Alabama Port Authority

Addendum to R&P or Specification Booklet

Project Name 2026 Terminal Railway Operations Training Center Expansion

Project No. 11651 **Task No.** 02 **Addendum No.** 1

To: Prospective Bidders **Date:** 5/15/2026

These items are hereby included in the bid documents by this addendum.

Item	Description
1.	The Pre-Bid sign in sheet is attached and is hereby incorporated into the bid documents by this addendum.
2.	Q: "Please confirm the floor finish. There is contradicting information between the table and notes." A: Sheet 4735-S3. Room Finish Schedule table should be "PC" for flooring.
3.	Q: "Where are Structural drawings 4, 5 and 8?" A: Drawings 4146-S6 and 4146-S7 were part of the old package for the upstairs portion of the building and were included for Reference Only. There are no S4, S5, or S8 drawings that pertain to this scope.
4.	Q: "'All Hardware is to be stainless steel & furnished as per owners master keying system'. First, the locks, if lever style, can not be stainless steel and we will need to know what the owners master keying system is. We can give them knob style locks in stainless (not ADA approved)." A: Contractor to match existing hardware. For reference only, see attached existing hardware information.
5.	Q: "What is the thought for # 3 on room finish chart?" A: Hat channel and 5/8".
6.	Q: "Clarify the separate locations for 5/8" and ½' Drywall?" A: All drywall 5/8" thick.
	Q: "Thoughts for 3 ½" spray foam on the exterior wall panel system and then 3 ½' batts on the interior walls?" A: Spray foam closed cell.
	Q: "The existing spray foam on underside of deck. Does that get painted also with the exposed metal?" A: Yes
	Q: "Confirming - 12.4 _ Concrete testing by owner." A: Yes, by owner.
	Q: "Are there any soil samples or apply concrete on existing ground?" A: See attached geotechnical report.

Please indicate your receipt of this addendum by adding the addendum number in the appropriate place in your Requisition & Proposal or Specification Book.

Alabama Port Authority

Pre-Bid Meeting Sign-In Sheet

Project Name 2026 Terminal Railway Operations Training Center Expansion **PROJECT #** 11651 **Task #** 2

Date 5/6/26 **Time** 8:00 AM **Location** TASD Diesel Shop

COMPANY NAME	Attendee Name Printed	Attendee Signature	Telephone #	Email
Harris Contracting	Mike Thompson		251.654.9344	mike@harriscontractingservices.com
Harris Contracting	Chris Carter		251-680-7016	chris@harriscontractingservices.com
Rogers & Willard	Garrett Colvin		251-604-2975	gcolvin@rogerswillard.com
Sycamore Const.	Robert Costantini		251-234-7984	robert@sycamore1.com
Tindle Construction	Ronnie Tindle		251-463-2804	rtindle@tindleconstruction.net
Moody's Electric	Clay Hadley		251-350-1405	Chadley@moodyelectric.net
Fairhope Building Co.	Nick Klarman		251-652-5060	Lotto@fairhopebuildingcompany.com
Dunn Building Co	Steve Stewart		251-776-0038	SStewart@DunnBuildingCompany.com
Dunn Building Co	Gary Lashley		330-787-4261	GLashley@DunnBuildingCompany.com
Bienville Construction Svs.	Phillip DeKeyser		251.220.4406	phillip@BienvilleCS.com
M.W. Rogers	John Otts		251-479-5350	BIDS@MWROGERS.NET
Youngblood-Barrett Const. & Eng	Chris Dunning		251-295-0745	chris.dunning@ybce.net
R H Deas Building Co.	Shannon McIntyre		251-229-1435	shannon@rhdeasbuildingco.com
CMG Engineers	Bruce Smith		251-238-1451	bsmith@cmg-a.com
Terminal Railroad	Kevin Hamilton		251-721-3713	kevin.hamilton@alports.com
CMG	G. Cowles		251 751 0442	GCowles@CMG-A.Com
JWB Services	Justin Truelove		251-278-9060	justin@jwbcontracting.com

Terminal Railway Office Add./Reno
Mobile, AL

Door Frame Submittal

Opening								Door											Frame														
																	ELEV											ELEV					
OPEN NO.	LOCATION	QTY	OPEN SIZE	SGL/PR	HAND	LABEL	HEADING	MFG	ARCH	TYPE	THICK	SERIES	MATL	CORE	FINISH	GAUGE	TYPE	CODE	PAGE	MFG	ARCH	TYPE	MATL	SERIES	PROF	GAUGE	HEAD	JAMB/	THROAT	CODE	PAGE	ANCHOR	WELD	NOTES
202A		1	3070	S				WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
202B	CORRIDOR to OFFICE 2	1	3070	S	LH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
203	CORRIDOR to OFFICE 3	1	3070	S	LH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
204A	CORRIDOR from CONFERENCE ROOM	1	3070	S	LHR			WDBH			1 3/4	PC	RCNB	PC	PFST		G			CD			A60	SU		16		534 478				MS534	Y	
204B	EXTERIOR from CONFERENCE ROOM	1	3070	S	RHR			CD			1 3/4	LP	A60			18	N			CD			A60	SU		16		534 478				MS534	Y	
205	CONFERENCE ROOM to OFFICE 4	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
206	CONFERENCE ROOM to OFFICE 5	1	3070	S	LH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
207	CONFERENCE ROOM to OFFICE 6	1	3070	S	LH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
208	CONFERENCE ROOM to OFFICE 7	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
209A	CONFERENCE ROOM to BREAKROOM	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
209B	CORRIDOR to BREAKROOM	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
210	CORRIDOR to OFFICE 8	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
211	CORRIDOR to OFFICE 9	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	

Terminal Railway Office Add./Reno
Mobile, AL

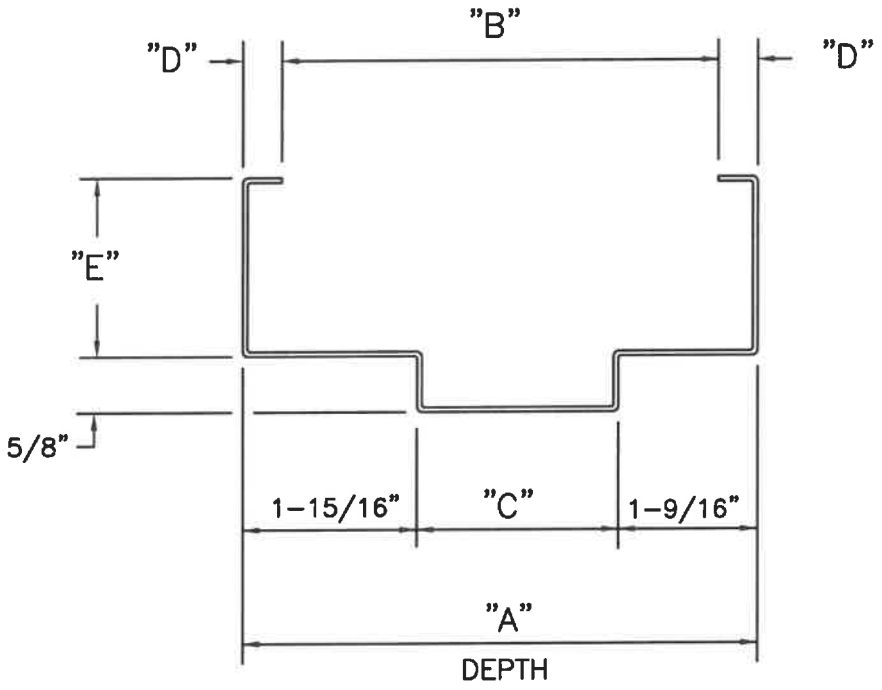
Opening								Door											Frame														
																	ELEV											ELEV					
OPEN NO.	LOCATION	QTY	OPEN SIZE	SGL/PR	HAND	LABEL	HEADING	MFG	ARCH	TYPE	THICK	SERIES	MATL	CORE	FINISH	GAUGE	TYPE	CODE	PAGE	MFG	ARCH	TYPE	MATL	SERIES	PROF	GAUGE	HEAD	JAMB/	THROAT	CODE	PAGE	ANCHOR	WELD	NOTES
212	CORRIDOR to OFFICE 10	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
213	CORRIDOR to OPERATIONS OFFICE	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		G			CD			A60	SU		16		534 478				MS534	Y	
214	CORRIDOR to CLOSET HALL	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
215	CORRIDOR from CLOSET	1	3070	S	RHR			WDBH			1 3/4	PC	RCNB	PC	PFST		N			CD			A60	SU		16		534 478				MS534	Y	
216	CORRIDOR from RESTROOM	1	3070	S	RHR			WDBH			1 3/4	PC	RCNB	PC	PFST		F			CD			A60	SU		16		534 478				MS534	Y	
217	OPERATIONS OFFICE to OFFICE 11	1	3070	S	RH			WDBH			1 3/4	PC	RCNB	PC	PFST		G			CD			A60	SU		16		534 478				MS534	Y	
218B	OPERATIONS OFFICE from CLOSET	1	3070	S	LHR			WDBH			1 3/4	PC	RCNB	PC	PFST		G			CD			A60	SU		16		534 478				MS534	Y	

Ceco Door
ASSA ABLOY

F1-1

SERIES SU STEEL FRAMES (UNEQUAL RABBET)

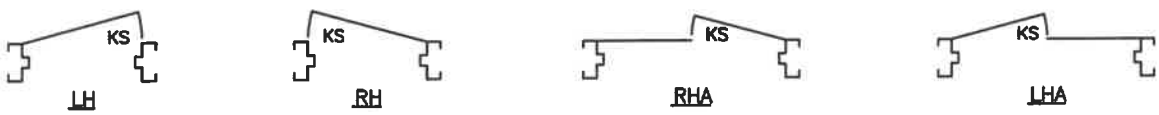
FOR 1-3/4" THICK DOORS
STANDARD WALL APPLICATION, HANDED



DEPTH	A	B	C	D	E	
					HEAD & JAMBS	HEAD & JAMBS
434	4-3/4"	3-3/4"	1-1/4"	1/2"	2"	1"
534	5-3/4"	4-7/8"	2-1/4"	7/16"	2"	1"
634	6-3/4"	5-3/4"	3-1/4"	1/2"	2"	1"
734	7-3/4"	6-3/4"	4-1/4"	1/2"	2"	1"
834	8-3/4"	7-3/4"	5-1/4"	1/2"	2"	1"

Series SU, double rabbet frames (with unequal rabbets) are also available in a range of depths from: 4-5/8" thru 14" in 1/8" increments.
4" face heads with 2" face jambs are also available in selected sizes.

INSIDE



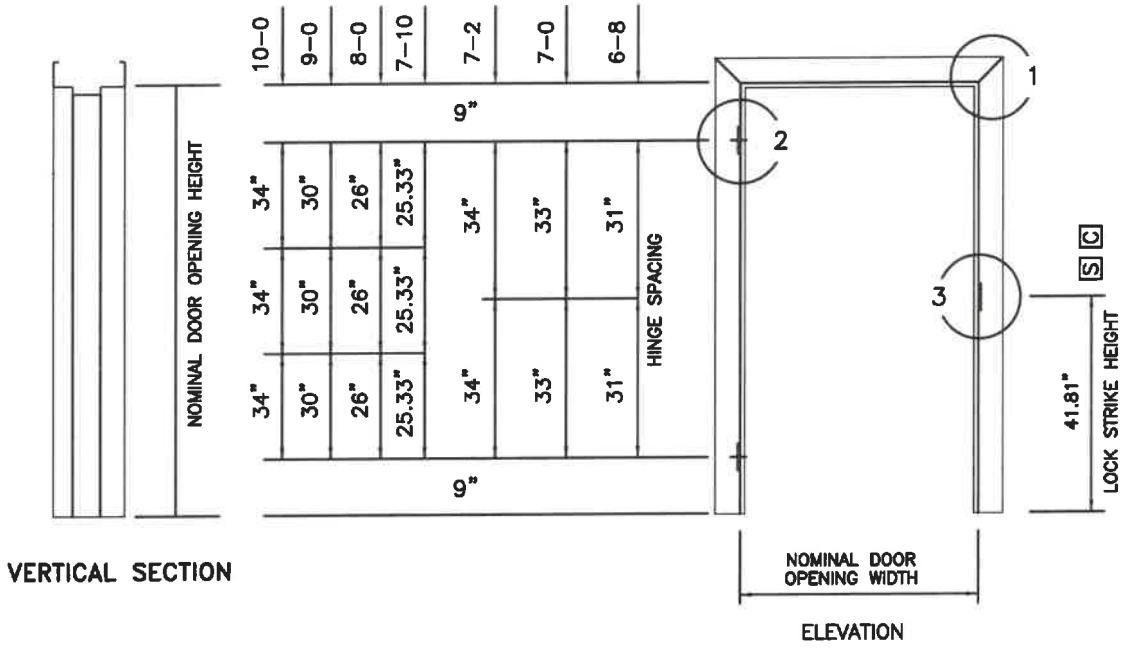
OUTSIDE

"KS" = KEY SIDE

05/06/10

TECH-DATA

Hardware locations shown match Ceco standard doors.



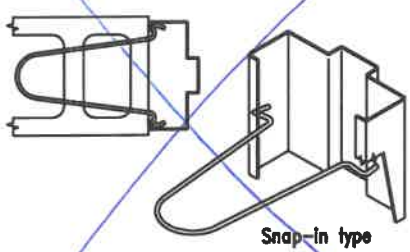
VERTICAL SECTION

HORIZONTAL SECTION

(Conversion: 1" = 25.4 mm, e.g., 1-3/4" = 44.45 mm)

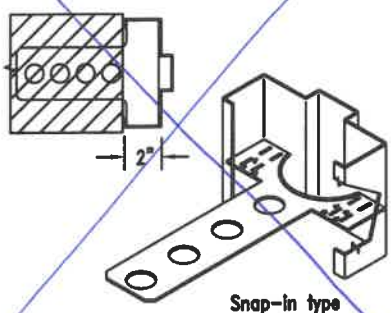
JAMB ANCHOR QUANTITIES	3 PER JAMB FOR HEIGHTS UP TO 7-2 AND ONE FLOOR ANCHOR 4 PER JAMB FOR HEIGHTS FROM 7-3 THRU 9-0 AND ONE FLOOR ANCHOR ONE ADDITIONAL JAMB ANCHOR FOR EACH ADDITIONAL TWO FEET IN HEIGHT OR FRACTION THEREOF ONE ADDITIONAL JAMB ANCHOR IN LIEU OF FLOOR ANCHOR FOR EO AND WS TYPE CONDITIONS

WIRE MASONRY ANCHOR (STANDARD) WMA — (4)

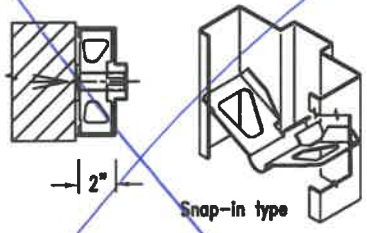


(For 2" thru 8-3/4" Depths)

MASONRY "T" ANCHOR (ADJUSTABLE) MT — (4)



EXISTING OPENING ANCHOR EO — (4)



EO/S6: 4-1/2" thru 6-3/4" depth
EO/S8: 6-7/8" thru 9-3/4" depth

Ceco Door

ASSA ABLOY

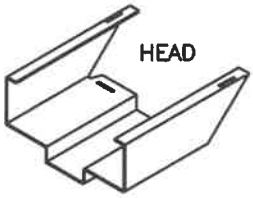
TECH-DATA

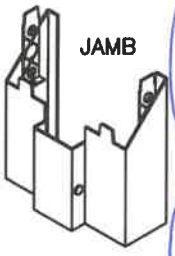
SERIES SU STEEL FRAMES

F1-3

KNOCKED DOWN (KD) CORNER CONSTRUCTION

1



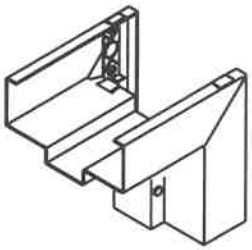


Components are shipped "knocked down" and assembled at the job site

WELDED CORNERS

1

Die-cut corner with corner tab and face weld shown. Also available without tab and welded or mitre sawed and welded. Alternative weld options are also available.

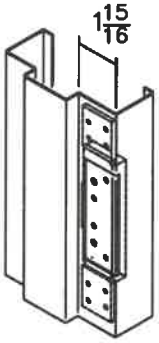


HINGE PREPARATION

2

4-1/2" x .134" OR
4-1/2" x .180"
ANSI A156.7 TEMPLATE
7 GAGE STEEL

BACKSET: 5/16"

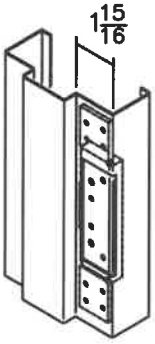


HINGE PREPARATION

2

5" x .146" OR
5" x .190"
ANSI A156.7 TEMPLATE
7 GAGE STEEL
REINFORCING

BACKSET: 5/16"

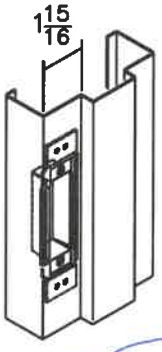


LOCK STRIKE PREPARATION

3

S

UNIVERSAL (4-7/8")
ANSI A115.1 & 2 TEMPLATE
12 GAGE STEEL REINFORCING
STANDARD FOR 1-3/4" DOORS

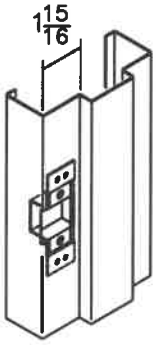


LOCK STRIKE PREPARATION

3

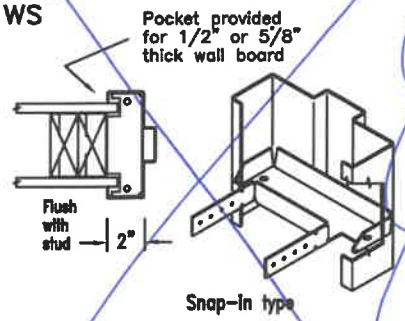
C

CYLINDRICAL (2-3/4")
ANSI A115.2 TEMPLATE
16 GAGE STEEL REINFORCING
OPTIONAL FOR 1-3/4" DOORS



WOOD STUD ANCHOR WS

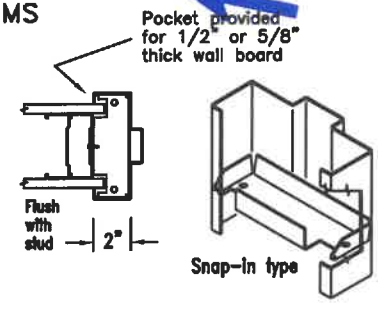
4



(Used also for METAL STUD Walls)

METAL STUD ANCHOR MS

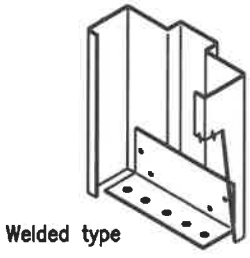
4



4-3/4 and 5-3/4" Depth Only
For other depths use WS type.

FIXED FLOOR ANCHOR SA

4



ONE PIECE

05/06/10

CecoDoor

ASSA ABLOY

STANDARD SIZES NOMINAL DOOR OPENING

WIDTH		HEIGHT
SINGLE	DOUBLE	
2'-0"	4'-0"	
2'-4"	4'-8"	
2'-6"	5'-0"	6'-8"
2'-8"	5'-4"	7'-0"
2'-10"	5'-8"	7'-2"
3'-0"	6'-0"	7'-10"
3'-4"	6'-8"	8'-0"
3'-6"	7'-0"	9'-0"
3'-8"	7'-4"	10'-0"
3'-10"	7'-8"	
4'-0"	8'-0"	
5'-0"	10'-0"	

FIRE DOORS

LABELING AGENCIES:

- UNDERWRITERS LABORATORY
- WARNOCK HERSEY
- FACTORY MUTUAL

TEST: UL10B, UL10C, NFPA 252

- RATING: 20 MIN, 3/4 HR, 1 HR, 1-1/2 HR, OR 3 HR
- MAX. SIZE: 40 x 100 SINGLE, 80 x 100 PAIR

Not all ratings are available in all sizes, designs and materials.
Hourly classifications are not shown on label unless class is less than 3 hours.

PRODUCT SPECIFICATIONS:

Steel door frames shall be as manufactured by Ceco Door Products, Milan, TN or Mason City, IA USA. They shall conform to the Steel Door Institute guide specification, ANSI A250.8. See chart below for performance classifications.

Series SU frames for 1-3/4" doors are formed from commercial quality cold rolled steel conforming to ASTM A1008 ...or (optional) hot-dipped galvanized steel conforming to ASTM A924 and A653 - see chart below.

Frames are knocked down (K.D.) field assembled type or welded unit type. Head and jamb members of K.D. frames have diecut mitered corners that interlock rigidly when field assembled. Integral door stops are 5/8" high. Jambs are sized to suit wall applications. Twist-in anchors are available for new masonry, wood stud, metal stud, or existing opening wall conditions (indicate which). Floor anchors or extra jamb anchors are provided to anchor sill. Welded-in jamb anchors are also available.

Hardware Provisions: Frames are handed. Hinge jambs are mortised for 4-1/2" or 5" high, standard and heavy weight hinges (specify which). 7 gage steel reinforcements are welded in place and are drilled and tapped for fasteners in accordance with ANSI A156.7. The strike jamb is prepared for 4-7/8" universal or 2-3/4" cylindrical strike in accordance with ANSI A 115.1 &2 (specify which). Plaster guards are provided. Optional closer reinforcement is a 14 gage steel formed steel sleeve. 3 door mutes are provide per strike jamb and 2 for double swing heads.

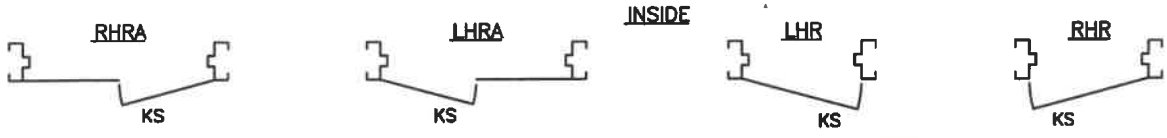
Paint: Steel door frames are provided with one coat of oven-cured neutral color primer paint. Primer coat shall conform with ANSI A250.10 . The primer coat is a preparatory base for necessary finish painting. "Colorstyle" finish coat is also available on K.D. frames from a selection of standard colors (optional). Colorstyle finish is electrostatically applied, oven-cured urethane enamel, and shall conform to ANSI A250.3. For accurate color selectors ask for a Ceco Colorstyle chart.

MATERIAL

DOOR FRAME MATERIAL	LEVEL	C.R.	GALV	
			A60	G90
16 Gage Steel	Heavy or Extra Heavy Duty	STD	OPT	OPT
14 Gage Steel	Maximun Duty	STD	OPT	OPT

PERFORMANCE

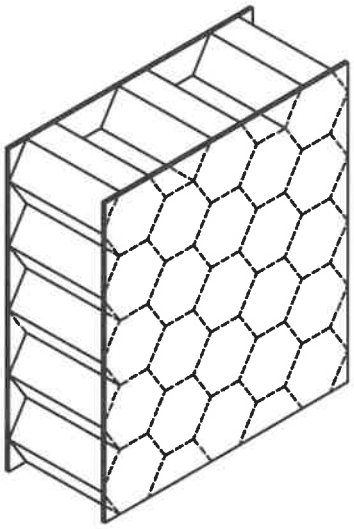
Physical Endurance Level:	Meets ANSI A250.4 Performance Test, Level A (1,000,000 Cycles)



"SUFFIX"A" = ACTIVE LEAF OF PAIRS

1-3/4" REGENT (RI) HONEYCOMB CORE DOORS

FLUSH AND EMBOSSED PANEL STEEL DOORS
BEVELED LOCK EDGE, HANDED

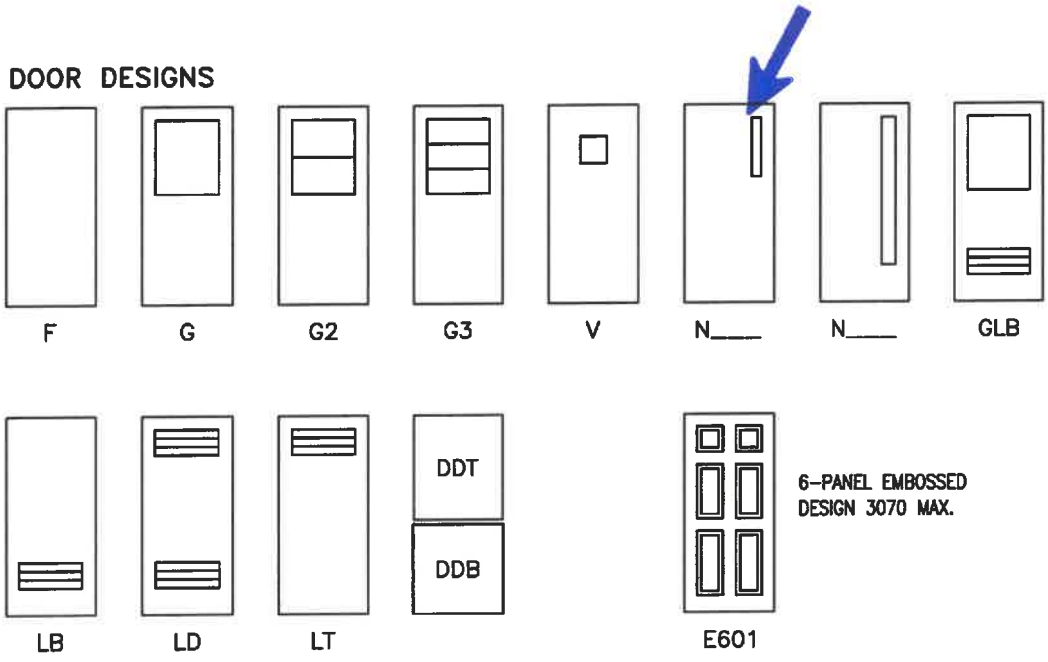


Kraft fibre honeycomb slab, bonded to the inside of both face sheets with a waterproof, contact adhesive.

Suggested Use:

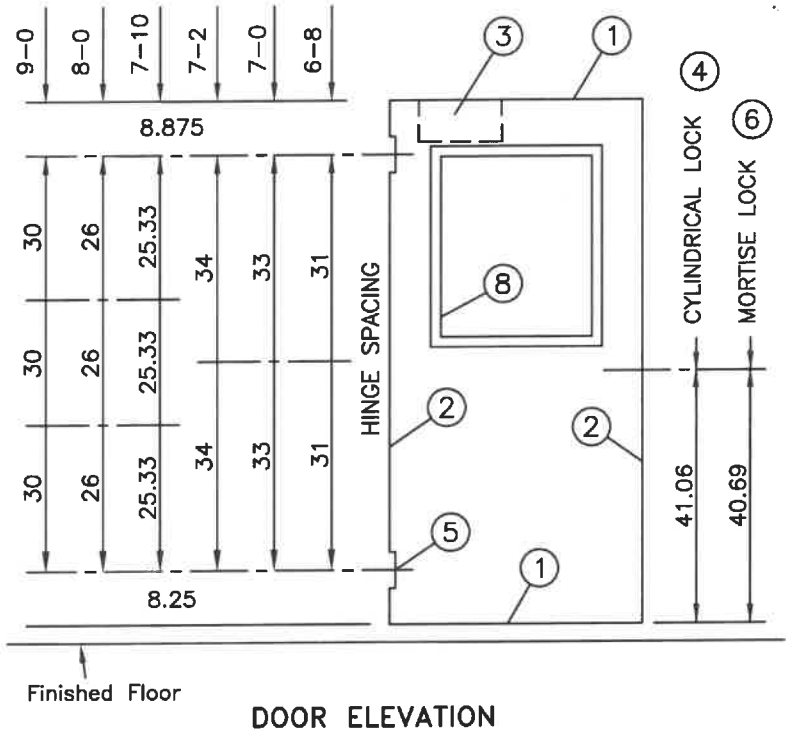
Interior or Exterior ...
Office
Motel/Hotel
Apartment
Urban Renewal
Health Care
Institutional
Mercantile
Public Utility
Factory
Warehouse

DOOR DESIGNS

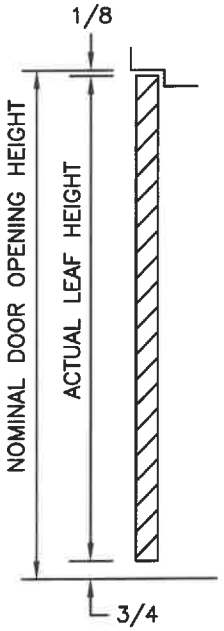


D1-2

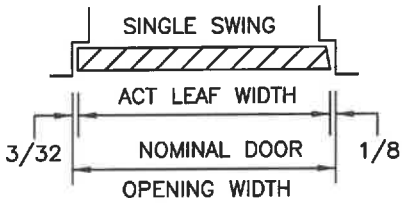
Hardware locations shown match Ceco standard frames.

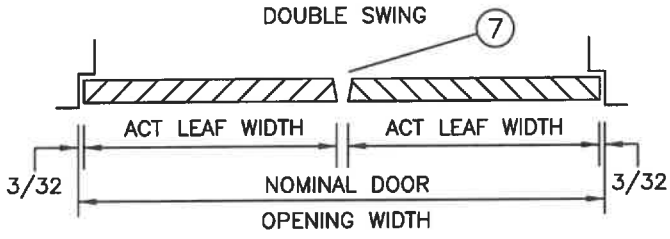


DOOR ELEVATION



VERTICAL SECTION

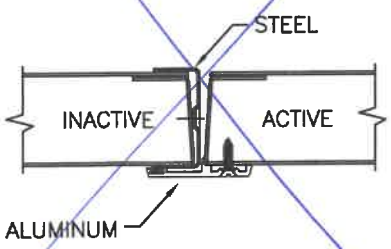




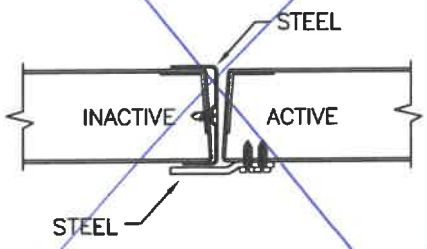
HORIZONTAL SECTIONS

(Conversion: 1" = 25.4 mm, e.g., 1-3/4" = 44.45 mm)

OVERLAPPING ASTRAGAL (7)
4451
FOR 1-3/4" THICK DOORS WITH OPTIONAL POLY-PILE INSERT

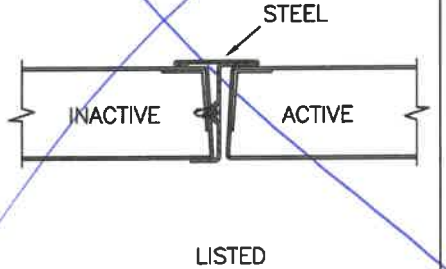


OVERLAPPING ASTRAGAL (7)
4441
FOR 1-3/4" THICK DOORS



LISTED

OVERLAPPING ASTRAGAL (7)
4471
FOR 1-3/4" THICK DOORS



LISTED

04/30/09

CecoDoor

ASSA ABLOY

TECH-DATA

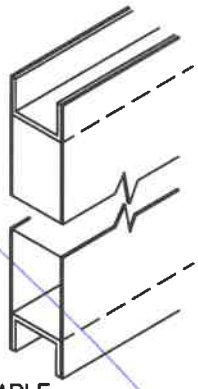
D1-3

16 GAGE STEEL END CHANNELS ①

WELDED TO BOTH FACE SHEETS

INVERTED TOP AND BOTTOM

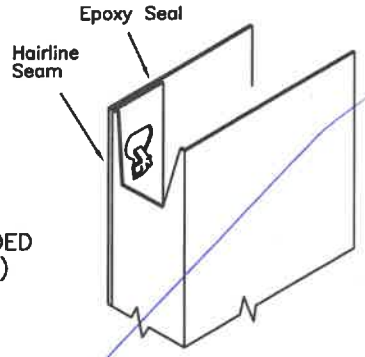
OPTIONAL TOP AND BOTTOM CAPS ARE AVAILABLE



VERTICAL EDGES ②

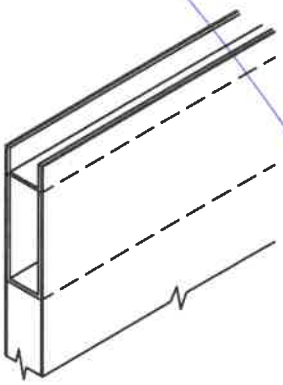
MECHANICALLY INTERLOCKED HEMMED EDGES

ALSO AVAILABLE SEAMLESS (WELDED OR BODY FILLER)



CLOSER REINFORCEMENT (OPTIONAL) ③

14 GAGE STEEL CHANNEL 20" LONG

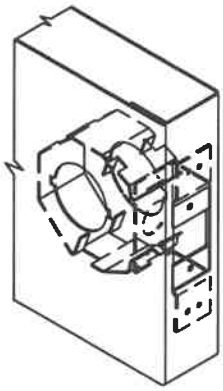


LOCK PREPARATION GOV. 160/161 CYLINDRICAL TYPE ④

(LC1)

(ANSI A115.2)

2-3/4" BACKSET

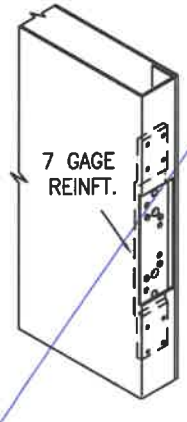


LOCK EDGE IS BEVELED 1/8" in 2" (1:16)

HINGE PREPARATION ⑤

4-1/2 OR 5 IN. HIGH, STANDARD OR HEAVY WEIGHT, FULL MORTISE HINGES

HINGE EDGE IS HANDED AND NOT BEVELED.



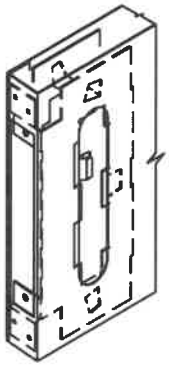
ANSI A156.7 TEMPLATE

LOCK PREPARATION GOV. 86-4 MORTISE TYPE ⑥

(LM1) (ANSI A115.1) 2-3/4" BACKSET

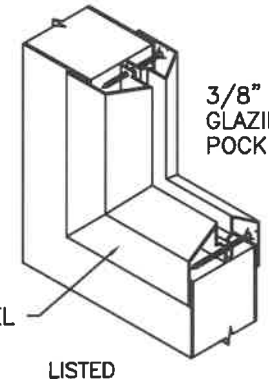
(LM0) SIMILAR TO DETAIL LESS FACE CUTOUT

(LP0) SIMILAR TO DETAIL LESS ALL CUTOUTS AND REINFORCEMENT



GLAZING TRIM SlimTrim ⑧

FOR ALL FIRE DOORS

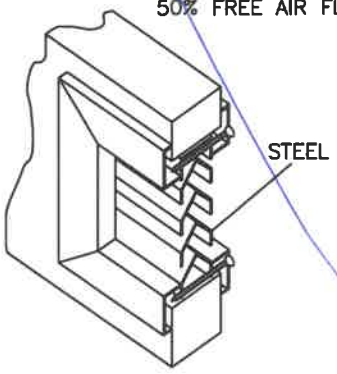


LISTED

FIXED SLAT TYPE LOUVER 4634 ⑨

FOR 1-3/4" THICK DOORS

50% FREE AIR FLOW



3/08/11

CecoDoor

ASSA ABLOY

D1–4

PRODUCT SPECIFICATIONS:

1-3/4" Thick steel doors shall be as manufactured by Ceco Door Products. Doors shall conform to the Steel Door Institute guide specification, ANSI A250.8; see chart below for performance classifications.

REGENT doors are made full-flush or (optional) seamless style. Face sheets are commercial quality cold rolled steel conforming to ASTM A1008 ...or (optional) hot-dipped galvanized steel conforming to ASTM A924 and A653 -- see chart below.

Regent full-flush doors have mechanically interlocked, hemmed, hairline seams on vertical edges and have no visible seams on faces. Doors specified "seamless" have no visible seams on faces or vertical edges (S.D.I. Model 2). A one piece, kraft honeycomb core is securely bonded to both face sheets under pressure with contact adhesive. The top and bottom door edges are closed with 16 gage steel channels welded to both face sheets.

Hardware Provisions: Hinge preparations are handed. Hinge edges are mortised for 4-1/2" or 5" high, standard and heavy weight hinges (specify which). 7 gage steel hinge reinforcements are welded inside the door edge and are drilled and tapped for fasteners in accordance with ANSI A156.7. The lock edge has a standard bevel (1:16) and is prepared for Gov. series 86, 160/161, or 90 locks in accordance with ANSI A115 (specify which). Optional closer reinforcement is a 14 gage steel channel.

Paint: 1-3/4" steel doors shall be provided with one coat of oven-cured neutral color primer paint. Primer coat shall conform with ANSI A250.10. The primer coat is a preparatory base for necessary finish painting. "Colorstyle" finish coat is also available from a selection of standard colors (optional). Colorstyle finish is electrostatically applied, oven-cured urethane enamel, and shall conform to ANSI A250.3. For accurate color selectors ask for a Ceco Colorstyle chart.

STANDARD SIZES NOMINAL DOOR OPENING

WIDTH		HEIGHT
SINGLE	DOUBLE	
2'–0"	4'–0"	
2'–4"	4'–8"	
2'–6"	5'–0"	6'–8"
2'–8"	5'–4"	7'–0"
2'–10"	5'–8"	7'–2"
3'–0"	6'–0"	7'–10"
3'–4"	6'–8"	8'–0"
3'–6"	7'–0"	9'–0"
3'–8"	7'–4"	
3'–10"	7'–8"	
4'–0"	8'–0"	

FIRE DOORS

LABELING AGENCIES:

- UNDERWRITERS LABORATORY
- WARNOCK HERSEY
- FACTORY MUTUAL

TEST: UL 10C, UL10B,

- RATING: 20 MIN, 3/4 HR, 1 HR, 1–1/2 HR, OR 3 HR
- MAX. SIZE: 40 x 90 SINGLE 80 x 90 PAIR
- DESIGNS: F, G, N, & V

Not all ratings are available in all sizes, designs and materials.

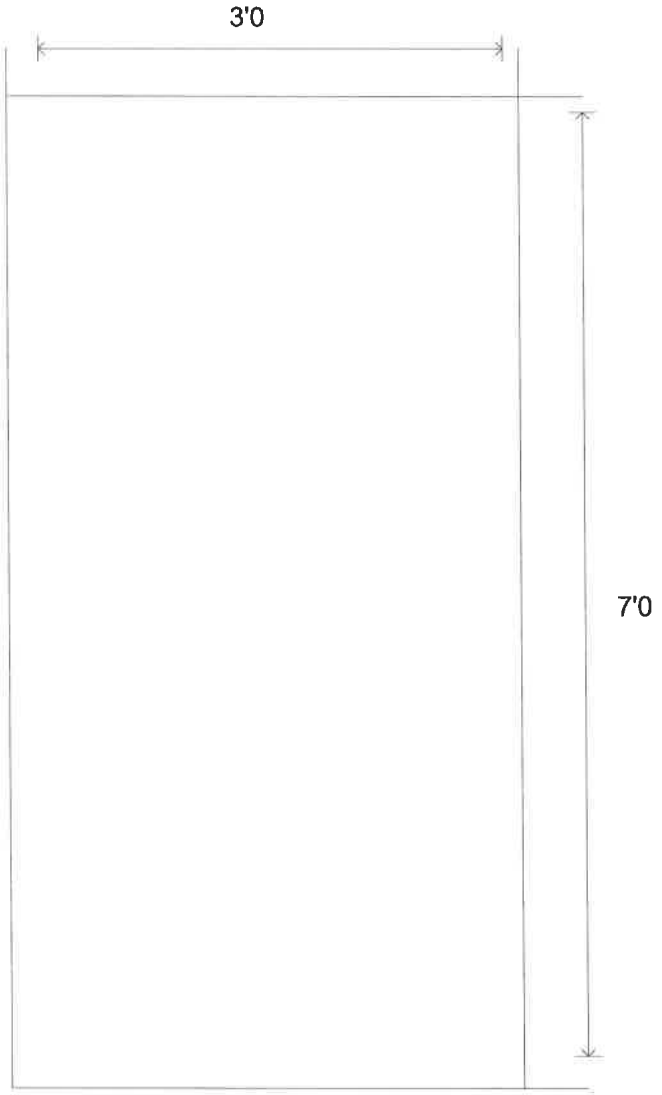
MATERIAL

DOOR FACE SHEETS	LEVEL	C.R.	GALV		RECOMMENDED DOOR FRAME MATERIAL
			A60	G90	
20 Gage Steel (4080 max.)	Standard Duty	STD	–	–	16 Gage Steel
20 Gage Textured Steel (4080 max.)	Standard Duty	–	STD	–	16 Gage Steel
18 Gage Steel	Heavy Duty	STD	OPT	OPT	16 Gage Steel
16 Gage Steel	Extra Heavy Duty	STD	OPT	OPT	16 or 14 Gage Steel

PERFORMANCE

Sound Transmission Class:	STC 32 (F Design, 18 Gage Face Sheets, ASTM E90 & E413 [Fully Operable])
Physical Endurance /Level:	Meets ANSI A250.4 Performance Test, 20 GAGE: Level B (500,000 Cycles); 18 and 16 Gage: Level A (1,000,000 Cycles)

03/08/11



ROTARY CUT NATURAL BIRCH FLUSH WOOD DOORS

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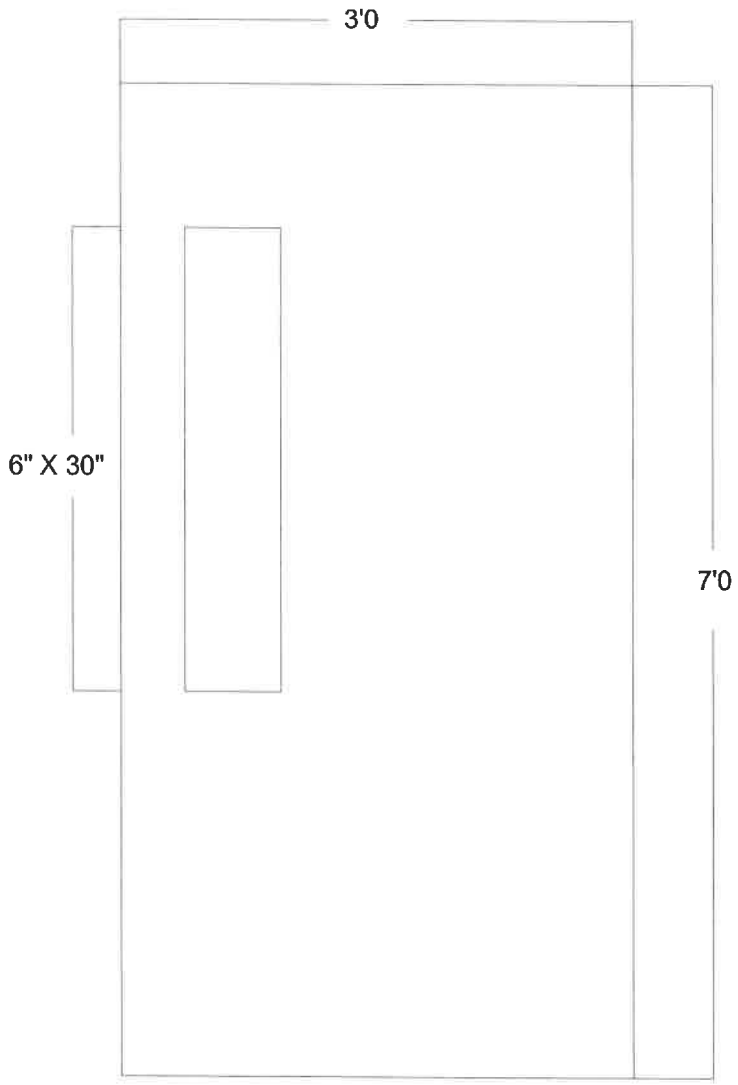
	Sheet:		Code:
	Drawn by:	Date: 11/18/22 13:52	Elevation Page: 1 of 1



HOLLOW METAL DOOR W/ NARROW LITE

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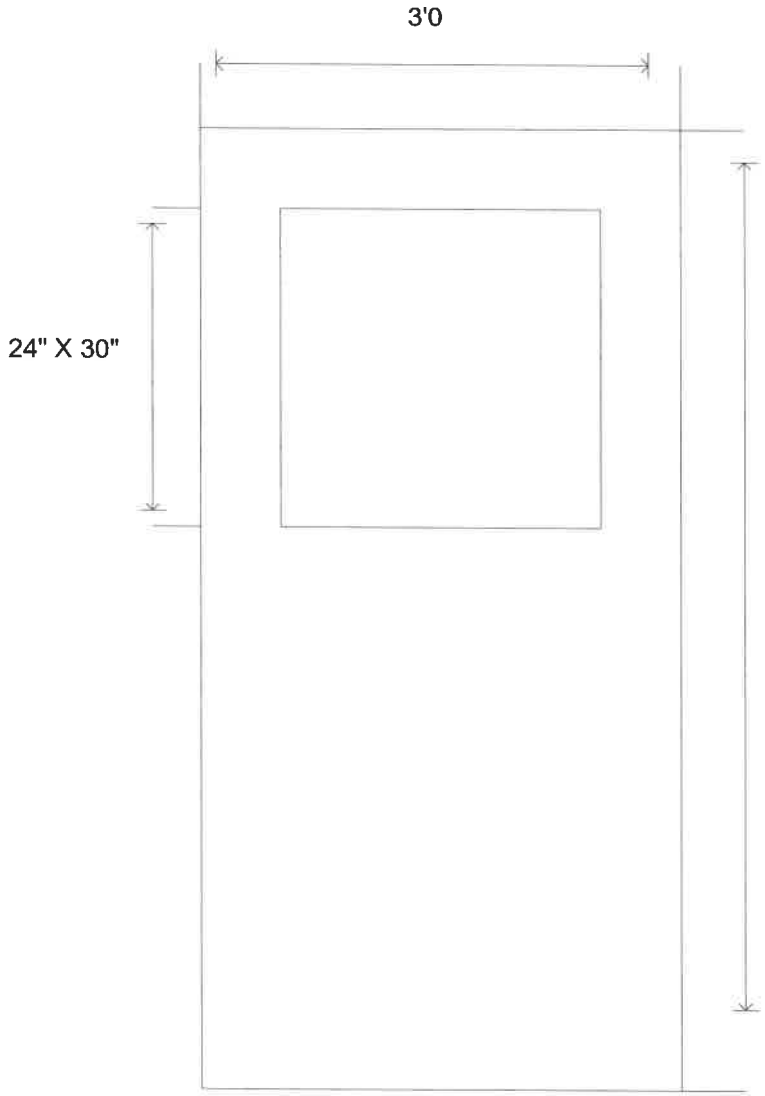


ROTARY CUT NATURAL BIRCH WOOD DOOR W/ HALF GLASS

	Project: Terminal Railway Office Add./Reno		Code: 300700
	Sheet:		Code:
	Drawn by:	Date: 11/18/22 13:58	Elevation Page: 1 of 1

Hardware Schedule

300700 : Terminal Railway Office Add./Reno

HEADING #HW-1 (SET #HW-1)

Opening Description: (201A, 201B, 202A)
3' 0" x 7' 0" x 1 3/4" x WD x HMF (202B, 203, 205, 206, 207, 208, 209A, 209B, 210, 211, 212, 215, 217, 218B)

1	Single Door #**201A**	CORRIDOR TO OFFICE 1			
1	Single Door #**201B**	CORRIDOR TO OFFICE 1			
1	Single Door #**202A**	CORRIDOR TO OFFICE 2			
1	Single Door #**202B**	CORRIDOR TO OFFICE 2	CORRIDOR to OFFICE 2	110°	LH
1	Single Door #**203**	CORRIDOR TO OFFICE 3	CORRIDOR to OFFICE 3	110°	LH
1	Single Door #**205**	CORRIDOR TO OFFICE 4	CONFERENCE ROOM to OFFICE 4	110°	RH
1	Single Door #**206**	CORRIDOR TO OFFICE 5	CONFERENCE ROOM to OFFICE 5	110°	LH
1	Single Door #**207**	FROM CONFERENCE ROOM TO OFF. 6	CONFERENCE ROOM to OFFICE 6	110°	LH
1	Single Door #**208**	FROM CONFERENCE ROOM TO OFF. 7	CONFERENCE ROOM to OFFICE 7	110°	RH
1	Single Door #**209A**	FROM CONFERENCE ROOM TO BREAK.	CONFERENCE ROOM to BREAKROOM	110°	RH
1	Single Door #**209B**	FROM CORR. TO BREAKROOM	CORRIDOR to BREAKROOM	110°	RH
1	Single Door #**210**	FROM CORRIDOR TO OFFICE 8	CORRIDOR to OFFICE 8	110°	RH
1	Single Door #**211**	FROM CORRIDOR TO OFFICE 9	CORRIDOR to OFFICE 9	110°	RH
1	Single Door #**212**	FROM CORRIDOR TO OFFICE 10	CORRIDOR to OFFICE 10	110°	RH
1	Single Door #**215**	FROM CORRIDOR TO CLOSET	CORRIDOR from CLOSET	110°	RHR
1	Single Door #**217**	FROM CORRIDOR TO OFFICE 11	OPERATIONS OFFICE to OFFICE 11	110°	RH
1	Single Door #**218B**	FROM CLOSET TO OPP. OFFICE	OPERATIONS OFFICE from CLOSET	110°	LHR

51	Hinges	5BB1 4 1/2 x 4 1/2	630	IV
17	Cylindrical Leverset	CAL00 2 3/4 BS	US26D	CA
17	Concave Wall Stop	236W	US32D	HA

300700 : Terminal Railway Office Add./Reno

HEADING #HW-2 (SET #HW-2)

Opening Description: 3' 0" x 7' 0" x 1 3/4" x WD x HMF

1	Single Door #**204A**	FROM CONFERENCE ROOM TO CORR.	CORRIDOR from CONFERENCE ROOM	110°	LHR
1	Single Door #**213**	FROM CORR. TO OPERATION OFF.	CORRIDOR to OPERATIONS OFFICE	110°	RH
1	Single Door #**214**	FROM CORR. TO CLOSET HALL	CORRIDOR to CLOSET HALL	110°	RH

9	Hinges	5BB1 4 1/2 x 4 1/2	630	IV
3	Cylindrical Leverset	CAL00 2 3/4 BS	US26D	CA
3	Door Closer	QDC211	689	SH
3	Concave Wall Stop	236W	US32D	HA

HEADING #HW-3 (SET #HW-3)

Opening Description: 3' 0" x 7' 0" x 1 3/4" x WD x HMF

1	Single Door #**216**	FROM CORR. TO RESTROOM	CORRIDOR from RESTROOM	110°	RHR

3	Hinges	5BB1 4 1/2 x 4 1/2	630	IV
1	Cylindrical Leverset	CAL20 2 3/4 BS	US26D	CA
1	Concave Wall Stop	236W	US32D	HA

HEADING #HW-4 (SET #HW-4)

Opening Description: 3' 0" x 7' 0" x 1 3/4" x HMD x HMF

1	Single Door #**204B**	CONFERENCE ROOM TO OUTDOOR	EXTERIOR from CONFERENCE ROOM	110°	RHR

3	Hinges	5BB1 4 1/2 x 4 1/2	630	IV
1	Jamb Weatherstrip	891S V 1 x 72" 2 x 84" #6 X 5/8 TEK SCREWS	MIL	HA
1	Door Bottom	750S N 36" #6 X 5/8 S.S. TEK SCREWS	CLR	HA
1	Saddle Threshold	412S 36" #10 WS/PLASTIC ANCHORS	MIL	HA
1	Deadbolt	T220	US26D	CA
1	Cylindrical Leverset	CAL00 2 3/4 BS	US26D	CA
1	Door Closer	QDC211	689	SH

5BB1 5 Knuckle, ball bearing full mortise hinge

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

Certifications

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

Material substrate

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

Options

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

Dimensions

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

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

5BB1 Finishes

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

For other colors, consult factory.

CALYPSO

CLUTCH MECHANISM
FIXED THRU BOLT INSTALLATION

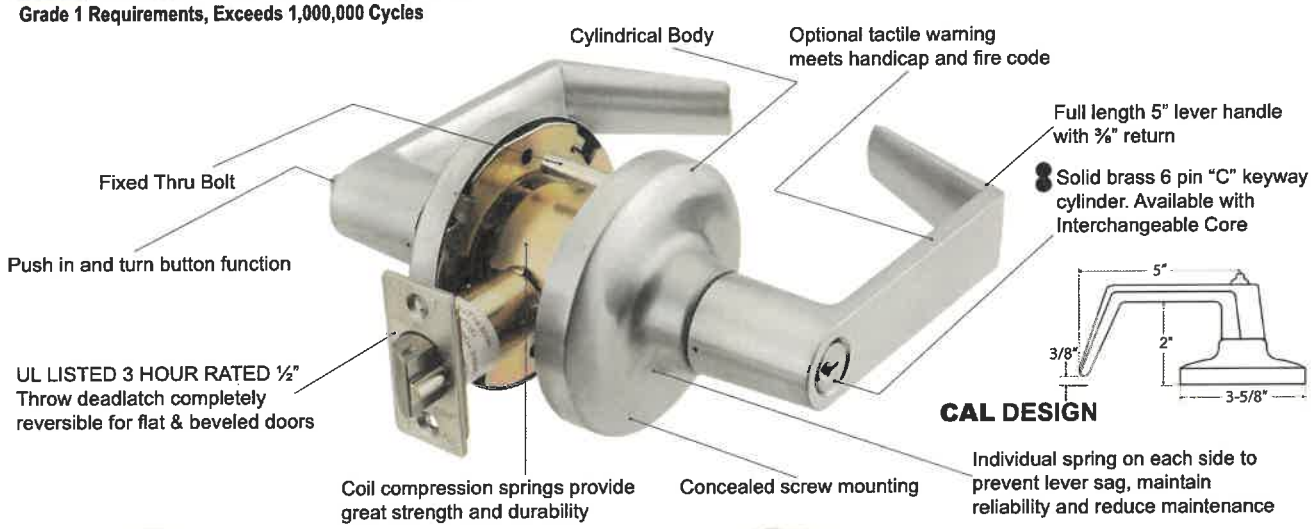
c UL us 3 HOUR FIRE RATED UL10C, UBC7-2-1997

LIFETIME WARRANTY

BHMA CERTIFIED Be Safe. Be Secure. Look for the Mark.

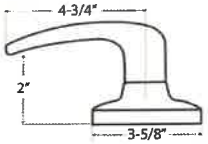
MEETS The Buy American Act

Meets ADA requirements
Specially designed for Barrier Free Application
Conforms with ANSI / BHMA A156.2, Series 4000, Grade 1 Requirements, Exceeds 1,000,000 Cycles

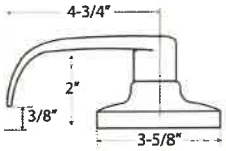


CAL DESIGN

MHM DESIGN



SAN DESIGN



SPECIFICATIONS

APPLICATIONS
For offices, schools, hospitals, apartments, hotel / motel, residential, commercial and public buildings.

DOOR RANGES
1 ⅜" to 2" thickness doors.

BACKSET
2 ¾" Standard, 2 ⅜", 3 ¾", 5" and 2 ¾" anti-friction latch with ¾" throw for pair of fire doors optional.

LATCH BOLT
½" Throw solid brass, reversible for RH or LH applications. UL Listed.

LATCH FACEPLATE
2 ¼" x 1 ⅛", adjustable for flat or beveled doors ⅛" in 2", for 2 ¾" backset.
Optional 2 ¼" x 1 ⅛" for 2 ⅜" backset.

STRIKES
ASA strike standard, "T" and full lip strike available on request.

EXPOSED TRIM
Wrought brass, bronze or stainless steel, levers are zinc casting, plated to match trim finish.

CYLINDER & KEYWAYS
6 pin solid brass "C" keyway standard. Schlage E, Schlage C-K, Russwin D1-2-3-4, Corbin 59 / 60, Corbin-Russwin L4, Sargent LA-LB-LC, Falcon / Weiser E, Arrow A, Yale 8, Yale GA and Kwikset. Can also accept Medeco, Assa, Kaba and Cal-Royal (HSK) High Security Cylinders.

INTERCHANGEABLE CORE
Interchangeable Core locks will accept compatible 6 or 7 pin cores with BEST, FALCON and ARROW. Prefix "IC" before part number. Available combinated or uncombinated. Temporary construction cores available. Factory keying with control key and master key available.

ANSI STANDARDS
Meets or exceeds requirements of ANSI / BHMA A156.2 Series 4000, Grade 1

TACTILE & LEAD LINING available upon request.

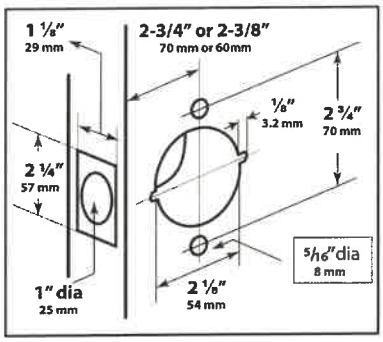
CALYPSO CAL SERIES FINISHES AND FUNCTIONS

CAL-ROYAL PRODUCTS, INC. USA

FINISHES AVAILABLE		
BHMA SYMBOL	US CODE	DESCRIPTION
605	US3	Polished Brass
606	US4	Satin Brass
609	US5	Antique Brass
612	US10	Satin Bronze
613	US10B	Oil Rubbed Bronze
619	US15	Satin Nickel
625	US26	Polished Chrome
626	US26D	Satin Chrome

Refer to price list for stock finishes and functions

DOOR PREPARATION



LIFETIME WARRANTY

c UL us
3 HOUR FIRE RATED
UL10C, UBC7-2-1997

CAL00
ICCAL00
ANSI: F109
FED#161A

ENTRANCE / OFFICE LOCK
Turn / Push button locking. Pushing and turning button locks outside lever requiring use of key until button is manually unlocked. Pushing button locks outside lever until unlocked with key or inside lever is turned.

CAL02
ICCAL02
ANSI: F91
FED#161G

STORELOCK
Dead locking latch bolt operated by lever from either side, except when both levers are locked by key in lever from either side.

CAL03
ICCAL03
ANSI: F84
FED#161R

CLASSROOM
Dead locking latch bolt operated by lever from either side except when outside lever is locked from outside by key. When outside lever is locked, latch bolt is operated by turning inside lever.

CAL04
ICCAL04
ANSI: F80
FED#161S

COMMUNICATING
Dead locking latch bolt operated by lever from either side. Turning key in either lever locks or unlocks its own lever independently.

CAL05
ICCAL05
ANSI: F86
FED#161D

STOREROOM
Dead locking latch bolt operated by key in outside lever or by rotating inside lever. Outside lever is always fixed.

CAL06
ICCAL06
ANSI: F88
FED#161C

VESTIBULE
Dead locking latch bolt operated by lever from either side except when outside lever is locked by key from inside. Latch bolt may be retracted by key in outside lever or by rotating inside lever.

CAL07
ICCAL07
ANSI: F110

CLASSROOM INTRUDER
Latch bolt is operated by rotating the inside lever, or rotating the outside lever only when not locked from the inside or outside key. Outside lever is locked and unlocked by turning the key inside or outside lever. Inside lever cannot be locked.

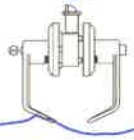
CAL09
ICCAL09
ANSI: F87
FED#161W

INSTITUTION
Dead locking latch bolt operated by key in lever from either side. Both lever always fixed.

CAL101
ICCAL101
ANSI: F90
FED#161T

DORMITORY
Dead locking latch bolt operated by lever from either side except when outside lever is locked by key or by push button on inside lever. Key in outside lever locks or unlocks outside lever. Outside key releases push button when locked from inside. Rotating inside lever or closing the door releases push button.

CAL20
ANSI: F76
FED#161L

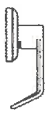


PRIVACY LOCK
Latch bolt operated by lever from either side. Outside lever is locked by push button inside and unlocked by emergency release outside. Turning inside lever or closing door releases push button.

CAL30
ANSI: F75
FED#161N

PASSAGE SET
Latch bolt operated by lever from either side at all times.

CAL40



DUMMY LEVER
Single dummy trim for one side of door. Pull only.

"IC" Indicates function available with BEST, FALCON & ARROW Interchangeable Core.

HOW TO ORDER: For "SPA" or "MHM" designs, replace design name.
Example: CAL00 Entrance in "SAN" is SAN00.

OTHER FUNCTIONS NOT LISTED AVAILABLE UPON REQUEST

CAL-ROYAL PRODUCTS, INC.

CRP SECURITIES

T220 / GL220 SERIES
ANSI A156.5 GRADE 3
STANDARD DUTY
DEADBOLTS / GATE LATCHES

- Available with Interchangeable Core for Best, Falcon & Arrow
- Available with Interchangeable Core for Schlage Full Size Format OEM Cylinders

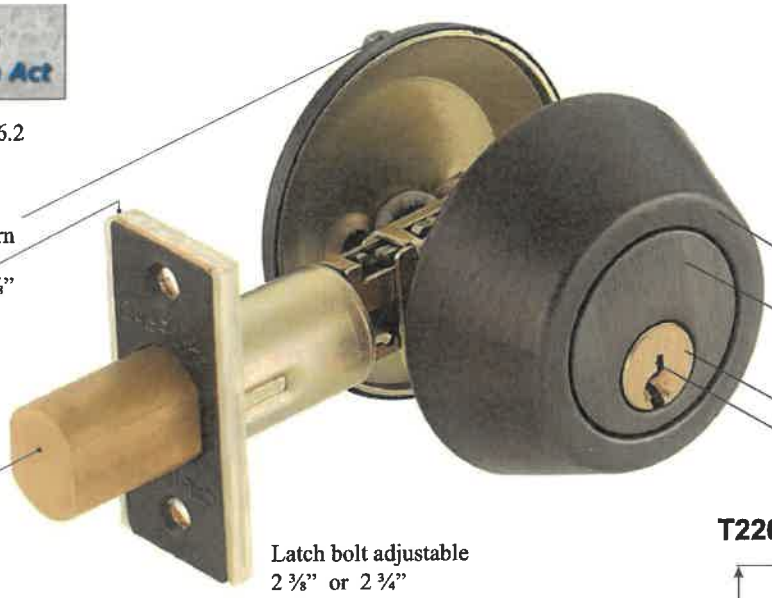
T220 STANDARD DUTY DEADBOLTS
GL220 STANDARD DUTY GATE LATCHES
FOR LIGHT COMMERCIAL AND RESIDENTIAL APPLICATIONS

MEETS
The Buy American Act

Conforms with ANSI A156.2
Series 4000, Grade 3
Exceeds 400,000 cycles

ADA Ergonomic Thumbturn

Plastic Filler for use on 1 ⅛" door preparation



2 ½" diameter tapered cylinder guard and metal insert, turns free with any removal attempt

Cast Solid Brass housing

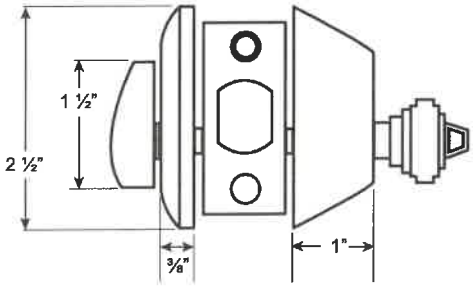
Available with Interchangeable Core

Removable Solid Brass Standard "C" 6-pin cylinder

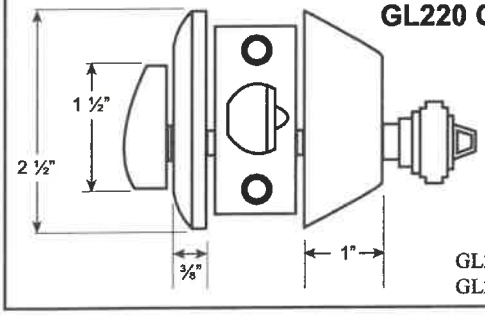
Sturdy, all steel latch case and mechanism

Latch bolt adjustable 2 ⅜" or 2 ¾"

T220 DEADBOLT



GL220 GATE LATCH



GL238 - 2 ⅜" backset deadlatch (1 ⅛" x 2 ¼"faceplate)
GL234 - 2 ¾" backset deadlatch (1 ⅛" x 2 ¼"faceplate)

SPECIFICATIONS

TRIM
Wrought Brass or Stainless Steel.

DOOR RANGES
Adjustable 1 ⅜" (35mm) to 1 ¾" (45mm) door thickness.

BACKSET
Adjustable 2 ⅜" or 2 ¾" for T220 and T330.
For GL220 and GL330 specify backset.

DEADBOLT FACEPLATE
Standard 2 ¼" X 1" packed with ⅛" plastic filler to convert 1" face plate to 1 ⅛" wide door preparations.

BORE DIAMETER
1" for latch, 1 ½" or 2 ⅛" for lock housing.

STRIKE
1 ⅛" X 2 ¾" square corner.

CYLINDER & KEYWAYS
6 pin solid brass "C" keyway standard.

- **INTERCHANGEABLE CORE**
  Interchangeable Core locks will accept compatible 6 or 7 pin cores with BEST, FALCON and ARROW.

- Interchangeable Core locks will also accept SCHLAGE full size format OEM interchangeable core cylinders and compatible Schlage 6-Pin Interchangeable Core. Interchangeable Core offered by Cal-Royal Products Inc.

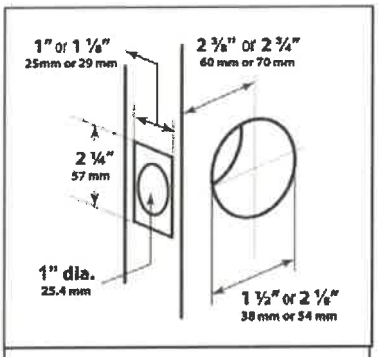
T220/GL220 SERIES FINISHES AND FUNCTIONS

CAL-ROYAL PRODUCTS, INC.

FINISHES AVAILABLE		
BHMA SYMBOL	US CODE	DESCRIPTION
605	US3	Polished Brass
606	US4	Satin Brass
609	US5	Antique Brass
612	US10	Satin Bronze
613	US10B	Oil Rubbed Bronze
619	US15	Satin Nickel
625	US26	Polished Chrome
626	US26D	Satin Chrome

Refer to price list for stock finishes and functions

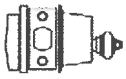
DOOR PREPARATION



Bore halfway through door only for doors with no external trim.

MEETS The Buy American Act

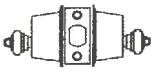
T220
ICT220
SCICT220
ANSI E0153



Single Cylinder Deadbolt

Dead locking latch bolt retracted by key from outside or by thumb turn on inside. Adjustable 2 ⅜" or 2 ¾" backset.

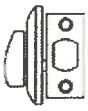
T330
ICT330
SCICT330
ANSI E0143



Double Cylinder Deadbolt

Dead locking deadbolt retracted by key from either side. Adjustable 2 ⅜" or 2 ¾" backset.

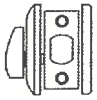
ID58



One Sided Dead Bolt

Deadbolt thrown or retracted by turn unit only. No outside trim. Bore halfway through door for installation visible from one side of door only.

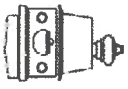
ID60



One Sided Dead Bolt

Deadbolt thrown or retracted by turn unit only. Blank plate is on external trim to be used on bore holes 1 ⅝" and 2 ⅛" wide.

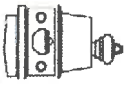
GL220
ICGL220
ANSI E0153



Single Cylinder Gate Latch

Dead locking latch bolt retracted by key from outside or by thumb turn on inside. Otherwise always locked (2 ⅜" backset)

GL220234
ICGL220234
ANSI E0142



Single Cylinder Gate Latch

Dead locking latch bolt retracted by key from outside or by thumb turn on inside. Otherwise always locked. (2 ¾" backset)

GL330
ICGL330
ANSI E0143

Double Cylinder Gate Latch

Dead locking latch bolt retracted by key from either side. Otherwise always locked. (2 ⅜" backset)

GL330234
ICGL330234
ANSI E0142

Double Cylinder Gate Latch

Dead locking latch bolt retracted by key from either side. Otherwise always locked. (2 ¾" backset)

GL58

One Sided Latch Bolt

Dead latch retracted by thumb turn, no outside trim. Visible from one side of door only. Otherwise always locked.

GL60

One Sided Latch Bolt

Dead latch retracted by thumb turn unit. Blank plate on external trim to be used on bore holes 1 ⅝" and 2 ⅛" diameter. Otherwise always locked.

GL58234

One Sided Latch Bolt

Dead latch retracted by thumb turn, no outside trim. Visible from one side of door only. Otherwise always locked.

GL60234

One Sided Latch Bolt

Dead latch retracted by turn unit. Blank plate on external trim to be used on bore holes 1 ⅝" and 2 ⅛" diameter. Otherwise always locked.

ADDITIONAL PARTS	
GL238	2 ⅜" dead latch (1 ⅛" x 2 ¼")
GL234	2 ¾" dead latch (1 ⅛" x 2 ¼")

"IC" Indicates function available with BEST, FALCON & ARROW Interchangeable Core.

"SCIC" Indicates function available with SCHLAGE full size format Interchangeable Core.

HOLD BACK FEATURE ON DEADBOLT WITH GATE LATCH NOT AVAILABLE

OTHER FUNCTIONS NOT LISTED AVAILABLE UPON REQUEST

CAL-ROYAL PRODUCTS, INC.

CRP SECURITIES

6605 Flotilla St., Commerce, CA 90040 U.S.A.
Tel: (323) 888-6601 ◆ Fax: (323) 888-6699
Website: www.cal-royal.com ◆ Email: sales@cal-royal.com

Ver. 2.0, Rev. 11/12

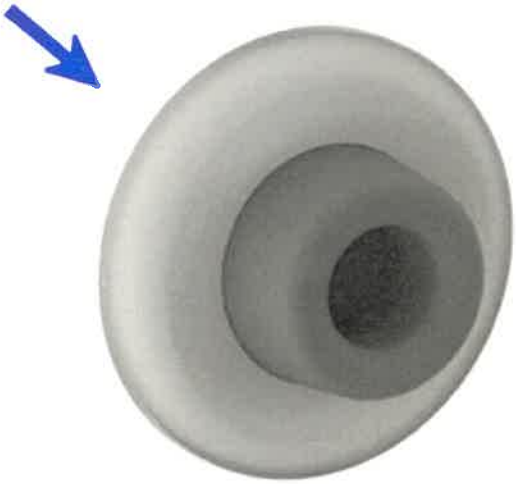
QDC200 Heavy Duty Exit Device Specifications	
Certifications	ANSI/BHMA A156.4 Series—Grade 1 ANSI A117.1 Accessibility Code (ADA Compliant) UL/cUL listed (3 hour) for self-closing doors without hold-open UL10c positive pressure rated UL10b pressure rated
Materials	Body: Cast aluminum Covers: Full-size architectural plastic and slim-line plastic available Arms & brackets: Tri-pack standard; hold-open and dead stop arms optional Arms: Heat-treated carbon steel Springs: High-impact hand-drawn steel wire Pinions: Heat-treated chrome molybdenum steel Cylinders: Heat-treated free-cutting carbon steel Fasteners: Wood and machine screws standard; sex nuts and self-reaming, self-tapping screws standard
Door Weights and Sizes	1: 33-55 lbs (15-30 kg) weight; 32" (0.81 m)-28" (0.71 m) width 2: 56-99 lbs (30-45 kg) weight; 36" (0.91 m)-32" (0.81 m) width 3: 99-143 lbs (45-65 kg) weight; 42" (1.07 m)-36" (0.91 m) width 4: 143-187 lbs (65-85 kg) weight; 48" (1.22 m)-42" (1.07 m) width 5: 187-264 lbs (85-120 kg) weight; 54" (1.37 m)-48" (1.22 m) width 6: 264-330 lbs (120-150 kg) weight; 58" (1.47 m)-54" (1.32 m) width
Door Closer Functions	QDC211: Tri-pack arm (non-handed) QDC212: Tri-pack arm with hold-open (non-handed) QDC213: Heavy-duty arm with compression stop (non-handed) QDC214: Heavy-duty arm with hold-open and compression stop (non-handed)
Finishes	689: Painted Aluminum 690: Painted Duranodic Bronze 696: Painted Satin Brass
Warranties	Lifetime mechanical Three-year finish

HAGER COMPANIES
One Family. One Brand. One Vision.™

236W

Product Information

Notes:
- Specify 230T for machine screw and toggle nut screw pack (10 pk) for concrete
- BL236W is 236W case quantity 50
- Easy installation by inserting screwdriver through small hole in bumper
- Concave rubber bumper prevents damage to locksets with projecting buttons
- Concealed tamper proof mounting



Concave Wall Stop

Product Specifications

Certification: - Meets ANSI A156.16 for L02251

Diameter: - 2-7/16" (75 mm)

Projection: - 1" (25 mm)

Materials: - Wrought brass, bronze, stainless steel with grey rubber bumper

Finishes: - US3, US4, US10, US10B, US15, US15A, US19, US26, US26D, 32, 32D

Fastener: - One (1) #10 x 1-1/2" PPHWS with plastic and toggle anchor - for drywall

750S
Door Bottom Sweeps

Notes:

- MIL finish weatherstripping is supplied with zinc plated screws
- Color anodized weatherstripping is supplied with screws plated to match
- Stainless steel weatherstripping is supplied with stainless steel screws

PRODUCT SPECIFICATIONS

FINISHES:
- DBA, GLD, CLR, 32D

INSERTS:
- N=Neoprene (EDPM)
- S=Silicone

CATEGORY:
- J

FASTENERS:
- #6 x 5/8" Pan head sheet metal screws furnished with mortise types.

SIZE:
- Width: 1/4" (6 mm) Strip height: 1/2" (13 mm)

891S
Jamb Weatherstrip

Notes:

- MIL finish weatherstripping is supplied with zinc plated screws
- Color anodized weatherstripping is supplied with screws plated to match
- Stainless steel weatherstripping is supplied with stainless steel screws

PRODUCT SPECIFICATIONS

FINISHES:
- MIL, DBA, GLD

INSERTS:
- V=Vinyl
- N=Neoprene, EDPM or TPE
- S=Silicone
- F=Vinyl with Fins

CATEGORY:
- H, J

FASTENERS:
- #6 x 5/8" Pan head sheet metal screws furnished with mortise types.

SIZE:
- Height: 1/4" (6 mm) Strip length: 1/4" (6 mm)

SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

Alabama State Docks
Terminal Railway Office Expansion

126 Industrial Canal Road

Mobile, AL

Report of Subsurface Investigation and

Geotechnical Engineering Evaluation

Prepared for:
COWLES, MURPHY, GLOVER & ASSOCIATES
SESI Project No: M22-264
April 22, 2022

SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

MOBILE OFFICE
5460 Rangeline Road
Mobile, AL 36619

Tel: (251) 344-7711
Fax: (251) 443-9000
www.soearth.com

April 22, 2022

COWLES, MURPHY, GLOVER & ASSOCIATES
457 St. Michael Street
Mobile, AL 36602

ATTENTION: Mr. Miles Dearing

REFERENCE: Report of Subsurface Investigation and Geotechnical Engineering Evaluation
Alabama State Docks Terminal Railway Office Expansion
126 Industrial Canal Road
Mobile, AL
SESI Project No: M22-264

Dear Mr. Dearing,

Southern Earth Sciences, Inc. (SESI) has completed the authorized scope of subsurface investigation and geotechnical engineering evaluation for the referenced project. This report presents our understanding of the available project information and outlines our soil related recommendations and comments regarding construction and foundation support for the proposed office expansion.

We appreciate this opportunity to be of service and look forward to our continued involvement throughout pile testing and construction phases of the project. Please do not hesitate to contact us if you have any questions.

Sincerely,

SOUTHERN EARTH SCIENCES, INC.

Curran Nicholas, E.I.
Geotechnical Project Manager

Matt Coaker, P.E.
Vice President
Registered, Alabama 30850

ALABAMA LICENSED No. 30835 PROFESSIONAL 4/22/22 ENGINEER ROBERT MATTHEW COAKER

CN/mc

Attachments

COWLES, MURPHY, GLOVER & ASSOCIATES

Report of Subsurface Investigation and Geotechnical Engineering Evaluation
Alabama State Docks Terminal Railway Office Expansion
Mobile, AL
SESI Project No: M22-264
April 22, 2022

1.0 PROJECT INFORMATION

Based on our understanding of the provided information, the project will consist of the expansion of the existing elevated, wood framed, pile supported office building structure. The expansion is approximately 1,000 ft^2 in plan area. The office expansion will be constructed on the west side of the existing office building located at 126 Industrial Canal Road in Mobile, Alabama. The project site is currently a gravel parking/drive area. We assume that final site grade beneath and adjacent to the structure will be no more than about 2 feet above existing site grade. According to Miles Dearing with Cowles, Murphy, Glover & Associates (CGL), the maximum column load is on the order of 25 kips. No detailed grading or topographic information was available for the structure at the writing of this report.

2.0 FIELD INVESTIGATION

One (1) Cone Penetrometer Test (CPT) sounding was performed within close proximity to the proposed office expansion area. Test location was selected by SES personnel using the provided site plan, reference to site features and a handheld GPS with an accuracy of ±30 feet. A Test Location Plan depicting the approximate test location is attached in **Appendix 1**.

The CPT sounding was performed in general accordance with ASTM Specification D-5778 using a 20-ton Hogentogler Electronic truck-mounted CPT rig. The CPT sounding was advanced to a depth of approximately 50 feet below the existing ground surface. Soil classifications were interpreted from methods recommended by Robertson and Campanella. Correlations between Cone Resistance values and Standard Penetration Testing "N" values were performed according to the methods developed by Robertson, Campanella and Wightman. The soil types and stratigraphy shown on the CPT Log sheet are based upon material parameters measured and evaluated as the cone is advanced. The CPT Log sheet graphically showing the cone tip resistance, friction, equivalent N60-value and interpreted soil behavior type at the sounding location is attached in **Appendix 2**.

3.0 GENERALIZED SUBSURFACE CONDITIONS

Subsurface descriptions below are generalized to highlight the major subsurface stratigraphy encountered across the site. The CPT sounding log sheet attached in **Appendix 2** presents specific information at the individual sounding location including correlated soil behavior type, equivalent SPT values and ground water level. This information is representative of conditions encountered at this test location. Variations may occur and should be expected throughout the project site. The stratification represents the approximate boundary between subsurface materials as the actual transition may be gradual.

Beneath an upper layer of gravel, soils at this site generally consist of medium dense sands to an approximate depth of about 3 feet underlain by soft to medium silt and clay to an approximate depth of 9 feet. Below about 9 feet, loose to medium dense sands were encountered to approximately 25 feet beneath the existing ground surface underlain by soft to medium silt and clay to approximately 39 feet below existing ground surface. Medium dense to dense sands were encountered below this level to termination of the investigation at approximately 50 feet below existing ground surface. Detailed descriptions of soils encountered at this test location are shown on the CPT Sounding log included in **Appendix 2**. Reference to depth has been made with respect to the existing ground surface at the time of our field investigation.

4.0 GROUNDWATER

The CPT sounding hole collapsed at a depth of approximately 5.7 feet below the existing ground surface. The CPT sounding hole caved in upon removal of the CPT rods with no free water being observed at the cave-in depth. A hole collapse often occurs at or slightly above the groundwater or saturated soil level but can also occur due to the presence of loose soils without the presence of groundwater. The shallow collapsed depths at most locations are likely the result of perched groundwater caused by the low permeability silty and clayey soils present within the upper reaches of much of this site.

Groundwater depths or elevations should be verified at the time of construction for cases where groundwater variations are potentially significant for construction. Fluctuation in the groundwater table will occur due to variances in rainfall, elevation, drainage, types of soil encountered and other factors not evident at the time measurements were made. Reference to depth has been made with respect to the existing ground surface encountered at the time of our field investigation. Groundwater levels encountered at the test location at the time of our investigation is shown on the CPT sounding Log attached in **Appendix 2.**

5.0 FOUNDATION CONSIDERATIONS AND CONCLUSIONS

Our evaluation of foundation conditions has been based on the project previously described in this report and subsurface data obtained during the investigation. In evaluating the CPT sounding, we have used empirical correlations previously established between standard penetration resistances, soil index properties and foundation stability and the characteristics for soils similar to those encountered at the referenced site. Soil parameters used in the evaluation were derived from the CPT sounding data using the interpretation software RAPID CPT® by Dataforensics.

5.1 Pile Supported Foundation

To assist in project planning and foundation design, we have developed the following table presenting recommended pile penetration depths and allowable compression and tension pile capacities from static analysis. The allowable pile capacities are based on a Factor of Safety (FOS) of 2.0 for compression and 2.5 for tension, respectively.

Piles have been designed to derive their capacity as a result of a combination of side resistance in the medium dense sands and soft to medium silts and clays in the upper 40 feet of the site and primarily in end bearing in the medium dense sands beginning at about 40 feet below ground surface. Pile foundation recommendations are provided in the following sections of this report.

TABLE 1 - TAPERED TIMBER PILE CAPACITIES

Recommended Penetration Below Existing Grade (ft)	*Tip Diameter Size (inches)*	*Allowable Axial Compressive Capacity (tons)*	*Allowable Axial Tension Capacity (tons)*
40 - 42	8	15	9
	9	17	10
	10	20	12

*Penetration depths referenced from existing ground surface at the time of investigation

We will be pleased to evaluate additional pile types/sections at your request. The pile length, sizes and capacities presented are based on soil-pile interaction and do not consider the structural aspects of the pile. *Pile penetration depths are measured from the existing ground surface and should be adjusted accordingly to ensure that the correct penetration depth is achieved*. Fill heights exceeding about 2 feet above original site elevations would result in reduced pile capacity as a result of down drag forces on the piles caused by fill induced settlement. We should be notified if more than 2 feet of fill will be placed above the original ground surface.

5.1.1 Test Pile Recommendations

We recommend a test pile program which includes installing one (1) test pile using a Pile Driving Analyzer (PDA). PDA results, in conjunction with driving resistances, can be calibrated with the driving hammer to formulate installation criteria and estimate the installed capacity of individual piles, allowing full utilization of the achieved capacity. The test pile should be installed using the same equipment configuration to be used for production pile installation in accordance with the installation procedures described above.

A tentative driving resistance should be computed using a dynamic formula such as the Wave Equation. In computing the required driving resistance, we recommend an ultimate capacity of at least two times the design capacity be used in the dynamic formula.

PDA results would be used to verify the placement procedures and that the pile section produces the desired design capacity. The test pile section, equipment, and installation procedures should be the same as those planned for use in the foundation. Since adjustments of the pile lengths or installation procedures may be made based on the test pile installation and PDA test results, we recommend the test pile program and production pile installation be performed under the direct supervision of the project geotechnical engineer of record.

5.1.2 Pile Installation Considerations

Hard driving is expected between approximately 10 to 15 feet below ground surface. Consideration should be given to the means and methods that will be required to advance piling to the recommended tip elevation. Medium dense sands were encountered above the intended bearing stratum. Jetting through these intermediate sands will help facilitate pile penetration while reducing driving effort and associated vibrations. Piles may be jetted to within 5 feet of the recommended penetration depth. Jetting should not be performed within about 5 feet of design pile tip elevation. Piles should be driven a minimum of 5 feet to final tip elevation.

5.1.3 Vibration Monitoring During Pile Driving

Infrastructure, underground utilities, and nearby structures can be damaged by vibrations and subsidence caused by vibrations during pile driving. Care should be taken by the contractor to ensure that vibrations do not impact the adjacent structure.

Due to the existing building adjacent to the site, monitoring of the ground vibration during installation of the planned foundation system may need to be considered. We offer this service and would be please to assist at your request. Thresholds of vibration induced cracking are generally site specific and depend on the type and age of the structure, the frequency of ground vibration, and the type of soil supporting the structure. Research by the U.S. Bureau of Mines (USBM) and other investigative groups have established criteria relating the occurrence of structural damage to certain frequencies and level of peak ground motion.

6.0 GENERAL COMMENTS AND LIMITATIONS

While the CPT sounding is representative of subsurface conditions at the respective locations and for its respective vertical reach, local variations characteristic of the subsurface materials of the region are anticipated and may be encountered. The delineation between soil types shown on the log is approximate and the description represents our interpretation of subsurface conditions at the designated test location and on the particular date explored.

This report has been prepared in order to aid in the evaluation of this project and to assist the engineers in the project planning and structural design. At the time of writing, changes were still being considered to foundations, site grading, and other aspects of the project that could have a significant impact on the applicability or relevance of the recommendations provided in this report. SESI should be consulted as the design process continues to ensure that the recommendations provided in this report are still applicable, and that they are being properly interpreted.

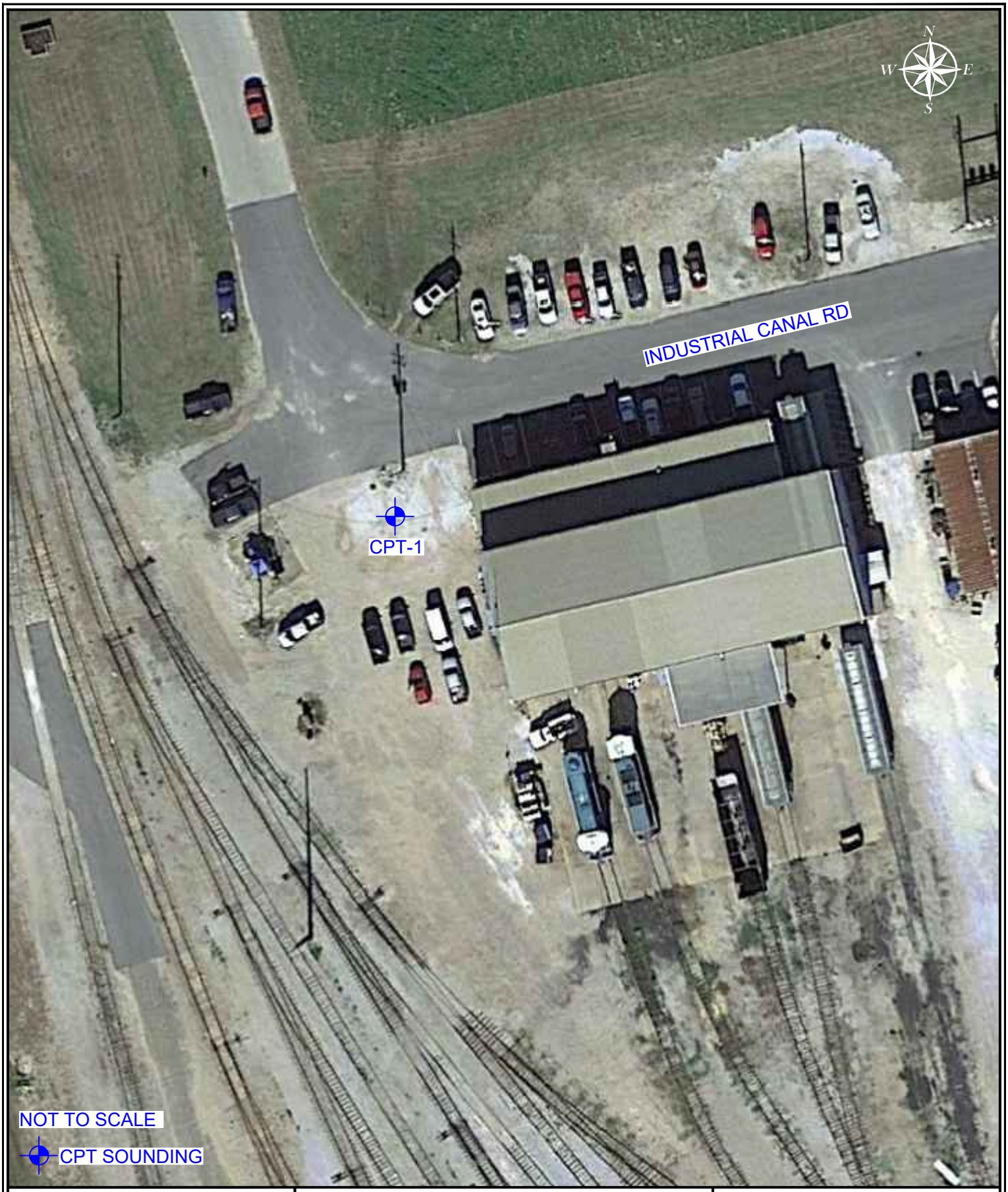
This report is intended for use with regard to the specific project discussed herein as we understand it at this time, and any substantial changes in the project, loads, locations, or assumed grades should be brought to our attention so that we may determine how such changes may affect our conclusions and recommendations. We would appreciate the opportunity to review the plans and specifications for construction to ensure that our conclusions and recommendations are interpreted correctly.

Professional judgments on design alternatives and criteria are presented in this report. These are based partly on our evaluations of technical information gathered, partly on our understanding of the characteristics of the project being planned, and partly on our general experience with subsurface conditions in the area. We do not guarantee performance of the project in any respect, only that our engineering work and judgments rendered meet the standard of care of our profession.

The Geotechnical Engineer of Record should be retained by the Owner in the construction phase of the project so they can observe subsurface conditions revealed during construction, confirm that design assumptions are still applicable or provide revised recommendations based on conditions encountered during construction, and to help ensure that our recommendations are properly interpreted. We recommend that Southern Earth Sciences, Inc. be retained to perform observation and field-testing services during the site preparation and foundation construction.

APPENDIX 1

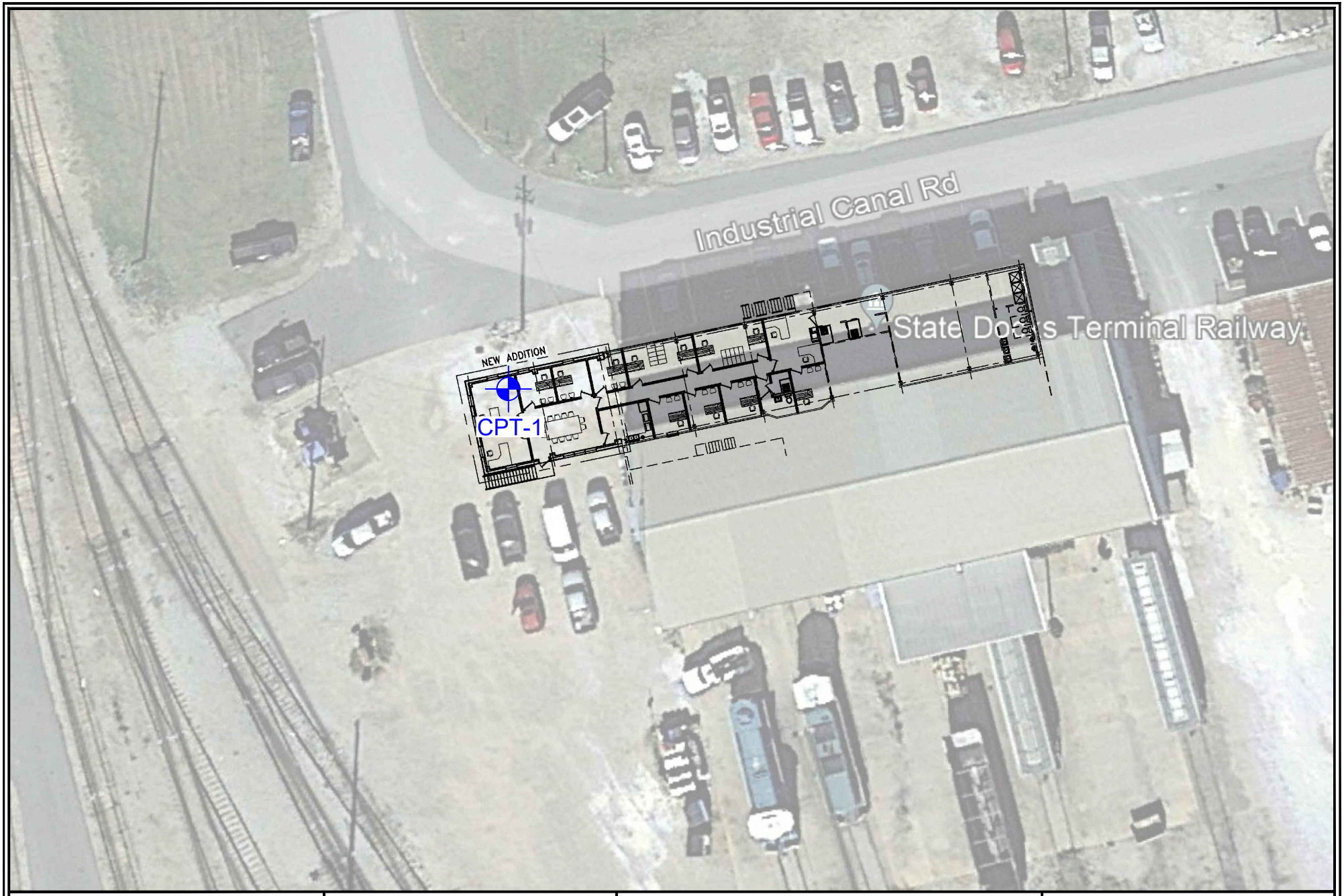
Test Location Plan



STATE DOCKS TERMINAL RAILWAY
FACILITY EXPANSION
MOBILE, AL

SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

TEST LOCATION PLAN
SESI JOB #: M22-264



NOT TO SCALE

CPT SOUNDING

STATE DOCKS TERMINAL RAILWAY
FACILITY EXPANSION
MOBILE, AL

SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

TEST LOCATION PLAN
SESI JOB #: M22-264

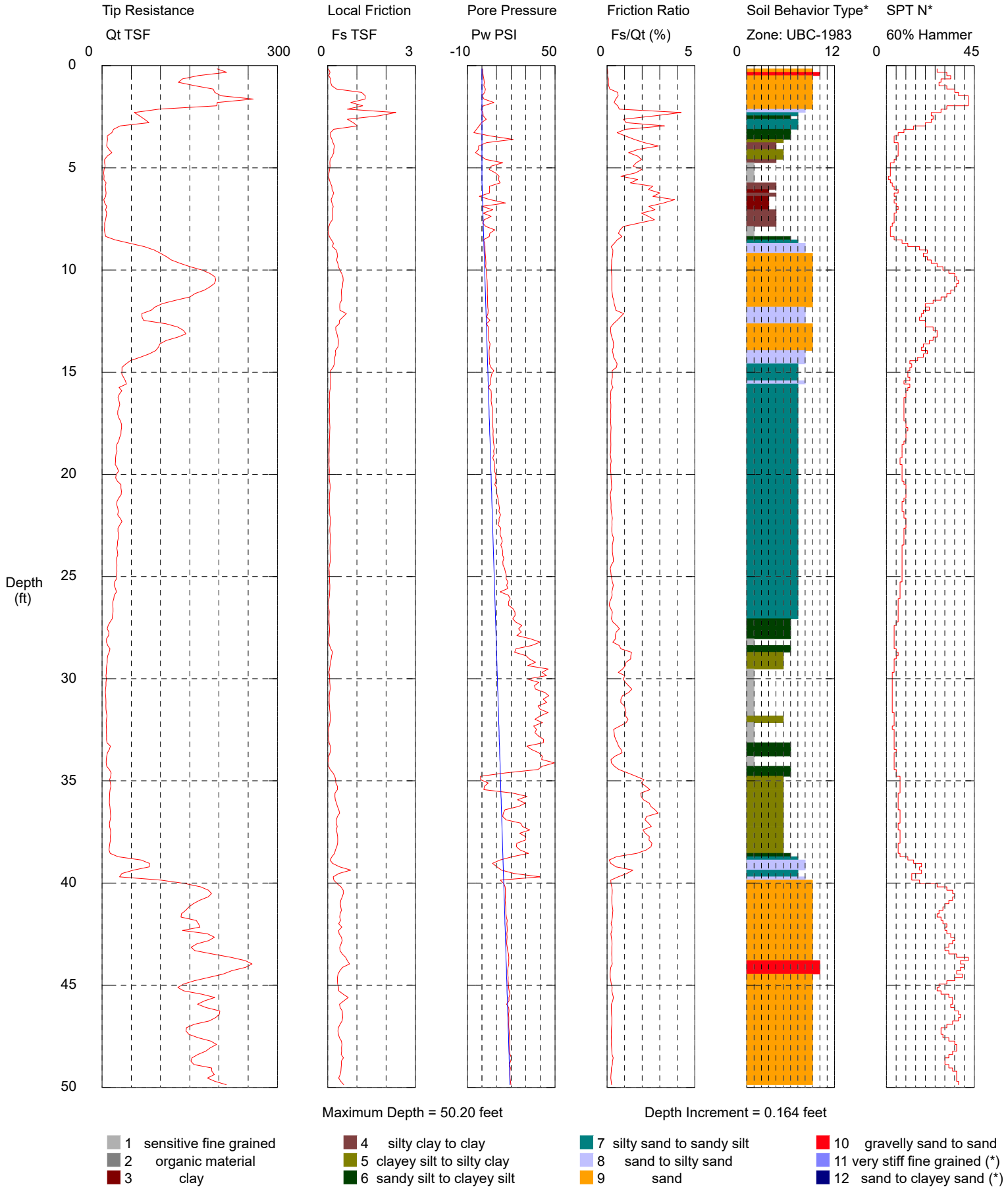
APPENDIX 2

CPT Sounding Log

Southern Earth Sciences

Operator: Brandon Green
Sounding: CPT-1
Cone Used: DDG1526
GPS Data: N30.72421 W88.05273

CPT Date/Time: 3/30/2022 2:00:50 PM
Location: S.D.T. Railway Expansion
Job Number: M22-264
Groundwater: Collapsed Dry At 5.7-ft.



Maximum Depth = 50.20 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983