<table>
<thead>
<tr>
<th>REVISION DATE</th>
<th>SUMMARY OF CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>07MAY10</td>
<td>Door Manufactures and Suppliers (Page 8.3)</td>
</tr>
<tr>
<td>10MAY11</td>
<td>Door Hardware and Keying (Page 8.2)</td>
</tr>
<tr>
<td>10MAY11</td>
<td>Automatic Door Operators (Page 8.3)</td>
</tr>
<tr>
<td>10MAY11</td>
<td>Door Closers (Page 8.3)</td>
</tr>
<tr>
<td>27JUL11</td>
<td>Windows (Page 8.3)</td>
</tr>
<tr>
<td>12SEP11</td>
<td>Windows (Page 8.4)</td>
</tr>
<tr>
<td>27FEB12</td>
<td>Door Hardware and Keying (Page 8.2)</td>
</tr>
</tbody>
</table>
BYU INSTRUCTIONS TO ARCHITECTS AND ENGINEERS
DIVISION 8: OPENINGS

DIVISION 8: TABLE OF CONTENTS
Building Entrances .......................................................................................................................... 8.1
Exterior Doors and Frames .............................................................................................................. 8.1
Key Pads - ADA Requirements ...................................................................................................... 8.2
Interior Doors and Frames .............................................................................................................. 8.2
Door Hardware and Keying ............................................................................................................ 8.2
Door Closers .................................................................................................................................. 8.3
Automatic Door Operators ........................................................................................................... 8.3
Door Stops ..................................................................................................................................... 8.3
Door Checks ................................................................................................................................. 8.3
Door Manufacturers and Suppliers .............................................................................................. 8.3
Windows ....................................................................................................................................... 8.3
Skylights ....................................................................................................................................... 8.4
Mirrors .......................................................................................................................................... 8.4

May 2009
Building Entrances

1. Glass panels in doors or at the side of the doors must have a horizontal bar (or some visible marking on the glass) at approximately the same height as a panic device to prevent people from walking through.

2. Consideration shall be given to snow melting devices in concrete walks and steps at north entrances of buildings.

3. At least one entrance of major campus buildings shall be equipped with door operators to assist individuals with disabilities.

Exterior Doors and Frames

1. Exterior doors on all public entrances shall be three feet wide or wider. All aluminum glass entry doors are to be glazed with 1/4 inch tempered glass. One inch glazing in operable doors will not be allowed unless required by extreme conditions.

2. All doors, sidelights and transoms must be in tube. No snap-in fillers are to be used.

3. Single Door with Operator - ADA Requirements (See drawing at end of this division).
   a. A panic device (Von Duprin #98NL or 98L—must be dogged down)
   b. An ADA push button on each side of door and shall be 2’ - 10” from floor to center; with a minimum of 3'-0" from edge of door in open position of pull side and 12" minimum of push side. Due to security situations, some rooms may require ADA push button at inside only. Mount ADA push lever handles with panic devices dogged down (Von Duprin).
   c. A motion sensor with an electric strike condition at service interior (able to dog down panic device).
   d. Electric door operator types: LCN 4600 Series (light traffic) or Gyro Tech 500 Series (heavy traffic) [no exceptions]; finish to match door frames.
   e. If requested, lever handles shall be Schlage ND92LD for Offices, with an electric strike by Von Duprin, and a motion sensor by Detection Systems #DS150 (contact BYU Electric Shop). Other types of lever handles shall be ND94LD Classrooms and ND96LD Storage.
   f. No interchangeable core locksets.
   g. At interior existing doors: Remove existing latch plate and install new electric strike, patch and repair jamb.
   h. Toggle switches may be required due to ADA user in the office. The first shall be connected to shut off switch. The second shall be connected to the hold open switch. Architect shall contact Planning Department for verification if requested by User.
   i. Push buttons and toggle switch shall be mounted 2'-10" to center from floor and a minimum of 12" clear from edge of doorjamb.
j. Existing closers: Remove existing door closers, patch, repair and fill all remaining holes.

k. Push button shall be recessed in bollard post and mounted 2'-10" high to center. Finish of bollard post to match surrounding doorframe. (BYU Electric Shop will do connections to operator).

l. Extend power to each door operator at head of each door. Wiring shall be concealed in surface raceway. Paint surface raceway to match existing aluminum frame.

m. Furnish and install all necessary wiring, j-boxes, and components, etc. for a complete installation; field-verify existing conditions.

n. Transformer of each door operator shall be connected to emergency backup power.

Key Pads - ADA Requirements

1. When key pads are being used, type IIEI, #212R (white) and connect to door operator in 3/4" conduit. Mount at 46-inches above the finished floor. Use with electric strike.

Interior Doors and Frames

1. Interior doors may be wood or metal of institutional quality. Styles and rails shall be reinforced to adequately support hinges, locks and closers. All interior doors must comply with National Fire Protection Association regulations. Private office doors shall not have windows.

2. Interior door frames shall be metal. Wood doorframes are not acceptable.

Door Hardware and Keying

1. Von Duprin (Div. Ingersoll-Rand Door Hardware Group) brand exit/panic devices shall be used. Type 98 series touch bar exit devices shall be used with lever style pulls (no substitutions).

2. Vertical rod panic exit devices are not acceptable without prior project-specific written approval. Rim-mounted panic exit devices are to be specified. All panic exit devices used in double-door applications are to be rim-mounted with a removable mullion.

3. Cylindrical Locks:
   Schlage ND-Series, Grade 1, Rhodes Lever design, Vandlgard Functions, 626 Finish; No substitutions;

4. When and when not to use removable core “RC” Cylinders:
   a. In all circumstances removable core cylinders are not to be used in a cylindrical hardware application i.e., SCH ND92LD RHO;
   b. Removable cores are not to be used in panic and mortis locking hardware in academic or general campus areas where ASSA systems are being used;
   c. Removable cores are to be used in panic and mortis locking device situations in housing and MTC areas, or where Schlage, Primus, or Medeco key systems are being used;
   d. All locks for Assa, Medeco, and Schlage cylinders and key systems are to be NIC. The key systems are to be owner-provided and owner-installed.
   e. All permanent keys to these high security systems are to be NIC.

5. Key schedules will be prepared by the owner.

6. Keyways to be by "ASSA", supplied and installed by owner.

7. Use Hager Roton #780-210 hinges only for 7’ doors. There must be 8 set bolts in the door and a total of 16 screws in the door and frame jamb.
BYU INSTRUCTIONS TO ARCHITECTS AND ENGINEERS
DIVISION 8: OPENINGS

8. Electromagnetic shear locks are not acceptable. Prior project-specific written approval is required for other electromagnetic lock types.

Door Closers

1. Where door closers are required for functional or safety reasons, they shall be LCN brand, series 40 or 46 (no exceptions), overhead, surface-mounted. Attaching screws shall bolt through doors; wood screws pull out and are, therefore, not acceptable.
2. Floor-mounted closers are not acceptable.
3. Door closers shall not have hold-open devices.
4. Closers shall be located on the inside of doors.
5. Pneumatic Door Closers are not acceptable.

Automatic Door Operators

1. Where automatic door operators (openers) are required for functional, accessibility, or safety reasons, they shall be an electromechanical or electro-hydraulic type only.

Door Stops

1. All exterior and interior doors that do not swing open to at least 108˚F shall have door stops installed, preferably on a wall.

Door Checks

1. Door checks (hold-open devices) shall not be used in any building without specific approval of the owner.

Door Manufacturers and Suppliers

1. Hollow metal: Robert I. Merrill, Beacon Metals
2. Flush wood: Robert I. Merrill, Beacon Metals
3. Access: Win ROK, Robert I. Merrill
4. Aluminum frame entrances/storefronts: Robert I. Merrill, Skyview Glass

Windows

1. Manufacturers: Arcadia Group, Kawneer NA, Vistawall (Oldcastle Glass)
2. Dual-sealed, double-glazed, 1-inch IGU, PPG Solarban 70XL (outboard F2), clear (inboard), spandrel coating F4.
2. Maximum window unit size is to be 35 square feet; 10-feet maximum length.
3. Aluminum thermal brake frames and sash are to be used in all windows. Wood or steel is not acceptable.

May 2009
4. Window glass is preferred to be tempered for maintenance purposes. This should be discussed during plan reviews.

5. Glass areas shall be reasonably minimized to conserve energy winter and summer

6. All mating edges shall be gasketed to prevent air or dust infiltration

7. Windows on buildings must have a designed and built-in system for cleaning inside and out

8. Sidewalks used as drive ways for the window washing lift should be 12-feet wide. Sidewalks should be designed to support the current lift, a Genie S-85 (see information at the end of this section)

9. All curtain wall and storefront systems shall have sealant at all joints, stops sealed only at end joints

10. Submittals are required with coating, tinting and manufacturer noted

11. All submittals and warranties are to be included in O & M manuals

Skylights

1. Skylights shall not be used in any building without specific approval of the owner.

Mirrors

1. Mirrors shall be located so as to allow liquid soap dispensers (supplied and installed by owner) to be placed above sinks. Mirrors shall have a chrome or aluminum frame around the exterior and fastening hardware shall be concealed.
TYPICAL ADA OFFICE DOOR OPERATION SYSTEM

1. ALL BOXES ARE RECESSED & MOUNTED @ 2'-10" TO CENTER FROM FLOOR.
2. POWER TO DOOR HEADER FROM NEAREST EMERGENCY POWER OR FIXTURE. (277 VOLTS) - MUST BE TRANSFORMED INTO 110 VOLTS
3. ELECTRIC STRIKE TO BE BUILT INTO DOOR FRAME
4. STUB ALL CONDUITS 6" ABOVE CEILING LINE

*HI-VOLTAGE & LOW-VOLTAGE- MUST BE SEPARATE CONDUITS
SELF-PROPELLED TELESCOPIC BOOMS

S™-80 X & S™-85

**Features**

**EASILY CONFIGURED TO MEET YOUR NEEDS**

**PLATFORM OPTIONS**
- Steel 8 ft (2.44 m)
- Steel 6 ft (1.83 m)
- 6 ft (2.44 m) tri-entry

**JIB OPTIONS**
- Non-jib
- 5 ft (1.52 m) jib boom

**ENGINE OPTIONS**
- Deutz turbocharged diesel 74 hp (55 kW)
- Perkins diesel 63 hp (47 kW)
- Continental Gas/LPG 74 hp (55 kW)

**DRIVE OPTIONS**
- 2WD
- 4WD

**AXLE**
- Fixed width with active oscillation

**TIRE OPTIONS**
- Rough terrain foam-filled (standard)
- Rough terrain non-marking foam-filled
- High flotation air-filled (increases width by 4 in)

**STANDARD FEATURES**

**MEASUREMENTS**

**S™-80 X**
- 86 ft (26.38 m) working height
- 71 ft 6 in (21.8 m) horizontal reach
- 500 lbs (227 kg) unrestricted and 1000 lbs (454 kg) restricted lift capacity

**S™-85**
- 91 ft (27.90 m) working height
- 76 ft 6 in (23.3 m) horizontal reach
- 500 lb (227 kg) lift capacity

**PRODUCTIVITY**
- Self-leveling platform
- Hydraulic platform rotation
- Fully proportional Hall effect joystick controls
- Drive enable
- AC power cord to platform
- Horn
- Hour meter
- Tilt alarm
- Descent alarm
- 360° continuous turntable rotation
- Positive traction drive
- Two speed wheel motors

**POWER**
- 12V DC auxiliary power
- Anti-restart engine protection
- Auto engine fault shutdown
- Cathodic converter muffler (Continental engine only)
- Engine block heater (Continental engine only)

**OPTIONS & ACCESSORIES**

**PRODUCTIVITY OPTIONS**
- Platform swing gate
- Half mesh platform inserts with swing gate
- Platform top auxiliary rail
- Arc Pro 275™ Heavy-Duty Welder package
- Welder Ready package
- Weld leads to platform
- Air line to platform
- Hydraulic oil cooler
- Biodegradable hydraulic oil
- Hostile environment kit
- Deluxe hostile environment kit
- Aircraft protection package (6 ft platform only)
- Tool tray
- Alarm package
- Panel cradle package*
- Platform work lights
- Lockable platform control box covers
- Tow package
- Light package

**POWER OPTIONS**
- Engine gauge package
- AC generator packages (110V/-220V/50Hz, 3000W)*
- Cold Weather Packages
- Diesel scrubber/spark arrestor muffler (catalytic muffler)
- LPG tank only, steel, 33.5 lb (15.19 kg) capacity
- Intake air pre-cleaner

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