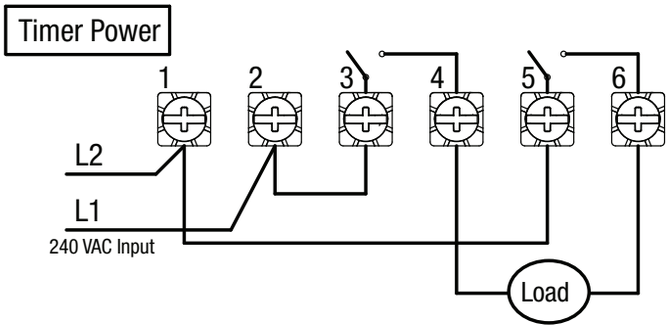
Diagrams



ET8015-120 VAC-SPST

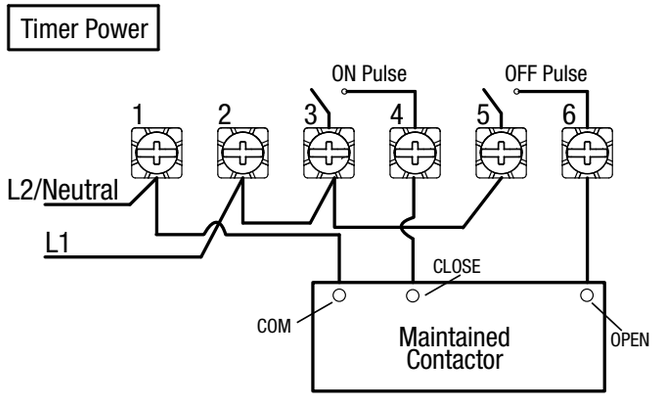


ET8115-SPDT (load switching)



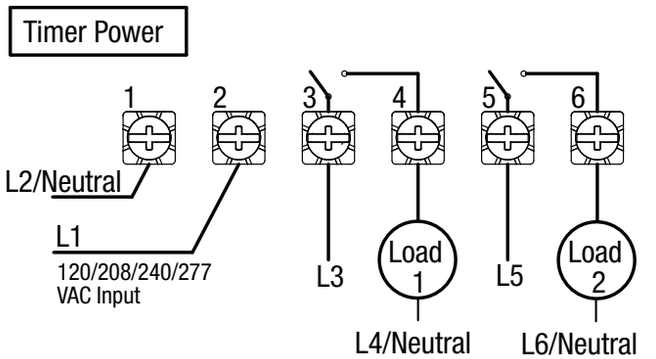
Configuration jumper set to “SIM”.

ET8215-240 VAC-DPST

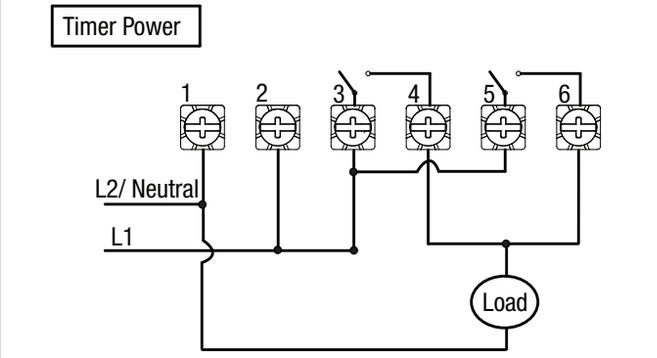


ET8215-Pulse 2x SPST

Configure jumper set to “PUL”.



ET8215-2x SPST Configuration jumper set to “IND”.



Configuration jumper set to “PUL” Each event, ON or OFF, Rings Bell.

ET8215-Pulse 2x SPST (bell ringing)