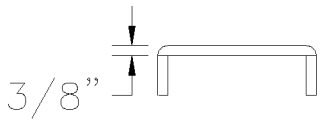
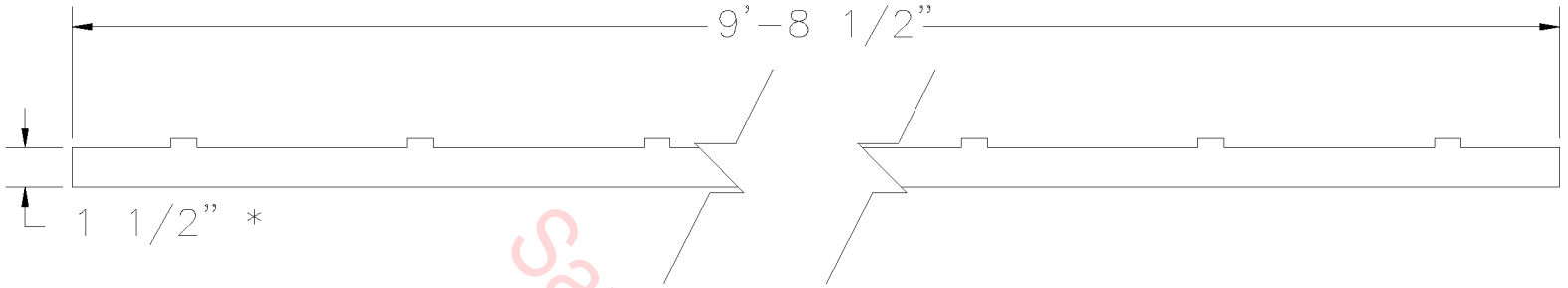
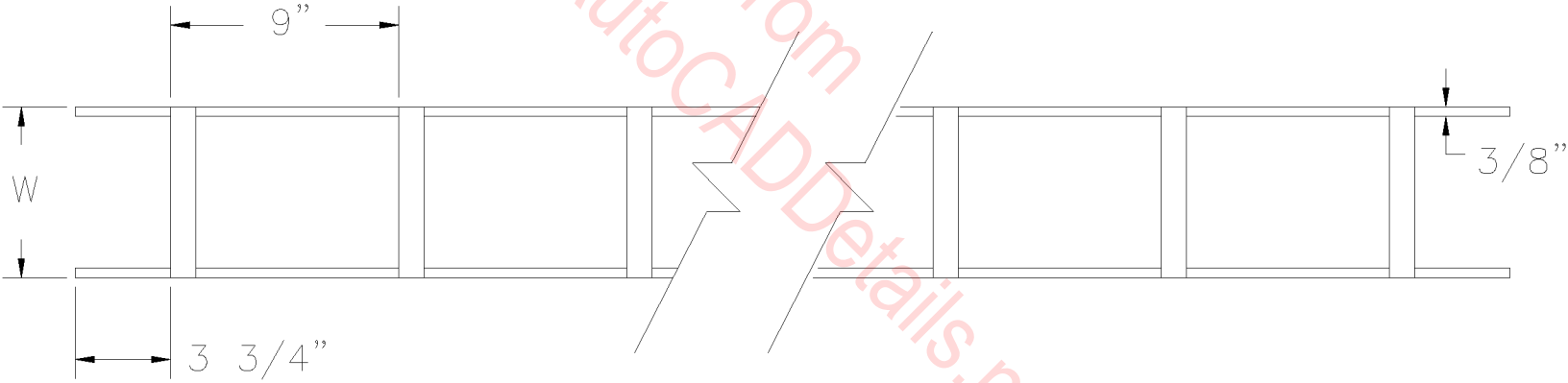
FRONT VIEW



SIDE VIEW



TOP VIEW

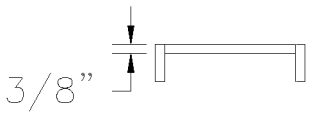


OPTIONAL WIDTH		
5"	12"	24"
6"	15"	25"
9"	18"	27"
10"	20"	30"
11"	21"	36"

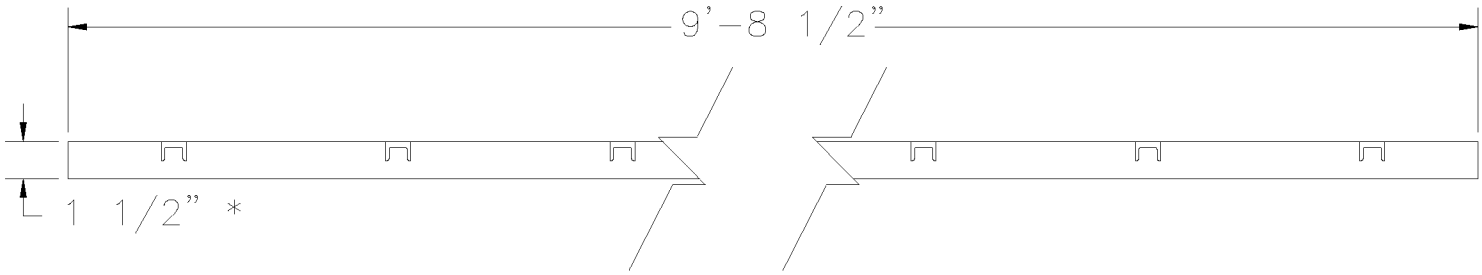
BAR TYPE CABLE TRAY

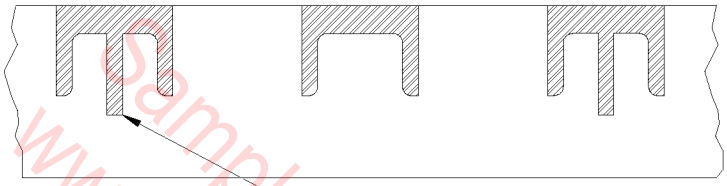
SCALE: 1-1/2" = 1'-0"

FRONT VIEW



SIDE VIEW





REINFORCEMENT ON
25", 27", 30" AND 36"
CABLE RACK

TOP VIEW

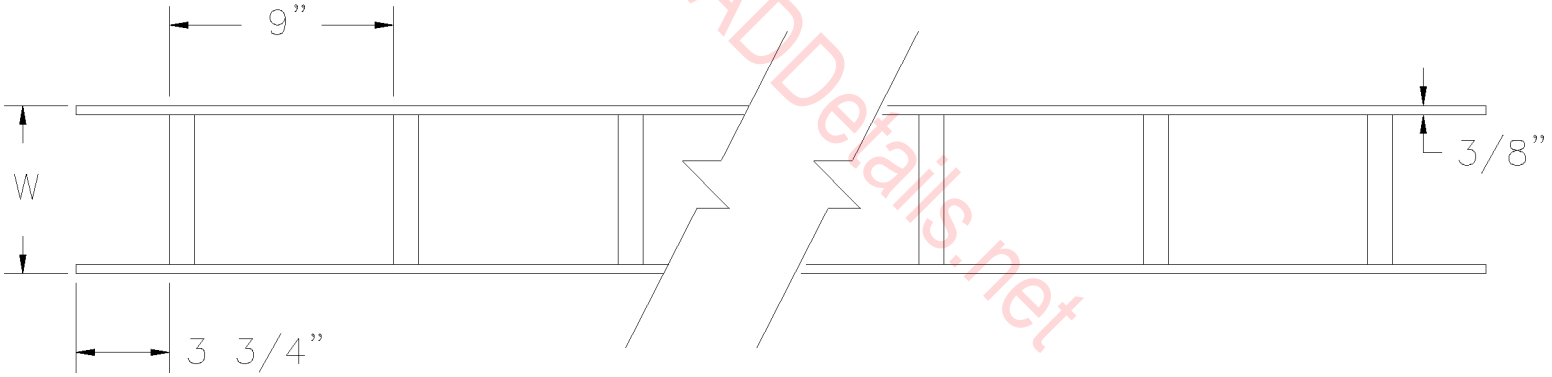


TABLE A – SOLID SIDE BAR

OPTIONAL WIDTH		
5"	12"	24"
6"	15"	25"
9"	18"	27"
10"	20"	30"
11"	21"	36"

TABLE B – TUBULAR SIDE BAR

OPTIONAL WIDTH		
5"	12"	24"
6"	15"	25"
9"	18"	27"
10"	20"	30"
11"	21"	36"

CHANNEL TYPE CABLE TRAY

SCALE: 1-1/2" = 1'-0"

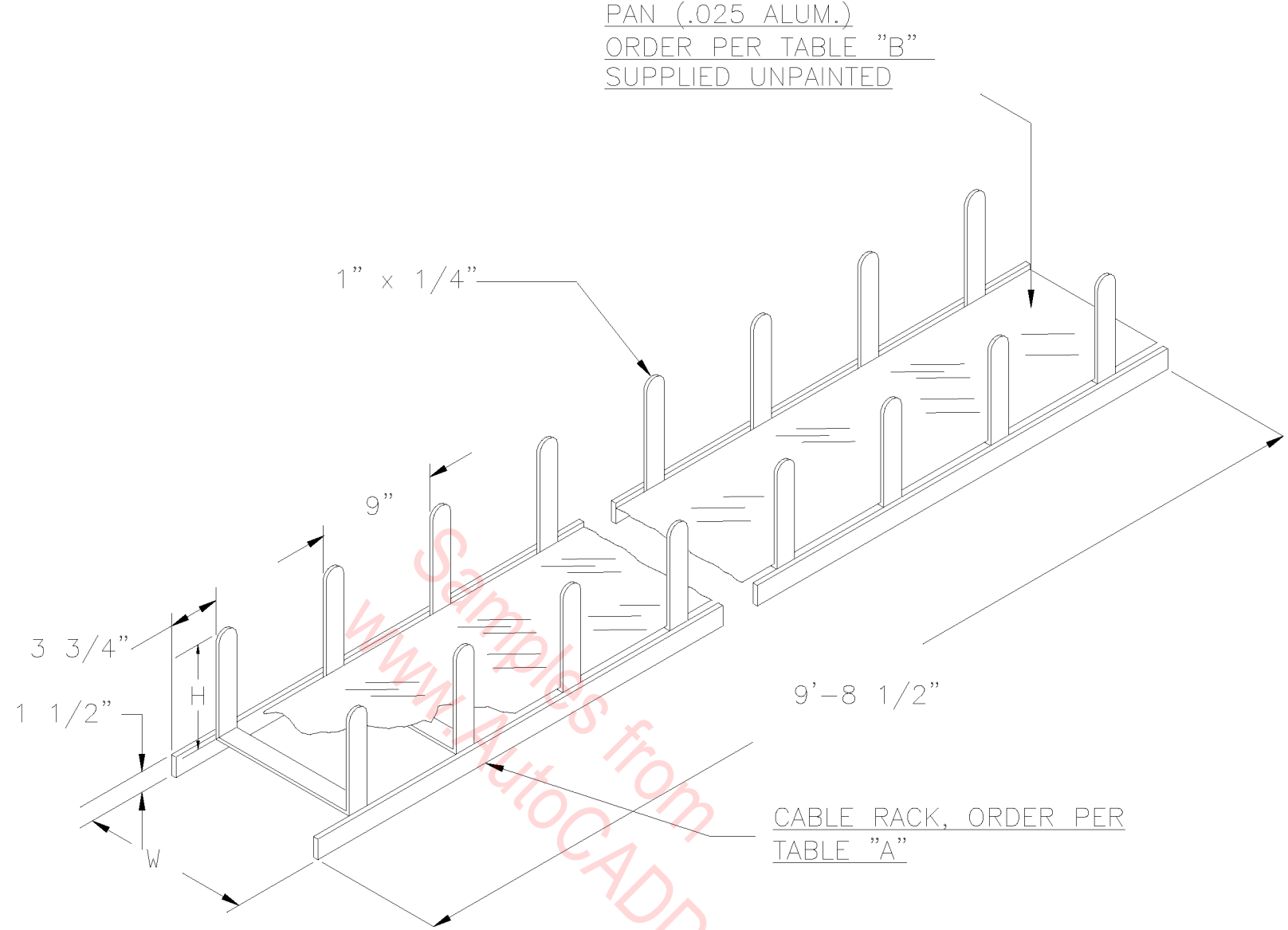


TABLE "A"

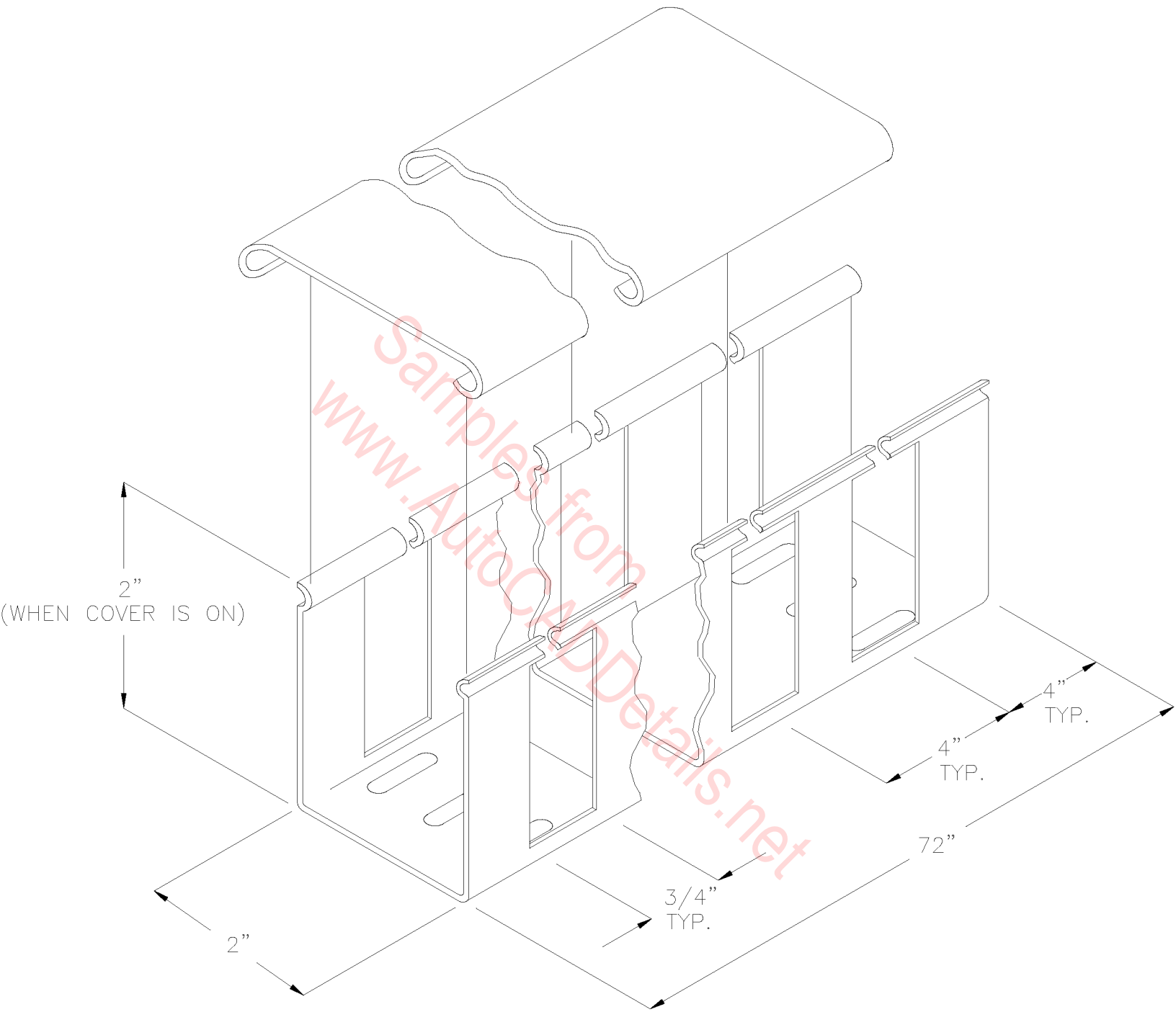
OPTIONAL WIDTH	OPTIONAL HEIGHT
5"	5"
6"	5"
10"	8"
12"	8"
15"	8"
18"	8"
22"	8"
24"	8"
30"	8"
36"	8"

TABLE "B"

FOR CABLE RACK
5"
6"
10"
12"
15"
18"
22"
24"
30"
36"

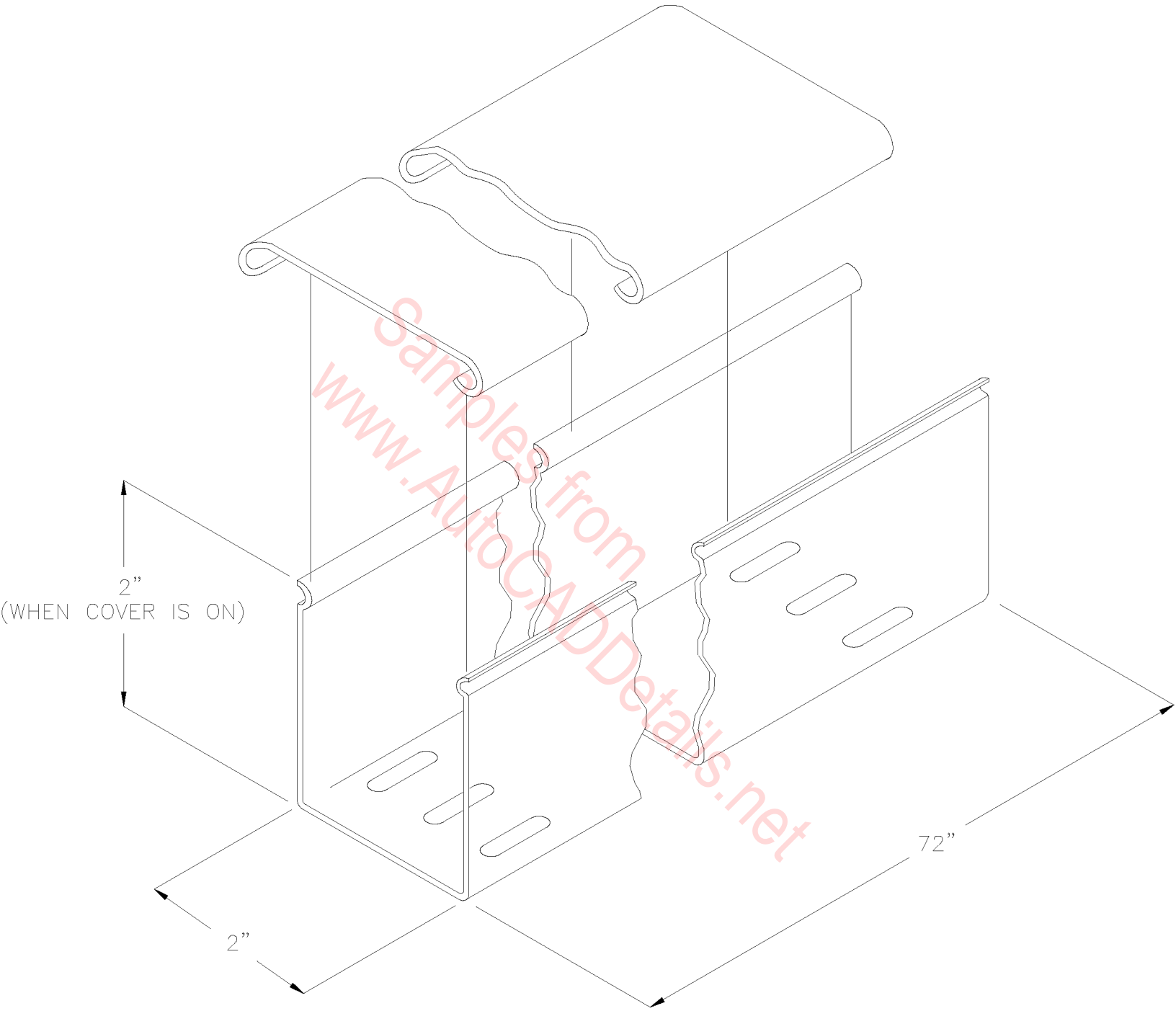
TROUGH TYPE CABLE TRAY

N.T.S.



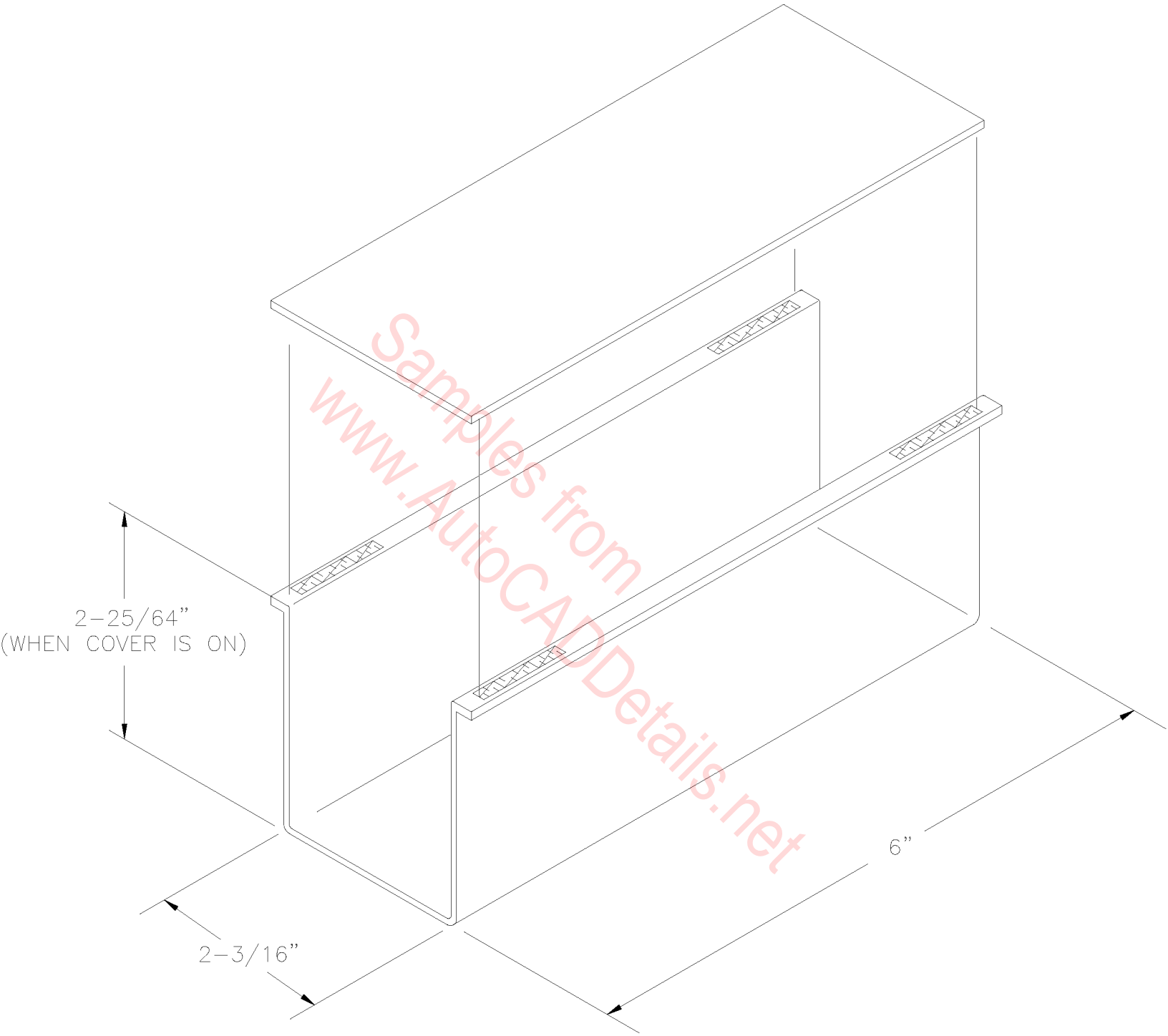
SLOTTED CHANNELING

N.T.S.



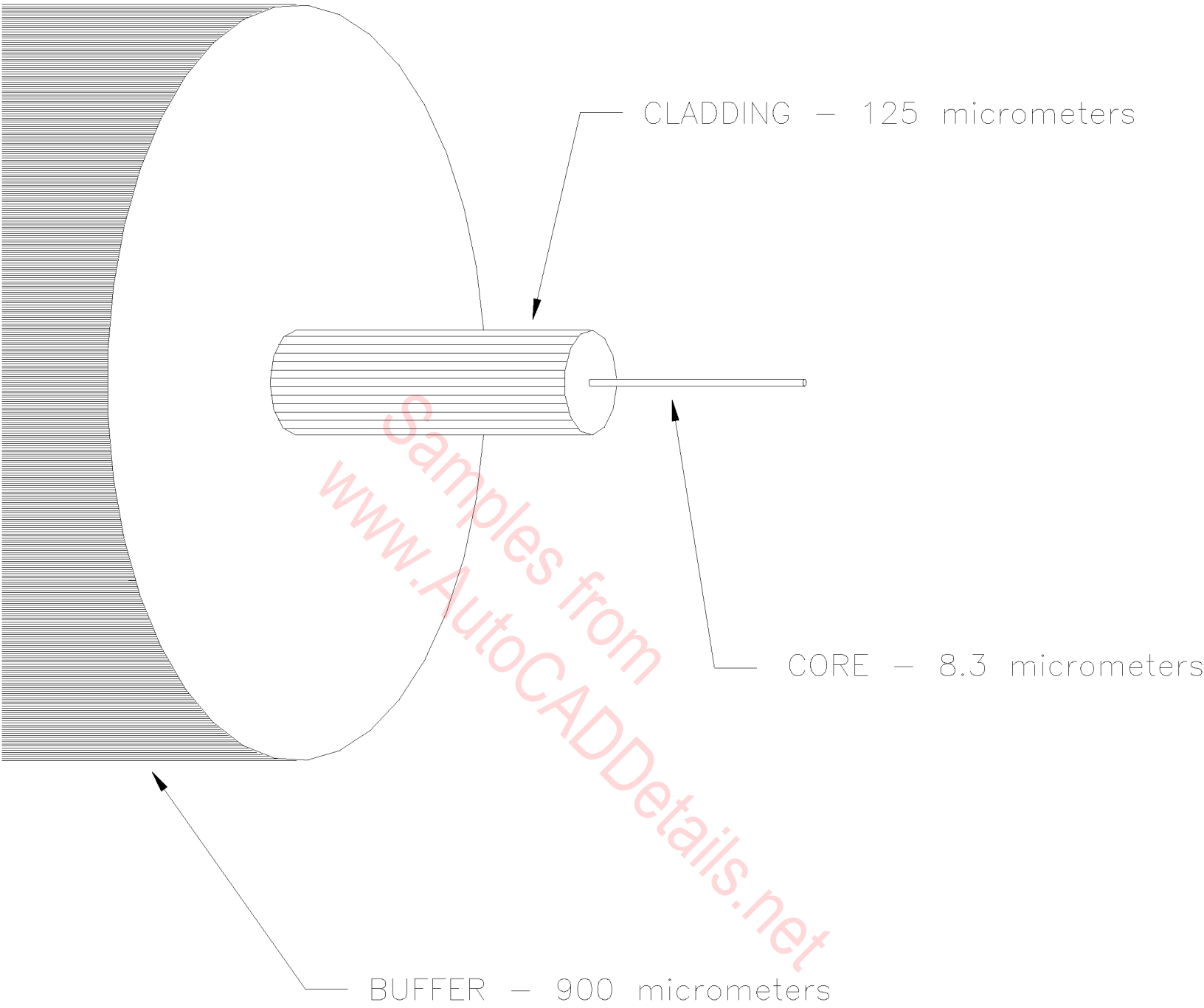
CLOSED CHANNELING

N.T.S.



CHANNEL SPLICE

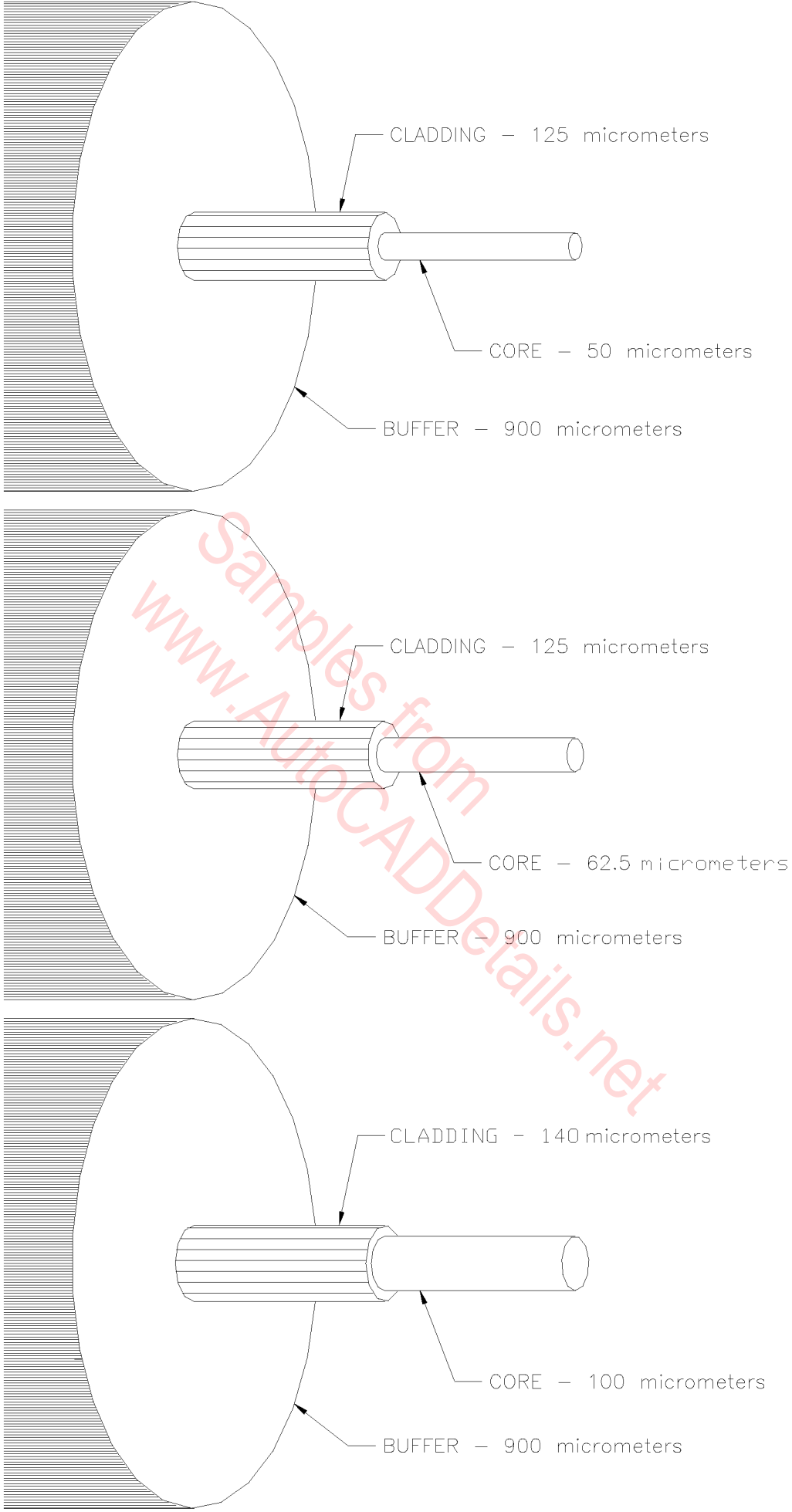
N.T.S.



NOTE: MINIMUM BEND RADIUS
LOADED – 5.0 cm
INSTALLED – 3.0 cm

SINGLE–MODE FIBER OPTIC

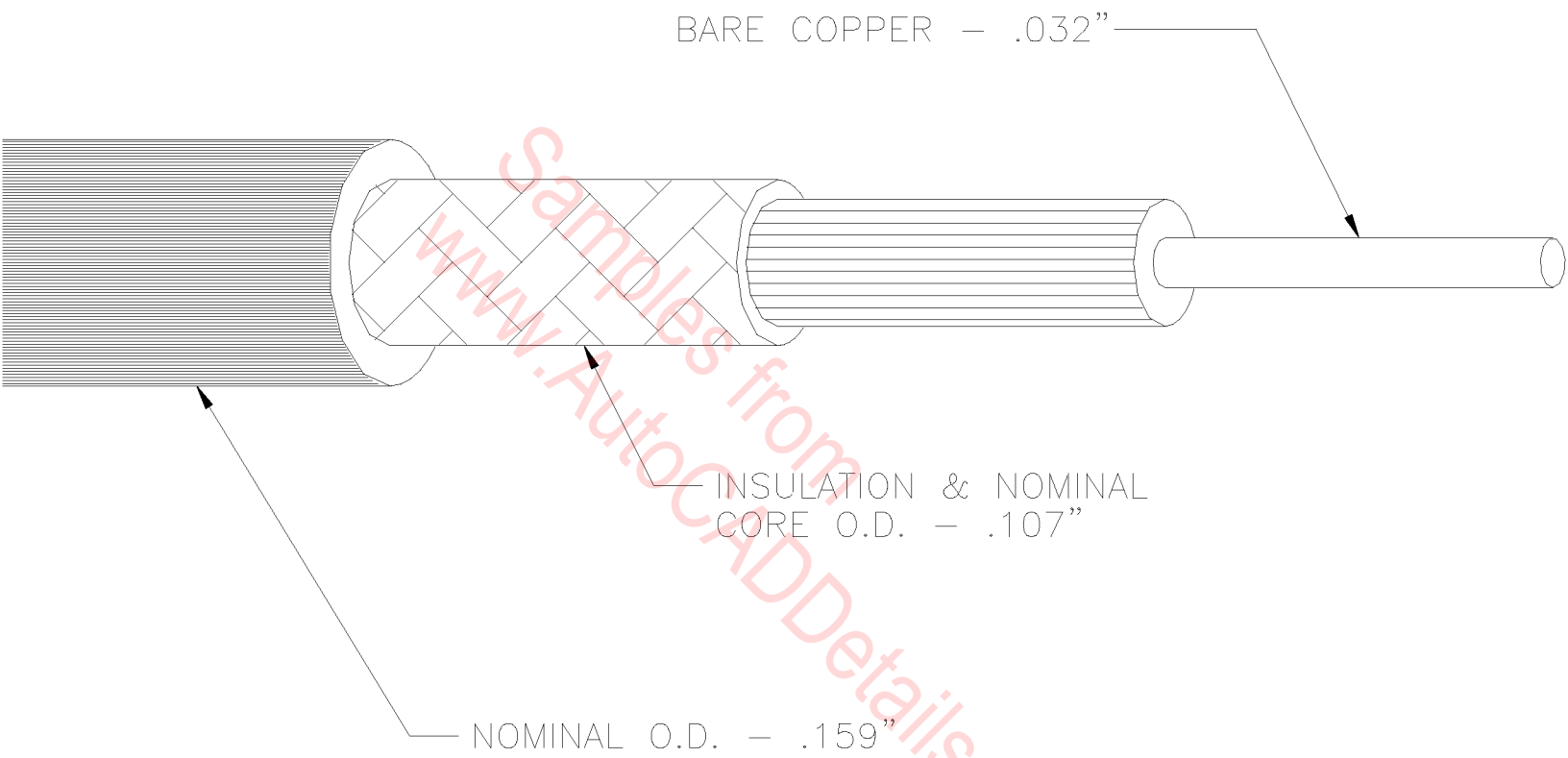
N. T. S.



MULTI–MODE FIBER OPTIC

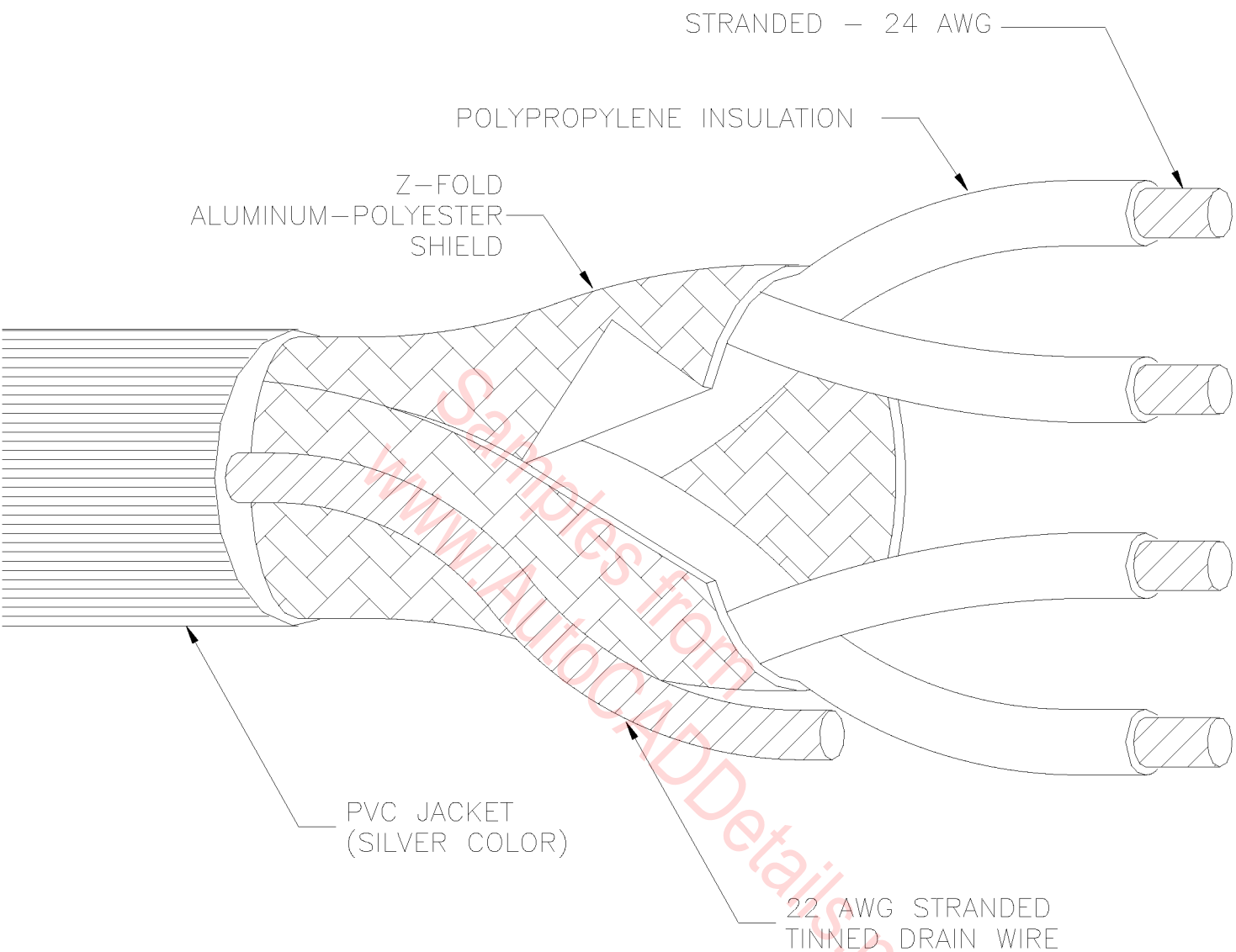
N. T. S.

NOTE: MINIMUM BEND RADIUS
LOADED – 5.0 cm
INSTALLED – 3.0 cm



COAXIAL CABLE RG-58/U

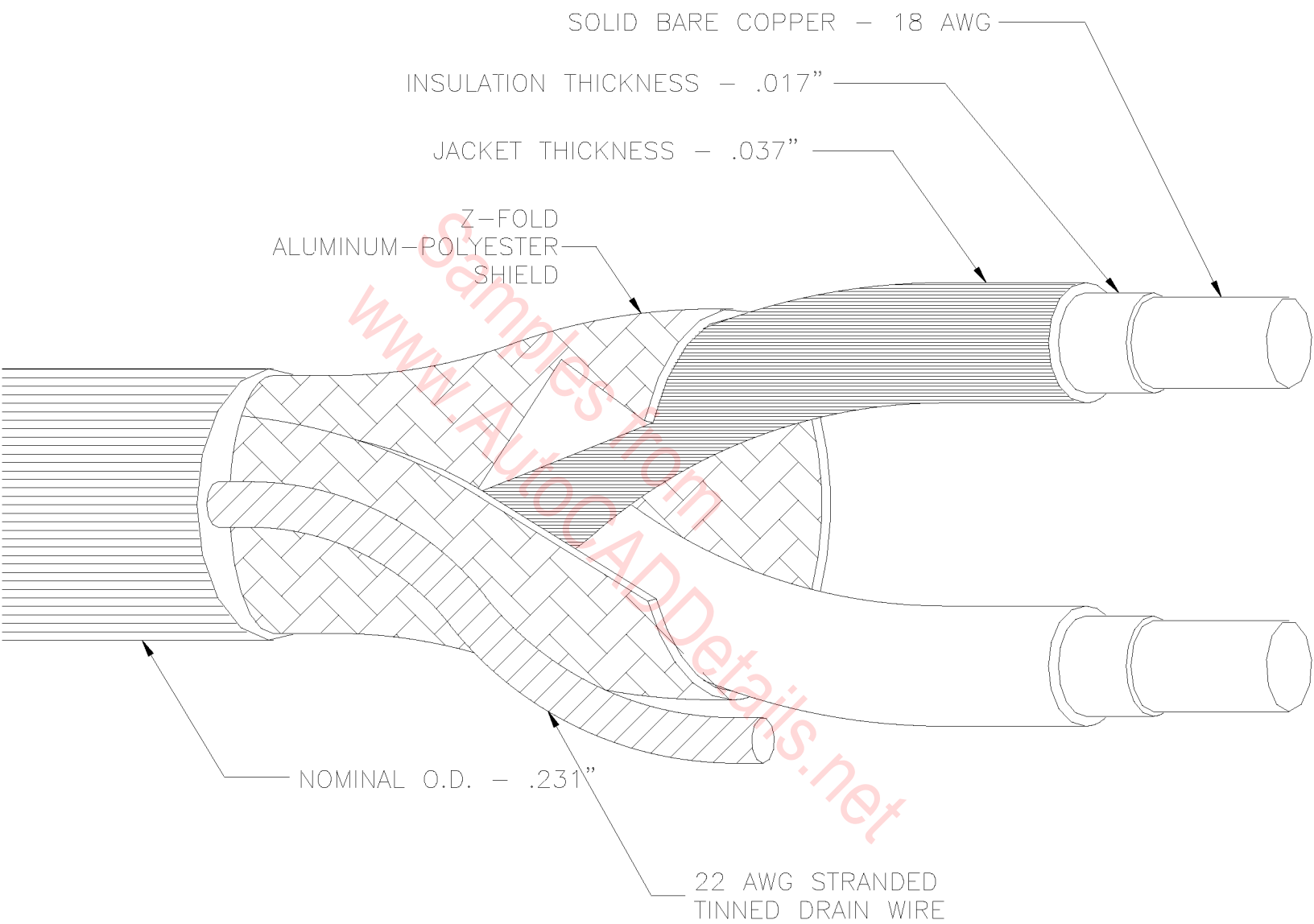
N. T. S.



TYPE	NO. OF CONDUCTORS	WIRE ORDER
RJ–11	4	YELLOW, GREEN, RED, BLACK
RJ–12	6	BLUE, YELLOW, GREEN, RED, BLACK, WHITE
RJ–45	8	BROWN, BLUE, YELLOW, GREEN, RED, BLACK, ORANGE, GRAY

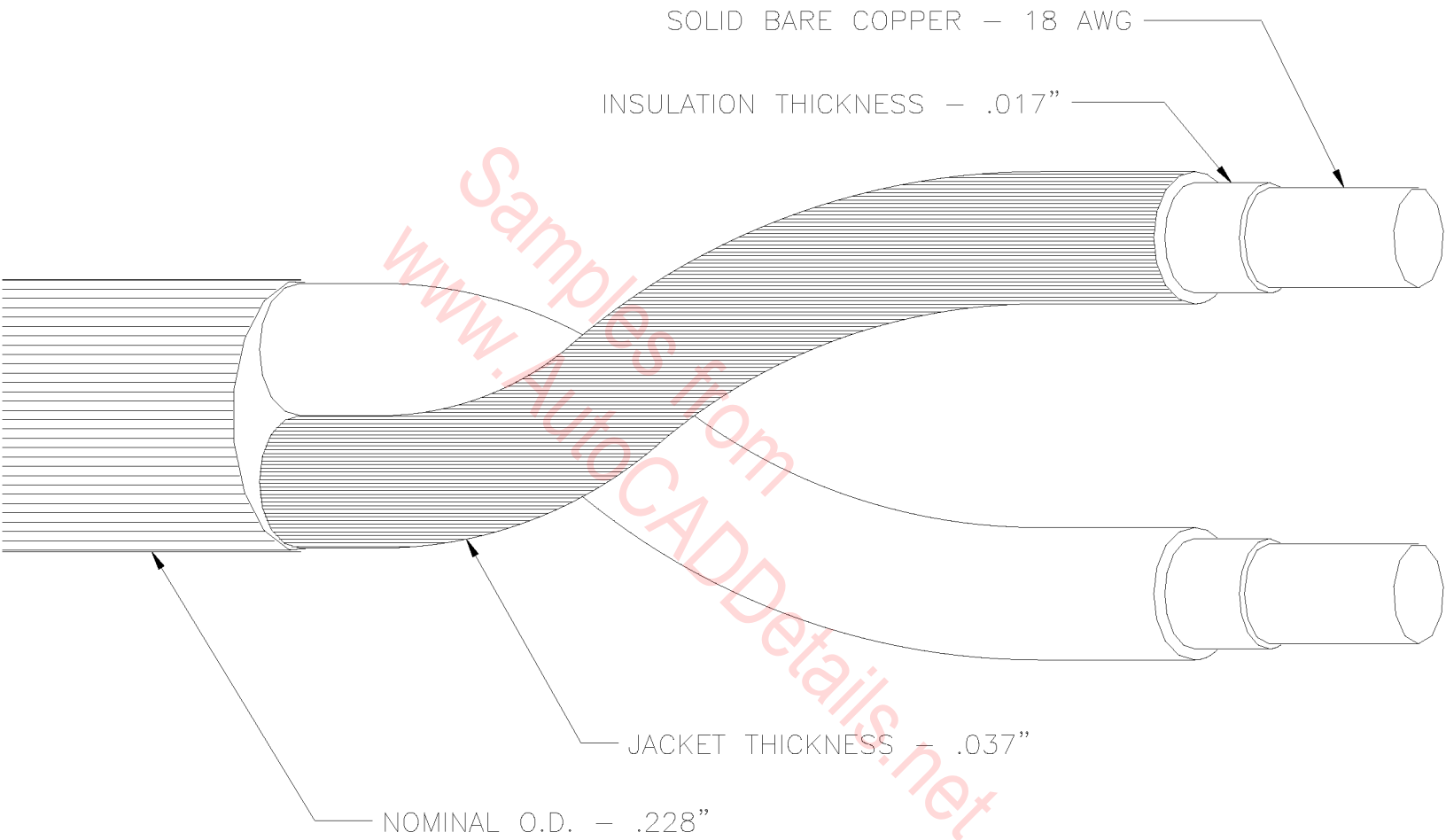
SHIELDED TELEPHONE/STATION CABLE

N. T. S.



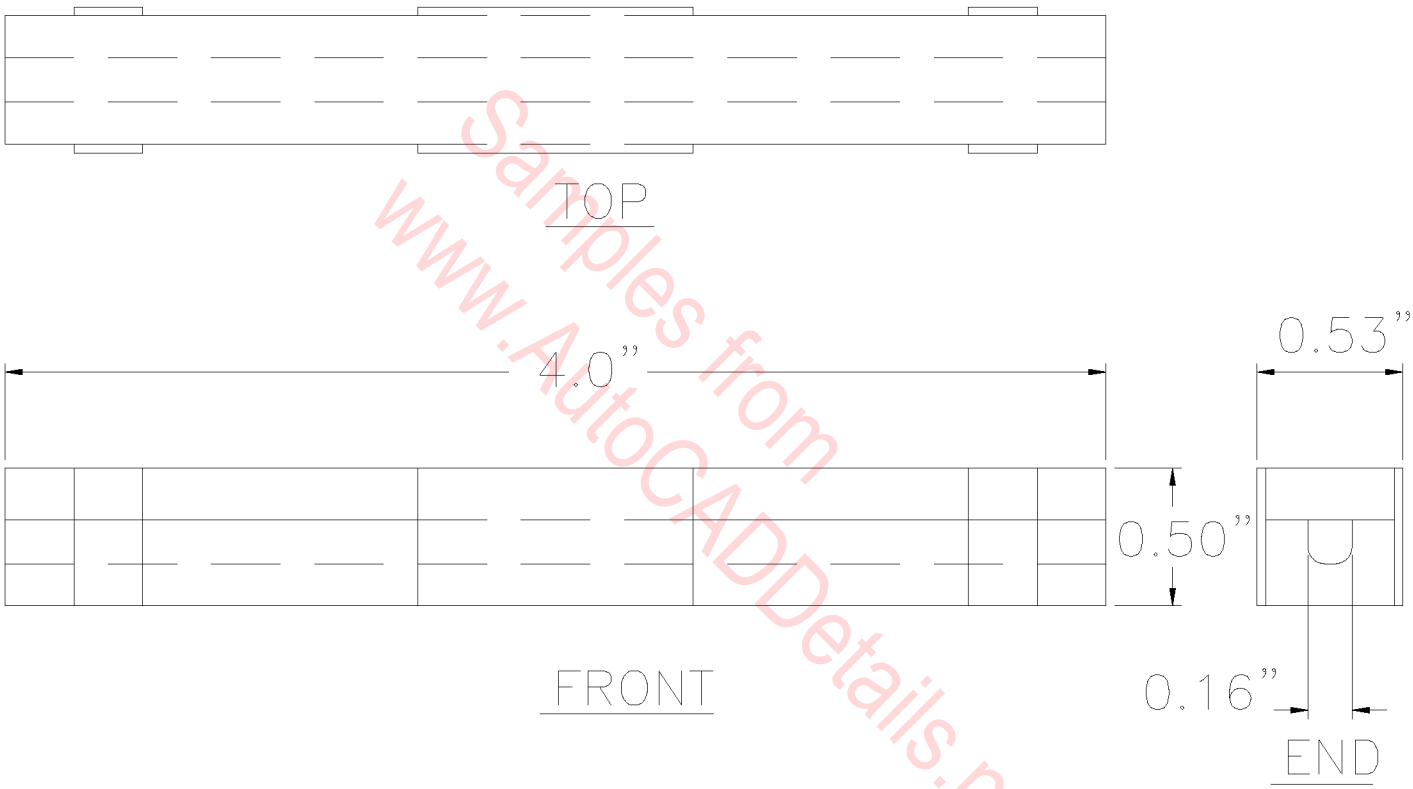
SHIELDED COPPER TWISTED PAIR

N. T. S.



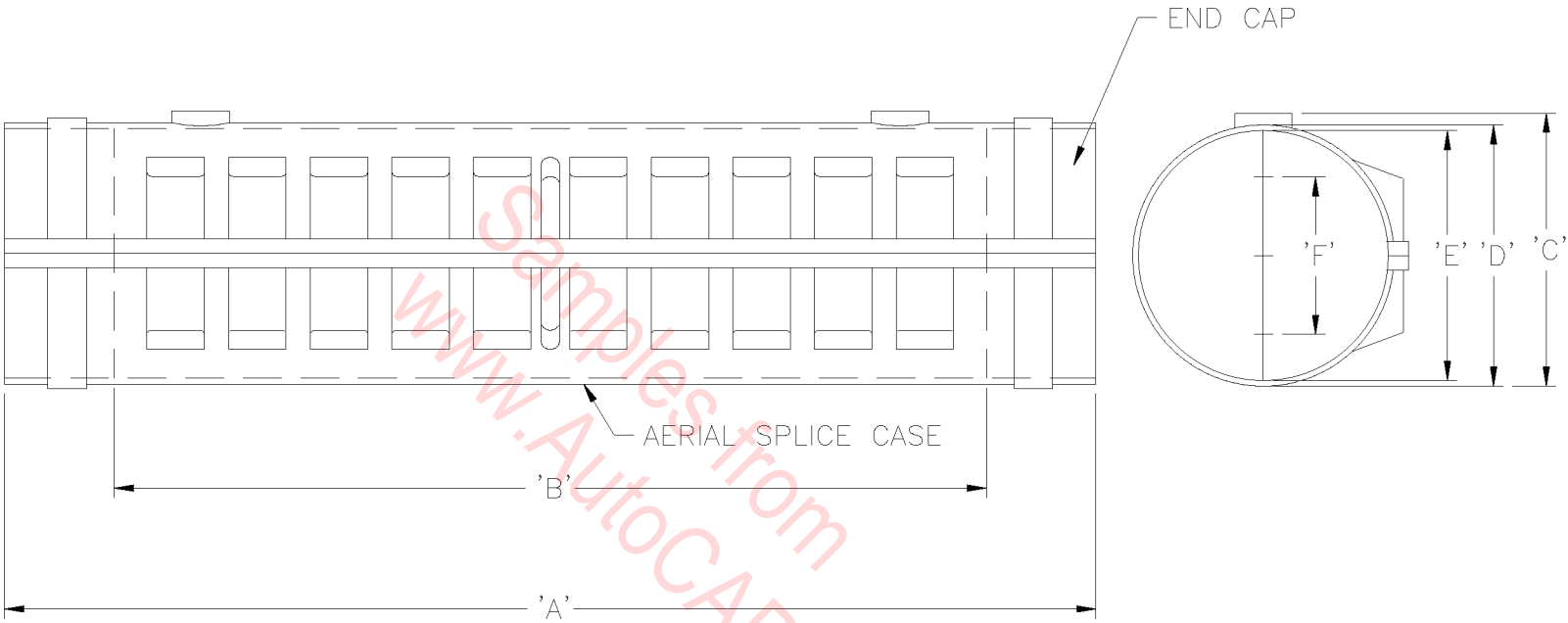
UNSHIELDED COPPER TWISTED PAIR

N. T. S.



FIBER OPTIC SPLICE HOUSING

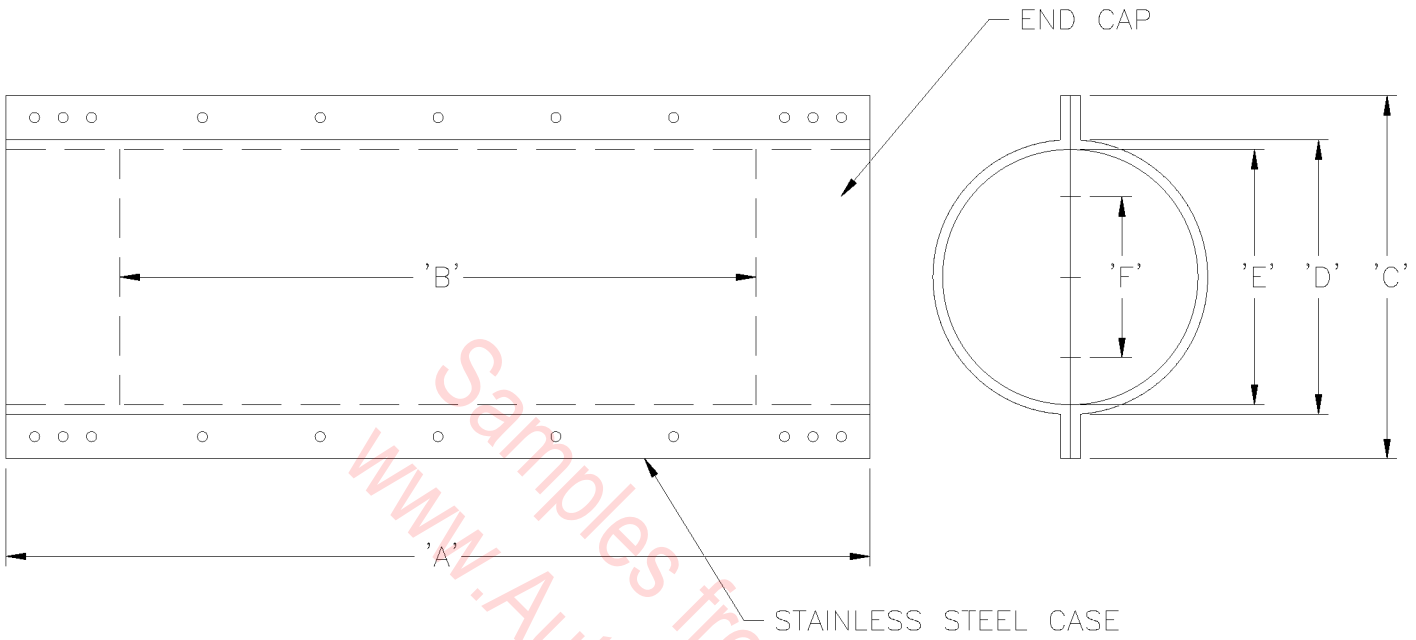
FULL SIZE



SPLICE CASE DIMENSION	'A'	'B'	'C'	'D'	'E'	'F'
3.0"x25.8'(7.62x65.53)	25.8"(65.53)	20.3"(51.56)	3.6"(9.14)	3.5"(8.89)	3.0"(7.62)	1.06"(2.69)
4.0"x25.8"(10.16x65.53)	25.8"(65.53)	20.3"(51.56)	4.6"(11.68)	4.4"(11.18)	4.0"(10.16)	2.2"(5.59)
6.5"x28.4"(16.51x72.14)	28.4"(72.14)	22.7"(56.66)	7.1"(18.03)	6.8"(17.27)	6.5"(16.51)	4.1"(10.41)
9.5"x28.4"(24.13x72.14	28.4"(72.14)	21.7"(55.12)	10.1"(25.65)	9.8"(24.89)	9.5"(24.13)	7.1"(18.03)
6.5"x38.5"(16.51x97.79)	38.5"(97.79)	32.8"(83.31)	7.1"(18.03)	6.8"(17.27)	6.5"(16.51)	4.1"(10.41)
9.5"x38.5"(24.13x97.79)	38.5"(97.79)	31.8"(80.77)	10.1"(25.65)	9.8"(24.89)	9.5"(24.13)	7.1"(18.03)

AERIAL SPLICE CASE

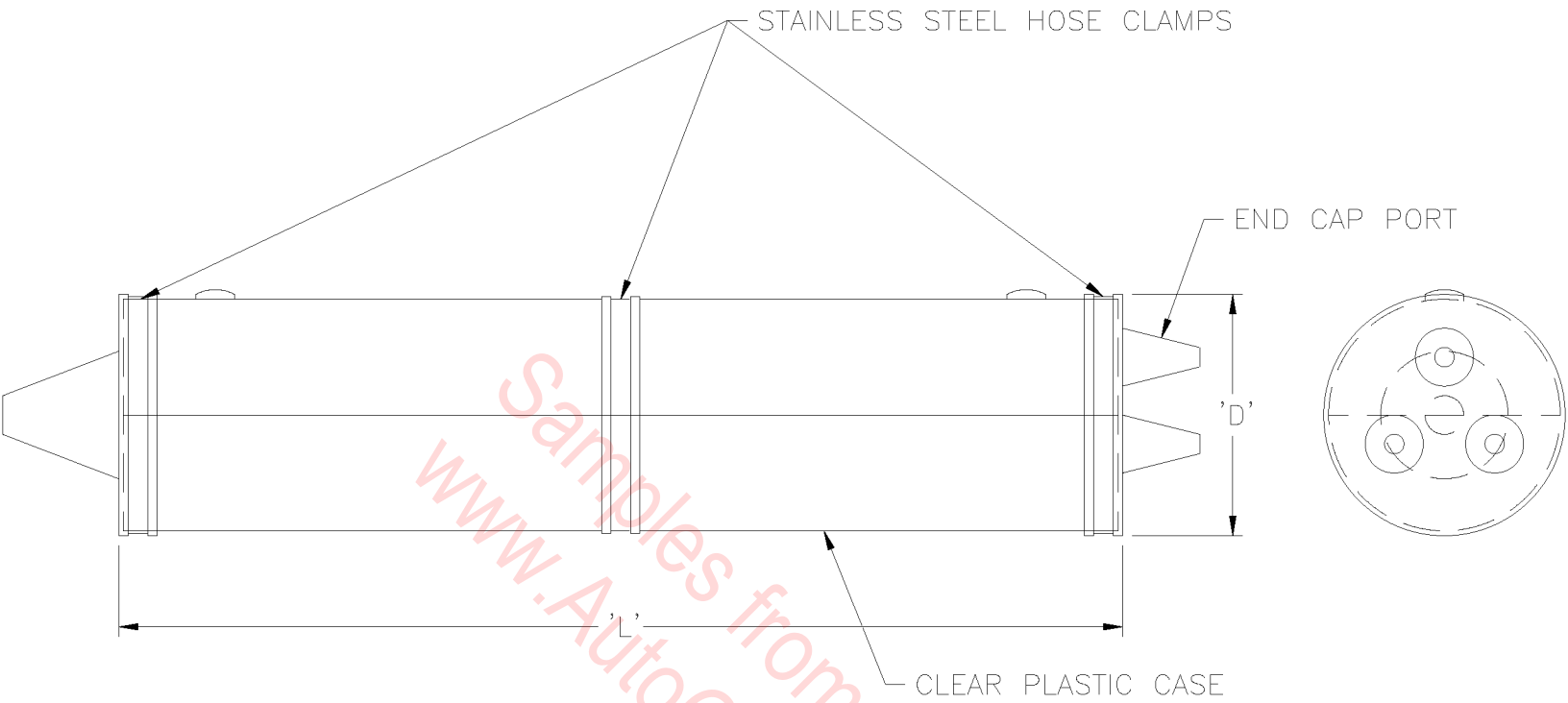
N. T. S.



SPLICE CASE DIMENSION	'A'	'B'	'C'	'D'	'E'	'F'
4.0"x25.8"(10.16x65.53)	25.8"(65.53)	20.3"(51.56)	6.0"(15.24)	4.5"(11.43)	4.0"(10.16)	2.2"(5.59)
6.5"x22.0"(16.51x55.88)	22.0"(55.88)	16.2"(41.15)	9.25"(23.50)	7.0"(17.78)	6.5"(16.51)	4.1"(10.41)
6.5"x28.4"(16.51x72.14)	28.4"(72.14)	22.7"(56.66)	9.25"(23.50)	7.0"(17.78)	6.5"(16.51)	4.1"(10.41)
8.0"x28.4"(20.32x72.14)	28.4"(72.14)	22.7"(56.66)	10.5"(26.67)	8.5"(21.59)	8.0"(20.32)	5.6"(14.22)
9.5"x28.4"(24.13x72.14)	28.4"(72.14)	21.6"(54.86)	12.5"(31.75)	10.0"(25.40)	9.5"(24.13)	7.1"(18.03)
12.5"x28.4"(31.75x72.14)	28.4"(72.14)	21.6"(54.86)	15.5"(39.37)	13.0"(33.02)	12.5"(31.75)	9.3"(23.62)
6.5"x38.4"(16.51x97.54)	38.4"(97.54)	32.7"(83.06)	9.25"(23.50)	7.0"(17.78)	6.5"(16.51)	4.1"(10.41)
8.0"x38.4"(20.32x97.54)	38.4"(97.54)	32.7"(83.06)	10.5"(26.67)	8.5"(21.59)	8.0"(20.32)	5.6"(14.22)
9.5"x38.4"(24.13x97.54)	38.4"(97.54)	31.6"(80.26)	12.5"(31.75)	10.0"(25.40)	9.5"(24.13)	7.1"(18.03)
12.5"x38.4"(31.75x97.54)	38.4"(97.54)	31.6"(80.26)	15.5"(39.37)	13.0"(33.02)	12.5"(31.75)	9.3"(23.62)
8.0"x45.2"(20.32x114.81)	45.2"(114.81)	39.7"(100.84)	10.5"(26.67)	8.5"(21.59)	8.0"(20.32)	5.6"(14.22)
9.5"x45.2"(24.13x114.81)	45.2"(114.81)	38.6"(98.04)	12.5"(31.75)	10.0"(25.40)	9.5"(24.13)	7.1"(18.03)
12.5"x45.2"(31.75x114.81)	45.2"(114.81)	38.6"(98.04)	15.5"(39.37)	13.0"(33.02)	12.5"(31.75)	9.3"(23.62)
12.5"x65"(31.75x165.10)	65"(165.10)	58.4"(148.34)	15.5"(39.37)	13.0"(33.02)	12.5"(31.75)	9.3"(23.62)

STAINLESS STEEL SPLICE CASE

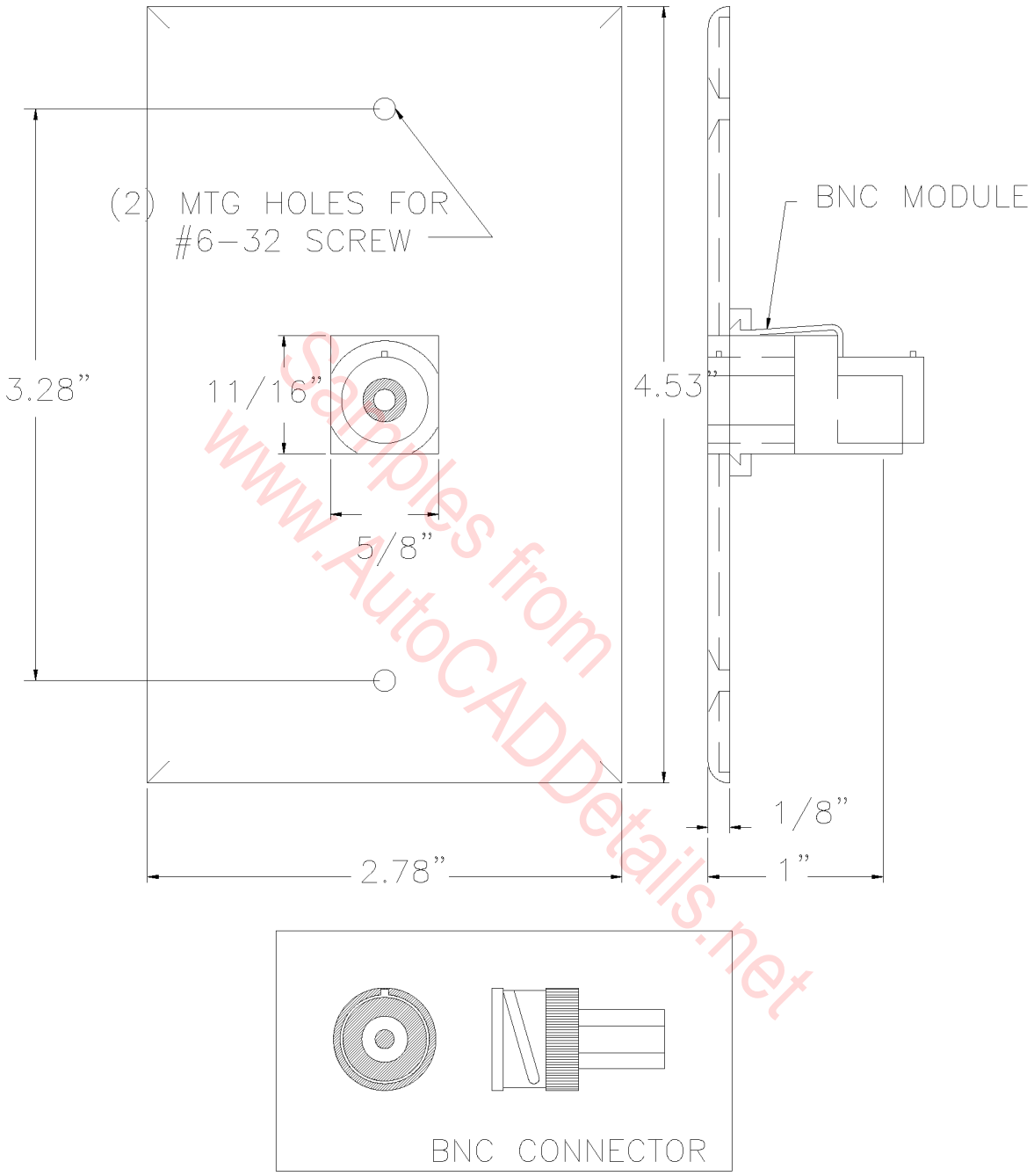
N. T. S.



SPLICE SIZE (D X L)		END CAP PORT DIAMETERS								MAXIMUM SPLICE OPENINGS SINGLE SHEATH	
		SINGLE ENTRY MAX. DIA.		MULTIPLE ENTRY MAX. DIA.							
				1		2		3			
INCHES	MILLIMETERS	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
2" x 12"	50 x 305 mm	1.2	30	1.0	25	1.0	25	–	–	5	125
2" x 24"	50 x 610 mm	1.2	30	1.2	30	0.7	18	–	–	17	430
3" x 24"	75 x 610 mm	1.6	41	1.6	41	1.0	25	–	–	17	430
4" x 24"	100 x 610 mm	2.0	51	2.0	51	1.5	38	–	–	17	430
5" x 26"	125 x 660 mm	2.4	61	2.4	61	1.8	46	–	–	19	480
6" x 26"	150 x 660 mm	3.3	84	2.7	68	2.0	50	1.5	40	19	480
7" x 26"	175 x 660 mm	3.6	92	3.1	78	2.4	60	2.0	50	19	480
9" x 26"	225 x 660 mm	3.8	97	3.8	97	3.1	78	2.4	60	19	480

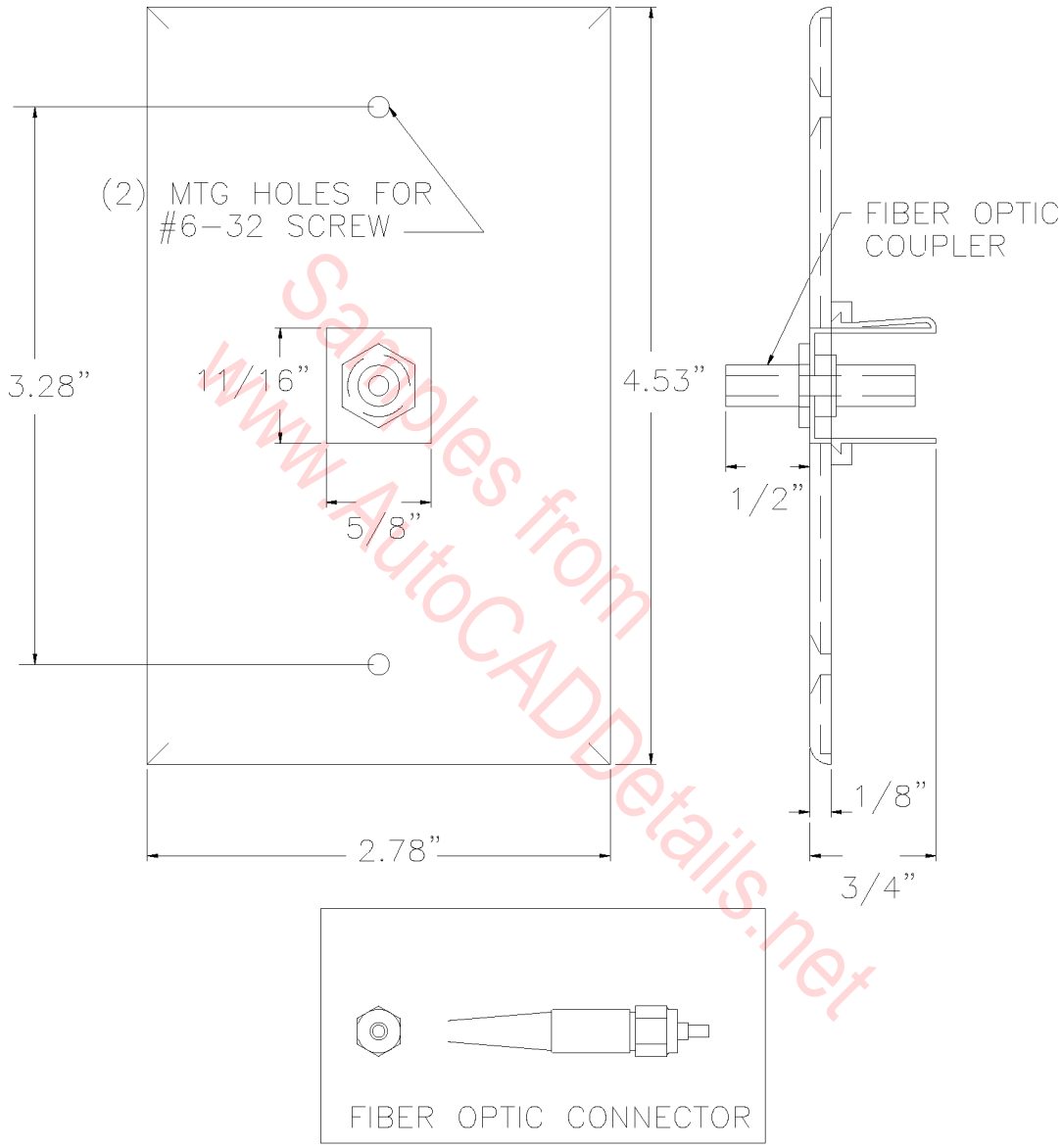
CLEAR PLASTIC SPLICE CASE

N. T. S.



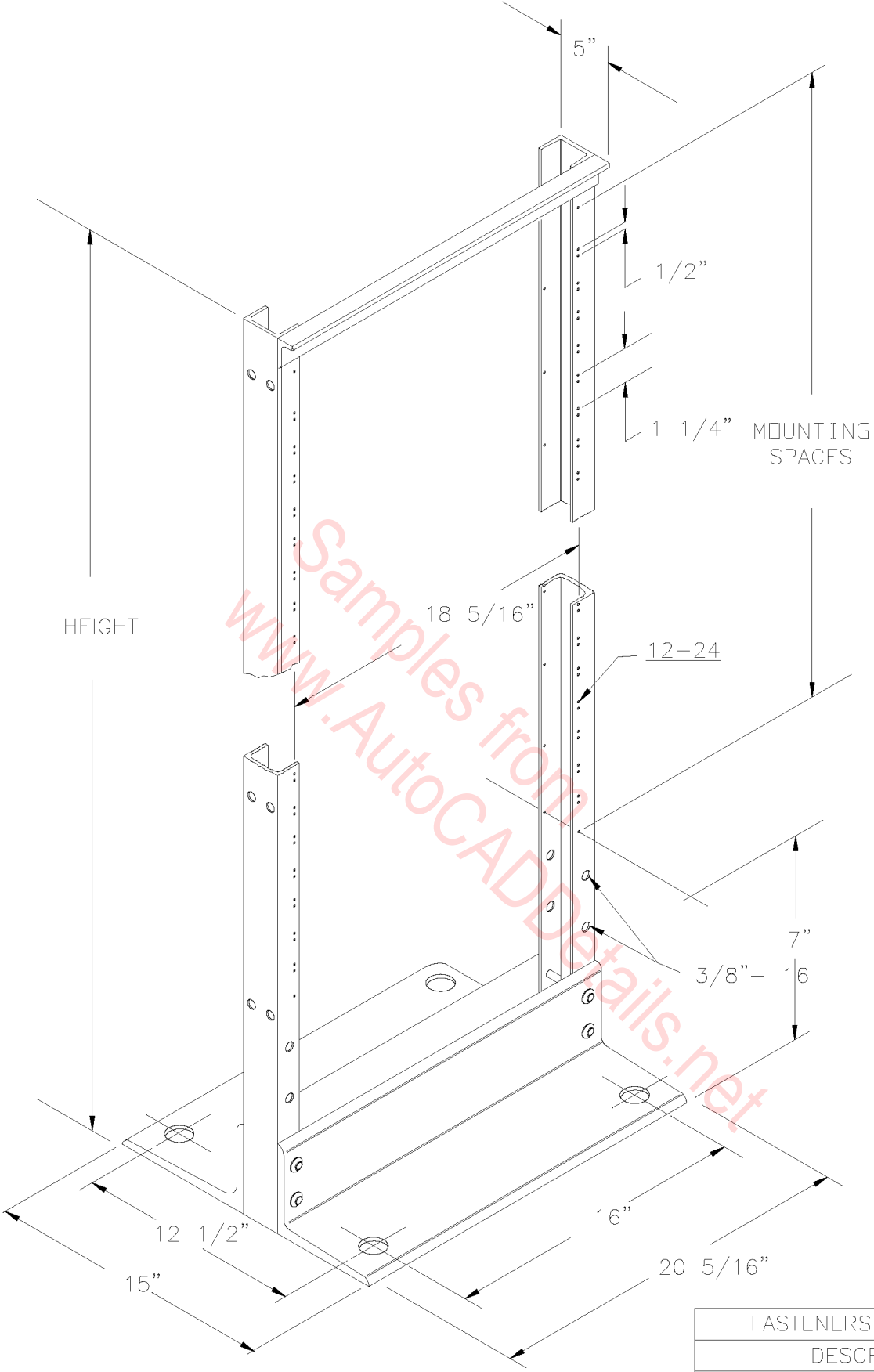
BNC WALL PLATE JACK AND CONNECTOR

FULL SIZE



FIBER OPTIC WALL PLATE JACK AND CONNECTOR

FULL SIZE

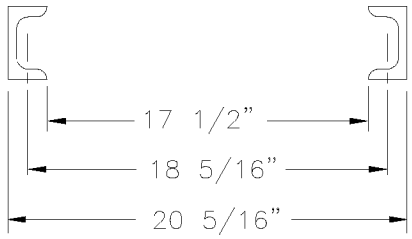


FASTENERS SUPPLIED	
DESCRIPTION	
5/16"-18 x 4 1/2"	H.H.C.S.
5/16"-18 x 1"	F.H.M.S.
5/16"-18	HEX NUT
5/16"	FLATWASHER
5/16"	LOCKWASHER

SINGLE SIDED EQUIPMENT RACK

N.T.S.

BOLTED EQUIPMENT RACK WITH CHANNEL UPRIGHT
DOUBLE SIDE DRILLED, FLOOR SUPPORTED
STEEL AND ALUMINUM



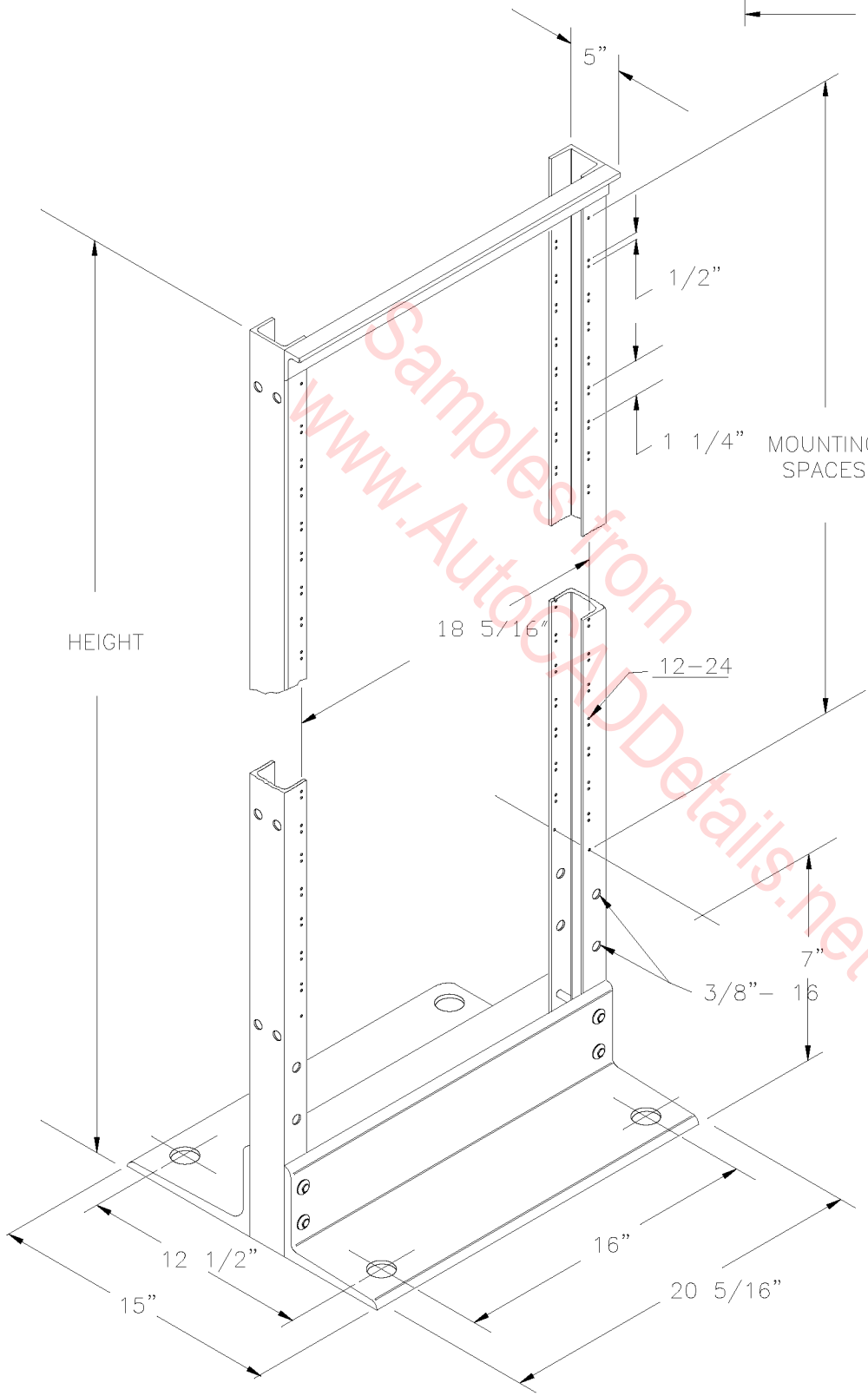


TABLE "A" (STEEL)

HEIGHT	MOUNTINGS FRONT & REAR
7'-0"	42
7'-6"	46
8'-0"	49
9'-0"	56
11'-6"	73
11'-8"	74

TABLE "B" (ALUMINUM)

HEIGHT	MOUNTINGS FRONT & REAR
7'-0"	42
7'-6"	46
8'-0"	49
9'-0"	56
11'-6"	73
11'-8"	74

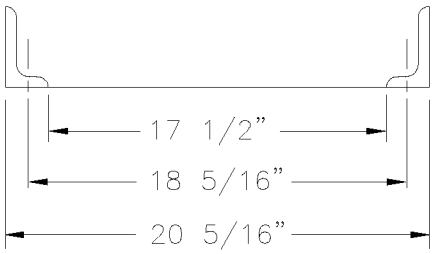
FASTENERS SUPPLIED

DESCRIPTION
5/16"-18 x 4 1/2" H.H.C.S.
5/16"-18 x 1" F.H.M.S.
5/16"-18 HEX NUT
5/16" FLATWASHER
5/16" LOCKWASHER

DOUBLE SIDED EQUIPMENT RACK

N.T.S.

WELDED RELAY RACK WITH ANGLE UPRIGHTS



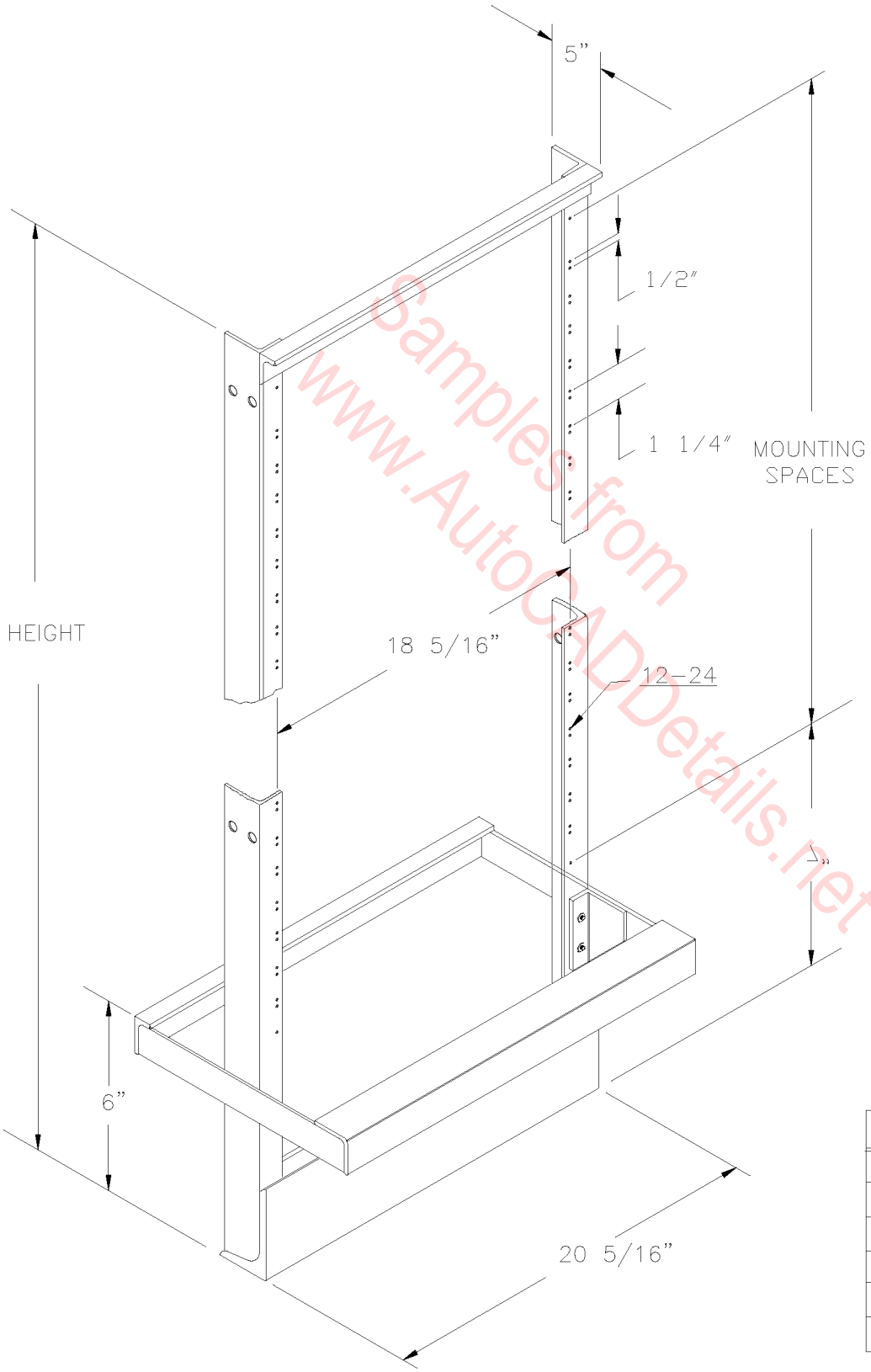
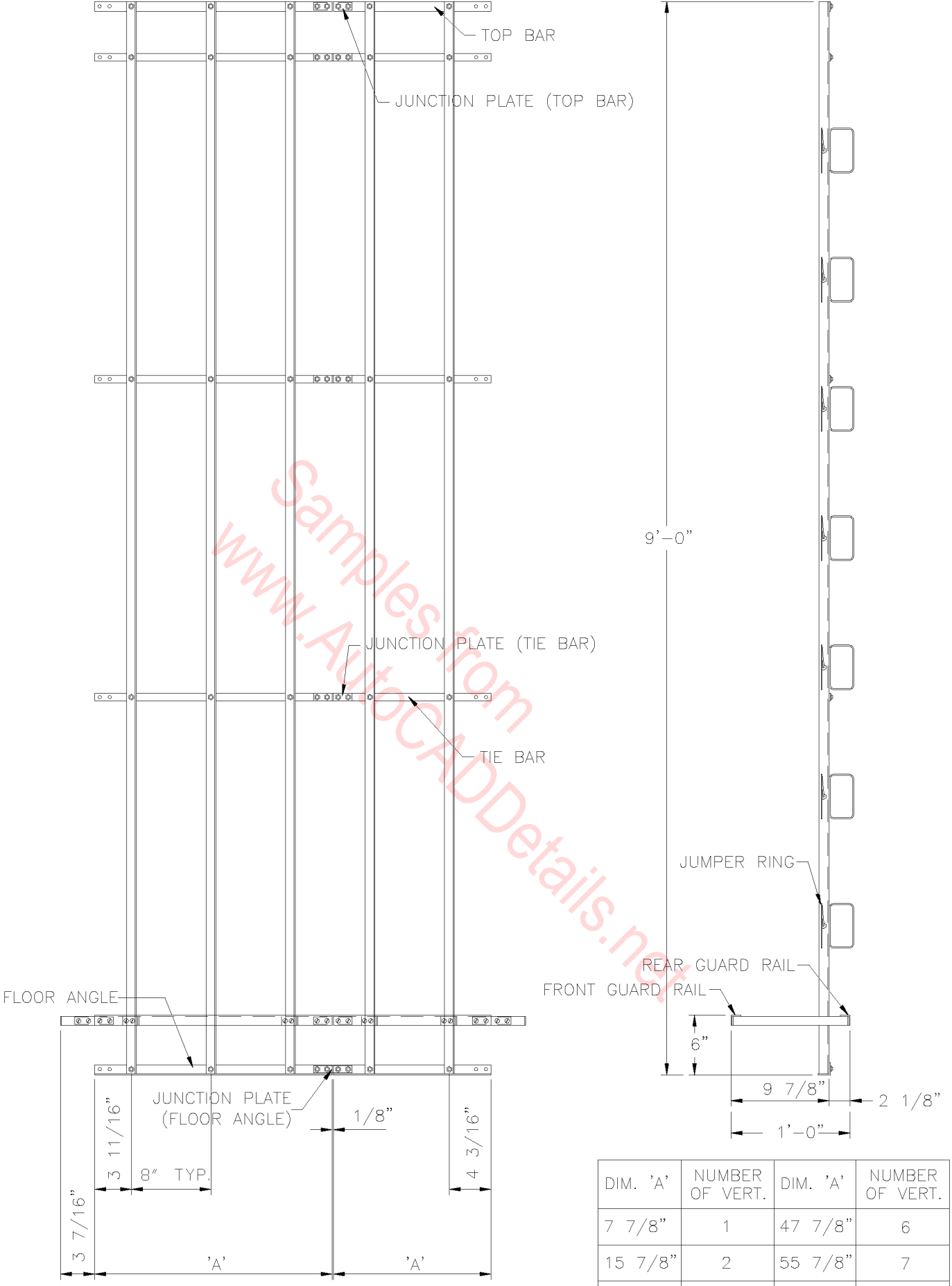


TABLE "A"

HEIGHT	MOUNTINGS
7'-0"	42
7'-6"	46
8'-0"	49
9'-0"	56
11'-6"	73
11'-8"	74

RELAY RACKS

N.T.S.

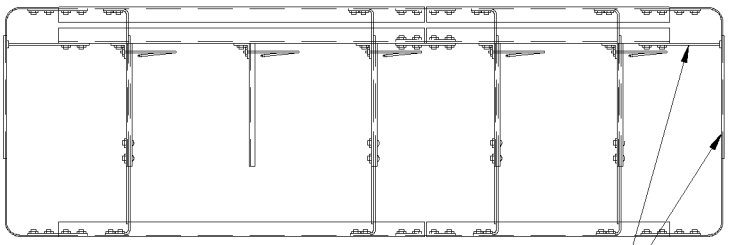


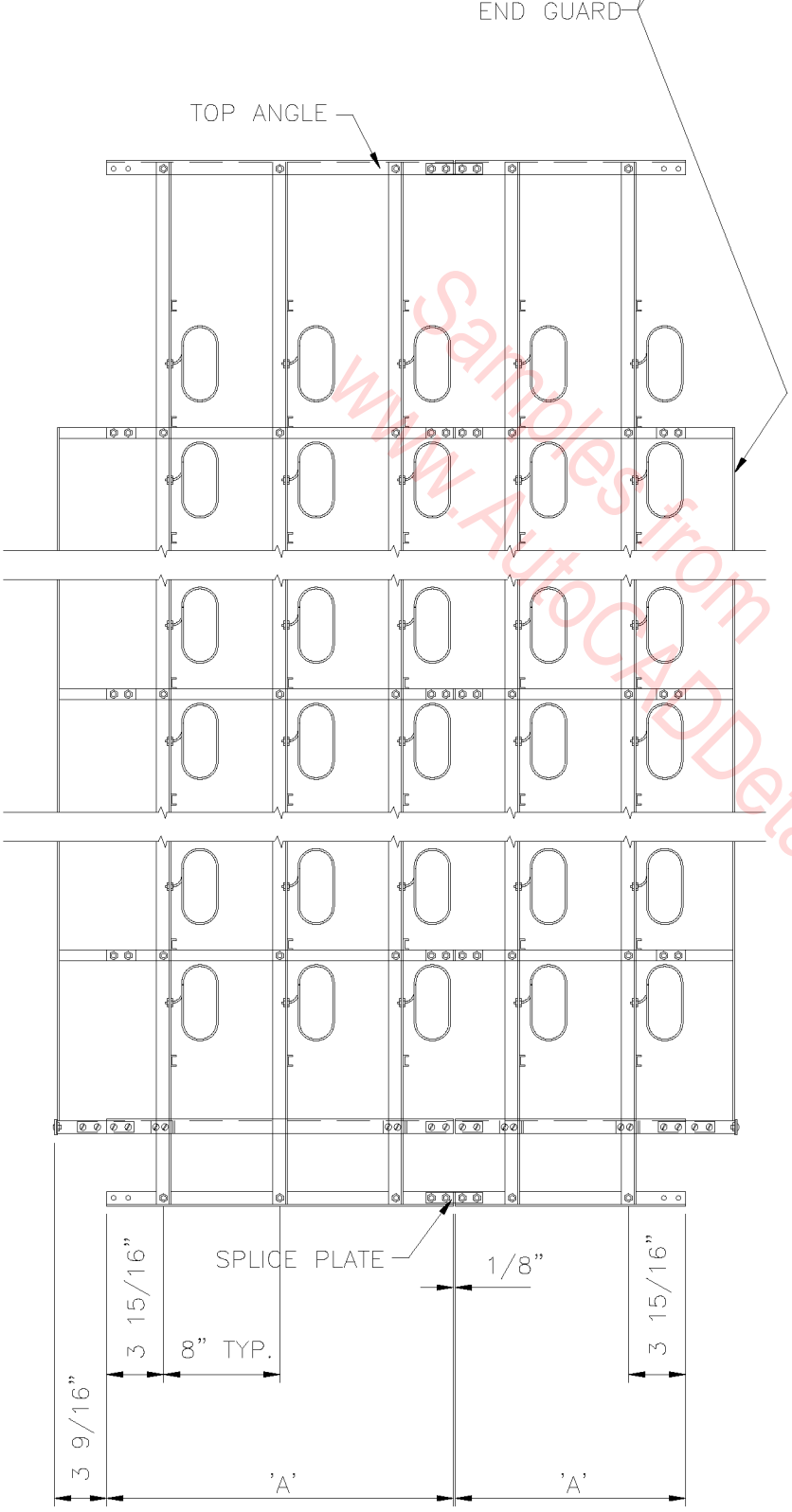
DIM. 'A'	NUMBER OF VERT.	DIM. 'A'	NUMBER OF VERT.
7 7/8"	1	47 7/8"	6
15 7/8"	2	55 7/8"	7
23 7/8"	3	63 7/8"	8
31 7/8"	4	71 7/8"	9
39 7/8"	5	79 7/8"	10

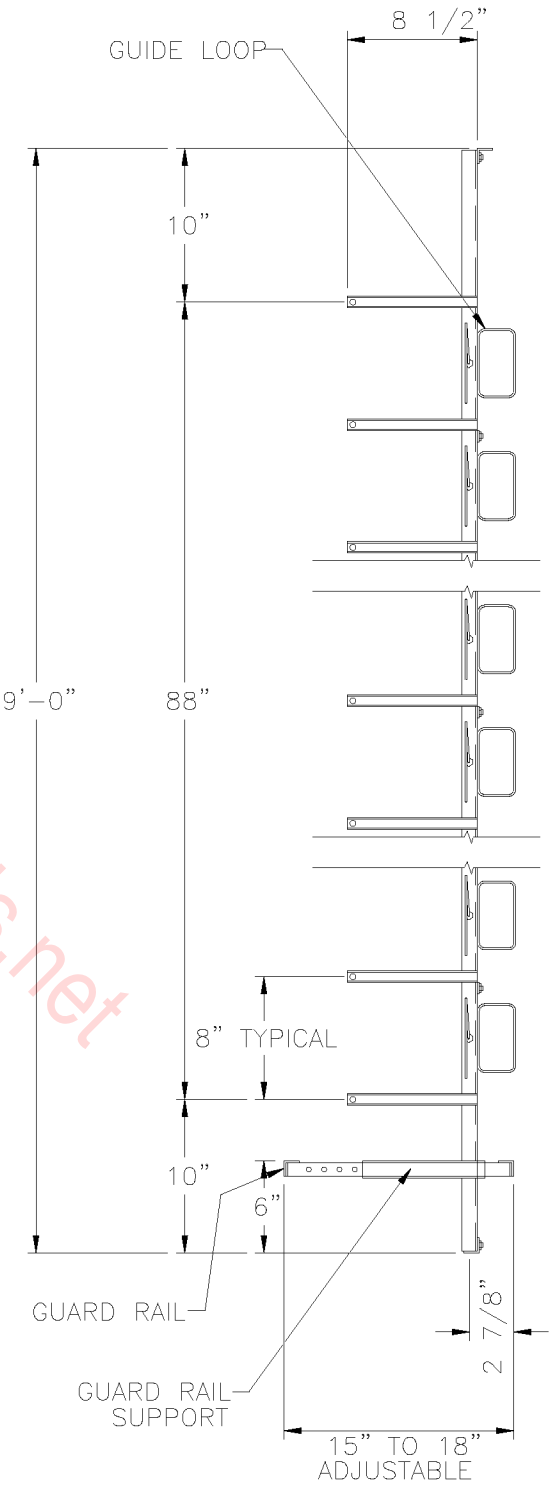
INTERMEDIATE DISTRIBUTING FRAME

N. T. S.

DIM. 'A'	NUMBER OF VERT.	DIM. 'A'	NUMBER OF VERT.
7 7/8"	1	47 7/8"	6
15 7/8"	2	55 7/8"	7
23 7/8"	3	63 7/8"	8
31 7/8"	4	71 7/8"	9
39 7/8"	5	79 7/8"	10

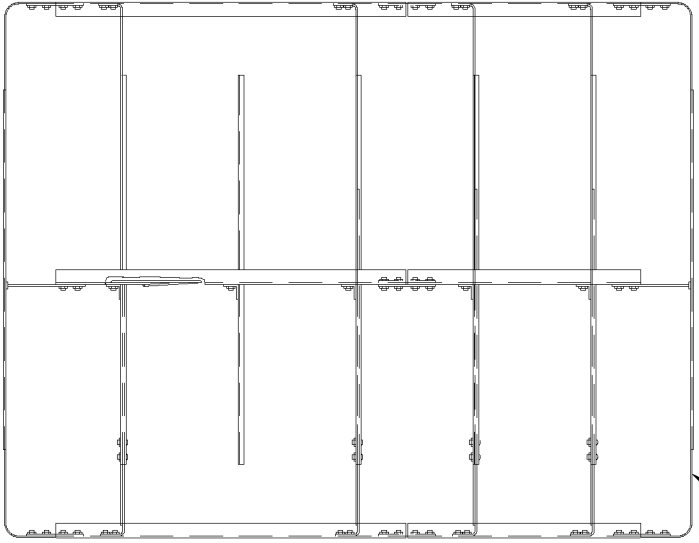






UNIVERSAL DISTRIBUTING FRAME (SINGLE SIDED)

N. T. S.

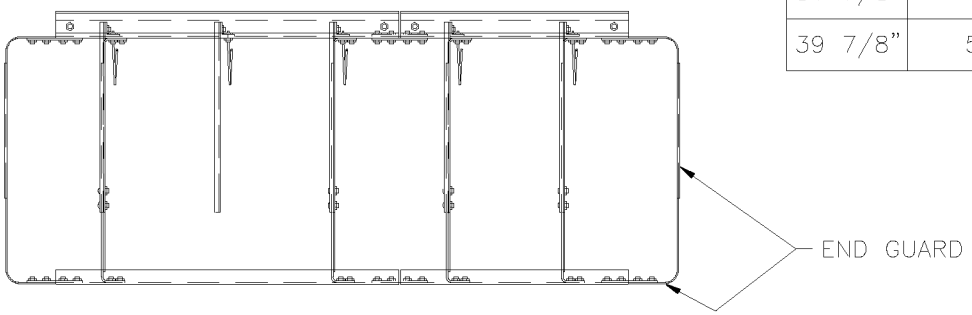


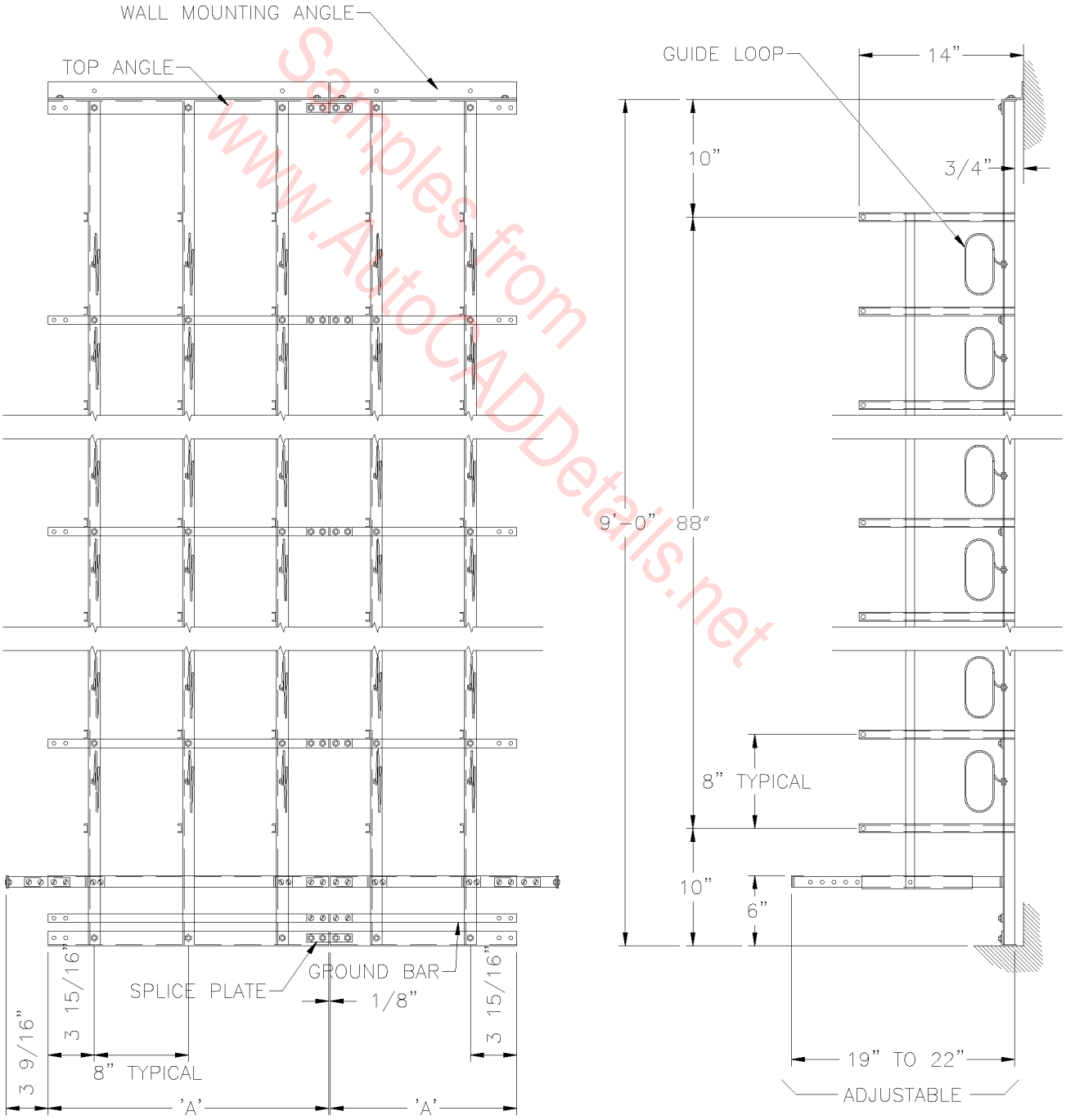
DIM. 'A'	NUMBER OF VERT.	DIM. 'A'	NUMBER OF VERT.
7 7/8"	1	47 7/8"	6
15 7/8"	2	55 7/8"	7
23 7/8"	3	63 7/8"	8
31 7/8"	4	71 7/8"	9
39 7/8"	5	79 7/8"	10

UNIVERSAL DISTRIBUTING FRAME (DOUBLE SIDED)

N. T. S.

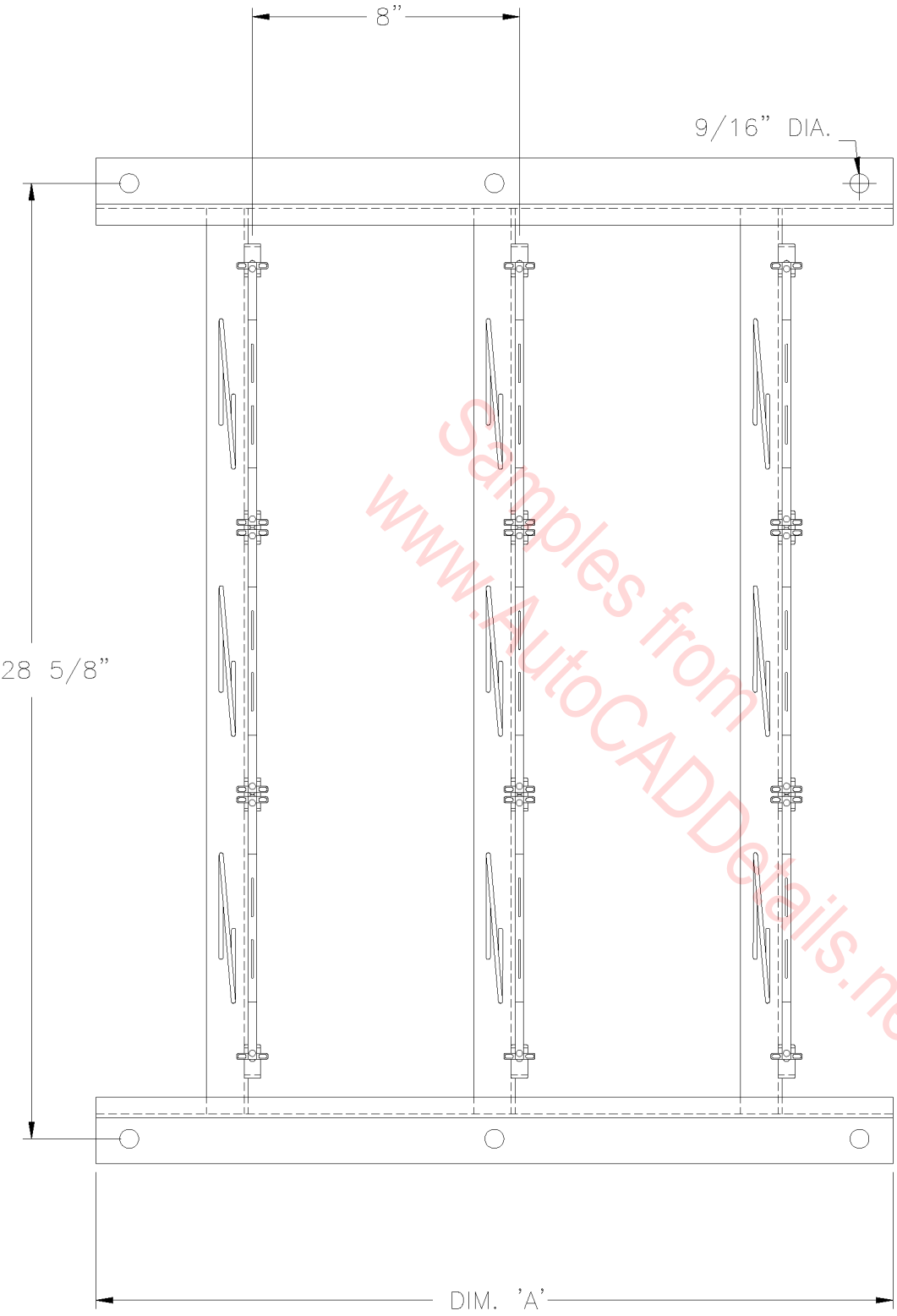
DIM. 'A'	NUMBER OF VERT.	DIM. 'A'	NUMBER OF VERT.
7 7/8"	1	47 7/8"	6
15 7/8"	2	55 7/8"	7
23 7/8"	3	63 7/8"	8
31 7/8"	4	71 7/8"	9
39 7/8"	5	79 7/8"	10

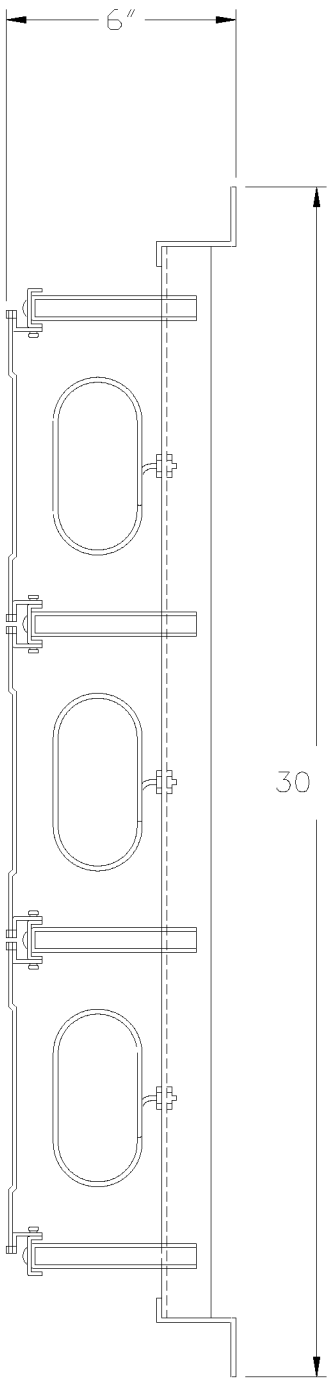




UNIVERSAL DISTRIBUTING FRAME (FLOOR WALL)

N. T. S.

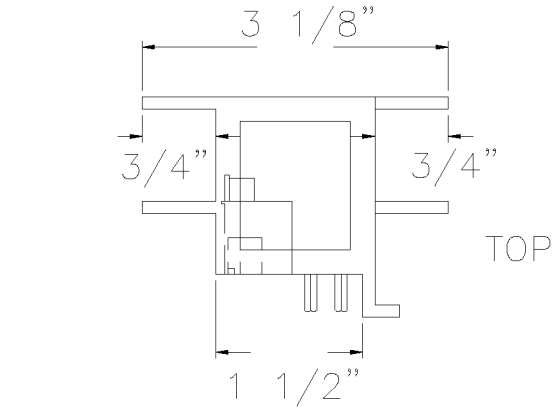


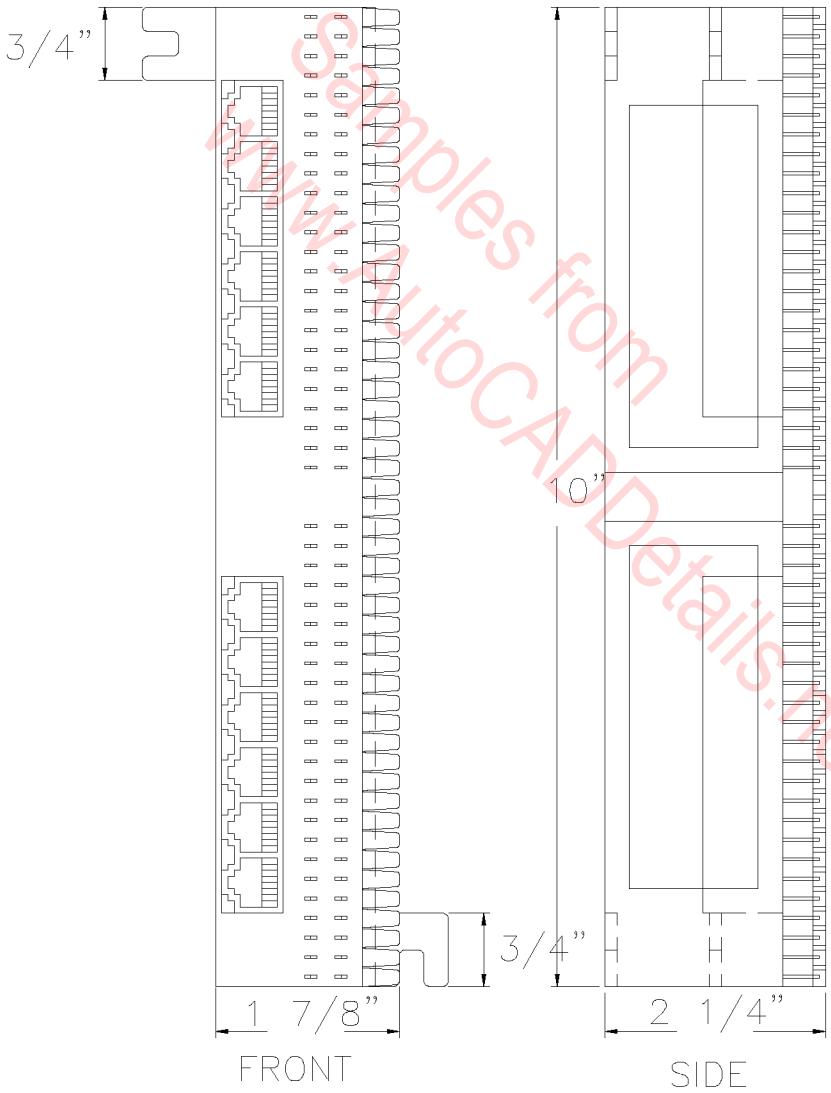


DIM. 'A'	NUMBER OF VERT.
7 7/8"	1
15 7/8"	2
23 7/8"	3

WALL FRAME

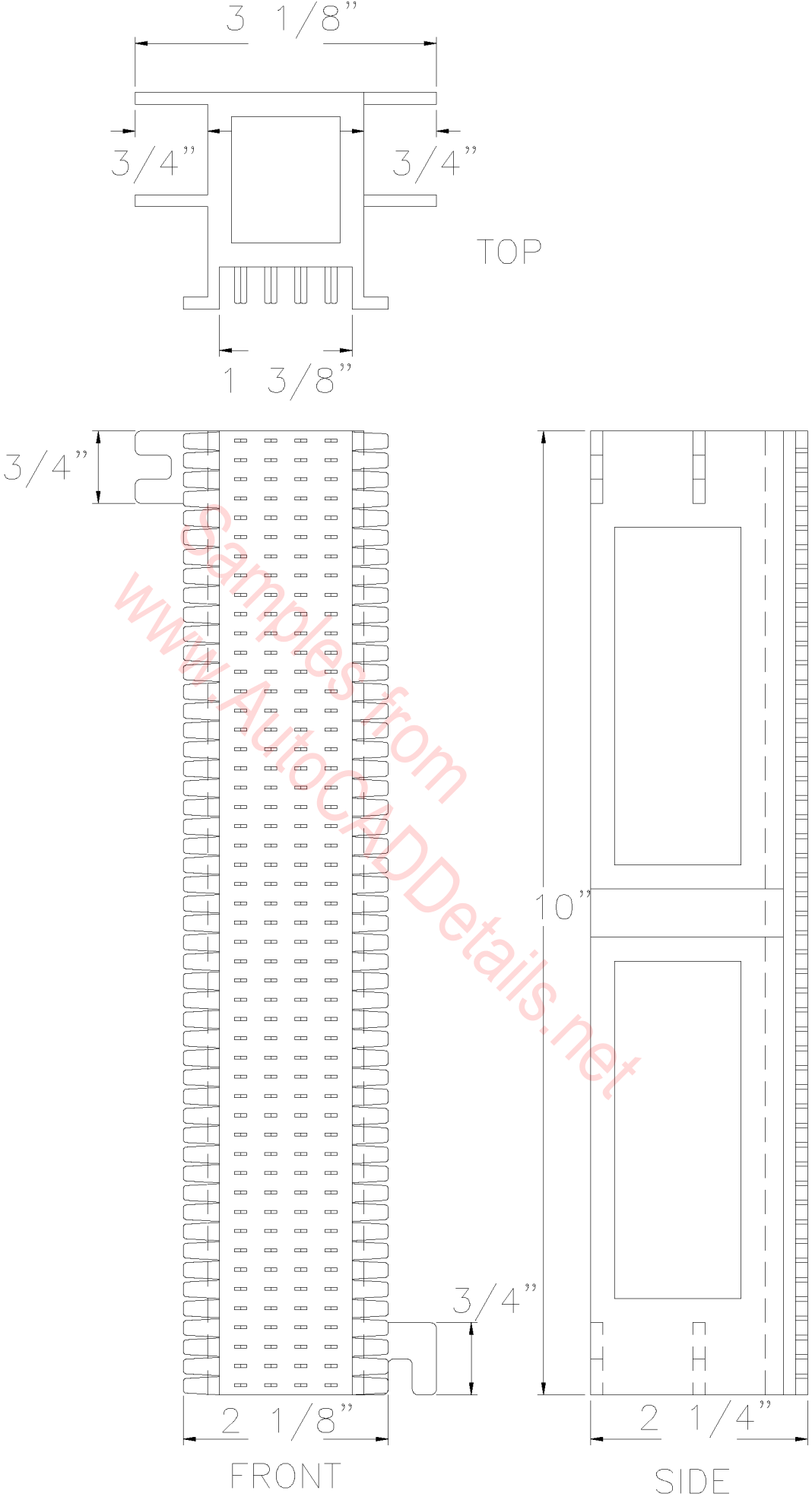
SCALE: 3" = 1'-0"





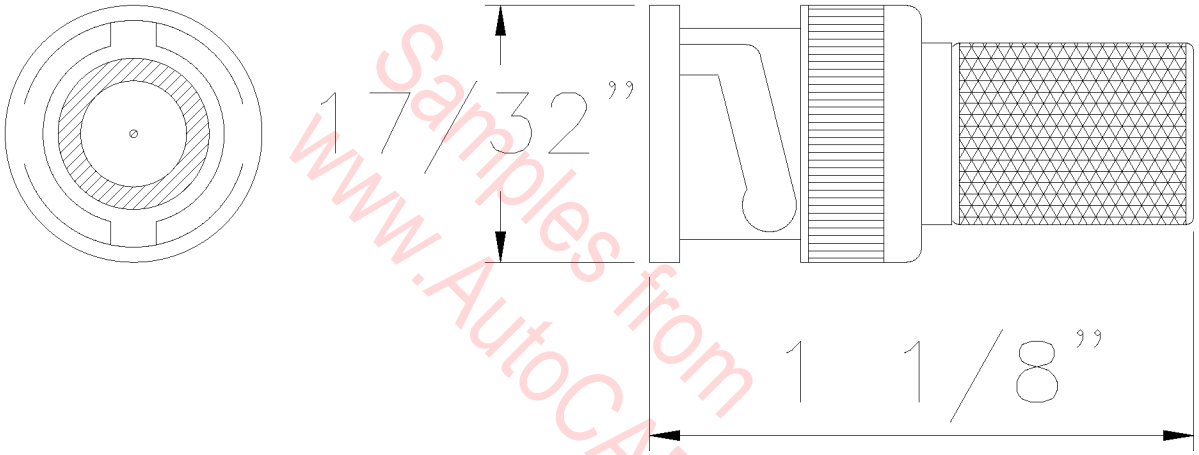
PRE-WIRED 66 BLOCK TO MODULAR JACK

SCALE: 6" = 1'-0"



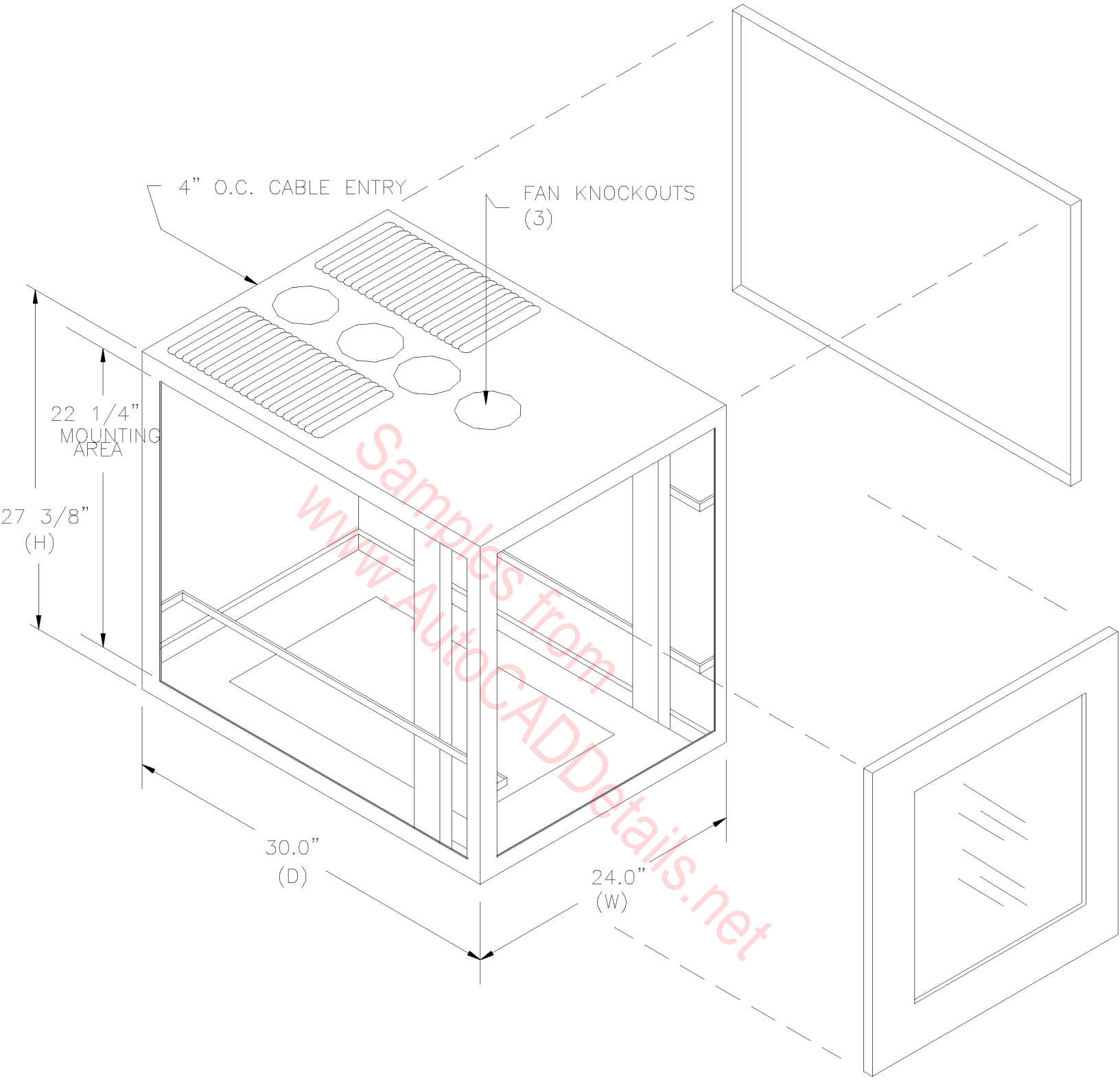
66 BLOCK

SCALE: 6" = 1'-0"



BNC TERMINATOR

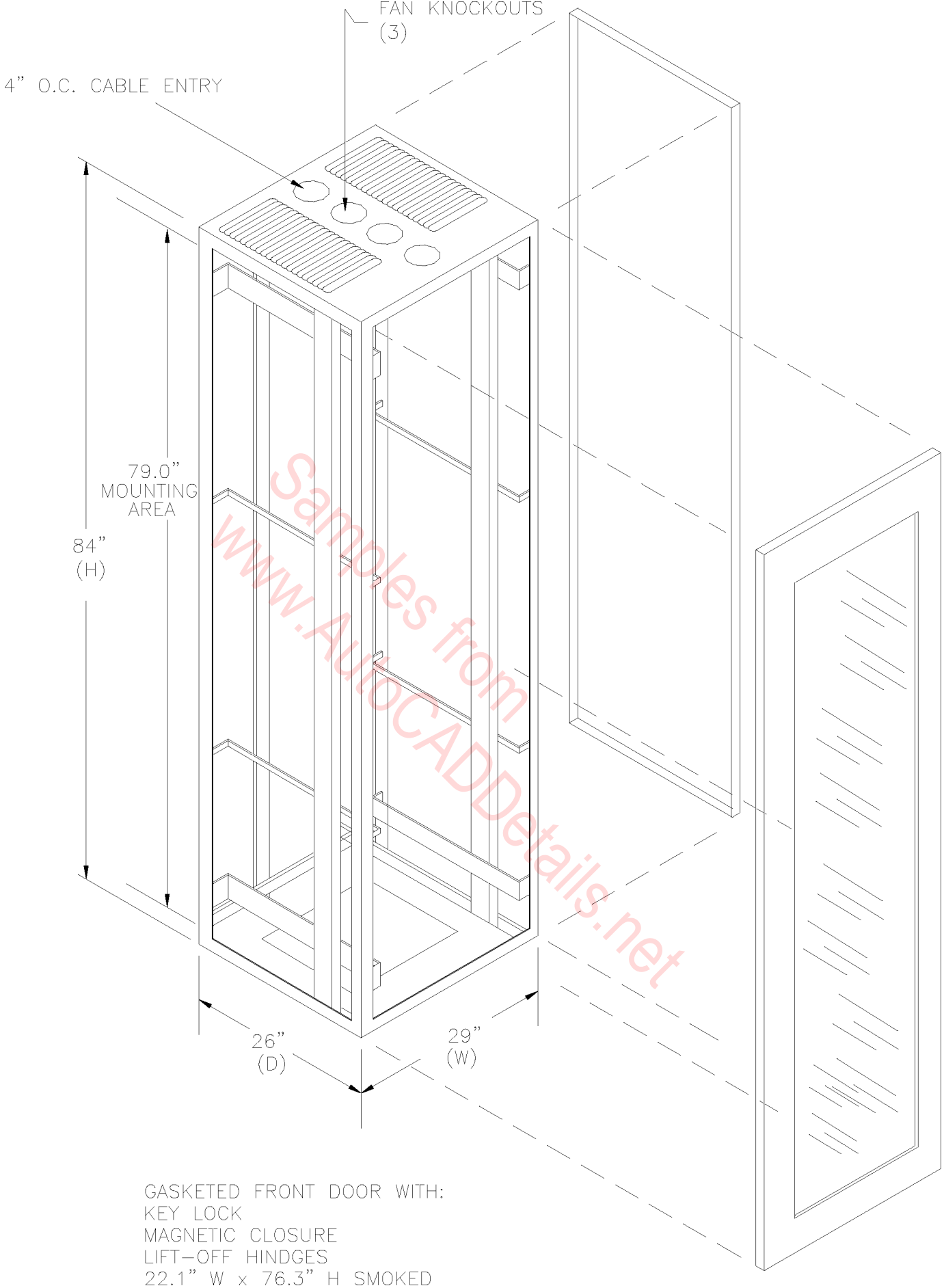
FULL SIZE



GASKETED FRONT DOOR WITH:
KEY LOCK
MAGNETIC CLOSURE
LIFT-OFF HINDGES
16" W x 18 3/4" H SMOKED PLEXIGLASS WINDOW

TELCOM STANDARD LIGHT CABINET

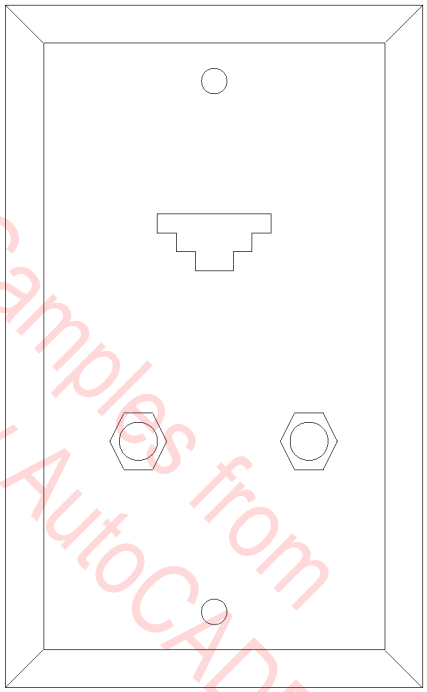
N.T.S.



GASKETED FRONT DOOR WITH:
KEY LOCK
MAGNETIC CLOSURE
LIFT-OFF HINDGES
22.1" W x 76.3" H SMOKED
PLEXIGLASS WINDOW

TELCOM STANDARD HEAVY CABINET

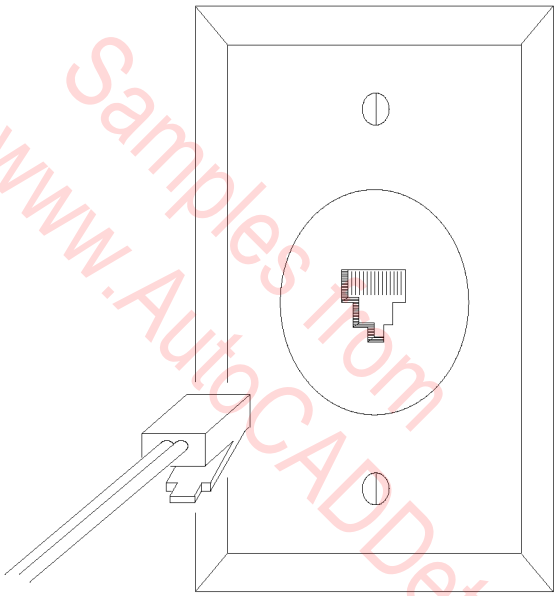
N.T.S.



1. RJ45 USING 4-PAIR TWISTED COPPER HOUSE CABLE
2. FIBER OPTIC CONNECTORS TYPE DETERMINED BY USER REQUIREMENTS

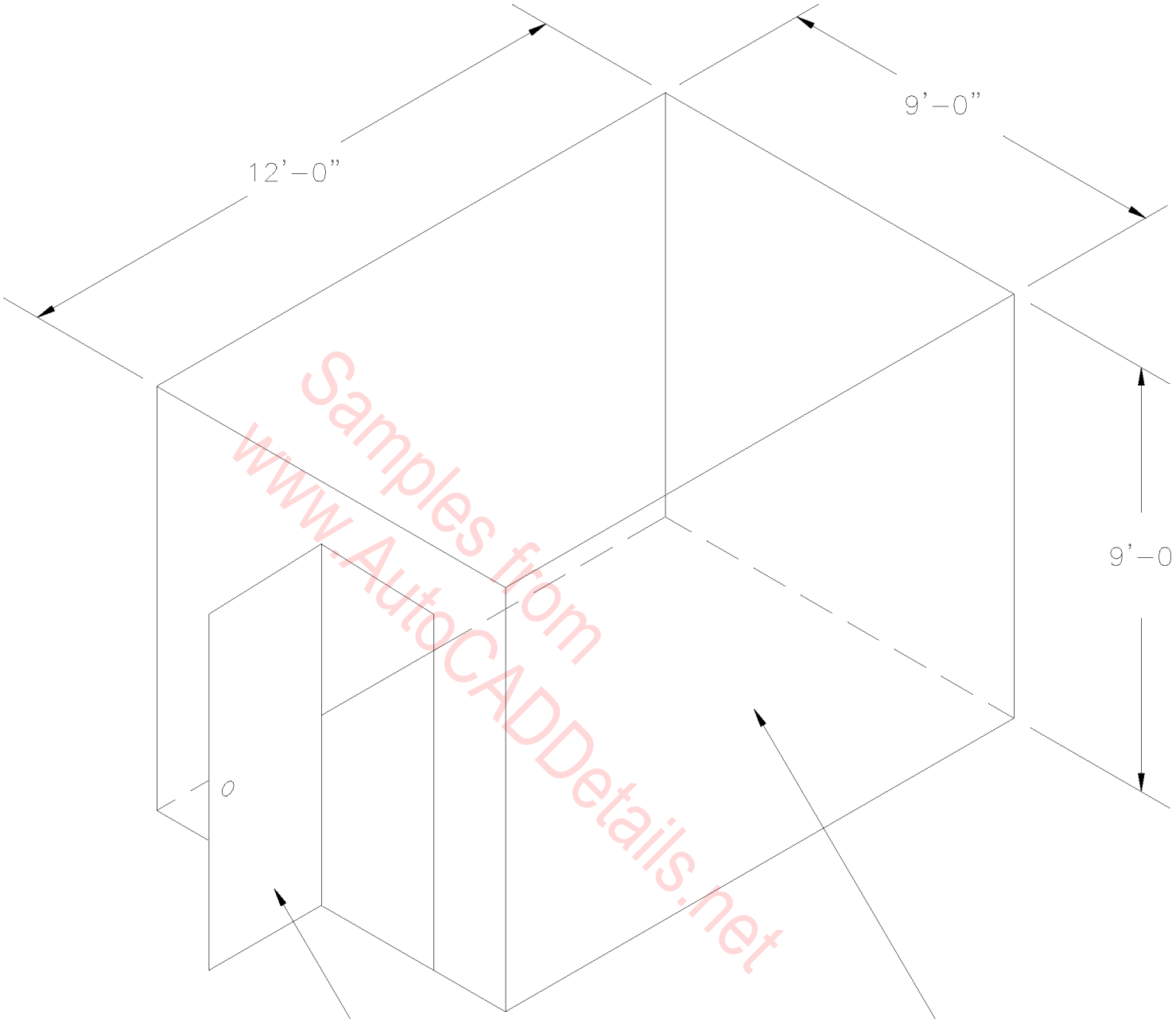
WIRE FIBER OUTLET

N.T.S.



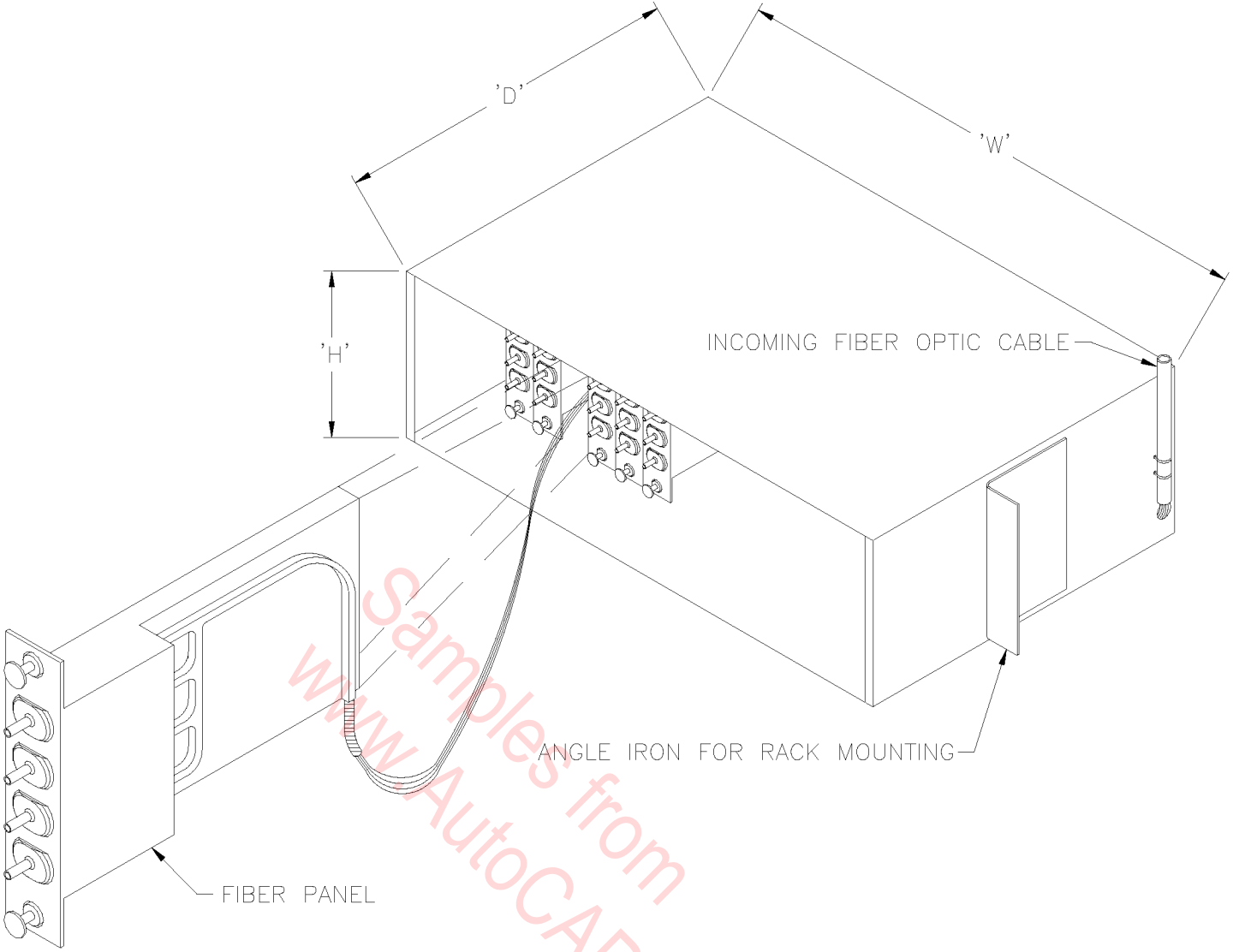
TYP. MODULAR TELEPHONE JACK

N.T.S.



TYP. MULTI-USER COMM CLOSET

N.T.S.



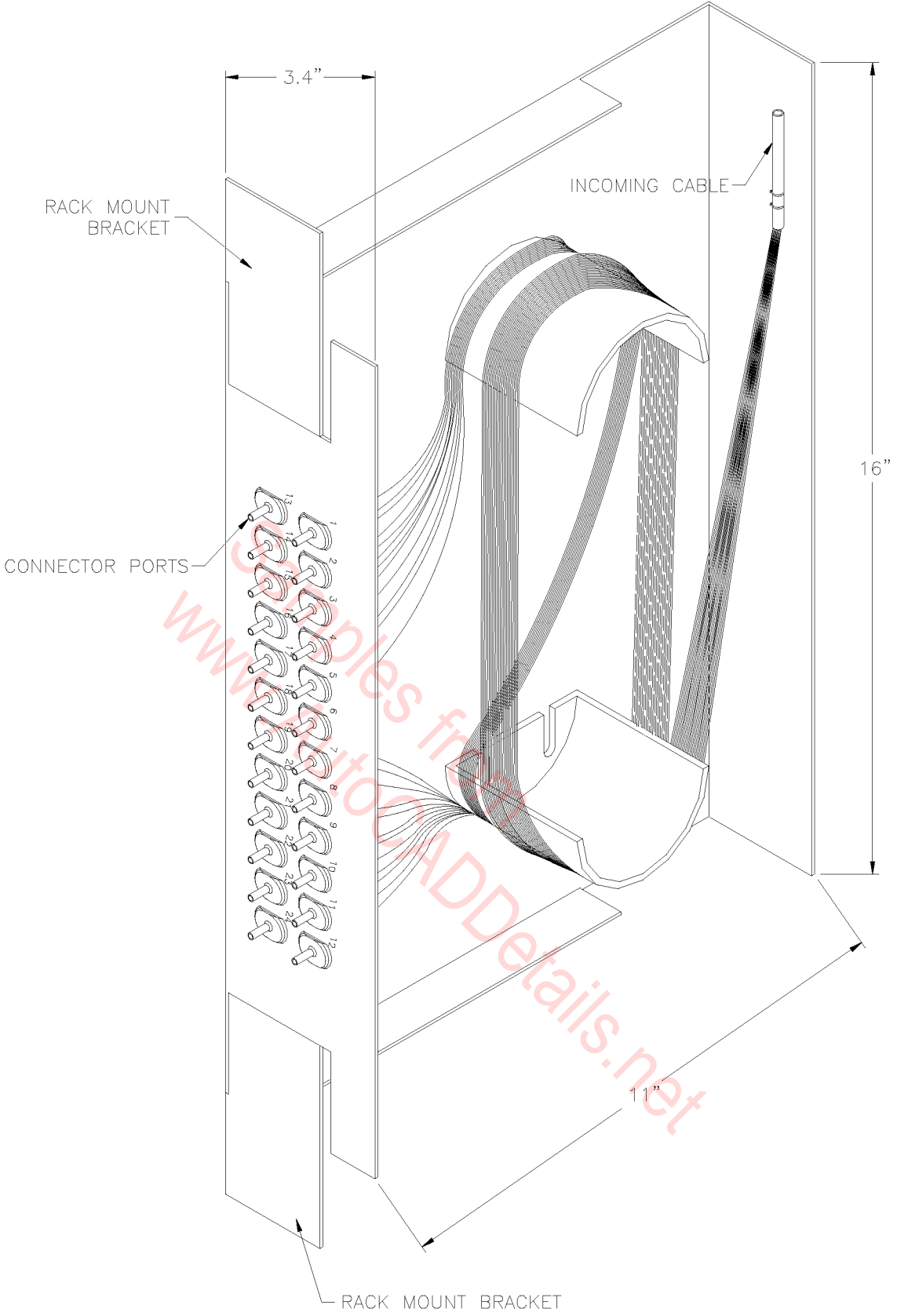
DESCRIPTION	DIMENSIONS 'H' x 'W' x 'D' cm (in)
24–FIBER CAPACITY CONNECTOR MODULE HOUSING; ACCEPTS ONLY 6–FIBER PANELS OR MODULES	13.3 x 43 x 28 (5.25 x 17 x 11)
72–FIBER CAPACITY CONNECTOR MODULE HOUSING; ACCEPTS ONLY 6–FIBER PANELS OR MODULES	22 x 43 x 28 (8.75 x 17 x 11)
96–FIBER CAPACITY CONNECTOR MODULE HOUSING; ACCEPTS ONLY 8–FIBER PANELS	22 x 43 x 28 (8.75 x 17 x 11)

NOTES:

1. STANDARD 5.25" FRONTAL PROJECTION, AVAILABLE WITH LOCKING DOOR
2. LABELED CONNECTOR PORTS
3. REAR FIBER ORGANIZATION SHELF
4. 24 TO 96 FIBERS; STACKABLE FOR HIGHER FIBER COUNTS OR FUTURE EXPANSION
5. RACK–MOUNT, 19" OR 23" OPTION
6. TERMINATION OF BACKBONE CABLES AT MAIN OR INTERMEDIATE CROSS–CONNECT (72–FIBER VERSION); TERMINATION OF HORIZONTAL CABLES AT HORIZONTAL CROSS–CONNECT (96–FIBER VERSION)
7. FIELD CONNECTORIZATION OR PIGTAIL SPLICING IN CONJUNCTION WITH SPLICE MODULE HOUSINGS
8. OPTIONAL BRACKETS FOR WALL MOUNT

MAIN CROSS CONNECT (MC)

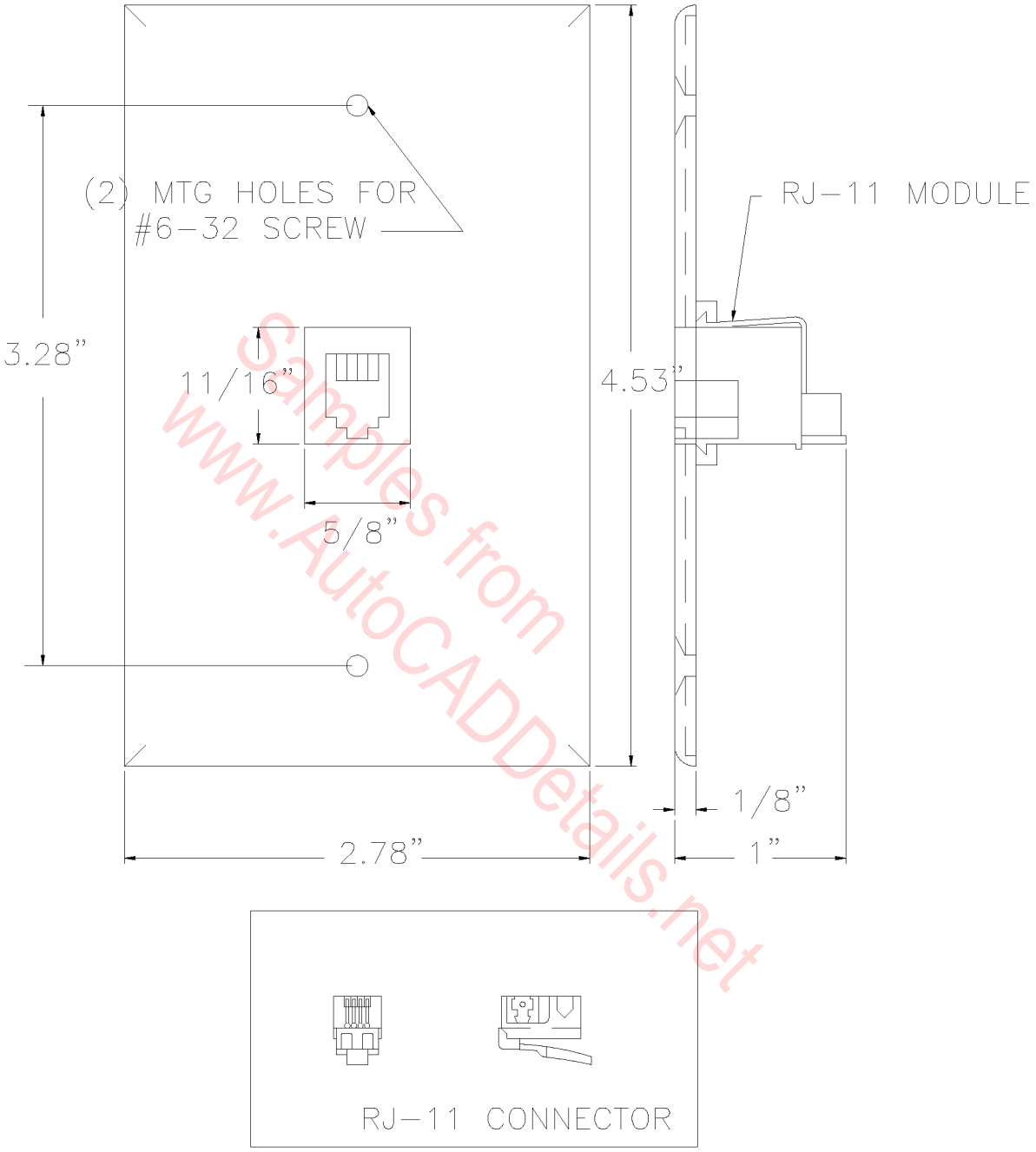
N. T. S.



NOTES:
1. 24-FIBERS FLUSH-MOUNTED IN ONLY TWO RACK SPACES
2. CABLE STRAIN-RELIEF AND GROUNDING PROVISIONS; REAR SHELF AND ROUTING GUIDES FOR STORING CABLE SLACK
3. LABELED CONNECTOR PORTS
4. RACK-MOUNT; 19" OR 23" FRAME
5. INTRABUILDING BACKBONE TERMINATIONS IN HORIZONTAL CROSS-CONNECT OR EQUIPMENT ROOM
6. FIELD CONNECTORIZATION
7. STACKABLE

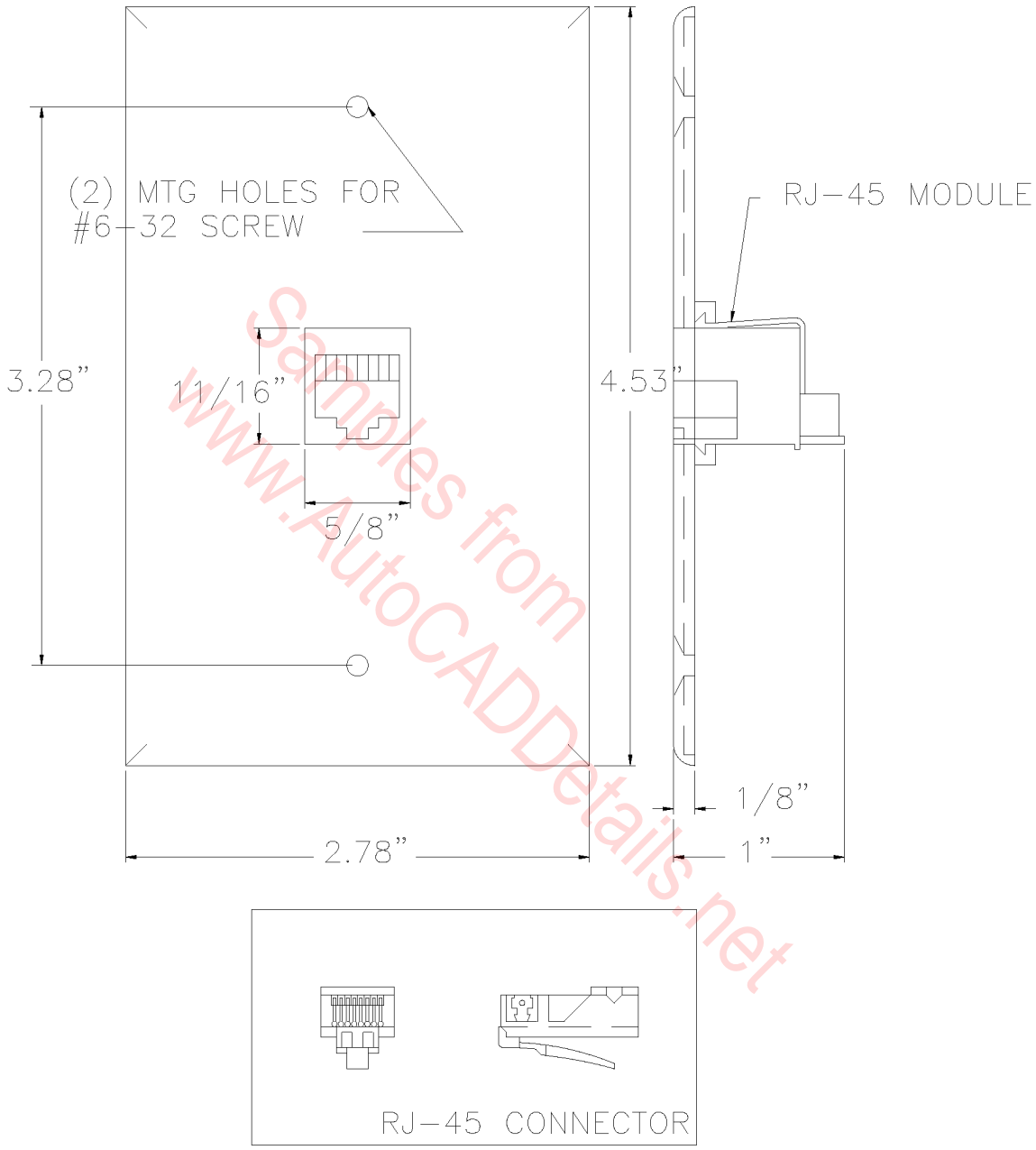
INTERMEDIATE/HORIZ. CROSS CONNECT (IC/HC)

N. T. S.



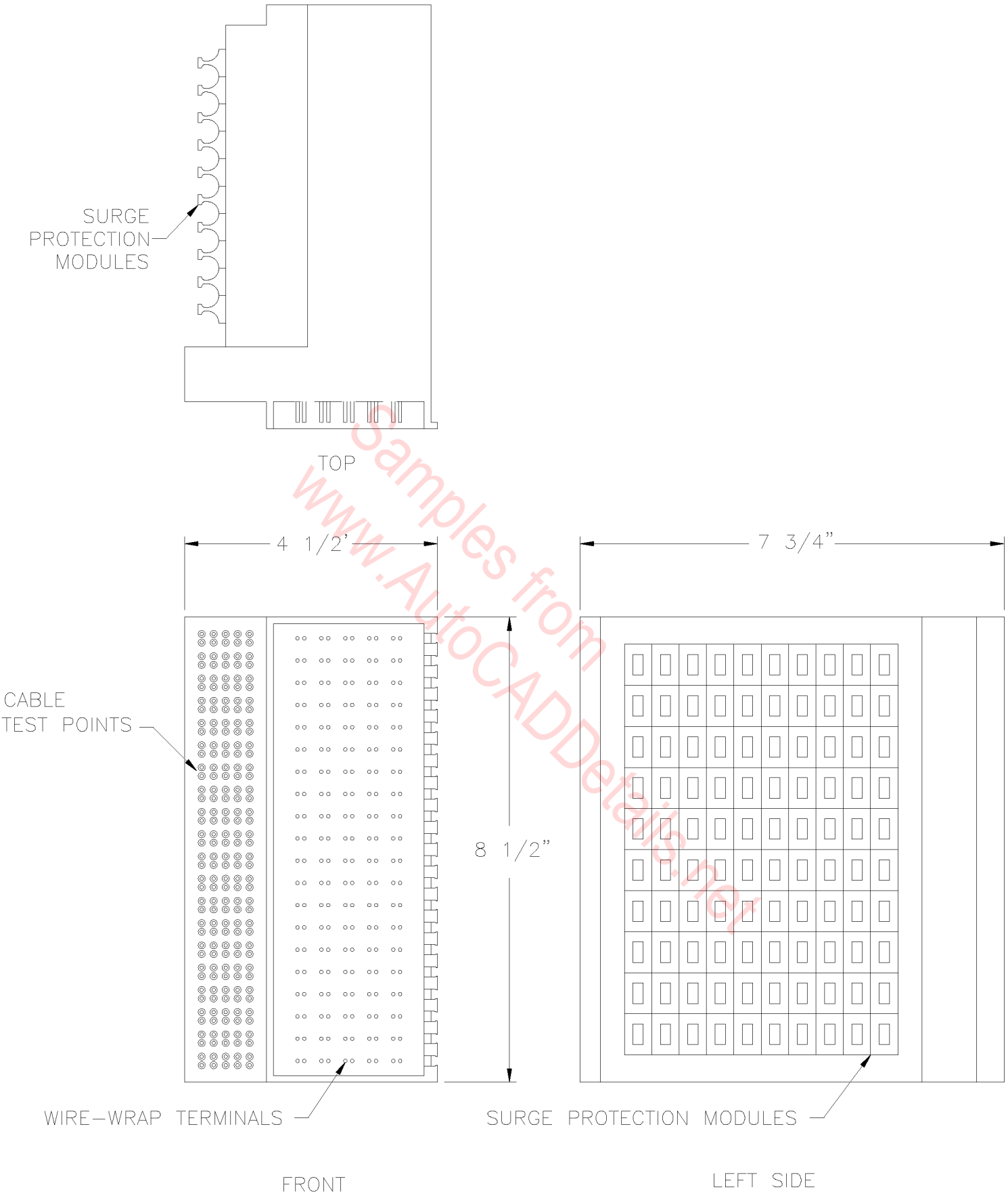
RJ-11 WALL PLATE JACK AND CONNECTOR

FULL SIZE



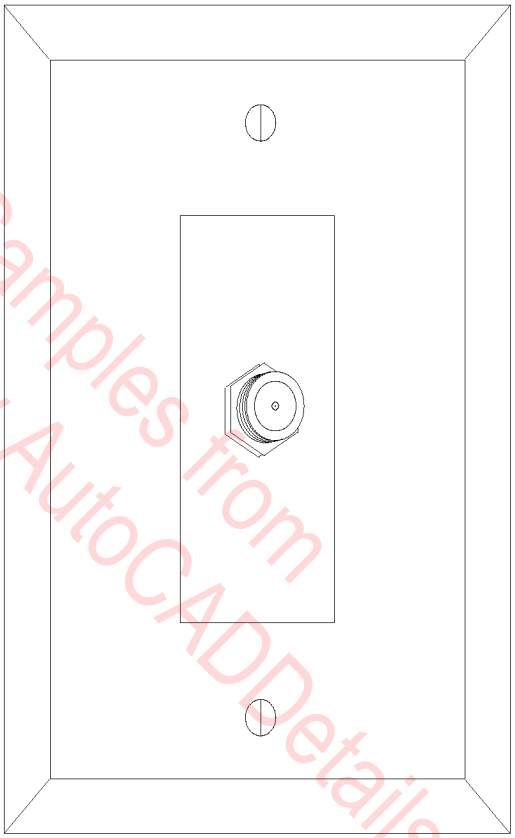
RJ-45 WALL PLATE JACK AND CONNECTOR

FULL SIZE



CENTRAL OFFICE CONNECTOR (100 PAIR CAP.)

N. T. S.

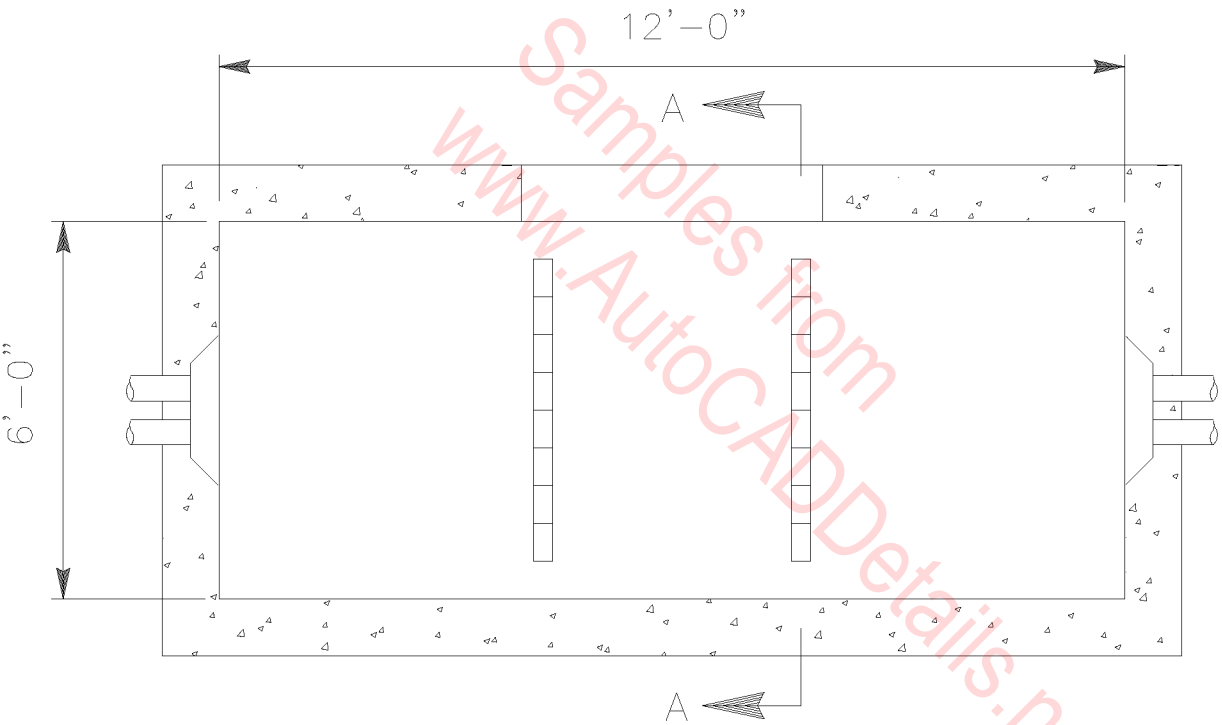


TYP. TV OUTLET JACK

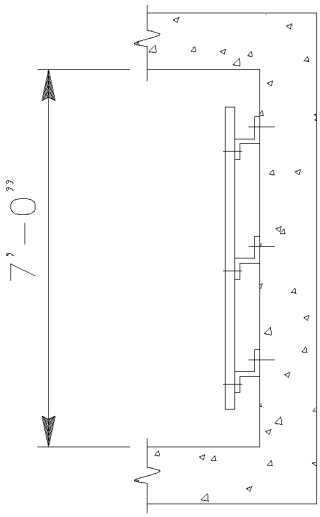
N.T.S.

NOTE:

ALL MANHOLES TO
HAVE 8' LADDERS.



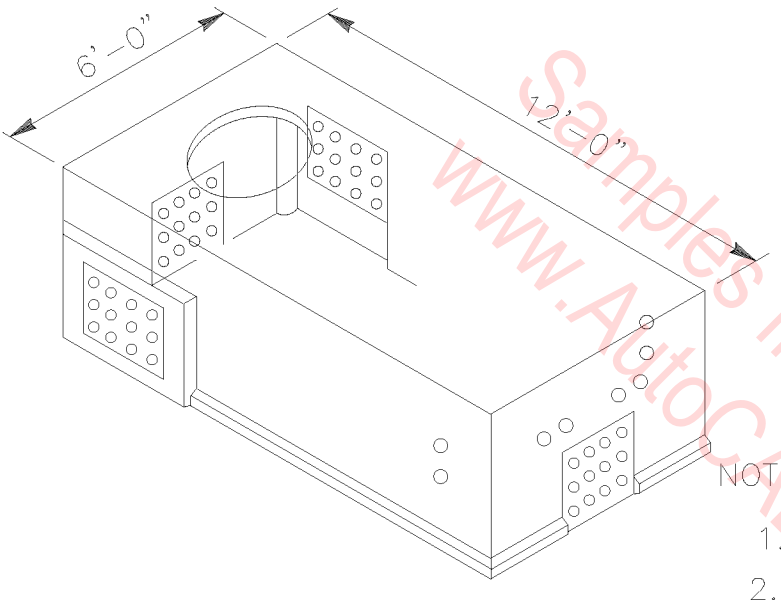
ELEVATION

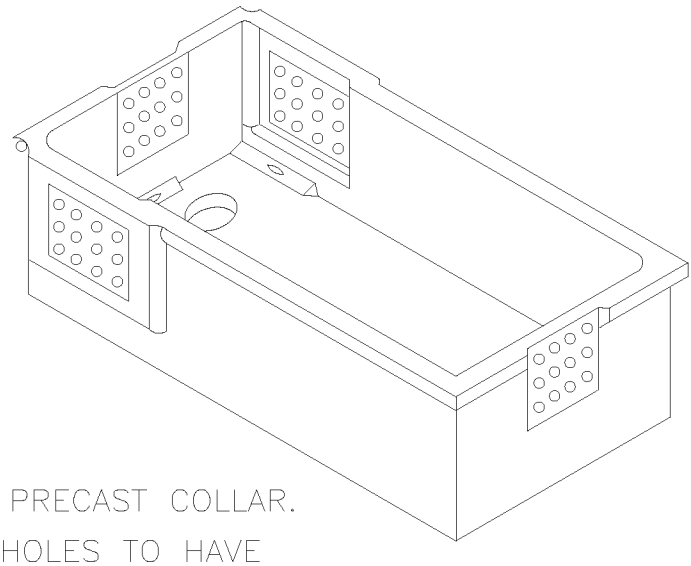


SECTION A-A

TELEPHONE MANHOLE

N.T.S.





NOTES:

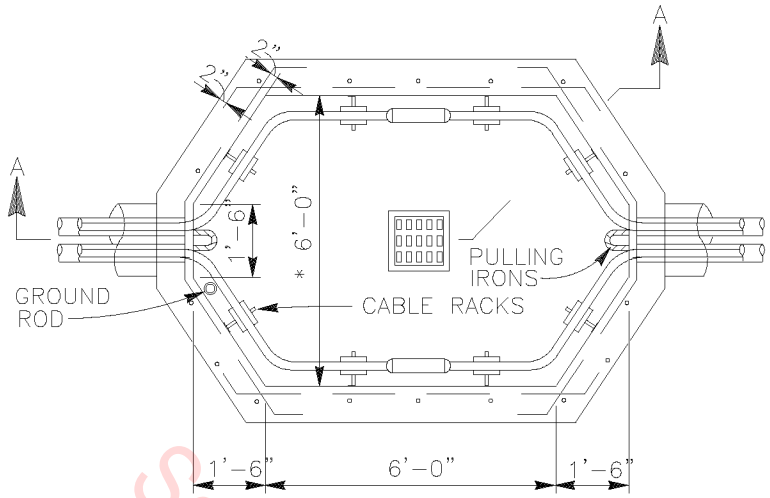
1. INSTALL PRECAST COLLAR.
2. ALL MANHOLES TO HAVE 3/4x10' COPPER CLAD GROUND RODS.
3. SEE PLATE FOR MANHOLE ACCESSORY DETAILS.

38Y PRECAST TELEPHONE MANHOLES

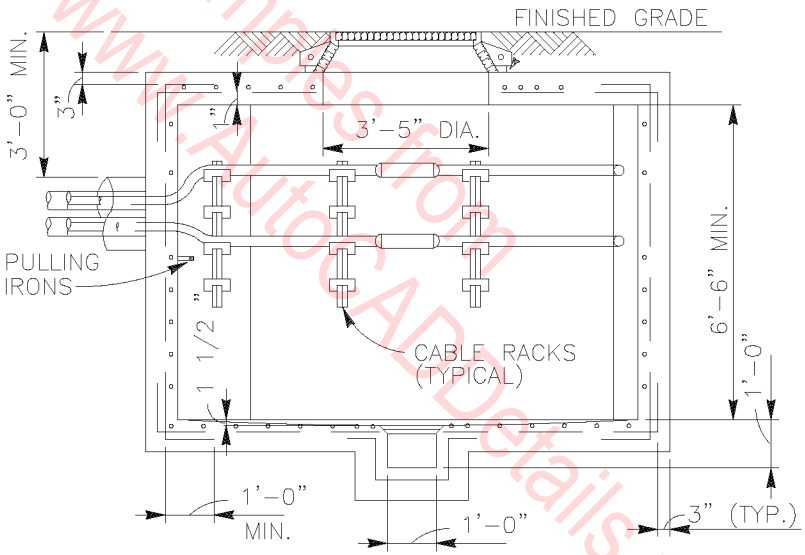
N.T.S.

NOTES:

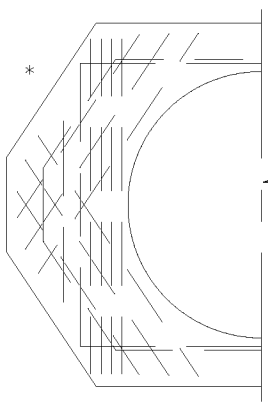
1. REINFORCING BAR: 1/2 " ROUND, DEFORMED WALLS AND BOTTOM MAX. 12" C. TO C. BOTH WAYS. TOP AS SHOWN.
2. THICKNESS OF CONCRETE: MANHOLE WALLS, TOP & BOTTOM 8" SUMP WALLS AND BOTTOM 6"



PLAN



SECTION A-A



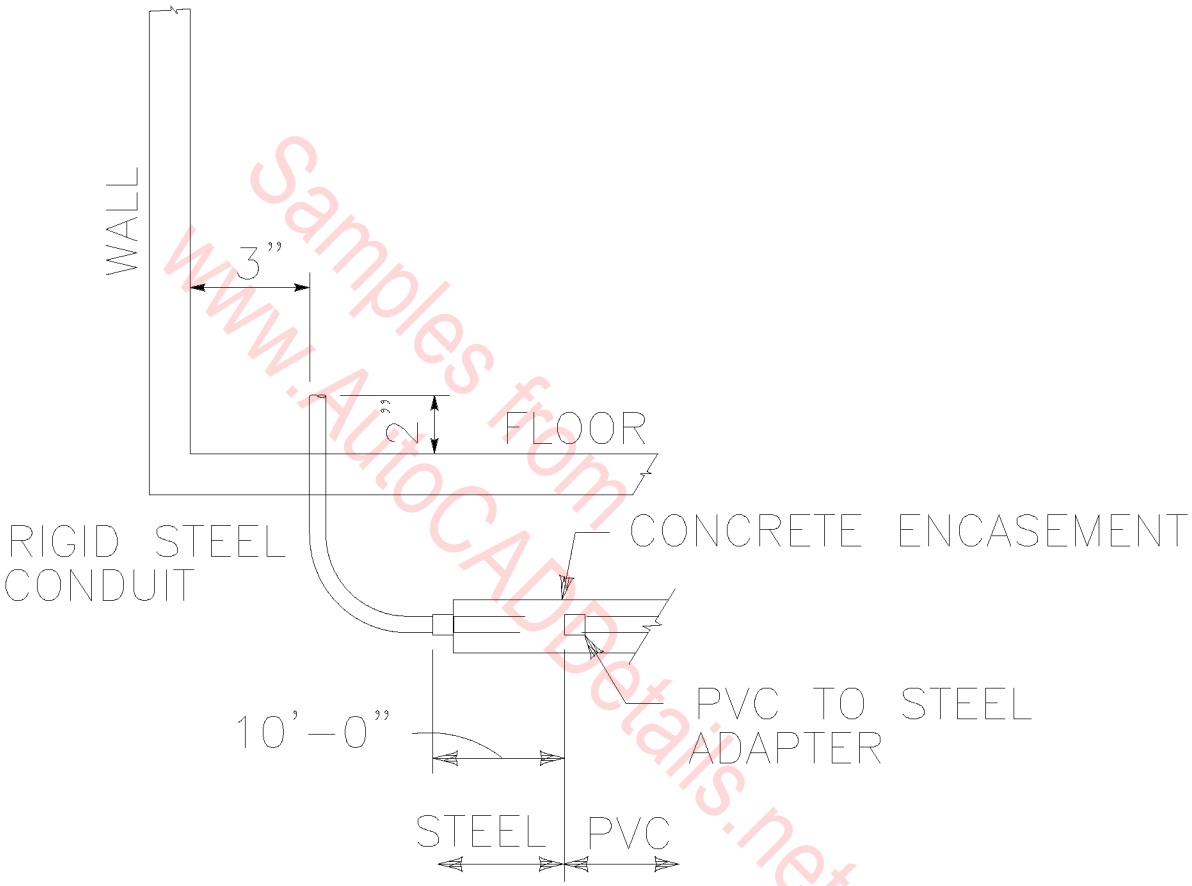
* NOTES:
CHANGE ANGLES TO MAKE SIZE CHANGE 4' TO 6'

** MAKE CIRCLE

TYPICAL TOP REINFORCEMENT

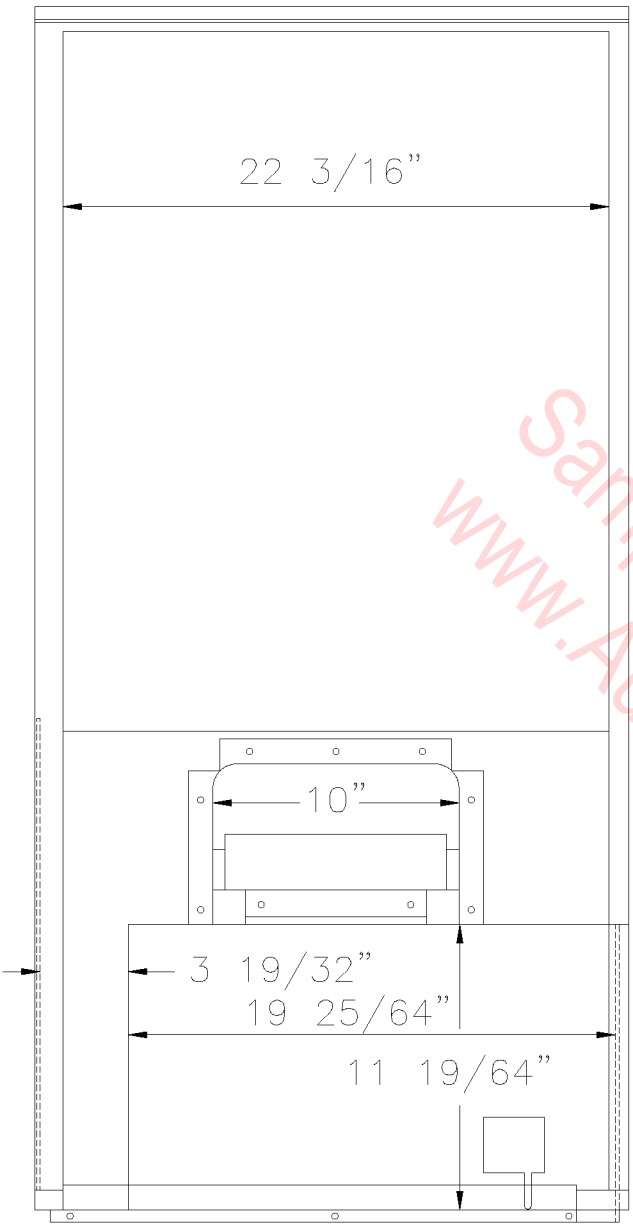
POURED IN PLACE COMMUNICATION MANHOLE

N.T.S.

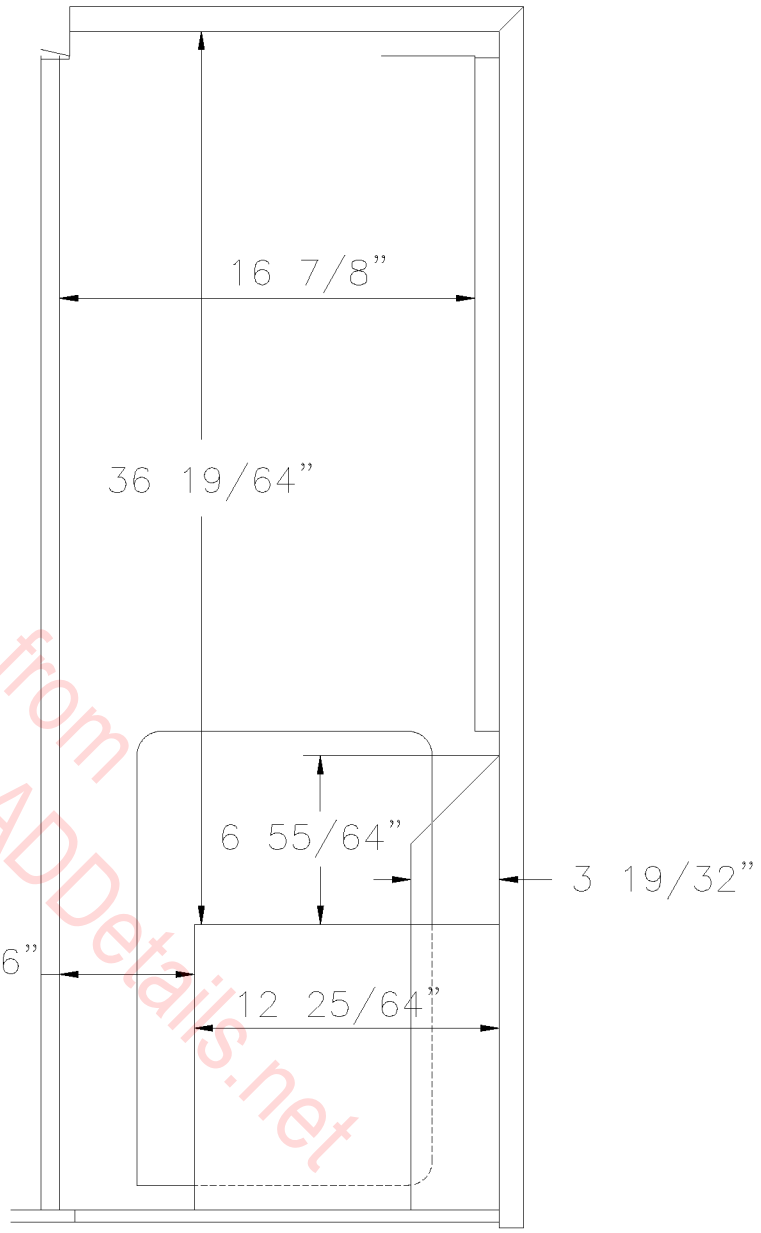


COMMUNICATION DUCT ENTRANCE

N.T.S.



VIEW WITH FRONT DOOR REMOVED

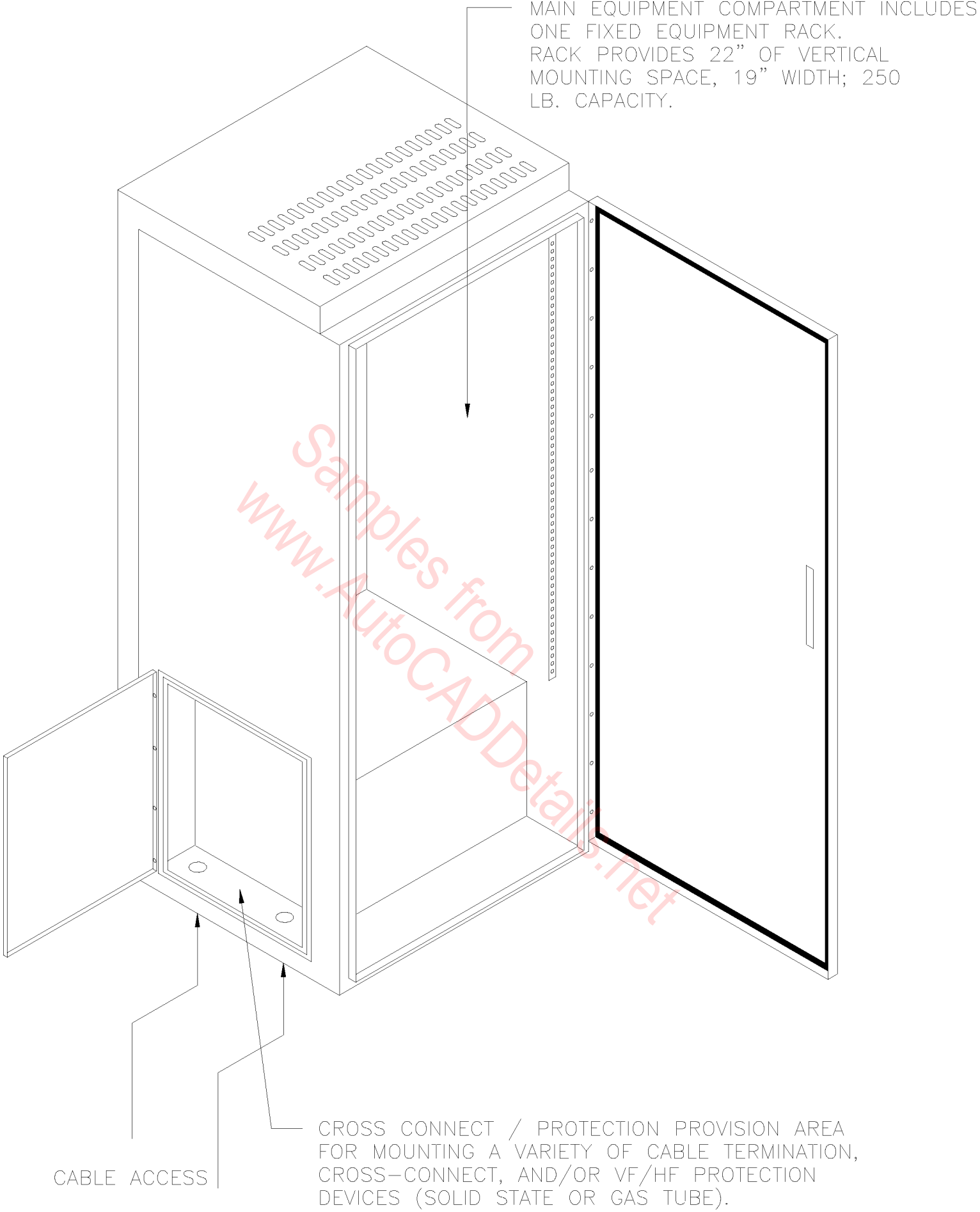


RIGHT SIDE VIEW OF VERTICAL SECTION

(NEWTON 7060)

EXTERIOR TELECOMM PLANT ENCLOSURE

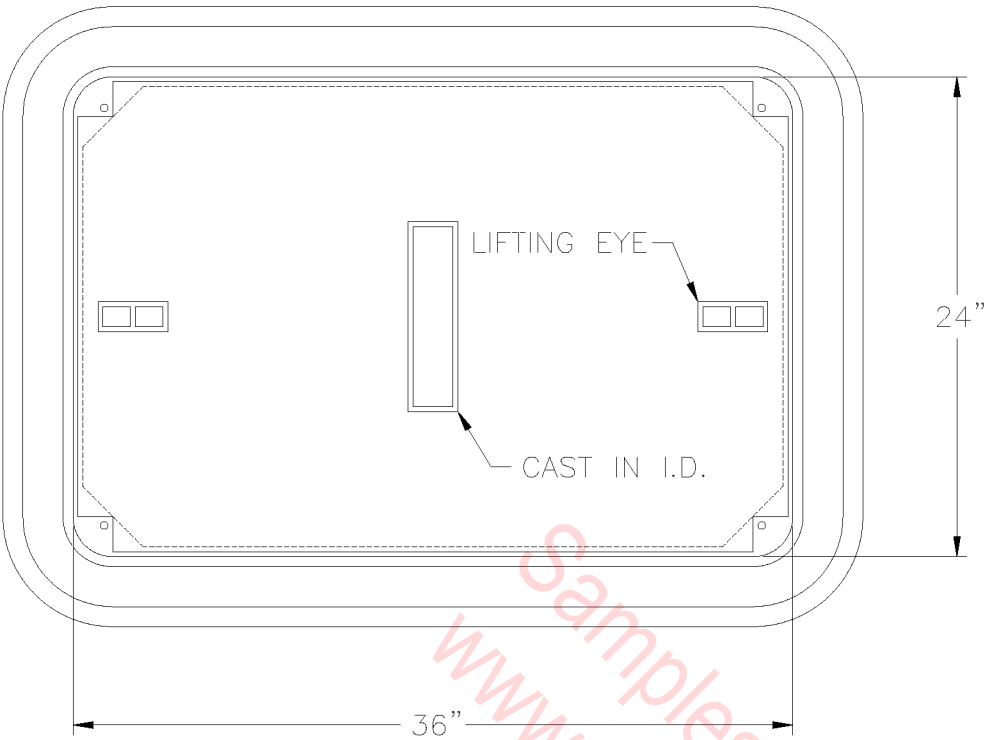
SCALE: 1 1/2" = 1' - 0"

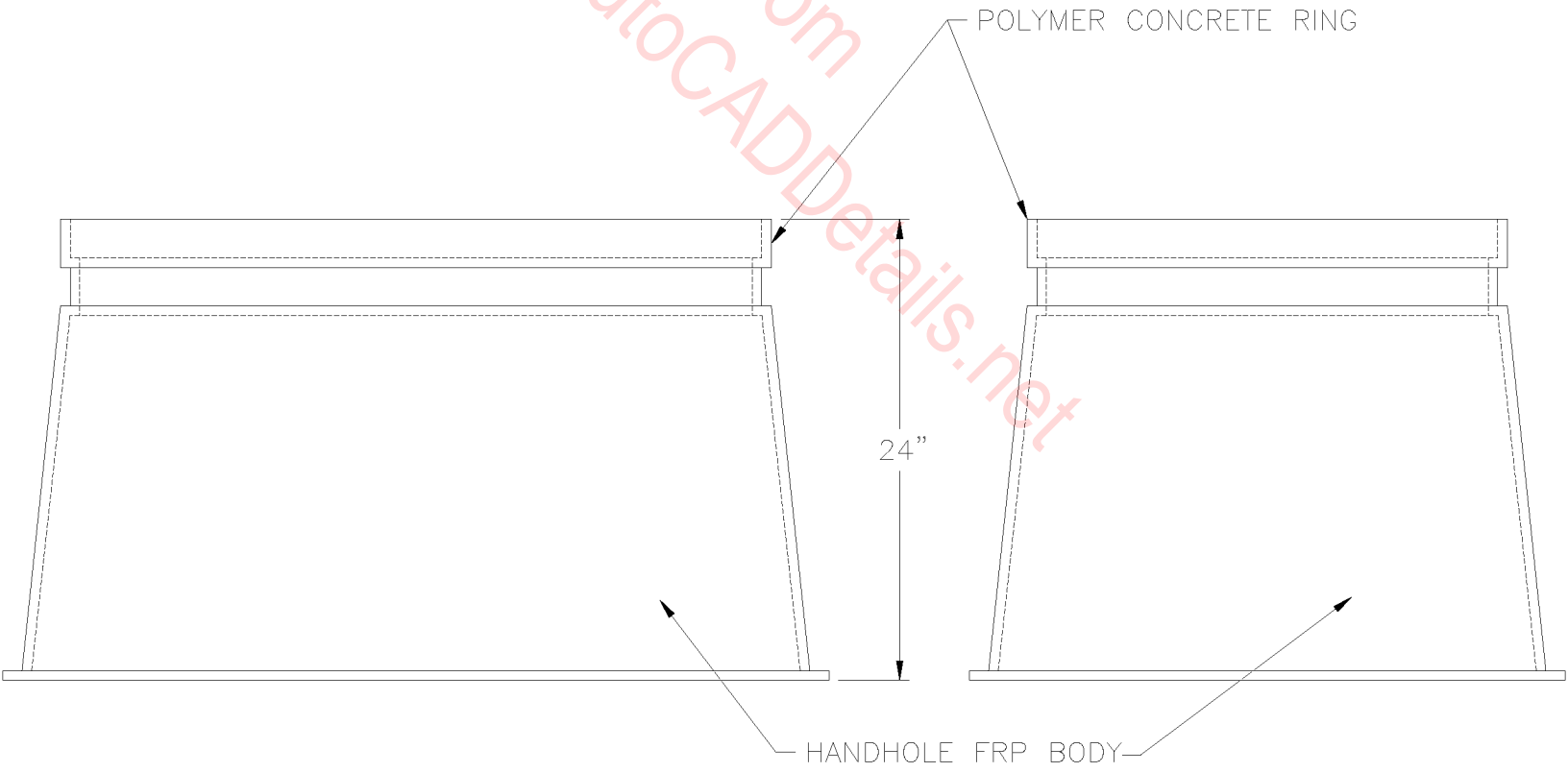


(NEWTON 7060)

EXTERIOR TELECOMM PLANT ENCLOSURE

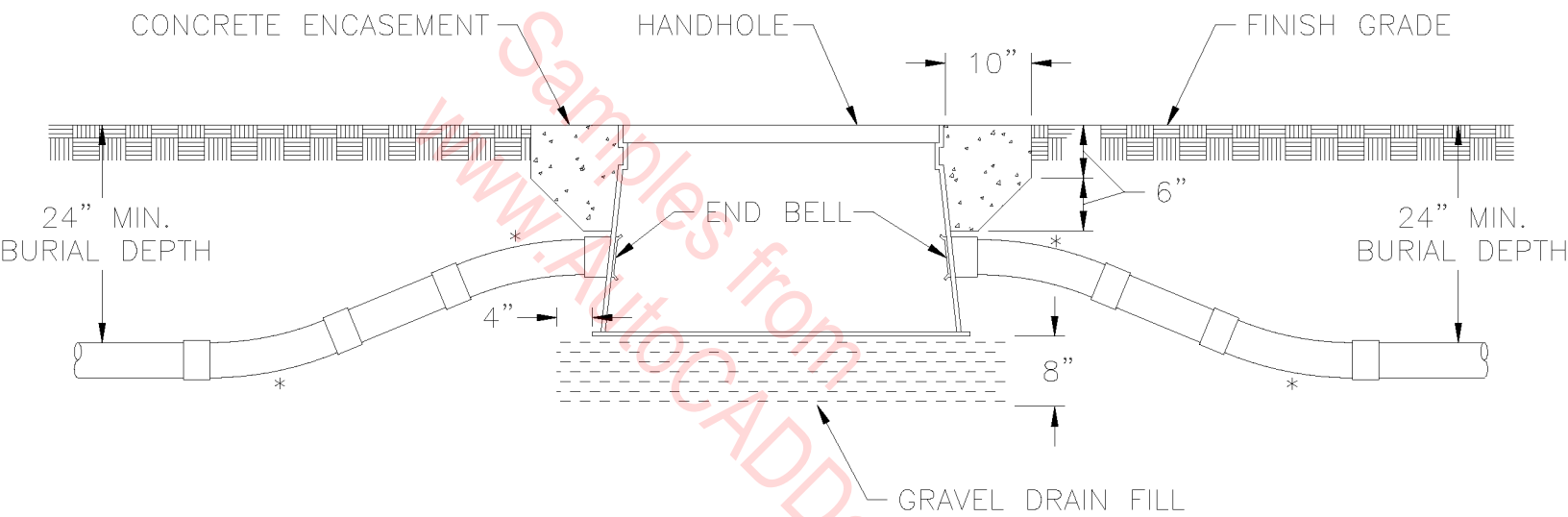
N.T.S.





TYPICAL HANDHOLE

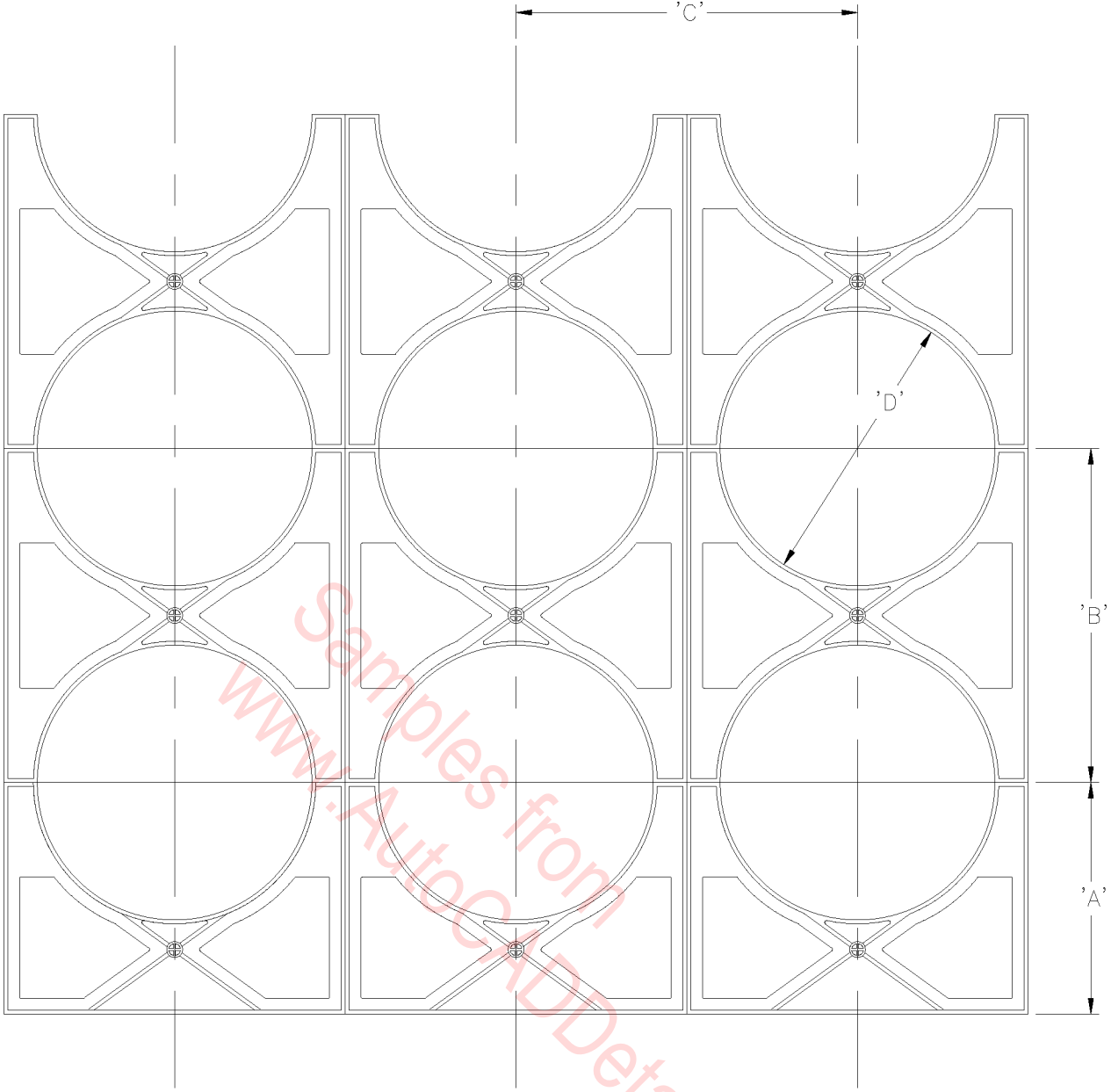
SCALE: 1 1/2” = 1’-0”



* 22-1/2 36" RADIUS
SWEEP ELBOW

TYPICAL HANDHOLE ENTRY

N.T.S.

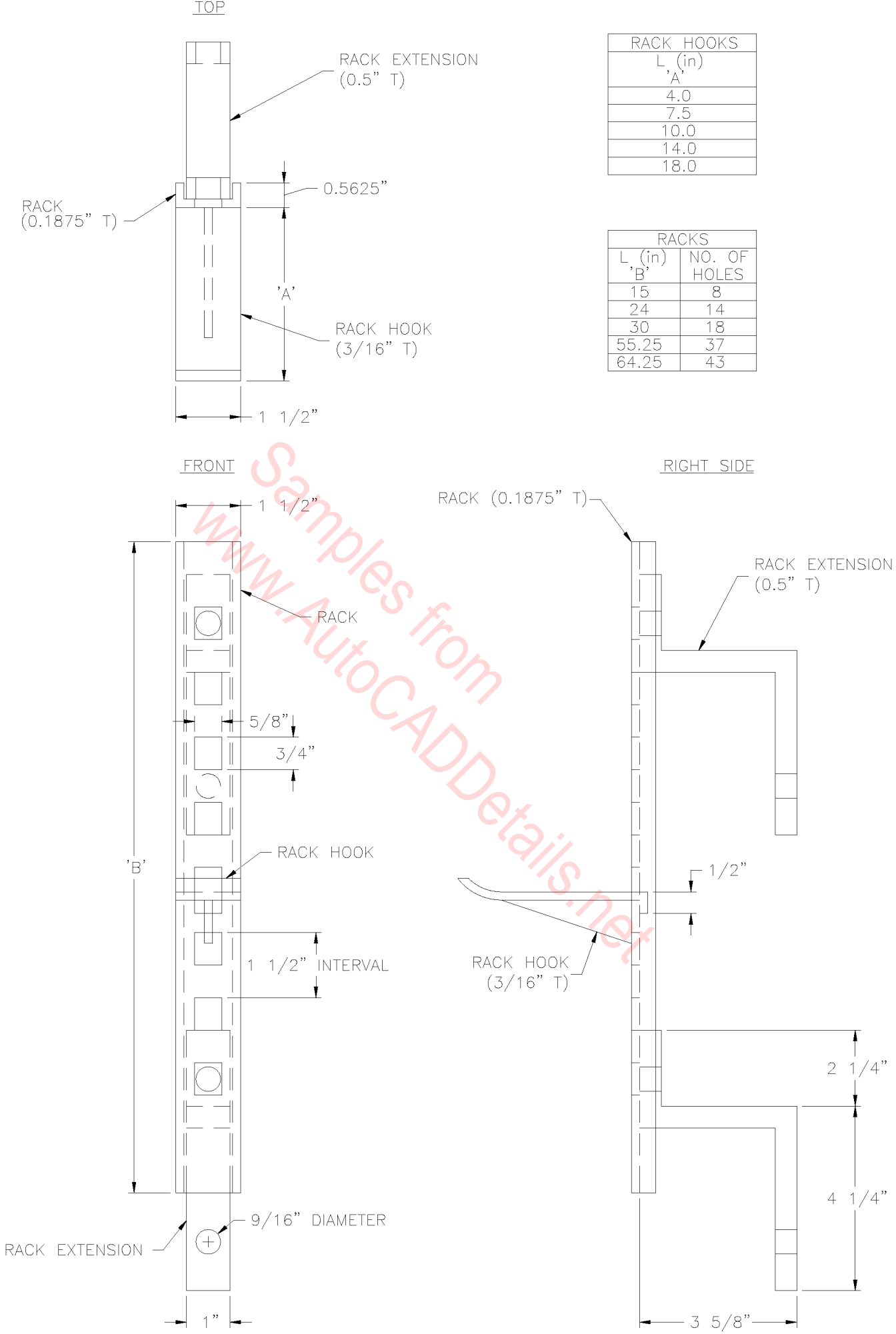


BASE SPACERS (in)			
DESCRIPTION	A	C	D
2 x 1 1/2	4.25	4.12	2.50
2 x 2	4.25	4.62	2.50
2 x 3	4.25	5.62	2.50
3 x 1 1/2	4.81	5.25	3.63
3 x 2	4.81	5.75	3.63
3 x 3	4.81	6.75	3.63
4 x 1	3.31	5.75	4.63
4 x 1 1/2	5.31	6.25	4.63
4 x 2	5.31	6.75	4.63
4 x 3	5.31	7.75	4.63
5 x 1 1/2	5.84	7.31	5.69
5 x 2	5.84	7.81	5.69
5 x 3	5.84	8.81	5.69
6 x 1 1/2	6.38	8.38	6.75
6 x 2	6.38	8.88	6.75
6 x 3	6.38	9.88	6.75
8 x 1 1/2	7.38	10.38	8.75
8 x 2	7.38	10.88	8.75
8 x 3	7.38	11.88	8.75

INTERMEDIATE SPACERS (in)			
DESCRIPTION	B	C	D
2 x 1 1/2	3.88	4.12	2.50
2 x 2	4.38	4.62	2.50
2 x 3	5.38	5.62	2.50
3 x 1 1/2	5.01	5.25	3.63
3 x 2	5.51	5.75	3.63
3 x 3	6.51	6.75	3.63
4 x 1	5.51	5.75	4.63
4 x 1 1/2	6.01	6.25	4.63
4 x 2	6.51	6.75	4.63
4 x 3	7.51	7.75	4.63
5 x 1 1/2	7.07	7.31	5.69
5 x 2	7.57	7.81	5.69
5 x 3	8.57	8.81	5.69
6 x 1 1/2	8.14	8.38	6.75
6 x 2	8.64	8.88	6.75
6 x 3	9.64	9.88	6.75
8 x 1 1/2	10.14	10.38	8.75
8 x 2	10.64	10.88	8.75
8 x 3	11.64	11.88	8.75

DUCT SPACERS

N.T.S.

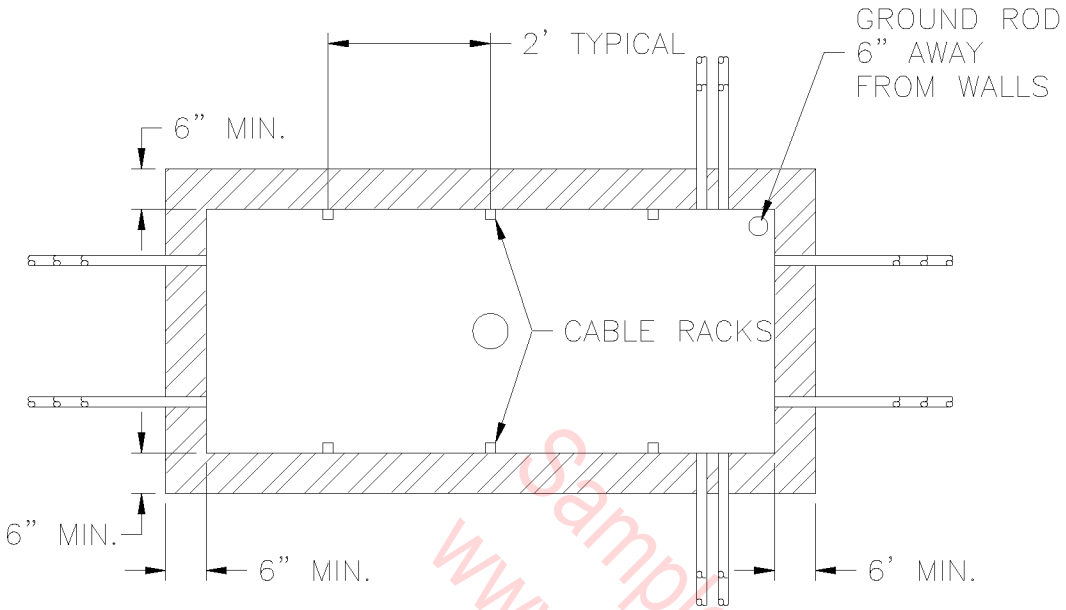


RACK HOOKS
L (in) 'A'
4.0
7.5
10.0
14.0
18.0

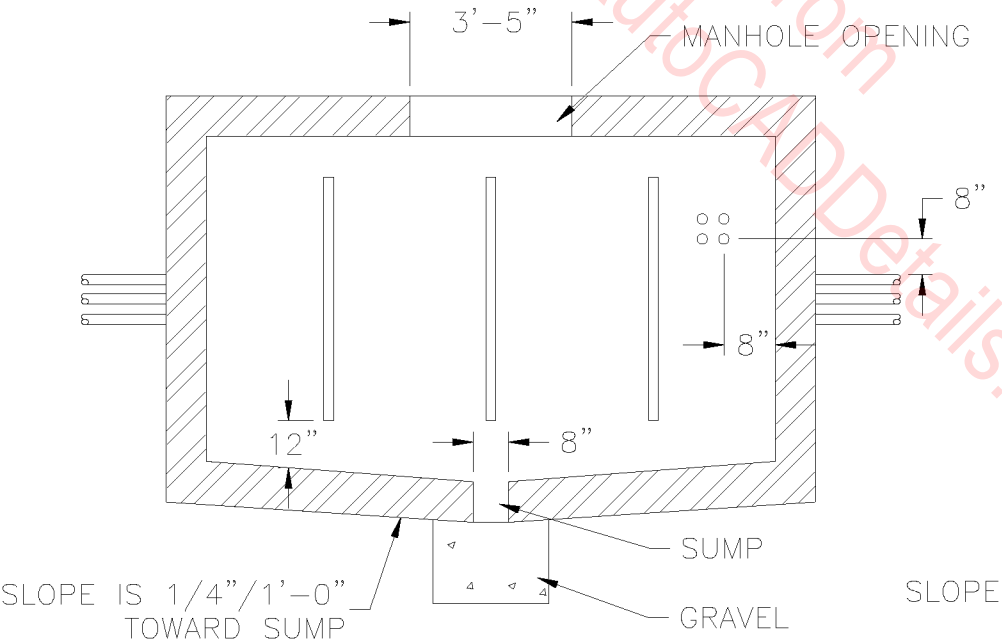
RACKS	
L (in) 'B'	NO. OF HOLES
15	8
24	14
30	18
55.25	37
64.25	43

MANHOLE CABLE RACKS

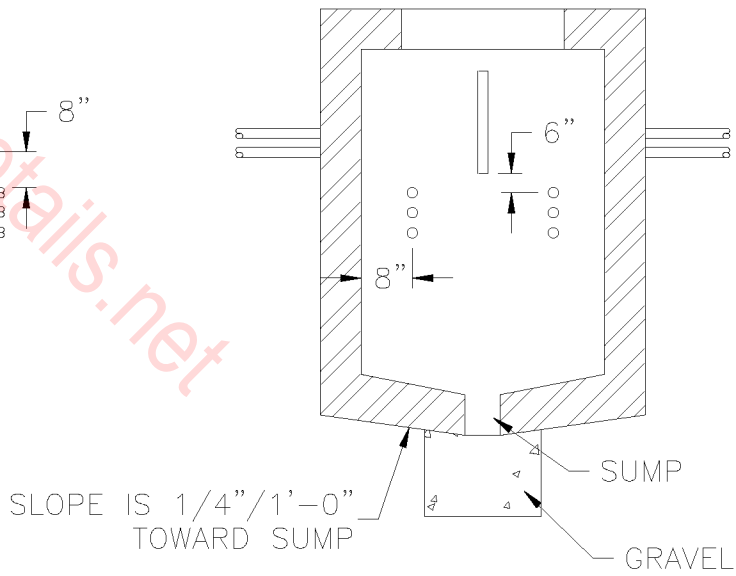
N. T. S.



PLAN



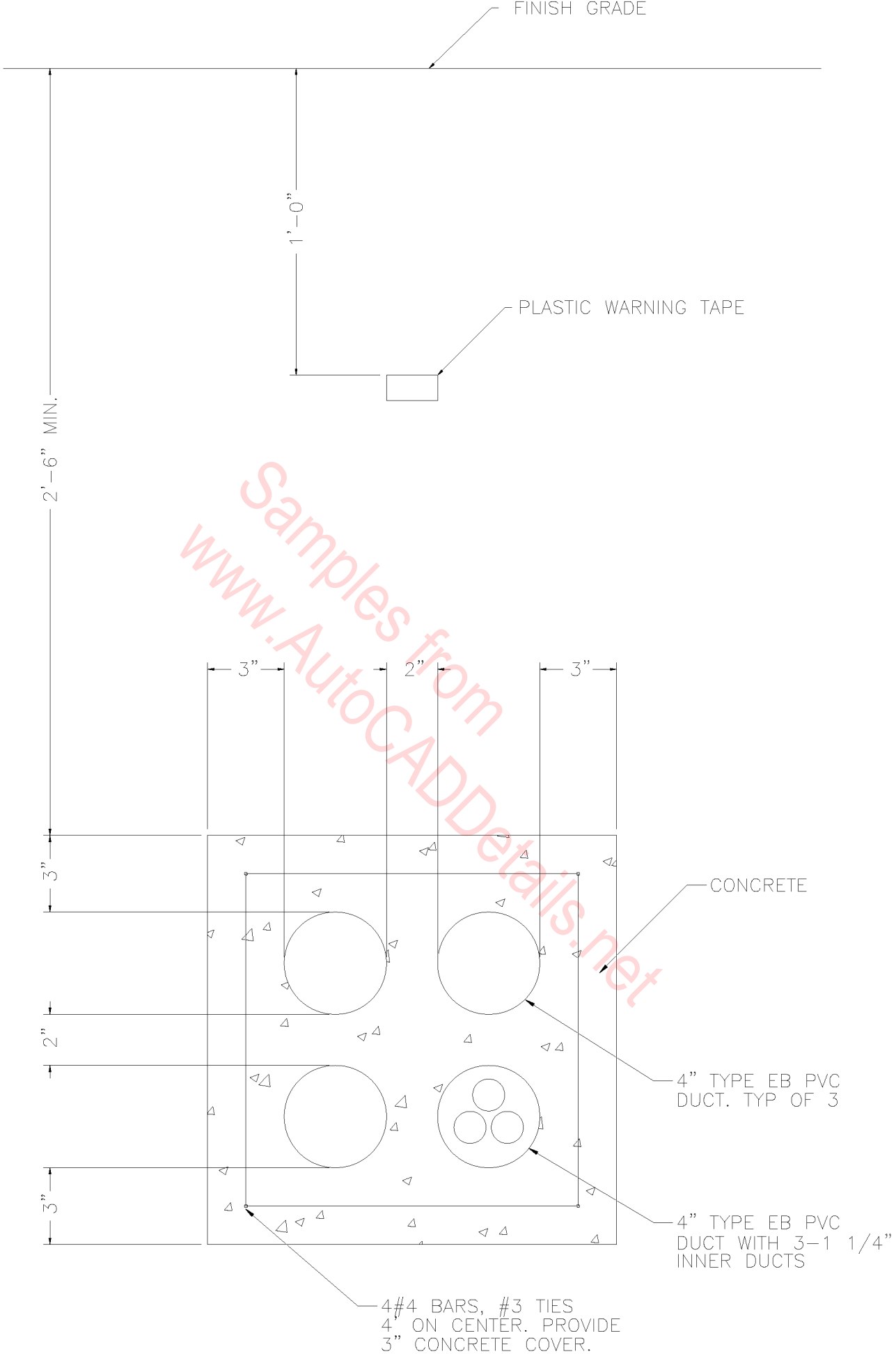
FRONT



END

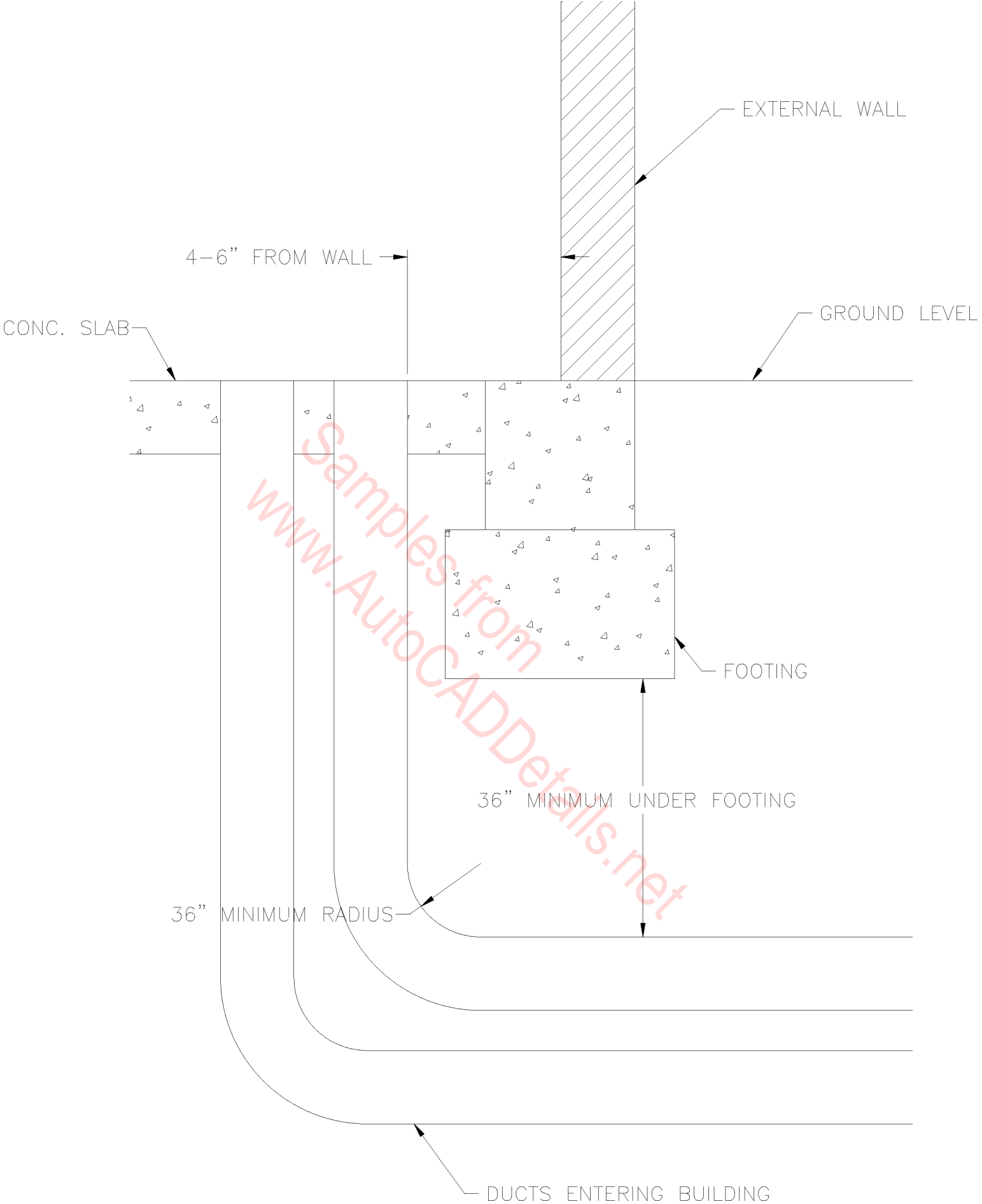
TYPICAL MANHOLE

N. T. S.



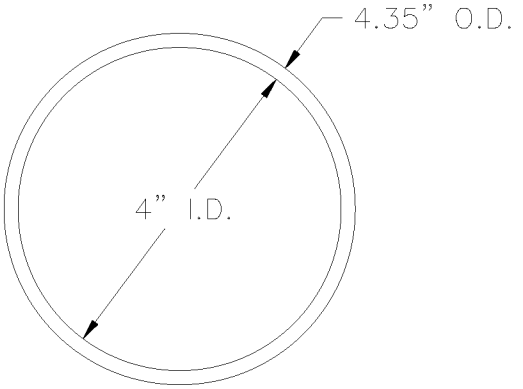
DUCTS ENCASED IN CONCRETE

SCALE: 3" = 1'-0"

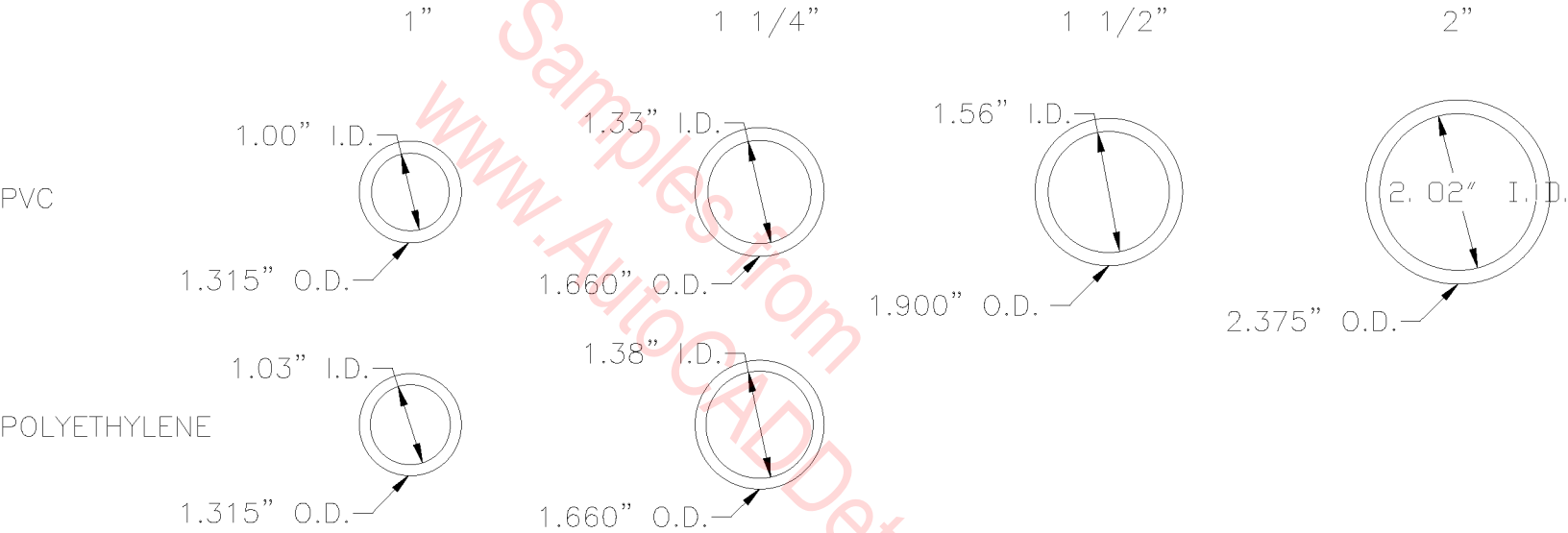


DUCT ENTRY INTO BUILDING

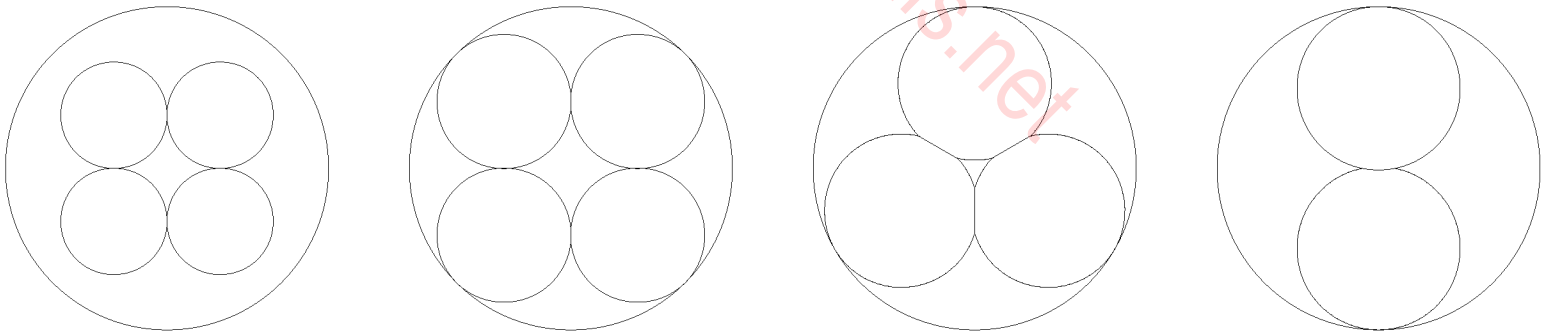
N. T. S.



TYPICAL 4" PVC PIPE



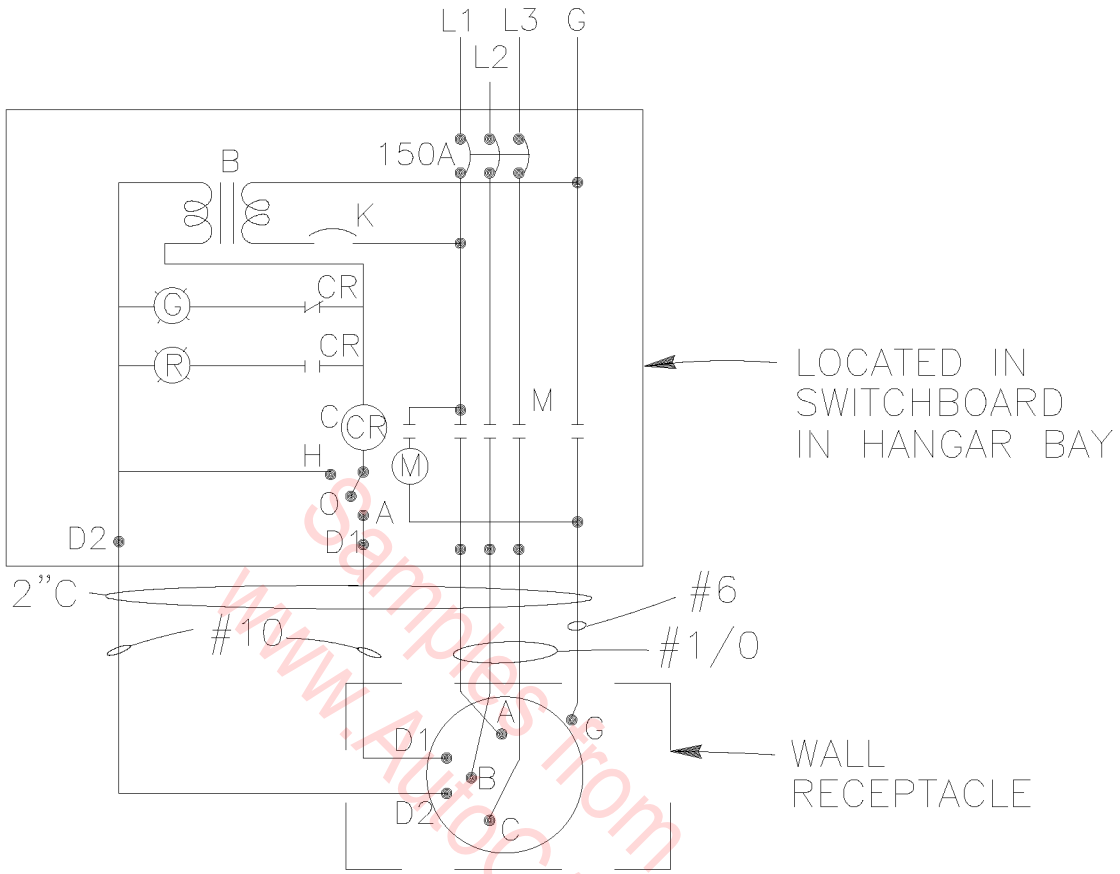
INNERDUCTS



MAXIMUM INNERDUCTS IN 4" PIPE

INNERDUCT INSTALLATION IN DUCT

N. T. S.



CONTROL LEGEND;

K 15A CIRCUIT BREAKER

B 50VA 277–48V CONTROL TRANSFORMER

C 15A SPSY RELAY

D1, D2 CONTROL CIRCUIT CONNECTOR

M SIZE 4, 3P, 30|600V CONTACTOR (15 AMPS)

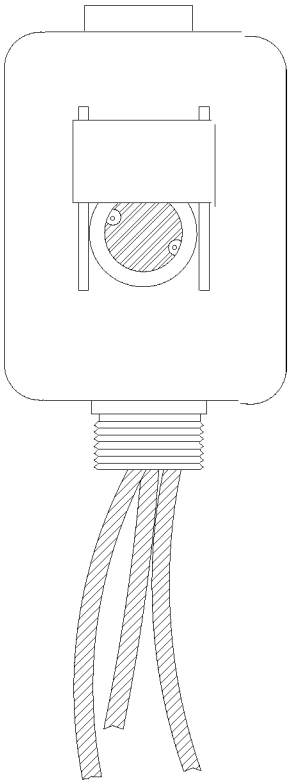
Ⓜ CONTACTOR COIL

NOTES:

1. CONTROL CIRCUIT TYPICAL FOR 8 TOTAL POSITIONS.
2. EACH CONTACTOR TO HAVE HAND–OFF–AUTO SWITCH WITH RED PILOT FOR CLOSED POSITION. GREEN FOR OPEN LINE. SWITCH SHALL BE LOCKABLE IN OFF POSITION.

CONTROL DIAGRAM FOR RECEPTACLE

N.T.S.



NOTE:

DIE CAST ZINC GASKETED ENCLOSURE FOR MAXIMUM WEATHERPROOFING WITH CADIUM SULPHIDE 1" DIAMETER HERMETICALLY SEALED CELL. MOUNTED ON 1/2" CONDUIT NIPPLE WITH DELAY TO PREVENT FALSE SWITCHING.

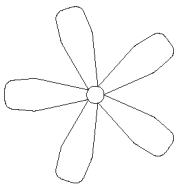
PHOTOELECTRIC CONTROL DETAIL

N.T.S.

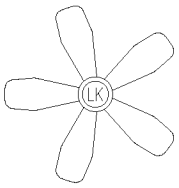
ELECTRICAL SYMBOLS

RECESSED CAN

WALL MOUNTED LIGHT FIXTURE



CEILING FAN



CEILING FAN WITH LIGHT KIT

ADJUSTABLE "EYE-BALL" RECESSED CAN

WALL SCONCE

1 X 4 (2) TUBE SURFACE MOUNTED
FLUORESCENT LIGHT FIXTURE

SURFACE MOUNTED "DRUM" LIGHT

48" (1) TUBE
FLUORESCENT STRIPLIGHT

ELECTRIC PANEL

120V DUPLEX OUTLET FLOOR RECEPTACLE

120V DUPLEX OUTLET

120V DUPLEX OUTLET - SWITCH ONE SIDE

220V RECEPTACLE

WEATHER-PROOF ENCLOSURE
WP

GROUND FAULT CIRCUIT INTERRUPTER

LIGHT SWITCH

$_3$ THREE-WAY LIGHT SWITCH

$_D$ DIMMER SWITCH

EXHAUST FAN

SD SMOKE DETECTOR

SERVICE ENTRANCE SECTION / METER

T.V. / CABLE CONNECTION

TELEPHONE

DOOR BELL

DOOR CHIME

ELECTRICAL SYMBOLS

N.T.S.

01C-6001

ELECTRICAL SYMBOLS

- INCANDESCENT–CEILING MOUNT
- INCANDESCENT–WALL MOUNT
- INCANDESCENT–RECESSED CEILING MOUNT
- INCANDESCENT–RECESSED CEILING MOUNT–DIRECTIONAL
- INCANDESCENT–POLE MOUNT
- INCANDESCENT–RECESSED VENT–LIGHT
- RECESSED EXHAUST FAN–150 CFM
- INCANDESCENT–PADDLE FAN
- INCANDESCENT–PADDLE FAN WITH LIGHT
- INCANDESCENT–CEILING MOUNT–PULL CHAIN
- (2)–4' FLUORESCENT–CEILING MOUNT, (# OF TUBES), LENGTH
- 2'–UC FLUORESCENT–2' UNDERCOUNTER,SINGLE TUBE
- $ SWITCH– SINGLE POLE
- $3 SWITCH– THREE WAY SWITCHING
- $4 SWITCH– FOUR WAY SWITCHING
- $R SWITCH– RHEOSTAT CONTROL

- RECEPTACLE–WALL
- RECEPTACLE–WALL, SWITCH TOP OUTLET
- RECEPTACLE–WALL, WITH GROUND FAULT
- RECEPTACLE–CEILING MOUNT
- RECEPTACLE–FLOOR MOUNT
- 220V RECEPTACLE–WALL, 220 VOLT
- W.P. RECEPTACLE–WEATHER PROOF
- 40 RECEPTACLE–HEIGHT ABOVE FIN. FLOOR
- S.D. SMOKE DETECTOR
- TELEPHONE, MIN 6 PAIR WIRE
- TELEPHONE, WITH COMPUTER OUTLET
- TELEVISION OUTLET
- RECEPTACLE–DEDICATED FOR COMPUTER
- J JUNCTION BOX
- D.B. DOOR BELL
- "A" DISTRIBUTION PANEL
- S SPEAKER OUTLET
- M.S. MASTER SPEAKER OUTLET AND CONTROL
- ELECTRIC METER AND SERVICE
- CHIME DOOR CHIME

ELECTRICAL SYMBOLS

N.T.S.

01C–6002

PANEL "A" 120/240V, 1 OHM, 3W		SQUARE D TYPE MOUNTED				100 AMP MAIN	
CIRCUIT DESCRIPTION	C/B	CIR. NO.	LOAD A ø	LOAD B ø	CIR. NO.	C/B	CIRCUIT DESCRIPTION
OFFICE LIGHTS	1/20	1	1120		2	1/20	OFFICE RECEPTICLES
OFFICE LIGHTS	1/20	3	900	960	4	1/20	OFFICE RECEPTICLES
		5		1200	6	1/20	OFFICE RECEPTICLES
		7	780		8	1/20	OFFICE RECEPTICLES
		9		900	10	1/20	OFFICE RECEPTICLES
		11	1080		12	1/20	WATER HEATER
		13		1200	14		
		15			16		
		17			18		
		19			20		
		21			22		
		23			24		
		25			26		
		27			28		
		29			30		
		31			32		
		33			34		
		35			36		
		37			38		
		39			40		
		41			42		

LOAD PER PHASE			
NON CONTINUOUS	2760	3060	4560 ÷ 120 = 38 AMPS
CONTINUOUS	1120	1200	
25% OF CONTINUOUS	280	300	
TOTAL	4160	4560	10,000 A.I.C. BREAKERS

PANEL SCHEDULE

NOT TO SCALE

PANEL SCHEDULE – TP   RETAIL SPACE PANEL

PANEL TYPE: PANELBOARD	PHASES: 3	VOLTAGE: 120/208 V	PHASE A CONNECTED: 4394 W
MAIN BREAKER: NONE	WIRES: 4	CONNECTED: 13587 W	PHASE B CONNECTED: 4394 W
BUS SIZE: 100 A	MOUNTING: SURFACE	DEMAND: 13984 W	PHASE C CONNECTED: 4800 W

LOAD TYPE AND DESCRIPTION		AMPS	POLES	CKT #	PHASE	CKT #	POLES	AMPS	LOAD TYPE AND DESCRIPTION	
MECH– HEAT:	–––	–––	––	1	A	2	1P	20A	LIGHTING:	LIGHTS
MECH– HEAT:	UNIT FC–1	20A	3P	3	B	4	1P	20A	RECEPTACLE:	RECEPTACLE
MECH– HEAT:	–––	–––	––	5	C	6	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	7	A	8	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	9	B	10	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	11	C	12	1P	20A	SPARE:	UNALLOCATED FUTURE
SPACE	–––	–––	––	13	A	14	––	–––	SPACE	–––
SPACE	–––	–––	––	15	B	16	––	–––	SPACE	–––
SPACE	–––	–––	––	17	C	18	––	–––	SPACE	–––
SPACE	–––	–––	––	19	A	20	––	–––	SPACE	–––
SPACE	–––	–––	––	21	B	22	––	–––	SPACE	–––
SPACE	–––	–––	––	23	C	24	––	–––	SPACE	–––
SPACE	–––	–––	––	25	A	26	––	–––	SPACE	–––
SPACE	–––	–––	––	27	B	28	––	–––	SPACE	–––
SPACE	–––	–––	––	29	C	30	––	–––	SPACE	–––

PANEL SCHEDULE – HP   HOUSE PANEL

PANEL TYPE: PANELBOARD	PHASES: 3	VOLTAGE: 120/208 V	PHASE A CONNECTED: 18725 W
MAIN BREAKER: NONE	WIRES: 4	CONNECTED: 54522 W	PHASE B CONNECTED: 18522 W
BUS SIZE: 400 A	MOUNTING: SURFACE	DEMAND: 63064 W	PHASE C CONNECTED: 17275 W

LOAD TYPE AND DESCRIPTION		AMPS	POLES	CKT #	PHASE	CKT #	POLES	AMPS	LOAD TYPE AND DESCRIPTION	
LIGHTING:	SECOND FLOOR LIGHTING	20A	1P	1	A	2	1P	20A	LIGHTING:	MAIN LEVEL
LIGHTING:	SOFFIT	20A	1P	3	B	4	1P	20A	LIGHTING:	GARAGE
LIGHTING:	STORAGE / ELECTRIC ROOM	20A	1P	5	C	6	1P	20A	LIGHTING:	GARAGE
MISC:	ELEVATOR PIT	20A	1P	7	A	8	1P	20A	LIGHTING:	GARAGE LIGHTING
LIGHTING:	CANOPY	20A	1P	9	B	10	1P	20A	LIGHTING:	GARAGE LIGHTING
MISC:	ELEVATOR LOBBY	20A	1P	11	C	12	1P	20A	SPARE:	UNALLOCATED FUTURE
RECEPTACLE:	MAIN & SECOND LEVEL	20A	1P	13	A	14	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	15	B	16	1P	20A	MECH– HEAT:	UNIT FC–4
MECH– H&C:	ELEVATOR ROOM EXHAUST FAN	20A	1P	17	C	18	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
MECH– HEAT:	UNITS BL–1 & CP–1	20A	1P	19	A	20	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
MECH– HEAT:	UNITS BL–2 & CP–2	20A	1P	21	B	22	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
RECEPTACLE:	TV BOARD	20A	1P	23	C	24	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
RECEPTACLE:	PHONE BOARD	20A	1P	25	A	26	––	–––	MECH– H&C:	–––
MISC:	FIRE ALARM SYSTEM	20A	1P	27	B	28	3P	70A	MECH– H&C:	UNIT EF–1
MISC:	UNIT CO–1	20A	1P	29	C	30	––	–––	MECH– H&C:	–––
MISC:	–––	–––	––	31	A	32	1P	20A	SPARE:	UNALLOCATED FUTURE
MISC:	ELEVATOR	100A	3P	33	B	34	1P	20A	SPARE:	UNALLOCATED FUTURE
MISC:	–––	–––	––	35	C	36	1P	20A	SPARE:	UNALLOCATED FUTURE
MECH– HEAT:	–––	–––	––	37	A	38	1P	20A	SPARE:	UNALLOCATED FUTURE
MECH– HEAT:	UNITS CP–3 & CP–4	20A	3P	39	B	40	1P	20A	MECH– HEAT:	UNIT UH–1
MECH– HEAT:	–––	–––	––	41	C	42	1P	20A	SPARE:	UNALLOCATED FUTURE

PANEL SCHEDULE

NOT TO SCALE

01C–6004

PANEL SCHEDULE – TP — RETAIL SPACE PANEL

PANEL TYPE:	PANELBOARD	PHASES:	3	VOLTAGE:	120/208 V	PHASE A CONNECTED:	4394 W
MAIN BREAKER:	NONE	WIRES:	4	CONNECTED:	13587 W	PHASE B CONNECTED:	4394 W
BUS SIZE:	100 A	MOUNTING:	SURFACE	DEMAND:	13984 W	PHASE C CONNECTED:	4800 W

LOAD TYPE AND DESCRIPTION		AMPS	POLES	CKT #	PHASE	CKT #	POLES	AMPS	LOAD TYPE AND DESCRIPTION	
MECH– HEAT:	---	---	--	1	A	2	1P	20A	LIGHTING:	LIGHTS
MECH– HEAT:	UNIT FC–1	20A	3P	3	B	4	1P	20A	RECEPTACLE:	RECEPTACLE
MECH– HEAT:	---	---	--	5	C	6	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	7	A	8	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	9	B	10	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	11	C	12	1P	20A	SPARE:	UNALLOCATED FUTURE
SPACE	---	---	--	13	A	14	--	---	SPACE	---
SPACE	---	---	--	15	B	16	--	---	SPACE	---
SPACE	---	---	--	17	C	18	--	---	SPACE	---
SPACE	---	---	--	19	A	20	--	---	SPACE	---
SPACE	---	---	--	21	B	22	--	---	SPACE	---
SPACE	---	---	--	23	C	24	--	---	SPACE	---
SPACE	---	---	--	25	A	26	--	---	SPACE	---
SPACE	---	---	--	27	B	28	--	---	SPACE	---
SPACE	---	---	--	29	C	30	--	---	SPACE	---

PANEL SCHEDULE – HP — HOUSE PANEL

PANEL TYPE:	PANELBOARD	PHASES:	3	VOLTAGE:	120/208 V	PHASE A CONNECTED:	18725 W
MAIN BREAKER:	NONE	WIRES:	4	CONNECTED:	54522 W	PHASE B CONNECTED:	18522 W
BUS SIZE:	400 A	MOUNTING:	SURFACE	DEMAND:	63064 W	PHASE C CONNECTED:	17275 W

LOAD TYPE AND DESCRIPTION		AMPS	POLES	CKT #	PHASE	CKT #	POLES	AMPS	LOAD TYPE AND DESCRIPTION	
LIGHTING:	SECOND FLOOR LIGHTING	20A	1P	1	A	2	1P	20A	LIGHTING:	MAIN LEVEL
LIGHTING:	SOFFIT	20A	1P	3	B	4	1P	20A	LIGHTING:	GARAGE
LIGHTING:	STORAGE / ELECTRIC ROOM	20A	1P	5	C	6	1P	20A	LIGHTING:	GARAGE
MISC:	ELEVATOR PIT	20A	1P	7	A	8	1P	20A	LIGHTING:	GARAGE LIGHTING
LIGHTING:	CANOPY	20A	1P	9	B	10	1P	20A	LIGHTING:	GARAGE LIGHTING
MISC:	ELEVATOR LOBBY	20A	1P	11	C	12	1P	20A	SPARE:	UNALLOCATED FUTURE
RECEPTACLE:	MAIN & SECOND LEVEL	20A	1P	13	A	14	1P	20A	SPARE:	UNALLOCATED FUTURE
SPARE:	UNALLOCATED FUTURE	20A	1P	15	B	16	1P	20A	MECH– HEAT:	UNIT FC–4
MECH– H&C:	ELEVATOR ROOM EXHAUST FAN	20A	1P	17	C	18	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
MECH– HEAT:	UNITS BL–1 & CP–1	20A	1P	19	A	20	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
MECH– HEAT:	UNITS BL–2 & CP–2	20A	1P	21	B	22	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
RECEPTACLE:	TV BOARD	20A	1P	23	C	24	1P	20A	MISC:	HEAT TRACE 30 MA GFCI
RECEPTACLE:	PHONE BOARD	20A	1P	25	A	26	--	---	MECH– H&C:	---
MISC:	FIRE ALARM SYSTEM	20A	1P	27	B	28	3P	70A	MECH– H&C:	UNIT EF–1
MISC:	UNIT CO–1	20A	1P	29	C	30	--	---	MECH– H&C:	---
MISC:	---	---	--	31	A	32	1P	20A	SPARE:	UNALLOCATED FUTURE
MISC:	ELEVATOR	100A	3P	33	B	34	1P	20A	SPARE:	UNALLOCATED FUTURE
MISC:	---	---	--	35	C	36	1P	20A	SPARE:	UNALLOCATED FUTURE
MECH– HEAT:	---	---	--	37	A	38	1P	20A	SPARE:	UNALLOCATED FUTURE
MECH– HEAT:	UNITS CP–3 & CP–4	20A	3P	39	B	40	1P	20A	MECH– HEAT:	UNIT UH–1
MECH– HEAT:	---	---	--	41	C	42	1P	20A	SPARE:	UNALLOCATED FUTURE

PANEL SCHEDULE
NOT TO SCALE

01C–6004

	PANEL SCHEDULE "A" CUTLER HAMMER				LOCATION:				
	VOLTAGE: 120/240V/1ø, 3W		LOAD VA		MAINS: MLO MTS 200 AMP				
	CIRCUIT DESCRIPTION:	bkr	cir no.	ø A	ø B	cir no.	bkr	CIRCUIT DESCRIPTION:	
	LIGHTS WAREHOUSE	20/1	1	1200/1350		2	20/1	LIGHTS OFFICE	
	↓	↓	3		1200/1350	4	↓	LIGHTS OFFICE	
	↓	↓	5	1200/1350		6	↓	LIGHTS OFFICE	
	↓	↓	7		1200/720	8	↓	RECPTS OFFICE	
	RECEPTS WAREHOUSE	↓	9	540/720		10	↓	RECPTS OFFICE	
	↓	↓	11		540/720	12	↓	RECPTS OFFICE	
*	HEAT PUMP	20/	13	432/432		14	20/	HEAT PUMP	*
		/2	15		432/432	16	/2		
*	ROOF A/C	30/	17	2880/2880		18	30/	ROOF A/C	*
		/2	19		2880/2880	20	/2		
	BUSSED SPACE		21	—		22		BUSSED SPACE	
	↓		23		—	24		↓	
	↓		25	—		26		↓	
	↓		27		—	28		↓	
	↓		29	—		30		↓	
	↓		31		—	32		↓	
	↓		33	—		34		↓	
	↓		35		—	36		↓	
	↓		37	—		38		↓	
	↓		39		—	40		↓	
	↓		41	—		42		↓	
	TOTAL LOAD / ø			12984	12354				
	TOTAL LOAD			25,338		/240 = 105.6 AMP			
	MIN. C/B AIC: 10,000								

* NEW LOAD

PANEL SCHEDULE

NOT TO SCALE

01C-6005

PANEL SCHEDULE "B" CUTLER HAMMER								LOCATION:	
VOLTAGE: 120/240V, 3ø 4W			LOAD VA					MAINS: MLO MTS: 400A	
CIRCUIT DESCRIPTION:	bkr	cir no.	ø A	ø B	øC	cir no.	bkr	CIRCUIT DESCRIPTION:	
SUB-PANEL "F"	100/3	1	2592 / 2400			2	100/2	SUB-PANEL "D"	
		3		2592 / 2400		4			
		5			2592	6			
		7				8			
		9				10			
		11				12			
		13				14			
		15				16			
		17				18			
		19				20			
		21				22			
		23				24			
		25				26			
		27				28			
		29				30			
TOTAL LOAD / ø			4992	4992	2592				
TOTAL LOAD			12,576			/ 360 = 34.9 AMPS			
MIN. C/B AIC: 10,000									

PANEL SCHEDULE

NOT TO SCALE

PANEL "C3"	150 AMP	120/208V , 3ø, 4W	LOCATION: EAST TRUCK DOCK (EXISTING)									
SURFACE MOUNTED		TYPE B.O.	100 AMP MAINS:				BREAKER 45A/3P					
	AREA	C/B	A ø	B ø	C ø	CIR. NO.	CIR. NO.	A ø	B ø	C ø	C/B	CIRCUIT DESCRIPTION
EXISTING	RECEPTS. – 1100	20A	300			1	2	300			20A	RECEPTS. – 1088
	RECEPTS. – 1102	20A		300		3	4		300		20A	RECEPTS. – 1088
	RECEPTS. – 1104	20A			300	5	6			300	20A	RECEPTS. – 1018
	RECEPTS. – 1108	20A	300			7	8	300			20A	RECEPTS. – 1016
	RECEPS. – 1001	20A		300		9	10		300		20A	RECEPS. – 1013
	RECEPTS. – 1005	20A			300	11	12			300	20A	RECEPTS. – 1011
	TRACK LIGHTS – 1106	20A	1080			13	14	300			20A	RECEPTS. – 1009
NEW LOAD	TRACK LIGHTS – 1106	20A		1800		15	16		300		20A	RECEPS. – 1007
	TRACK LIGHTS – 1106	20A			1800	17	18			300	20A	RECEPTS. – 1088
	TRACK LIGHTS – 1106	20A	1800			19	20	1800			20A	TRACK LIGHTS – 1106
	TRACK LIGHTS – 1106	20A		1800		21	22		1800		20A	TRACK LIGHTS – 1106
	TRACK LIGHTS – 1106	20A			1800	23	24			720	20A	TRACK LIGHTS – 1106
EXISTING	SPARE	20A				25	26	720			20A	RECCPTS. – 1106
	SPARE	20A				27	28				20A	SPARE
	SPARE	20A				29	30				20A	SPARE
LOAD PER PHASE	TOTAL CONNECTED LOAD		3480	4200	4200			3420	2700	2700		
	25 % OF CONTINUOUS		870	1050	1050			855	675	675		
	TOTAL CODE		4350	5250	5250			4275	3375	3375		
	INTERGRATED EQUIP. RATING: 22,000										5250 ÷ 120V =	43.75 AMPS

EXISTING

NEW LOAD

EXISTING

EXISTING

NEW LOAD

EXIST.

PANEL SCHEDULE

NOT TO SCALE

01C-6007

LIGHTING FIXTURE SCHEDULE

DES	MANUFACTURER CATALOG NUMBER	VOLTAGE MOUNTING # OF LAMPS	BALLAST CATALOG NUMBER LAMP TYPE LAMP CATALOG NUMBER	DESCRIPTION
A	LITHONIA LB240A 120 ES ---	120 SURFACE 2	446-L-SLH-TC-P FLUORESCENT F40CW	10" W X 3" D X 48" L SURFACE MOUNTED WRAPAROUND WITH ACRYLIC PRISMATIC LENS; STD. LAMPS & ENERGY EFFICIENT BALLAST.
A1	LITHONIA LB240A 120 ES ---	120 SURFACE 2	COLD WEATHER BALLAST FLUORESCENT F40CW	10" W X 3" D X 48" L SURFACE MOUNTED WRAPAROUND WITH ACRYLIC PRISMATIC LENS; STD. LAMPS & COLD WEATHER BALLAST.
B	LITHONIA 2GT 240 A12 120 ES	120 RECESSED 2	446-L-SLH-TC-P FLUORESCENT F40CW	24"W X 48"L X 4 1/2"H LAY-IN TROFFER; ACRYLIC PRISMATIC LENS; FLAT STL DR & STD LAMPS & ENERGY EFFICIENT BALLAST
B1	LITHONIA 2GT 240 A12 120 EL	120 RECESSED 2	446-L-SLH-TC-P FLUORESCENT F40CW	24"W X 48"L X 4 1/2"H LAY-IN TROFFER; ACRYLIC PRISMATIC LENS; FLAT STL DR & STD LAMPS & ENER EFF & EMER BALLAST
C	LITHONIA C240 120 ES ---	120 CEILING SURF 2	446-L-SLH-TC-P FLUORESCENT F40CW	4 3/16"W X 48"L X 3 3/4"H STRIP WITH STANDARD LAMPS & ENERGY EFFICIENT BALLAST.
D	LITHONIA WC 232A12 120 GEB EL	120 CEILING SURF 2	ELECTRONIC & EMER FLUORESCENT F32T8SP41	4 5/8"W X 48"L X 4 5/8"H WALL MOUNTED LIGHT FIXTURE WITH ACRYLIC DIFFUSER ELECTRONIC AND 500 LUMEN BATTERY BALLASTS.
E	BY OWNER ENTRY LIGHT ---	120 WALL SURFACE 1	NONE INCANDESCENT 60W A19	UNIT ENTRY LIGHT SELECTED BY THE OWNER. --- ---
F	BY OWNER DINING ROOM LIGHT ---	120 CEILING SURFACE 3	NONE INCANDESCENT 60W A19	UNIT DINING ROOM LIGHT SELECTED BY THE OWNER. --- ---
G	DEVINE GFP80-100MH-120 ---	120 CEILING SURF 1	NONE METAL HALIDE 100W/MED/U	14 1/4" SQUARE X 8 1/4"D DIE-CAST ALUMINUM HOUSING WITH A POLYCARBONATE LENS. TYPE V DISTRIBUTION PATTERN
K	BY OWNER KITCHEN LIGHT ---	120 CEILING SURFACE 2	NONE INCANDESCENT 60W A19	UNIT KITCHEN LIGHT SELECTED BY THE OWNER. --- ---
M	BY OWNER BEDROOM LIGHT ---	120 CEILING SURFACE 2	NONE INCANDESCENT 60W A19	UNIT BEDROOM LIGHT SELECTED BY THE OWNER. --- ---
N	BY OWNER BATHROOM LIGHT ---	120 CEILING SURFACE 4	NONE INCANDESCENT 60W G25	UNIT BATHROOM LIGHT SELECTED BY THE OWNER. --- ---
P	LEVITON 9875 ---	120 CEILING SURFACE 1	NONE INCANDESCENT 100W A19	PORCELAIN KEYLESS LAMPHOLDER --- ---
P1	STONCO VWXL11GC ---	120 WALL SURFACE 1	NONE INCANDESCENT 100W A19	VAPORTIGHT ELEVATOR PIT LIGHT. --- ---
R	LITHONIA AH 32M 6AR 120 ---	120 RECESSED 1	WITH FIXTURE METAL HALIDE MXR32/C/VBU	6" DIA X 10 1/8" H RECESSED DOWNLIGHT WITH CLEAR ALZAK REFLECTOR. ---
R1	LITHONIA AH 100M 9AR 120 ---	120 RECESSED 1	WITH FIXTURE METAL HALIDE MXR32/C/VBU	9" DIA X 15 5/16" H RECESSED DOWNLIGHT WITH CLEAR ALZAK REFLECTOR. ---
S	DEVINE LMS200-50MH 120 SBB	120 WALL RECESS 1	STANDARD WITH FIXTURE METAL HALIDE 50W/MED/U	13 3/4" W X 7 1/2"H X 3 5/8"D DIE-CAST ALUMINUM HOUSING WITH AN OPAL GLASS LENS AND SHALLOW BACK BOX.
T	BY OWNER HALLWAY LIGHT ---	120 CEILING SURFACE 1	NONE INCANDESCENT 60W G25	UNIT HALLWAY LIGHT SELECTED BY THE OWNER. --- ---
W	DEVINE BC014-50MH-120CS ---	120 WALL SURFACE 1	STANDARD WITH FIXTURE METAL HALIDE 50W/MED/U	14 1/4" W X 9 1/8"H X 7"D DIE-CAST ALUMINUM HOUSING WITH A FLASH OPAL GLASS LENS AND CAST HOOD.
X	LITHONIA LES1G120ELN ---	120 SURFACE 1	STANDARD WITH FIXTURE LED ---	EXIT; GREEN LETTERS; SINGLE STENCIL FACE. BRUSHED ALUMINUM. UNIVERSAL MOUNTING CANOPY; ARROWS & BATTERY.
X1	LITHONIA 6ELM2 ---	120 WALL SURFACE 2	NONE INCANDESCENT 7.2W	INJ. MOLDED HIGH IMPACT THERMOPLASTIC EMERGENCY EGRESS LIGHT TWIN HEADS. UNIVERSAL MOUNTING LEAD CALCIUM BATTERY
X2	LITHONIA LES2G120ELN ---	120 SURFACE 1	STANDARD WITH FIXTURE LED ---	EXIT; GREEN LETTERS; DOUBLE STENCIL FACE. BRUSHED ALUMINUM. UNIVERSAL MOUNTING CANOPY; ARROWS & BATTERY.

LIGHT FIXTURE SCHEDULE

NOT TO SCALE

TS SETTING	CKT.	BRKR.	DESCRIPTION	LOAD L1	LOAD L2	LOAD L3	LCL
		PANEL "B"		NO MAIN BREAKER			
		120/208 V, 3ø, 4W		ALL BREAKERS 10,000 AIC			
		200 AMPERE BUSSING		SURFACE MOUNTING (EXISTING)			
	1	20/1	EXHAUST FAN	800			X
	2	20/1	OUTLETS	800			X
	3	20/1	OUTLETS		1260		
●	4	20/1	OUTLETS		1440	3000	
	5	30/1	INSTANT HOT WATER				
✳ ■ ●	6	20/1	LIGHTS		720		
	7		SPACE				
✳ ■ ●	8	20/1	FUTURE SIGN	1200			
	9		SPACE				
	10						
	11						
	12						
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26	30/2	EVAP. COOLER	1500			
	27		SPACE				
	28	X			1500		
	29		SPACE				
	30	30/2	EVAP. COOLER			1500	
	31		SPACE				
	32	X		1500			
	33		SPACE				
	34	30/2	AIR CONDITIONER		1500		
	35		SPACE				
	36	X				1500	

NON LCL	16,000		SPARE NON LCL	1000	840		
LCL	2,000		SPARE LCL	400	180		X
25% LCL	500						
TOTAL	18,500 W		LINE TOTALS	6000	7440	6000	

● NEW LOAD

✳ NEW BREAKER

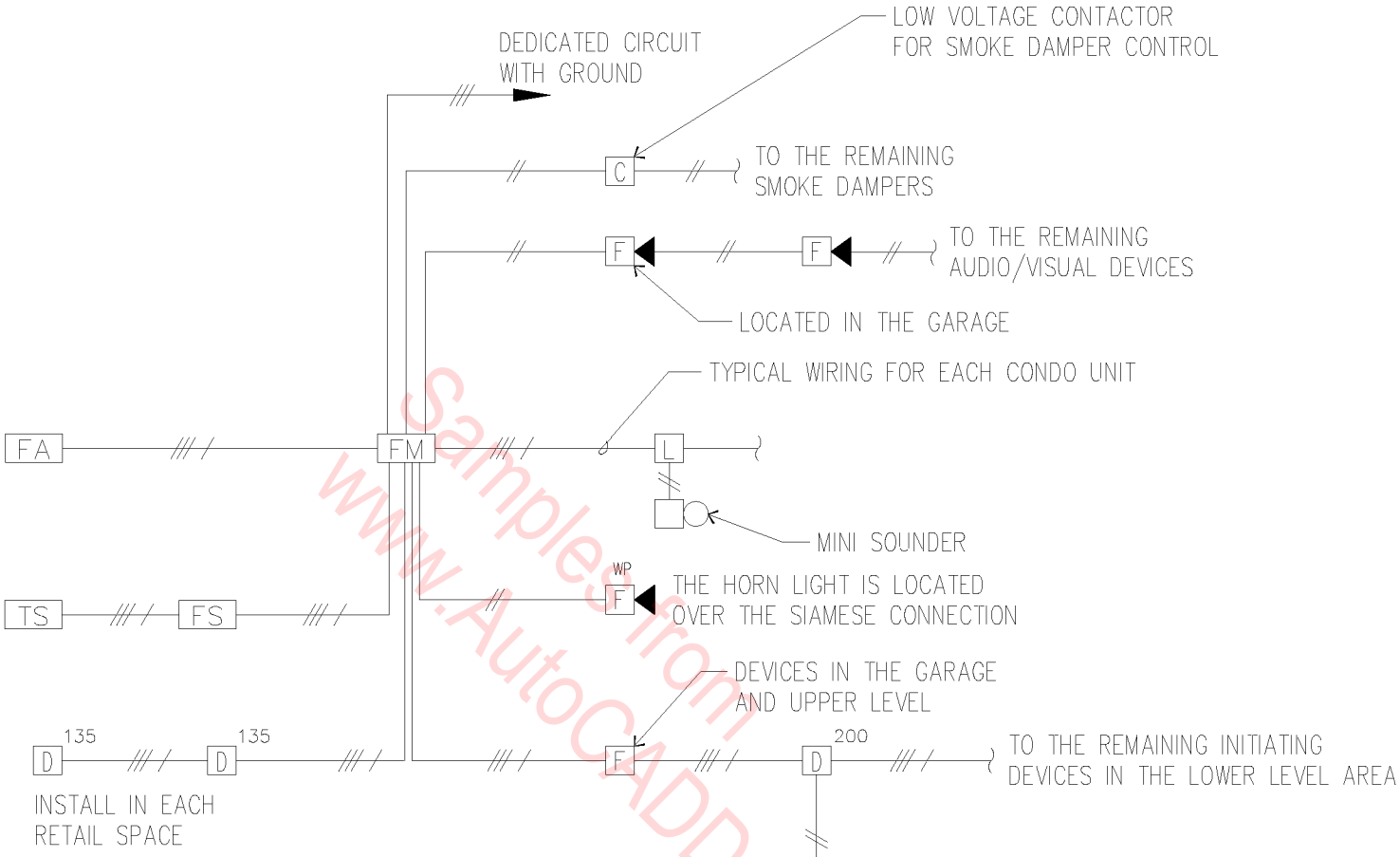
■ LOAD @ 125%

7440 ÷ 120V = 62 AMPS

PANEL SCHEDULE

NOT TO SCALE

01C-6009



NOTES:

1. EACH RESIDENTIAL UNIT IS TO BE A SEPARATE ZONE.
2. EACH RESIDENTIAL UNIT IS TO HAVE A COMBINATION DETECTOR AND MINI-SOUNDER LOCATED WITHIN EACH BEDROOM AND ADJACENT HALLWAY TIED TO THE CENTRAL SYSTEM.
3. ELEVATOR LOBBY DEVICES ARE TO HAVE AUXILIARY CONTACTS FOR ELEVATOR CAPTURE VERIFY WIRING REQUIREMENTS WITH THE ELEVATOR COMPANY PRIOR TO INSTALLING THE WIRE.
4. SEE THE MECHANICAL PLANS FOR THE EXACT NUMBER OF SMOKE DAMPERS THAT WILL BE REQUIRED.

FIRE ALARM BLOCK DIAGRAM

N.T.S.

01C-6010

GENERAL NOTES:

SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

THIS SYMBOL LEGEND IS FOR GENERAL REFERENCE USE. SPECIFIC REQUIREMENTS ON THE PLANS OR SCHEDULES TAKE PRECEDENCE.

ALL OUTLETS ARE TO BE INSTALLED FLUSH UNLESS OTHERWISE INDICATED.

MOUNTING HEIGHTS SHOWN ON THE PLANS TAKE PRECEDENCE OVER THIS LEGEND.

CHECK ALL DOOR SWINGS AND CABINETRY ELEVATIONS BEFORE INSTALLING SWITCH AND OUTLET BOXES.

ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BKR	BREAKER
C	CONDUIT
EMT	ELECTRICAL METALLIC TUBING
GRC	GALVANIZED RIGID CONDUIT
GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
R	ROOF MOUNTED WEATHER-PROOF GFI
WP	WEATHERPROOF

OUTLETS MH = 1'-6" TO CENTER

- WP GFI 8 — DUPLEX RECEPTACLE; 8 = CIRCUIT NUMBER (TYPICAL); WP = WEATHERPROOF; GFI = GROUND FAULT INTERRUPTER
- FOURPLEX RECEPTACLE
- SPECIAL – SEE EQUIPMENT SCHEDULE
- SPLIT WIRED RECEPTACLE
- J — JUNCTION BOX – CEILING
- J — JUNCTION BOX – WALL
- TELEPHONE – WALL
- FLOOR RECEPTACLE
- C — CEILING RECEPTACLE

SWITCHES MH = 3'-10" TO CENTER

- $ SINGLE POLE
- $2 TWO POLE
- $3 THREE WAY
- $4 FOUR WAY
- $D DIMMER
- $F FAN/LIGHT HEATER WALL SWITCH

LIGHTING FIXTURES

- A / 1 — FLUORESCENT – LENSED; A = FIXTURE TYPE – SEE SCHEDULE; 1 = CIRCUIT DESIGNATION
- A / 1 — FLUORESCENT – OPEN
- A / 1 — CEILING MOUNTED
- A / 1 — WALL BRACKET; MH = SEE PLANS
- A / 1 — POLE MOUNTED – SINGLE
- A / 1 — POLE MOUNTED – DOUBLE

GENERAL SYMBOLS

- AC / 1 — EQUIPMENT; AC-1 = DESIGNATION – SEE SCHEDULE
- 1 — FLAG NOTE
- 1 — REVISION
- 12 — ROOM NUMBER

CONDUIT

- CONCEALED IN WALLS OR CEILING
- UNDER FLOOR OR UNDERGROUND
- LB-7 — HOME RUN; LB-7 = PANEL & CIRCUIT; HACHURES = NUMBER OF WIRES

ONE LINE DIAGRAM

2-2"PVC	FEEDER: NO. OF CONDUITS – SIZE AND MATERIAL
3 #4/0 THW – AL 1 #4 GRD THW – CU	NUMBER & SIZE OF ø & N INSULATION & CONDUCTOR GROUND SIZE (IF USED) INSULATION & CONDUCTOR

- M — METER
- LP1 — PANELBOARD – SEE SCHEDULE; LP1 = DESIGNATION
- CURRENT TRANSFORMER
- 60/3 — FUSED SWITCH; 60 AMP 3 POLE FRAME
- 50 KTNR — 50 AMP KTNR FUSE

FIRE ALARM SYSTEM

- FM — MASTER PANEL MH = 5'-0" TO TOP
- FA — ANNUNCIATOR PANEL MH = 5'-0" TO TOP
- F — HORN/LIGHT COMBINATION MH = 80" TO CENTER
- S — STROBE LIGHT MH = 80" TO CENTER
- F — PULL STATION MH = 3'-10" TO CENTER
- P — PHOTOELECTRIC SMOKE DETECTOR
- D 135 — THERMAL DETECTOR – 135 DEGREES
- D 200 — THERMAL DETECTOR – 200 DEGREES
- ANSUL — ANSUL EQUIPMENT
- FS — SPRINKLER SYSTEM FLOW SWITCH
- TS — SPRINKLER VALVE TAMPER SWITCH

EQUIPMENT

- MAGNETIC MOTOR STARTER MH = 4'-6" TO TOP
- F — FUSED DISCONNECT MH = 4'-6" TO TOP
- UNFUSED DISCONNECT MH = 4'-6" TO TOP
- M — MOTOR
- L1A — PANELBOARD; L1A = DESIGNATION 6'-0" TO TOP
- PC — PHOTOCELL
- TC — TIME CLOCK MH = 4'-6" TO TOP

SERVICE ENTRANCE

- M — METER MH = 5'-6" TO CENTER
- TELEPHONE TERMINAL MH = 4'-6" TO CENTER
- PAD MOUNTED TRANSFORMER
- MDC — MAIN DISTRIBUTION CENTER

ELECTRICAL SYMBOLS

N.T.S.

01C-6011

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NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
R	ROOF MOUNTED WEATHER-PROOF GFI
WP	WEATHERPROOF

OUTLETS MH = 1'-6" TO CENTER

- DUPLEX RECEPTACLE (WP, GFI, 8) — 8 = CIRCUIT NUMBER (TYPICAL); WP = WEATHERPROOF; GFI = GROUND FAULT INTERRUPTER
- FOURPLEX RECEPTACLE
- SPECIAL – SEE EQUIPMENT SCHEDULE
- SPLIT WIRED RECEPTACLE
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- A/1 — CEILING MOUNTED
- A/1 — WALL BRACKET; MH = SEE PLANS
- A/1 — POLE MOUNTED – SINGLE
- A/1 — POLE MOUNTED – DOUBLE

GENERAL SYMBOLS

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- M — MOTOR
- L1A — PANELBOARD; L1A = DESIGNATION 6'-0" TO TOP
- PC — PHOTOCELL
- TC — TIME CLOCK MH = 4'-6" TO TOP

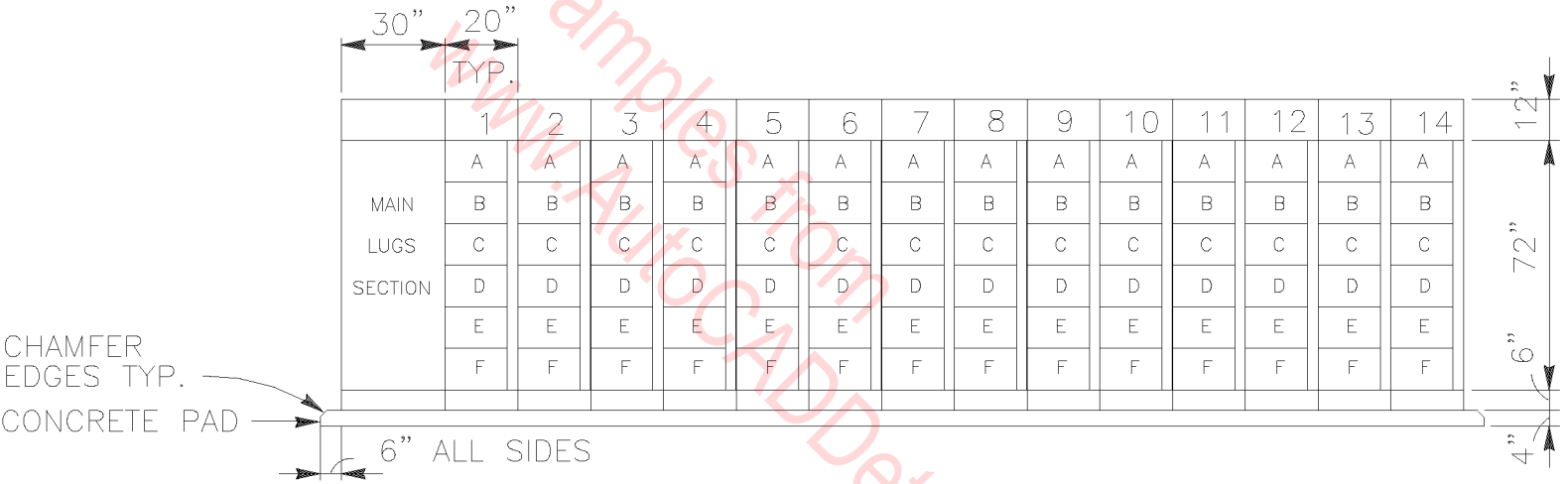
SERVICE ENTRANCE

- M — METER MH = 5'-6" TO CENTER
- TELEPHONE TERMINAL MH = 4'-6" TO CENTER
- PAD MOUNTED TRANSFORMER
- MDC — MAIN DISTRIBUTION CENTER

ELECTRICAL SYMBOLS

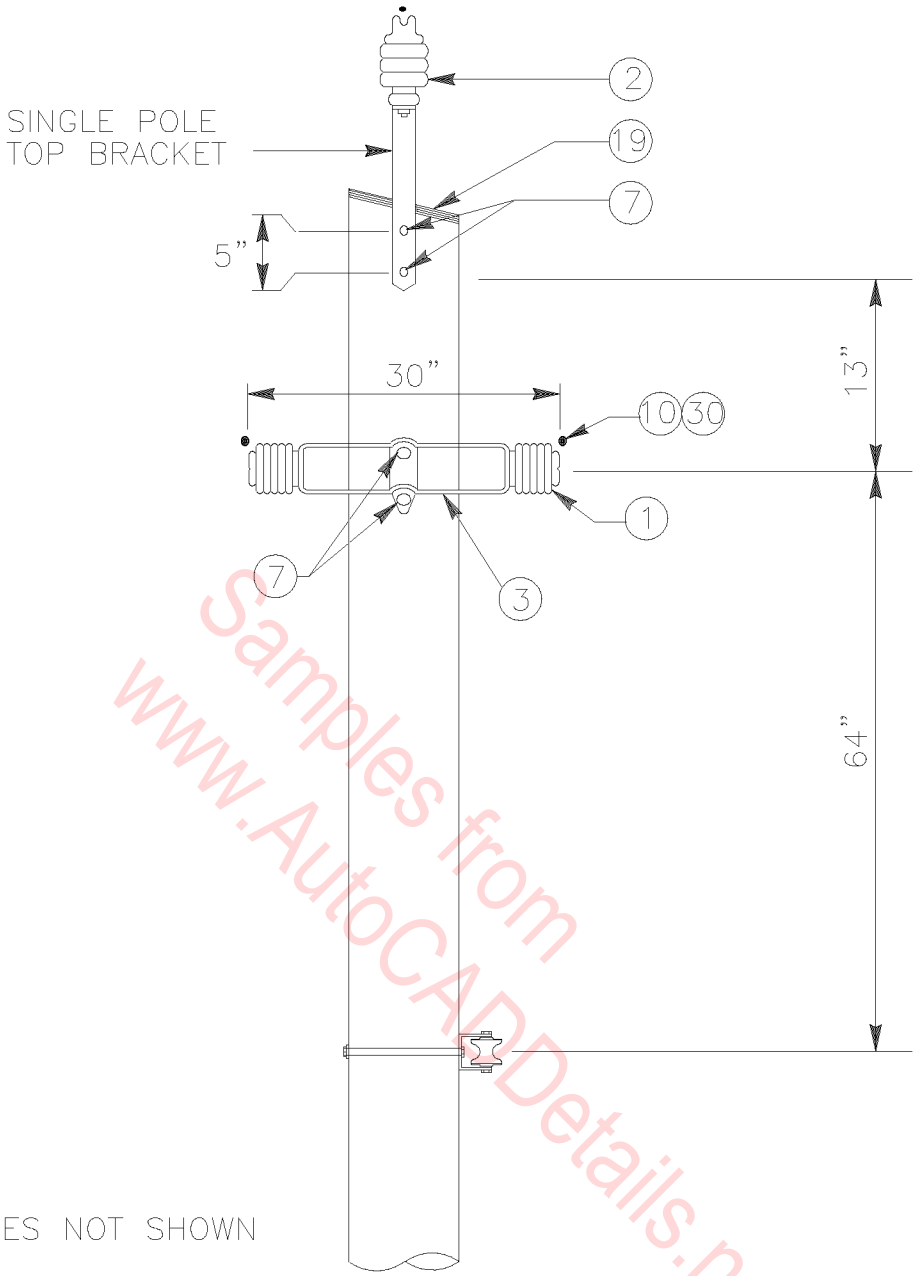
N.T.S.

01C-6011



MOTOR CONTROL CENTER (MCC) – ELEVATION

N.T.S.

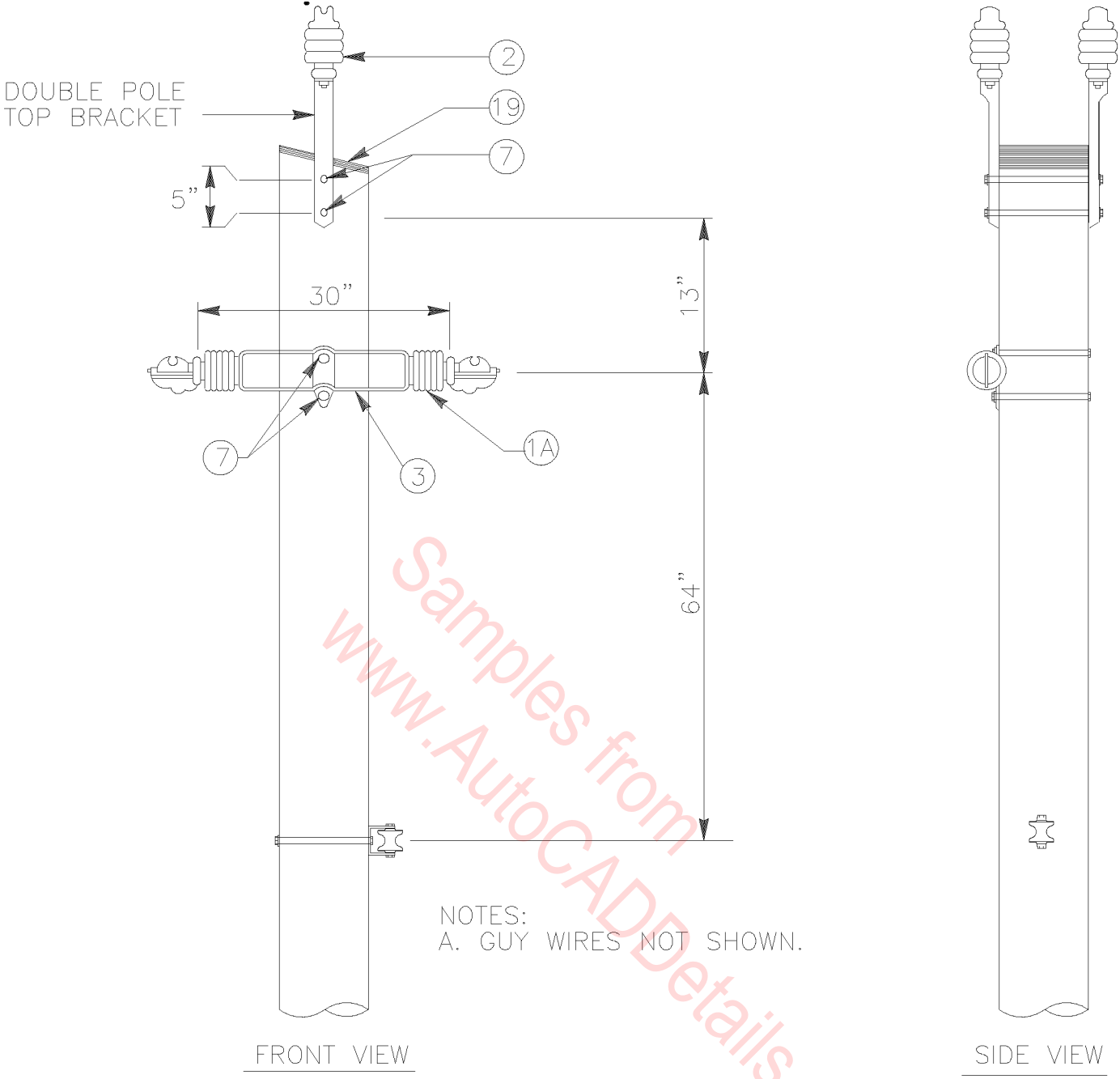


NOTE:
GUY WIRES NOT SHOWN

TYPICAL THREE PHASE POLE (0° – 9°)

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
1	HORIZONTAL LINE POST INSULATORS, TIE TOP 15/25 KV
2	POLE TOP PIN PRESSED STEEL AND PORCELAIN INSULATOR 15/25 KV
3	TWO POST INSULATOR BRACKET
7	5/8" THRU–BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
10	PRIMARY CONDUCTOR
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1–1/4" ALUMINUM NAILS
30	PROVIDE SIDE TIE



TYPICAL THREE PHASE POLE (10° – 30°)

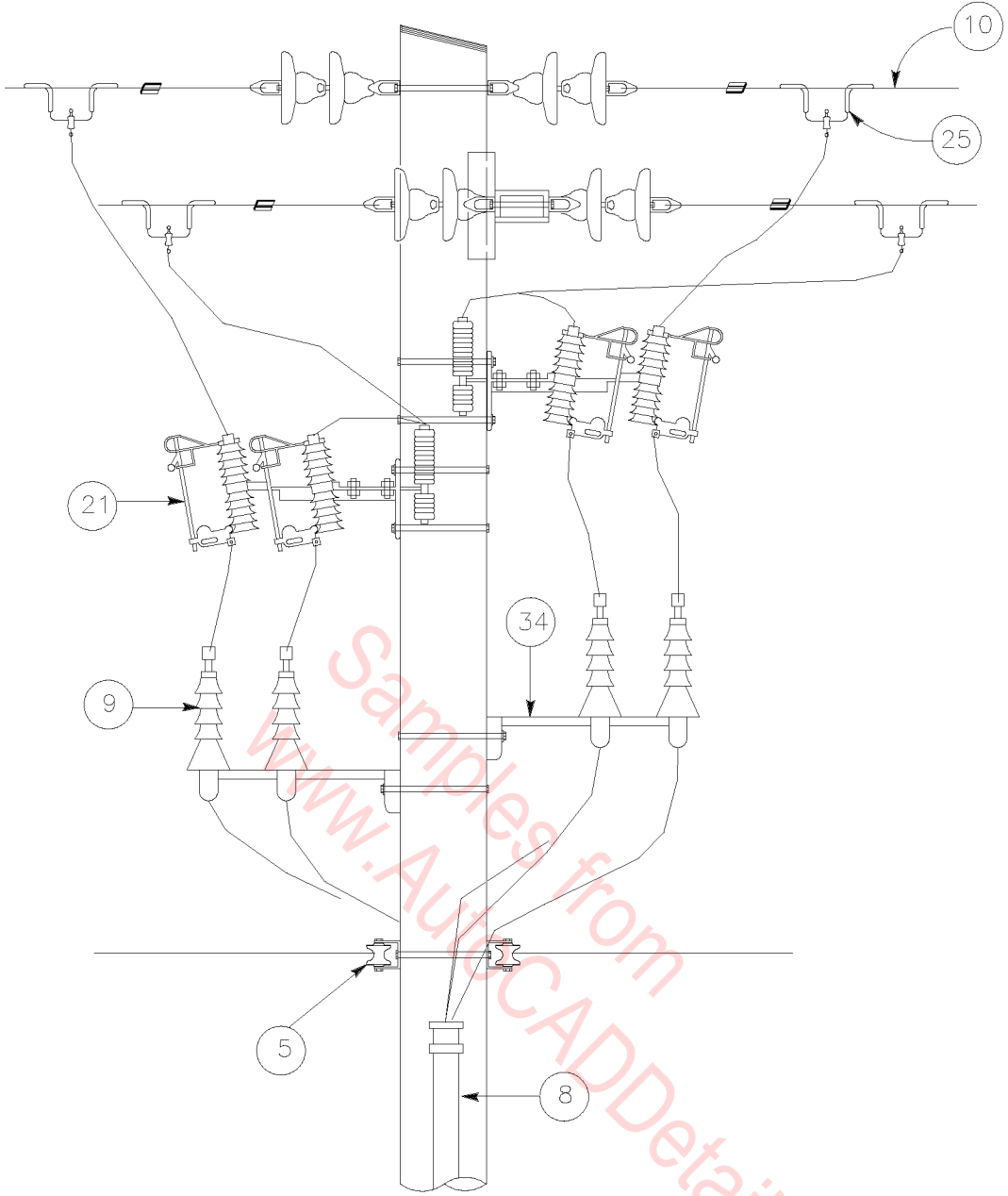
N.T.S.

SCHEDULE OF POLE EQUIPMENT

NO.	DESCRIPTION
1A	HORIZONTAL LINE POST INSULATOR, CLAMP TOP 15/25 KV
2	POLE TOP PIN PRESSED STEEL AND PORCELAIN INSULATOR 15/25 KV
3	TWO POST INSULATOR BRACKET
7	5/8" THRU–BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1–1/4" ALUMINUM NAILS

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.



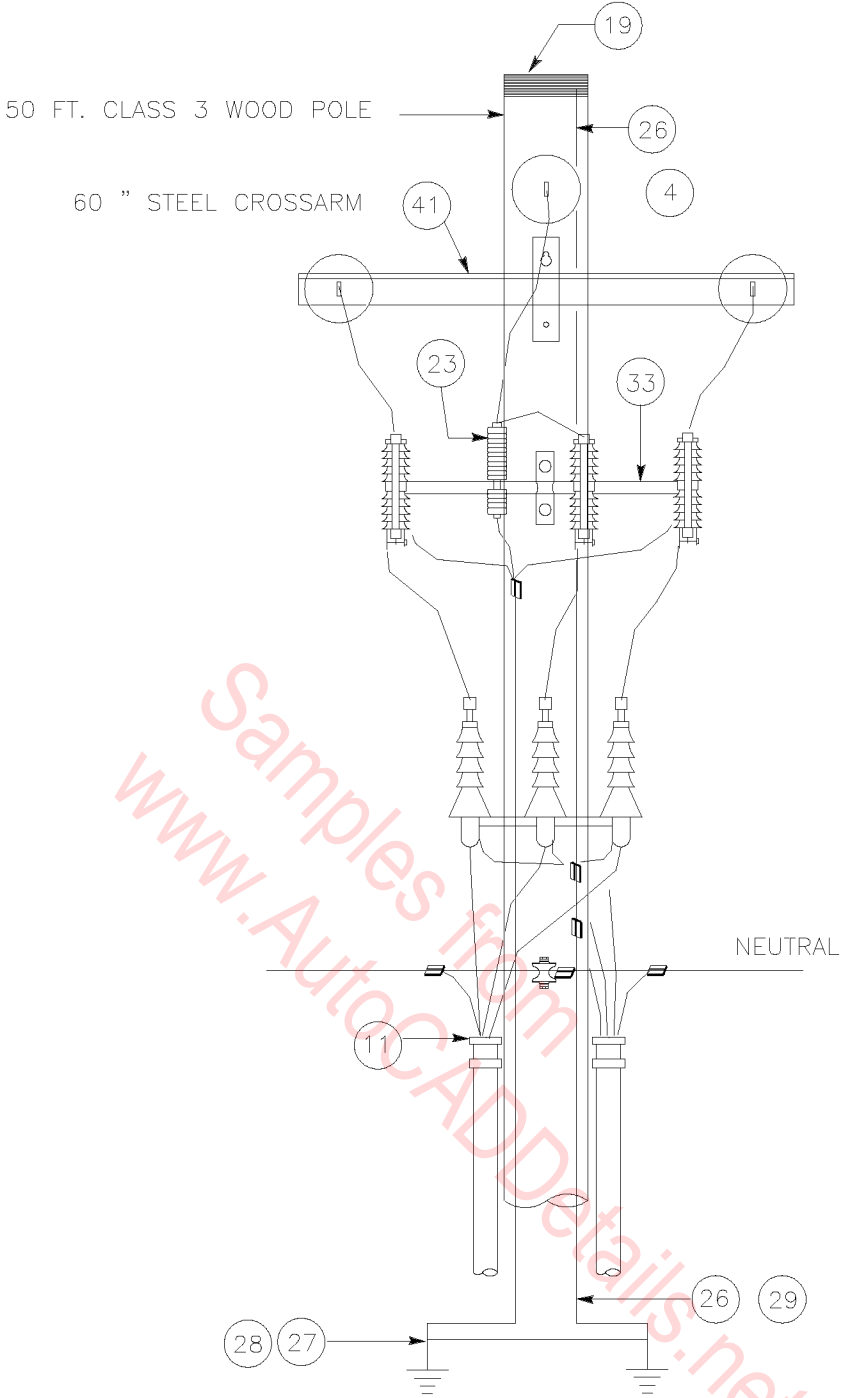
DOUBLE DEAD END, DOUBLE RISER POLE

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
8	RIGID CONDUIT RISER WITH END FITTING, 5" UNLESS OTHERWISE INDICATED, WITH LENGTH AS REQD.
9	1/C TERMINATION, 15/25 KV
10	PRIMARY CONDUCTOR
21	FUSED CUT OUT 15/25 KV
25	STIRRUP, COMPRESSION TYPE AND HOT LINE CLAMP
34	TRI MOUNT BRACKET FOR 1/C POTHEADS AND LIGHTNING ARRESTORS

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.
2. RISER CONDUIT (POLE EQUIPMENT ITEM NO. 8) SHALL BE RIGID STEEL CONDUIT UP TO 9 FEET ABOVE GROUND LEVEL, BUT MAY BE SCHEDULE 40 PVC THEREAFTER.



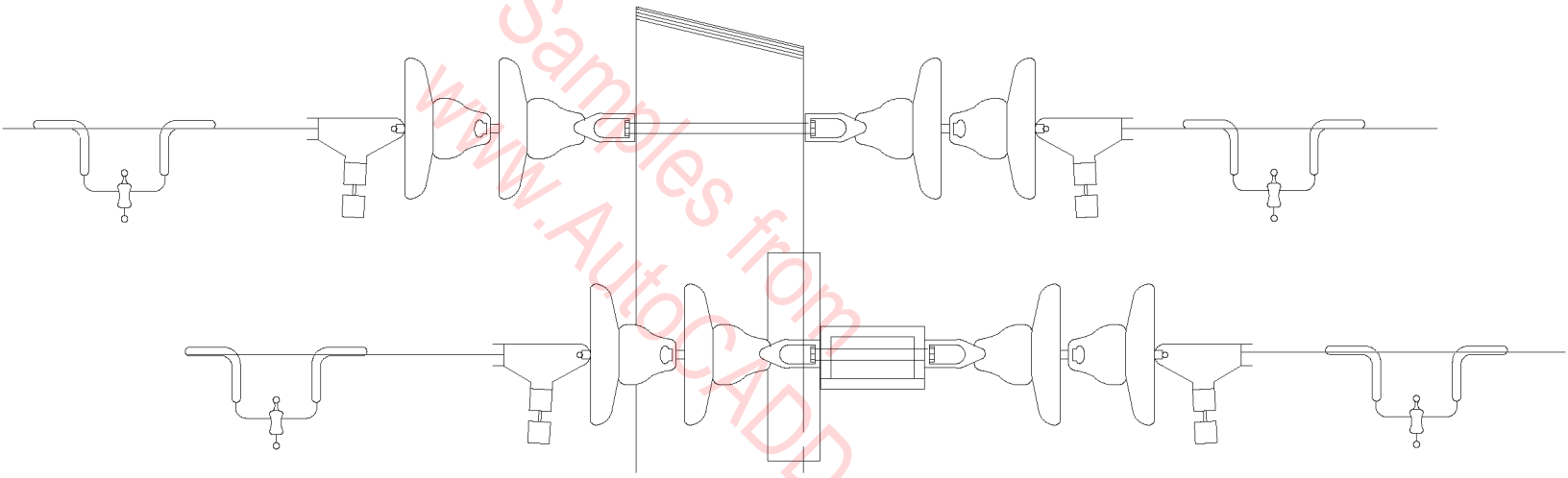
PRIMARY RISER POLE

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
4	INSULATOR SUSPENSION TYPE 15/25 KV
11	STEEL SEALING BUSHING
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1–1/4" ALUMINUM NAILS
23	LIGHTNING ARRESTOR 9 KV METAL OXIDE, DISTRIBUTION CLASS
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
29	HALF ROUND WOOD, PLASTIC OR FIBER MOLDING
33	TRI MOUNT BRACKET FOR FUSED CUT–OUTS AND LIGHTNING ARRESTORS
41	STEEL CROSSARM

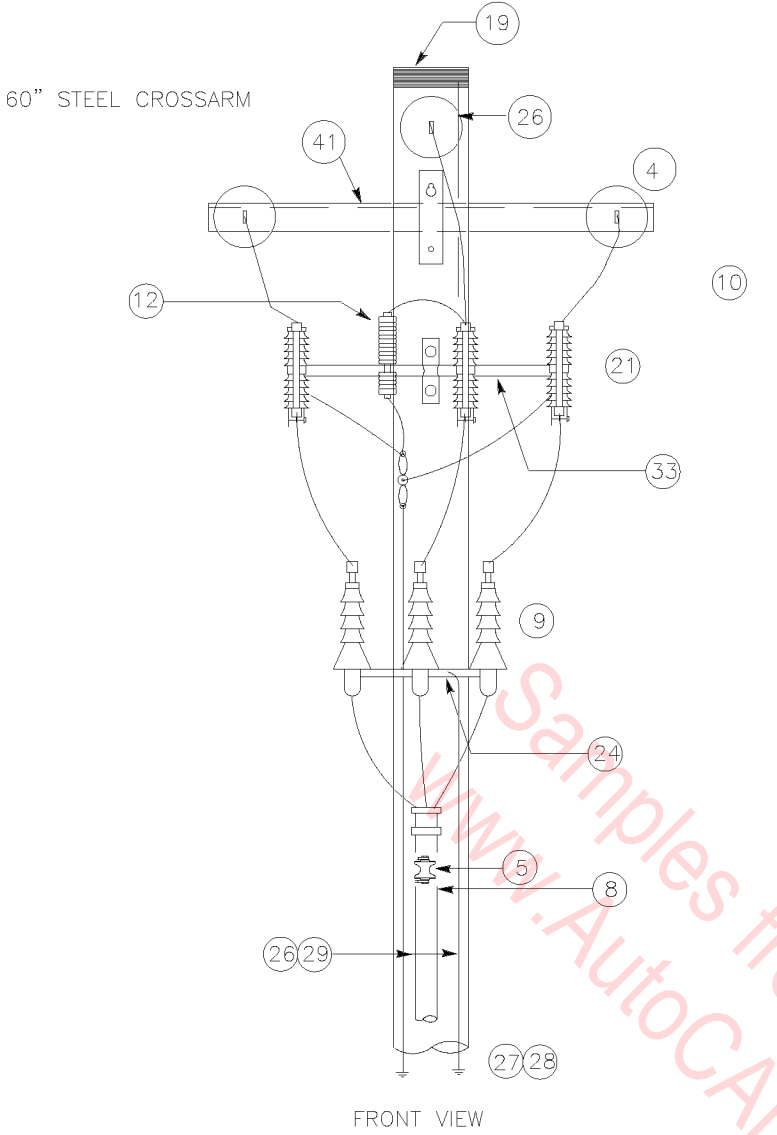
NOTES:

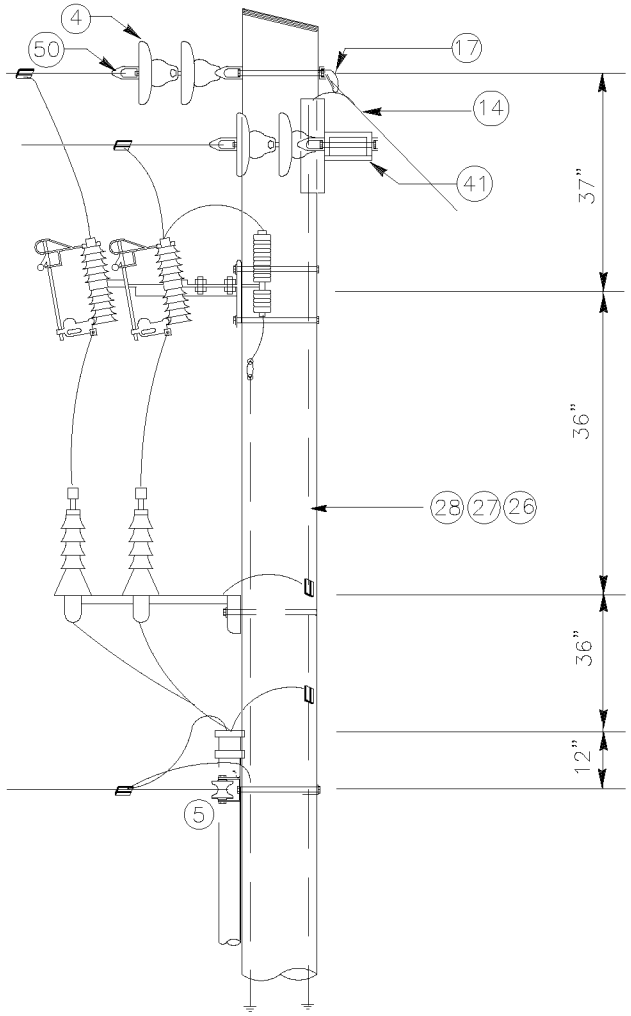
1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.



ALTERNATE DEAD-END CLAMPS

N.T.S.





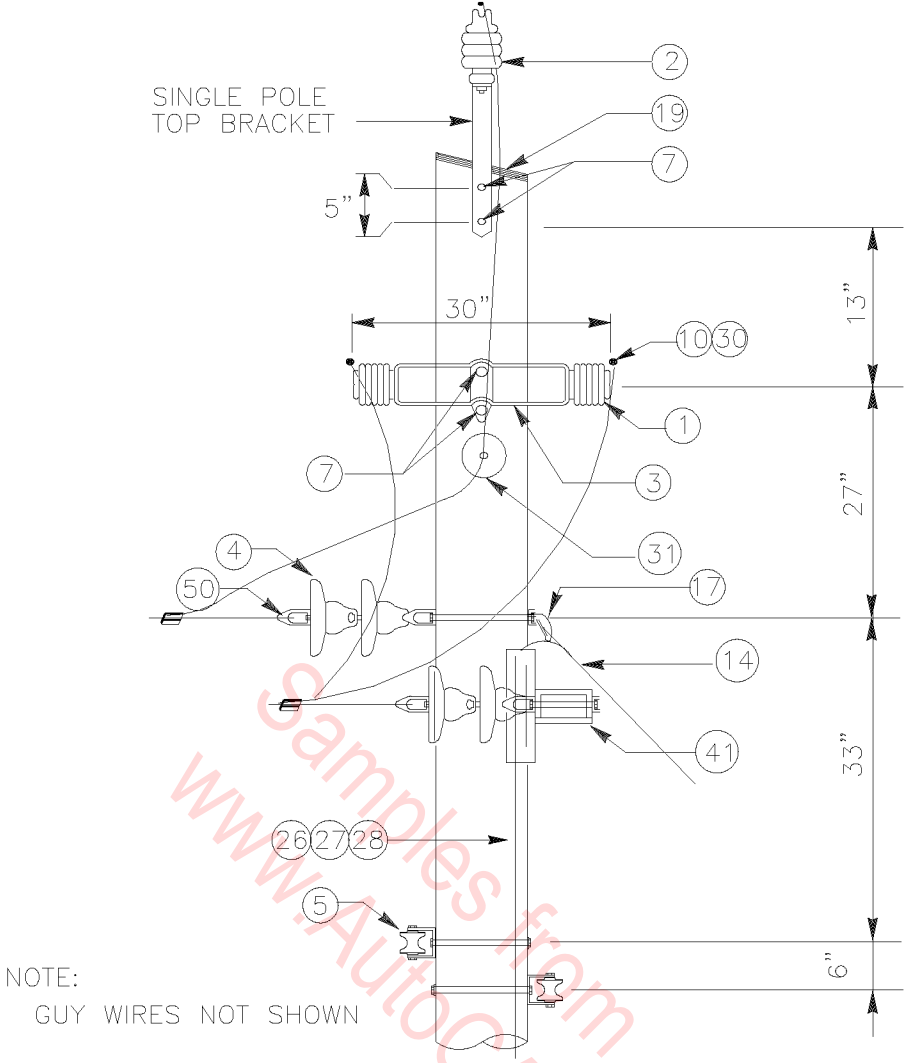
RISER POLE DETAIL

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
4	INSULATOR SUSPENSION TYPE 15/25 KV
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
8	RIGID CONDUIT RISER WITH END FITTING, 5" UNLESS OTHERWISE INDICATED, WITH LENGTH AS REQD.
9	1/C TERMINATION, 15/25 KV
10	PRIMARY CONDUCTOR
12	SCREW LAG 1/2" X 4"
14	DOWN GUY, 7 STRAND STEEL, GALVANIZED HIGH STRENGTH GRADE, AS INDICATED
17	GUY FITTING
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1–1/4" ALUMINUM NAILS
21	FUSED CUT OUT 15/25 KV
24	POTHEAD MOUNTING BRACKET
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
29	HALF ROUND WOOD, PLASTIC OR FIBER MOLDING
33	TRI MOUNT BRACKET FOR FUSED CUT–OUTS AND LIGHTNING ARRESTORS
41	STEEL CROSSARM
50	STRAIGHT STRAIN DEADEND CLAMP

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.
2. RISER CONDUIT (POLE EQUIPMENT ITEM NO. 8) SHALL BE RIGID STEEL CONDUIT UP TO 9 FEET ABOVE GROUND LEVEL, BUT MAY BE SCHEDULE 40 PVC THEREAFTER.



NOTE:
GUY WIRES NOT SHOWN

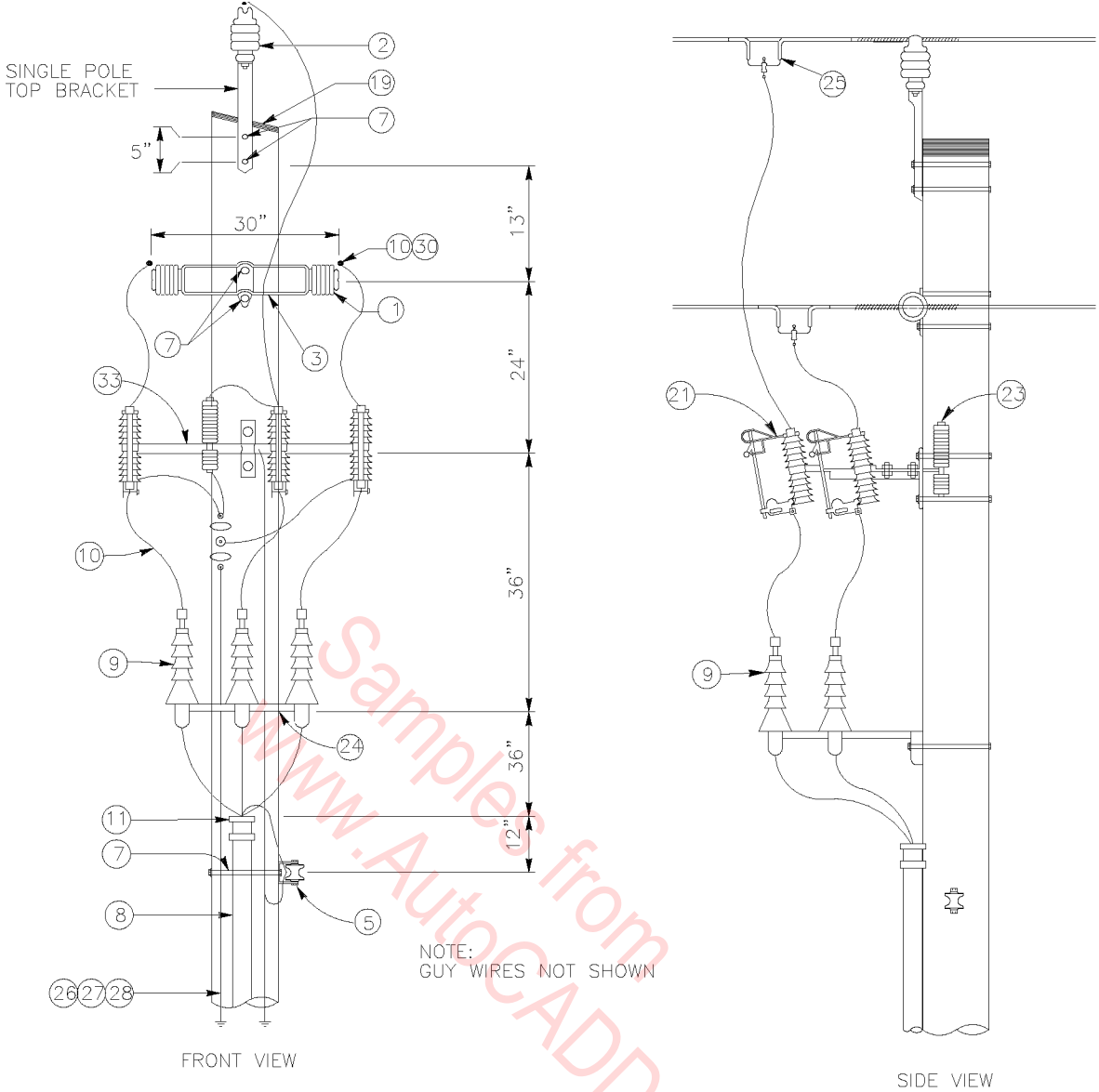
TYPICAL STRAIGHT THRU WITH THREE PHASE TAKE-OFF

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
1	HORIZONTAL LINE POST INSULATORS, TIE TOP 15/25 KV
2	POLE TOP PIN PRESSED STEEL AND PORCELAIN INSULATOR 15/25 KV
3	TWO POST INSULATOR BRACKET
4	INSULATOR SUSPENSION TYPE 15/25 KV
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
7	5/8" THRU-BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
10	PRIMARY CONDUCTOR
14	DOWN GUY, 7 STRAND STEEL, GALVANIZED HIGH STRENGTH GRADE, AS INDICATED
17	GUY FITTING
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY - USE 1-1/4" ALUMINUM NAILS
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
30	PROVIDE SIDE TIE
31	PORCELAIN STANDOFF INSULATOR, 15/25 KV
41	STEEL CROSSARM
50	STRAIGHT STRAIN DEADEND CLAMP

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.



TANGENT RISER POLE

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
1	HORIZONTAL LINE POST INSULATORS, TIE TOP 15/25 KV
2	POLE TOP PIN PRESSED STEEL AND PORCELAIN INSULATOR 15/25 KV
3	TWO POST INSULATOR BRACKET
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
7	5/8" THRU-BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
8	RIGID CONDUIT RISER WITH END FITTING, 5" UNLESS OTHERWISE INDICATED, WITH LENGTH AS REQD.
9	1/C TERMINATION, 15/25 KV
10	PRIMARY CONDUCTOR
11	STEEL SEALING BUSHING
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY - USE 1-1/4" ALUMINUM NAILS
21	FUSED CUT OUT 15/25 KV
23	LIGHTNING ARRESTOR 9 KV METAL OXIDE, DISTRIBUTION CLASS
24	POTHEAD MOUNTING BRACKET
25	STIRRUP, COMPRESSION TYPE AND HOT LINE CLAMP
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
30	PROVIDE SIDE TIE
33	TRI MOUNT BRACKET FOR FUSED CUT-OUTS AND LIGHTNING ARRESTORS

NOTES:

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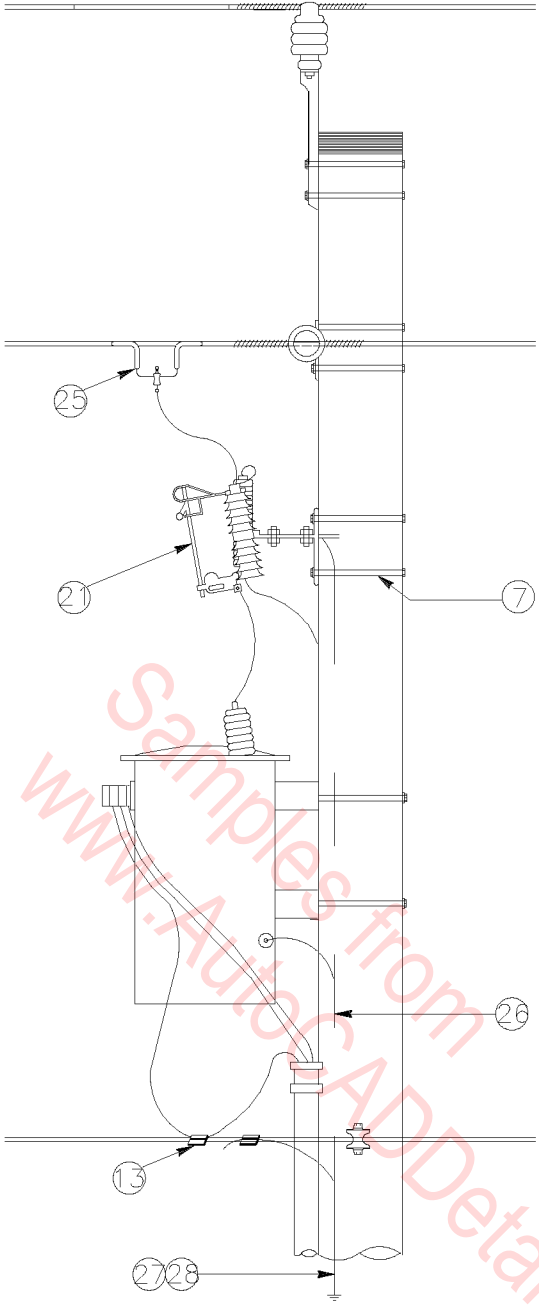


SIDE VIEW

OVERHEAD PRIMARY, UNDERGROUND SECONDARY TRANSFORMER POLE

N.T.S.

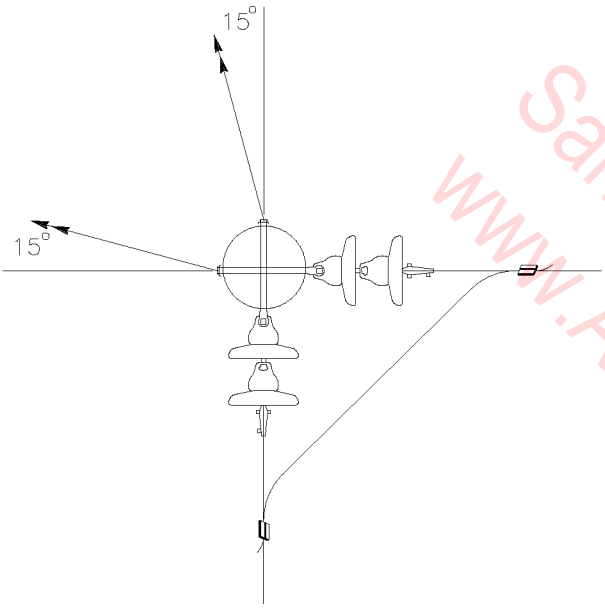
SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
7	5/8" THRU-BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
13	COMPRESSION CONNECTOR
21	FUSED CUT OUT 15/25 KV
25	STIRRUP, COMPRESSION TYPE AND HOT LINE CLAMP
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP

NOTES:

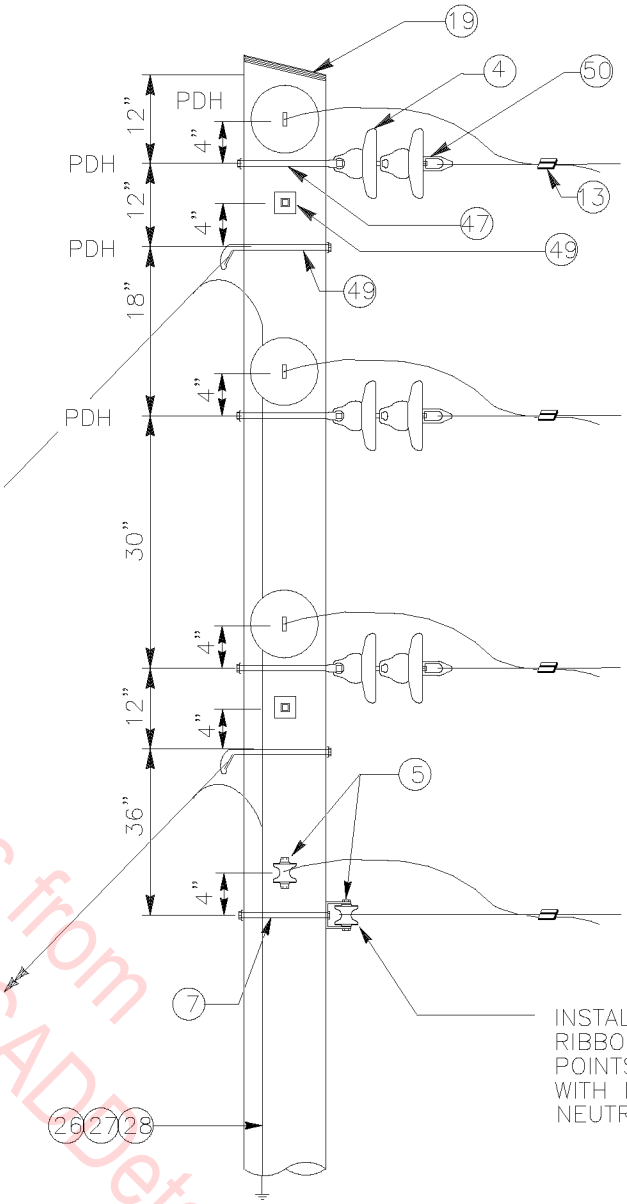
1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.

NOTE:

USE PREDRILLED HOLES WHERE MARKED PDH. DRILL OTHER HOLES TO MISS PREDRILLED HOLES AT RIGHT ANGLES.



PLAN



ELEVATION

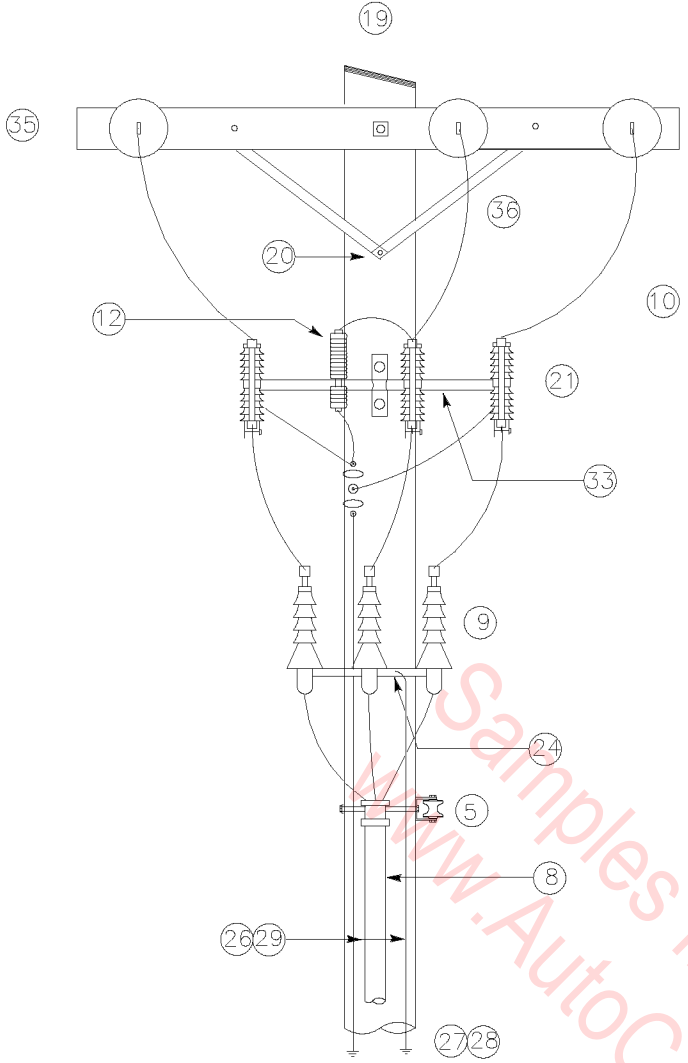
VERTICAL THREE PHASE DEAD END POLE

N.T.S.

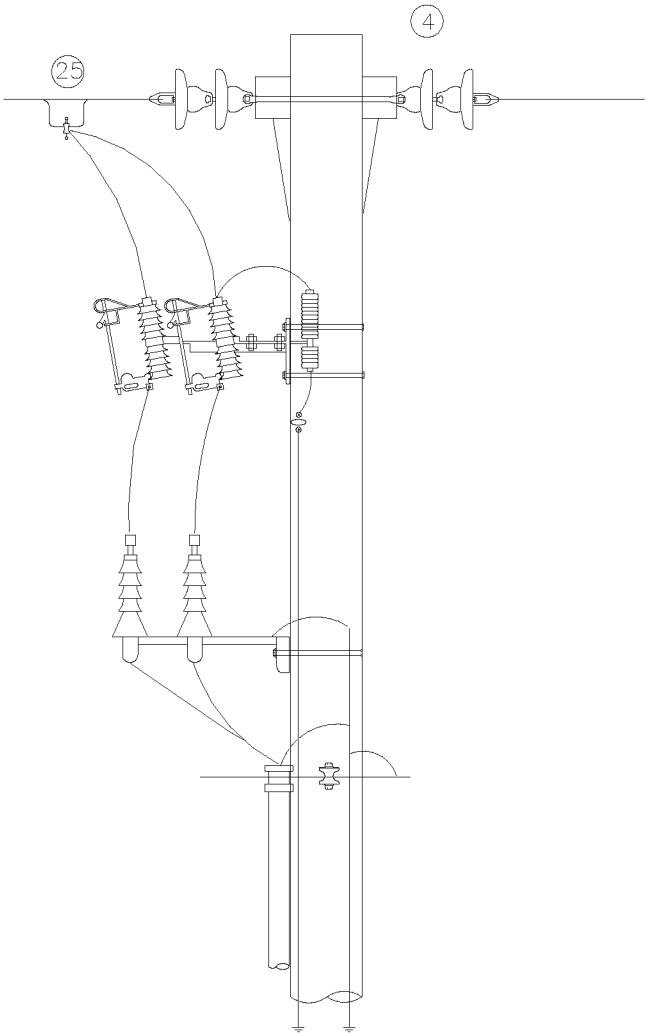
SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
4	INSULATOR SUSPENSION TYPE 15/25 KV
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
7	5/8" THRU-BOLT OF REQUIRED LENGTH, WITH LOCKNUTS AND 2 1/4" WASHER
13	COMPRESSION CONNECTOR
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY - USE 1-1/4" ALUMINUM NAILS
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
47	5/8" CLEVIS BOLT OF REQUIRED LENGTH, WITH COTTER PIN AND HEX NUT
49	5/8" THIMBLE BOLT OF REQUIRED LENGTH, WITH WASHER AND NUT
50	STRAIGHT STRAIN DEADEND CLAMP

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.



FRONT VIEW



SIDE VIEW

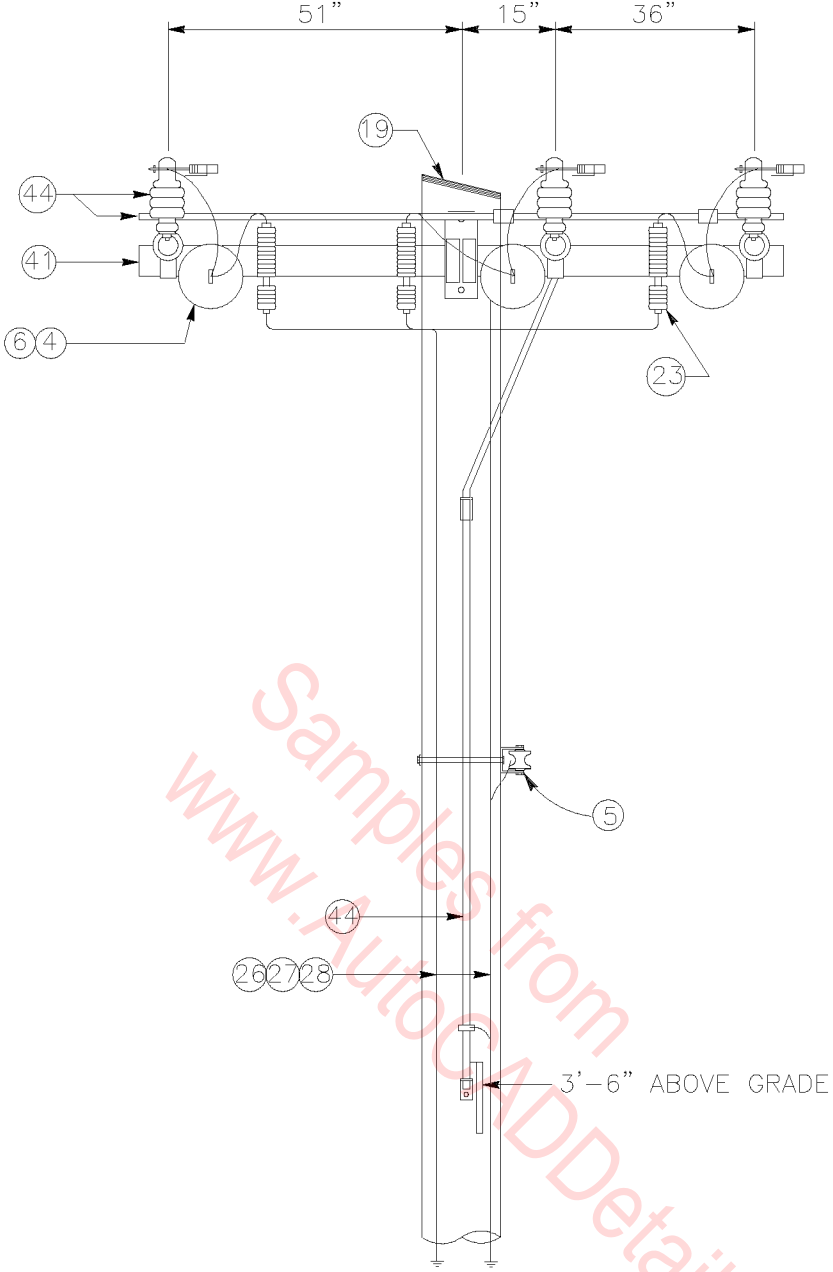
RISER POLE DETAIL

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
4	INSULATOR SUSPENSION TYPE 15/25 KV
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
8	RIGID CONDUIT RISER WITH END FITTING, 5" UNLESS OTHERWISE INDICATED, WITH LENGTH AS REQD.
9	1/C TERMINATION, 15/25 KV
10	PRIMARY CONDUCTOR
12	SCREW LAG 1/2" X 4"
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1–1/4" ALUMINUM NAILS
20	LAG BOLT 1/4"
21	FUSED CUT OUT 15/25 KV
24	POTHEAD MOUNTING BRACKET
25	STIRRUP, COMPRESSION TYPE AND HOT LINE CLAMP
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
29	HALF ROUND WOOD, PLASTIC OR FIBER MOLDING
33	TRI MOUNT BRACKET FOR FUSED CUT–OUTS AND LIGHTNING ARRESTORS
35	WOOD CROSSARM – TREATED – DRILLED AS REQUIRED
36	CROSSARM BRACE

NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.
2. RISER CONDUIT (POLE EQUIPMENT ITEM NO. 8) SHALL BE RIGID STEEL CONDUIT UP TO 9 FEET ABOVE GROUND LEVEL, BUT MAY BE SCHEDULE 40 PVC THEREAFTER.



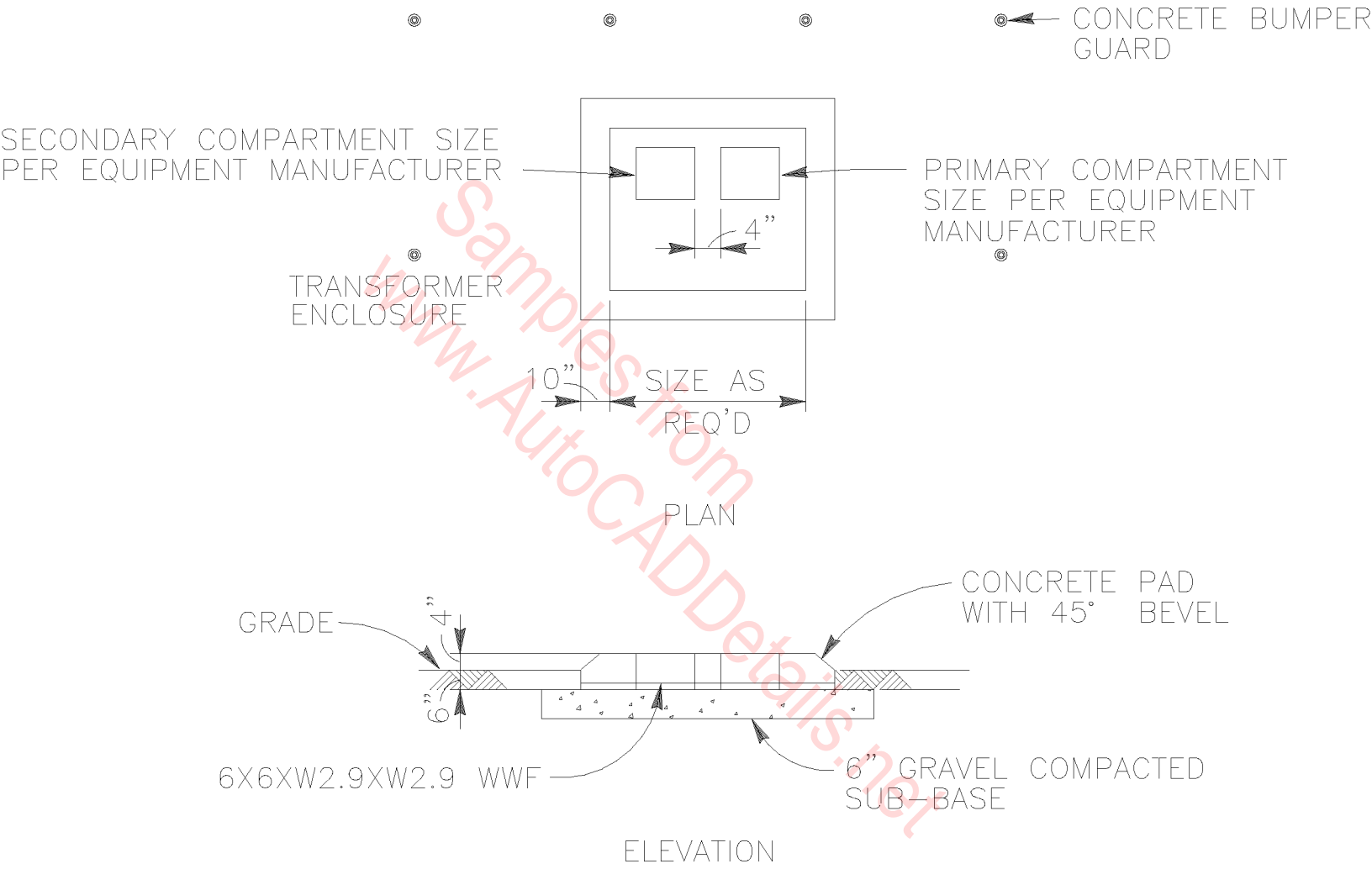
THREE PHASE LINE POLE

N.T.S.

SCHEDULE OF POLE EQUIPMENT	
NO.	DESCRIPTION
4	INSULATOR SUSPENSION TYPE 15/25 KV
5	SECONDARY CLEVIS WITH SPOOL INSULATOR
6	STRAIN CLAMP
19	ALUMINUM POLE CAP 15" IN DIA. NAILS IN SIDE ONLY – USE 1-1/4" ALUMINUM NAILS
23	LIGHTNING ARRESTOR 9 KV METAL OXIDE, DISTRIBUTION CLASS
26	NO. 4 SOLID COPPER
27	GROUND ROD
28	GROUND ROD CLAMP
41	STEEL CROSSARM
44	GANG OPERATED LOAD BREAK (GOLB) SWITCH, 15/25 KV, 600 A

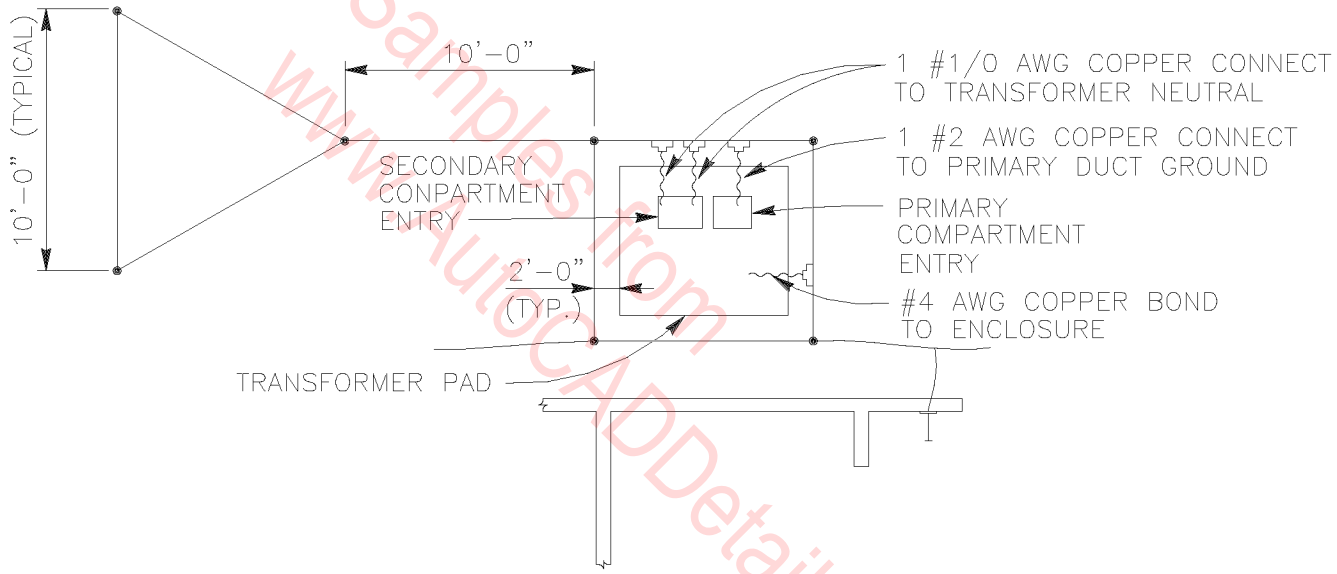
NOTES:

1. SCHEDULE ABOVE LISTS THE MAJOR ITEMS OF EQUIPMENT ONLY. ALL OTHER EQUIPMENT NECESSARY FOR PURPOSE INDICATED SHALL BE PROVIDED UNDER THIS CONTRACT.



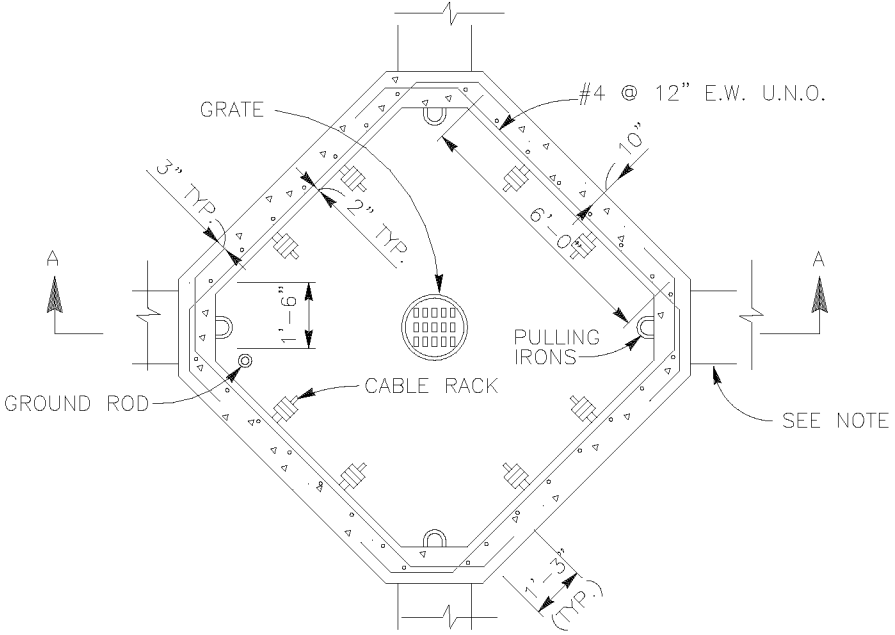
TRANSFORMER PAD DETAIL

N.T.S.

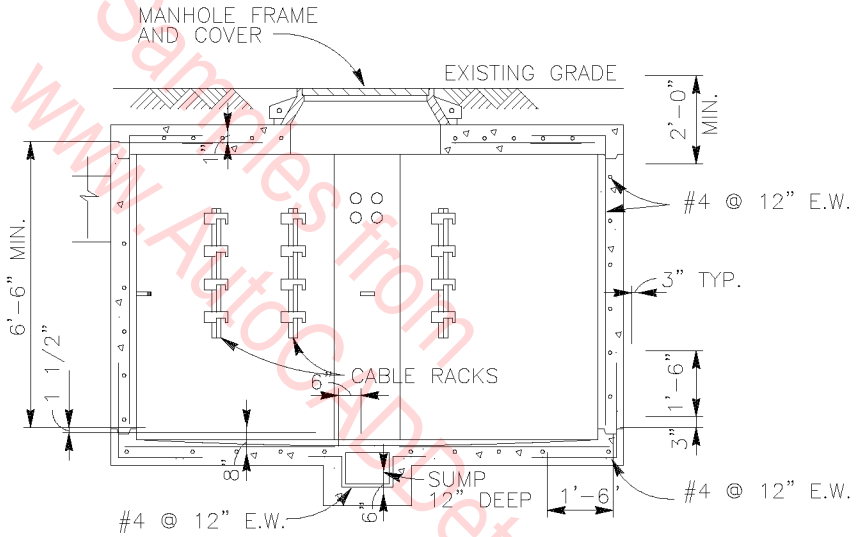


GROUNDING DETAIL AT THE PAD MOUNTED TRANSFORMER

N.T.S.



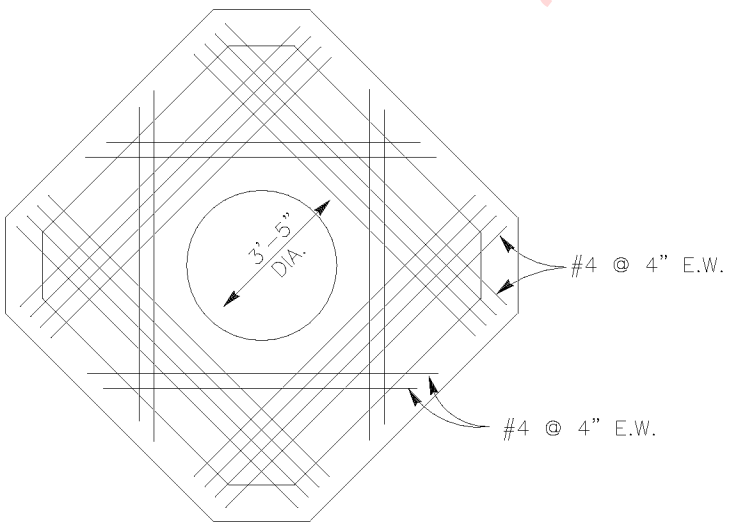
PLAN



SECTION A–A

NOTE:

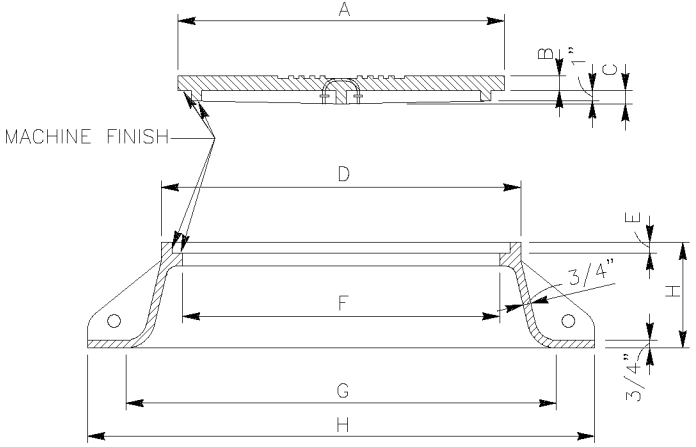
THICKNESS OF CONCRETE:
MANHOLE WALLS, TOP & BOTTOM 10"
SUMP WALLS AND BOTTOM 8"

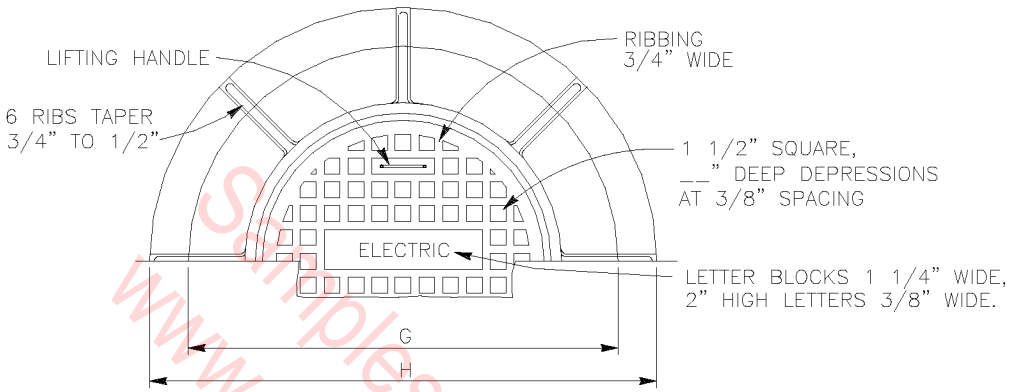


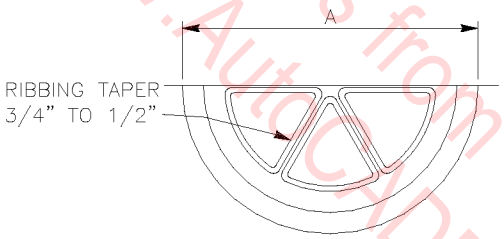
ROOF PLAN TOP REINFORCEMENT

ELECTRIC MANHOLE DETAIL

N.T.S.



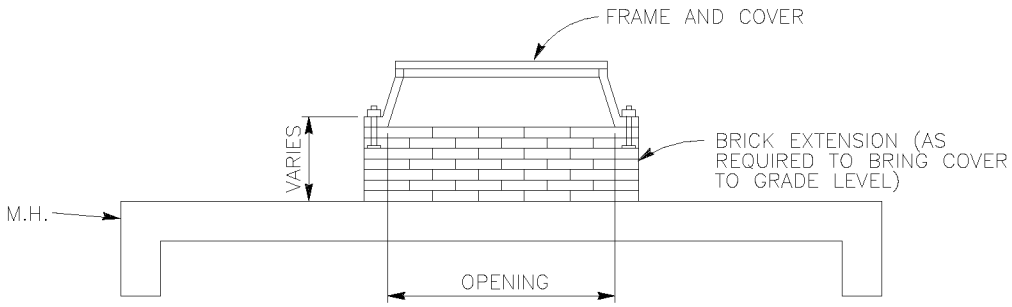




MANHOLE DETAIL NOTES:

1. PROVIDE A DUCTBANK WINDOW (AS DETAILED) ON EACH UNUSED DUCT ENTRANCE FACE.
2. THE MANHOLE COVER INSCRIPTION SHALL READ "TELEPHONE" INSTEAD OF "ELECTRIC" ON ALL TELEPHONE MANHOLES.
3. FRAME AND COVER DIMENSIONS SHALL BE AS TABULATED BELOW (IN INCHES) UNLESS OTHERWISE INDICATED.
4. WHERE NOTED, PROVIDE #4/0 BARE COPPER CONDUCTOR AROUND MANHOLE PERIMETER, AND BOND TO ALL EXPOSED HARDWARE AND CABLE SHIELDS.

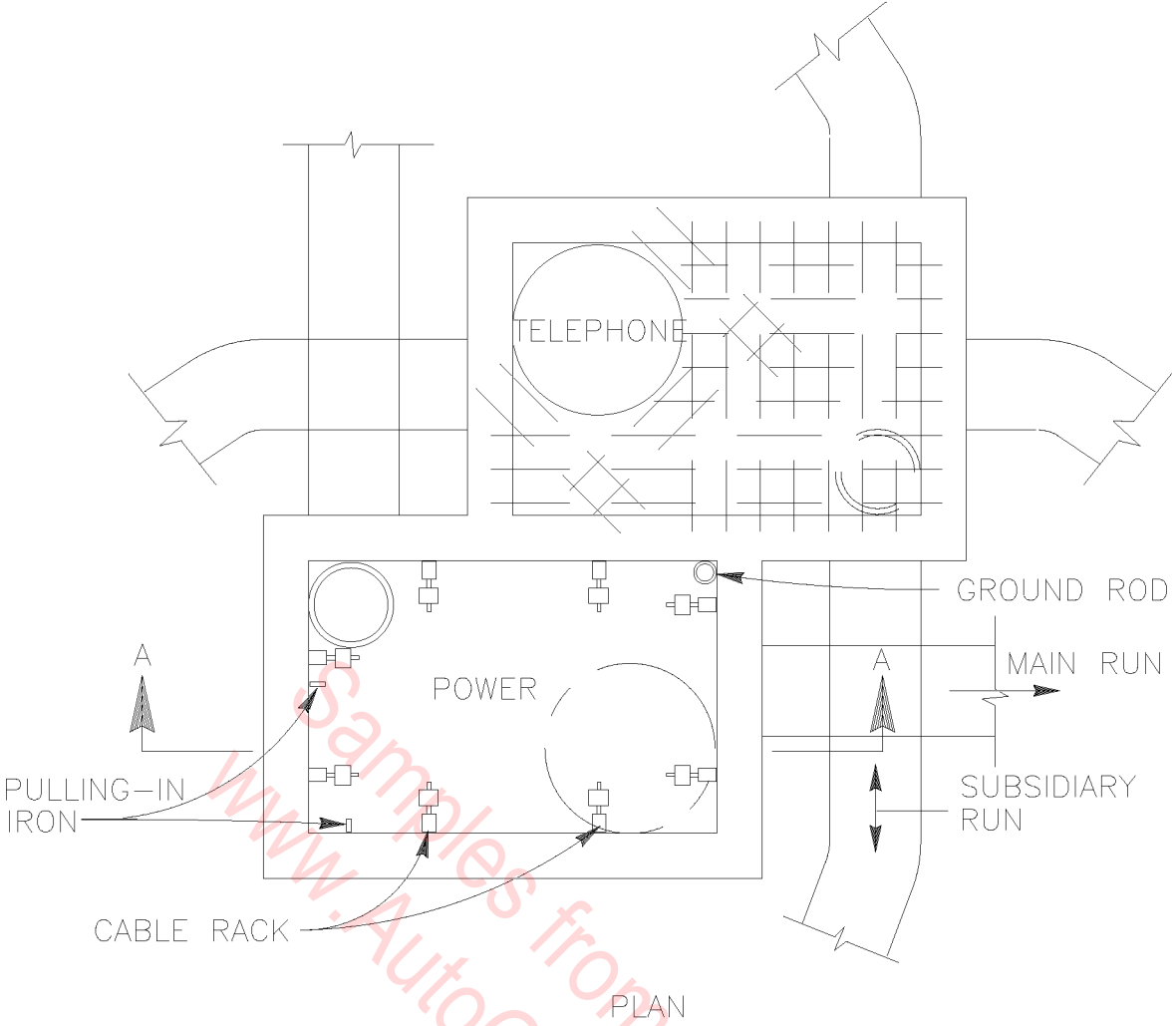
	A	B	C	D	E	F	G	H	I
MANHOLE	31-7/8	2	3-1/4	32	2	30	41	49	10



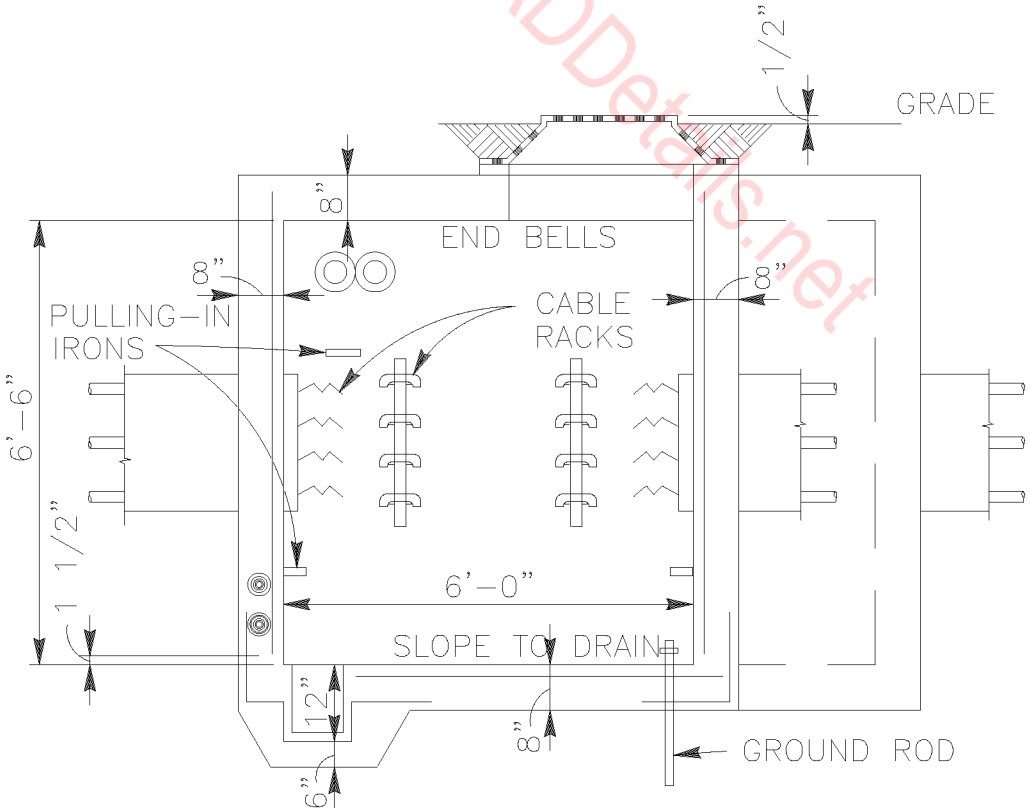
MANHOLE NECK DETAIL

MANHOLE FRAME AND COVER DETAILS

N.T.S.



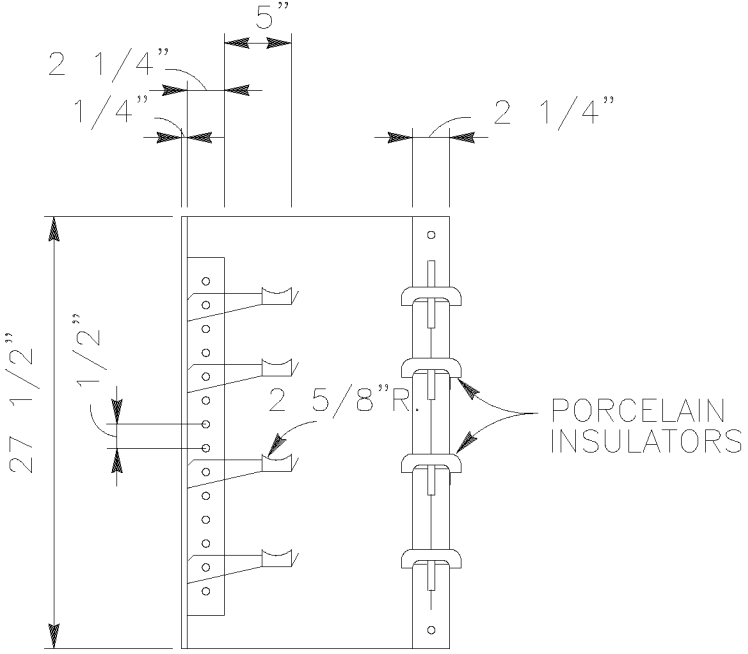
PLAN



SECTION A–A

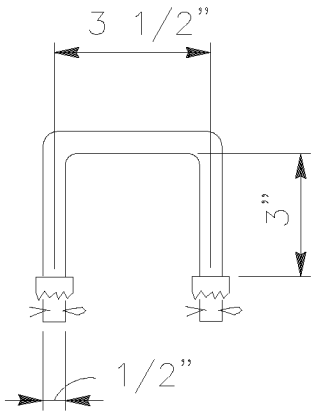
COMBINATION MANHOLE

N.T.S.

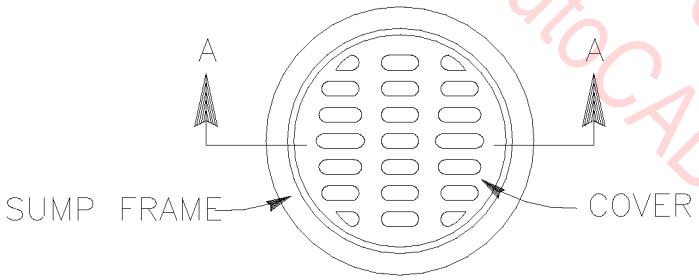


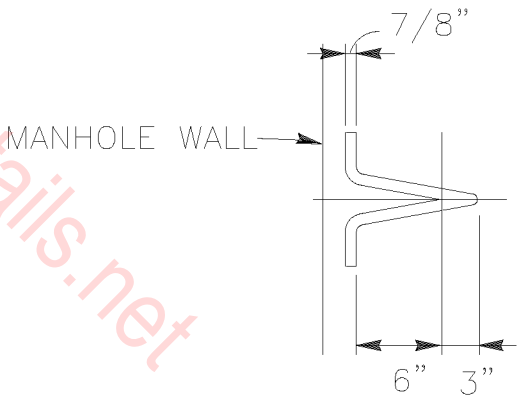
NOTE:
FASTEN BY MEANS OF 2 1/2"x1/2"
BOLTS AND EXPANSION SHIELDS

CABLE RACK DETAIL

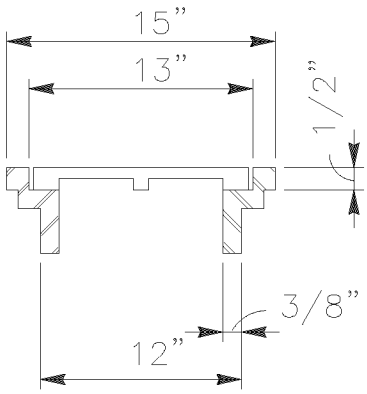


COVER HANDLE
(2 HANDLES REQUIRED)





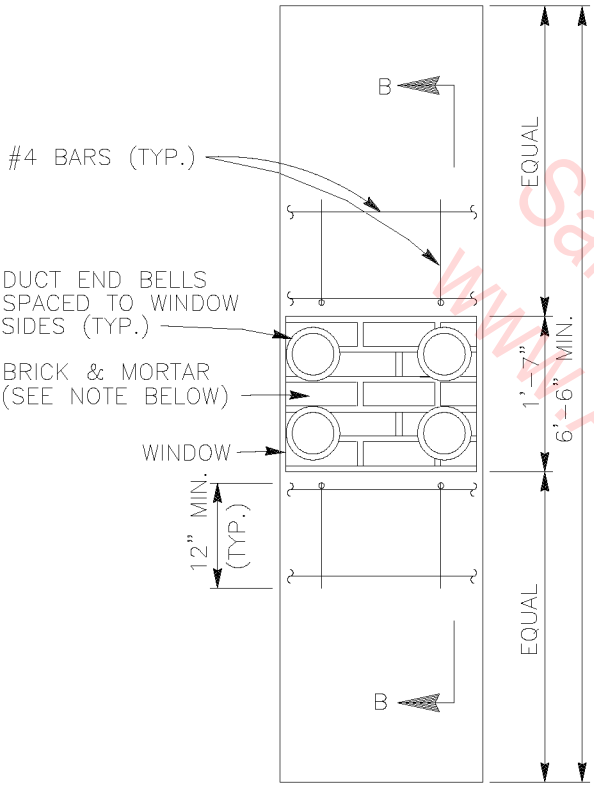
PULLING IRON DETAIL

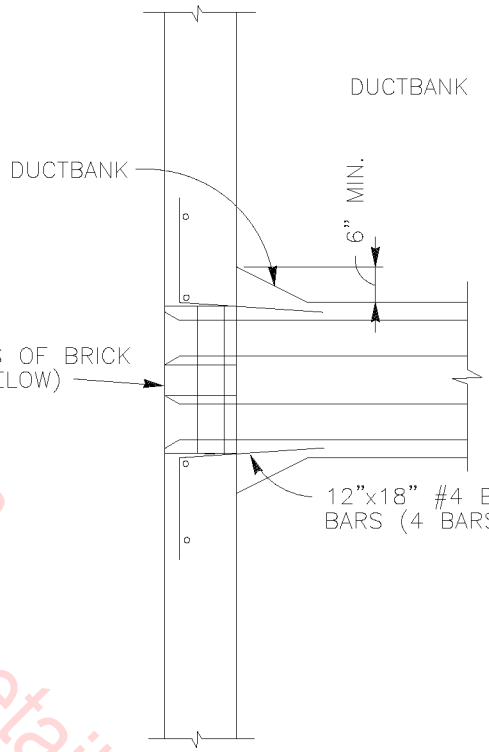


TYPICAL SUMP FRAME
AND COVER DETAIL

MANHOLE ACCESSORIES

N.T.S.



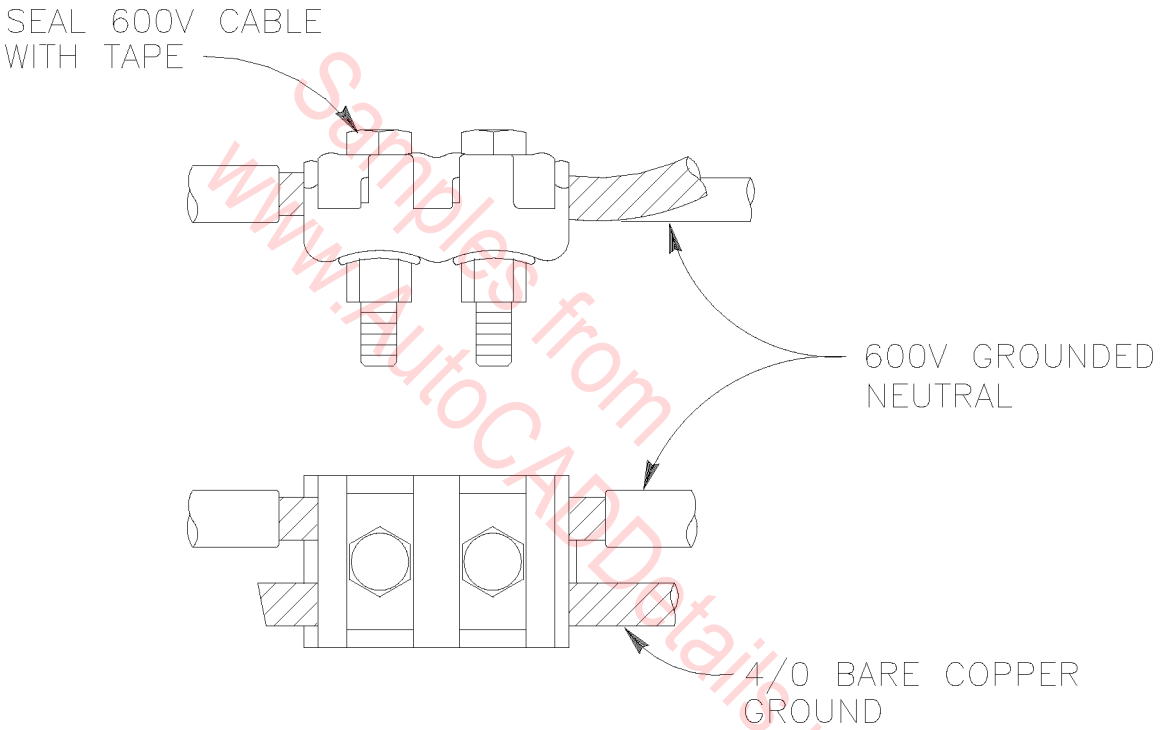


SECTION B-B

NOTE: WINDOW MAY BE POURED SOLID WITH DUCT BANK IN LIEU OF BRICK AND MORTAR (CONTRACTOR'S OPTION)

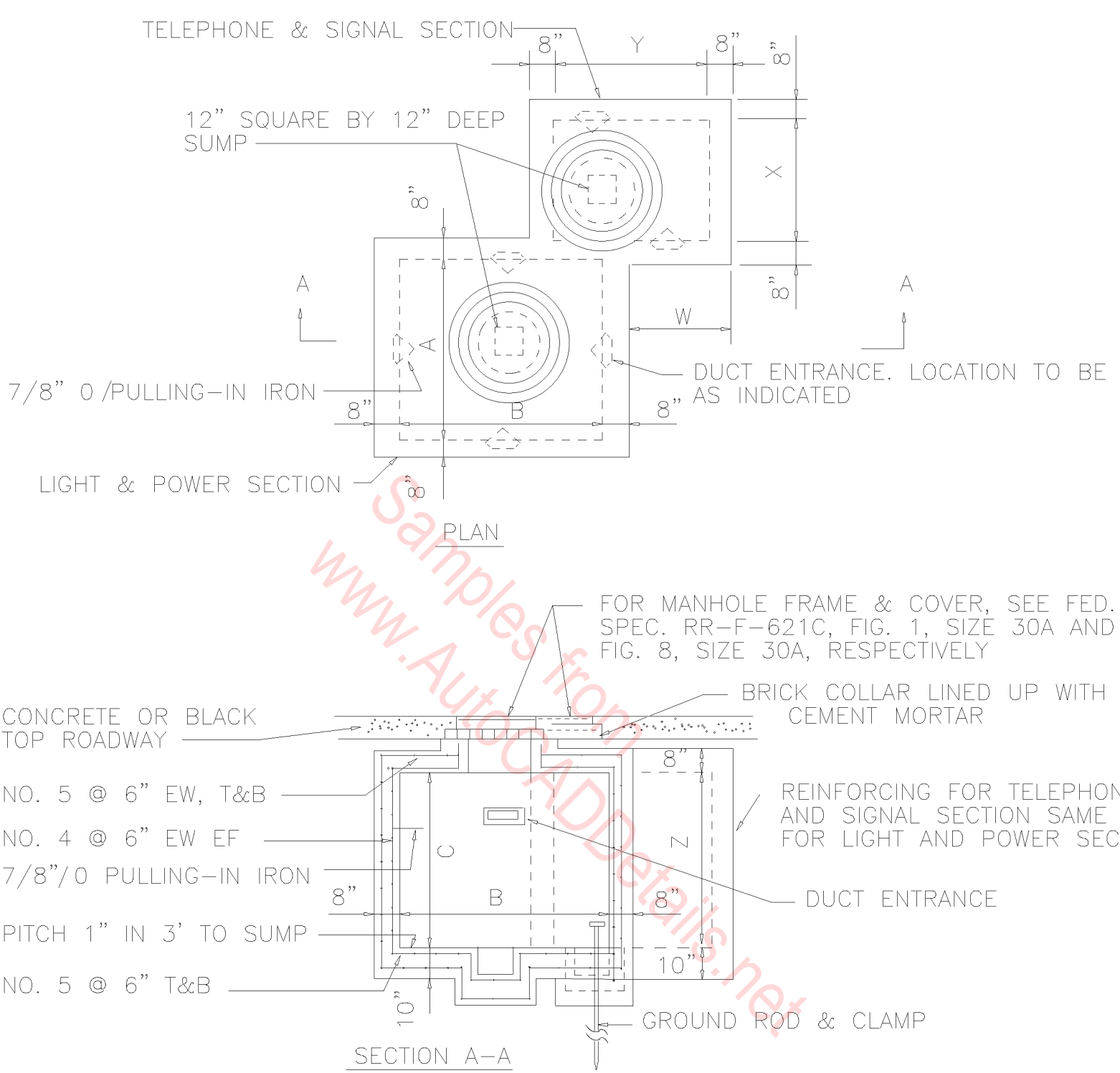
DUCTBANK WINDOW

N.T.S.



NEUTRAL/GROUND CONNECTION IN MANHOLE

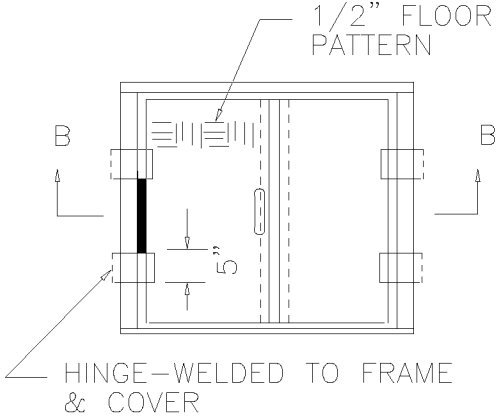
N.T.S.



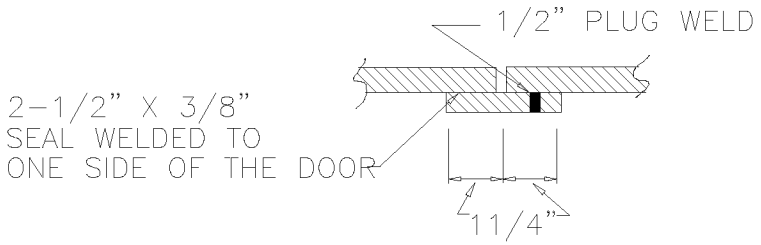
MANHOLE DIMENSIONS							
	POWER SECTION			SIGNAL SECTION			
TYPE	A	B	C	W	X	Y	Z
3	6'-0"	6'-0"	6'-6"	3'-0"	4'-0"	4'-0"	6'-0"
4	6'-0"	6'-0"	6'-6"	4'-0"	5'-0"	6'-0"	6'-6"
5	6'-0"	8'-0"	6'-6"	3'-0"	4'-0"	4'-0"	6'-0"
6	6'-0"	8'-0"	6'-6"	4'-0"	5'-0"	6'-0"	6'-6"

STANDARD ELECTRICAL MANHOLE (TRAFFIC) TYPES 3, 4, 5, AND 6

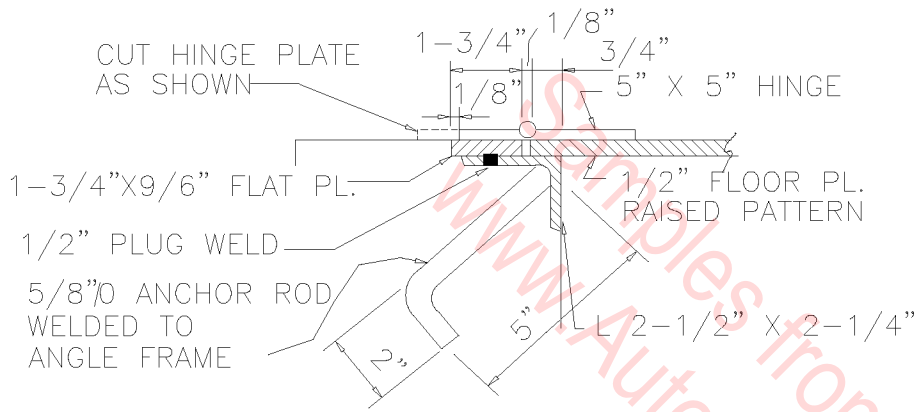
N.T.S.



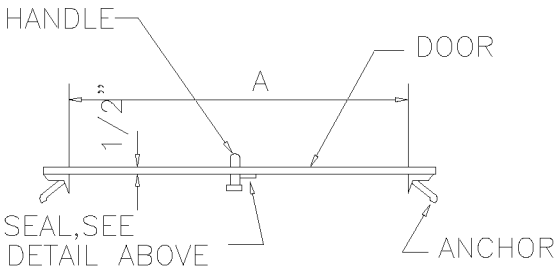
PLAN OF COVER



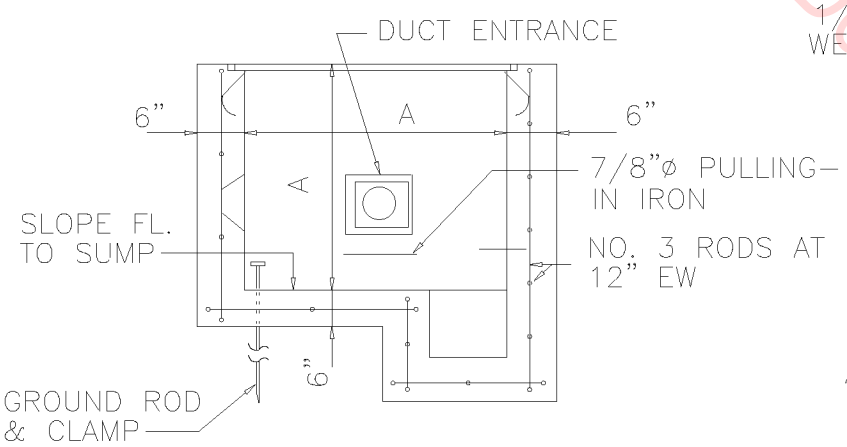
SEAL DETAIL



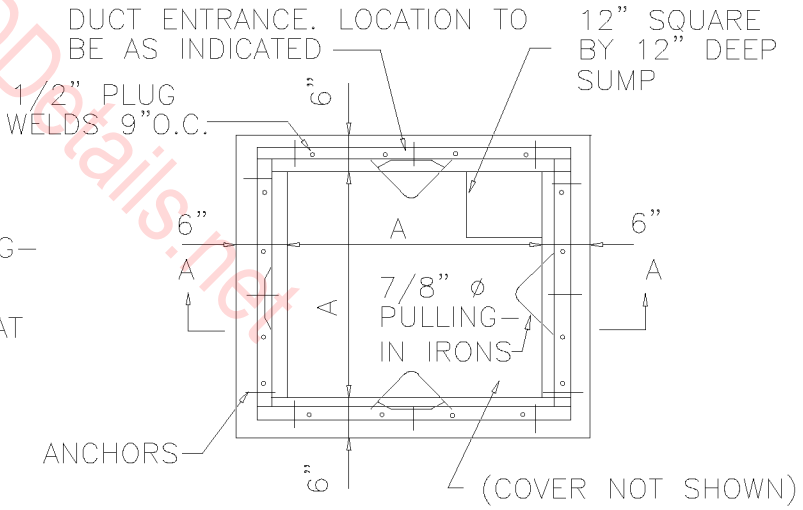
SECTION OF FRAME



SECTION B-B



SECTION A-A

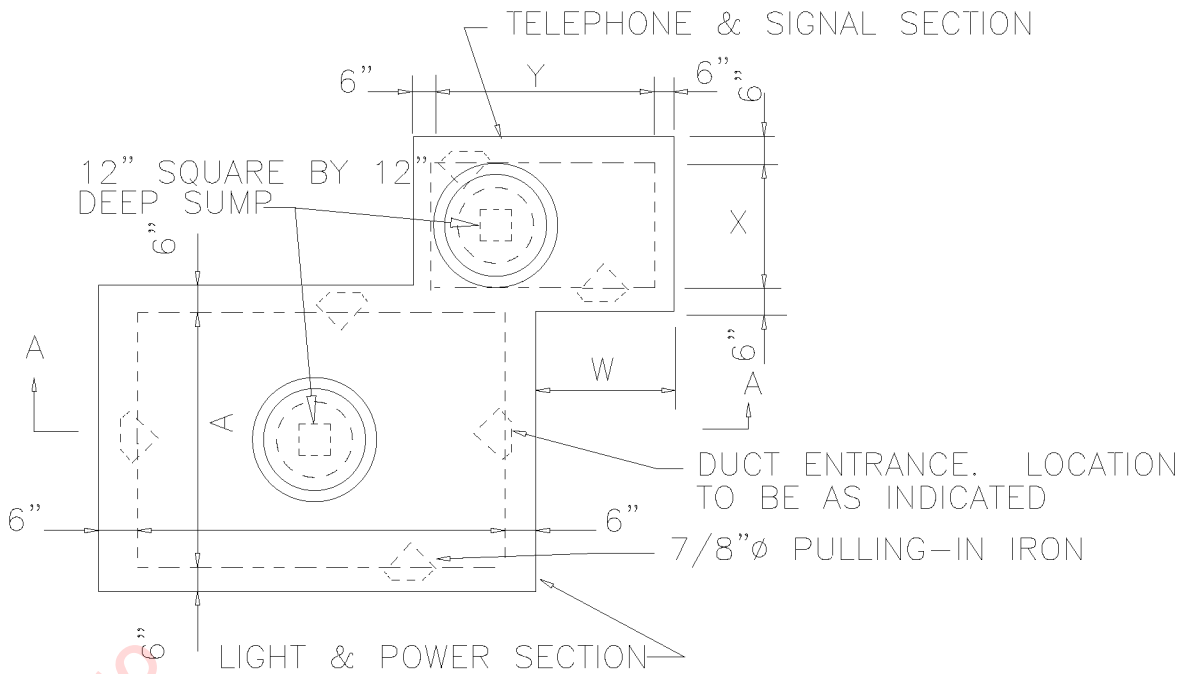


PLAN

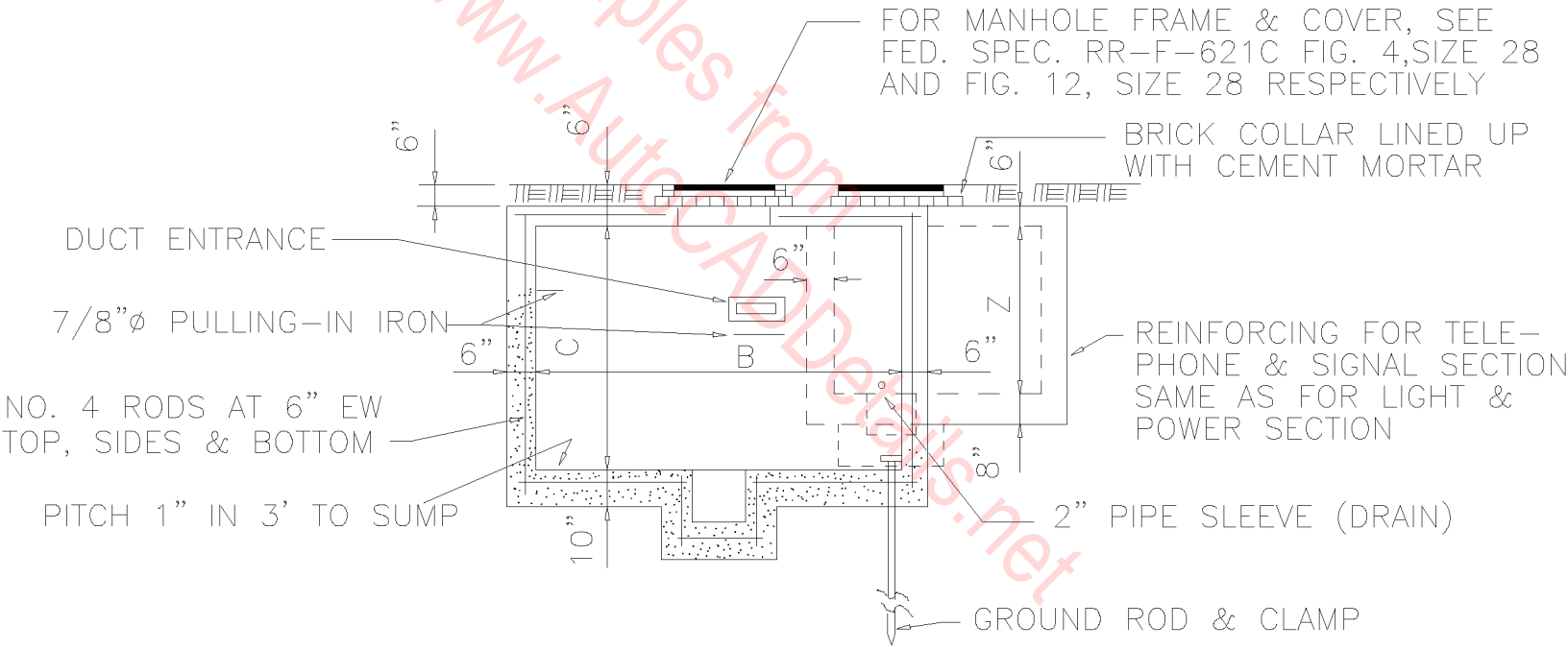
HANDHOLE	A
TYPE 1	3'-0"
TYPE 2	4'-0"

STANDARD ELECTRICAL HANDHOLE (NONTRAFFIC) TYPES 1 AND 2

N.T.S.



PLAN

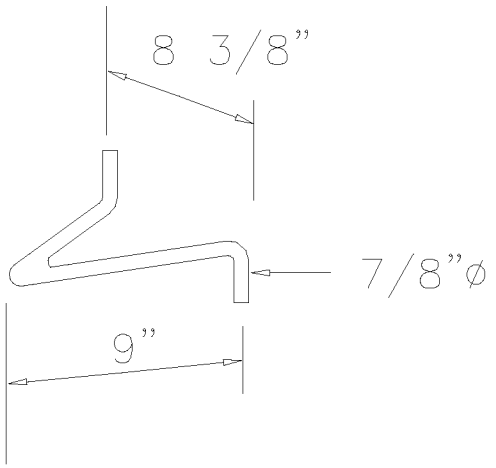


SECTION A-A

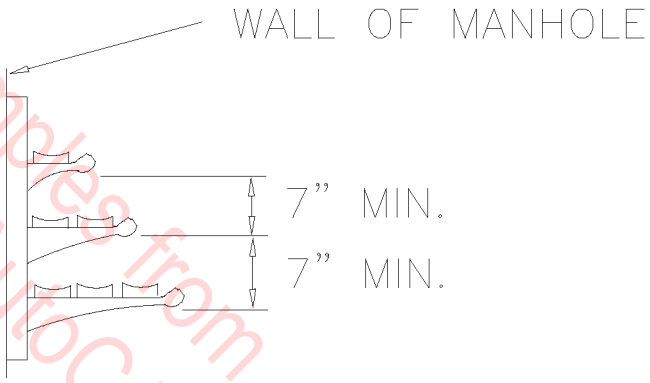
MANHOLE DIMENSIONS							
	POWER SECTION			SIGNAL SECTION			
TYPE	A	B	C	W	X	Y	Z
1	6'-0"	8'-0"	6'-6"	3'-0"	4'-0"	4'-0"	4'-0"
2	6'-0"	8'-0"	6'-6"	4'-0"	5'-0"	6'-0"	6'-6"

STANDARD ELECTRICAL MANHOLE (NON-TRAFFIC) TYPES 1 AND 2

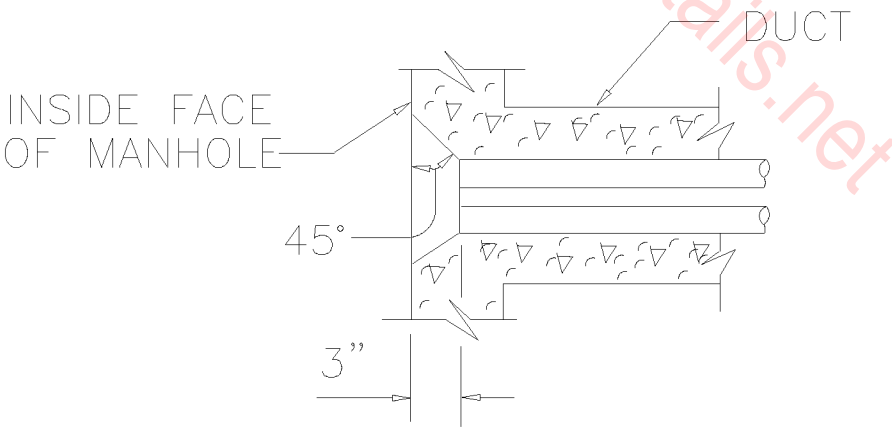
N.T.S.



DETAIL OF PULLING-IN IRON



TYPICAL CABLE RACK



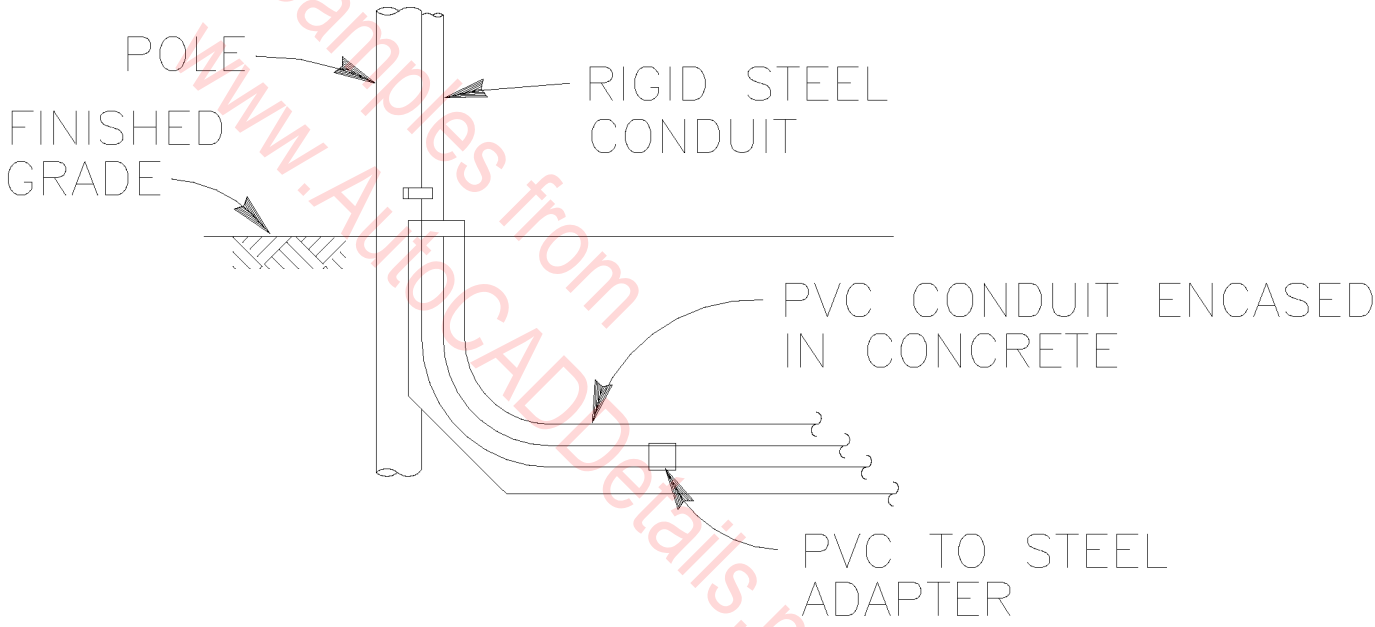
TYPICAL DUCT ENTRANCE

DETAILS - PULLING-IN IRONS, CABLE RACKS, AND DUCT ENTRANCE

N.T.S.

NOTE:

THIS DETAIL IS TYPICAL FOR ALL CONDUIT TERMINATIONS AT THE PAD MOUNTED TRANSFORMER, IN THE ELECTRICAL EQUIPMENT ROOMS, AND AT RISER POLES.



CONVERSION FROM PVC TO STEEL CONDUIT

N.T.S.

ELECTRICAL NOTES

A. ALL CONDUCTORS TO BE TYPE THHN.
B. ALL CONDUIT TO BE EMT.
C. "OVERLOAD PROTECTION" TO BE 1 PULL 20 AMP BREAKERS.
D. BOND WIRE IS REQUIRED ON ALL CIRCUIT SYSTEMS.
E. ALL CONDUCTOR SIZE TO BE #12 UNLESS NOTED OTHERWISE.
F. ALL CONDUIT TO BE 1/2" UNLESS NOTED OTHERWISE.
G. LIGHTS:
   1. "LITHONIA" #2GT 2 40 A12 120, AMPERAGE: 80 WATT, LAY-IN.
   2. "LITHONIA" #10994 1-40, AMPERAGE: 40 WATT, SURFACE MOUNTED.
   3. "LITHONIA" #AFST 2 96 120, AMPERAGE: 75 WATT, CHAIN SUSPENDED.

ELECTRICAL NOTES

NOT TO SCALE

ENERGY NOTES

1. USE LOW FLOW PLUMBING FIXTURES THROUGHOUT.

2. INSULATION PROVISIONS:

CEILING	R-33
WALLS	R-19
FLOORS	R-13
EXTERIOR DOORS	R-5
WINDOWS	THERMOPANE, WITH THERMAL BREAK.

3. CONTRACTOR TO SIZE BOILER AND DESIGN BASEBOARD SIZES, ADJUST OUTPUT RATING AS REQUIRED FOR HIGH ALTITUDE.

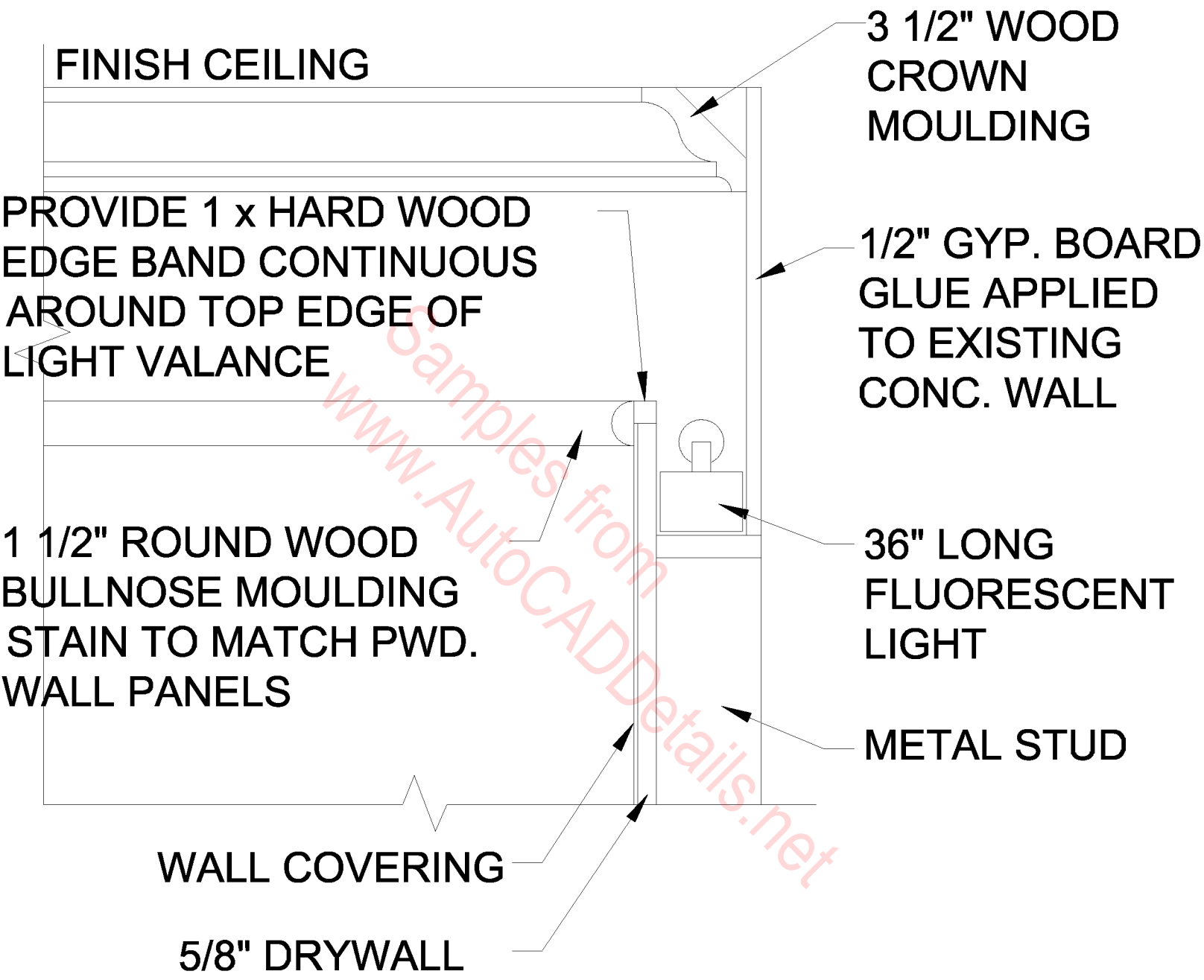
4. SILICON CAULKING, SEALANT AND WEATHERSTRIPPING TO BE USED AT ALL OPENINGS.

5. ALL PLUMBING FIXTURES ARE TO BE LOW FLOW ENERGY SAVING LOW WATER USAGE PRODUCTS.

6. EXTERIOR LIGHTING WILL BE BY (ONE) 1 WALL MOUNT FIXTURE WITH PHOTO CELL CONTROL AT EACH GARAGE DOOR LOCATION.

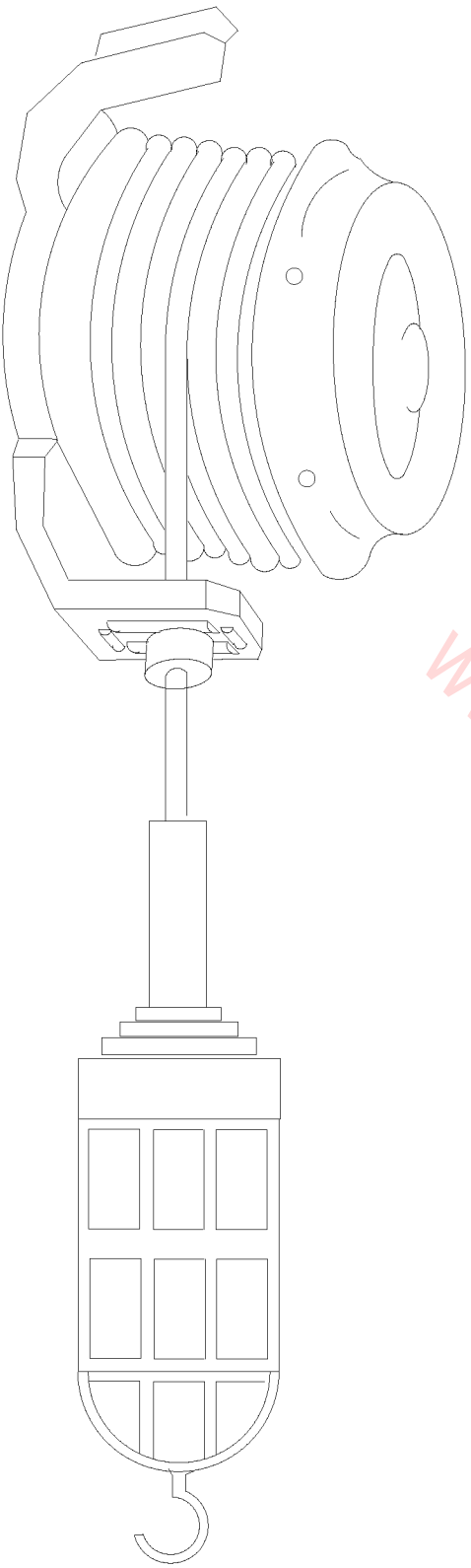
ENERGY NOTES

NOT TO SCALE



COVE LIGHTING

SCALE: 1 1/2" = 1'-0"



NOTES:

1. PORTABLE HANDLAMP SHALL CONFORM TO CLASS I, DIVISION 1, GROUP C, D OF THE NEC. THE LAMP SHALL BE 100 WATT INCANDESCENT LONG LIFE. THE GUARD AND GLOBE HOLDER SHALL BE COPPER FREE ALUMINUM. THE GLOBE GLASS SHALL BE HEAT AND IMPACT RESISTANT. THE HANDLE SHALL BE MOLDED PHENOLIC COMPOSITION.

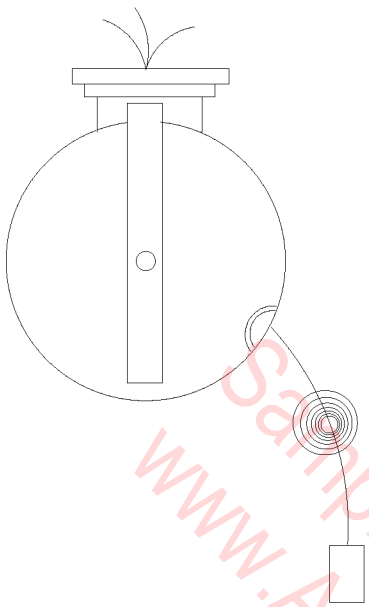
2. THE AUTOMATIC REWIND CABLE REEL SHALL BE WEATHERPROOF. THE REELS SHALL HAVE LIFETIME LUBRICATED BEARINGS AND REPLACEABLE SPRING CARTRIDGE. THE REEL SHALL HAVE EASY ACCESS TO THE COLLECTOR RINGS AND BRUSHES LOCATED IN THE REEL DRUM. THE REELS SHALL HAVE A BUILT-IN LOCKING RATCHET.

3. THE CABLE SHALL BE 3-CONDUCTOR, NUMBER 14, TYPE SO CABLE, 80 FT. LONG.

4. THE REEL, THE CABLE AND THE PORTABLE HANDLAMP SHALL ALL BE COMPATIBLE AND SHALL BE PROVIDED WITH AN ADJUSTABLE STOP ON THE CABLE TO PREVENT THE AUTOMATIC REWIND REEL FROM RETRACTING THE LAMP OUT OF REACH OF THE MECHANICS.

FIXTURE TYPE T

N.T.S.



BALL STOP

RECEPTACLE (NEMA 5-15R)
(PROVIDED BY MANUFACTURER
OF THE EQUIPMENT)

RETRACTABLE RECEPTACLE DETAIL

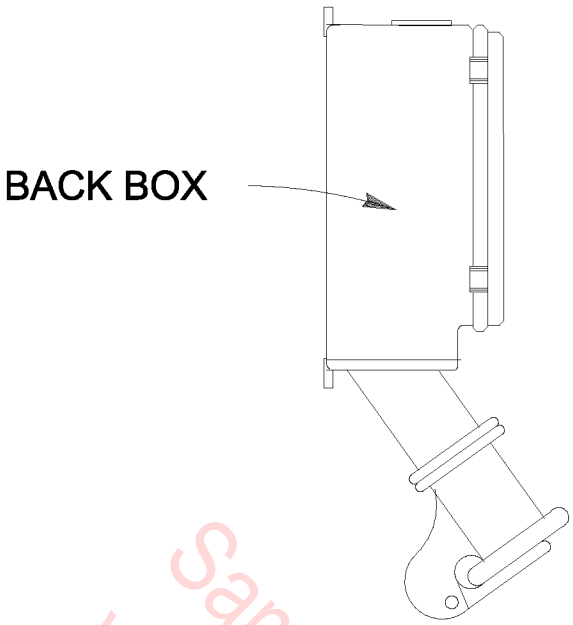
N.T.S.

CONTINUOUS (360 DEGREE) SWIVEL GROUNDED RETRACTABLE POWER CORD WITH SINGLE RECEPTACLE ON END.

FURNISHED WITH 12 FEET OF 16-3 SJO CORD (2 CONDUCTOR PLUS GROUND)

ENCLOSED STEEL CONSTRUCTION, UL LISTED, LOCKING RATCHET TO HOLD CORD AT DESIRED LENGTH.

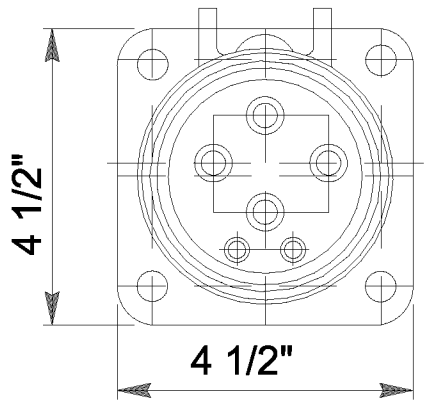
MOUNTS ON 4" OCTAGONAL OUTLET BOX



BACK BOX, ANGLE ADAPTER, RECEPTACLE BODY, SHALL BE MADE OF CAST ALUMINUM. PLUG CONTACTS IN THE RECEPTACLE SHALL BE SOLDERLESS LUGS FOR WIRE TERMINATION. RECEPTACLE SHALL BE PROVIDED WITH SPRING DOOR. RECEPTACLE SHALL BE THE HIGH IMPACT TYPE.

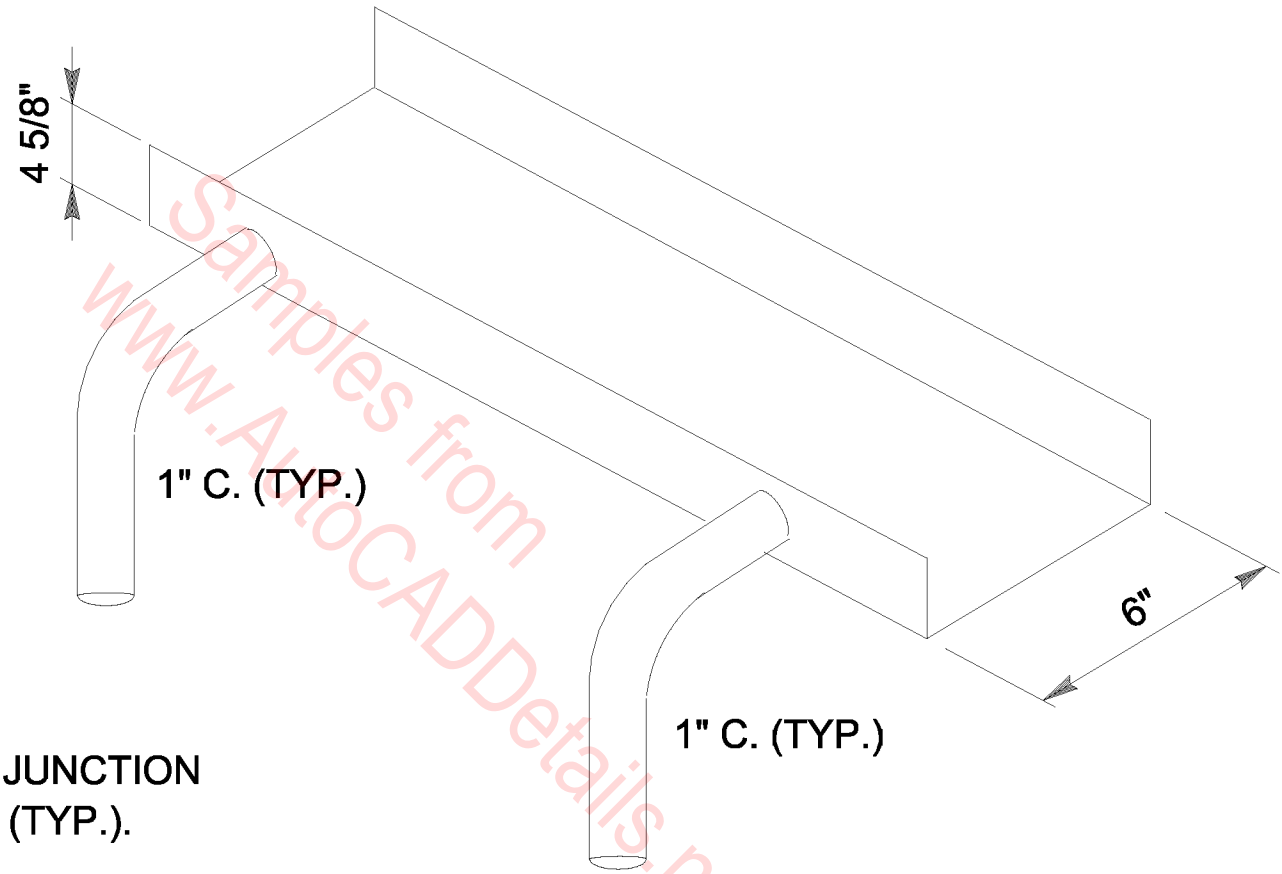
RECEPTACLE - DETAIL

N.T.S.



PIN CONFIGURATION FOR RECEPTACLE

N.T.S.



NOTE:

CONDUIT RUN TO JUNCTION BOXES IN ROOMS (TYP.).

TYPICAL CABLE TRAY

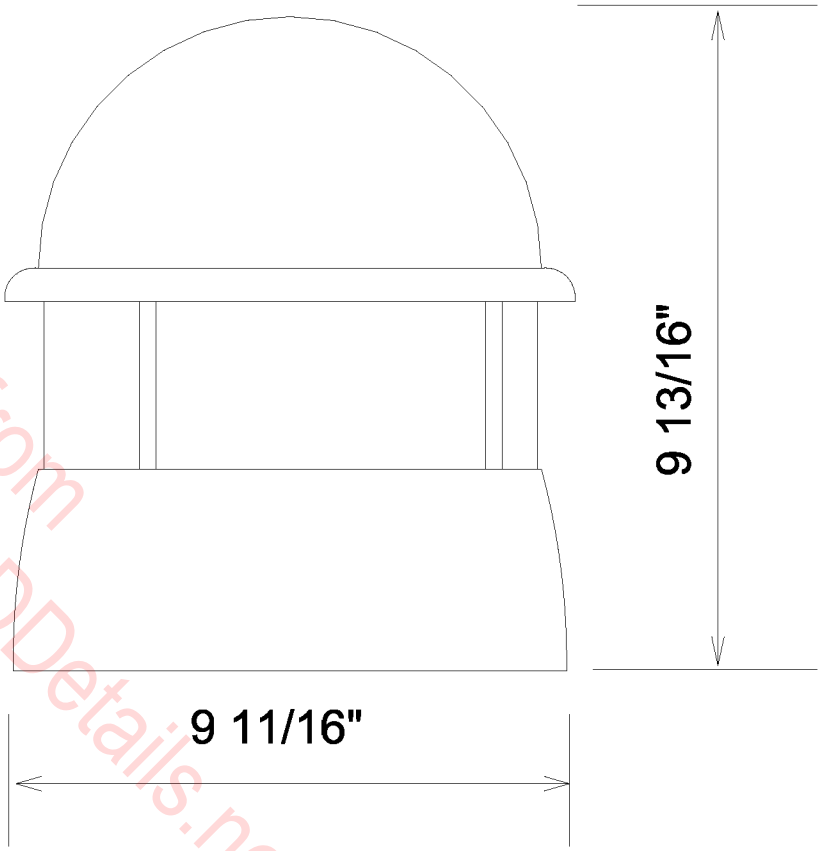
N.T.S.

HEAVY DUTY CAST BASE AND DOME WITH THREE MOUNTING LUGS

SPECULAR DUAL INCLINED REVOLVING REFLECTOR

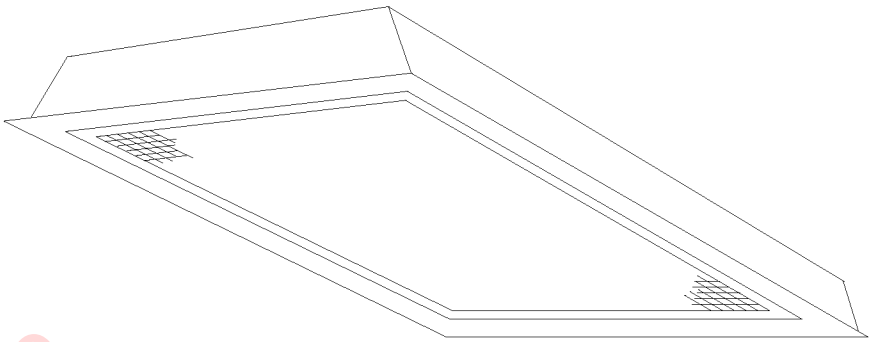
HIGH STRENGTH RED POLYCARBONATE CYLINDER

THREE WIRED TERMINAL FOR MOTOR AND LAMP LEADS, FACTORY WIRED FOR FAST INSTALLATION



FIXTURE TYPE "Y"

N.T.S.



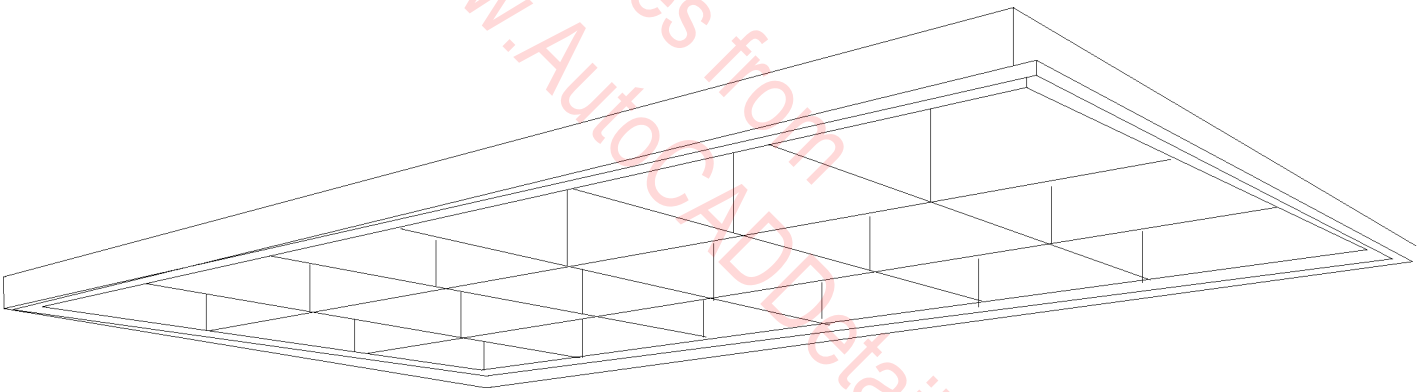
FIXTURE TYPE "M", "ME"

N.T.S.

FIXTURE SHALL CONFORM TO UL 1570. HOUSING SHALL BE COMPLETE WITH INTEGRAL SIDE TRIM FLANGES AND SHALL BE SUITABLE FOR MOUNTING IN CONTINUOUS ROWS. HOUSING AND TRIM FLANGES SHALL BE COLD ROLLED STEEL. THE LENS OR LOUVER SHALL BE INSTALLED IN A MANNER THAT WILL PREVENT IT FROM COMING LOOSE DUE TO VIBRATION. THE BALLAST AND WIRING SHALL BE ENCLOSED IN A WIREWAY THAT IS CONTINUOUS THROUGHOUT THE LENGTH OF THE FIXTURE AND WHICH FORMS A WIREWAY FOR CIRCUITS THROUGH THE FIXTURE. ALL METAL PARTS SHALL RECEIVE A RUST INHIBITIVE COATING BEFORE APPLICATION OF THE FINISH COAT. THE FINISH COAT SHALL BE BAKED ENAMEL. THE ACRYLIC LENS SHALL BE FLAT, 0.125 INCH NOMINAL THICKNESS, LOW BRIGHTNESS, WITH SMOOTH TOP SURFACE HAVING A REGULAR ARRAY OF PRISMATIC ELEMENTS. STANDARD BALLAST SHALL BE OF THE CLASS P, HIGH POWER FACTOR TYPE THAT HAS BEEN APPROVED BY THE CERTIFIED BALLAST MANUFACTURERS FOR THE APPLICATION. FIXTURE SHALL BE PREWIRED

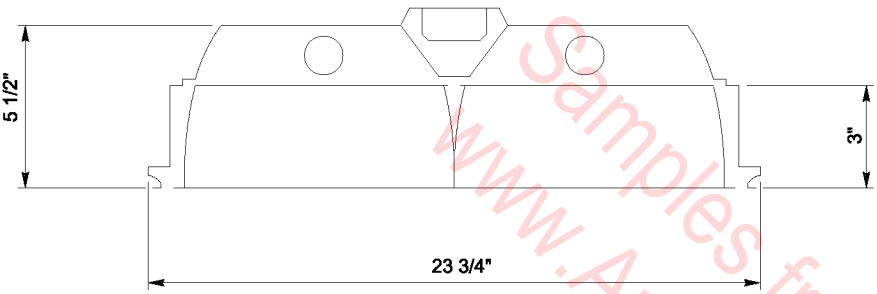
NOTE:

18 CELL-2 LAMP PARABOLIC TROFFER CONSTRUCTED OF DIE-FORMED STAINLESS STEEL WITH WHITE BAKED ENAMEL FINISH.



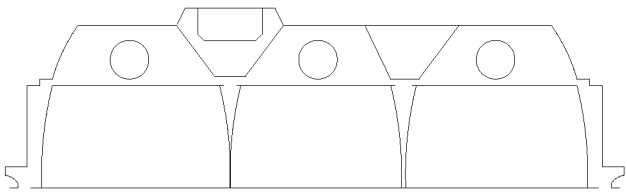
18 CELL 2-LAMP PARABOLIC TROFFER

N.T.S.



TYPES "S" AND "T" FIXTURE

N.T.S.



TYPE "R" FIXTURE

N.T.S.

FIXTURE TYPE R, S AND T SPECIFICATION

CONSTRUCTION

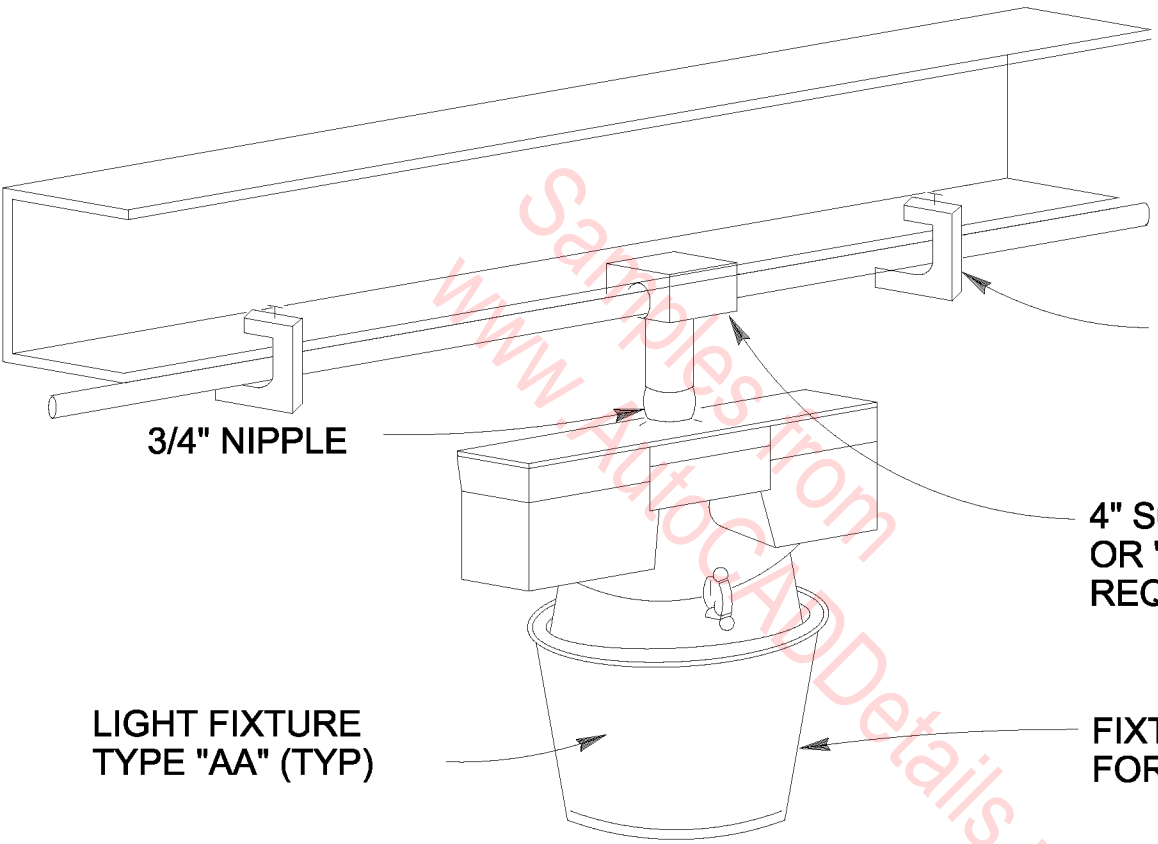
5 1/2" DEEP RECESSED HOUSING, ONE PIECE DIE FORMED CODE GAUGEPRIME COLD ROLLED STEEL. FULL LENGTH DIE FORMED INTEGRAL STIFFENERS. BALLAST COVER EASILY REMOVED WITHOUT TOOLS DIE FORMED LAMPHOLDER BRACKET. HEAVY END PLATES.

FINISH

ELECTROSTATICALLY APPLIED BAKED WHITE ALKYD ENAMEL. MINIMUM REFLECTANCE 89 %.

LOUVER

FORMED OF SEMI-SPECULAR ANODIZED ALUMINUM. FINISH IS ANODIC OXIDE COATING. ACCURATE PARABOLIC CELLS ARE HELD IN PLACE WITH INTERLOCKING FEATURE. BLACK REVEAL AROUND ENTIRE PERIMETER OF LOUVER ON RETURN AIR TYPE. POSITIVE CAM ACTION SPRING LOADED LATCHES. SAFETY LOCK T-HINGES ALLOWING HINGING AND LATCHING EITHER SIDE.

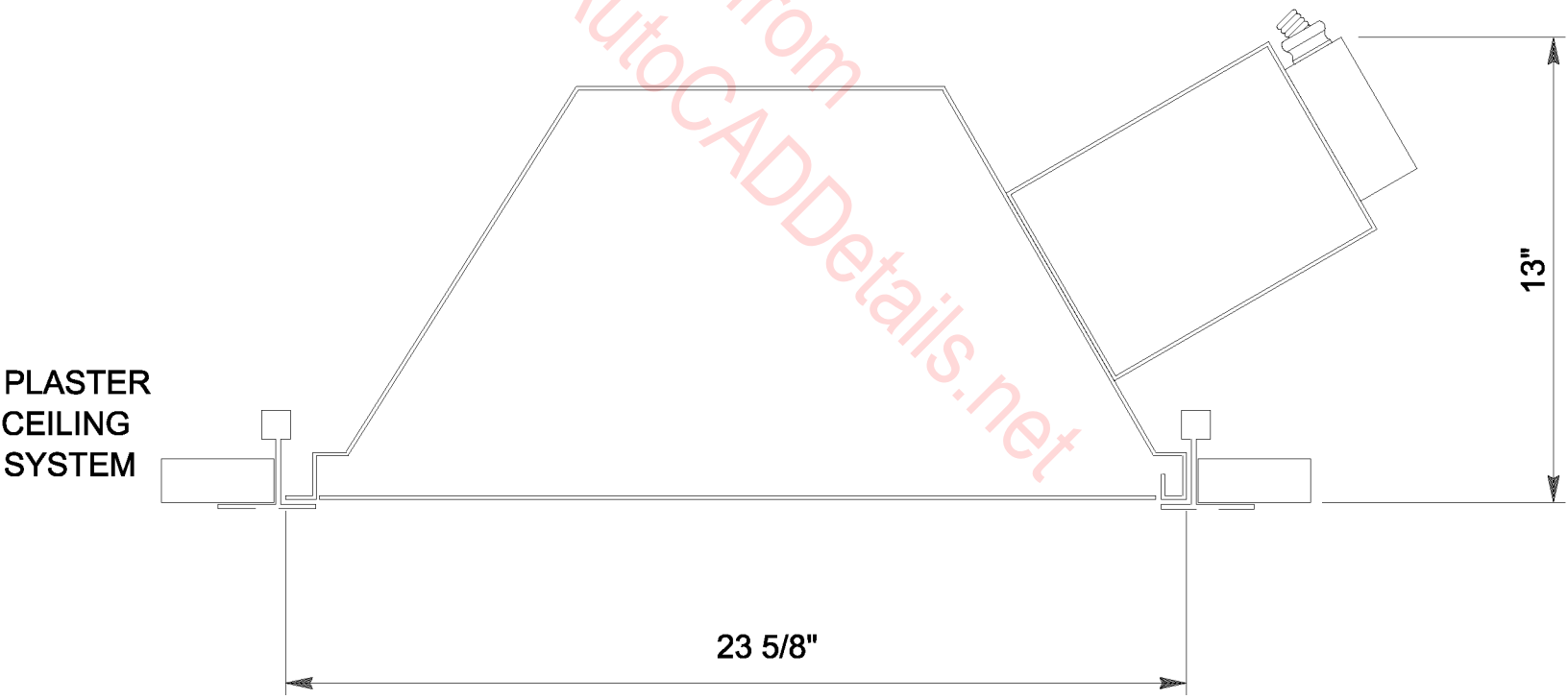


CANOPY LIGHT DETAIL

N.T.S.

NOTE:

FIXTURE SHALL CONFORM TO UL 1572. THE FIXTURE SHALL BE DESIGNED FOR INSTALLATION IN A PLASTER TYPE CEILING. THE FIXTURE HOUSING SHALL BE STEEL. ALL FERROUS METALS SHALL RECEIVE A RUST INHIBITIVE COATING AND BE FINISHED WITH BAKED WHITE ENAMEL. THE REFLECTOR SHALL BE ALUMINUM. REFLECTOR FINISH SHALL BE MANUFACTURER'S STANDARD COMMERCIAL PRODUCT FINISH SUITABLE FOR THE LIGHT SOURCE PROVIDED. THE FRAMING ENCLOSING THE DIFFUSER OR LENS SHALL BE CONSTRUCTED OF EXTRUDED ALUMINUM WITH A BAKED WHITE FINISH AND SHALL ENCLOSE A PRISMATIC GLASS LENS WHICH DOES NOT REQUIRE A HEAT SHIELD. LENS FRAME SHALL BE HINGED AND SHALL HAVE CONCEALED SPRING-LOADED LATCHES. THE LAMPHOLDER SHALL BE MOGUL BASE GLAZED PORCELAIN. FIXTURE SHALL BE PREWIRED. BALLAST SHALL BE OF THE HIGH POWER FACTOR TYPE. FIXTURE DEPTH SHALL NOT EXCEED 13 INCHES.

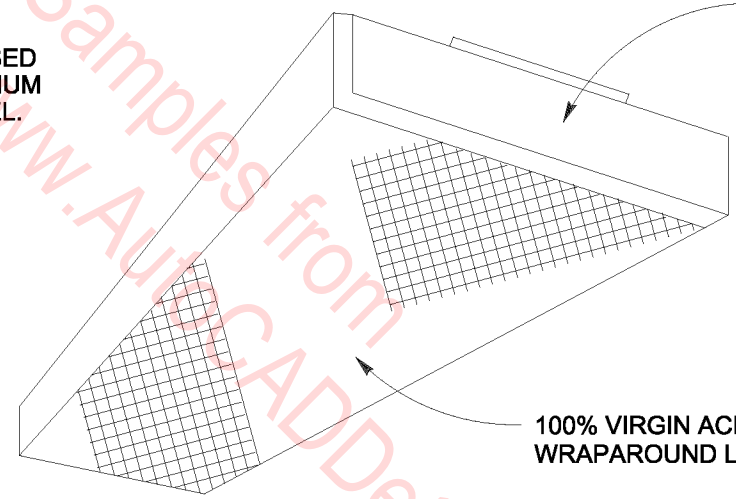


TYPE "H", "HE" FIXTURE

N.T.S.

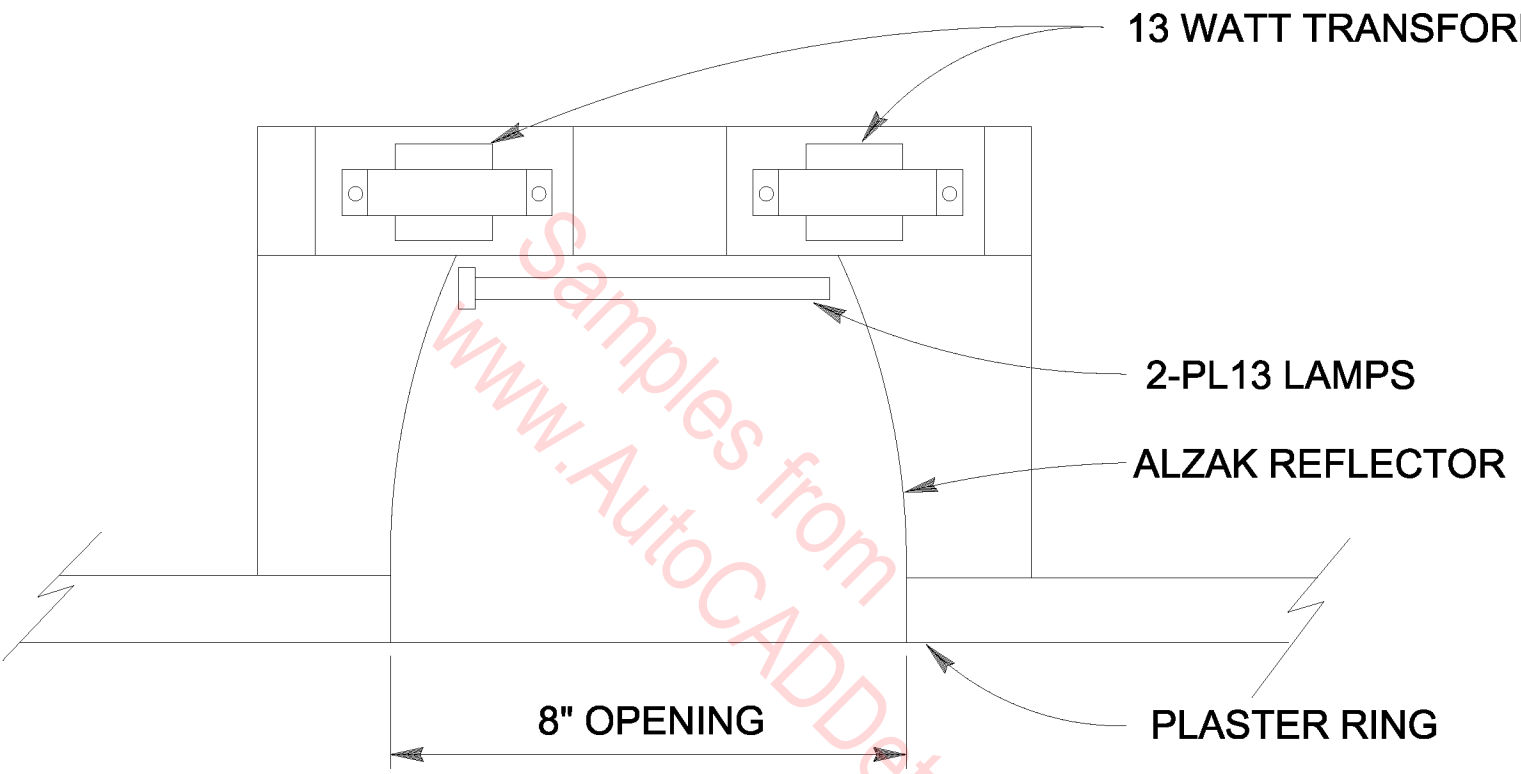
NOTES:

FIXTURE SHALL CONFORM TO UL 1570. SURFACE MOUNTED ENCLOSED HIGH GLOSS BAKED ENAMEL MINIMUM 86% REFLECTIVITY 22 GAUGE STEEL.



TYPE "C", "CE" FIXTURE

N.T.S.



NOTE:

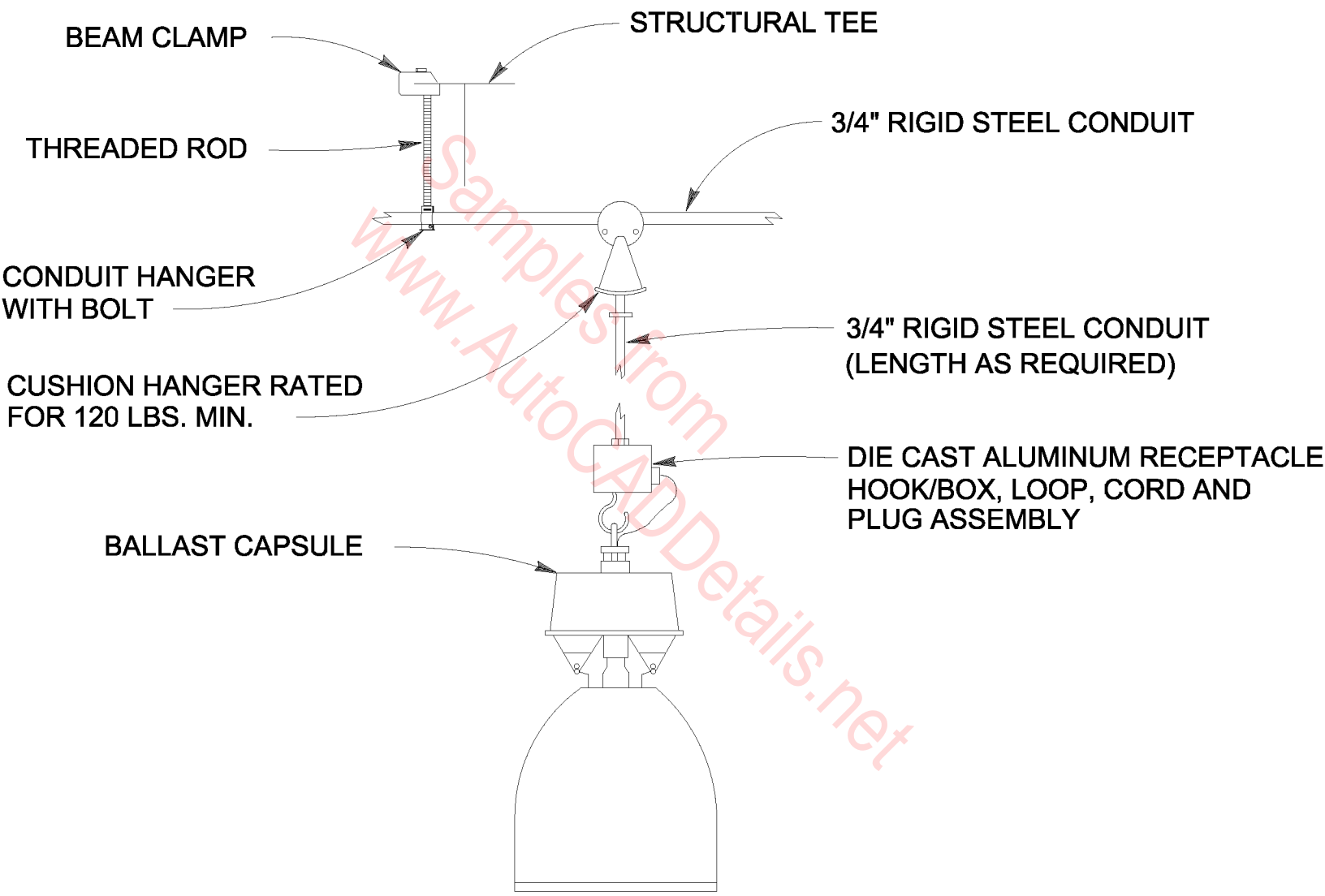
FIXTURE SHALL HAVE A THROUGH-HOLE FOR RELAMPING AND ADJUSTABLE MOUNTING BRACKETS.

DETAIL - FIXTURE TYPE "C"

N.T.S.

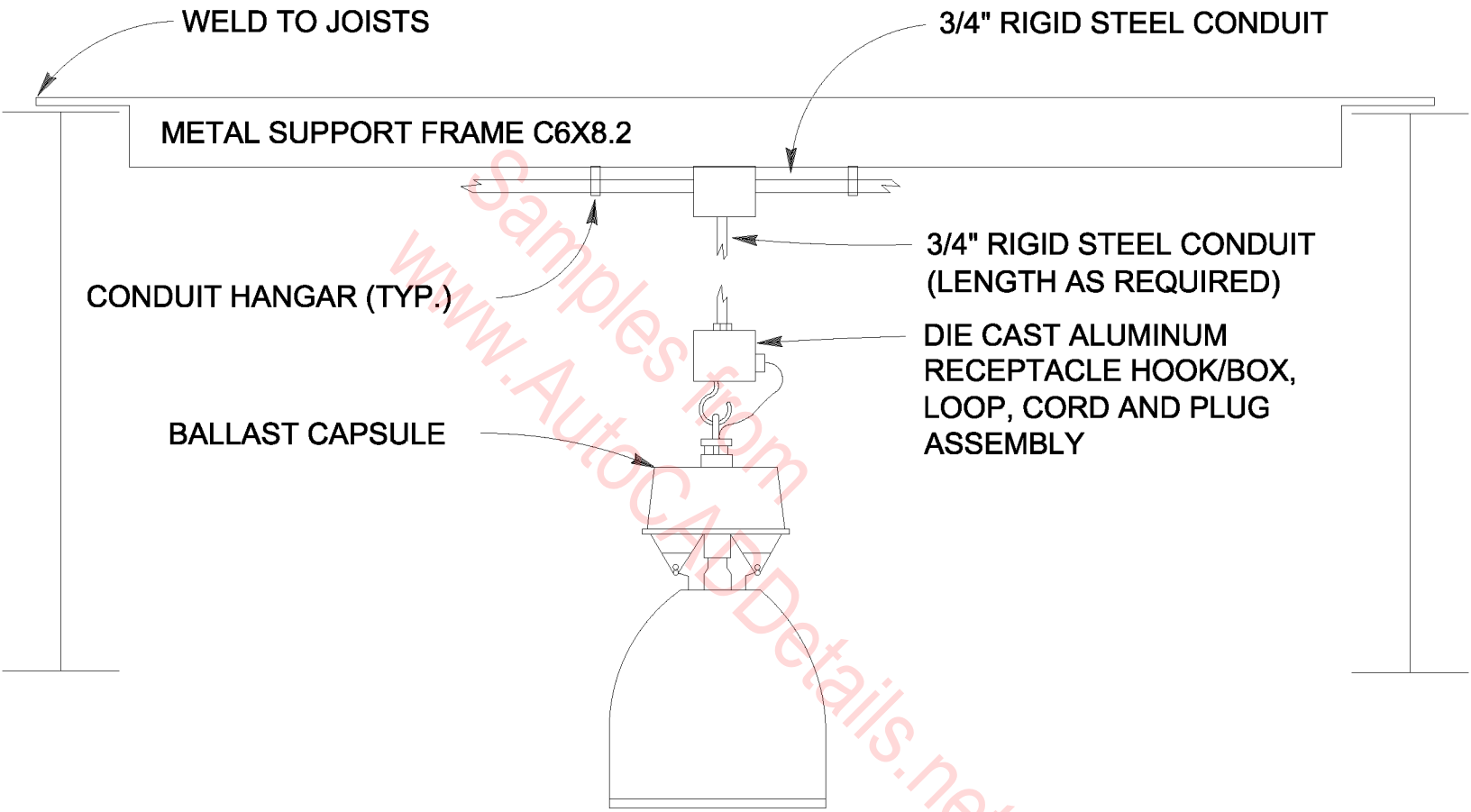
NOTE:

FIXTURE SUPPORTED IN ACCORDANCE WITH SPEC. 16W1 PAR 7.2.5 (TYP)



TYPES "H", "CC" FIXTURE

N.T.S.



TYPE "G" FIXTURE

N.T.S.

NOTE:

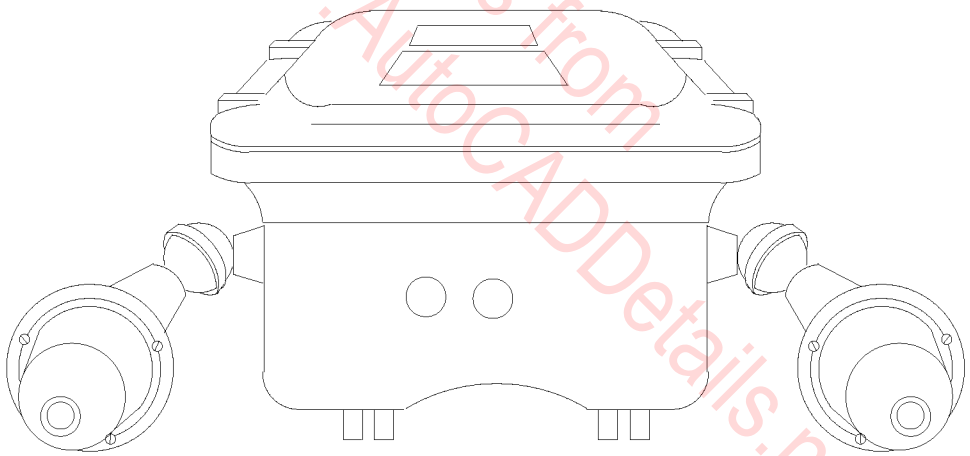
EXPLOSION PROOF EXIT FIXTURE. CAST ALUMINUM CONSTRUCTION WHICH IS SWIVAL MOUNTED AND DIRECTIONALLY ADJUSTABLE. FURNISHED WITH STANDARD BATTERY CHARGER, FULLY SUPERVISED CIRCUIT, TEST SWITCH AND MONITOR LIGHT.

EXPLOSION PROOF EXIT FIXTURE

N.T.S.

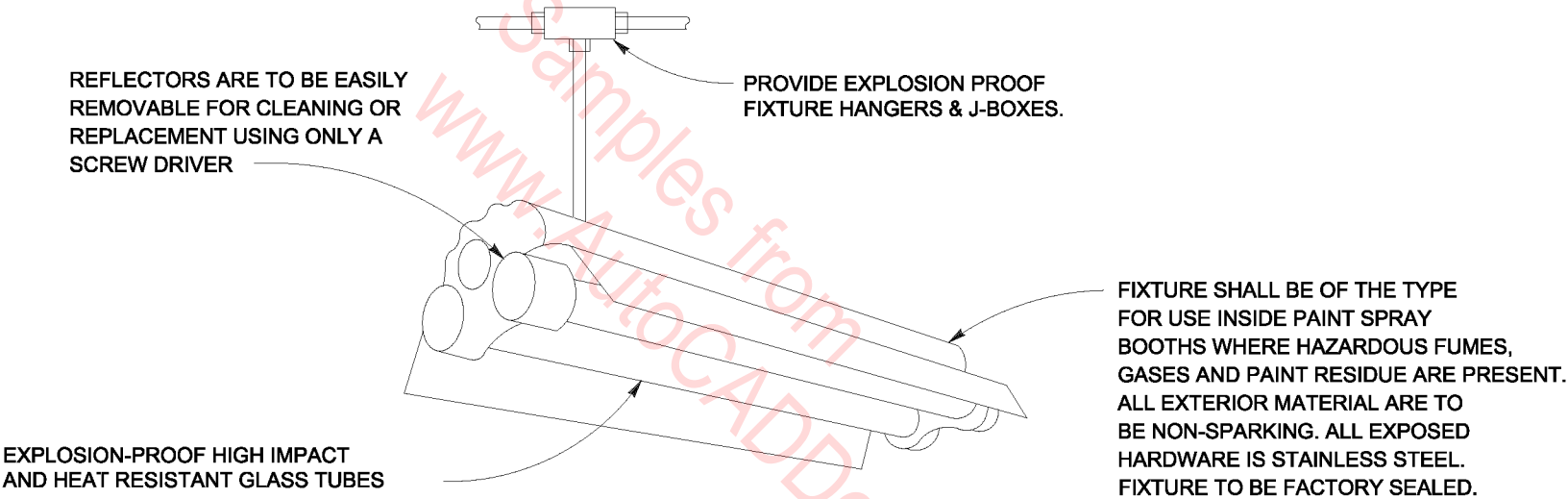
NOTE:

EXPLOSION PROOF EMERGENCY LIGHT FIXTURE. CAST ALUMINUM CONSTRUCTION WHICH IS SWIVAL MOUNTED AND DIRECTIONALLY ADJUST-ABLE WITH GLOBE AND WIRE GUARD. FURNISHED WITH STANDARD BATTERY CHARGER, FULLY SUPERVISED CIRCUITRY, TEST SWITCH AND MONITOR LIGHT.



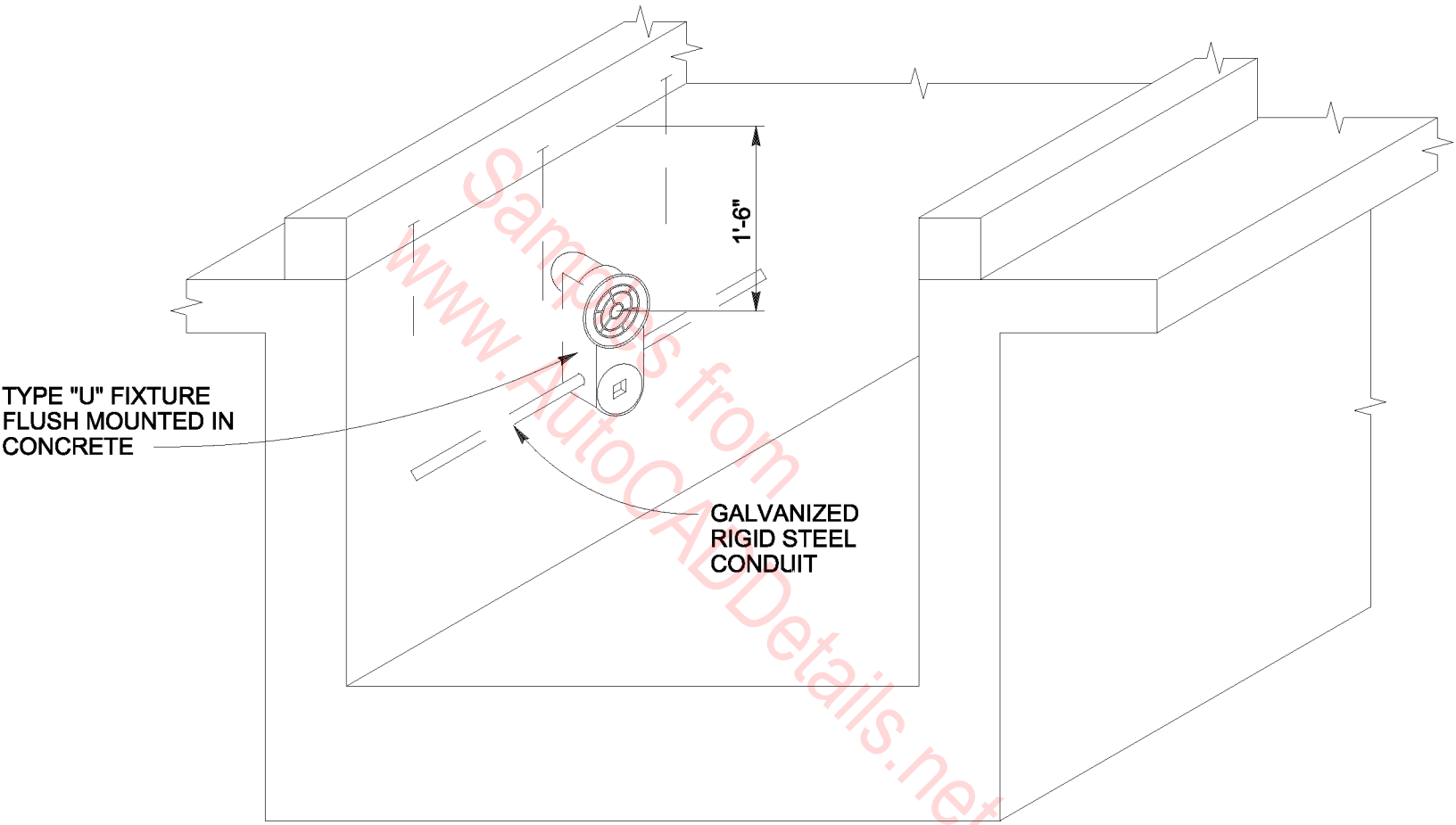
EXPLOSION PROOF EMERGENCY LIGHT FIXTURE

N.T.S.



TYPE "P" FIXTURE (CLASS 1 DIV. 1)

N.T.S.



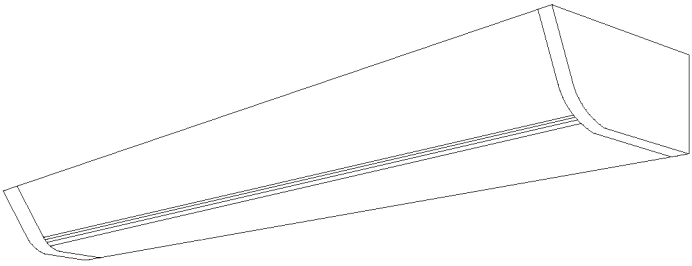
PIT LIGHT DETAIL

N.T.S.

CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY

TYPE: WF8



FEATURES

LAMP TYPE: F32T8/75 CRI
PROFILE: 2 LAMP
SHIELDING: PRISMATIC ACRYLIC
BALLAST: ELECTRONIC

OPTIONS

LAMP TYPE: F25T8/RS
PROFILE: 1 LAMP
BALLAST: HIGH POWER FACTOR MAGNETIC, DIMMING, EMERGENCY

NOM. DIMENSIONS 92 mm X 1219 mm X 84 mm
(3 5/8 " D X 4' L X 3 5/16 " H)

GENERAL DESCRIPTION

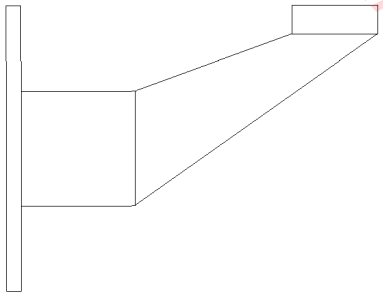
HOUSING: DIE FORMED 20 GAUGE COLD ROLLED STEEL WITH END PLATES

REFLECTORS: HIGHLY REFLECTIVE WHITE BAKED ENAMEL

ELECTRICAL: 120 OR 277 VOLT BALLAST

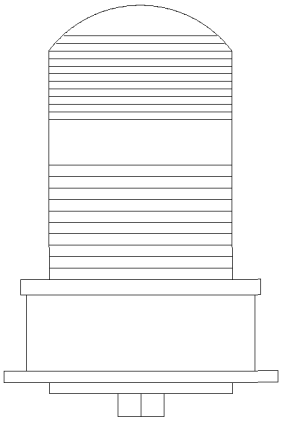
FINISH: WHITE POLYESTER POWDER COAT

FLUORESCENT WALL MOUNT



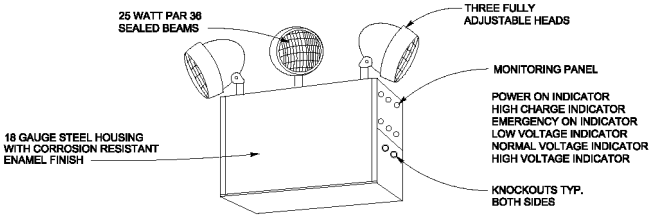
BEACON WALL BRACKET

N.T.S.



FLASHING BEACON

N.T.S.

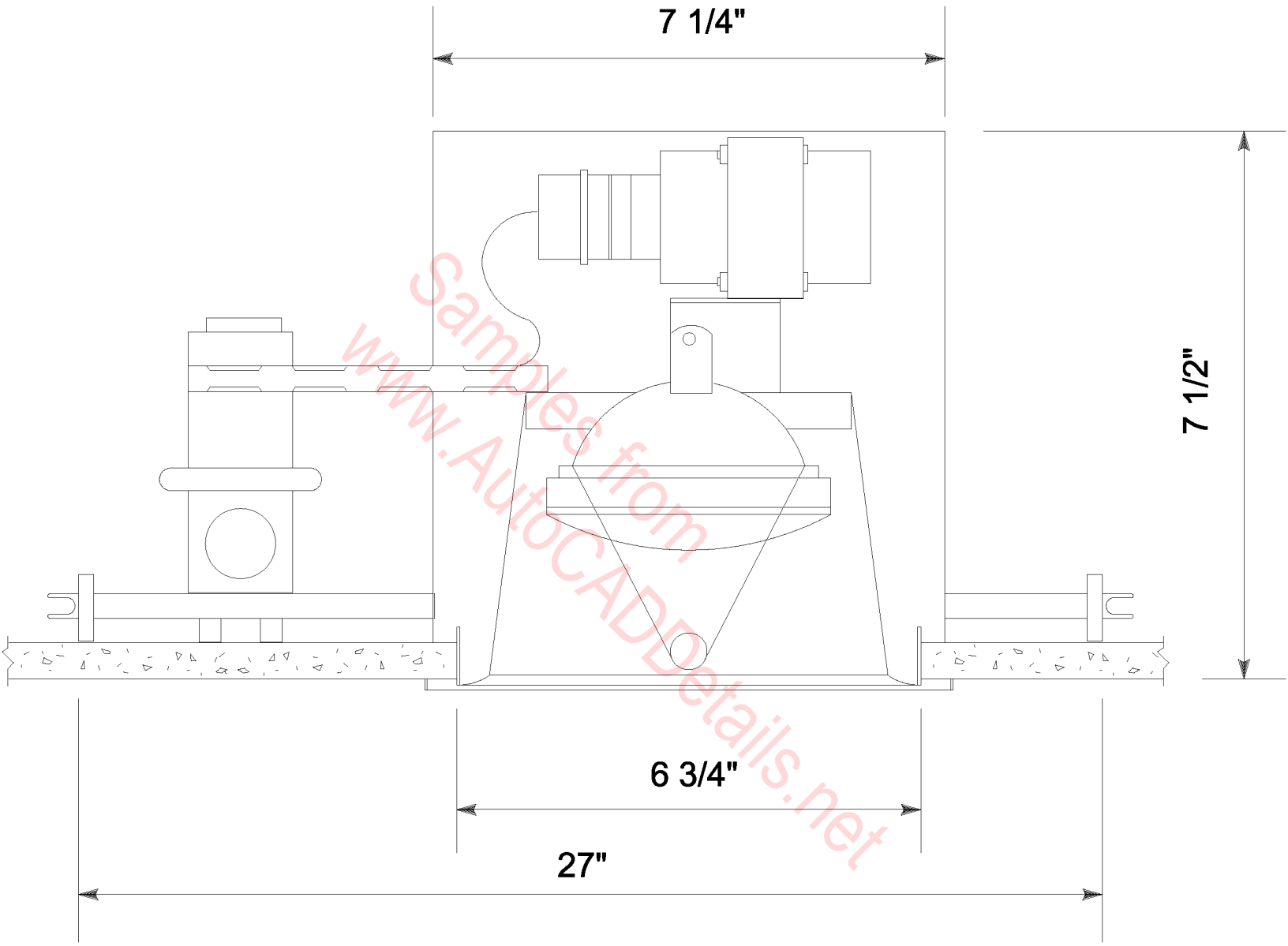


TYPE "K" FIXTURE

N.T.S.

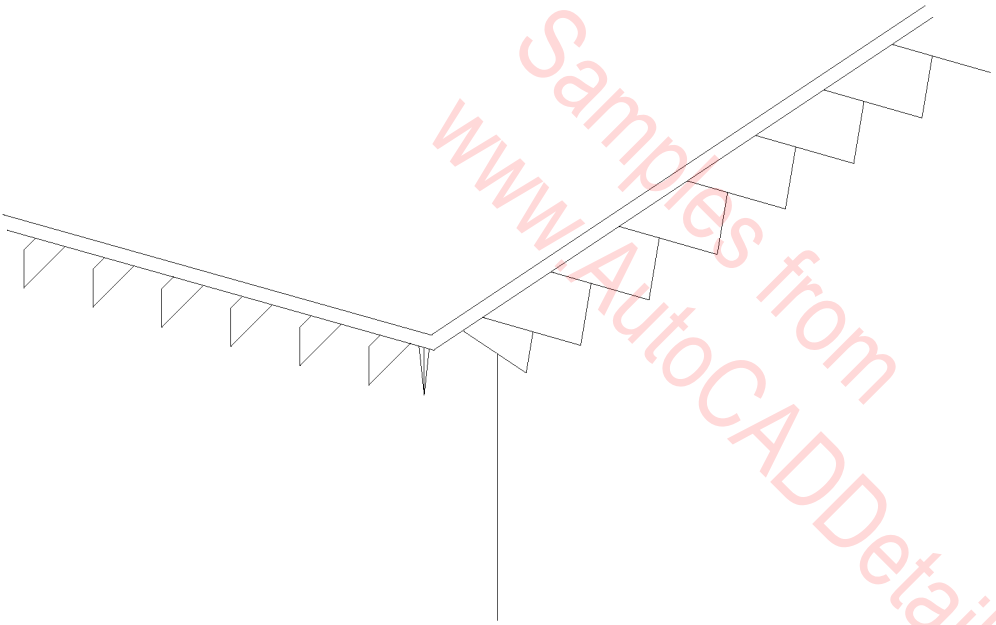
NOTES:

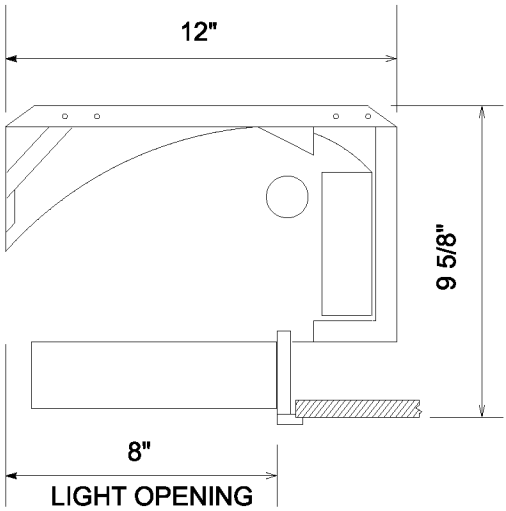
1. FIXTURE SHALL CONFORM TO UL 924.
2. 277 VOLT INPUT; 12 VOLT DC OUTPUT.
3. 170 W CAPACITY FOR 1 1/2 HOURS (BATTERY DISCHARGED TO 87 1/2% OF NOMINAL VOLTAGE).
4. CABINET SHALL PROVIDE FOR ELECTRICAL CONNECTION OF REMOTE HEADS.
5. UNIT SHALL HAVE LOW VOLTAGE DISCONNECT.
6. SEALED, 6V, LEAD ACID, RECHARGEABLE (2 PER UNIT).
7. UNIT SHALL BE PREWIRED, AND FURNISHED WITH A TEST SWITCH.



FIXTURE TYPE "W"

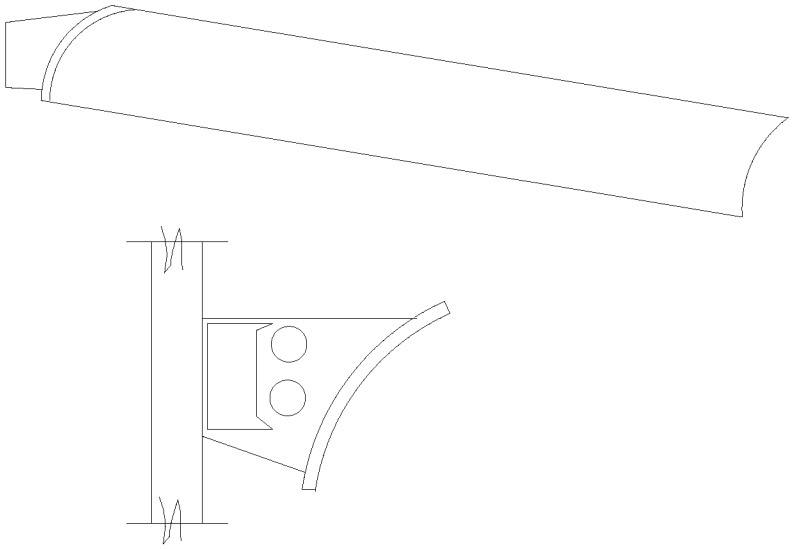
N.T.S.





FIXTURE TYPE "T", "TE"

N.T.S.



LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL CHANNEL AND COVER HOUSING BALLAST AND SUPPORTING WOOD SHIELDING. CHEMICALLY TREAT FOR RUST PREVENTION AND FINISHED WITH BAKED WHITE ENAMEL FINISH. HOUSING SHALL HAVE INTERNAL PROVISIONS FOR GROUNDING.

2. PROVIDE SHIELD SUPPORT SUCH THAT NO FASTENERS, SCREWS, TABS OR UNNECESSARY PROVISIONS FOR GROUNDING.

3. SHIELD SHALL BE 1/4" MOLDED PLYWOOD CURVED TO PROVIDE OPTIMUM LIGHT DISTRIBUTION. FINISH WITH WALNUT VENEER AND CLEAR MATT LACQUER. PROVIDE MATCHING WOOD END CAPS AT EACH END OF EACH RUN TO COVER STEEL CHANNEL.

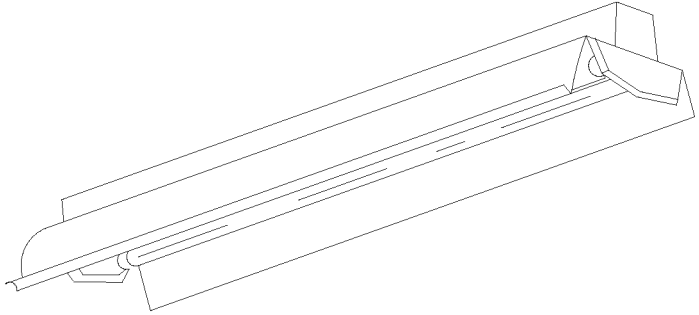
4. BALLAST SHALL BE HIGH POWER FACTOR (> .9) ETL CBM APPROVED RAPID START ENERGY SAVING TYPE CLASS P WITH A SOUND RATING OF A.

5. PROVIDE SPRING LOADED PLUNGER TYPE LAMP SOCKETS.

TYPE A - 2 LAMP 4 FT (NOMINAL)
TYPE B - 4 LAMP 8 FT (NOMINAL)

WALL MOUNTED INDIRECT FLUORESCENT WITH WOOD SHIELDING

N.T.S.



LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE 0.032" MINIMUM THICKNESS DIE FORMED COLD ROLLED STEEL, CHEMICALLY TREATED FOR RUST PREVENTION AND FINISHED WITH WHITE BAKED ENAMEL OR POLYESTER FINISH. PROVIDE TOP AND END KNOCKOUTS.

2. HOUSING WELDED OR SECURED BY SCREWS OR RIVETS INTO A SINGLE ASSEMBLY. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

3. REFLECTOR SHALL BE 0.026" MINIMUM THICKNESS STEEL (SOLID WHEN LUMINAIRE IS MOUNTED BELOW CATWALKS, ETC. 10-25% APERTURED WHEN PROTECTED FROM FALLING OBJECTS). PROVIDE 30 SHIELDING CENTER VEE. CHEMICALLY TREAT FOR RUST PREVENTION AND FINISH WITH WHITE BAKED ENAMEL, PORCELAIN ENAMEL, OR POLYESTER FINISH. MINIMUM REFLECTANCE SHALL BE 85%.

4. THE LUMINAIRE SHALL NOT PERMANENTLY DISTORT WHEN LIFTED BY ONE CORNER.

5. SPACING TO MOUNTING HEIGHT RATIO = 1.3.

6. LUMINAIRE SHALL BE CAPABLE OF CONTINUOUS ROW AND SINGLE UNIT PLACEMENT WITH PENDANT OR SURFACE MOUNTING.

7. PROVIDE SPRING LOADED PLUNGER TYPE LAMP SOCKETS.

8. BALLAST SHALL BE HIGH POWER FACTOR (> .9) ETL, CBM APPROVED CLASS P ENERGY SAVING BALLAST WITH A SOUND RATING OF B (RAPID START OR SLIMLINE).

9. MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH THE FOLLOWING CAVITY REFLECTANCE OF: CEILING = 80% WALL = 50% FLOOR = 20%
LUMINANCE USING 3100 LAMP WITH AVG:MAX RATIO NOT TO EXCEED 1:5.

ROOM CAVITY RATIO	CU	AVG. LUMINANCE (FL)	
1		0.85	45° - 1350
2		0.73	55° - 1250
3		0.68	65° - 1250
4		0.60	75° - 850
			85° - 600

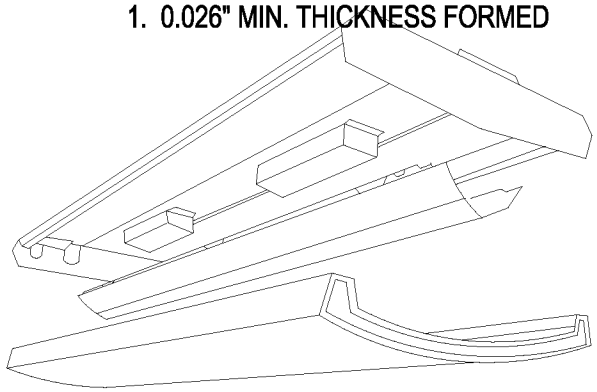
TYPE A - 48" 2 LAMP 430 MA.
TYPE B - 96" 2 LAMP 430 MA.

INDUSTRIAL FLUORESCENT

N.T.S.

LUMINAIRE REQUIREMENTS

1. 0.026" MIN. THICKNESS FORMED



STEEL HOUSING. CHEMICAL TREATMENT FOR RUST PREVENTION. BAKE WHITE ENAMEL FINISH. 85% MIN. REFLECTANCE (INTERIOR). ENTIRE HOUSING SHALL BE PAINTED WHITE. HOUSING SHALL NOT PERMANENTLY DEFORM NOR SHALL IT DEFLECT MORE THAN THE FOLLOWING WHEN LIFTED BY ONE CORNER: TYPE A - 1/2 ", TYPE B - 1", TYPE C - 2".

2. SECURE HOUSING ENDS BY RIVETS OR SCREWS. PROVIDE A KNOCKOUT IN EACH END AND TWO IN TOP OF HOUSING. HOUSING SHALL HAVE INTERNAL PROVISIONS FOR GROUNDING.

3. OVERALL LUMINAIRE NOMINAL DIMENSIONS (+ 10%) SHALL BE:

TYPE	LENGTH	WIDTH	DEPTH
A	48"	7"	4 1/2 "
B	48"	10"	3 1/2 "
C	48"	15"	3 1/2 "

4. LENS SHALL BE CLEAR EXTRUDED 100% ACRYLIC HAVING A MINIMUM OVERALL (BOTTOM OF LENS) THICKNESS OF 0.10 INCHES WITH A MAXIMUM PRISM PENETRATION DEPTH OF 0.07 INCHES (0.055 INCH MINIMUM OVERALL SIDE THICKNESS) AND WELDED END PLATES TO FORM A SINGLE PIECE, 5 SIDED BASKET.

5. LENS SHALL BE PRISMATIC TYPE.

6. LENS SHALL HINGE ALONG ENTIRE LENGTH OF FIXTURE (LIFT AND SHIFT TYPE). LENS SHALL BE CAPABLE OF HINGING FROM BOTH SIDES OF FIXTURE.

7. BALLAST: HIGH POWER FACTOR (> .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS - ONE AT EACH END.

8. PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20%
LUMINANCE USING 3100L LAMP WITH AVG:MAX RATIO NOT TO EXCEED 1:5.

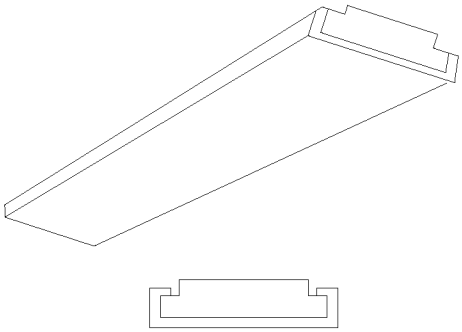
ROOM CAVITY RATIO	TYPE A	TYPE B	TYPE C
1	CU = 0.76	0.69	0.67
2	0.66	0.62	0.60
3	0.59	0.55	0.54
4	0.52	0.49	0.48

9. SPACING TO MOUNTING HEIGHT RATIO SHALL BE NOT LESS THAN 1.3.

TYPE A - 1 LAMP
TYPE B - 2 LAMP
TYPE C - 4 LAMP

SURFACE MOUNTED WRAP AROUND LUMINAIRE FOR OTHER THAN OFFICE TYPE SPACES

N.T.S.



LUMINAIRE REQUIREMENTS

1. 0.032" MIN. THICKNESS FORMED STEEL HOUSING. CHEMICAL TREATMENT FOR RUST PREVENTION. BAKED WHITE ENAMEL FINISH. 85% MIN. REFLECTANCE (INTERIOR). ENTIRE HOUSING SHALL BE PAINTED WHITE AFTER FABRICATION. HOUSING SHALL NOT PERMANENTLY DEFORM NOR SHALL IT DEFLECT MORE THAN ONE INCH (TWO INCHES FOR TYPE B) WHEN LIFTED BY ONE CORNER.

2. SECURE HOUSING ENDS BY RIVETS OR SCREWS. PROVIDE A KNOCKOUT IN EACH END AND TWO IN TOP OF HOUSING. HOUSING SHALL HAVE INTERNAL PROVISIONS FOR GROUNDING.

3. OVERALL LUMINAIRE LENGTH SHALL BE 48 INCHES NOMINAL. OVERALL WIDTH SHALL BE 12 INCHES MINIMUM FOR 2 LAMP, 15-1/2 INCHES MINIMUM FOR 4 LAMP. OVERALL HEIGHT SHALL BE 3-1/2 INCHES MAXIMUM.

4. LENS SHALL BE CLEAR 100% ACRYLIC HAVING A MINIMUM OVERALL (BOTTOM OF LENS) THICKNESS OF 0.140 INCH WITH A MAXIMUM PRISM PENETRATION DEPTH OF 0.07 INCHES (0.55 INCH MIN. OVERALL SIDE THICKNESS).

5. LENS SHALL BE PRISMATIC TYPE, INJECTION MOLDED INTO A SINGLE 5 SIDED UNIT WITH 1/2 INCH MINIMUM RE-ENTRANT FLANGE ON EACH LONG SIDE FOR ADDITIONAL STRENGTH.

6. LENS SHALL BE CAPABLE OF HINGING AND LATCHING FROM EITHER SIDE OF FIXTURE.

7. LUMINAIRE SHALL HAVE LUMINOUS ENDS.

8. BALLAST: HIGH POWER FACTOR (> .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLASTS TO HOUSING WITH AT LEAST ONE SCREW AND SLIP ON BRACKET OR TWO SCREWS - ONE AT EACH END.

9. PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3100L LAMP WITH AVG:MAX RATIO NOT TO EXCEED 1:5.

RCR	TYPE A	TYPE B	AVG. LUMINANCE (FL)	
1	CU = 0.71	0.67	45 = 2250	
2	0.64	0.60	55 = 1605	
3	0.57	0.54	65 = 1125	
4	0.51	0.48	75 = 750	
MIN. EFFICIENCY	69%	62%	85 = 495	(800 FOR TYPE B)

10. MINIMUM SPACING TO MOUNTING HEIGHT RATIO: 1.35 (TYPE A), 1.3 (TYPE B).

TYPE A - 2 LAMP
TYPE B - 4 LAMP

SURFACE MOUNTED WRAP-AROUND LUMINAIRE FOR OFFICE/CLASSROOM TYPE SPACES

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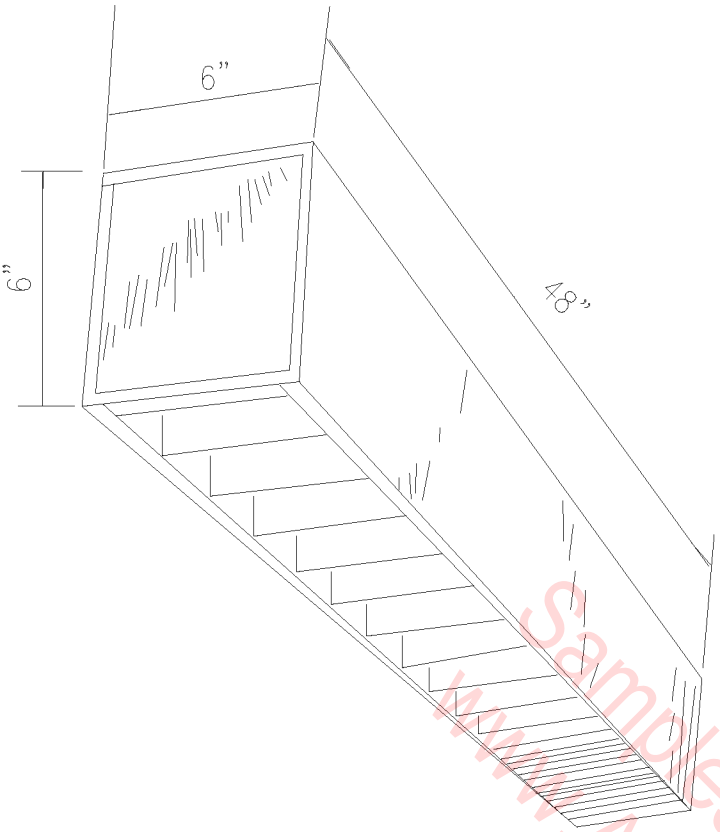


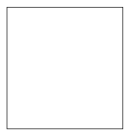
LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE MINIMUM 0.026 THICK STEEL, OR STEEL AND ALUMINUM CONSTRUCTION, AND SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND PAINT ADHESION. HOUSING SHALL BE ASSEMBLED WITH SCREWS OR BY WELDED JOINTS.

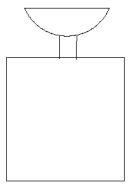
2. INTERIOR OF HOUSING SHALL BE PAINTED WITH MINIMUM 85% REFLECTANCE HIGH GLOSS WHITE ENAMEL.

3. REFLECTOR SHALL BE SEMI-SPECULAR NATURAL ANODIZED ALUMINUM.

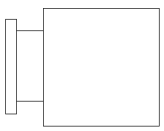
4. PARABOLIC LOUVER SHALL BE ANODIZED NATURAL ALUMINUM AND SHALL HAVE POSITIVE ACTION SPRING LOADED LATCHES AND SAFETY HINGES.



SURFACE



PENDANT



BRACKET

5. PROVIDE INTERNAL GREEN GROUNDING SCREW.

6. BALLAST: HIGH POWER FACTOR (.9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLASTS TO HOUSING WITH AT LEAST ONE SCREW AND SLIP ON BRACKET OR TWO SCREWS - ONE AT EACH END.

7. PROVIDE COLORS AS INDICATED.

TYPE A - DIRECT - 1 LIGHT
TYPE B - DIRECT - 2 LIGHT

TYPE C - INDIRECT - 1 LIGHT
TYPE D - INDIRECT - 2 LIGHT

TYPE E - DIRECT/INDIRECT - 1 LIGHT
TYPE F - DIRECT/INDIRECT - 2 LIGHT

TYPE G - DIRECT ASYMMETRIC

NOTE: TYPES C, D, E & F MAY ONLY BE PENDANT OR BRACKET MOUNTED.

SURFACE, PENDANT OR BRACKET MOUNTED PARABOLIC LUMINAIRE

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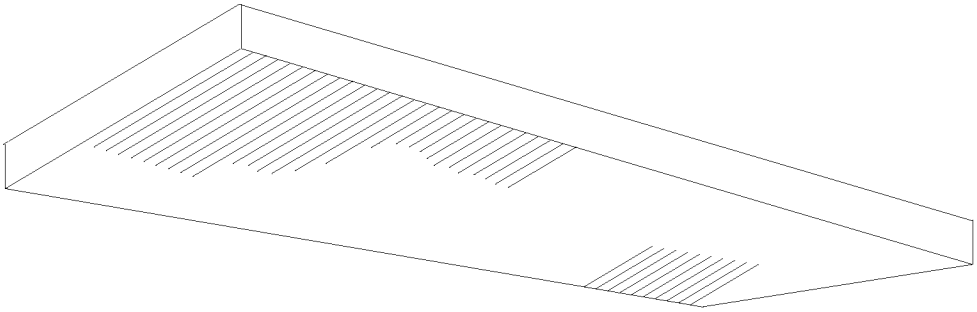


LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL HOUSING WITH CORNERS WELDED. ALL 4 SIDES SHALL BE SOLID STEEL WITHOUT HOLES OR PANELS. 4-1/2" MAXIMUM FIXTURE HEIGHT. FINISH WITH RUST INHIBITOR AND BAKED WHITE ENAMEL. (PAINT AFTER FABRICATION.) PROVIDE GROUND LUG.

2. 0.032" MINIMUM THICKNESS STEEL OR ALUMINUM DOOR HELD TOGETHER BY SCREWS (FOR LENS REPLACEMENT). THE DOOR SHALL BE LIGHT TIGHT WITHOUT RELYING ON GASKETS, DOORS SHALL BE HELD IN PLACE BY 2 "T" TYPE HINGES AND 2 SLOT HEAD, CAPTIVE SCREWS.

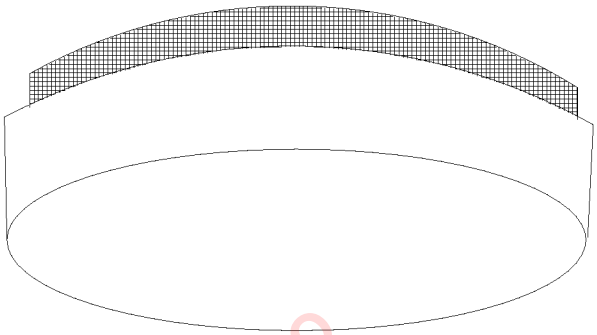
3. LENS SHALL BE 0.156" PLUS OR MINUS 10% OVERALL (0.09 MAXIMUM PRISM PENETRATION) CLEAR PRISMATIC 100% ACRYLIC. WHEN INDICATED, PROVIDE AN ADDITIONAL 1/4" THICK POLYCARBONATE SHEET BELOW AND ATTACHED TO THE ACRYLIC LENS. (REDUCE LENS THICKNESS TO 0.10 MINIMUM.)

4. BALLAST SHALL BE HIGH POWER FACTOR (.9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS (ONE AT EACH END).

TYPE A - 2' X 2' 2 LAMP
TYPE B - 1' X 4' 2 LAMP
TYPE C - 2' X 4' 2 LAMP
TYPE D - 2' X 4' 3 LAMP
TYPE E - 2' X 4' 4 LAMP

STEEL SIDED SURFACE FLUORESCENT

N.T.S.



LUMINAIRE REQUIREMENTS

1. ALUMINUM HOUSING WITH MATTE BLACK FINISH.

2. POLYCARBONATE OR ACRYLIC OPAL GLOBE.

3. PROVIDE SPRING STEEL CLIPS, SET SCREWS OR TORSION SPRINGS TO KEEP GLOBE IN PLACE.

4. PROVIDE DAMP LABEL WHEN INDICATED.

5. PROVIDE CIRCLINE LAMPS AS INDICATED, WITH LUMINAIRE MAXIMUM SIZES AS FOLLOWS:

LAMP WATTAGE	LUMINAIRE DEPTH	LUMINAIRE DIAMETER
19 TO 22	4"	11"
32 OR 22+32	4"	14"
40 OR 32+40	5"	20"

ROUND SURFACE FLUORESCENT

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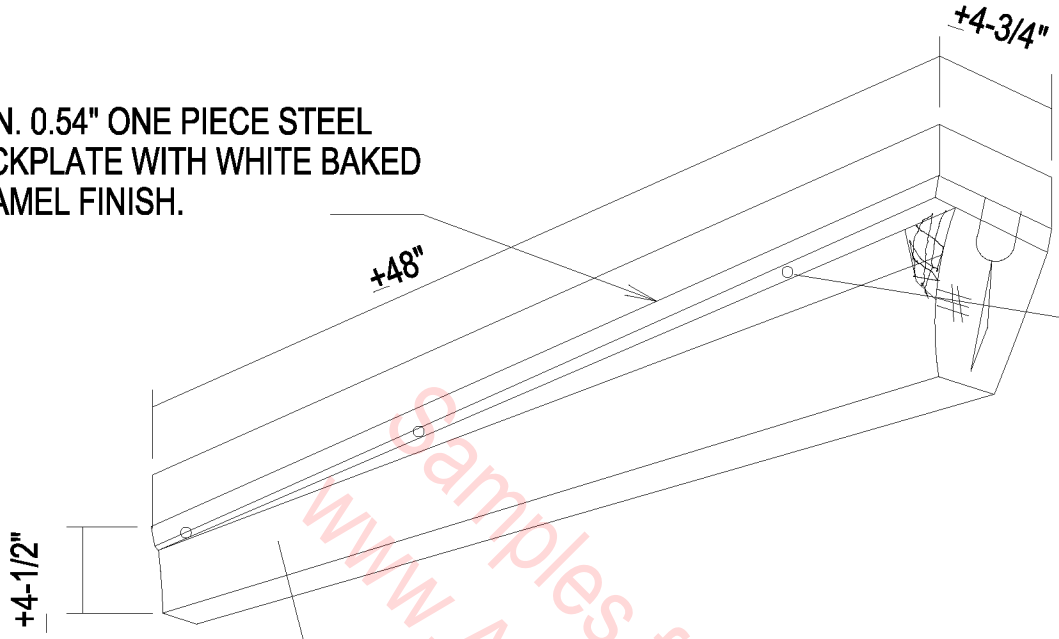

MIN. 0.54" ONE PIECE STEEL BACKPLATE WITH WHITE BAKED ENAMEL FINISH.

SECURE LENS TO BACKPLATE WITH MINIMUM 6 STAINLESS STEEL TAMPROOF SCREWS

1 - 35W, T-12, RS, CW ENERGY SAVING LAMP

MOUNT BACKPLATE WITH MINIMUM OF 6 SCREWS OR ANCHORS PER FIXTURE TO WALL OR CEILING AS INDICATED SEE SPECS FOR TYPES.

PROVIDE INTERNAL GROUNDING SCREW

VANDALPROOF MIN. .125" THICK CLEAR PRISMATIC INJECTION MOLDED WRAPAROUND LENS

BALLAST SHALL BE HIGH POWER FACTOR (9) ETL; CBM APPROVED RAPID START CLASS P, WITH SOUND RATING OF "A".

SURFACE MOUNTED 1-LAMP NONBREAKABLE LUMINAIRE

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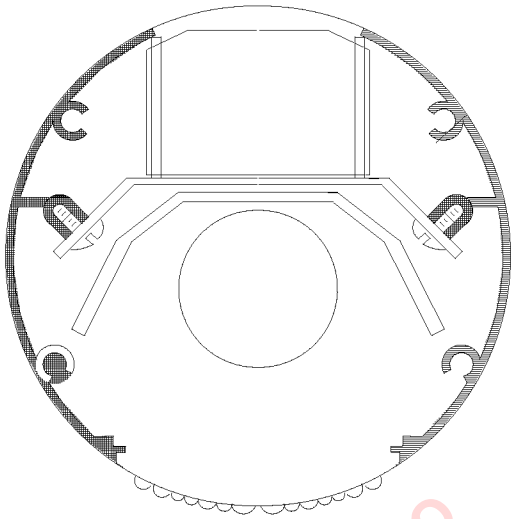
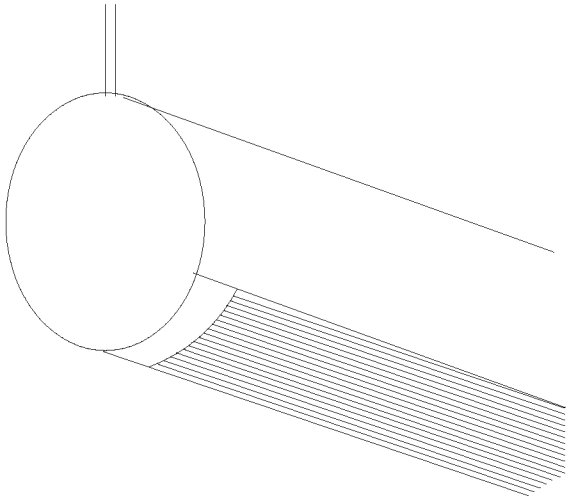




LUMINAIRE REQUIREMENTS

1. HOUSING EXTRUDED ALUMINUM - PRIME PAINT AND PAINT WITH BAKED ENAMEL OF COLOR INDICATED.

2. REFLECTOR - DIE FORMED HIGH GLOSS BAKED WHITE ENAMEL WITH MINIMUM 85% REFLECTANCE.

3. SHIELDING - CLEAR PRISMATIC LENS TOP AND BOTTOM - 100% ACRYLIC.

4. RAPID START H.P.F. BALLAST; CLASS "P" CBM CERTIFIED BY ETL.

5. END PLATES WITH PROVISIONS FOR THROUGH WIRING.

6. 90 ELBOW CONNECTOR OF CAST ALUMINUM WITH CABLE SUPPORT PROVISIONS. COLOR TO MATCH FIXTURE.

7. IN-LINE CONNECTOR FOR CABLE SUPPORT OF FIXTURE.

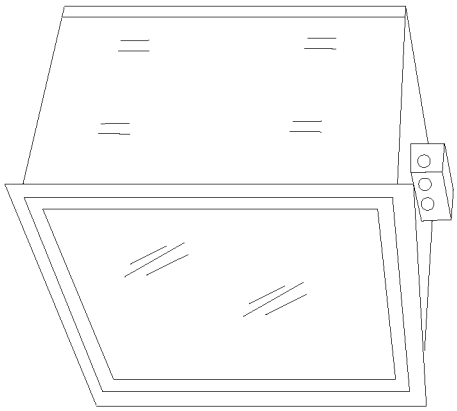
8. PROVIDE FIXTURES, ELBOWS, AND IN-LINE CONNECTORS AS INDICATED.

DECORATIVE SPECIALTY

1-LAMP LUMINAIRE

N.T.S.

LUMINAIRE REQUIREMENTS



1. 24" X 24" (NOMINAL) SQUARE, 13" MAXIMUM HEIGHT. PROVIDE HARDWARE SUITABLE FOR CEILING MATERIAL USED.
2. STEEL OR ALUMINUM HOUSING WITH CORROSION RESISTANT FINISH.
3. ALUMINUM REFLECTOR.
4. FULL GASKETED PRISMATIC (OR CLEAR WHEN INDICATED) TEMPERED GLASS LENS SECURED BY CAPTIVE SCREWS OR CAM LATCHES.

TYPE A - 150W TO 250W HIGH PRESSURE SODIUM

TYPE B - 175W - 400W METAL HALIDE

5. HIGH POWER FACTOR ($\geq$ 0.9) ENCAPSULATED BALLAST AS INDICATED IN THE SPECIFICATIONS.
6. PROVIDE AUXILIARY QUARTZ LAMP AND ARC SENSING RELAY WHERE INDICATED.
7. PROVIDE LAMP AS INDICATED.
8. LAMP AND BALLAST SHALL BE SERVICEABLE FROM THE BOTTOM OF THE FIXTURE UNLESS OTHERWISE NOTED. PROVIDE INTERNAL GROUNDING PROVISIONS.
9. SPACING TO MOUNTING HEIGHT RATIO SHALL NOT BE LESS THAN 1:0.
10. FOR REFLECTANCES OF 80% CEILING, 50% WALLS, 20% FLOORS. THE COEFFICIENT OF UTILIZATION SHALL NOT BE LESS THAN THE FOLLOWING:

RCR	CU TYPE A	CU TYPE B
1	.63	.72
2	.57	.66
3	.49	.60
4	---	.54
5	---	.49

RECESS MOUNTED COMMERCIAL H.I.D.

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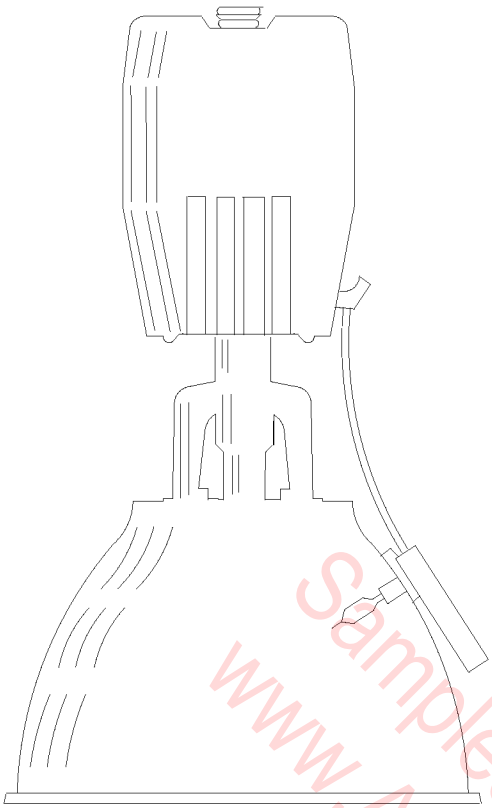

TYPE A - 400W-1000W HIGH PRESSURE SODIUM

TYPE B - 400W-1000W METAL HALIDE

LUMINAIRE REQUIREMENTS

1 STEEL OR ALUMINUM BALLAST HOUSING. SPUM ALUMINUM REFLECTOR PROVIDE VENTILATION OPENINGS AT TOP OF REFLECTOR. PROVIDE INTERNAL GROUNDING PROVISIONS.

2 PROVIDE CUSHIONED, SHOCK ABSORBING FIXTURE HANGER. PROVIDE CUSHIONED POWER HOOK WHEN INDICATED.

3 PROVIDE WIRE GUARD OR TEMPERED GLASS LENS WHEN INDICATED.

4 PROVIDE QUARTZ AUXILIARY LAMP AND ARC SENSING RELAY WHEN INDICATED.

5 PROVIDE HIGH POWER FACTOR ENCAPSULATED (0.9) BALLAST AS INDICATED ON PLANS AND SPECIFICATION.

6 MINIMUM COEFFICIENTS OF UTILIZATION (CU) FOR CAVITY REFLECTANCES OF 80% CEILING, 50% WALLS, 20% 20% FLOOR SHALL BE:

ROOM CAVITY RATIO	TYPE	A	B
1	cu	0.93	0.89
2		0.85	0.80
3		0.93	0.70
MIN. EFFICIENCY		84 %	80 %
MIN. SPACING/MTG. HT. RATIO		0.95	0.95

7 PROVIDE LAMP AS INDICATED.

HIGH BAY INDUSTRIAL H.I.D.

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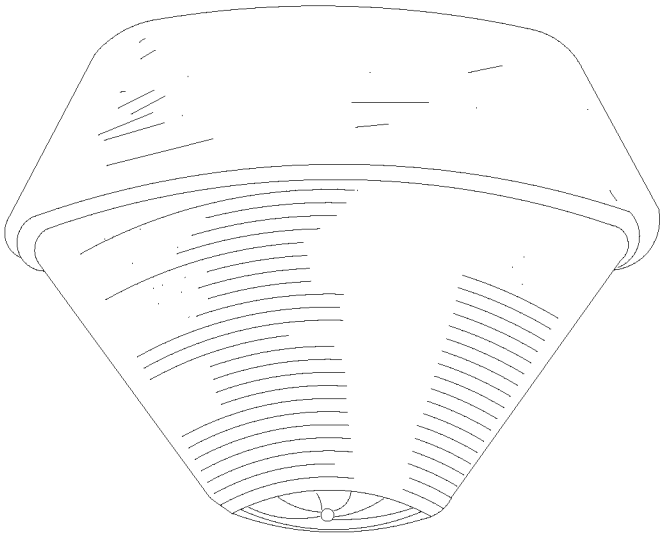

LUMINAIRE REQUIREMENTS

1. SHEET OR CAST ALUMINUM HOUSING. FINISH WITH ENAMEL OR EPOXY. PROVIDE INTERNAL GROUNDING PROVISIONS.
2. ACRYLIC REFRACTOR OR THERMAL AND SHOCK RESISTANT
3. PROVIDE CUSHIONED FIXTURE HANGAR. PROVIDE CUSHIONED POWER HOOK WHEN INDICATED.
4. PROVIDE QUARTZ AUXILIARY LAMP AND ARC SENSING RELAY WHEN INDICATED.
5. PROVIDE ENCAPSULATED HIGH POWER FACTOR (.9) BALLAST AS INDICATED ON PLANS AND IN SPECIFICATION.
6. MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH CAVITY REFLECTANCES OF 80% CEILING, 50% WALL, 20% FLOOR SHALL BE:

RCR	TYPE:	A	B	C	D
1		0.79	0.85	0.79	0.8
2	CU.	0.68	0.73	0.69	0.7
3		0.59	0.60	0.60	0.6
MIN. EFFICIENCY		80%	85%	80%	85%
MIN. SPACING/MTG HT RATIO		1.8	1.8	1.8	1.8

7. PROVIDE LAMP AS INDICATED.

TYPE A - 100 -150W HIGH PRESSURE SODIUM
TYPE B - 250-400W

TYPE C - 175W METAL HALIDE
TYPE D - 250-400W

LOW BAY INDUSTRIAL H.I.D.

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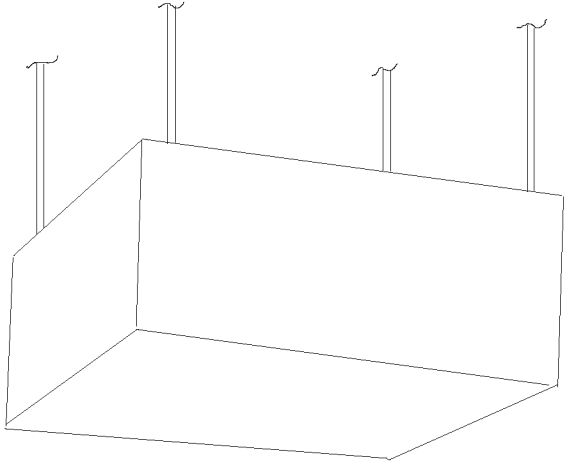

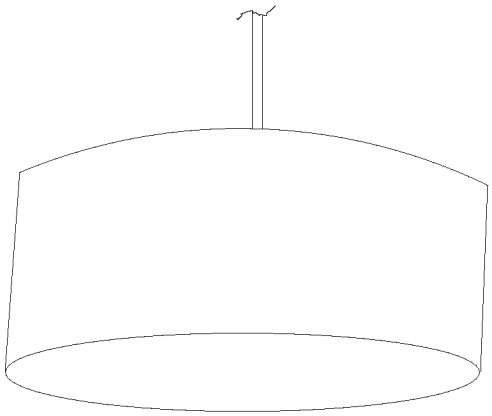

TYPE A TYPE B

LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL HOUSING WITH ALL SEAMS WELDED AND GROUND SMOOTH. CHEMICALLY TREAT FOR RUST PREVENTION AND PROVIDE BAKED ENAMEL, OR POLYESTER FINISH (BEIGE UNLESS INDICATED OTHERWISE).
2. ALUMINUM REFLECTOR WITH TEMPERED GLASS LENS.
3. PROVIDE 175, 250, 400 WATT METAL HALIDE OR 150, 250, 400 WATT HIGH PRESSURE SODIUM LAMPS (SINGLE OR TWIN) AS INDICATED ON THE PLANS.
4. HIGH POWER FACTOR (.9) ENCAPSULATED BALLAST AND AS INDICATED IN THE SPECIFICATIONS.
5. PROVIDE COMPUTER GENERATED DOCUMENTATION OF THE MAXIMUM, MINIMUM AND AVERAGE INITIAL FOOTCANDLE LEVELS FOR THE SYSTEM AS INDICATED ON THE PLANS. ASSUME REFLECTANCES OF 80%, 50%, 20% FOR CEILINGS, WALLS AND FLOORS RESPECTIVELY.
6. PROVIDE 60% MINIMUM FIXTURE LUMEN OUTPUT BETWEEN 30" TO 90" FROM VERTICAL.
7. PROVIDE INTERNAL GROUNDING PROVISIONS.

TYPE A & B (NOT SHOWN)
CEILING MOUNTED
30 INCH MAXIMUM DISTANCE
FROM BOTTOM OF FIXTURE
TO CEILING UNLESS OTHER-
WISE INDICATED.

RCR	MIN. CU	
	150W-250W	400W
1	0.50	0.56
2	0.43	0.49
3	0.38	0.43
4	0.33	0.38

WALL MOUNTED LUMINAIRE-
(RIGIDLY MOUNT TO WALL)
FORWARD THROW OPTICS

RCR	MIN. CU
1	0.36
2	0.32
3	0.28
4	0.24

INDIRECT H.I.D. LUMINAIRE

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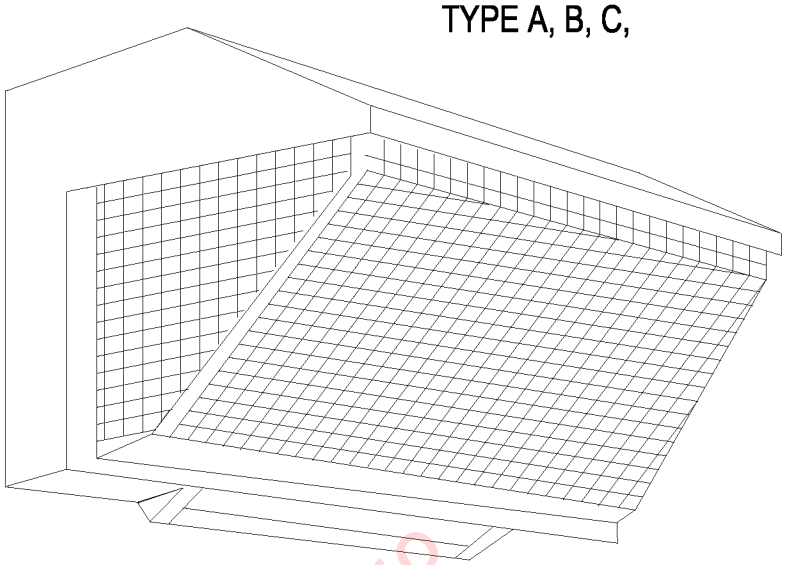
LUMINAIRE REQUIREMENTS
UTILITY
TYPE A, B, C,

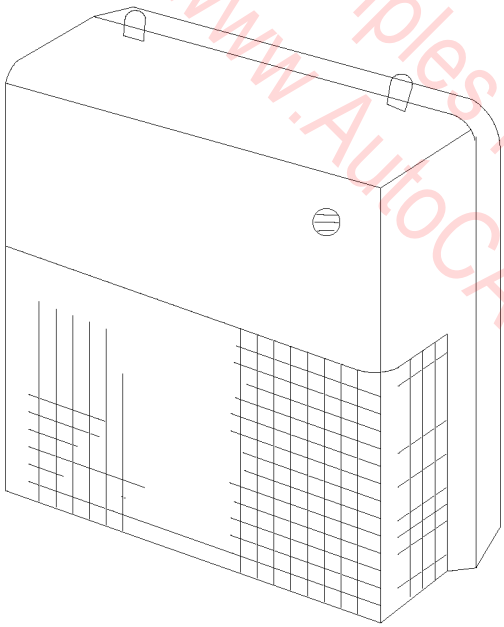


1. CAST ALUMINUM OR 1/8 " MIN. THICKNESS EXTRUDED ALUMINUM HOUSING FOR HIGH PRESSURE SODIUM (HPS) AND METAL HALIDE (M.H.) LUMINAIRES.

2. CAST ALUMINUM, 1/8 " MIN. THICKNESS EXTRUDED ALUMINUM ABS PLASTIC OR POLYCARBONATE HOUSING FOR LOW PRESSURE SODIUM (LPS) AND 35/50/70W HPS LUMINAIRES.

3. HINGED, U.V. STABILIZED POLYCARBONATE LENS OR HINGED TEMPERED GLASS WITH POLYCARBONATE SHIELD.

4. LAMP SIZE AS INDICATED IN FIXTURE SCHEDULE.



ARCHITECTURAL
TYPE D, E

5. PROVIDE ALUMINUM REFLECTOR.

6. BALLAST SHALL BE HIGH POWER FACTOR TYPE (.85) WITH CHARACTERISTICS AS INDICATED.

7. PROVIDE PHOTO ELECTRIC CONTROL WHEN INDICATED.

8. PROVIDE INTERNAL GROUNDING PROVISIONS.

TYPE A, D	35-150W HPS
TYPE B, E	175W M.H.
TYPE C	35, 55W LPS

NOTE: TYPES D AND E MAY BE SUBSTITUTED FOR TYPES A AND B RESPECTIVELY BUT NOT VICE VERSA.

H.I.D. WALL MOUNTED LUMINAIRE

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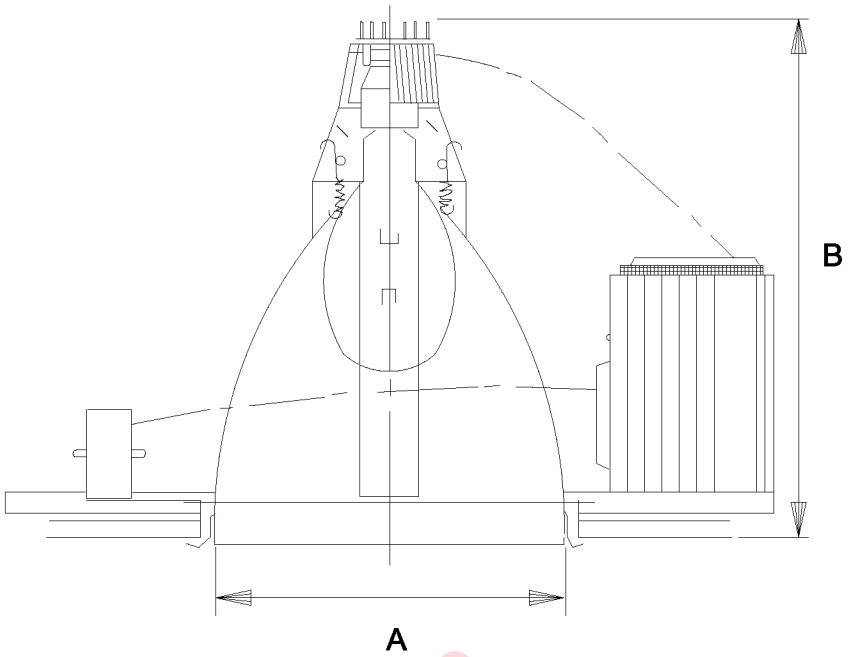

MAXIMUM DIMENSIONS

OPEN REFLECTOR		A	B
TYPE A	70-150W HPS OR 175-250W MH	10"	18"
A1	400W MH	16"	31"
MULTI GROOVE BAFFLE			
TYPE B	70-150W HPS OR 175-250W MH	10"	18"
B1	400W MH	12"	31"
REGRESSED LENS			
TYPE C	70-150W HPS OR 175-250W MH	12"	14"

LUMINAIRE REQUIREMENTS

1. CAST OR EXTRUDED ALUMINUM SOCKET HOUSING WITH PORCELAIN SOCKET FOR VERTICAL BURNING LAMP.

2. 18 GAGE (U.S. STD) SPECULAR ALUMINUM REFLECTOR.

3. WHITE TRIM RING SUITABLE FOR USE WITH CEILING MATERIAL INSTALLED (CAST ALUMINUM ON LENS UNITS).

4. ENCAPSULATED HPF (0.9) BALLAST ARRANGED FOR MAINTENANCE FROM BELOW CEILING.

5. WIRING JUNCTION BOX SUITABLE FOR 75 C BRANCH CIRCUIT THROUGH WIRING.

6. PROVIDE QUARTZ AUXILIARY LAMP AND ARC SENSING RELAY WHEN INDICATED.

7. PROVIDE PROTECTIVE LAMP SHATTER SHIELD FOR METAL HALIDE FIXTURES (175 AND 250W).

8. MULTI GROOVE BAFFLES SHALL BE FLAT BLACK PHENOLIC OR CAST ALUMINUM.

9. LENS SHALL BE TEMPERED GLASS WITH FRESHNEL OR PRISMATIC PATTERN.

10. PROVIDED LAMP AS INDICATED ON DRAWING HIGH PRESSURE SODIUM (HPS) OR METAL HALIDE (MH).

11. PROVIDE INTERNAL GROUNDING LUG.

12. MINIMUM PHOTOMETRICS SHALL BE AS FOLLOWS:
BRIGHTNESS CUTOFF ANGLE ABOVE NADIR (500) FOOTLAMBERT LINE) SHALL BE 65 OR LESS
FOR OPEN AND BAFFLE FIXTURES AND 85 OR LESS FOR LENS TYPE FIXTURES

USING REFLECTANCES OF 80% CEILING, 50% WALLS AND 20% FLOOR, MINIMUM COEFFICIENTS OF UTILIZATION SHALL BE AS FOLLOWS:

RCR	TYPE	A	A1	B	B1	C
1		0.65	0.70	0.45	0.55	0.55
2		0.60	0.67	0.40	0.50	0.50
3		0.55	0.64	0.37	0.45	0.45
4		0.50	0.60	0.35	0.40	0.40
S/MH RATIO		1.2	1.0	1.2	1.2	1.0

RECESSED ROUND H.I.D.

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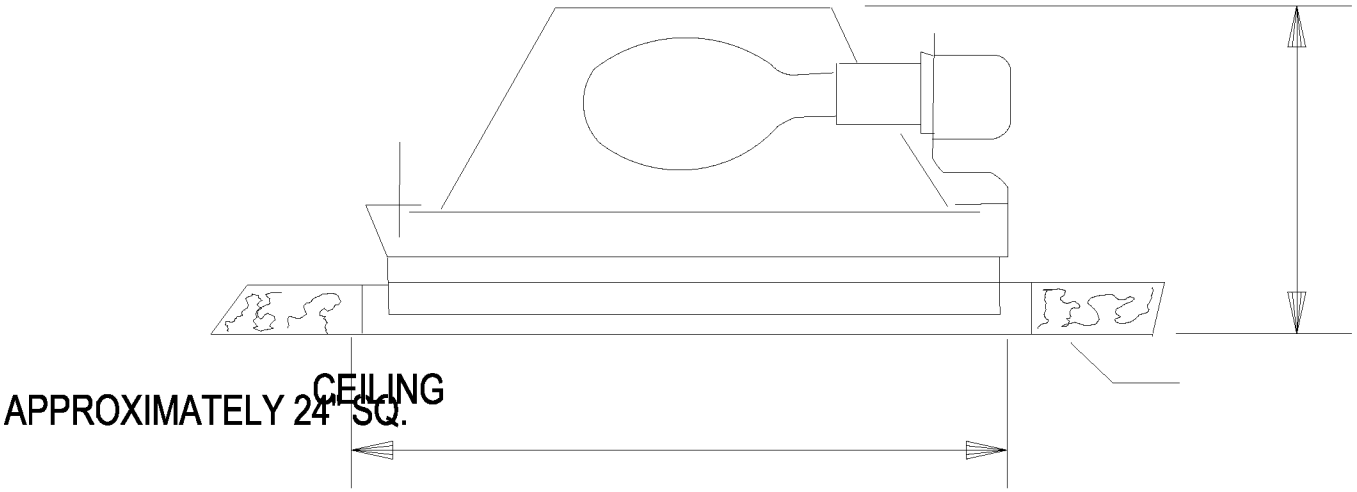


LUMINAIRE REQUIREMENTS

1. MINIMUM 0.026" THICK DIE FORMED STEEL HOUSING WELDED OR PUT TOGETHER WITH SCREWS TO FORM A RIGID UNIT.

2. ENTIRE LUMINAIRE SHALL BE FLUSH WITH CEILING, NO PROTRUDING FASTENERS OR HINGES.

3. STEEL DOOR FRAME MINIMUM 0.032" THICK STEEL WITH BAKED WHITE ENAMEL FINISH.

4. REFLECTOR SHALL BE CLEAR ANODIZED ALUMINUM.

5. TEMPERED IMPACT RESISTANT PRISMATIC GLASS LENS.

6. PORCELAIN LAMPHOLDER.

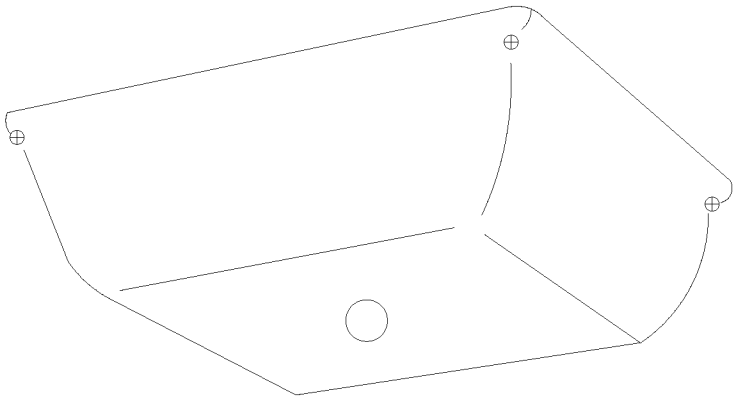
7. ALL STEEL PARTS SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND PAINT ADHESION AND SHALL BE PAINTED WITH WHITE BAKED ENAMEL FINISH.

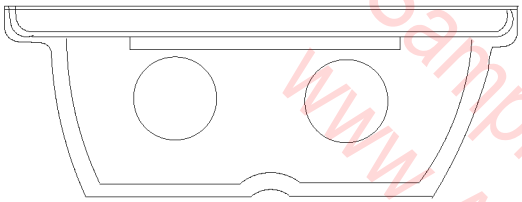
8. BALLAST SHALL BE SOUND RATED AND ENCAPSULATED, CWA TYPE, VOLTAGE AS INDICATED.

TYPE A - 250 WATT METAL HALIDE
TYPE B - 400 WATT METAL HALIDE
TYPE C - 150 WATT HIGH PRESSURE SODIUM
TYPE D - 250 WATT HIGH PRESSURE SODIUM
TYPE E - 400 WATT HIGH PRESSURE SODIUM

HANDBALL AND RACQUETBALL COURT LUMINAIRE

N.T.S.





LUMINAIRE REQUIREMENTS

1. 0.054 INCH MINIMUM THICK STEEL OR ALUMINUM BACK PLATE.
2. POLYCARBONATE PRISMATIC OR OPAL LENS HELD IN PLACE WITH 4 STAINLESS STEEL SCREWS.
3. FULLY GASKETED AROUND LENS AND BETWEEN LUMINAIRE AND CEILING WITH DOUBLE BAKED NEOPRENE GASKETS.
4. U.L. LISTED FOR DAMP LOCATIONS.
5. MOUNT BACKPLATE TO CEILING WITH 4-1/4"ø SCREWS OR ANCHORS.
6. PROVIDE WIRING COMPARTMENT SUITABLE FOR USE WITH 60° C WIRE INSULATION.
7. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

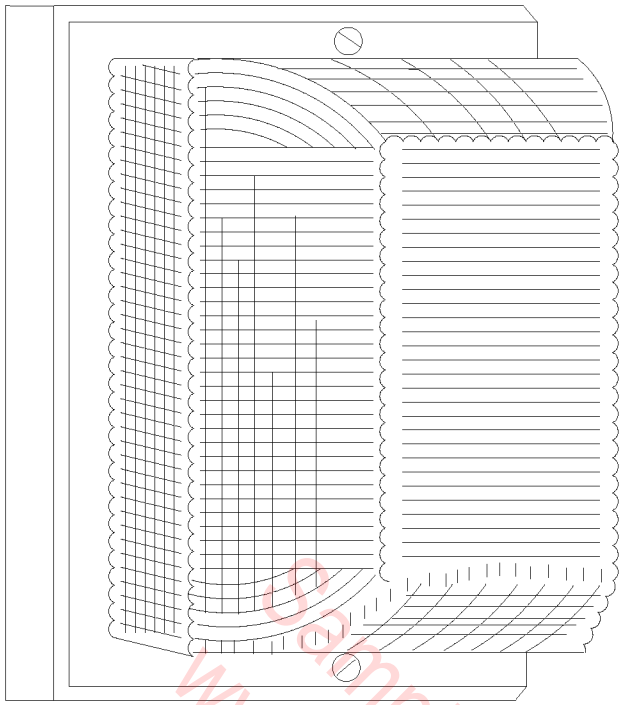
TYPE A - UP TO 2-100W A-19 INCANDESCENT LAMPS
MAX. DIMENSIONS 12"X12"X6" D

TYPE B - 35W, 50W OR 70W HIGH PRESSURE SODIUM LAMP AS INDICATED
MAX. DIMENSIONS 12-1/2"X12-1/2"X8-1/2" D

TYPE C - 20 OR 22W FLUORESCENT CIRCLINE
MAX. DIMENSIONS = 12"X12"X6" D

CEILING MOUNTED VANDAL-RESISTANT LUMINAIRE

N.T.S.



LUMINAIRE REQUIREMENTS

1. 0.054 INCH MINIMUM THICK STEEL TEMPERED ALUMINUM OR POLYCARBONATE BACK PLATE.
2. POLYCARBONATE PRISMATIC DIFFUSER HELD IN PLACE WITH STAINLESS STEEL SCREWS.
3. FULLY GASKETED AROUND LENS AND BETWEEN WALL AND LUMINAIRE WITH DOUBLE BAKED NEOPRENE GASKETS.
4. U.L. LISTED FOR WET LOCATIONS.
5. MOUNT BACKPLATE TO WALL WITH 4–1/4"ø SCREWS OR ANCHORS.
6. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

TYPE A – UP TO 100W INCANDESCENT
MAXIMUM DIMENSIONS 6"WX9"HX5"D

TYPE B – 7, 8, 9, 12, 13W FLUORESCENT LAMP
(MFG. STD. FLUOR. LAMP FOR FIXTURE)
MAXIMUM DIMENSIONS 6"WX9"HX5"D
WITHOUT BALLAST

TYPE C – 35W, 50W OR 70W HIGH PRESSURE
SODIUM LAMP AS INDICATED
MAXIMUM DIMENSIONS 6–1/2"WX9–1/2"HX7–1/2"D

WALL MOUNTED VANDAL–RESISTANT LUMINAIRE

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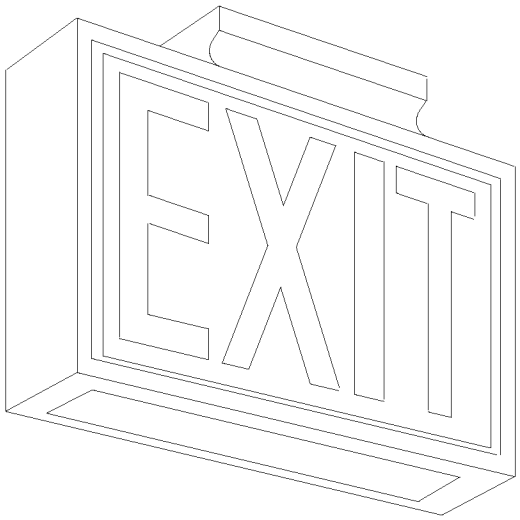
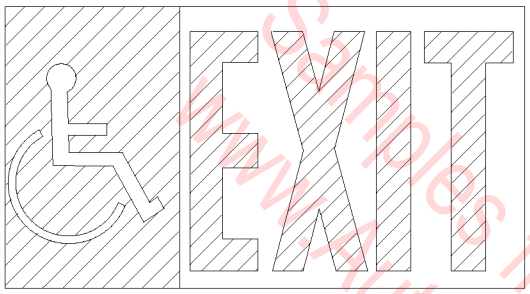




LUMINAIRE REQUIREMENTS

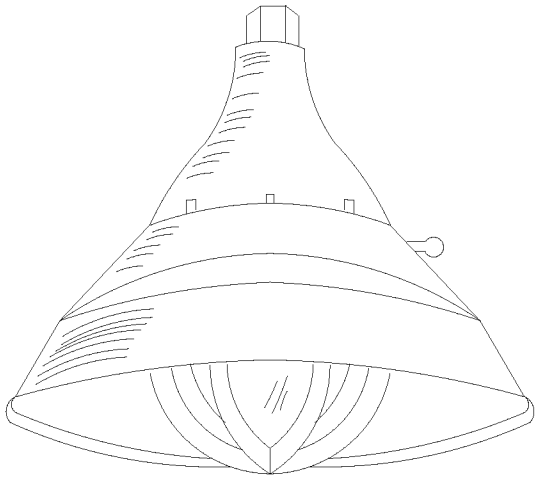
1. LETTERS SHALL BE 6" TALL WITH 3/4" STROKES FORMED BY A STENCIL FACE.
2. PROVIDE RED FIBERGLASS PANEL BEHIND STENCIL FACE.
3. PROVIDE 2 LONG LIFE INCANDESCENT LAMPS.
4. PROVIDE DOWN LIGHT PANEL IN FIXTURE.
5. PROVIDE ILLUMINATED ARROWS AS INDICATED.
6. PROVIDE SINGLE OR DOUBLE FACE AS INDICATED.
7. PROVIDE CEILING, END WALL, BACK WALL OR PENDANT MOUNTING AS INDICATED.
8. UNITS MOUNTED EXPOSED TO THE ENVIRONMENT SHALL HAVE A DAMP OR WET U.L. LABEL AS APPROPRIATE AND SHALL NOT BE CONSTRUCTED OF STEEL.
9. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.
10. PROVIDE INTERNATIONAL SYMBOL OF ACCESS ON SIGN WHEN INDICATED.

TYPE A – ALUMINUM OR PAINTED STEEL HOUSING AND STENCIL FACE. (SEE NOTE 8.)

TYPE B– PLASTIC HOUSING ENCLOSED IN POLYCARBONATE WITH STENCIL ON INSIDE OF POLYCARBONATE HOUSING. (SEE NOTE 8.)

EXIT SIGN

N.T.S.



LUMINAIRE REQUIREMENTS

1. LUMINAIRE SHALL MEET U.L. 844 OR FACTORY MUTUAL (FM) STANDARD FOR HAZARDOUS LOCATIONS.
2. HOUSING SHALL BE COPPER FREE CAST ALUMINUM WITH LAQUER OR EPOXY FINISH.
3. ALL JOINTS SHALL BE OF THE THREADED TYPE.
4. HEAT AND IMPACT RESISTANT PRESTRESSED GLASS GLOBE.
5. PROVIDE WHITE PORCELAIN ENAMEL STEEL, FIBERGLASS REINFORCED POLYESTER OR GLASS COATED DOME REFLECTOR.
6. PROVIDE GLOBE GUARD WHEN INDICATED.
7. PROVIDE LAMPS AS INDICATED.
8. MOUNTING AS INDICATED.
9. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

TYPE A — 60–200 WATT INCANDESCENT LUMINAIRE RATED FOR CLASS 1 DIVISION 1 GROUP D ATMOSPHERE.

TYPE B — 60–200 WATT INCANDESCENT LUMINAIRE RATED FOR CLASS 1 DIVISION 1 GROUP D ATMOSPHERE.

TYPE C — 70–250 WATT HPS OR 175–400 WATT MET. HALIDE LUMINAIRE RATED FOR CLASS 1 DIVISION 1 GROUP D ATMOSPHERE.

TYPE D — 70–250 WATT HPS OR 175–400 WATT MET. HALIDE LUMINAIRE RATED FOR CLASS 1 DIVISION 2 GROUP D ATMOSPHERE.

EXPLOSION–PROOF LUMINAIRE

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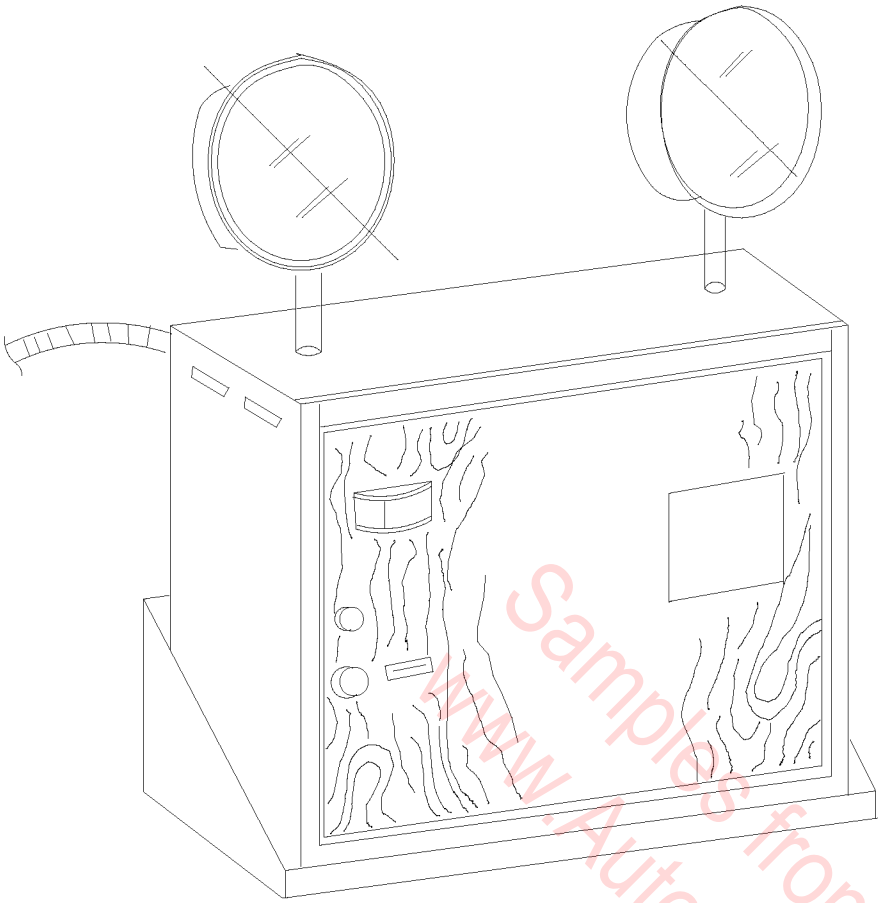

LUMINAIRE REQUIREMENTS

1. SEALED BATTERY, SPECIFICALLY DESIGN FOR EMERGENCY LIGHTING, SOLID STATE FULLY AUTOMATIC – THREE RATE CHARGER FOR NICKEL CADMIUM BATTERY AND TWO RATE HIGH/LOW CHARGER FOR LEAD CALCIUM OR LEAD ACID SEALED BATTERIES.

2. MINIMUM 0.032" THICK BAKED ENAMEL PAINTED BEIGE, OR NONMETAL–LIC PLASTIC HOUSING WITH DECORATIVE WOOD GRAIN FRONT PANEL ON EITHER HOUSING.

3. TEST SWITCH

4. "AC ON" PILOT LIGHT.

5. AUTOMATIC OVERLOAD PROTECTION – FUSE OR CIRCUIT BREAKER.

6. HEADS SHALL BE FULLY ADJUSTABLE VERTICALLY AND HORIZONTALLY.

7. SEALED BEAM HALOGEN LAMPS MINIMUM 8 WATT OR WATTAGE AS INDICATED IN SCHEDULE.

8. INPUT VOLTAGE AS INDICATED IN SCHEDULE.

9. VOLTMETER.

10. 3/C #16, SO CORD SET – (HARD WIRE TO CIRCUIT)

11. PROVIDE MINIMUM 0.032" THICK STEEL WALL MOUNTING SHELF, OR MOUNTING BRACKETS OR HOLES IN HOUSING FOR MOUNTING UNIT ON WALL.

12. LOW VOLTAGE, DEEP DISCHARGE DISCONNECT.

EMERGENCY LIGHTING UNIT

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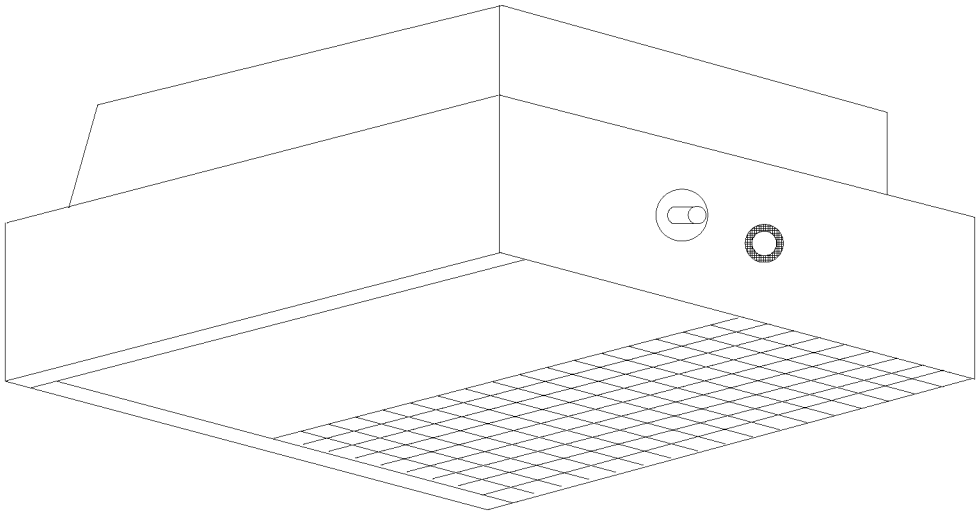

LUMINAIRE REQUIREMENTS

1. HOUSING – STEEL PAINTED SATIN BLACK HOUSING AND MATTE WHITE FRAME OR IMPACT AND FIRE RESISTANT POLYCARBONATE OR THERMOPLASTIC.

2. LENS SHALL BE PRISMATIC ACRYLIC APPROXIMATELY 9" X 9". REFLECTOR SHALL BE SPECULAR ALZAK.

3. BATTERY SHALL BE MAINTENANCE FREE, 6 VOLT NICKEL CADMIUM WITH FULL 5 YEAR WARRANTY.

4. UNIT SHALL HAVE SOLID STATE AUTOMATIC TWO RATE CHARGER, CAPABLE OF FULLY RECHARGING IN 12 HOURS.

5. SWITCHING AND CONTROLS – AUTO TRANSFER SWITCH, TEST SWITCH, SHORT CIRCUIT PROTECTION AND LOW VOLTAGE, DEEP DISCHARGE DISCONNECT, HIGH CHARGE INDICATING LIGHT.

6. LAMPS – MINIMUM – TWO 8 WATT TUNGSTEN HALOGEN LAMPS.

7. SUITABLE FOR WALL OR CEILING MOUNTING.

LENS TYPE

EMERGENCY LIGHTING UNIT

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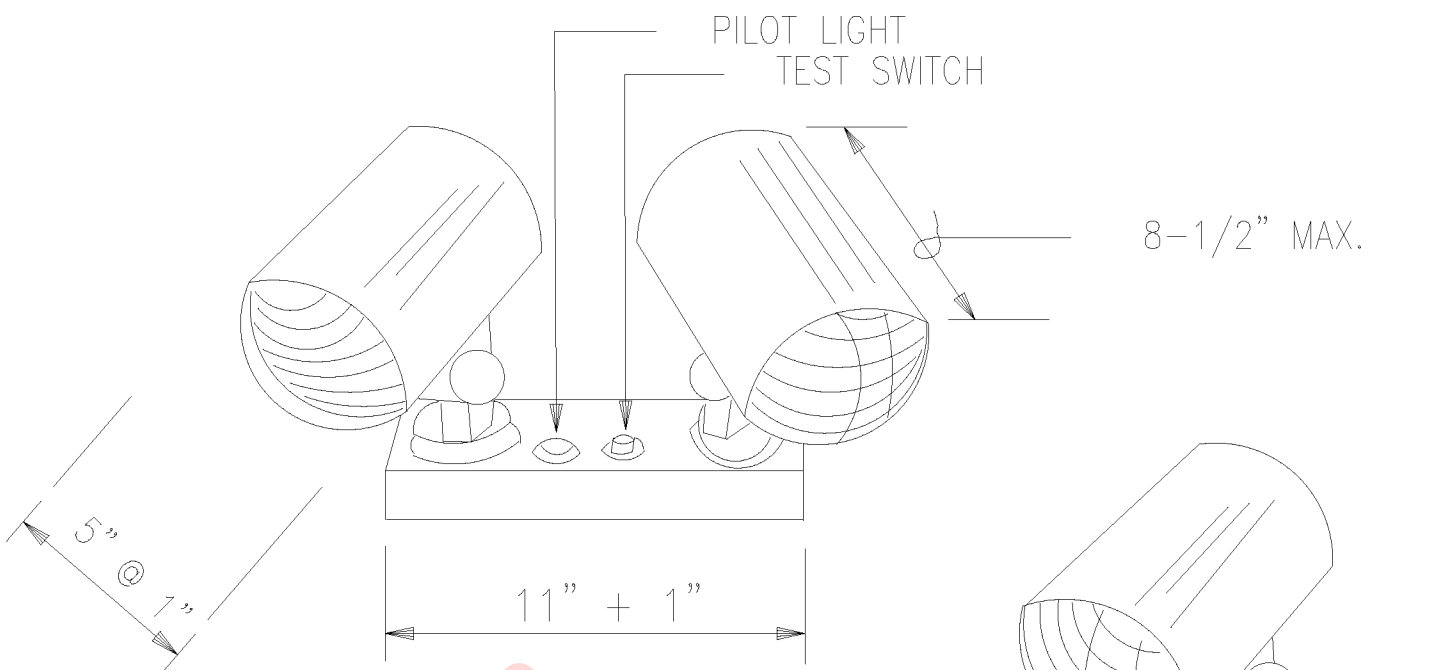
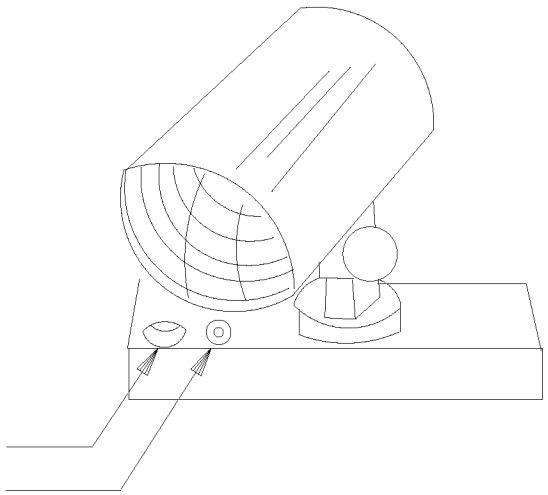


DOUBLE UNIT – TYPE A



SINGLE UNIT – TYPE B

LUMINAIRE REQUIREMENTS

1. ALUMINUM FINISHED CHANNEL MOUNTING BASE WITH TEST SWITCH AND PILOT OR HIGH RATE INDICATING LIGHT.

2. CYLINDERS FOR LIGHTS AND BATTERY AND CHARGER SHALL BE PAINTED, MATTE WHITE AND SHALL BE FULLY ADJUSTABLE.

3. BATTERY SHALL BE MAINTENANCE FREE NICKEL CADMIUM WITH FULL 5 YEAR WARRANTY.

4. UNIT SHALL HAVE AUTOMATIC TWO RATE CHARGER.

5. SWITCHING AND CONTROLS – COMPLETELY SOLID STATE WITH AUTO TRANSFER AND LOW VOLTAGE CUTOFF. TEST SWITCH AND HIGH RATE INDICATING LIGHT.

6. 9 WATT TUNGSTEN HALOGEN LAMP.

CYLINDER TYPE
EMERGENCY LIGHTING UNIT

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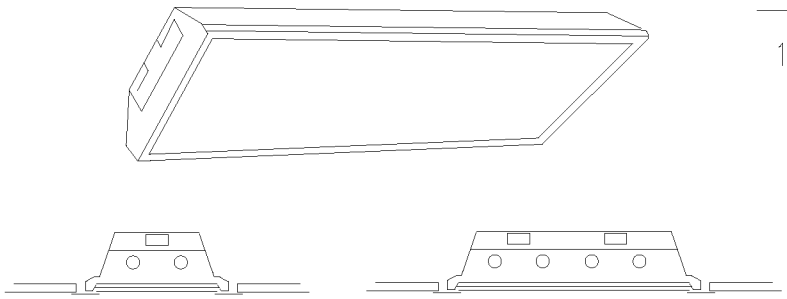


LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE 0.026" MIN. THICKNESS, 5" MAX. HEIGHT AND SHALL NOT PERMANENTLY DEFORM WHEN LIFTED BY ONE CORNER WITH LENS DOOR IN PLACE NOR WITH LENS DOOR REMOVED. LENS DOOR SHALL NOT OPEN WHEN LUMINAIRE IS LIFTED BY ONE CORNER. LUMINAIRE SHALL HAVE LESS THAN THE FOLLOWING DEFLECTION WHEN LIFTED BY ONE CORNER WITH LENS DOOR REMOVED.

TYPE:	A	B	C, D, & E
	3"	2 1/2 "	4"

2. HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND HAVE BAKED WHITE ENAMEL FINISH 85% MIN. REFLECTANCE (INTERIOR). ENDS SHALL BE SECURED BY RIVETS OR SCREWS. PAINT ENTIRE HOUSING AND LENS DOOR WHITE, AFTER FABRICATION.
3. LATCHES SHALL BE A 0.032" MINIMUM THICKNESS STEEL OR 0.015" MINIMUM THICKNESS SPRING STEEL. DIRECTION OF TRAVEL TO OPEN SHALL BE STAMPED ON LENS FRAME WHE NOT OBVIOUS.
4. LENS DOOR SHALL BE 0.032" MINIMUM THICKNESS STEEL, SHALL BE ASSEMBLED WITH SCREWS (FOR LENS REPLACEMENT). PROVIDE LIGHT TIGHT FIT WITHOUT MOVABLE BAFFLES. GASKETING SHALL NOT BE A MEANS OF ACHIEVING LIGHT TIGHT DOOR.
5. LENS SHALL BE 0.156" (FOR TYPES A, C, D, E) AND 0.125" (FOR TYPE B) PLUS OR MINUS 10% OVERALL (0.09 MAX, PRISM PENETRATION) CLEAR PRISMATIC 100% ACRYLIC
6. DOOR SHALL BE CAPABLE OF HINGING AND LATCHING FROM EITHER SIDE OF LUMINAIRE. PROVIDE SAFETY TYPE HINGES.
7. BALLAST SHALL BE HIGH POWER FACTOR ($\geq$ .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A" SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS ONE AT EACH END. PROVIDE GROUNDING SCREW ON INTERIOR OF HOUSING.
8. PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20%
LUMINANCE USING 3100L LAMP WITH AVG:MAX RATIO NOT TO EXCEED 1:5

ROOM CAVITY RATIO	TYPE: A	B	C	D	E	AVG. LUMINANCE (FL)
1	0.67	0.60	0.73	0.68	0.67	.45
2	0.60	0.54	0.66	0.61	0.60	.55-1605
3	0.54	0.48	0.59	0.55	0.54	.65-1125
4	0.49	0.44	0.53	0.50	0.49	.75-750
MIN. S/MH	1.2	1.1	1.3	1.3	1.3	.85-495

PROVIDE MIN. VISUAL COMFORT PROBABILITY (VCP) OF 65 (ASSUME 30'X30'X10'H ROOM). WHEN "OFFICE TYPE" INDICATED, PROVIDE MIN. VCP OF 70.

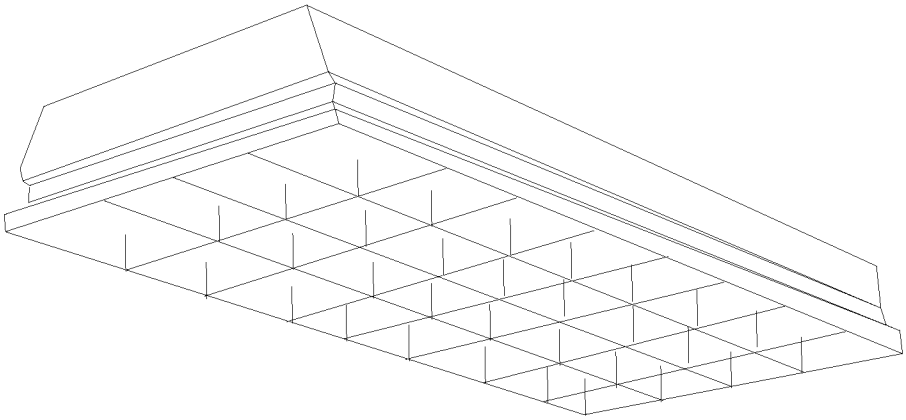
9. PROVIDE MOUNTING HARDWARE COMPATIBLE WITH CEILING MATERIAL IN WHICH LUMINAIRE IS TO BE INSTALLED.

TYPE A - 2'X2' 2 LAMP

TYPE C - 2'X4' 2 LAMP
TYPE D - 2'X4' 3 LAMP
TYPE E - 2'X4' 4 LAMP

TROFFER

N.T.S.



LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE MINIMUM 0.26" THICK STEEL. HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND PAINT ADHESION. ENDS SHALL BE SECURED WITH SCREWS OR WELDED. HOUSING SHALL BE COMPLETELY PAINTED AFTER FABRICATION WITH MINIMUM 85% REFLECTANCE WHITE ENAMEL. MINIMUM DEPTH OF HOUSING 6" ± 1".

2. LUMINAIRE SHALL HAVE FULL MATTE BLACK REVEAL FOR FLOATING DOOR EFFECT. PROVIDE MOUNTING TRIM AND HARDWARE COMPATIBLE WITH CEILING MATERIAL.

3. LUMINAIRE SHALL BE HIGH EFFICIENCY, LOW BRIGHTNESS TYPE WITH INTERLOCKED LOUVERS CONTOURED TO A PARABOLIC SHAPE. LOUVERS SHALL BE OF MINIMUM .025" SEMI-SPECULAR ANODIZED ALUMINUM IN NATURAL OR GOLD FINISH AS INDICATED.

4. FIXTURE HOUSING SHALL HAVE INTERNAL GREEN GROUNDING SCREW.

5. NO EXPOSED INTERNAL WIRING.

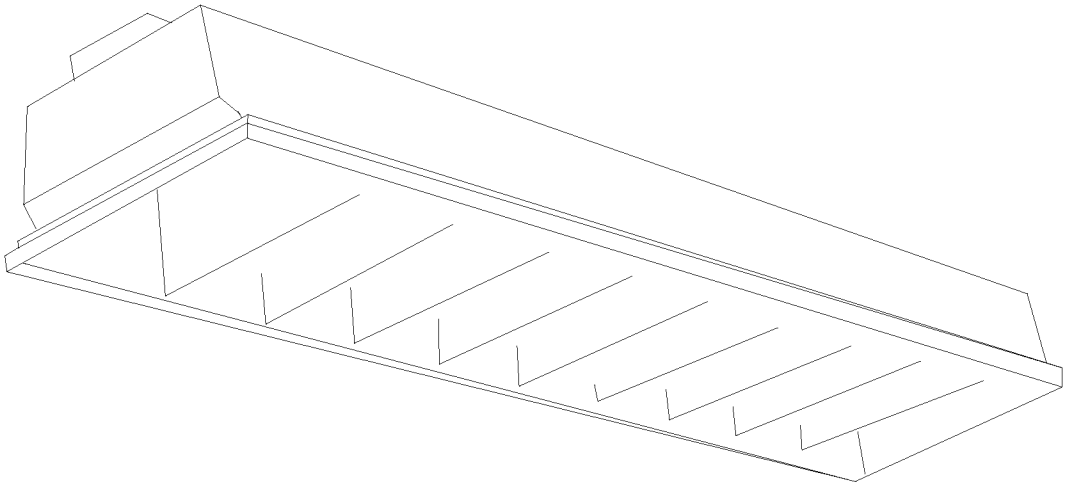
6. BALLAST SHALL BE HIGH POWER FACTOR (≥ .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS, ONE AT EACH END.

7. LOUVER SHALL BE SUITABLE FOR HINGING FROM EITHER SIDE AND SHALL HAVE TWO SAFETY HINGES AND TWO SPRING LOADED LATCHES OR FOUR SPRING LOADED LATCHES.

TYPE A - 1 - 48" T-12 LAMP - 8 OR 10 CELLS
TYPE B - 2 - 48" T-12 LAMPS - 8 OR 10 CELLS
TYPE C - 1 - 48" T-12 LAMP - 20 CELLS
TYPE D - 2 - 48" T-12 LAMPS - 20 CELLS

2 X 2 AND 2 X 4 PARABOLIC TROFFERS

N.T.S.



LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE MINIMUM 0.26" THICK STEEL. HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND PAINT ADHESION. ENDS SHALL BE SECURED WITH SCREWS OR WELDED. HOUSING SHALL BE COMPLETELY PAINTED AFTER FABRICATION WITH MINIMUM 85% REFLECTANCE WHITE ENAMEL. MINIMUM DEPTH OF HOUSING 6" ± 1".

2. LUMINAIRE SHALL HAVE FULL MATTE BLACK REVEAL. FOR FLOATING DOOR EFFECT. PROVIDE MOUNTING TRIM AND HARDWARE COMPATIBLE WITH CEILING MATERIAL.

3. LUMINAIRE SHALL BE HIGH EFFICIENCY, LOW BRIGHTNESS TYPE WITH INTERLOCKED LOUVERS CONTOURED TO A PARABOLIC SHAPE. LOUVERS SHALL BE OF MINIMUM .025" SEMI-SPECULAR ANODIZED ALUMINUM IN NATURAL OR GOLD FINISH AS INDICATED.

4. FIXTURE HOUSING SHALL HAVE INTERNAL GREEN GROUNDING SCREW.

5. NO EXPOSED INTERNAL WIRING.

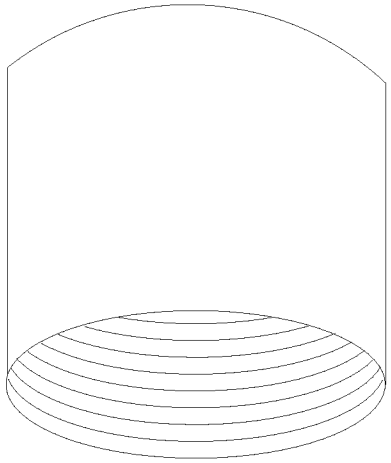
6. BALLAST SHALL BE HIGH POWER FACTOR (≥ .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS, ONE AT EACH END.

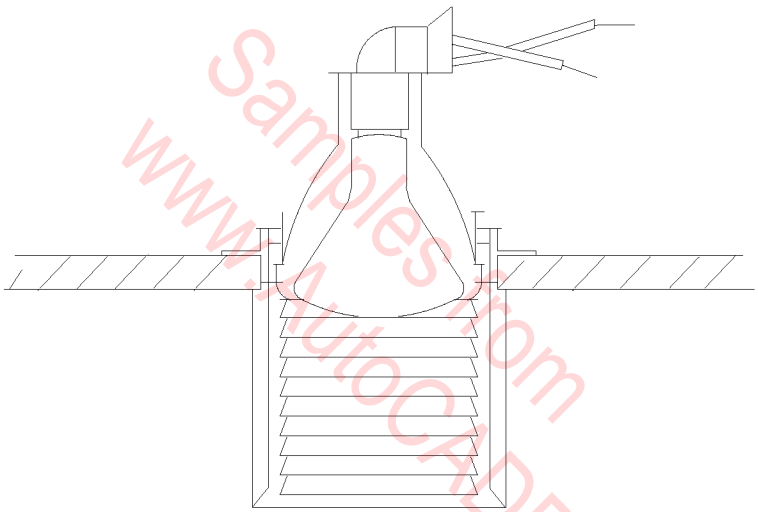
7. LOUVER SHALL BE SUITABLE FOR HINGING FROM EITHER SIDE AND SHALL HAVE TWO SAFETY HINGES AND TWO SPRING LOADED LATCHES OR FOUR SPRING LOADED LATCHES.

TYPE A - 1 - 48" T-12 LAMP - 8 OR 10 CELLS
TYPE B - 2 - 48" T-12 LAMPS - 8 OR 10 CELLS
TYPE C - 1 - 48" T-12 LAMP - 20 CELLS
TYPE D - 2 - 48" T-12 LAMP - 20 CELLS

1 X 4 PARABOLIC TROFFER

N.T.S.





LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL OR ALUMINUM HOUSING WITH DIE CAST ALUMINUM PLASTER RING.

2. PROVIDE A 5 TO 7 INCH APERTURE BLACK GROOVED BAFFLE WITH BRUSHED OR SATIN ALUMINUM EXTERIOR FINISH. THE EXPOSED LENGTH OF THE LUMINAIRE SHALL BE 5 TO 7 INCHES.

3. PORCELAIN LAMP SOCKET WITH FULL METAL SCREW SHELL SUITABLE FOR A 150 WATT PAR, OR 75 WATT ER-30 LAMP.

4. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

SEMI-RECESSED BAFFEL DOWNLIGHT (INCANDESCENT)

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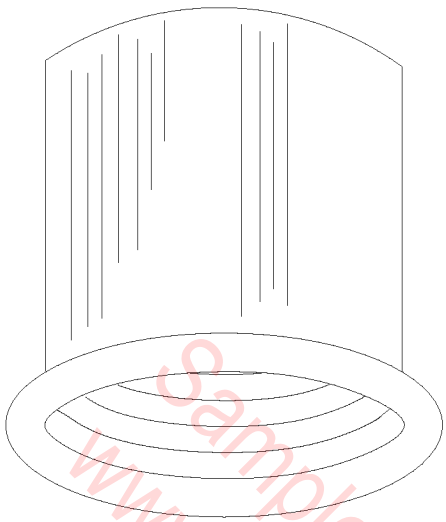

LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS GALVANIZED STEEL OR ALUMINUM HOUSING WITH ALUMINUM REFLECTOR.

2. PROVIDE MATTE WHITE PAINTED TRIM RING.

3. REGRESSED LENS SHALL BE HEAT RESISTANT GLASS HELD IN PLACE WITH A CONCEALED TORSION TYPE HINGE.

4. PROVIDE PORCELAIN LAMP SOCKET WITH FULL METAL SCREW SHELL SUITABLE FOR A 150-WATT LAMP.

5. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

RECESSED BAFFEL DOWNLIGHT (INCANDESCENT)

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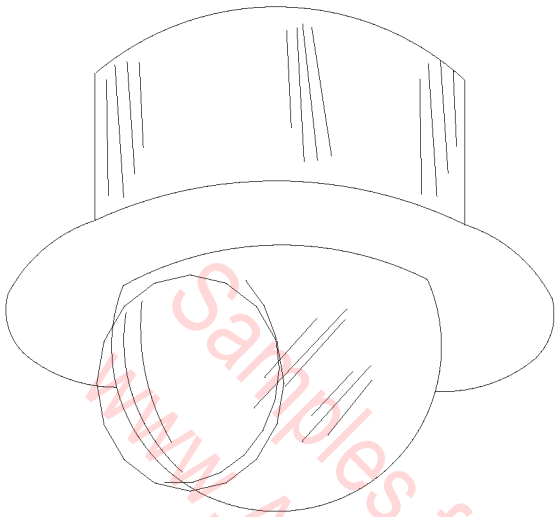
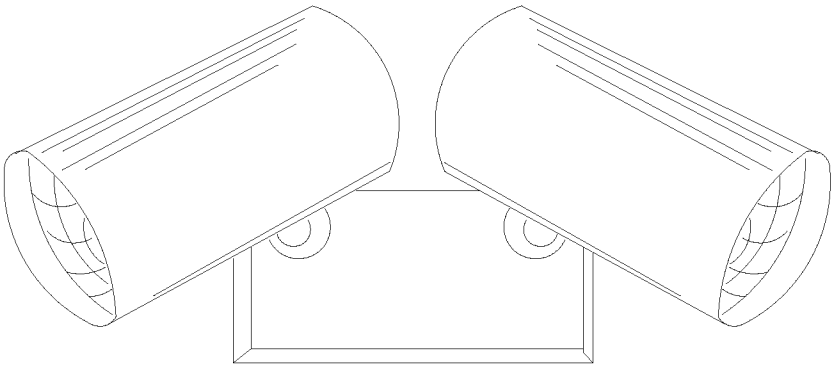


LUMINAIRE REQUIREMENTS

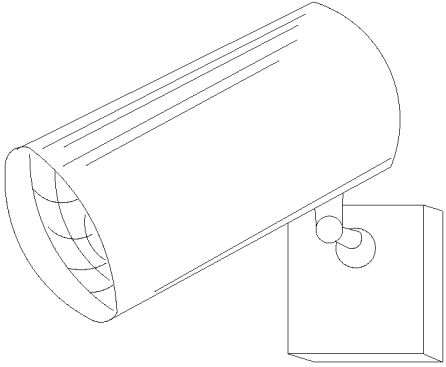
1. 0.032" MINIMUM THICKNESS STEEL HOUSING.
2. ALUMINUM BALL WITH DIE CAST ALUMINUM TRIM RING. PROVIDE MATTE WHITE FINISH.
3. BALL ADJUSTABLE FROM 0° – 45° FROM VERTICAL AND ROTATABLE FOR 359° .
4. PROVIDE MATTE BLACK LOUVER WHEN INDICATED.
5. PORCELAIN SOCKET SUITABLE FOR USE WITH UP TO 75 WATT ER–30 LAMP.
6. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

ADJUSTABLE SEMI–RECESSED SPOTLIGHT

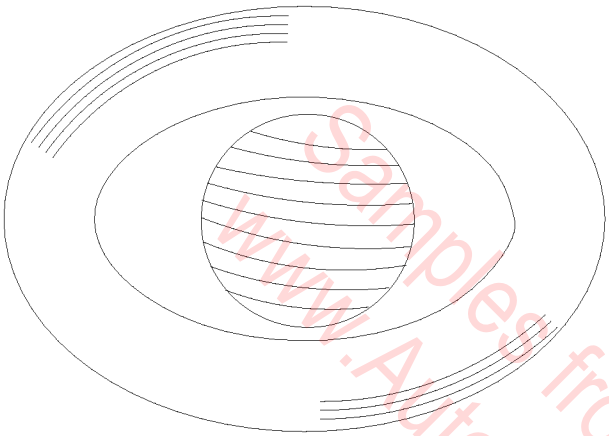
N.T.S.



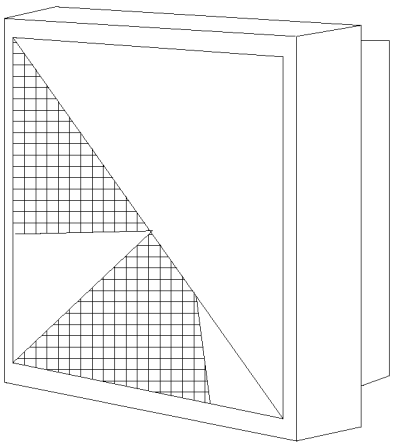
TYPE – A



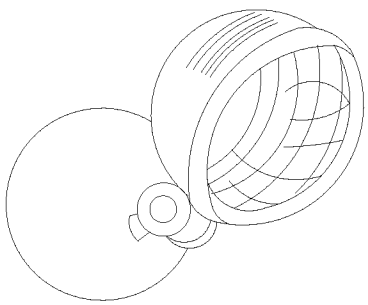
TYPE – B



TYPE – C



TYPE – D



TYPE E

REMOTE EMERGENCY LIGHTING UNITS

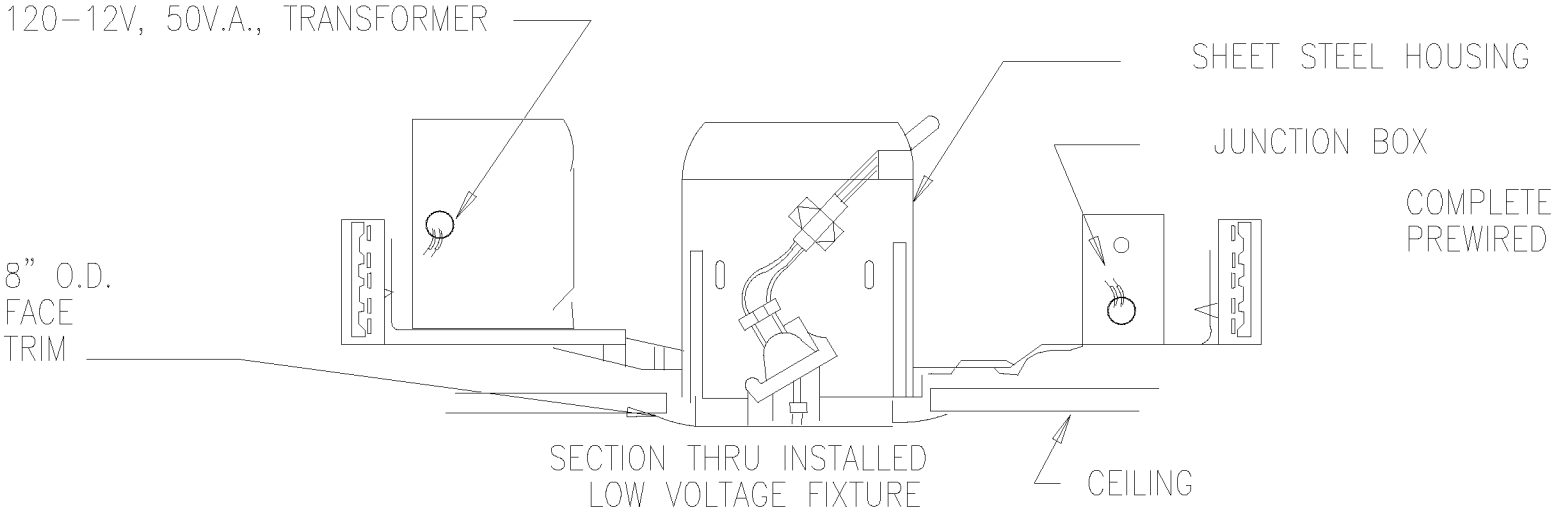
NOTES:

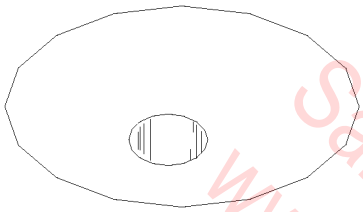
1. LAMPS AND FINISHES SHALL BE COMPATIBLE WITH PRIMARY UNIT WITH WHICH USED.

REMOTE FIXTURES

FOR USE WITH BATTERY UNIT

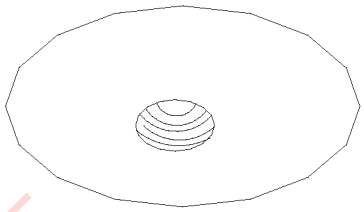
N.T.S.





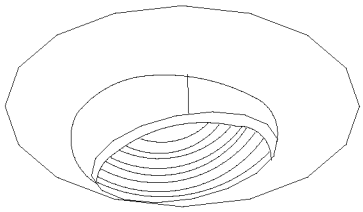
1-3/4" PINHOLE WITH CLEAR CONE

TYPE - A



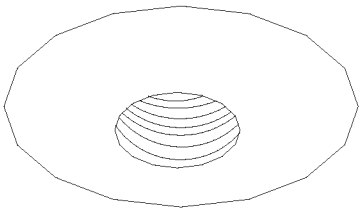
BLACK GROOVED 1-3/4" PINHOLE BAFFLE WITH 3-1/4" APERATURE

TYPE - A



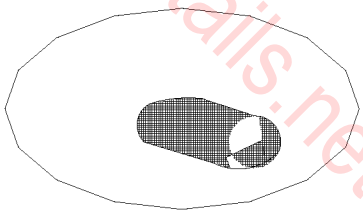
ADJUSTABLE EYEBALL WITH GROVED BLACK BAFFLE, 25° TILT AND 358° ROTATION

TYPE - C



1-3/4" PINHOLE DOWN LIGHT WITH GROOVED BLACK BAFFLE

TYPE - D



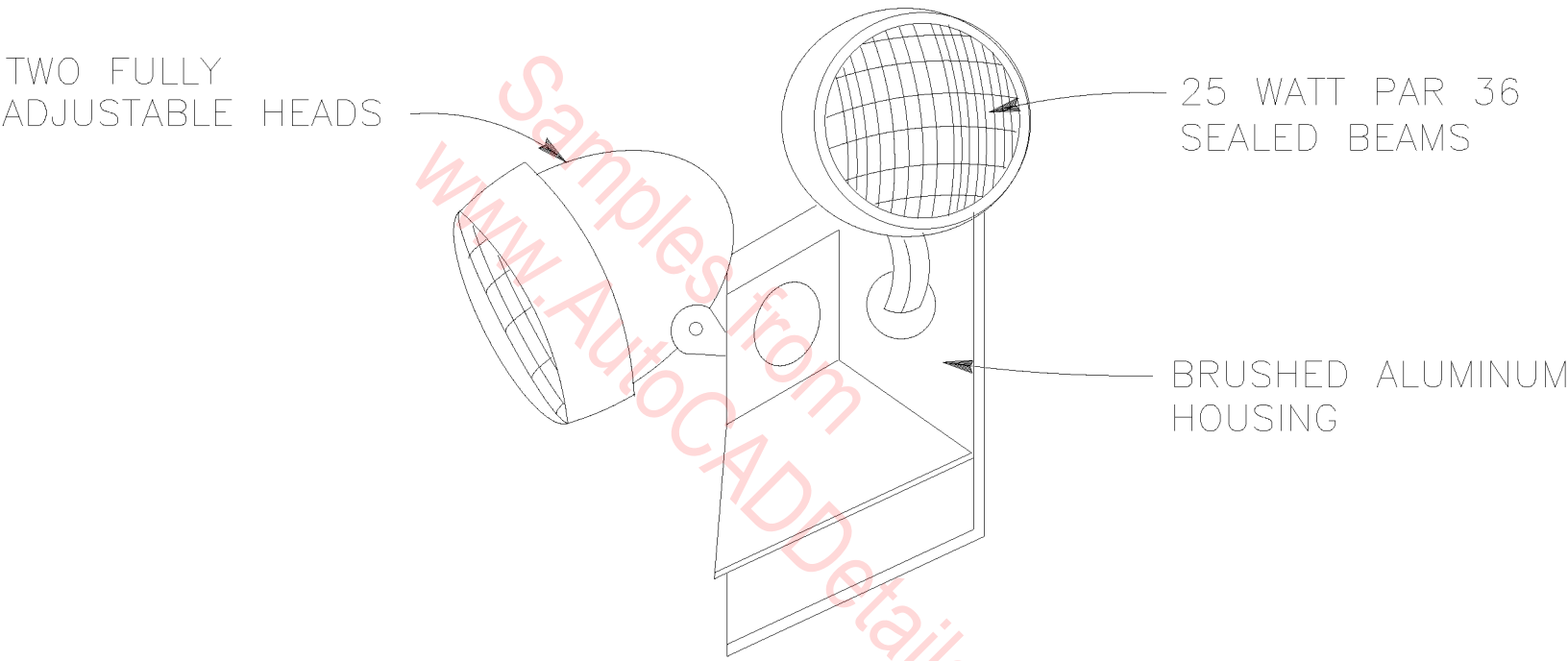
RECESSED ADJUSTABLE WITH 40 TILT AND ROTATION

TYPE - E

NOTE: FACE TRIM; MATTE WHITE OR MATTE BLACK

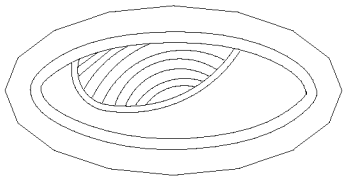
LOW VOLTAGE RECESSED INCANDESCENT

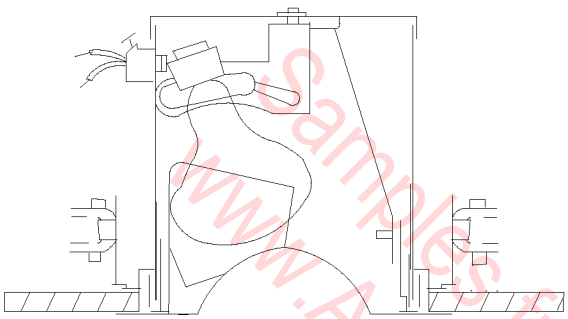
N.T.S.



TYPE "L" FIXTURE

N.T.S.





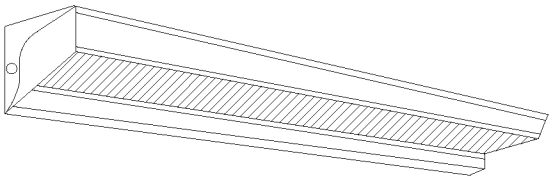
LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL HOUSING WITH MATTE BLACK FINISH.
2. PROVIDE LOW-GLOSS WHITE ENAMEL TRIM RING WITH 12" MAXIMUM DIAMETER.
3. SPECULAR ALUMINUM REFLECTOR.
4. 0° – 30° ADJUSTABLE SOCKET ASSEMBLY WITH 358° ROTATION.
5. PROVIDE TRIM SUITABLE FOR RECESS MOUNTING OF LUMINAIRE IN CEILING MATERIAL SPECIFIED.
6. PROVIDE PORCELAIN SOCKET WITH FULL METAL SCREW SHELL SUITABLE FOR 150W PAR OR R LAMP.
7. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

ADJUSTABLE INCANDESCENT INTERIOR SPOTLIGHT

N.T.S.

TYPE: WF7



FEATURES

LAMP TYPE: F32T8/75 CRI
PROFILE: 2 LAMP
SHIELDING: ACRYLIC PRISMATIC LENS
BALLAST: ELECTRONIC

OPTIONS

LAMP TYPE: F25T8/RS
PROFILE: 1 LAMP
BALLAST: HIGH POWER FACTOR MAGNETIC, DIMMING, EMERGENCY

NOM. DIMENSIONS 178 mm X 1219 mm X 102 mm (7" D X 4' L X 4" H)

GENERAL DESCRIPTION

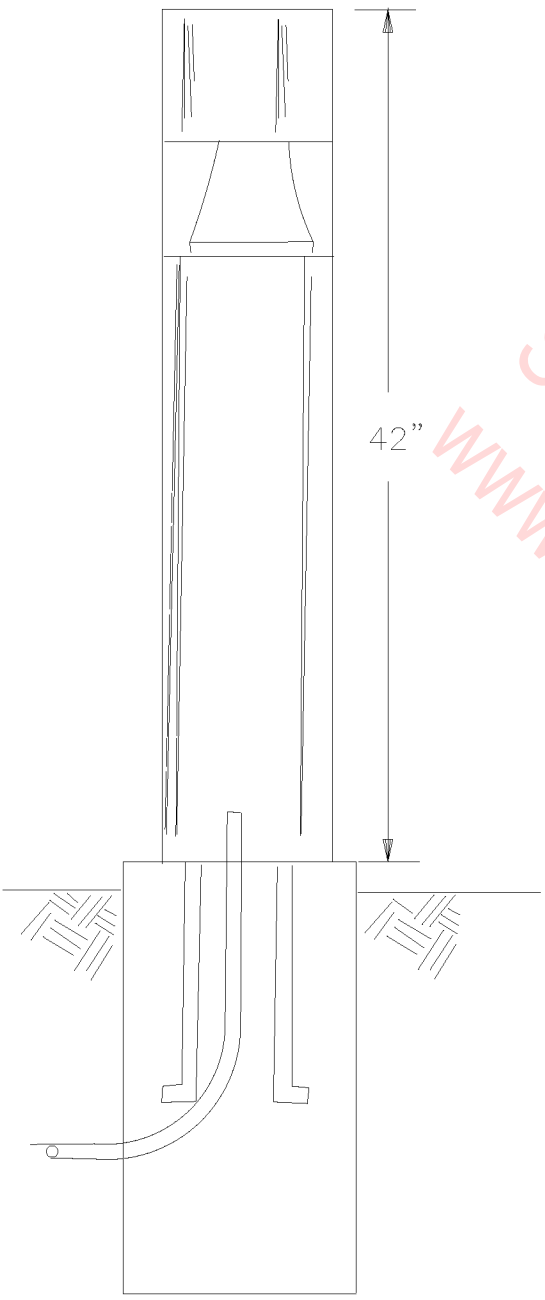
HOUSING: DIE-FORMED HOUSING SHALL ALLOW REMOVAL OF LENS WITHOUT REMOVAL OF END-CAPS

REFLECTORS: GLOSS WHITE INTERIOR

ELECTRICAL: 120 OR 277 VOLT BALLAST

FINISH: WHITE ENAMEL OR POLYESTER POWDER COAT

WALL MOUNTED DIRECT/INDIRECT FLUORESCENT

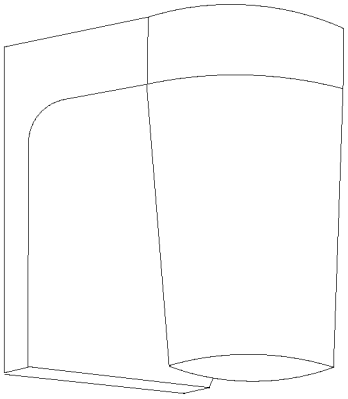


LUMINAIRE REQUIREMENTS

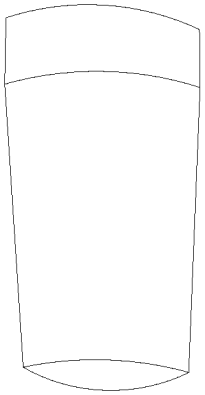
1. COLUMN, EXTRUDED ALUMINUM (MINIMUM .148" THICK WALL) WITH MEDIUM BRONZE ANODIZED FINISH.
2. COMPLETELY GASKETED WEATHERPROOF TOP LAMP ACCESSORY PLATE.
3. EXTRUDED CLEAR ACRYLIC MINIMUM .188" THICK WALL ENCLOSURE.
4. SEGMENTED SPECULAR CLEAR ALZAK REFLECTOR.
5. CLEAR ALZAK REFLECTING CONE.
6. HIGH POWER FACTOR BALLAST.
7. U.L. LISTED FOR WET LOCATIONS.
8. 70 WATT HIGH PRESSURE SODIUM LAMP.
9. ANCHOR BOLT KIT PER MANUFACTURER, BUT NOT LESS THAN TWO 1/2"ø X 9" LONG ANCHOR BOLTS WITH 1-1/2" "L" BEND SET IN 12"ø X 24" DEEP CONCRETE BASE. TOP OF BASE 2" ABOVE GRADE.

EXTERIOR H.I.D. BOLLARD LUMINAIRE

N.T.S.



TYPE A



TYPE A1

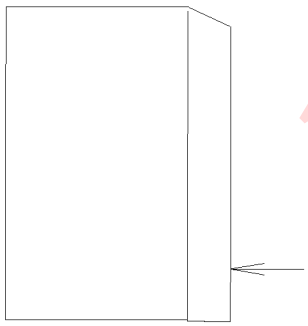
LUMINAIRE REQUIREMENTS

1. CAST ALUMINUM HOUSING SATIN FINISH AND A CLEAR LACQUER COATING. TYPE B MAY HAVE A POLYCARBONATE OR 0.055 INCH MINIMUM THICK STEEL BACKPLATE. PROVIDE PORCELAIN SOCKET WITH FULL METAL SCREW SHELL SUITABLE FOR A 100-WATT INCANDESCENT LAMP.

2. GLOBE SHALL BE WHITE POLYCARBONATE.

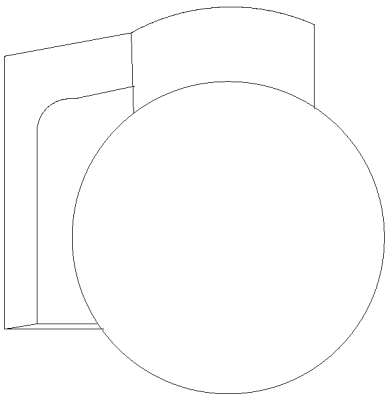
3. PROVIDE HEAT RESISTANT VAPORTIGHT GASKET BETWEEN GLOBE AND HOUSING. PROVIDE NEOPRENE GASKET BETWEEN LUMINAIRE AND WALL OR CEILING.

4. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

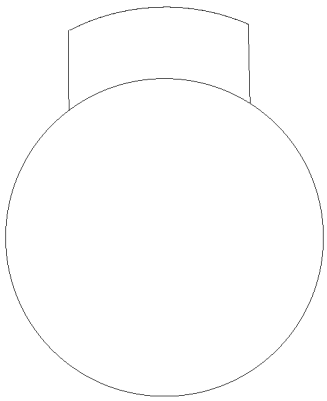


NO EXPOSED METAL

TYPE B



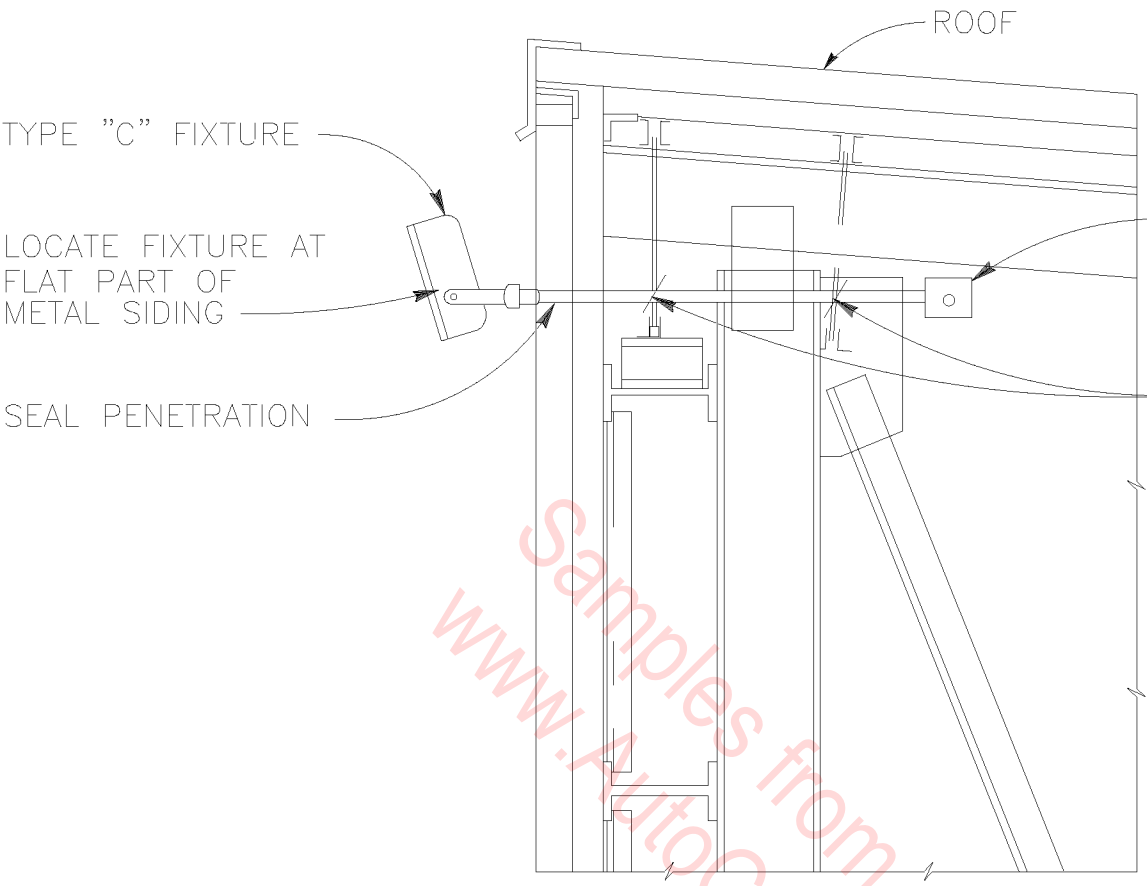
TYPE C



TYPE C1

EXTERIOR INCANDESCENT LUMINAIRE

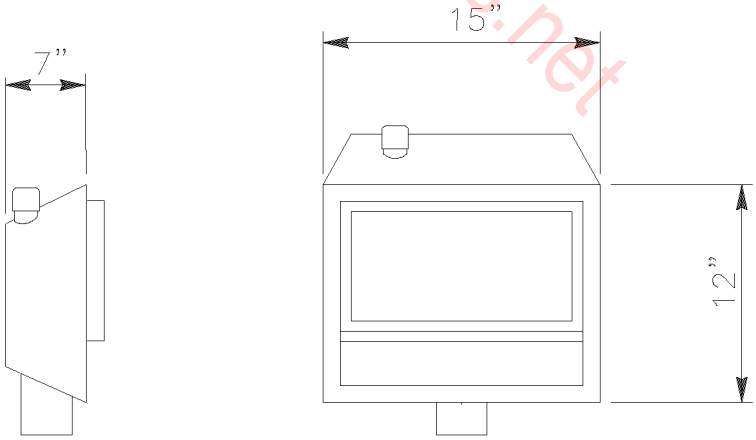
N.T.S.



NOTE:
MOUNT FIXTURE ON 2-INCH CONDUIT.

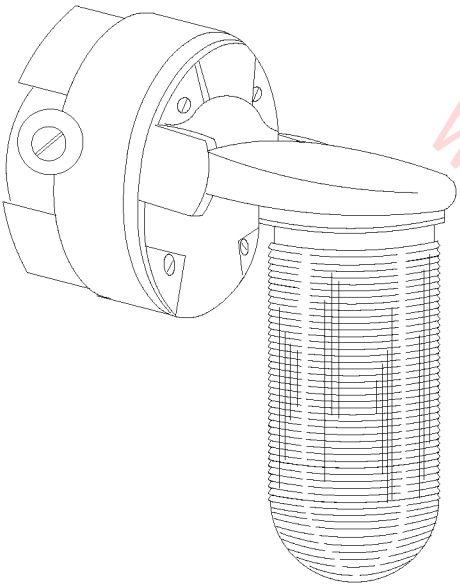
MOUNTING DETAIL TYPE "C" FIXTURE

N.T.S.



TYPE "C" FIXTURE

N.T.S.

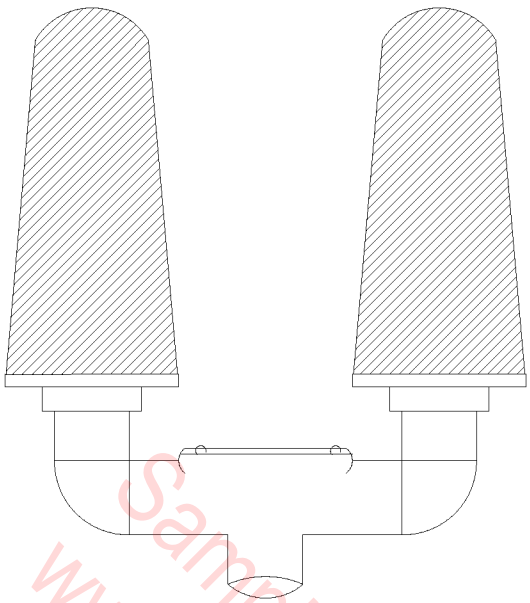


NOTE:

BOX WALL MOUNTED, VAPORTIGHT WITH 4" DIE CAST ALUMINUM BOX, WALL BRACKET TO BE DIE CAST ALUMINUM COMPLETE WITH GASKET AND MOUNTING SCREWS. DIE CAST ALUMINUM ADAPTER AND GLAZED PORCELAIN MEDIUM SOCKET WITH RED PRISMATIC LEXAN GLOBE.

WALL MOUNTED VAPORTIGHT FIXTURE

N.T.S.



NOTES:

1. CAST ALUMINUM HOUSING WITH RED FRESNEL GLOBES AND MEDIUM SCREW LAMP RECEPTACLES.

2. LIGHT FIXTURE TO CONFORM TO FAA ADVISORY CIRCULAR AC 150/5345-43D SPECIFICATION L-810, MILITARY SPECIFICATION MIL-L-7830.

3. LAMP SHALL BE 69 WATTS AND TYPE 69A2ITS.

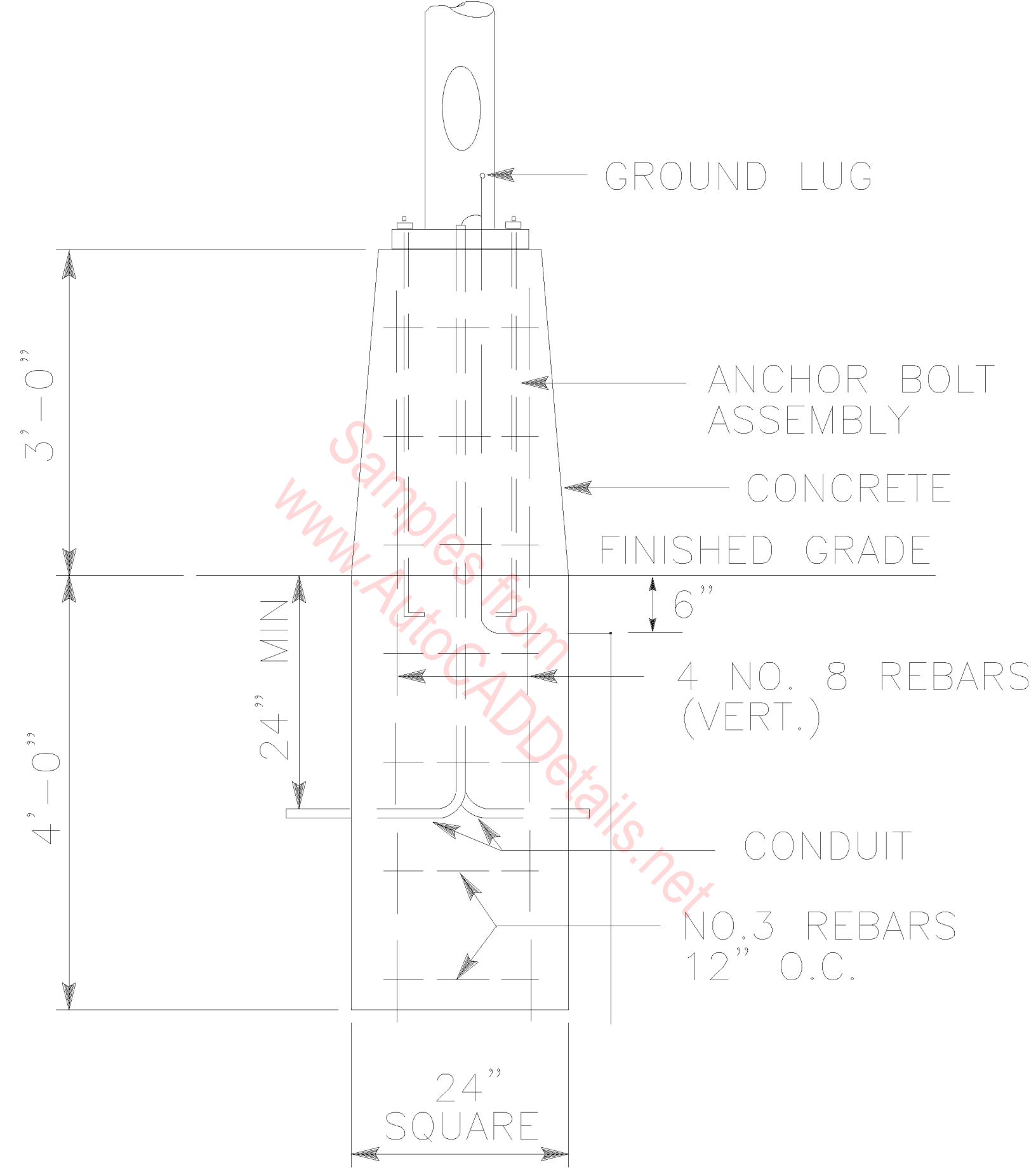
4. SECURELY MOUNT FIXTURE ON ROOF SUCH THAT FIXTURE HUB IS 3' 6" ABOVE ROOF LEVEL.

5. APPLY THREE COATS OF AVIATION ORANGE PAINT TO MOUNTING ASSEMBLY.

6. ONLY ONE LAMP OF FIXTURE SHALL OPERATE AT A TIME. UPON FAILURE OF ONE LAMP, A TRANSFER RELAY SHALL SWITCH POWER FROM THE BURNED OUT LAMP TO THE SPARE LAMP. THE RELAY SHALL ALSO ENERGIZE AN ALARM IN ROOM 111. ALARM LIGHT SHALL BE PERMANENTLY MARKED "AVIATION MARKER LIGHT FAILURE". ALL COMPONENTS SHALL BE PRODUCTS OF THE MANUFACTURER OF THE OBSTRUCTION LIGHTING FIXTURE.

TYPE "ED" - OBSTRUCTION LIGHT DETAIL

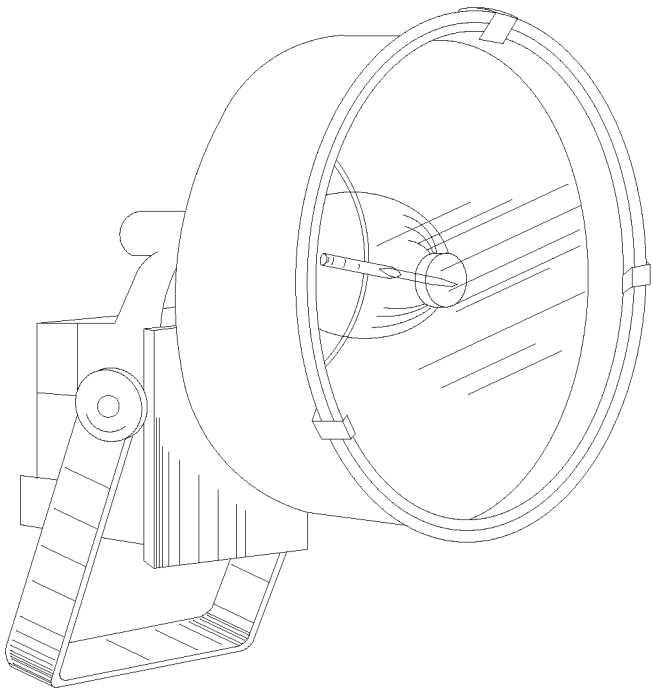
N.T.S.



CONCRETE BASE DETAIL

N.T.S.

TYPE: EH7



FEATURES

LAMP TYPE: 1000W METAL HALIDE
PROFILE: 1 LAMP
SHIELDING: CLEAR TEMPERED GLASS
BALLAST: HIGH POWER FACTOR, CORE & COIL, CWA

OPTIONS

LAMP TYPE: MH: 400W, 1500W
HPS: 400W, 1000W
BALLAST: REMOTE
OTHER: GLARE SHIELD

NOM. DIMENSIONS 584 mm X 864 mm X 432 mm
(23" DIA. X 34" H X 17" D)

GENERAL DESCRIPTION

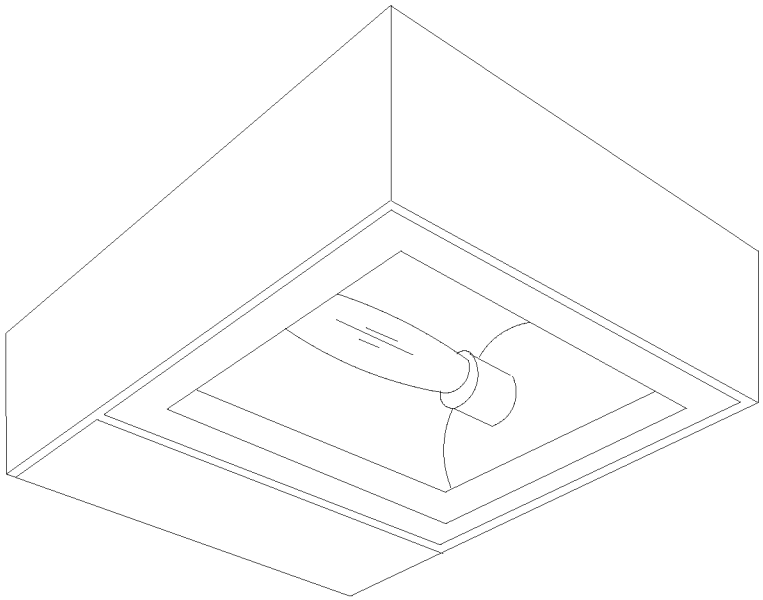
HOUSING: DIE CAST ALUMINUM

REFLECTORS: SPECULAR ALUMINUM

ELECTRICAL: 120, 277 OR 480 VOLT BALLAST

FINISH: POLYESTER POWDER COAT PAINT

METAL HALIDE FLOODLIGHT

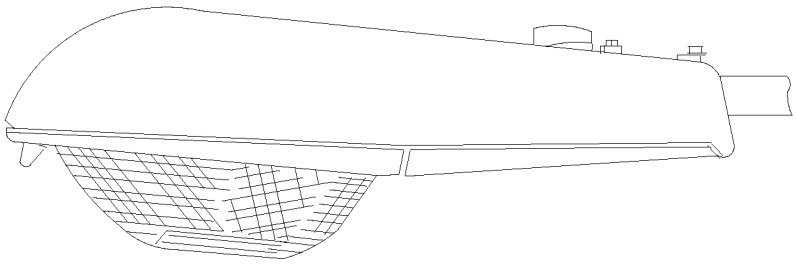


LUMINAIRE REQUIREMENTS

1. HOUSING, ALUMINUM – EXTRUDED OR FORMED WITH SEALED AND WELDED SEAMS.
2. REFLECTOR – FORMED ANODIZED OR ALZAK ALUMINUM.
3. LENS – TEMPERED, IMPACT RESISTANT CLEAR GLASS.
4. LENS DOOR – HINGED ALUMINUM WITH GASKET, CAPTIVE SCREW OR LATCHES.
5. INTEGRAL MULTI–TAP BALLAST.
6. CONCEALED HARDWARE (ALL HARDWARE CORROSION RESISTANT).
7. PORCELAIN SOCKET.
8. FINISH – DARK BRONZE, BAKED ENAMEL, EXCEPT AS INDICATED.
9. SLIPFITTER 1–1/4" TO 2" OR MOUNTING ARM.
10. LAMP – 70 TO 1,000 WATT, HIGH PRESSURE SODIUM, AS SPECIFIED.
11. LAMP STABILIZER.
12. UL "WET LABEL"

ROADWAY AND AREA LIGHT

N.T.S.



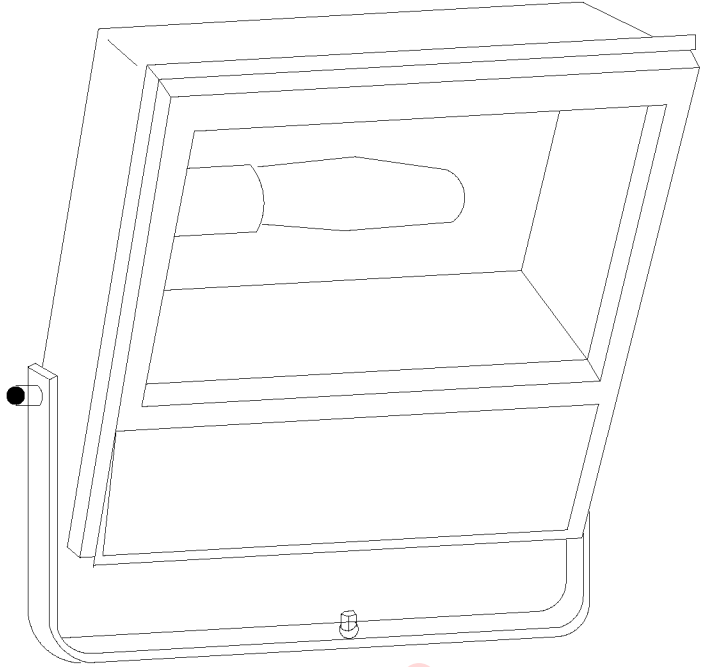
LUMINAIRE REQUIREMENTS

1. REFRACTOR – PRISMATIC GLASS, EXCEPT AS INDICATED.
2. REFLECTOR – ANODIZED ALUMINUM.
3. HOUSING – DIE CAST ALUMINUM.
4. HINGED ALUMINUM DOOR WITH GASKET AND LATCH.
5. INTEGRAL BALLAST – TYPE AND VOLTAGE AS SPECIFIED.
6. ALL HARDWARE, STAINLESS STEEL, OR NONCORROSIVE.
7. ADJUSTABLE PORCELAIN SOCKET.
8. 1–1/4" TO 2", SLIPFITTER – 2 OR 4 BOLT.
9. PHOTOCELL, WHEN INDICATED.
10. LAMP – 70–WATT TO 400–WATT HIGH PRESSURE SODIUM – WATTAGE AS SPECIFIED.
11. LEVEL INDICATOR.
12. UL LISTED – SUITABLE FOR OUTDOOR WET LOCATIONS.

NOTE: I.E.S. TYPE DISTRIBUTION AS SPECIFIED IN LIGHTING FIXTURE SCHEDULE OR ON PLANS.

ROADWAY AND AREA LIGHT

N.T.S.

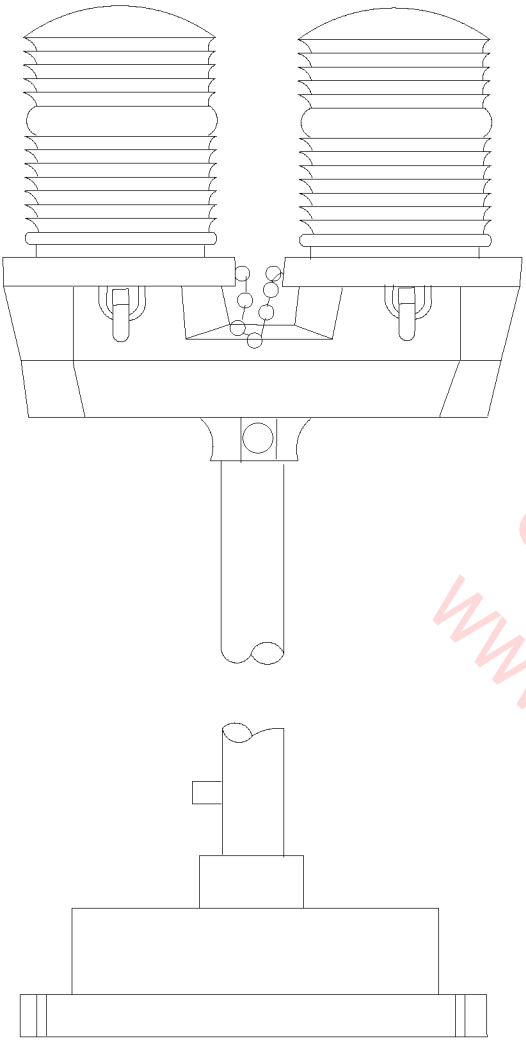


LUMINAIRE REQUIREMENTS

1. HOUSING – DIE CAST ALUMINUM.
2. REFLECTOR – ANODIZED OR ALZAK ALUMINUM.
3. DOOR – HINGED ALUMINUM, WITH GASKET AND CAPTIVE SCREWS.
4. INTEGRAL MULTI–TAP BALLAST.
5. STAINLESS STEEL OR NONCORROSIVE HARDWARE.
6. PORCELAIN SOCKET.
7. SLIPFITTER OR TRUNNION MOUNTING AS INDICATED.
8. PHOTOCELL WHEN SPECIFIED.
9. LAMP – 70 TO 1,000 WATT – AS SPECIFIED.
10. MINIMUM 36" 3/C #14 "SO" CORD.
11. LAMP STABILIZER.
12. LENS – TEMPERED IMPACT RESISTANT, CLEAR GLASS.
13. UL "WET LABEL"

FLOODLIGHT

N.T.S.



LUMINAIRE REQUIREMENTS

1. LUMINAIRE SHALL MEET FEDERAL AVIATION ADMINISTRATION SPECIFICATIONS FOR OBSTRUCTION LIGHTING (L-810).

2. CAST ALUMINUM HOUSING.

3. ONE PIECE 360° RED, HEAT RESISTANT GLASS FRESNEL GLOBE. PROVIDE TOGGLE TYPE LATCHES AND CLAMPING TO SECURE GLOBES. PROVIDE SAFETY CHAINS ON GLOBES.

4. MOUNT PHOTO ELECTRIC CONTROL TO CONTROL LAMPS.

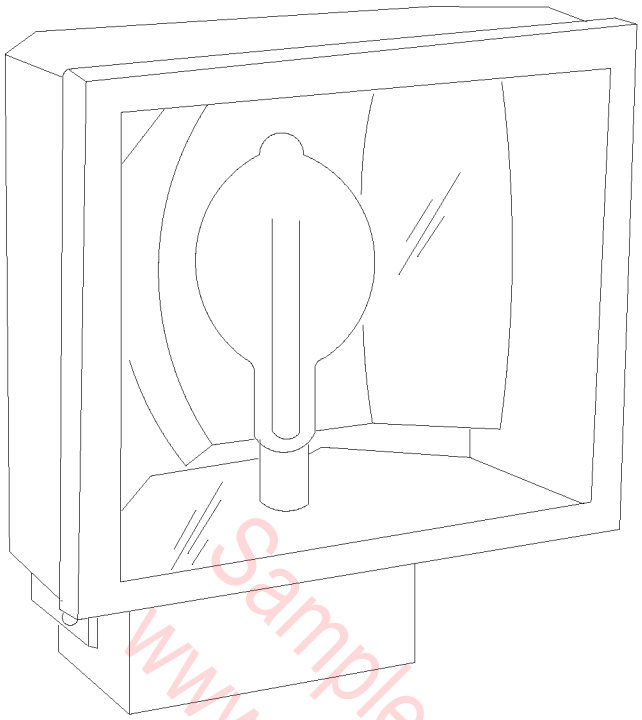
5. MOUNT LUMINAIRE ON 1" RIGID STEEL CONDUIT. PROVIDE JUNCTION BOX AND MOUNTING PLATE AT BASE UNLESS INDICATED OTHERWISE.

6. LAMPS SHALL BE RATED 100 WATT 130 VOLT, MULTIPLE, MEDIUM BASE. TWO LAMPS ARE REQUIRED.

7. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

OBSTRUCTION LIGHT

N.T.S.



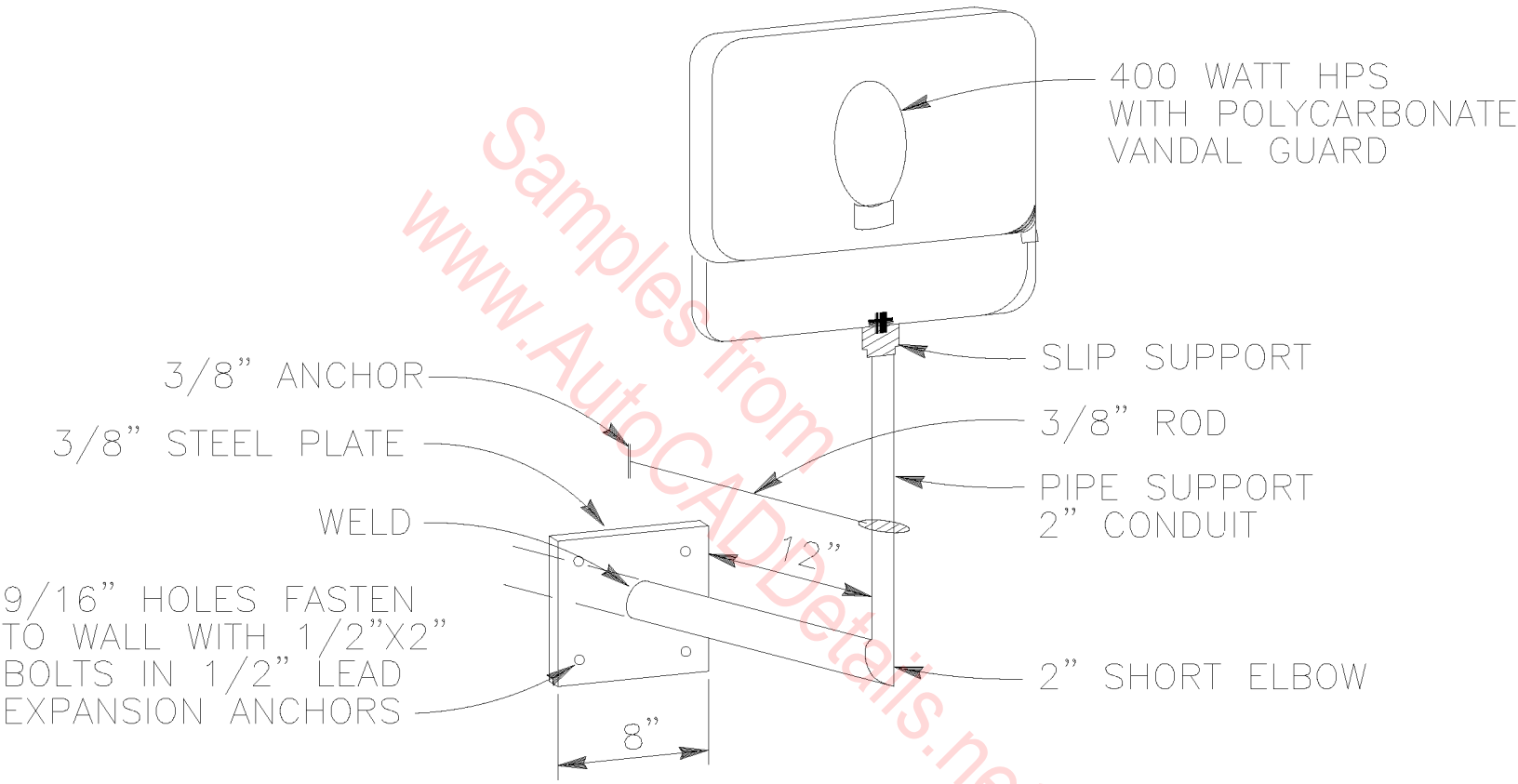
LUMINAIRE REQUIREMENTS

1. HOUSING – ANODIZED ALUMINUM.
2. REFLECTOR – POLISHED, SEGMENTED ALZAK ALUMINUM.
3. LENS – TEMPERED, THERMAL AND SHOCK RESISTANT GLASS.
4. DOOR FASTENERS – STAINLESS STEEL.
5. INTEGRAL BALLAST.
6. HINGED, GASKETED DOOR.
7. PORCELAIN SOCKET FOR 1,000 WATT METAL HALIDE OR HIGH PRESSURE SODIUM LAMP.
8. 3/C #14 "SO" CORD.
9. GALVANIZED YOKE.
10. UL "WET LABEL"

NOTE: LAMP, BALLAST, AND BEAM PATTERN SHALL BE AS SPECIFIED AND AS SHOWN IN LIGHTING FIXTURE SCHEDULE OR ON PLANS.

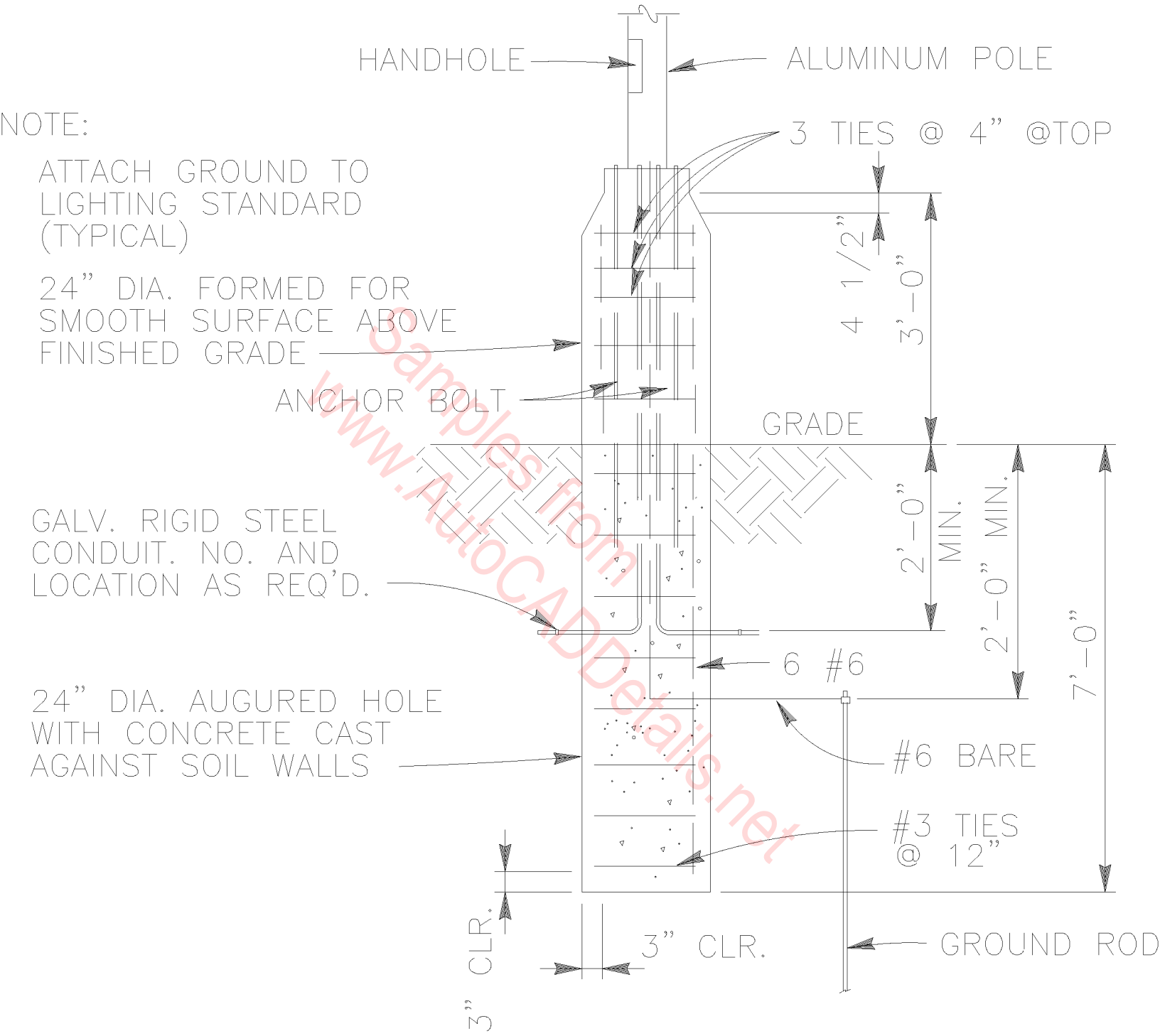
SPORTS AND AREA LIGHT

N.T.S.



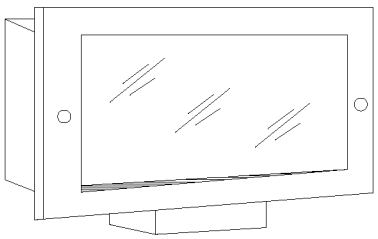
DETAIL OF FIXTURE SUPPORT

N.T.S.

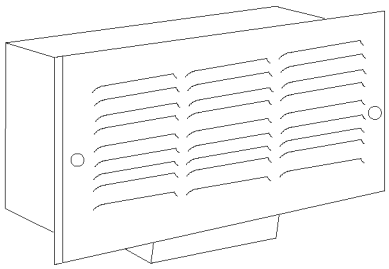


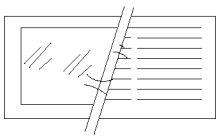
LIGHTING POLE FOUNDATION

N.T.S.



TYPE A





TYPE B

LUMINAIRE REQUIREMENTS

1. 0.054" MINIMUM THICK-NESS STEEL OR CAST ALUMINUM HOUSING WITH WHITE ENAMEL FINISH AND SPECULAR ALUMINUM REFLECTORS
2. 3/16 " CAST ALUMINUM FACE PLATE WITH BRUSHED SATIN FINISH AND CLEAR ACRYLIC LAQUER.
3. 5" X 11" X 4" DEEP MAXIMUM DIMENSIONS.
4. NEOPRENE GASKET ASSEMBLY FOR EXTERIOR USE.
5. PROVIDE INCANDESCENT LAMPS AS INDICATED IN FIXTURE SCHEDLUE.
6. PORCELAIN SOCKET WITH FULL METAL SCREW SHELL.
7. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

NOTE:

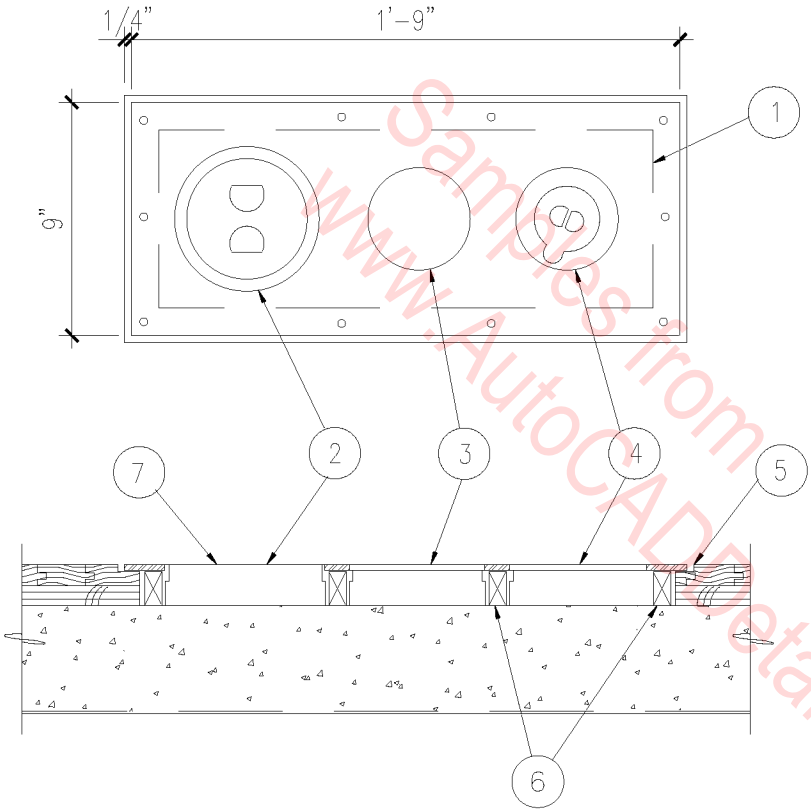
TYPE B FIXTURE MAY BE PROVIDED MINUS GLASS FRONT, WHEN USED ON INTERIOR.

TYPE A – DIFFUSE TEMPERED GLASS OR POLYCARBONATE FRONT

TYPE B – LOUVER FRONT

STEP LIGHT

N.T.S.

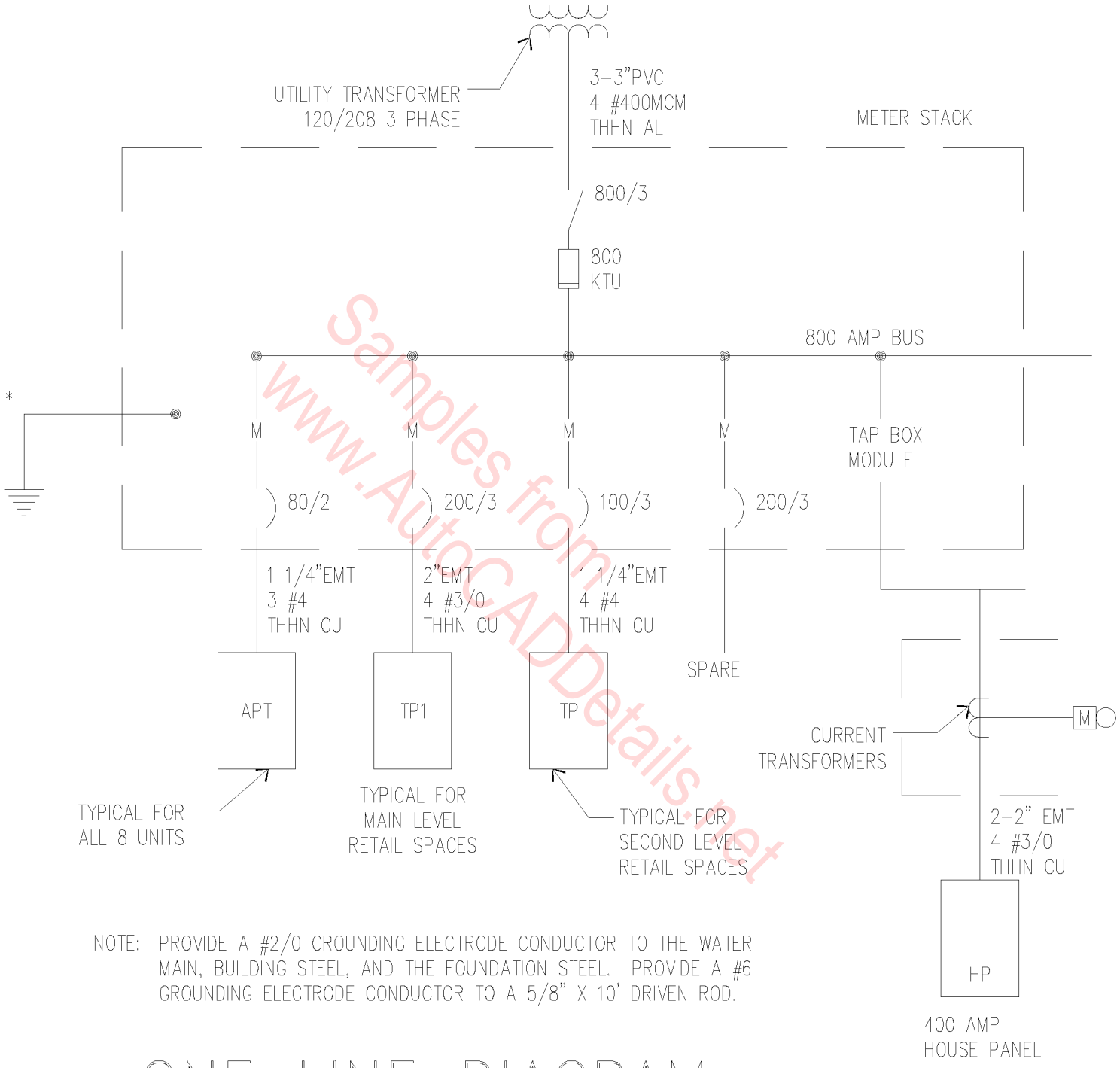


1. 1/4" THICK BRASS PLATE- MILL AFTER FIELD VERIFYING OUTLET LOCATIONS. ATTACH W/ BRASS FLAT HEAD COUNTER-SUNK FASTENERS.
2. POWER OUTLET COVER PLATE.
3. SCOREBOARD CONTROL OUTLET COVER PLATE.
4. MICROPHONE OUTLET COVER PLATE.
5. ROUT WOOD TO FIT PLATE FLUSH.
6. SHIM W/ K.D. LUMBER CUT TO FIT.
7. J-BOX TYP.-VERIFY DEPTH & IF SLAB DEPRESSION IS REQUIRED.

GYM FLOOR OUTLET

1 1/2" = 1'-0"

16A-1001

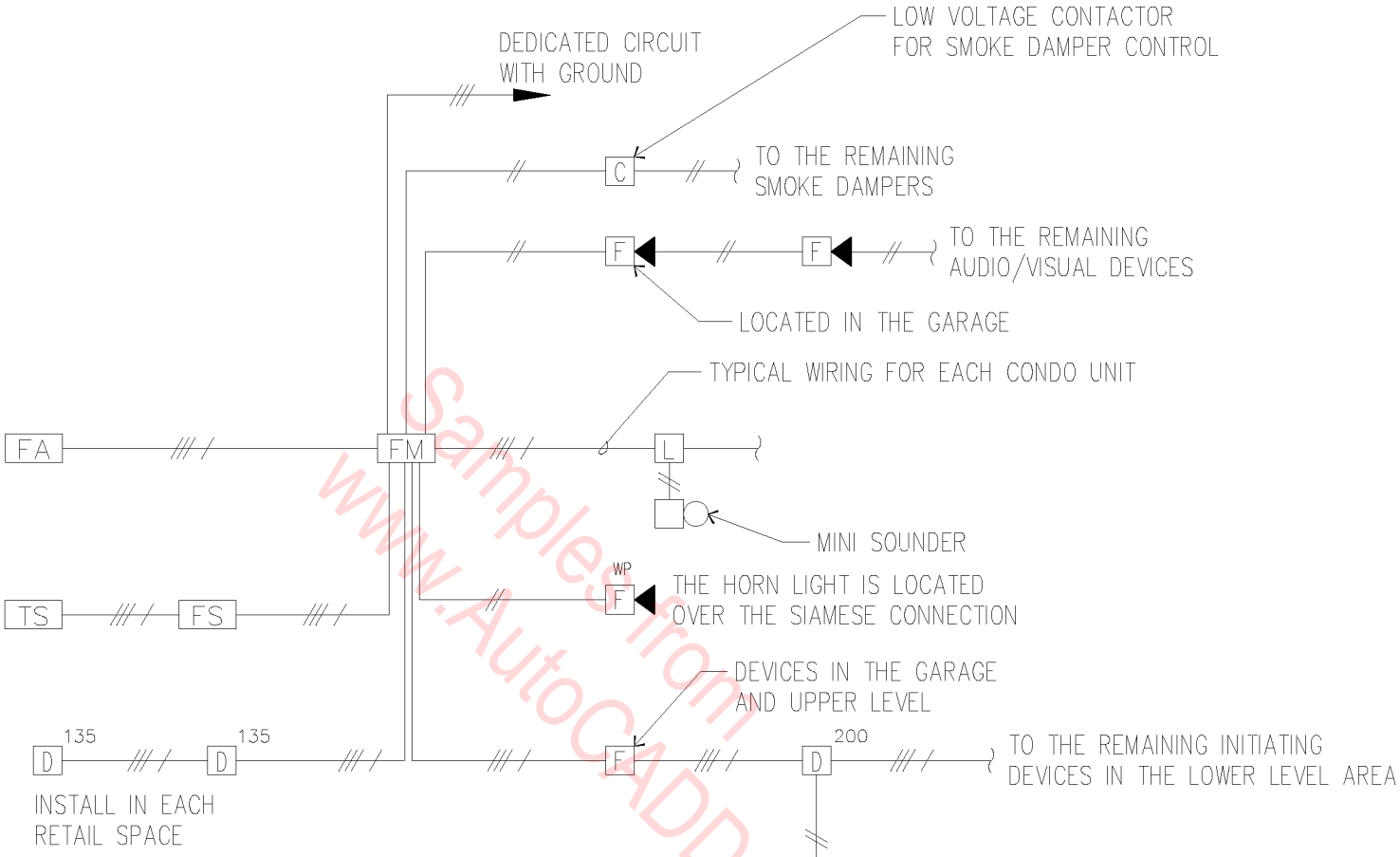


NOTE: PROVIDE A #2/0 GROUNDING ELECTRODE CONDUCTOR TO THE WATER MAIN, BUILDING STEEL, AND THE FOUNDATION STEEL. PROVIDE A #6 GROUNDING ELECTRODE CONDUCTOR TO A 5/8" X 10' DRIVEN ROD.

ONE LINE DIAGRAM

N.T.S.

16A-1002



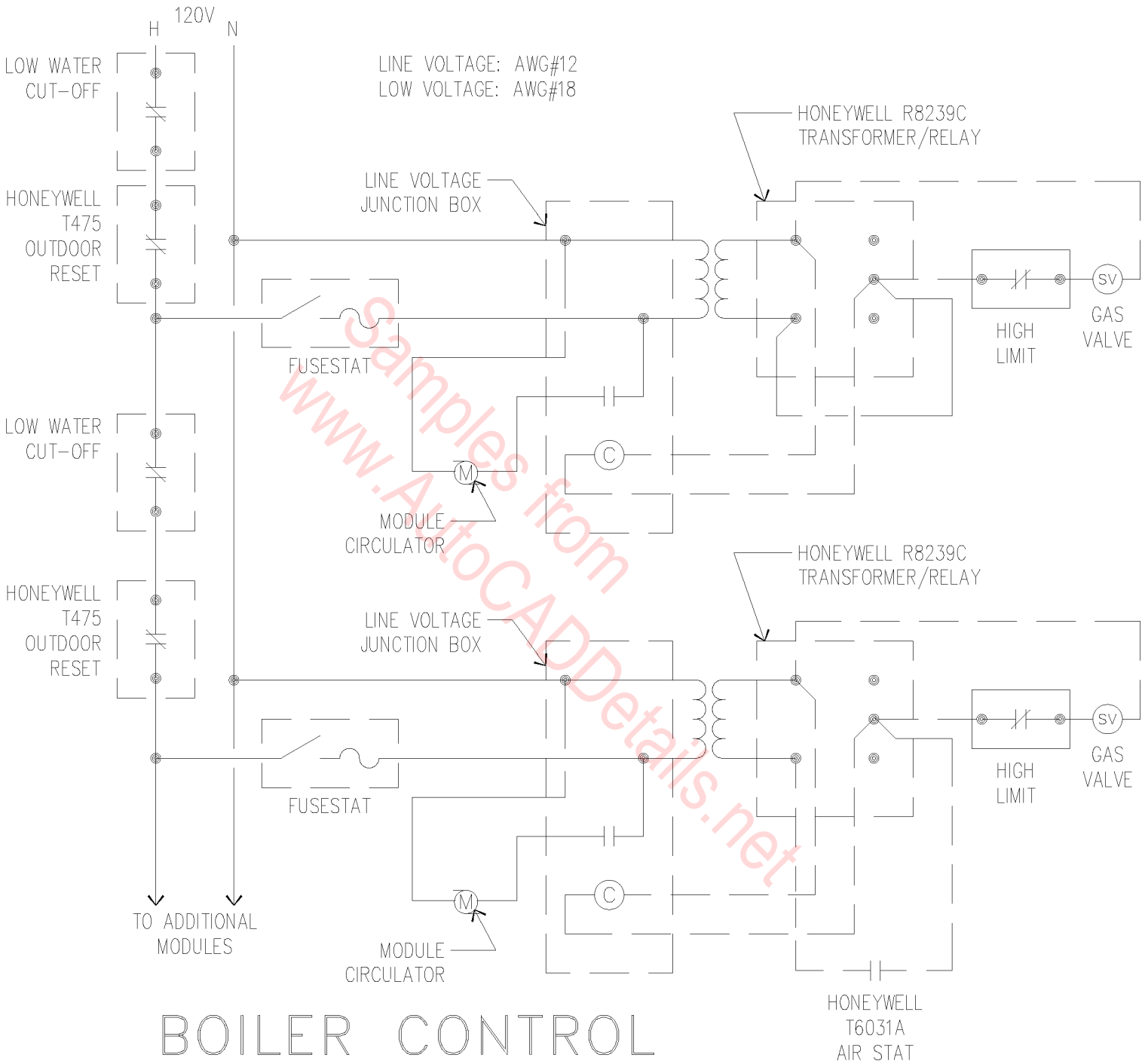
NOTES:

1. EACH RESIDENTIAL UNIT IS TO BE A SEPARATE ZONE.
2. EACH RESIDENTIAL UNIT IS TO HAVE A COMBINATION DETECTOR AND MINI-SOUNDER LOCATED WITHIN EACH BEDROOM AND ADJACENT HALLWAY TIED TO THE CENTRAL SYSTEM.
3. ELEVATOR LOBBY DEVICES ARE TO HAVE AUXILIARY CONTACTS FOR ELEVATOR CAPTURE VERIFY WIRING REQUIREMENTS WITH THE ELEVATOR COMPANY PRIOR TO INSTALLING THE WIRE.
4. SEE THE MECHANICAL PLANS FOR THE EXACT NUMBER OF SMOKE DAMPERS THAT WILL BE REQUIRED.

FIRE ALARM BLOCK DIAGRAM

N.T.S.

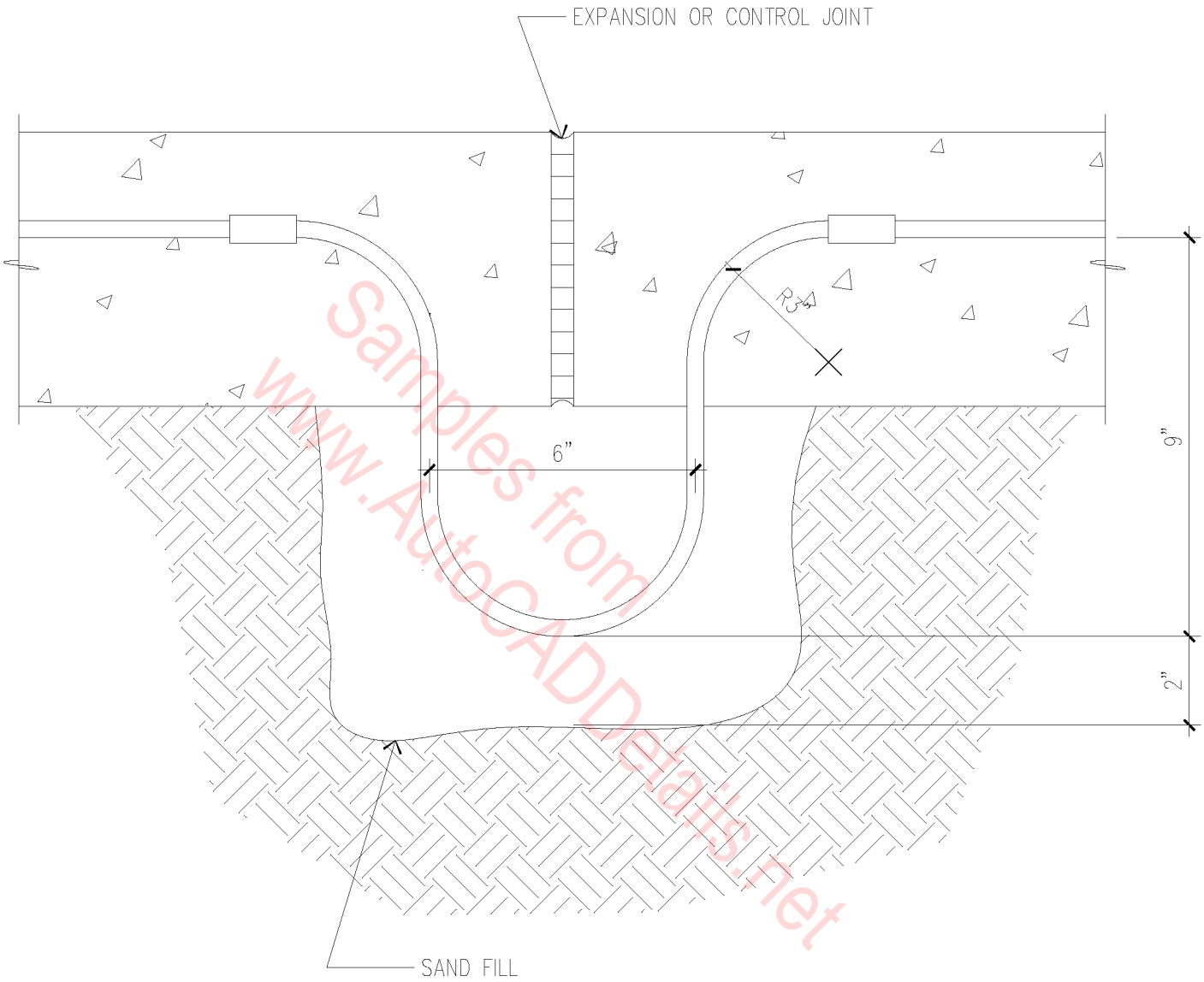
16A-1003



BOILER CONTROL WIRING DIAGRAM

N.T.S.

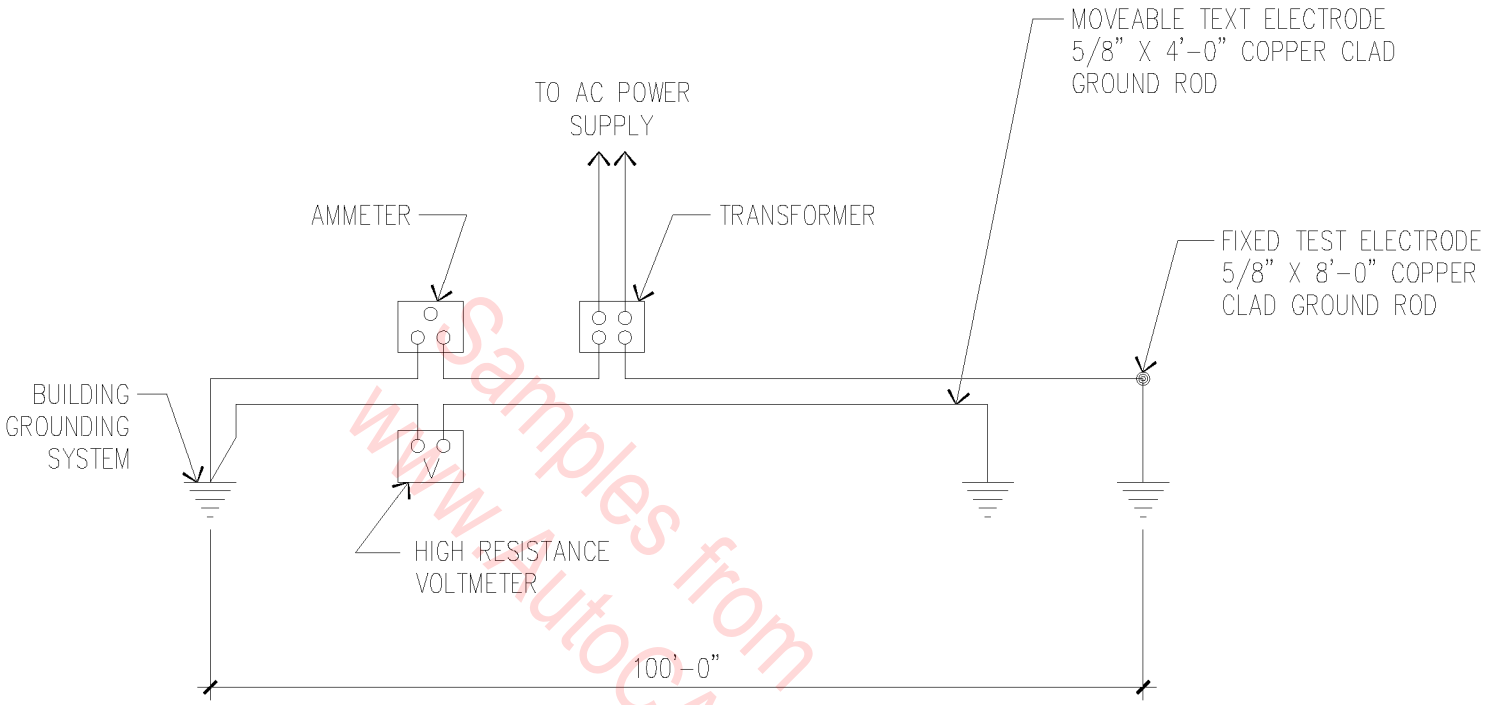
16A-1004



EXPANSION JOINT KIT

3" = 1'-0"

16A-1005



NOTES:

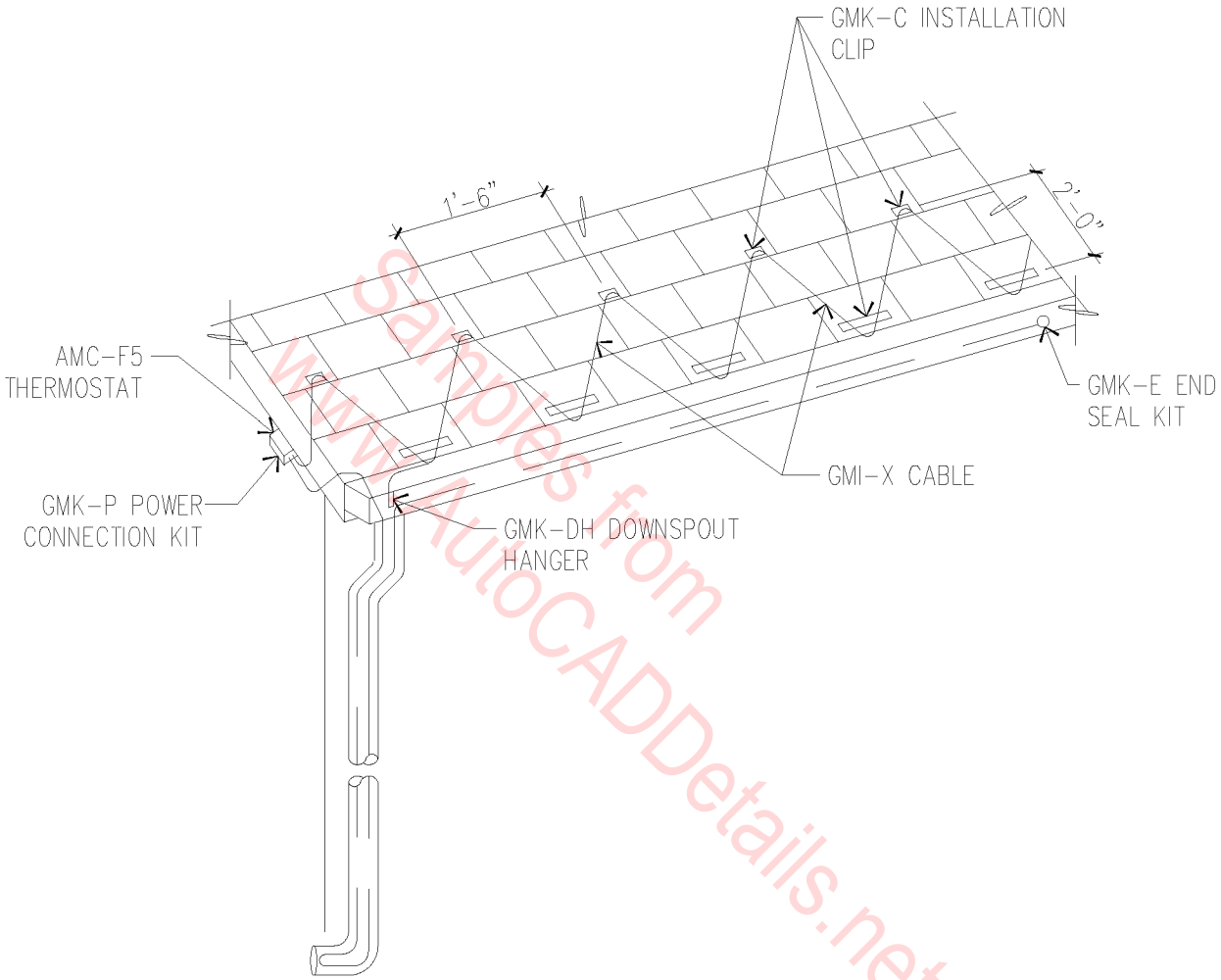
A. LOCATE MOVEABLE TEST ELECTRODE AT 20'-0", 40'-0", 60'-0", AND 80'-0" FROM BUILDING GROUNDING SYSTEM. RECORD CURRENT AND VOLTAGE READINGS AND PLOT OHMS VS. DISTANCE FROM BUILDING SYSTEM.

B. TEST PROBE LOCATIONS SHALL BE IN DIRECT LINE BETWEEN BUILDING GROUNDING SYSTEM AND FIXED TEST ELECTRODE.

FALL OF POTENTIAL METHOD OF GROUND RESISTANCE TESTING

N.T.S.

16A-1006

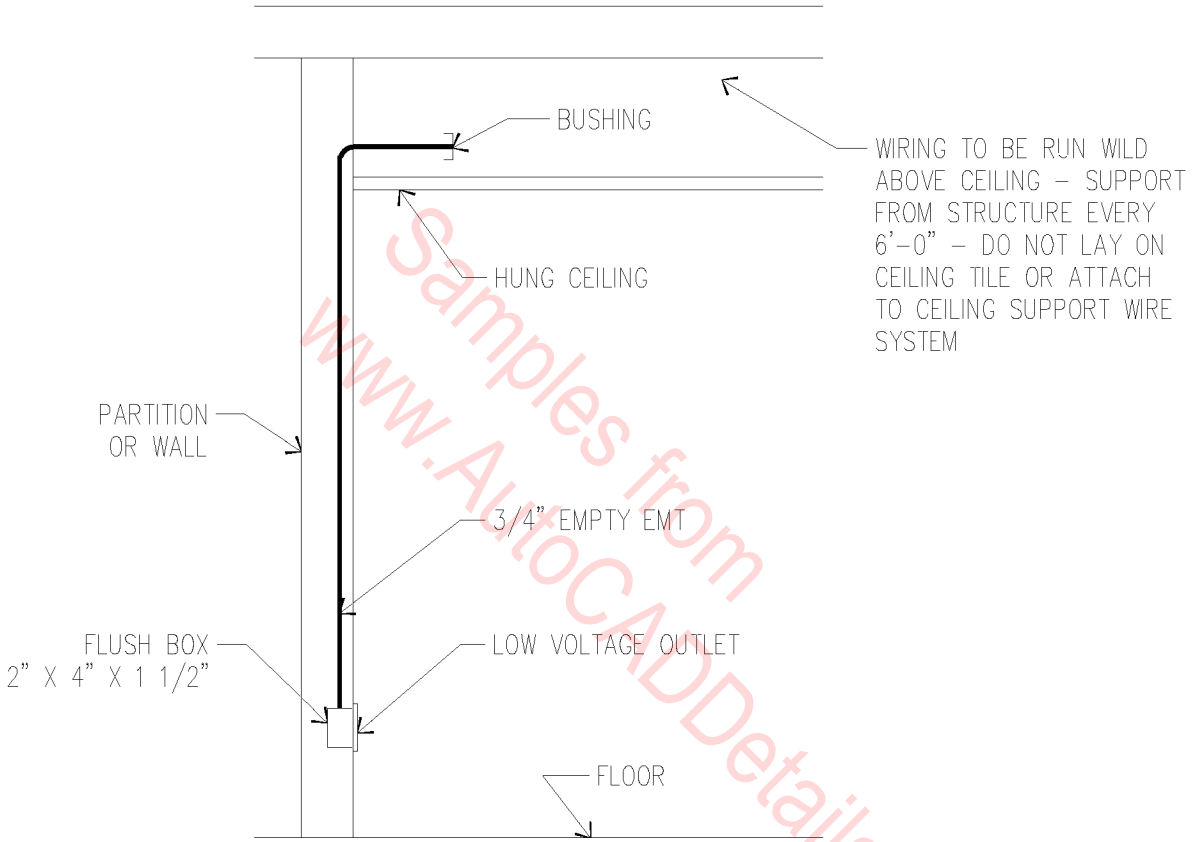


NOTE: ALL CATALOG NUMBERS ARE RAYCHEM.

HEAT TRACE INSTALLATION

N.T.S.

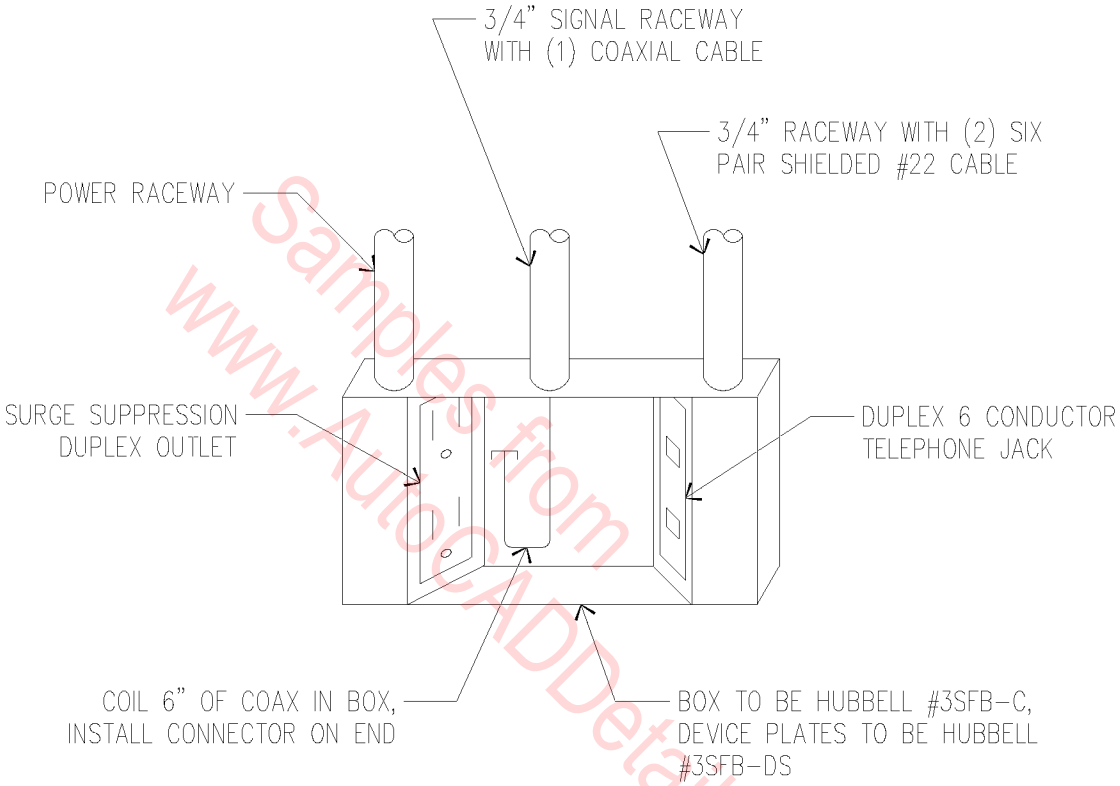
16A-1007



LOW VOLTAGE OUTLET

N.T.S.

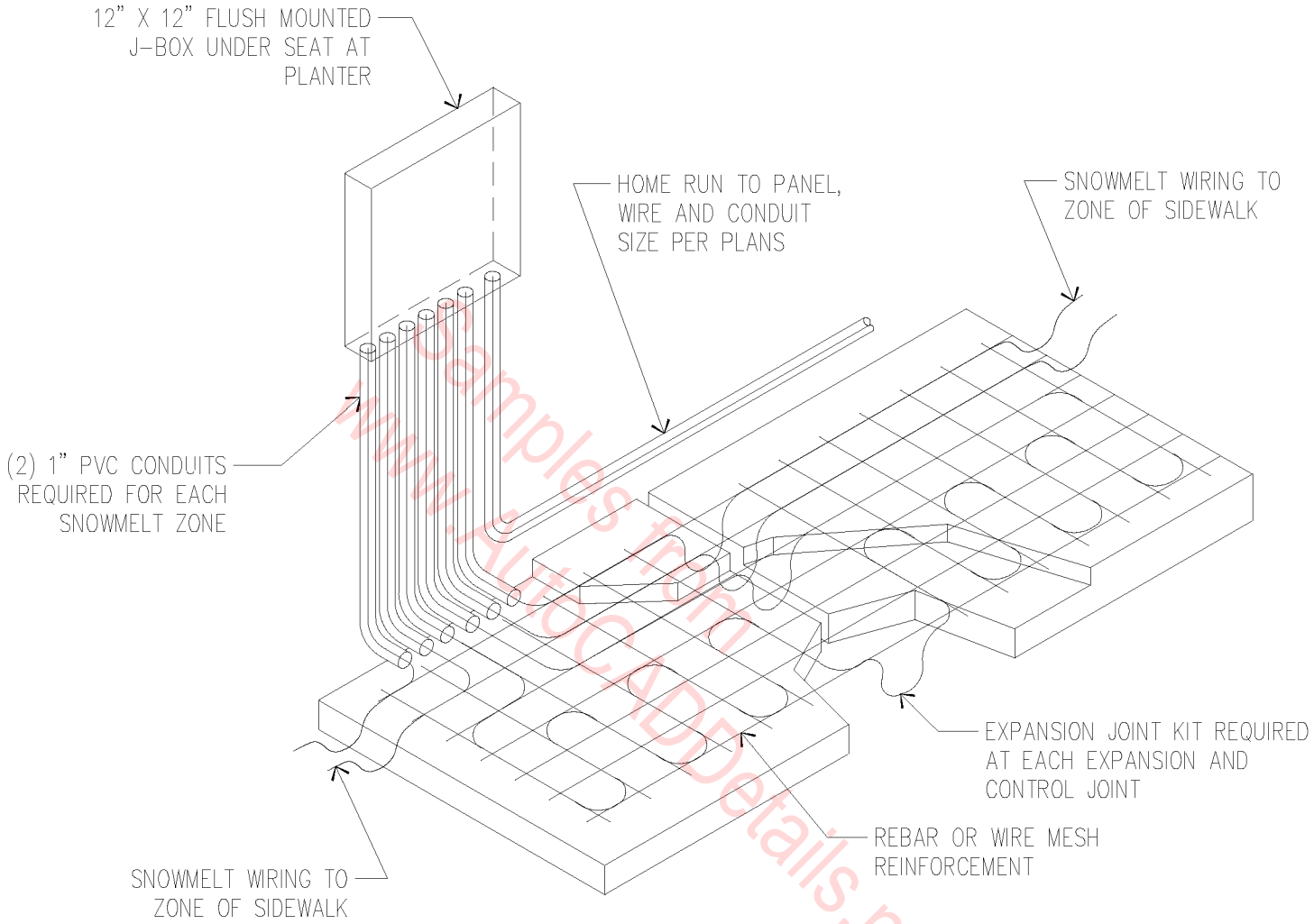
16A-1008



COMBINATION POWER/ SIGNAL FLOOR BOX

N.T.S

16A-1009



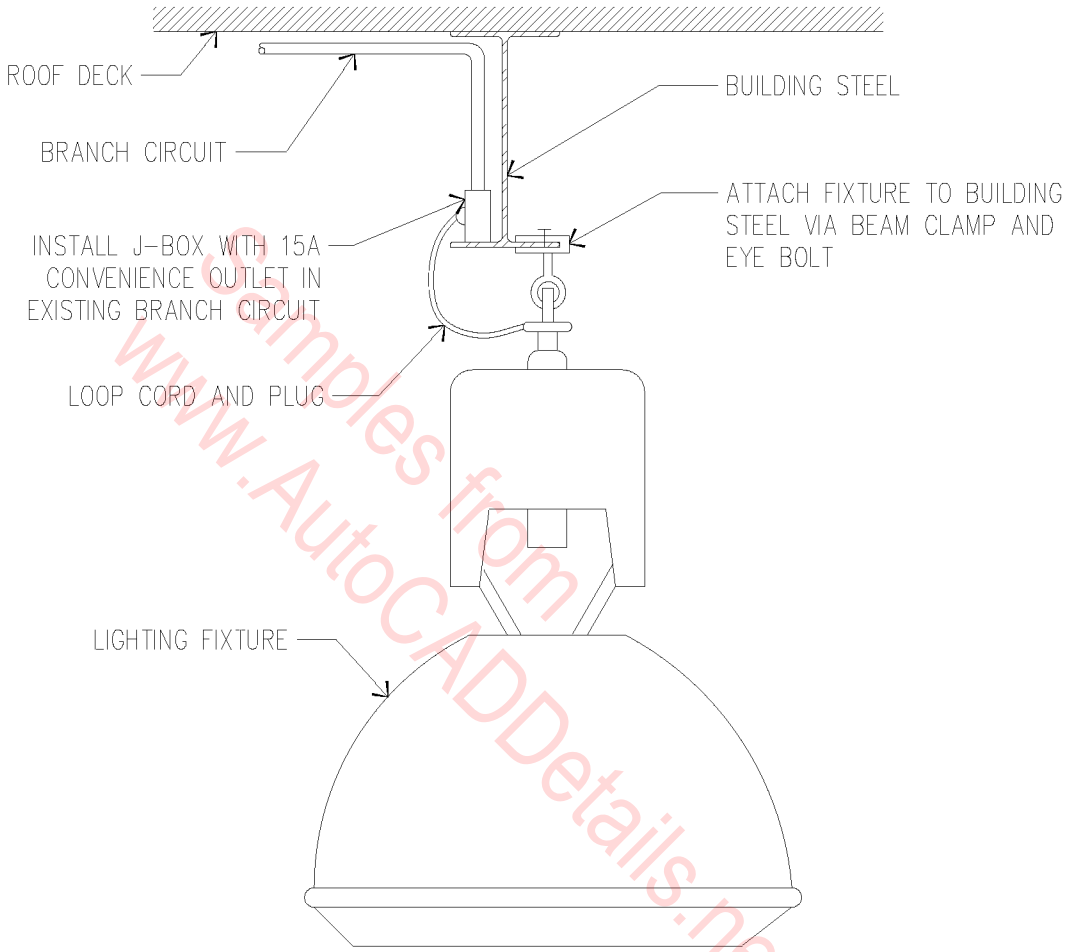
NOTES:

A. INSTALL SNOWMELT 6" FROM EDGE AND ON 8" CENTERS.
B. SECURE TO REBAR/REINFORCEMENT WIRE WITH PLASTIC TIES AT 18" CENTERS AND AT EACH MIDPOINT OF BEND.

SNOWMELT WIRING LAYOUT

N.T.S.

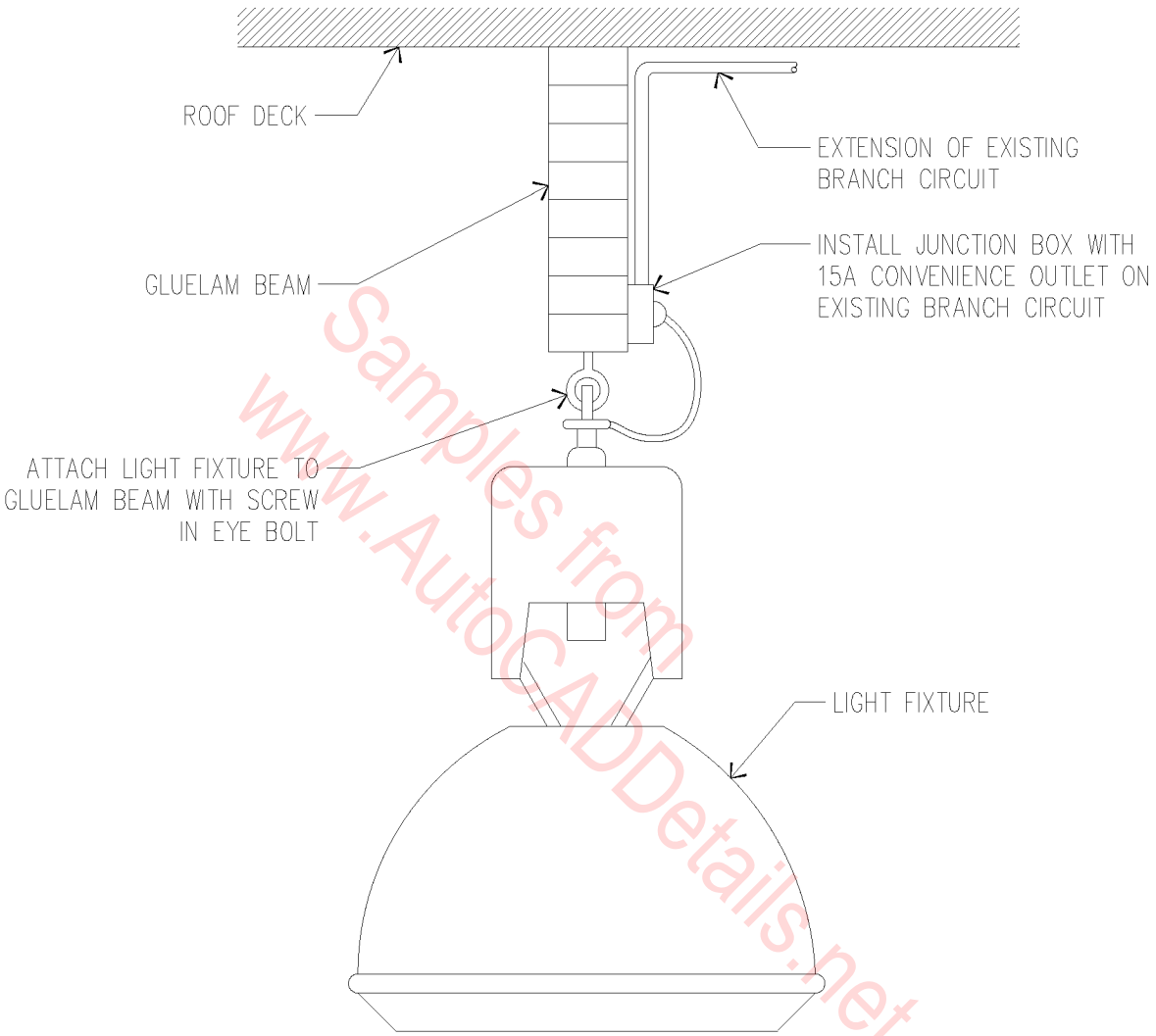
16A-1010



LIGHTING FIXTURE MOUNTING DETAIL

N.T.S.

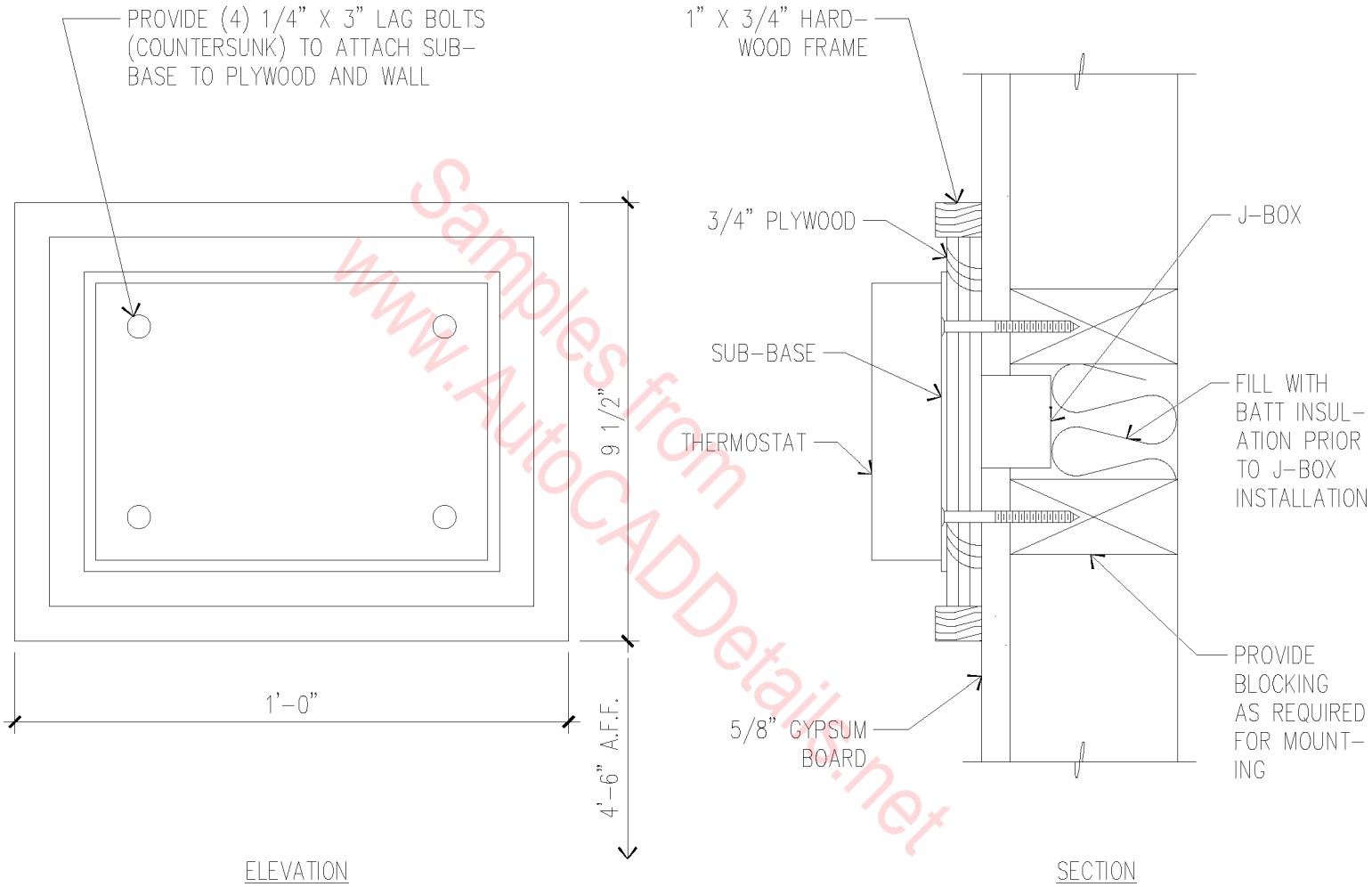
16A-1011



TYPE 'B' LIGHTING FIXTURE MOUNTING DETAIL

N.T.S.

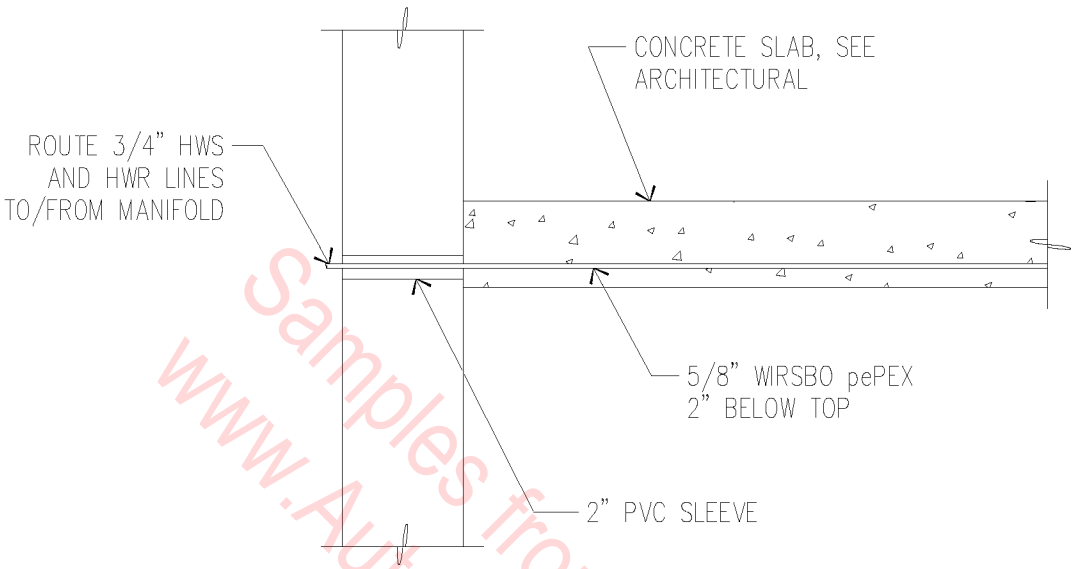
16A-1012



INSULATED THERMOSTAT BASE

3" = 1'-0"

16A-1013



NOTES:

A. ENTIRE SNOWMELT SYSTEM SHALL BE PRESSURIZED TO 75 PSI WITH AIR DURING POURING OF CONCRETE. NO PIPING JOINTS ARE PERMITTED IN THE SLAB. LINES SHALL REMAIN PRESSURIZED UNTIL SYSTEM IS CONNECTED TO BOILER AND FINAL FILL ACCOMPLISHED.

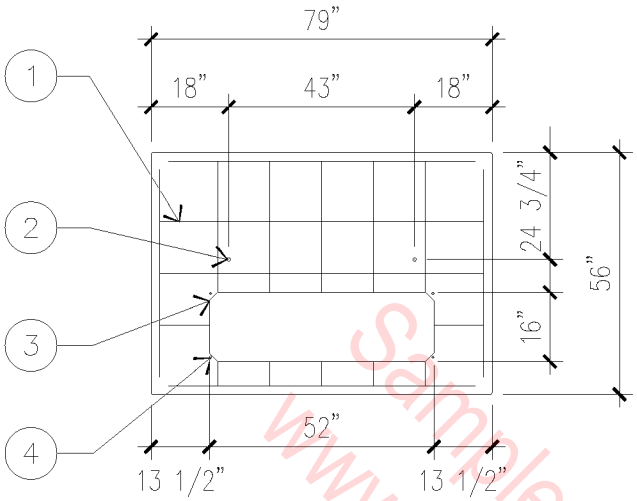
B. ALL PIPING IN SNOWMELT SYSTEM SHOWN ON PLANS IS WIRSBO pePEX CROSSLINKED POLYETHYLENE TUBING. TUBING TO BE NOMINAL 5/8" INSIDE DIAMETER AND RATED FOR 180° SERVICE AT 100 PSI.

C. TIE PIPING DOWN TO SLAB REINFORCEMENT WITH PLASTIC COATED TIE WIRE. TIE SPACING SHALL NOT EXCEED 12" ON CENTER. TOP OF PIPE SHALL BE NOT LESS THAN 2" BELOW TOP OF SLAB. ALL PIPING IN SLAB IS AT 12" ON CENTER.

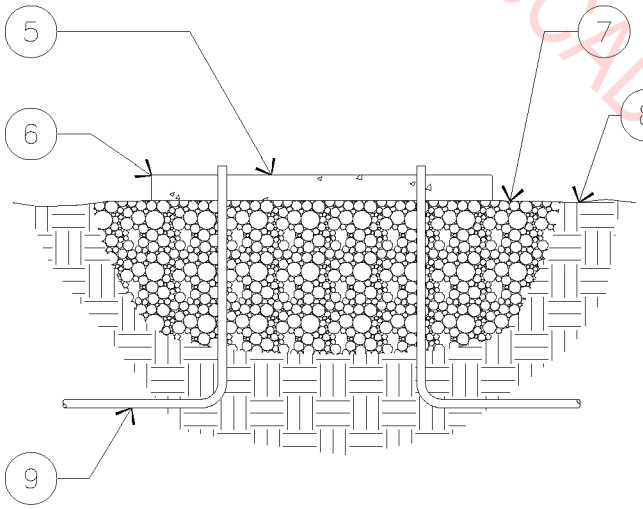
SNOWMELT PIPING CONNECTION

N.T.S.

16A-1014



PLAN



SECTION

1. #4 REBAR, GRADE 60, MINIMUM OF 2" FROM EDGE/SURFACE OF OF CONCRETE.
2. LIFTING INSERTS TO BE 3/4" STRAIGHT COIL LOOP INSERTS (SUPERIOR CONCRETE ACCESSORIES CATALOG NUMBER SCL-4).
3. 2" CHAMFER.
4. TIE DOWN INSERTS TO BE INTERNAL THREADED INSERT WITH 1/2"-13 UNC THREADS.
5. 6" THICK SLAB.
6. 1/2" RADIUS.
7. ONE YARD OF PEA GRAVEL.
8. COMPACTED BACKFILL UNDER PAD 3' MINIMUM.
9. PROVIDE PVC ELBOWS INTO WINDOW OF PAD FOR PRIMARY AND SECONDARY.

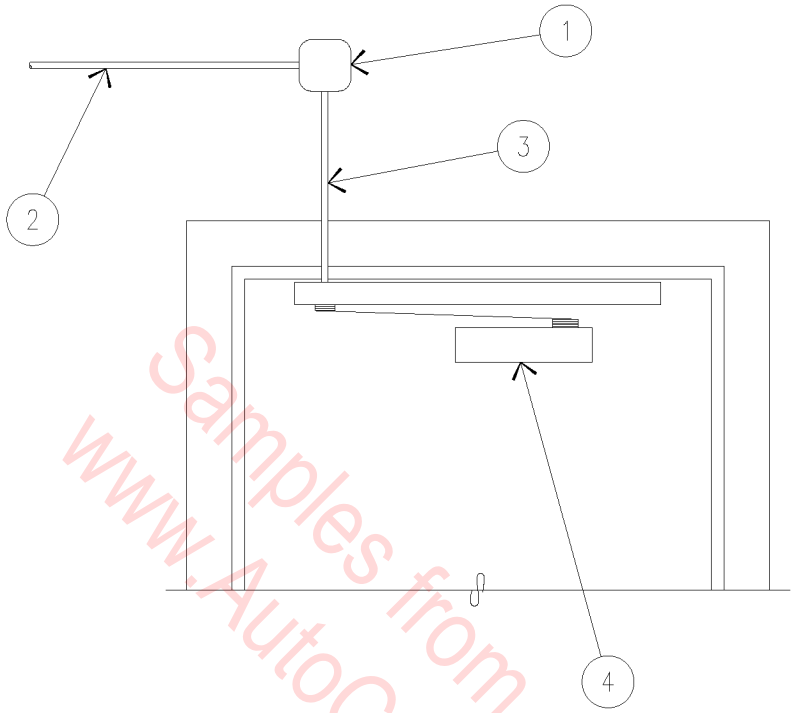
NOTES

A. 3/4" CHAMFER OR 1/2" RADIUS ON ALL SURFACE EDGES.
B. CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AFTER 28 DAYS.
C. PAD TO BE AT LEAST 5' AWAY FROM ANY BUILDING OR STRUCTURE WITH CABLE OPENING AWAY FROM BUILDING.

TRANSFORMER PAD

1/4" = 1'-0"

16A-1015



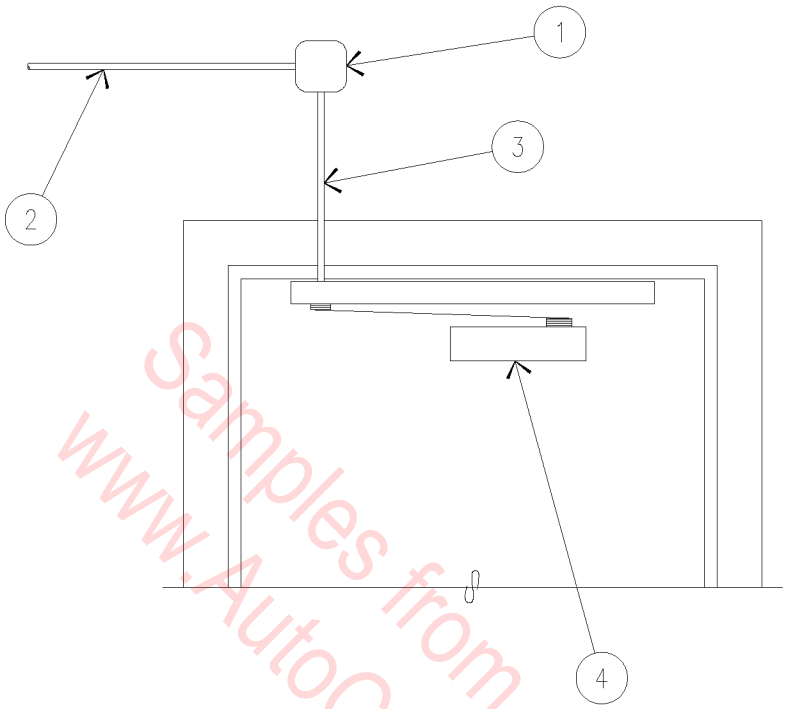
1. FIRE ALARM JUNCTION BOX IN WALL – LOCATE ABOVE LAY–IN CEILING WHERE APPLICABLE.
2. EXTEND (2) CONDUCTORS IN 1/2" CONDUIT BACK TO FIRE ALARM MASTER PANEL.
3. (2) CONDUCTORS IN 1/2" EMT CONDUIT, CONCEALED IN WALL.
4. DOOR CLOSER – 24 V AC/DC.

NOTE: TYPICAL AT EACH DOOR CLOSER.

FIRE DOOR CLOSER

3/4" = 1'–0"

16A–1016



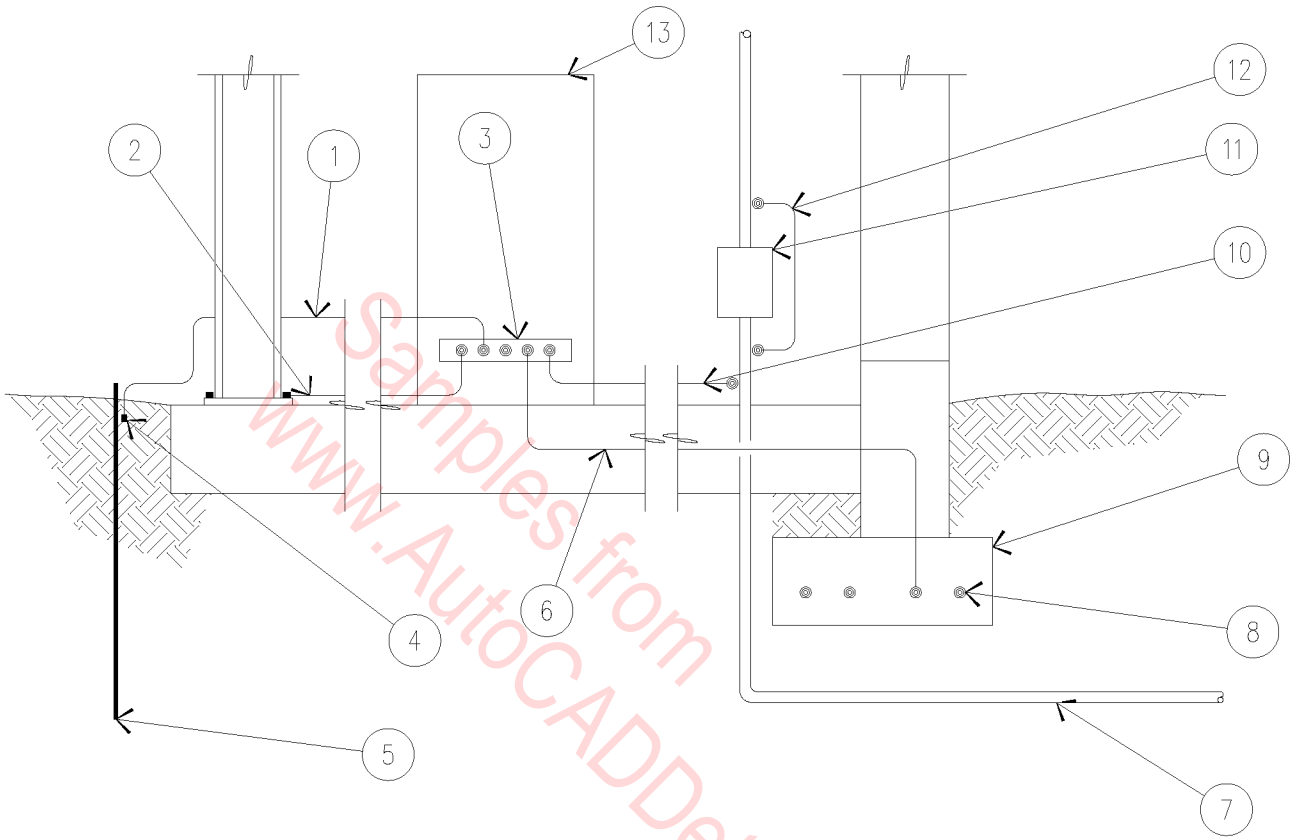
1. FIRE ALARM JUNCTION BOX IN WALL – LOCATE ABOVE LAY-IN CEILING WHERE APPLICABLE.
2. EXTEND (2) CONDUCTORS IN 1/2" CONDUIT BACK TO FIRE ALARM MASTER PANEL.
3. (2) CONDUCTORS IN 1/2" EMT CONDUIT, CONCEALED IN WALL.
4. DOOR CLOSER – 24 V AC/DC.

NOTE: TYPICAL AT EACH DOOR CLOSER.

FIRE DOOR CLOSER

3/4" = 1'-0"

16A-1016



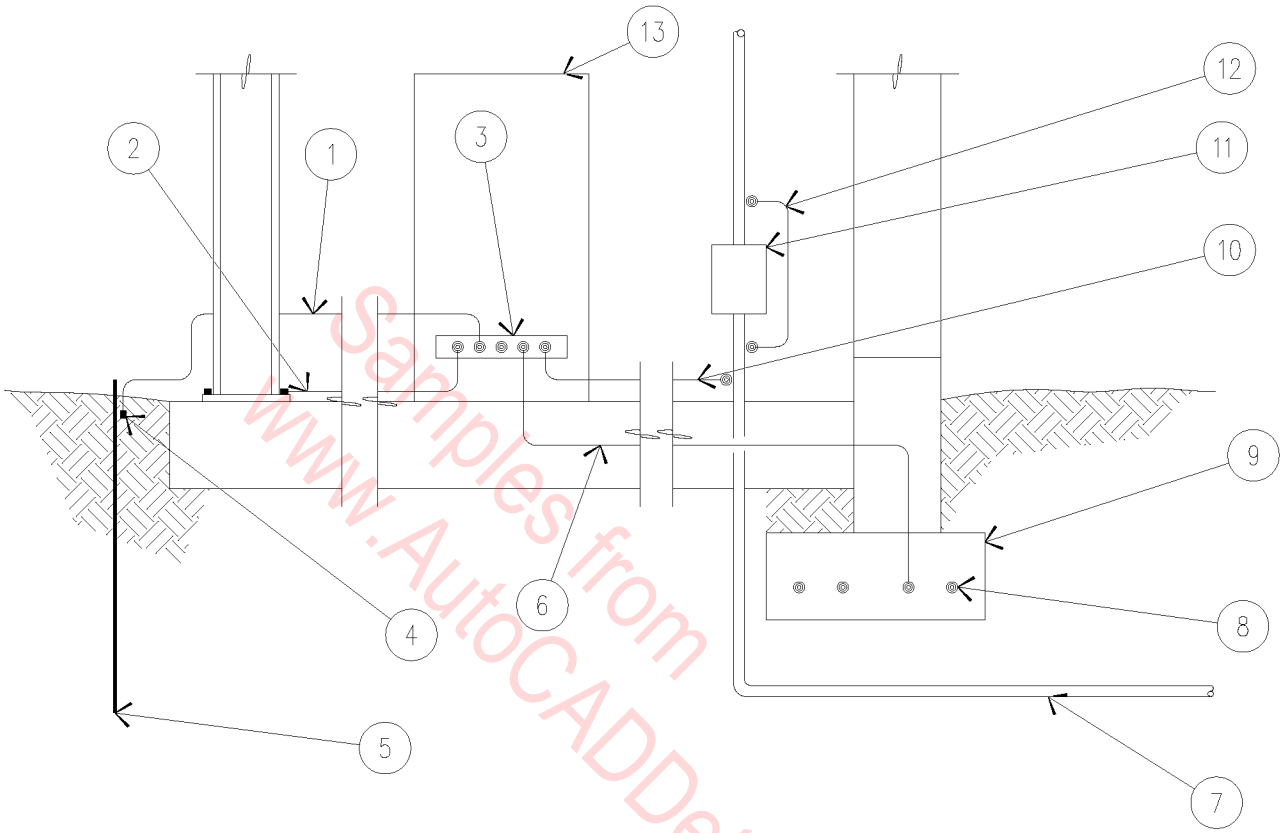
1. GROUND ROD GROUNDING ELECTRODE CONDUCTOR.
2. STEEL GROUNDING ELECTRODE CONDUCTOR.
3. NEUTRAL BUS.
4. BOLTED CONNECTION.
5. 10'-0" X 5/8" COPPER CLAD GROUND ROD.
6. REINFORCING STEEL GROUNDING ELECTRODE CONDUCTOR BARE.
7. METALLIC WATER MAIN 10'-0" MINIMUM LENGTH.
8. REBAR 20'-0" MINIMUM LENGTH.
9. THERMITE WELD WITH ASPHALTUM COATING.
10. WATER SERVICE GROUNDING ELECTRODE CONDUCTORS.
11. WATER METER.
12. BONDING JUMPER BOLTED CONNECTIONS.
13. SERVICE ENTRANCE EQUIPMENT.

NOTES: SEE ONE LINE DIAGRAM FOR REQUIRED GROUNDS AND GROUNDING ELECTRODE SIZES. GROUNDING ELECTRODE CONDUCTORS SHALL BE UNSPLICED INSULATED COPPER UNLESS OTHERWISE NOTED.

SERVICE GROUNDING

N.T.S.

16A-1017



1. GROUND ROD GROUNDING ELECTRODE CONDUCTOR.
2. STEEL GROUNDING ELECTRODE CONDUCTOR.
3. NEUTRAL BUS.
4. BOLTED CONNECTION.
5. 10'-0" X 5/8" COPPER CLAD GROUND ROD.
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8. REBAR 20'-0" MINIMUM LENGTH.
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11. WATER METER.
12. BONDING JUMPER BOLTED CONNECTIONS.
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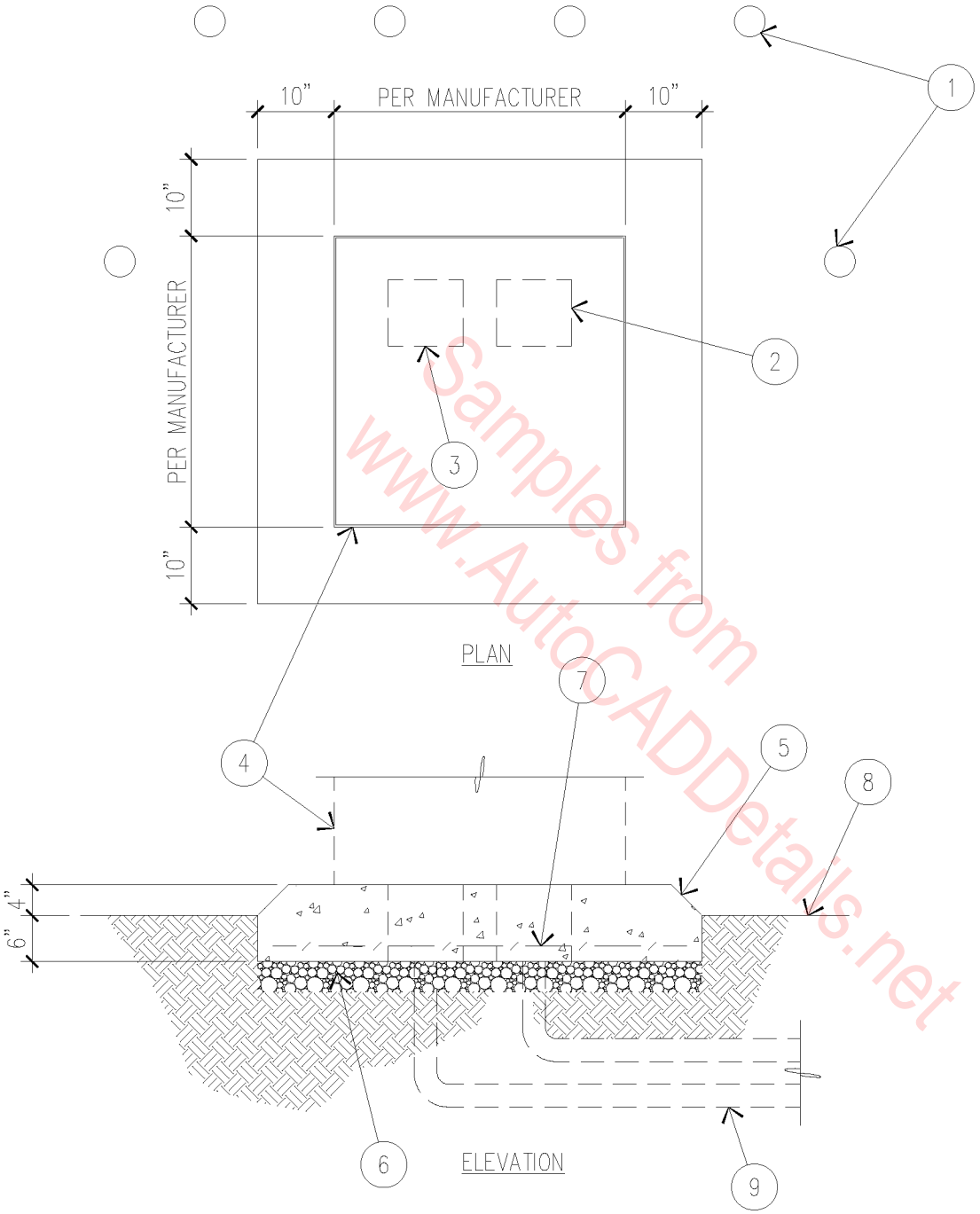
NOTES: SEE ONE LINE DIAGRAM FOR REQUIRED GROUNDS AND GROUNDING ELECTRODE SIZES. GROUNDING ELECTRODE CONDUCTORS SHALL BE UNSPLICED INSULATED COPPER UNLESS OTHERWISE NOTED.

SERVICE GROUNDING

N.T.S.

16A-1017

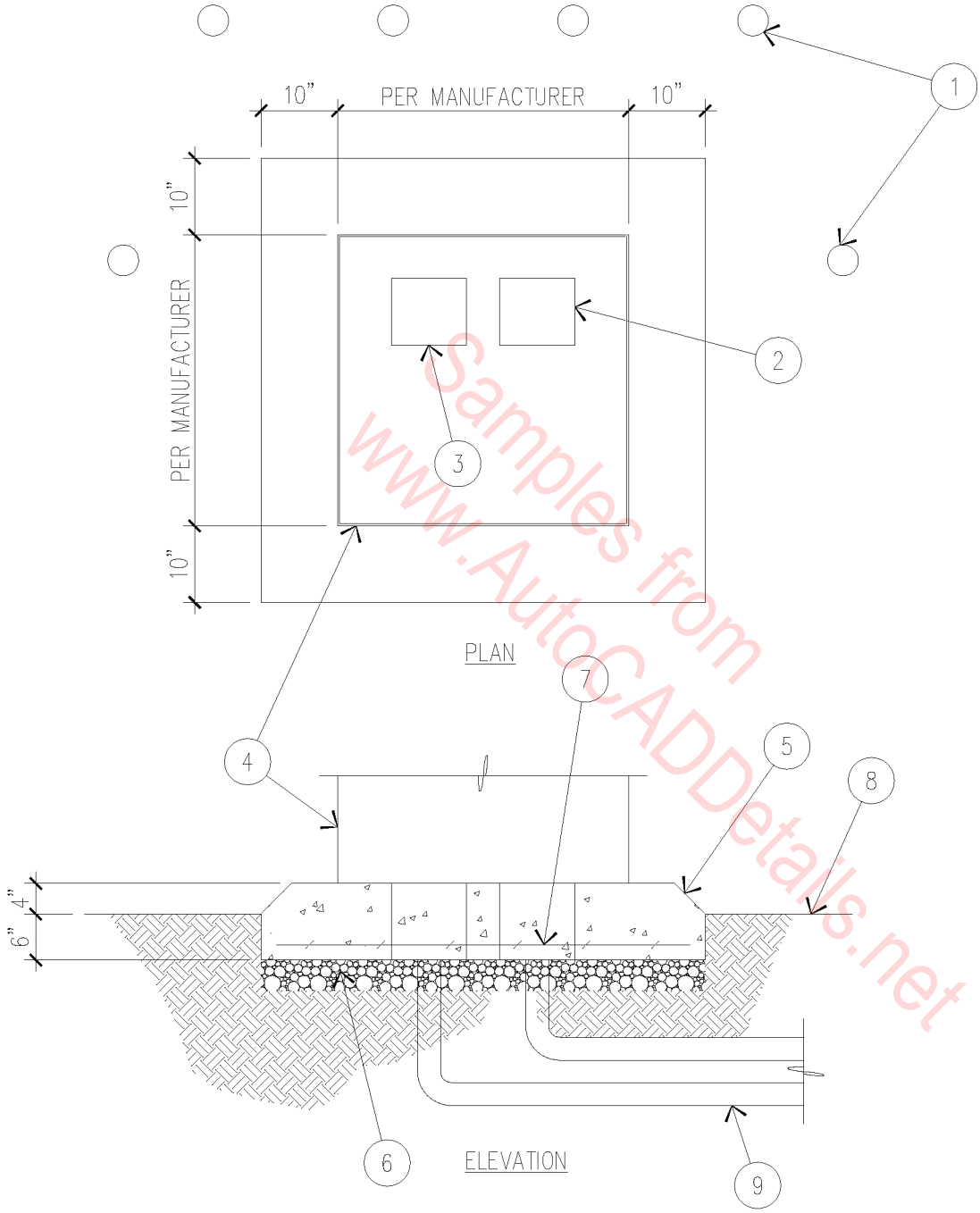


1. CONCRETE FILLED PIPE BOLLARD.
2. SIZE PER EQUIPMENT MANUFACTURER.
3. SECONDARY COMPARTMENT – SIZE PER EQUIPMENT MANUFACTURER.
4. TRANSFORMER ENCLOSURE.
5. CONCRETE PAD WITH 45° BEVEL.
6. GRAVEL COMPACTED SUB-BASE.
7. 6" X 6" WELDED WIRE FABRIC (W2.9 X W2.9).
8. FINISH GRADE.
9. CONDUIT – SIZE AND FEEDER SIZE PER UTILITY COMPANY.

TRANSFORMER PAD

1/2" = 1'-0"

16A-1018



1. CONCRETE FILLED PIPE BOLLARD.
2. SIZE PER EQUIPMENT MANUFACTURER.
3. SECONDARY COMPARTMENT – SIZE PER EQUIPMENT MANUFACTURER.
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TRANSFORMER PAD

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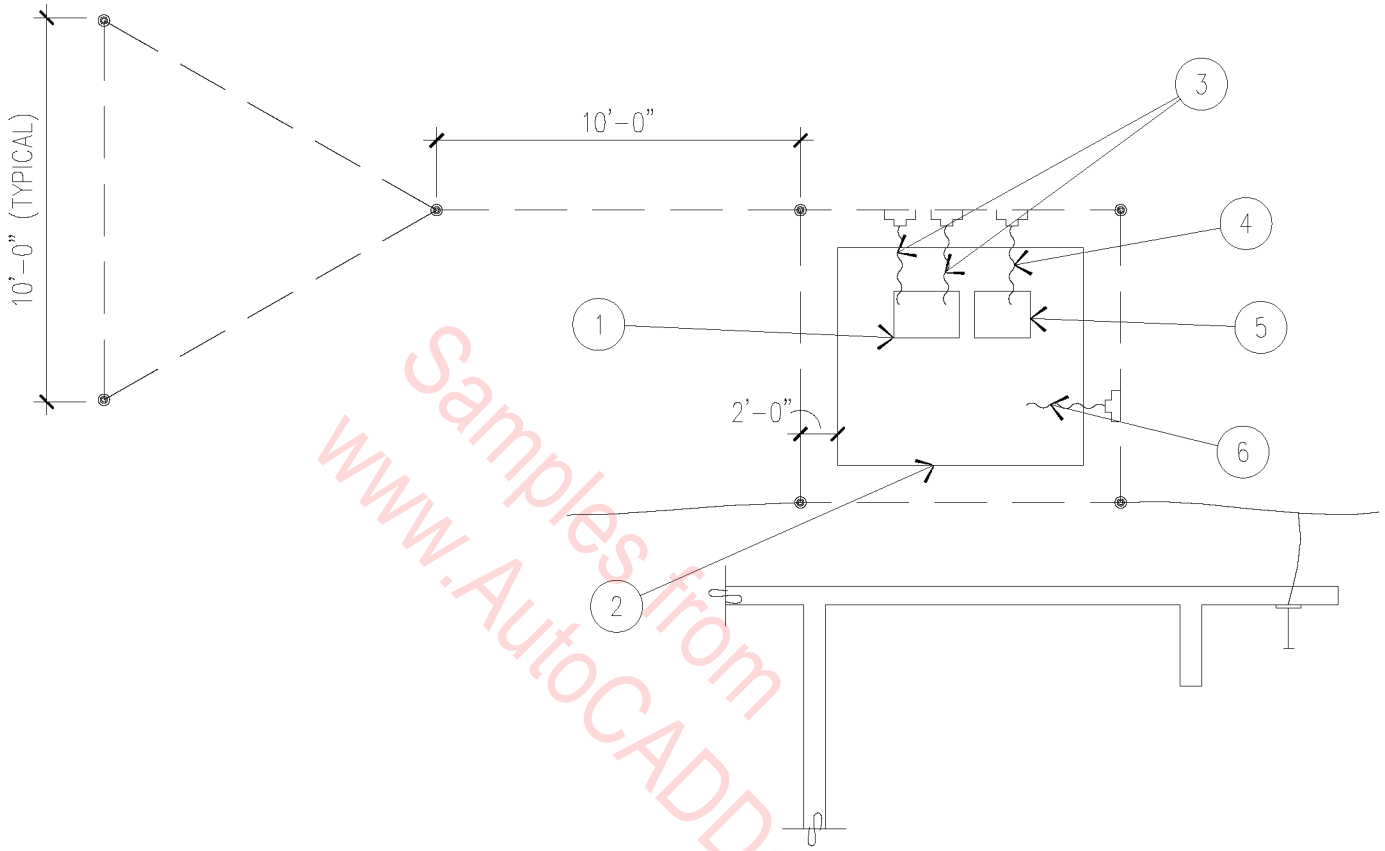
16A-1018

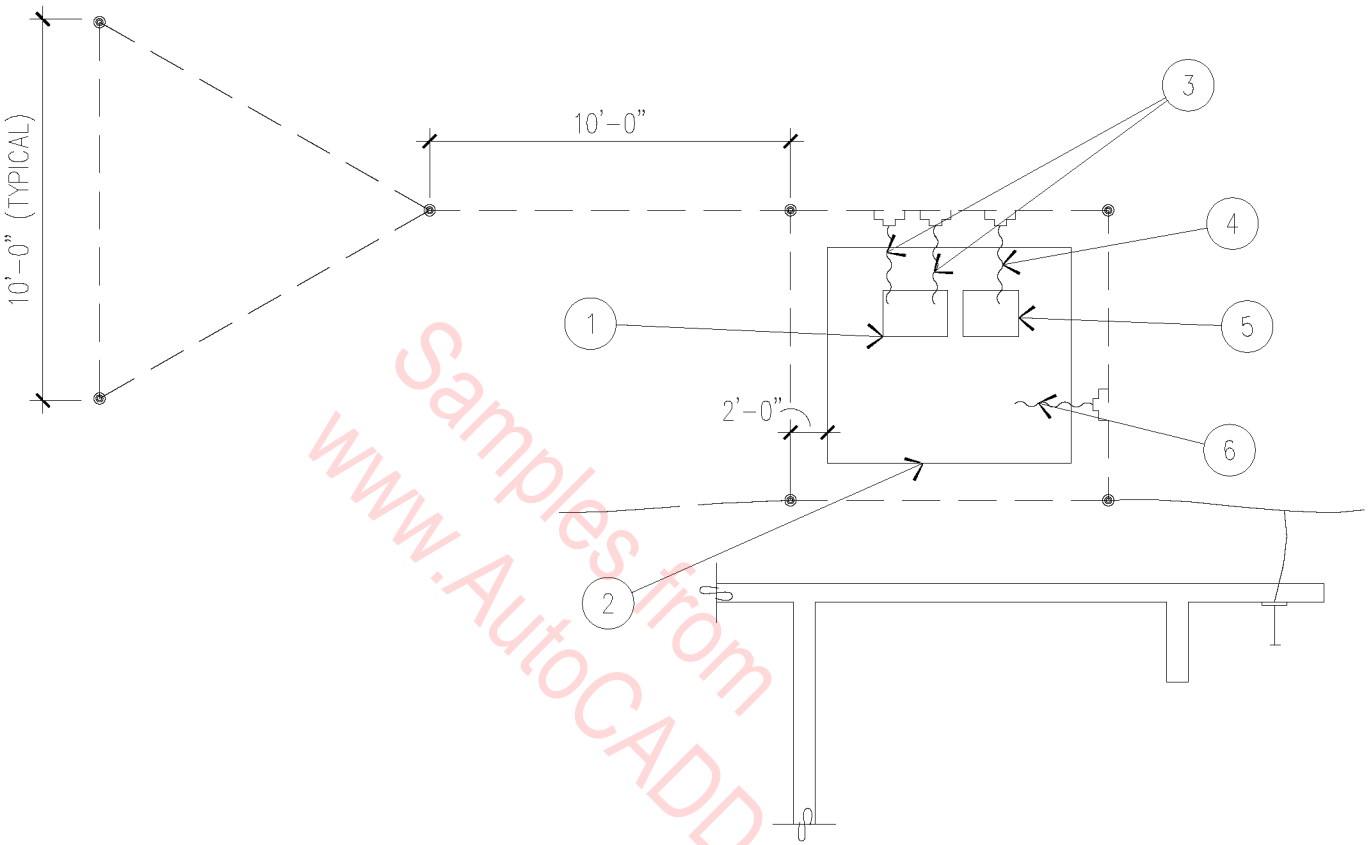


1. SECONDARY COMPARTMENT ENTRY.
2. TRANSFORMER PAD.
3. (1) #1/0 AWG COPPER CONNECT TO TRANSFORMER NEUTRAL.
4. (1) #2 AWG COPPER CONNECT TO PRIMARY DUCT GROUND.
5. PRIMARY COMPARTMENT ENTRY.
6. #4 AWG COPPER BOND TO ENCLOSURE.

GROUNDING AT THE PAD MOUNTED TRANSFORMER

N.T.S.

16A-1019

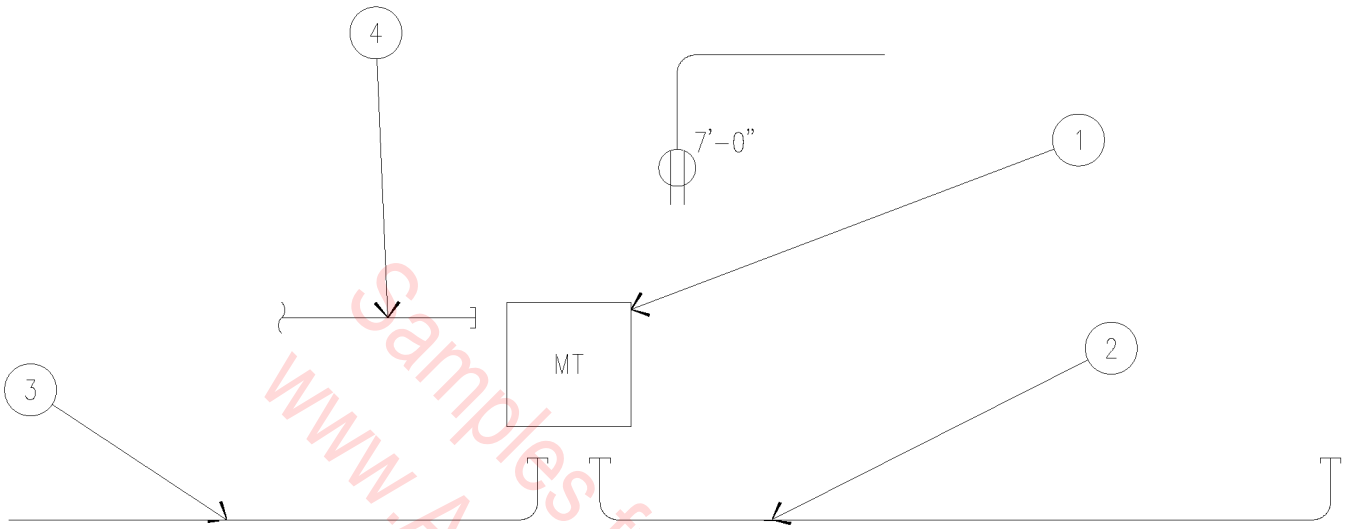


1. SECONDARY COMPARTMENT ENTRY.
2. TRANSFORMER PAD.
3. (1) #1/0 AWG COPPER CONNECT TO TRANSFORMER NEUTRAL.
4. (1) #2 AWG COPPER CONNECT TO PRIMARY DUCT GROUND.
5. PRIMARY COMPARTMENT ENTRY.
6. #4 AWG COPPER BOND TO ENCLOSURE.

GROUNDING AT THE PAD MOUNTED TRANSFORMER

N.T.S.

16A-1019



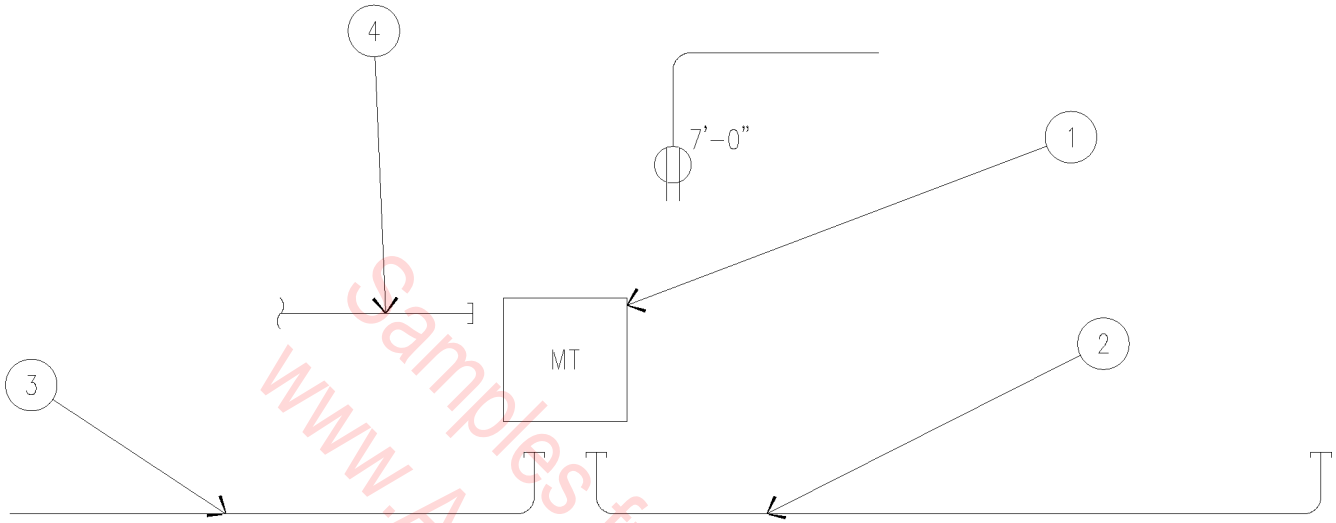
1. 4'-0" X 4'-0" X 3/4" PLYWOOD TELEPHONE EQUIPMENT MOUNTING BOARD.
2. 1/2" CONDUIT TO WATER MAIN FOR GROUND.
3. 3" PVC TELEPHONE SERVICE CONDUIT TO TELEPHONE UTILITY PEDESTAL.
4. 3 PAIR PHONE CABLE (TYPICAL ALL UNITS) IN 1" CONDUIT.

NOTE: PROVIDE A 1" CONDUIT TO EACH RESIDENTIAL AND TO EACH RETAIL SPACE - VERIFY NUMBER OF PHONES REQUIRED PRIOR TO INSTALLING THE 3 PAIR CABLE.

TELEPHONE RISER DIAGRAM

N.T.S.

16A-1020



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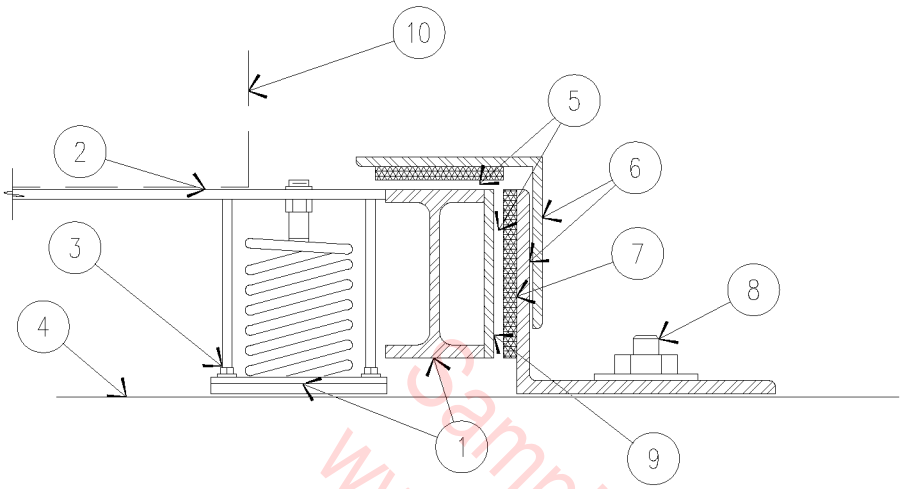
NOTE: PROVIDE A 1" CONDUIT TO EACH RESIDENTIAL AND TO EACH RETAIL SPACE – VERIFY NUMBER OF PHONES REQUIRED PRIOR TO INSTALLING THE 3 PAIR CABLE.

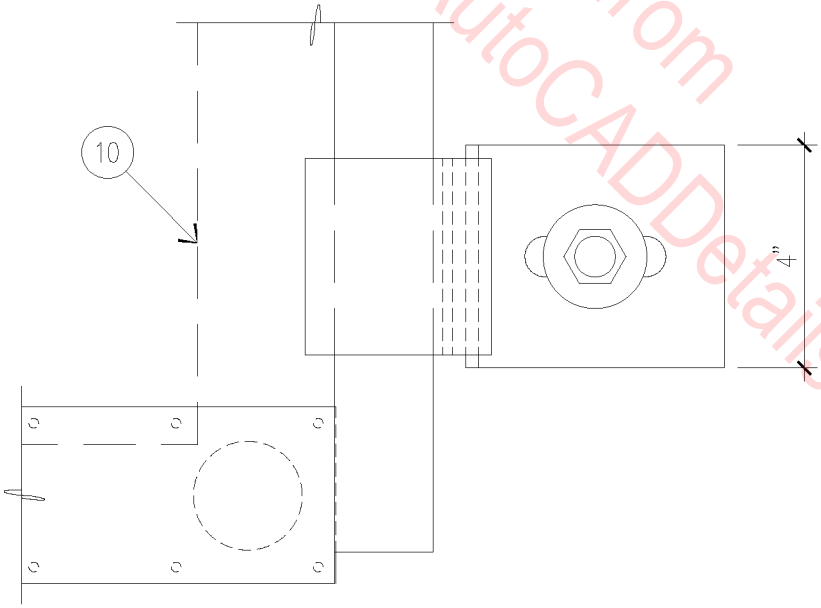
TELEPHONE RISER DIAGRAM

N.T.S.

16A-1020



ELEVATION



PLAN

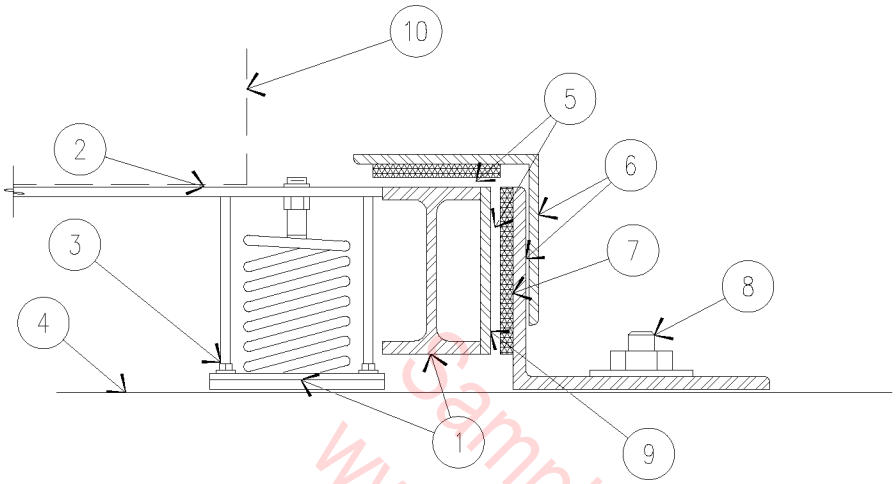
1. VIBRATION INSULATION ASSEMBLY.
2. FRAMED EQUIPMENT BASE.
3. ANCHOR BOLT (TYPICAL).
4. FLOOR LINE.
5. MINIMUM CLEARANCE REQUIRED FOR NORMAL OPERATION.
6. STEEL ANGLES.
7. RESILIENT PAD.
8. ANCHOR BOLT (5/8" X 4").
9. STEEL PLATE.
10. EQUIPMENT.

NOTE: INSTALL TWO RESTRAINING DEVICES AT EACH CORNER OF THE EQUIPMENT BASE.

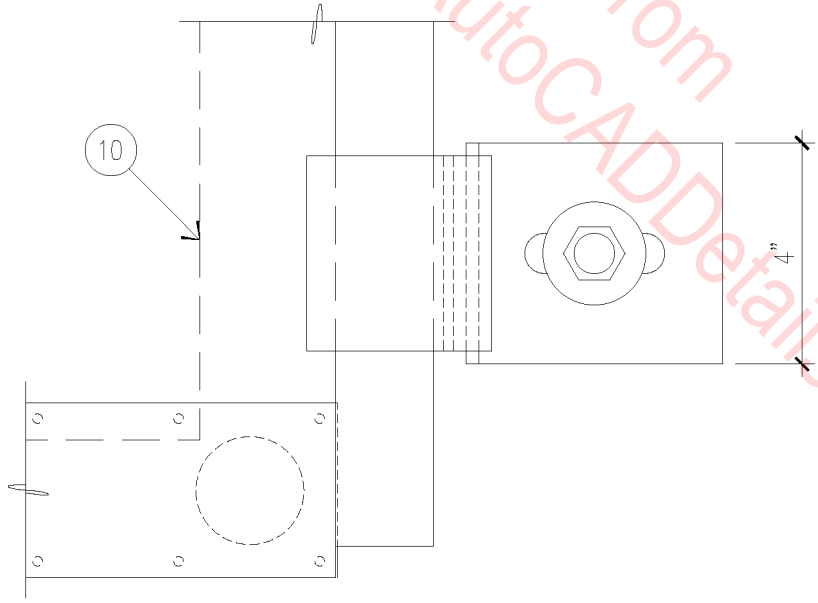
GENERATOR RESTRAINT

N.T.S.

16A-1021



ELEVATION



PLAN

1. VIBRATION INSULATION ASSEMBLY.
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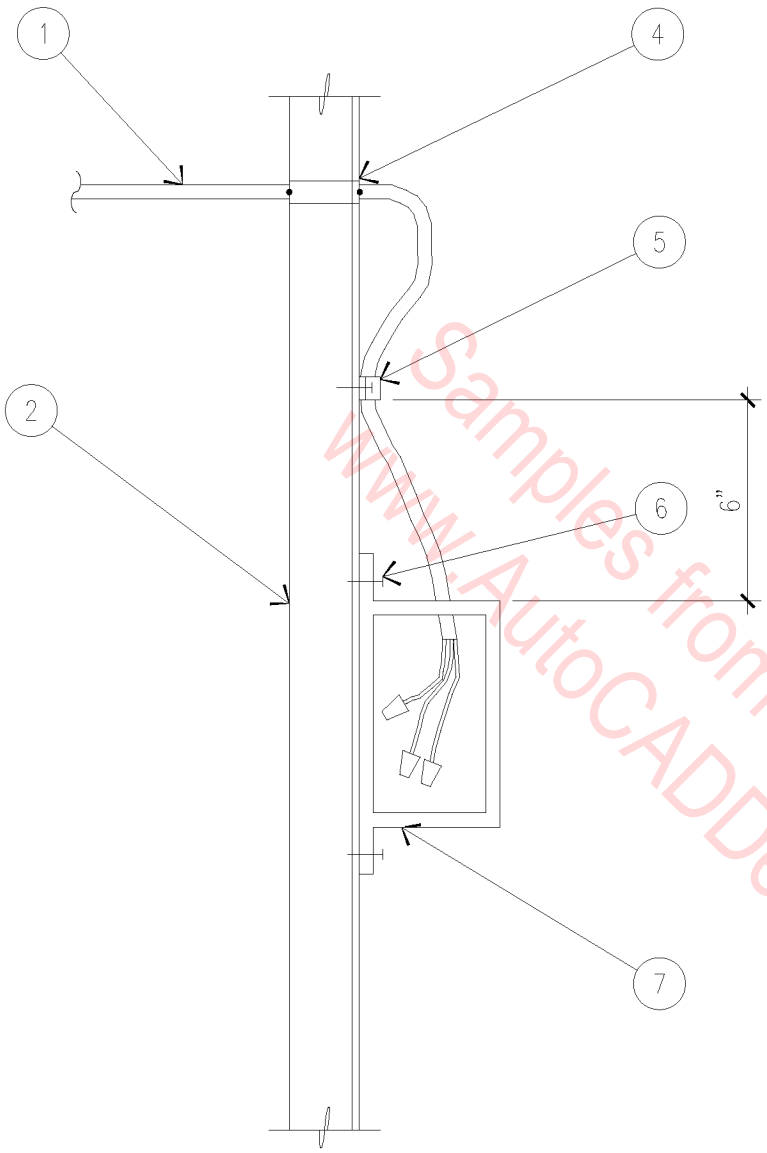
NOTE: INSTALL TWO RESTRAINING DEVICES AT EACH CORNER OF THE EQUIPMENT BASE.

GENERATOR RESTRAINT

N.T.S.

16A-1021

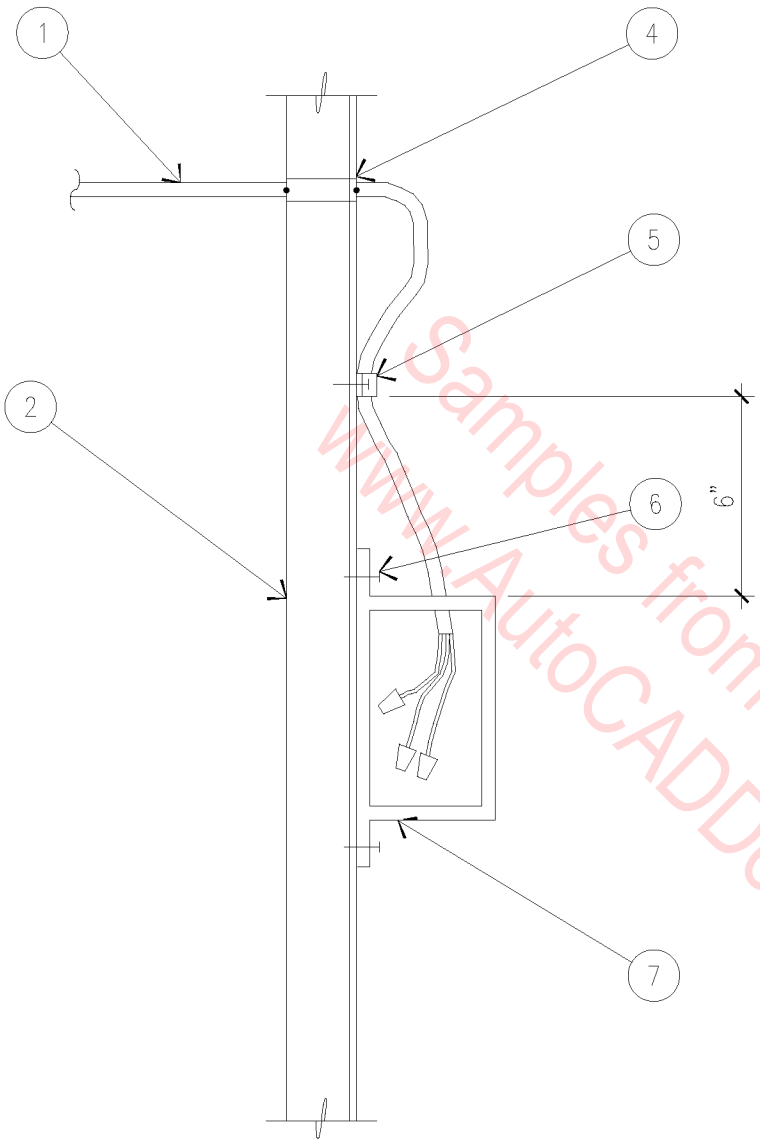


1. NON-METALIC ELECTRICAL CABLE (ROMEX).
2. METAL STUD.
3. PROVIDE PLASTIC GROMMET IN PRE-PUNCHED HOLE IN STUD WEB (TYPICAL).
4. ZIP TIE TO STUD (TYPICAL).
5. #6 SCREWS.
6. ELECTRICAL BOX WITH OUTBOARD ATTACHMENT FLANGES.

ELECTRICAL BOX CONNECTION

N.T.S.

16A-1022



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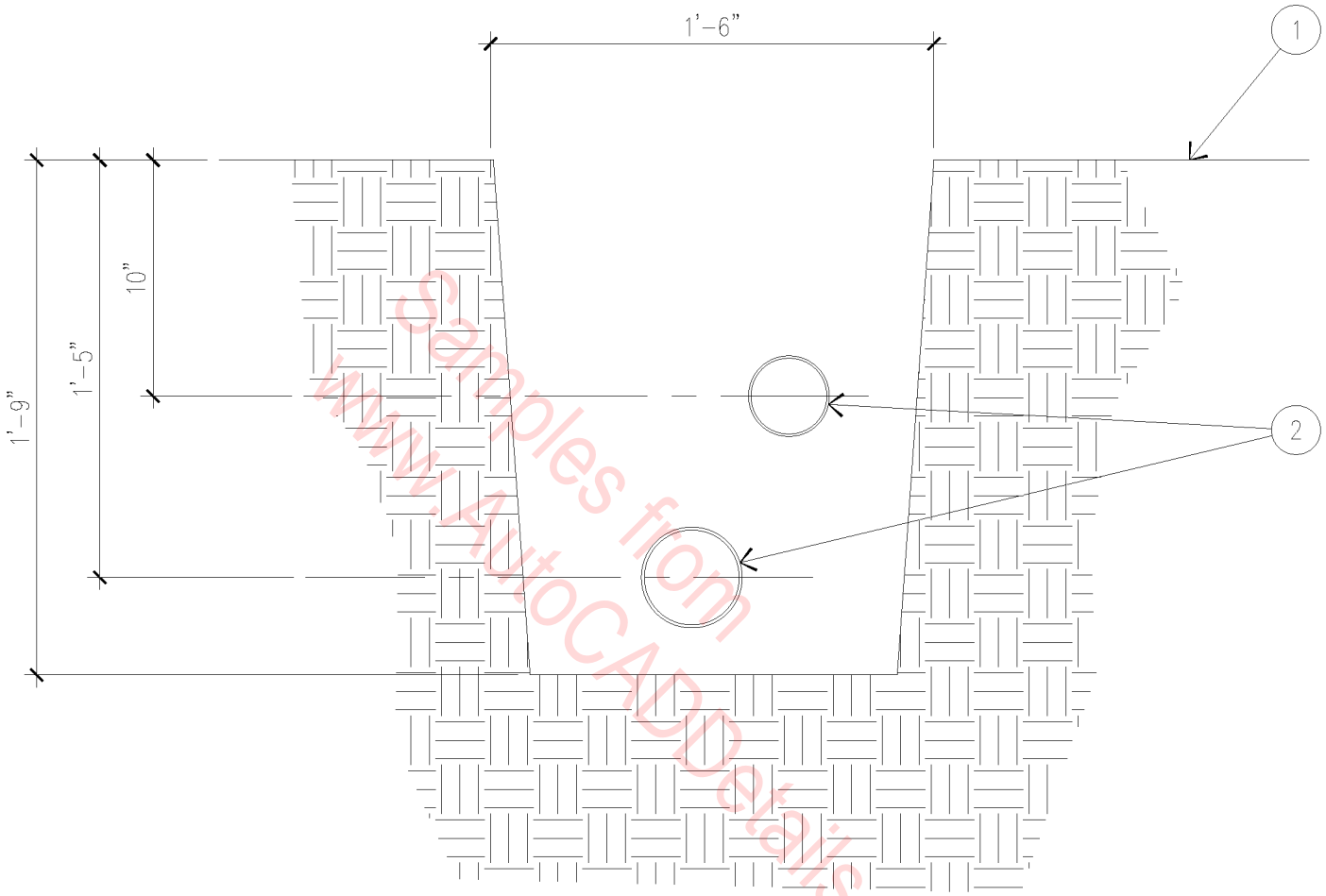
2. METAL STUD.
3. PROVIDE PLASTIC GROMMET IN PRE-PUNCHED HOLE IN STUD WEB (TYPICAL).
4. ZIP TIE TO STUD (TYPICAL).
5. #6 SCREWS.
6. ELECTRICAL BOX WITH OUTBOARD ATTACHMENT FLANGES.

ELECTRICAL BOX CONNECTION

N.T.S.

16A-1022



1. FINISH GRADE.
2. WATER TIGHT PVC CONDUIT.

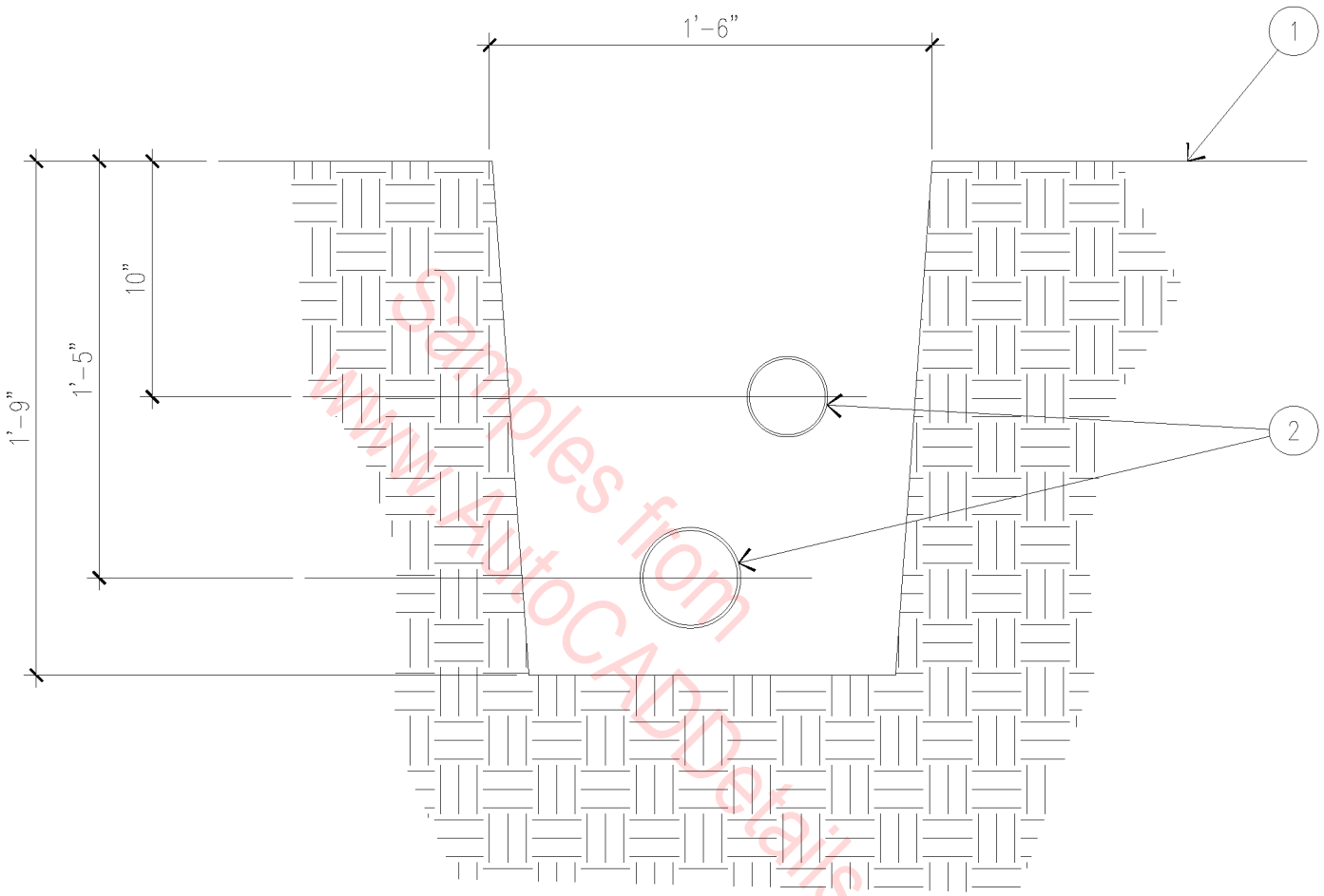
NOTES:

A. ALL WIRING PER LOCAL CODE.
B. ALL PLASTIC PIPING TO BE SHAKED IN TRENCHES.

TRENCHING

1 1/2" = 1'-0"

16A-1023



1. FINISH GRADE.
2. WATER TIGHT PVC CONDUIT.

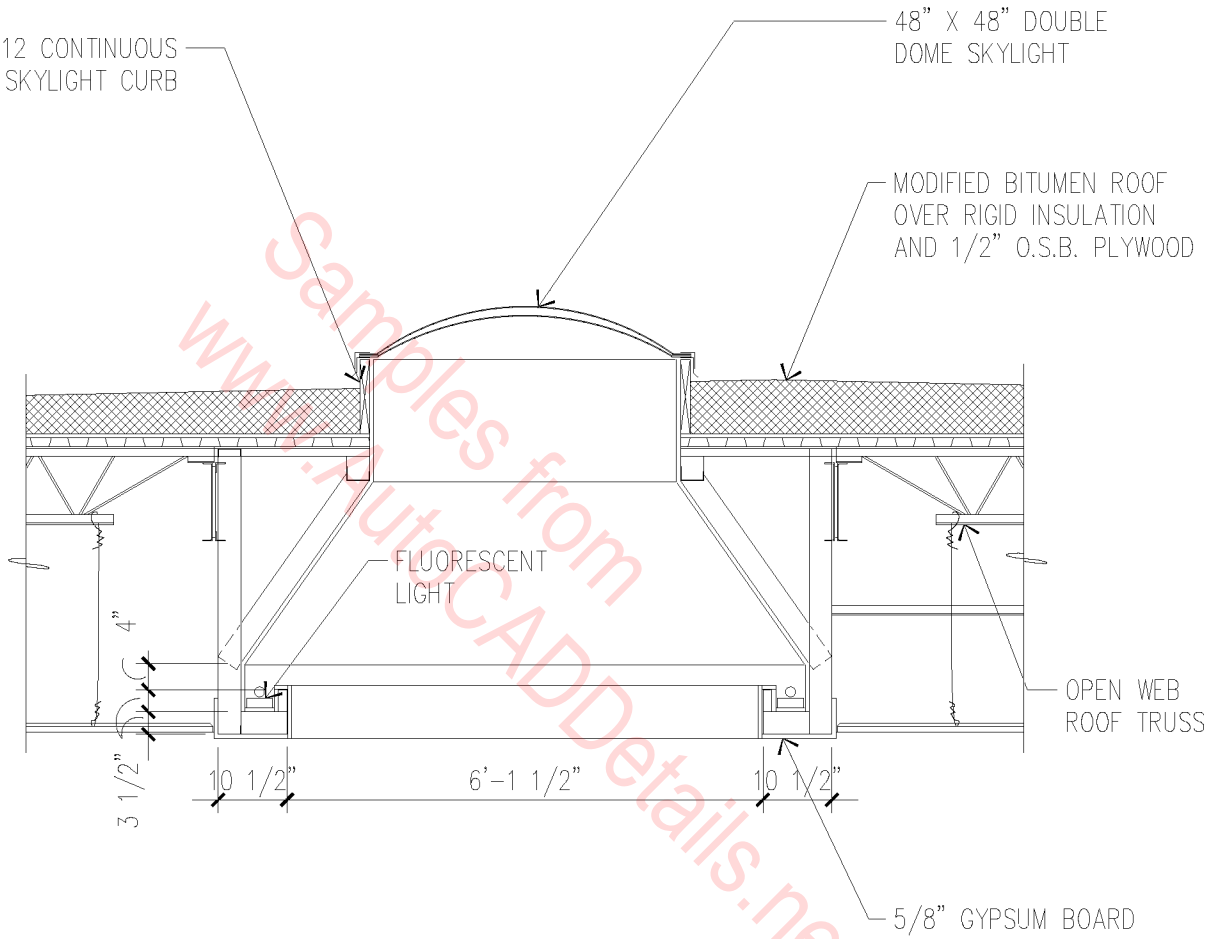
NOTES:

A. ALL WIRING PER LOCAL CODE.
B. ALL PLASTIC PIPING TO BE SHAKED IN TRENCHES.

TRENCHING

1 1/2" = 1'-0"

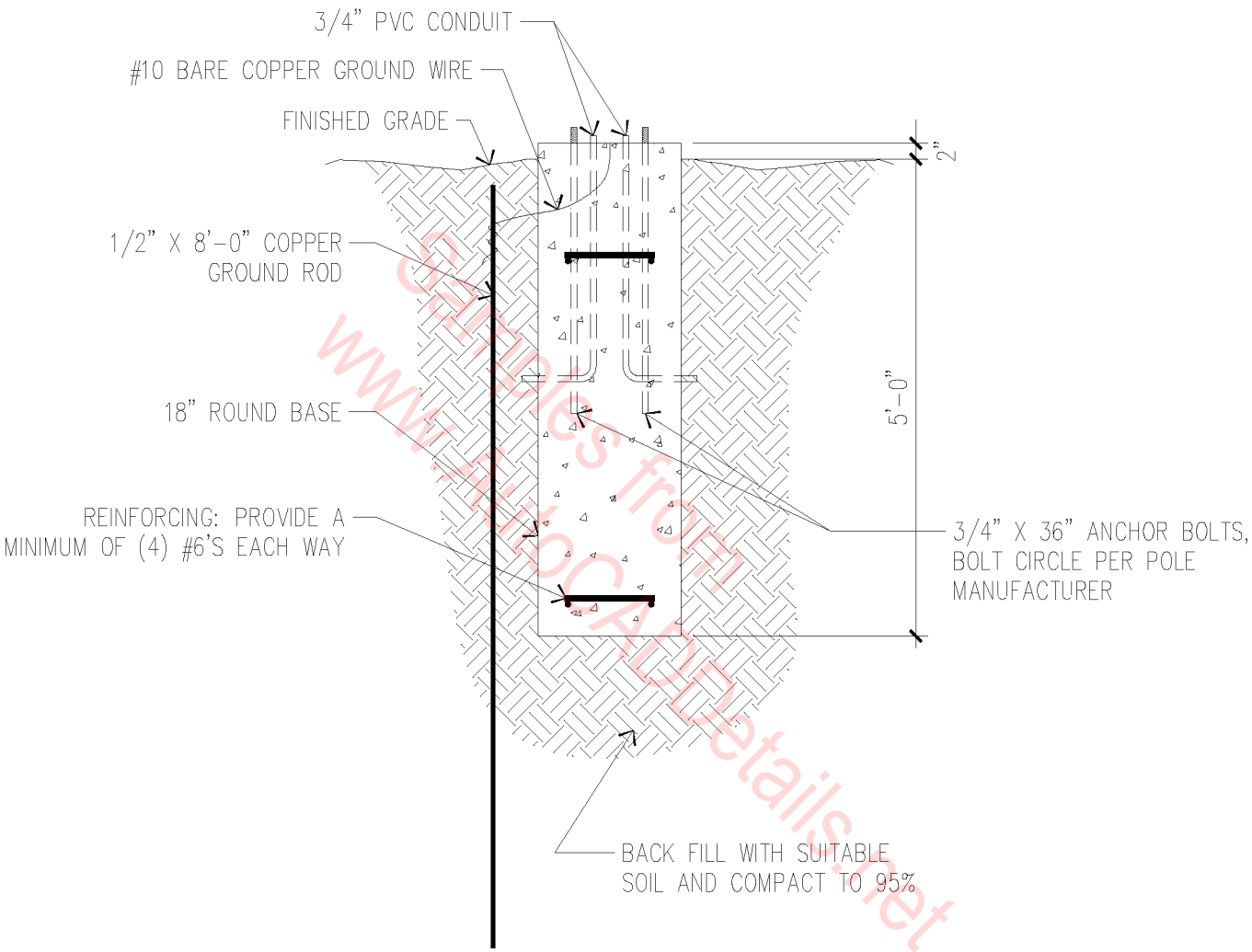
16A-1023



SKYLIGHT — LIGHT WELL

3/8" = 1'-0"

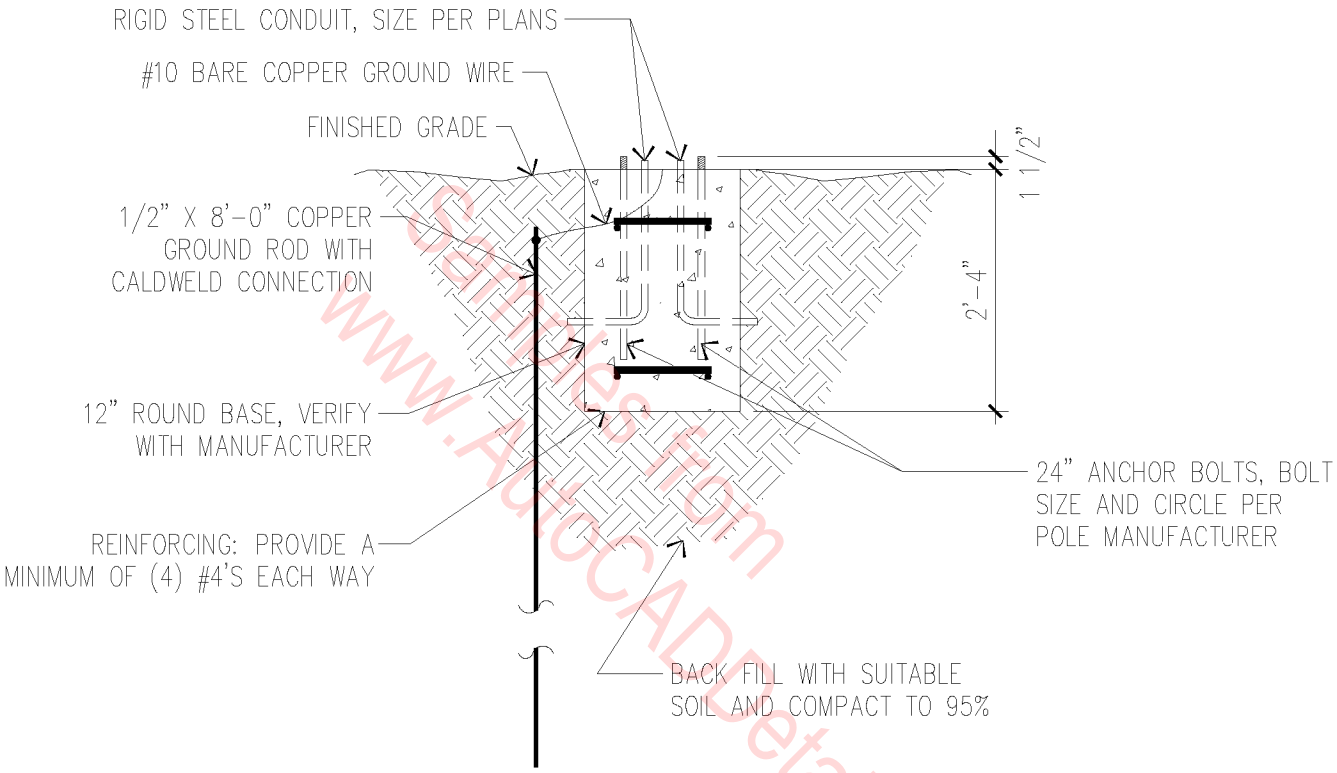
16A-4001



LIGHTING POLE BASE DETAIL

1/2" = 1'-0"

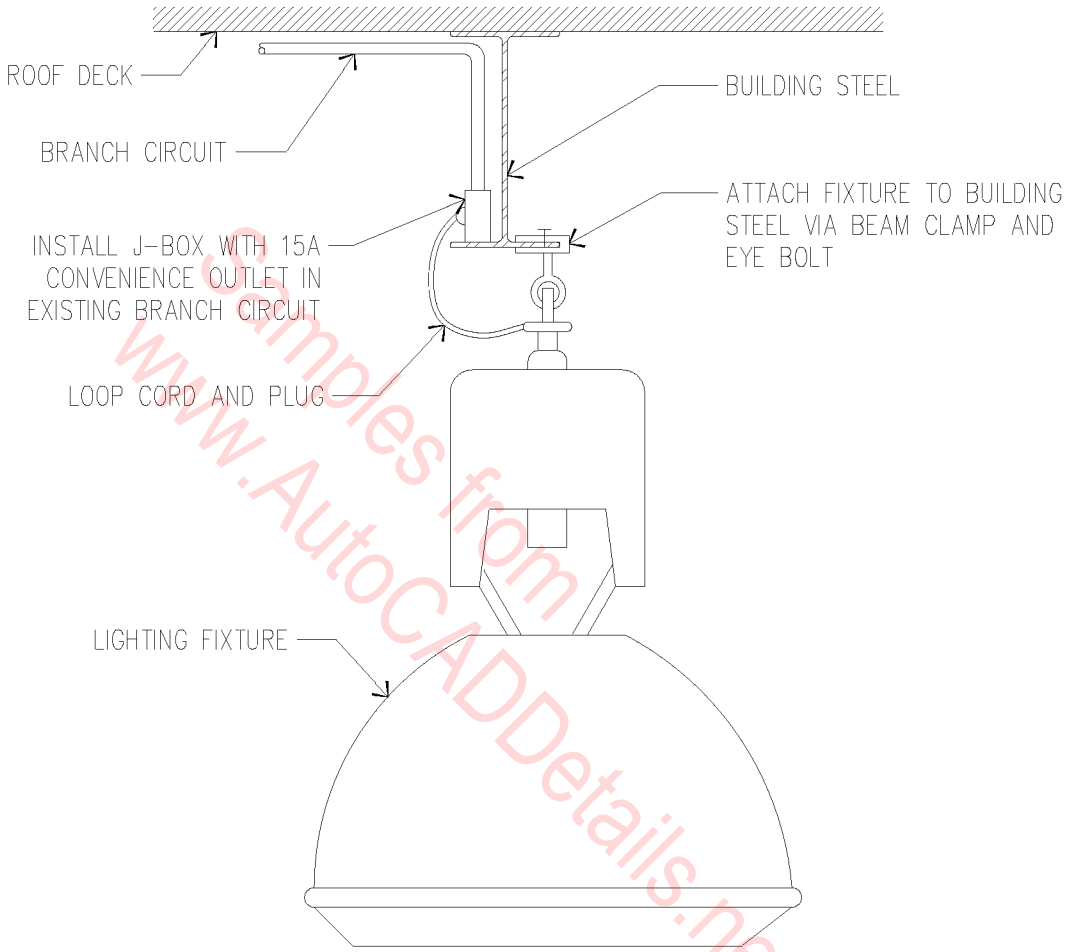
16A-4002



LIGHTING BOLLARD BASE DETAIL

1/2" = 1'-0"

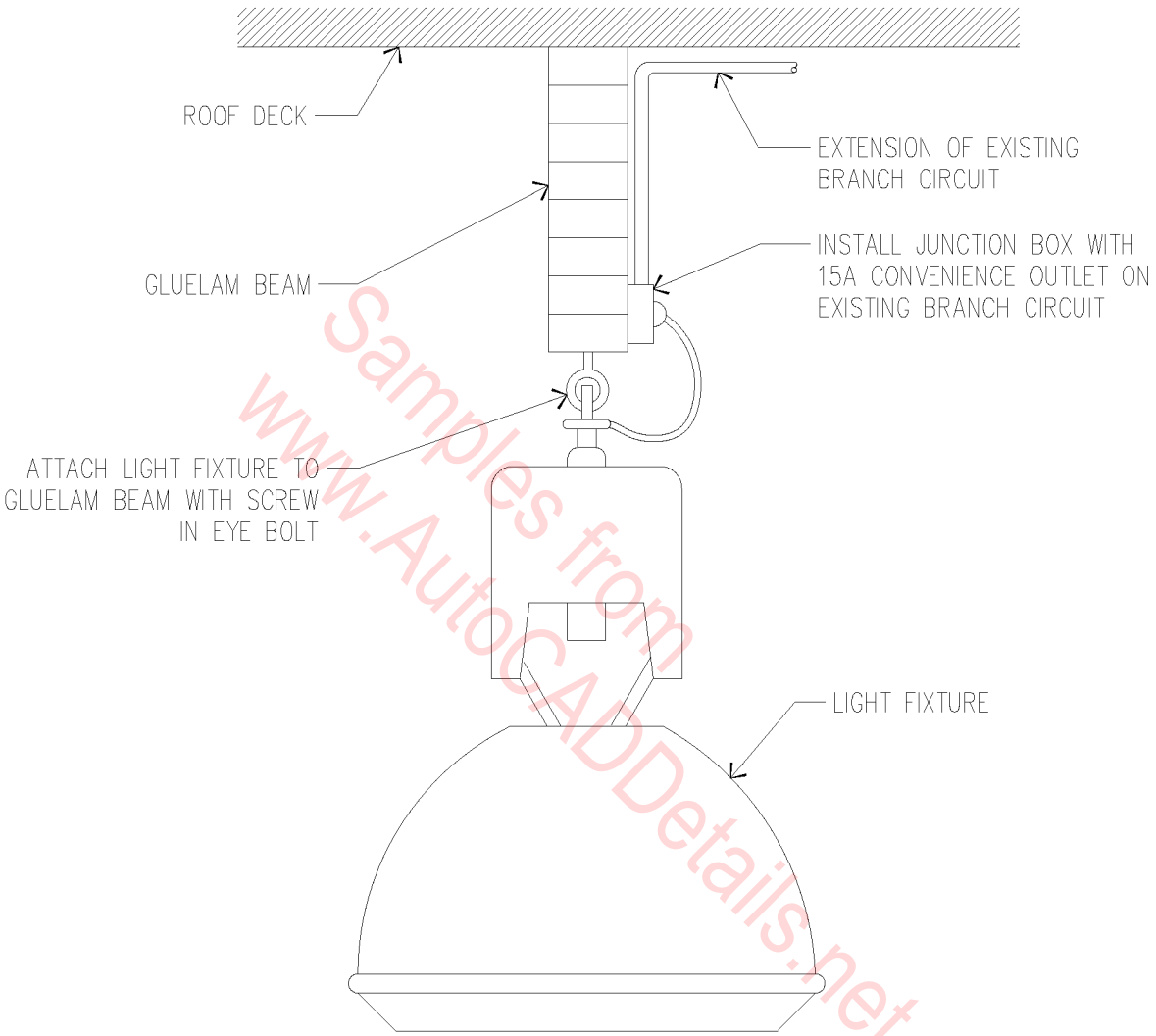
16A-4003



LIGHTING FIXTURE MOUNTING DETAIL

N.T.S.

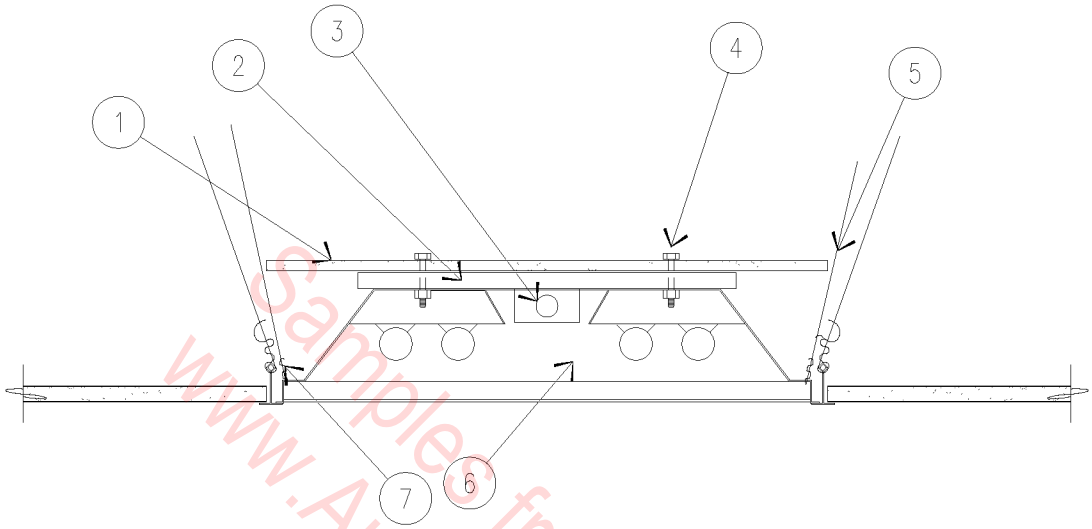
16A-4004



TYPE 'B' LIGHTING FIXTURE MOUNTING DETAIL

N.T.S.

16A-4005



1. 5/8" GYPSUM BOARD CUT TO SAME SIZE AS FIXTURE OPENING.
2. 2" WIDE SPACER STRIP.
3. PROVIDE A HIGH TEMPERATURE BALLAST IN ALL FIXTURES INSTALLED IN FIRE RATED CEILING.
4. SECURE GYPSUM BOARD TO FIXTURES.
5. FIXTURE SUPPORT WIRES ATTACHED TO STRUCTURE.
6. RECESSED TROFFER.
7. #12 GAUGE HANGER WIRES WITH MINIMUM (3) TWISTS AT ENDS.

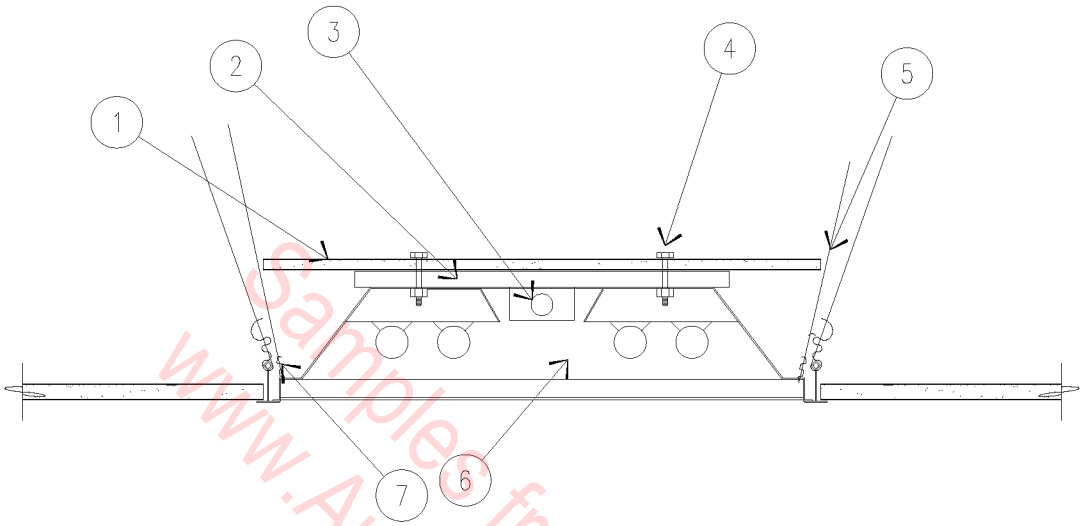
NOTES:

A. FIXTURES TO BE ANCHORED FOR SEISMIC ZONE 3.
B. ADD ANY ADDITIONAL WIRES REQUIRED UNDER THE SEISMIC SECTION OF THE SPECIFICATIONS.

FIRE RATED FIXTURE

1" = 1'-0"

16A-4006



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2. 2" WIDE SPACER STRIP.
3. PROVIDE A HIGH TEMPERATURE BALLAST IN ALL FIXTURES INSTALLED IN FIRE RATED CEILING.
4. SECURE GYPSUM BOARD TO FIXTURES.
5. FIXTURE SUPPORT WIRES ATTACHED TO STRUCTURE.
6. RECESSED TROFFER.
7. #12 GAUGE HANGER WIRES WITH MINIMUM (3) TWISTS AT ENDS.

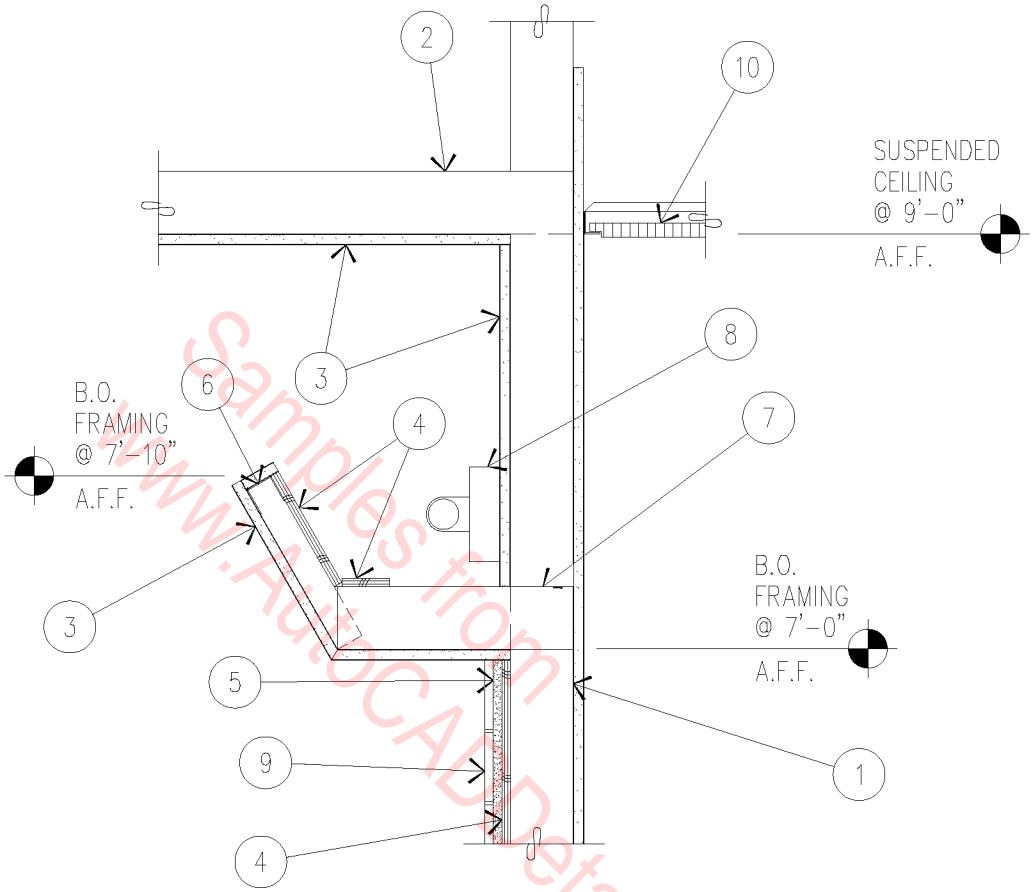
NOTES:

A. FIXTURES TO BE ANCHORED FOR SEISMIC ZONE 3.
B. ADD ANY ADDITIONAL WIRES REQUIRED UNDER THE SEISMIC SECTION OF THE SPECIFICATIONS.

FIRE RATED FIXTURE

1" = 1'-0"

16A-4006

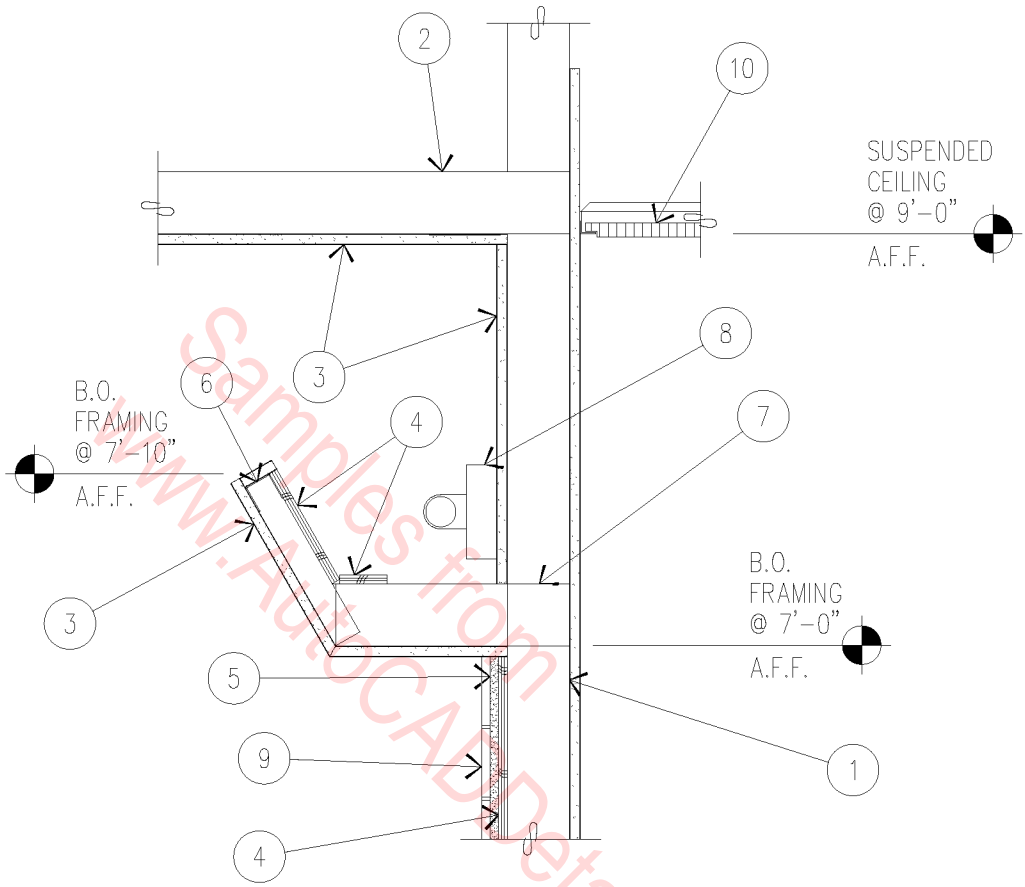


1. 3 5/8" METAL STUD WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT - SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. LAY-IN ACOUSTICAL CEILING (AS OCCURS).

LIGHT COVE

1" = 1'-0"

16A-4007



1. 3 5/8" METAL STUD WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
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5. 1/2" CEMENTITIOUS BACKER BOARD.
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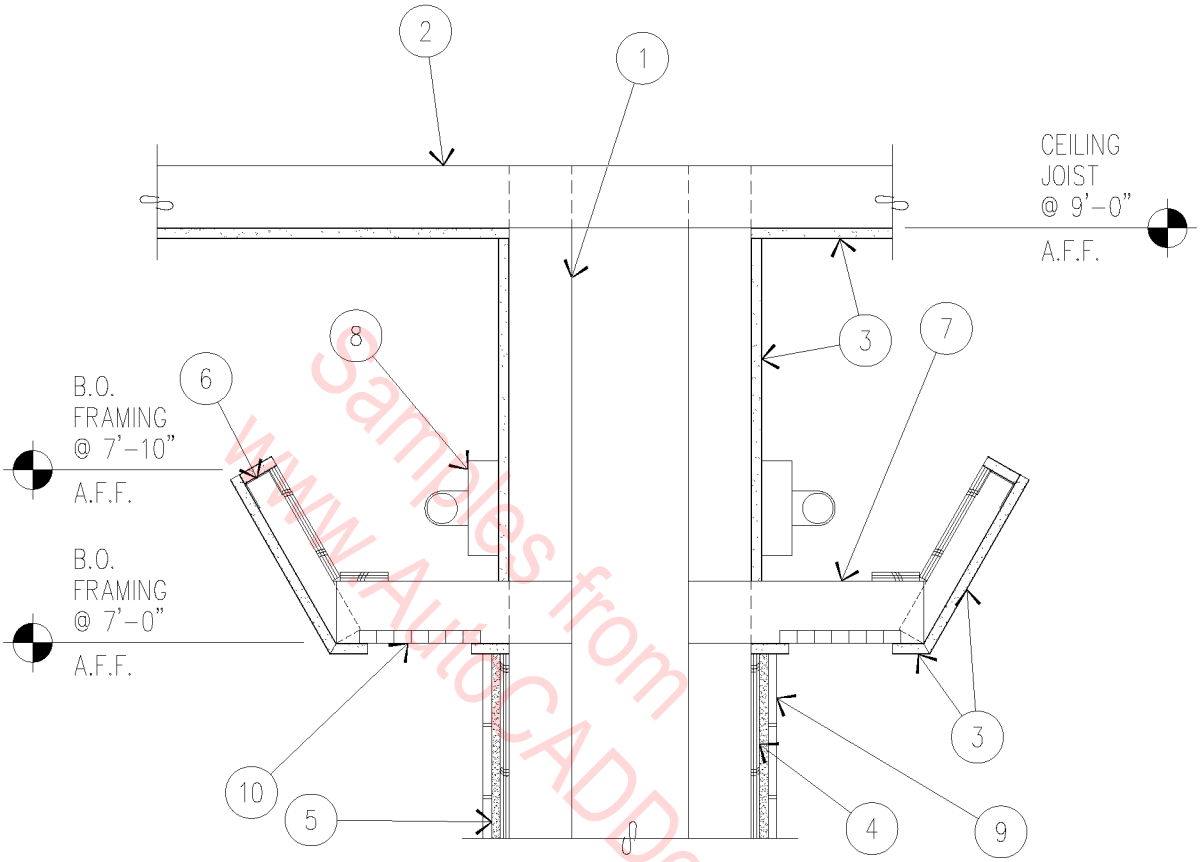
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT – SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. LAY-IN ACOUSTICAL CEILING (AS OCCURS).

LIGHT COVE

1" = 1'-0"

16A-4007

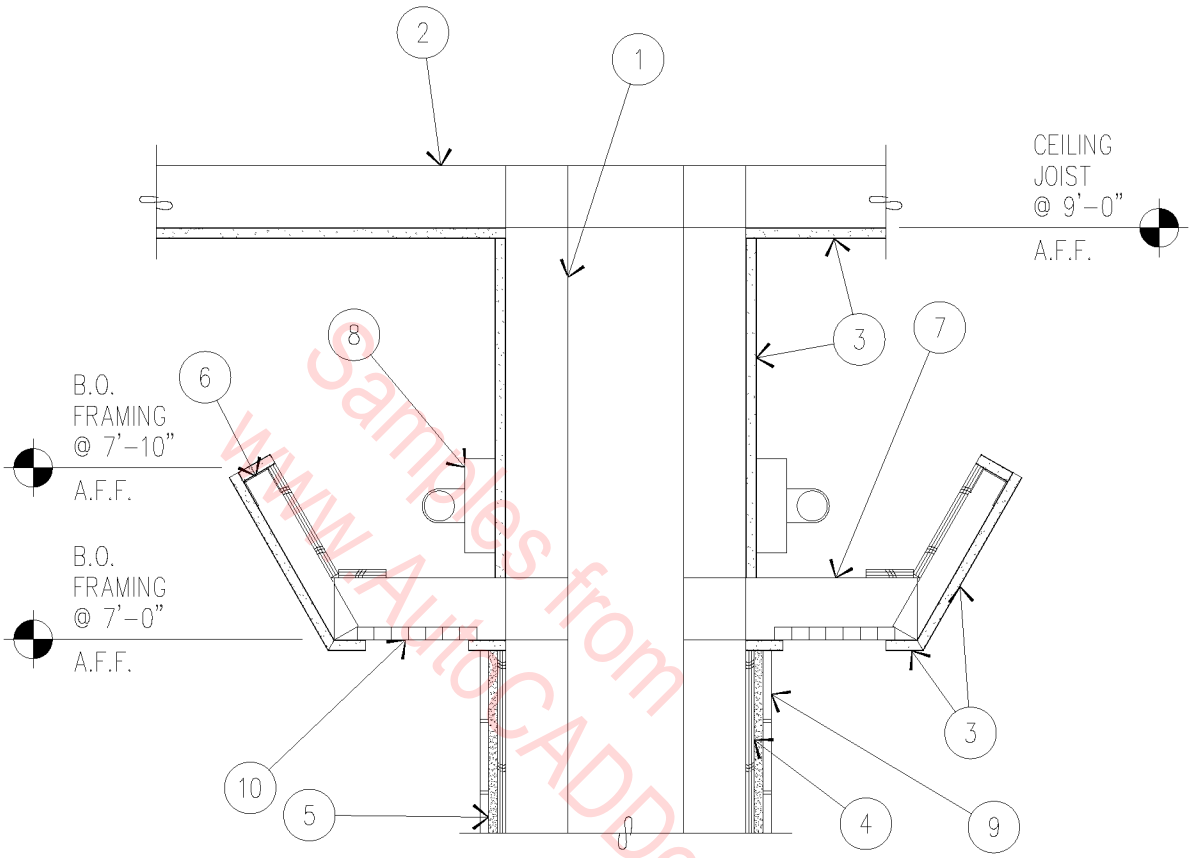


1. 3 5/8" METAL STUD PLUMBING WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT - SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. 6" X 42" LAY-IN "EGG GRATE" DIFFUSER".

LIGHT COVE

1" = 1'-0"

16A-4008



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3. 5/8" GYPSUM BOARD.
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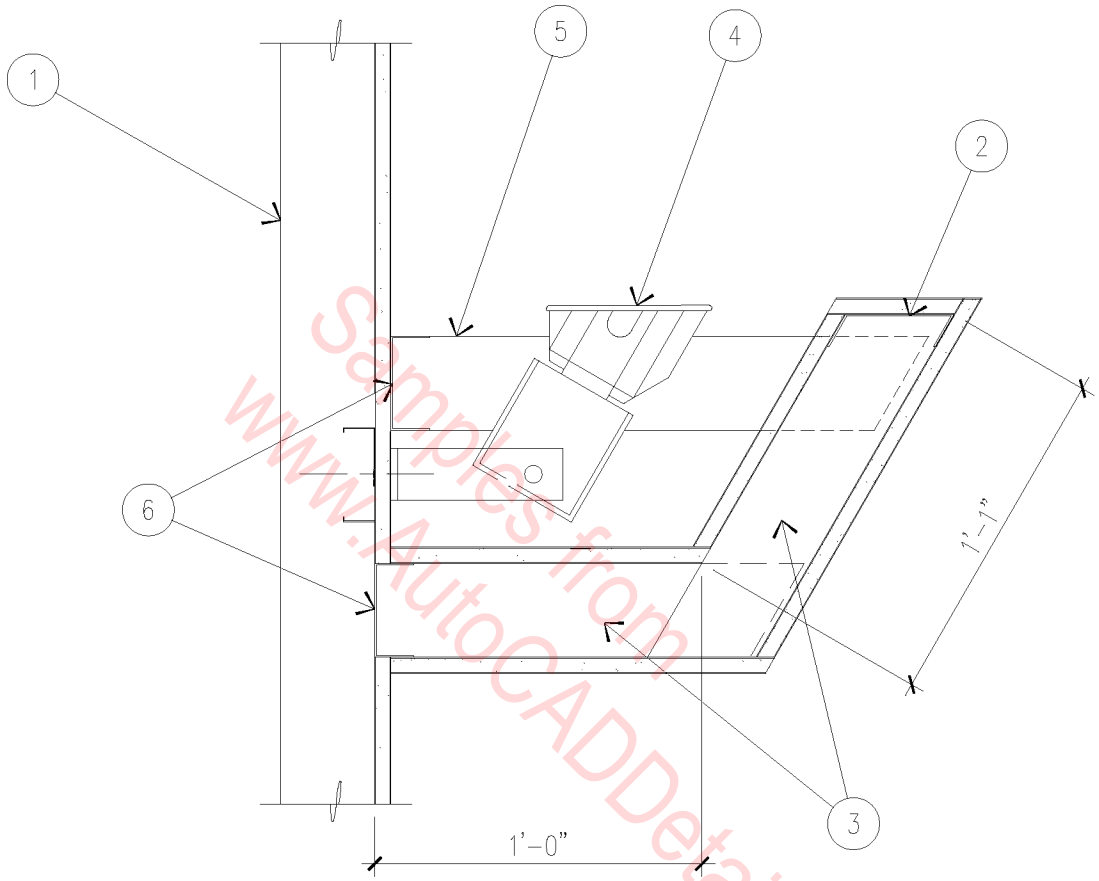
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT – SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. 6" X 42" LAY-IN "EGG GRATE" DIFFUSER".

LIGHT COVE

1" = 1'-0"

16A-4008

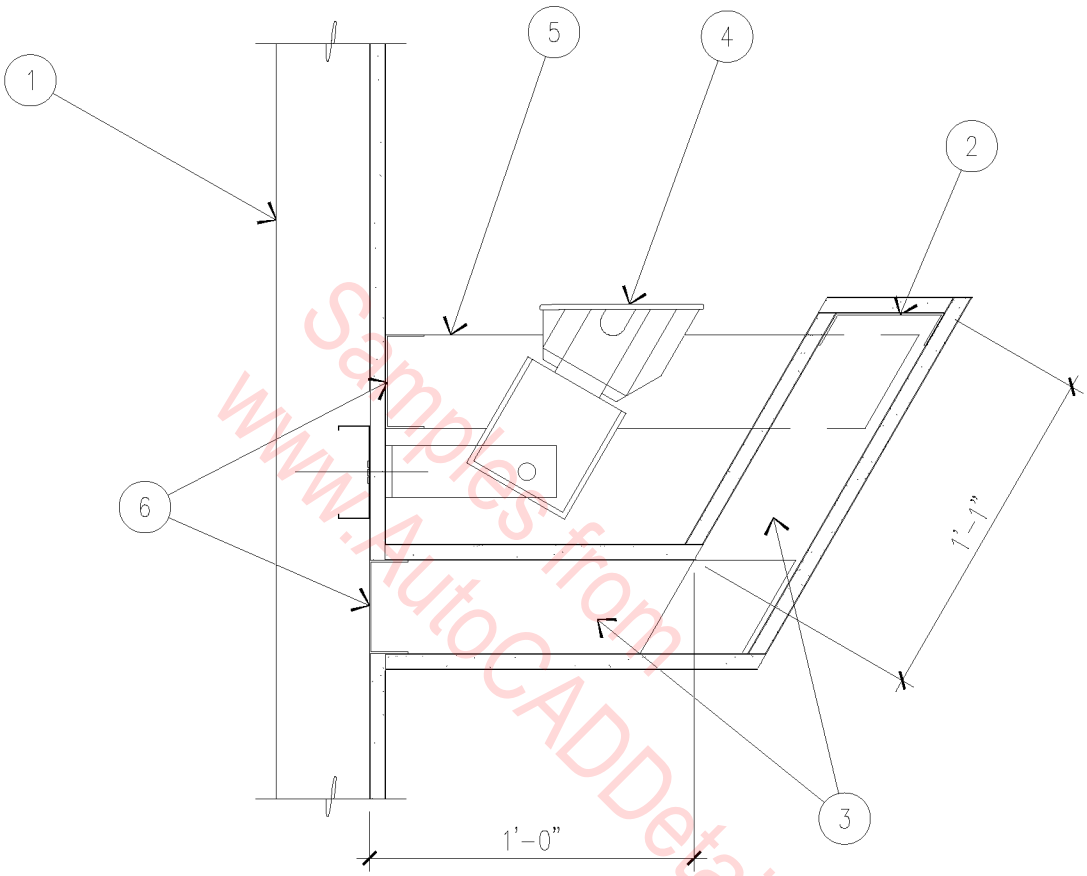


1. 3 5/8" METAL STUD WALL WITH 5/8" GYPSUM BOARD.
2. 3 5/8" METAL STUD BRAKE METAL 'TRACK'.
3. 3 5/8" METAL STUD LIGHT COVE WITH 5/8" GYPSUM BOARD ON EACH SIDE.
4. LIGHT FIXTURE AND MOUNTING BRACKET.
5. 3 5/8" METAL STUD BRACE AT 48" O.C.
6. 3 5/8" METAL STUD TRACK.

LIGHT COVE

1 1/2" = 1'-0"

16A-4009

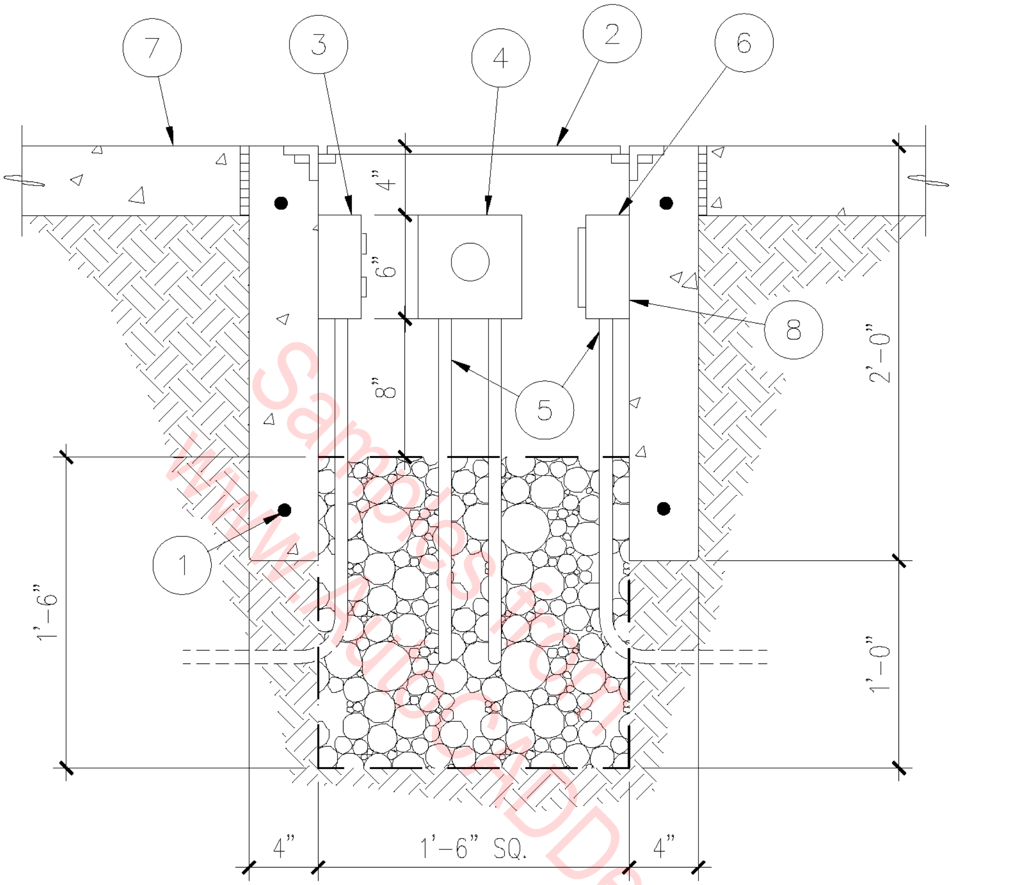


1. 3 5/8" METAL STUD WALL WITH 5/8" GYPSUM BOARD.
2. 3 5/8" METAL STUD BRAKE METAL 'TRACK'.
3. 3 5/8" METAL STUD LIGHT COVE WITH 5/8" GYPSUM BOARD ON EACH SIDE.
4. LIGHT FIXTURE AND MOUNTING BRACKET.
5. 3 5/8" METAL STUD BRACE AT 48" O.C.
6. 3 5/8" METAL STUD TRACK.

LIGHT COVE

1 1/2" = 1'-0"

16A-4009



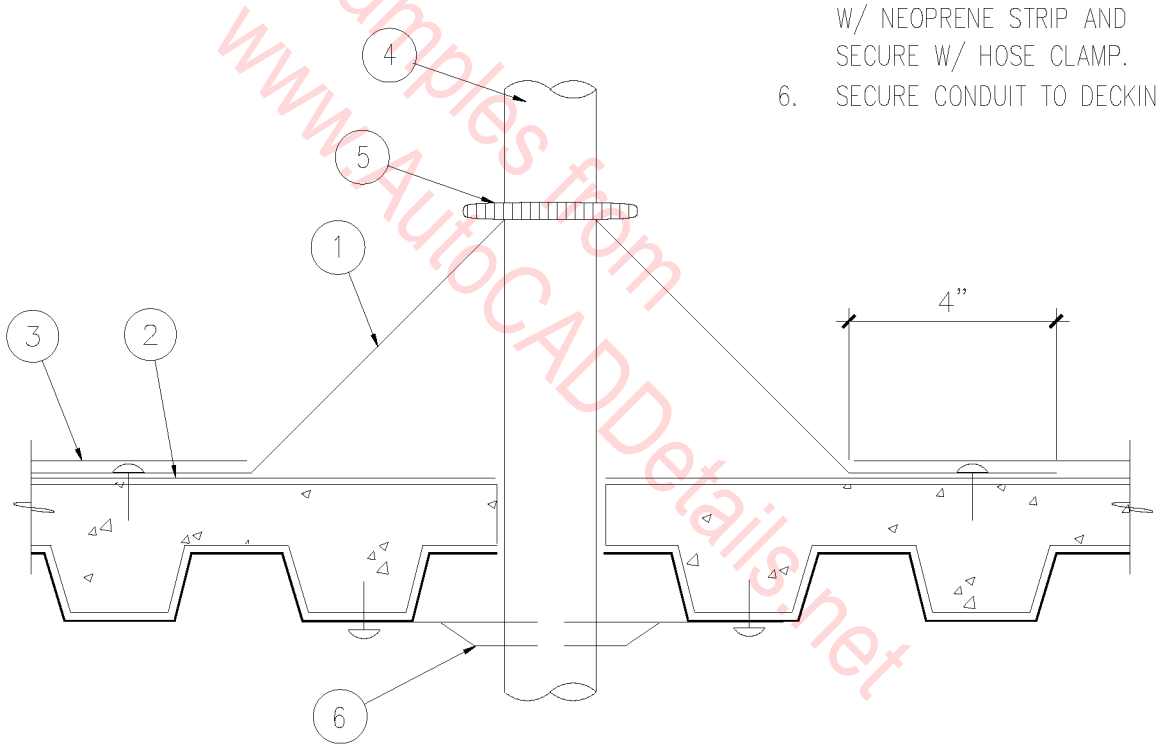
1. #4 REBAR CONTINUOUS ALL AROUND.
2. 18" X 18" FLUSH HINGED MANHOLE COVER WITH PADLOCK.
3. DUPLEX OUTLET IN WATERPROOF BOX – SEE ELECTRICAL.
4. MIC OUTLET IN WATERPROOF BOX– SEE ELECTRICAL.
5. CONDUITS–SEE ELECTRICAL.
6. WATERPROOF BOX WITH COVER FOR FIELD INTERCOM SYSTEM– SEE ELECTRICAL.
7. CONCRETE SLAB OVER SUB-GRADE.
8. SCOREBOARD CONTROL WIRES IN WATERPROOF J-BOX ON SIDE OF MANHOLE– SEE ELECTRICAL.

ELECTRICAL PIT BOX

1" = 1'-0"

16A-2001

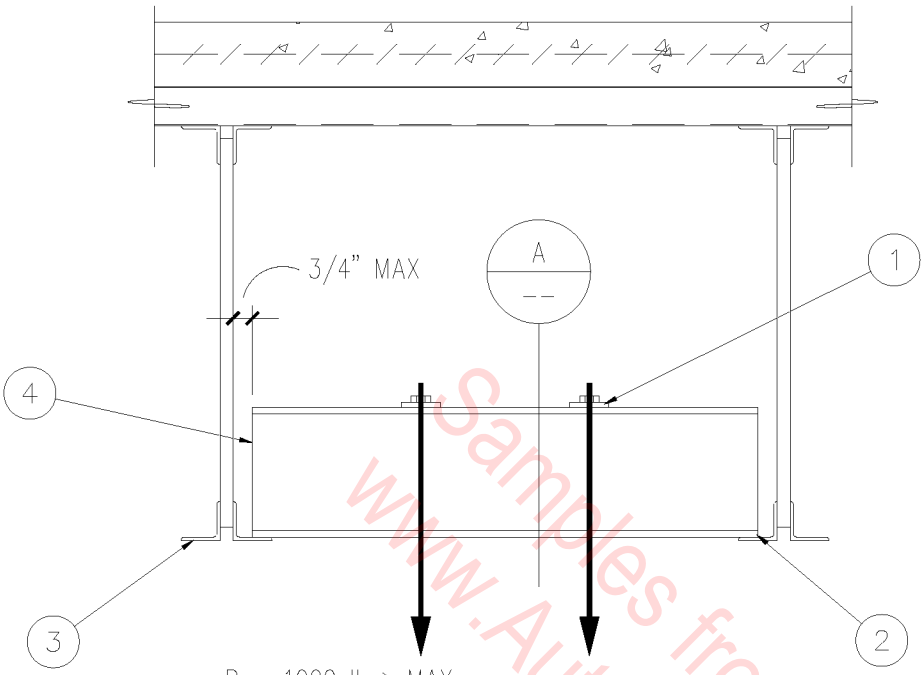
1. 24 GA SHEET METAL CONE W/ BASE PLATE.
2. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.
3. LAP IN MEMBRANE ROOFING OVER BASE PLATE.
4. CONDUIT.
5. WRAP CONDUIT CONE CONNECTION W/ NEOPRENE STRIP AND SECURE W/ HOSE CLAMP.
6. SECURE CONDUIT TO DECKING.



CONDUIT THROUGH ROOF

3" = 1'-0"

16A-2002

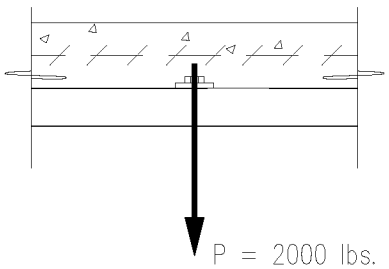


1. 4" X 4" X 1/4" CUT WASHER – TYP.
2. FIELD WELD OR CLAMP ENDS OF CHANNELS TO BEAM OR GIRDER
3. MAXIMUM LOAD TO ANY BEAM OR GIRDER NOT TO EXCEED 2000 LBS.
4. (2) C5 X 6.7 CHANNELS LOCATE AS REQUIRED FOR MECHANICAL EQUIPMENT
5. (2) C5 X 6.7 CHANNELS

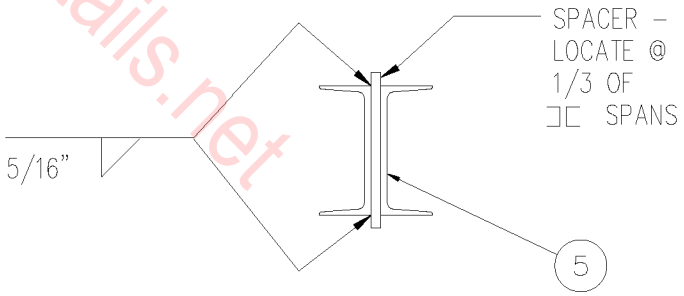
P_2 = 1000 lbs> MAX. P_1 = 1000 lbs> MAX.

$P_1 + P_2$ = 2000 lbs. MAX.

SUSPENDED FROM GIRDERS



SUSPENDED FROM SLAB

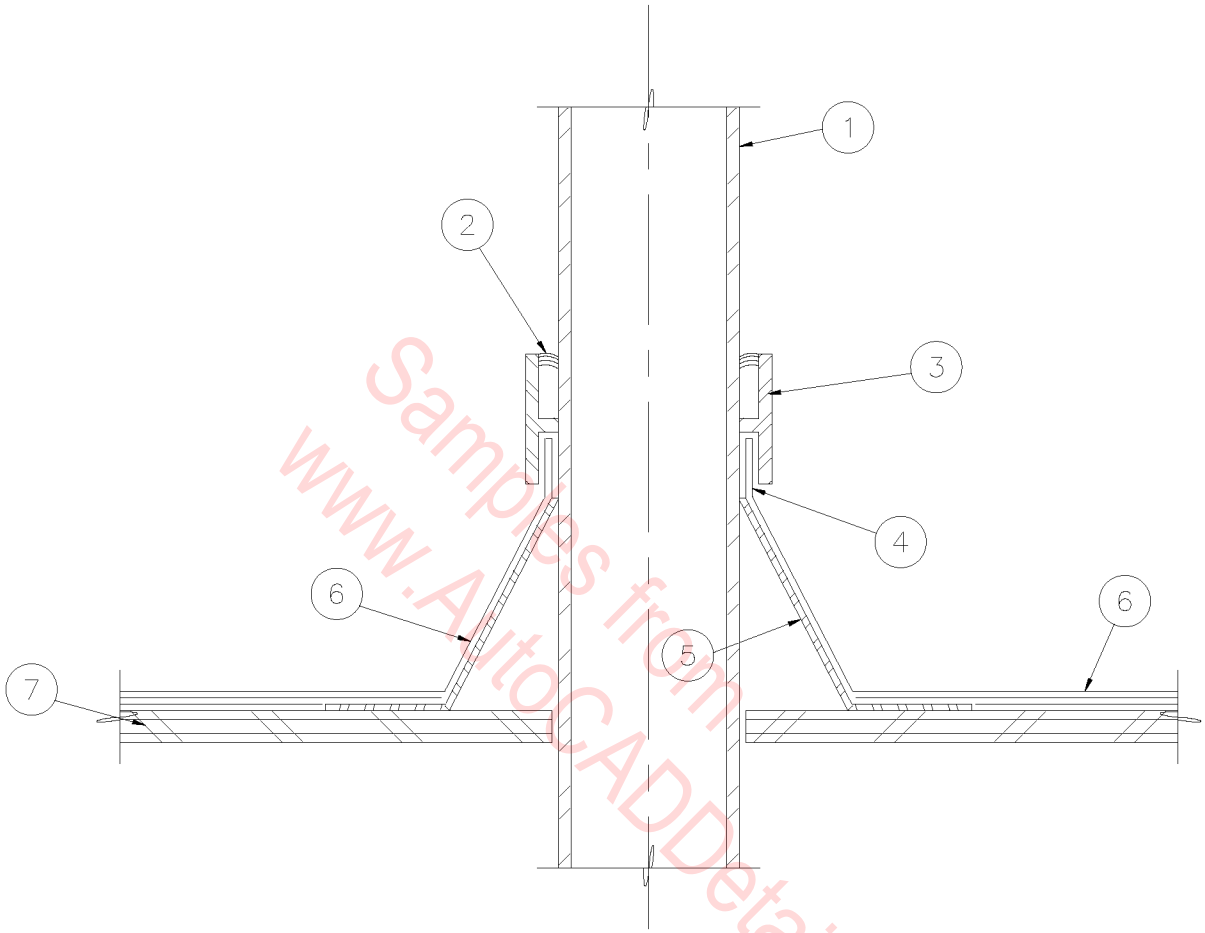


SECTION A

MECHANICAL HANGER

N.T.S.

16A–2003

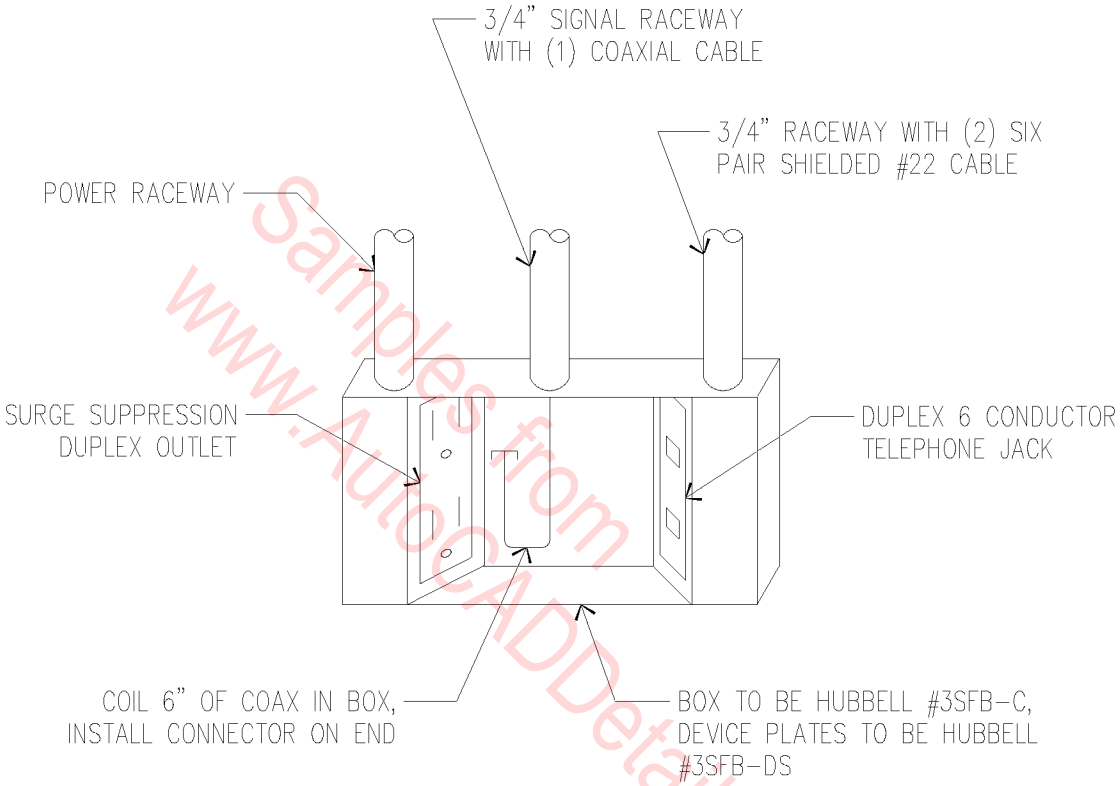


1. PIPE OR CONDUIT.
2. SEALANT.
3. COUNTERFLASHING SLEEVE.
4. WATERPROOF COMPOUND.
5. STEEL REINFORCED BOOT.
6. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING FLASHING SYSTEM.
7. PLYWOOD DECK.

PIPE/CONDUIT FLASHING

3" = 1'-0"

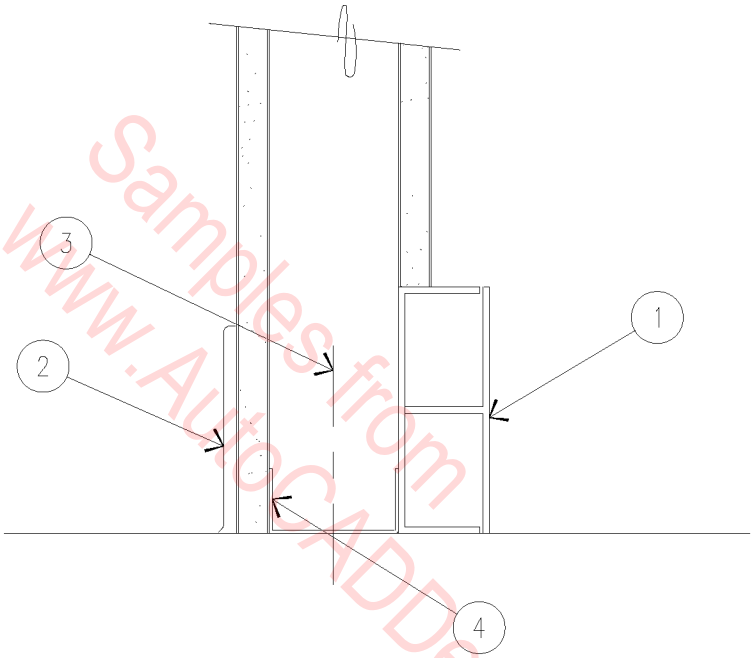
16A-2004



COMBINATION POWER/ SIGNAL FLOOR BOX

N.T.S

16A-2005

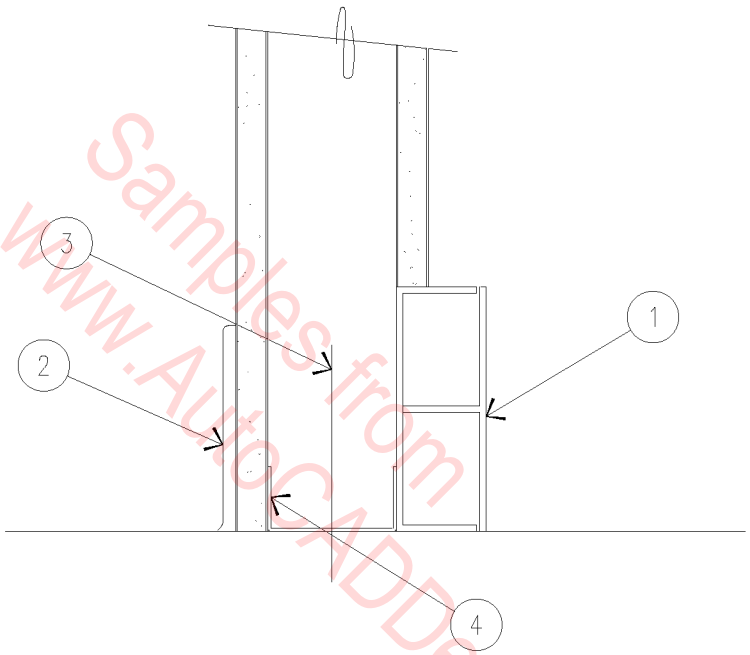


1. WIREMOLD RACEWAY WITH POWER AND TELEPHONE/DATA CONNECTIONS – PAINT RACEWAY TO MATCH RUBBER BASE.
2. SCHEDULED RUBBER OR WOOD BASE.
3. DRIVE PINS.
4. 2 1/2" CONTINUOUS BOTTOM TRACK.

LOW PARTITIAN WITH RACEWAY

3" = 1'-0"

16A-2006



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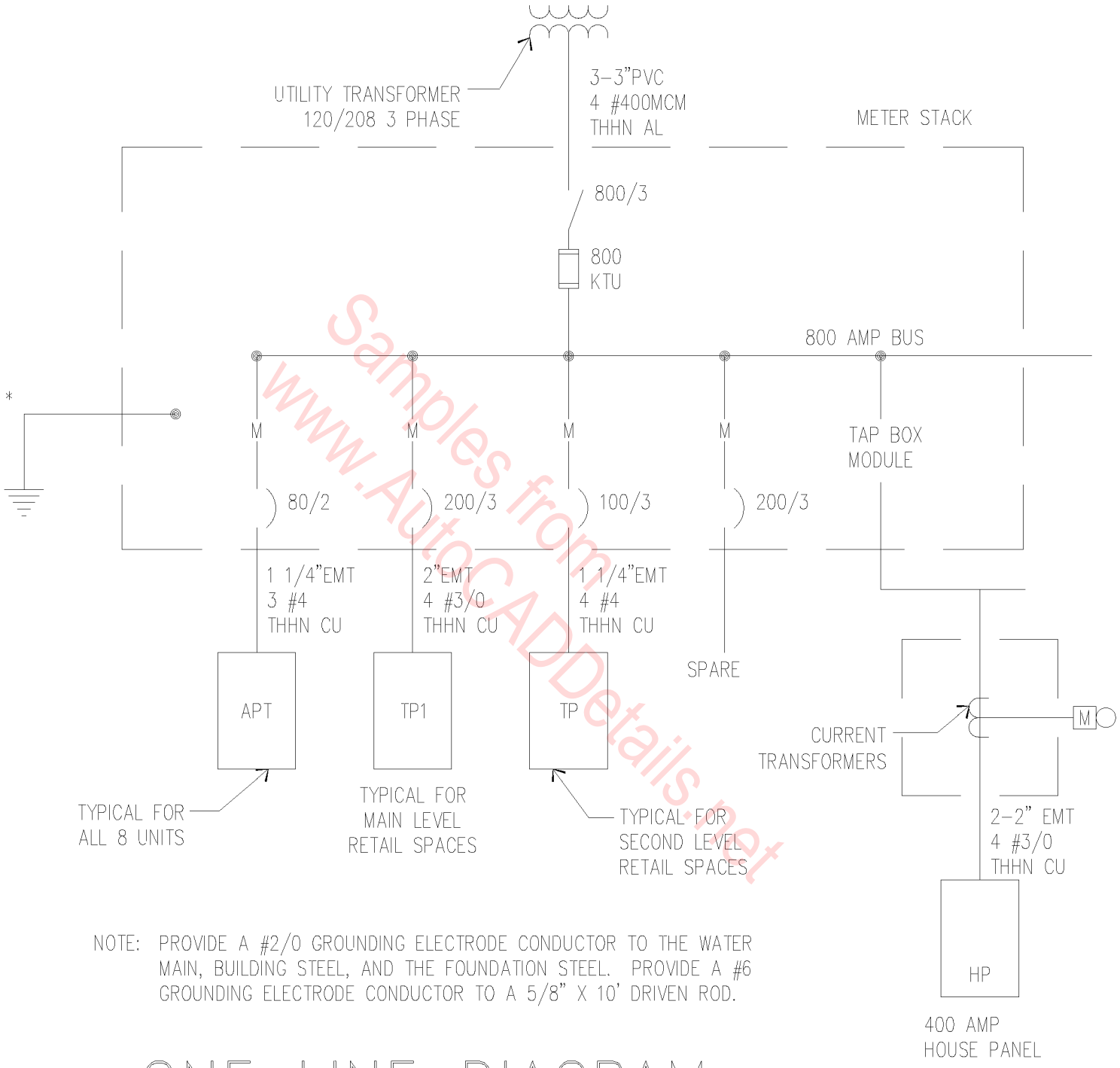
2. SCHEDULED RUBBER OR WOOD BASE.
3. DRIVE PINS.
4. 2 1/2" CONTINUOUS BOTTOM TRACK.

LOW PARTITIAN WITH RACEWAY

3" = 1'-0"

16A-2006

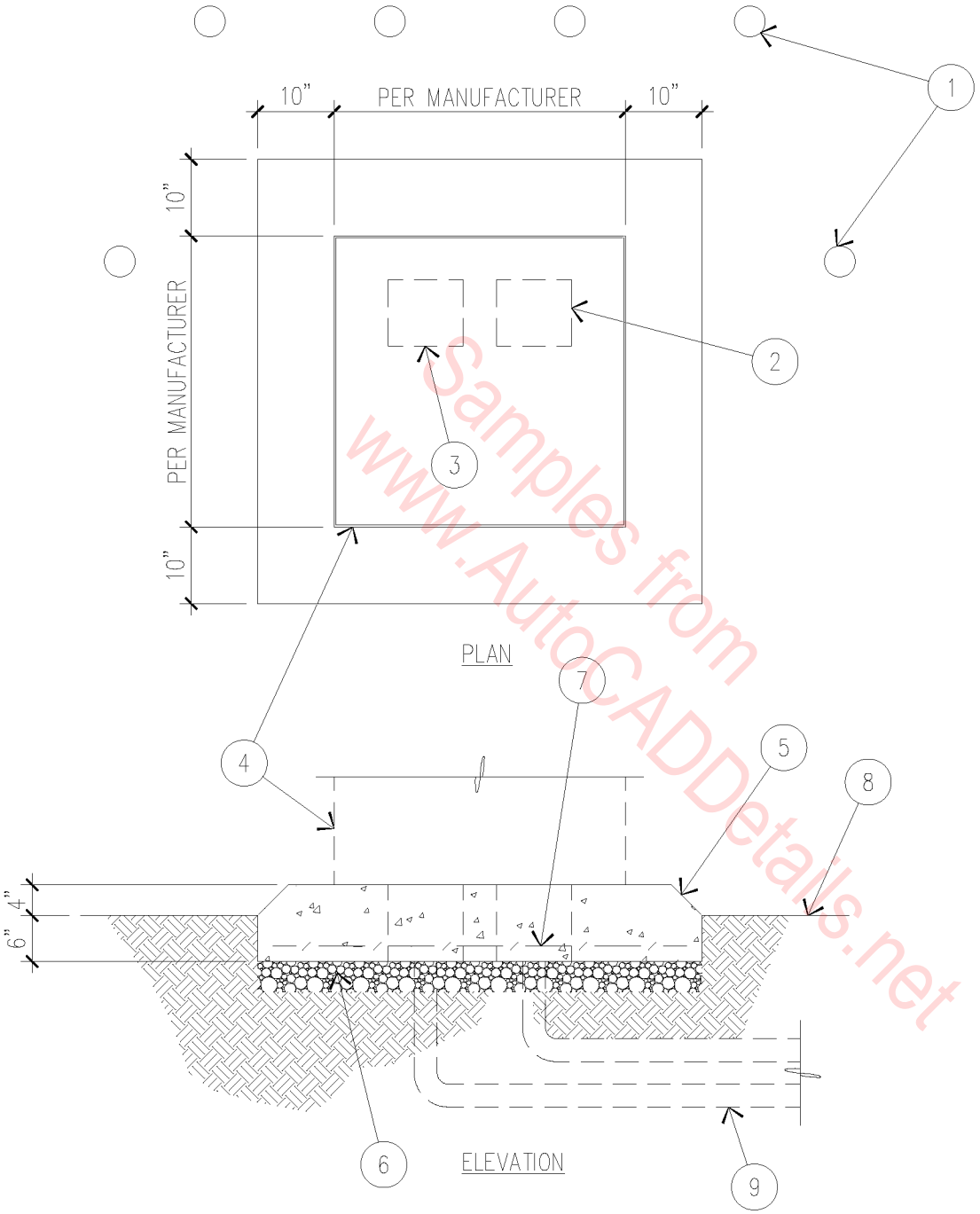


NOTE: PROVIDE A #2/0 GROUNDING ELECTRODE CONDUCTOR TO THE WATER MAIN, BUILDING STEEL, AND THE FOUNDATION STEEL. PROVIDE A #6 GROUNDING ELECTRODE CONDUCTOR TO A 5/8" X 10' DRIVEN ROD.

ONE LINE DIAGRAM

N.T.S.

16A-3001

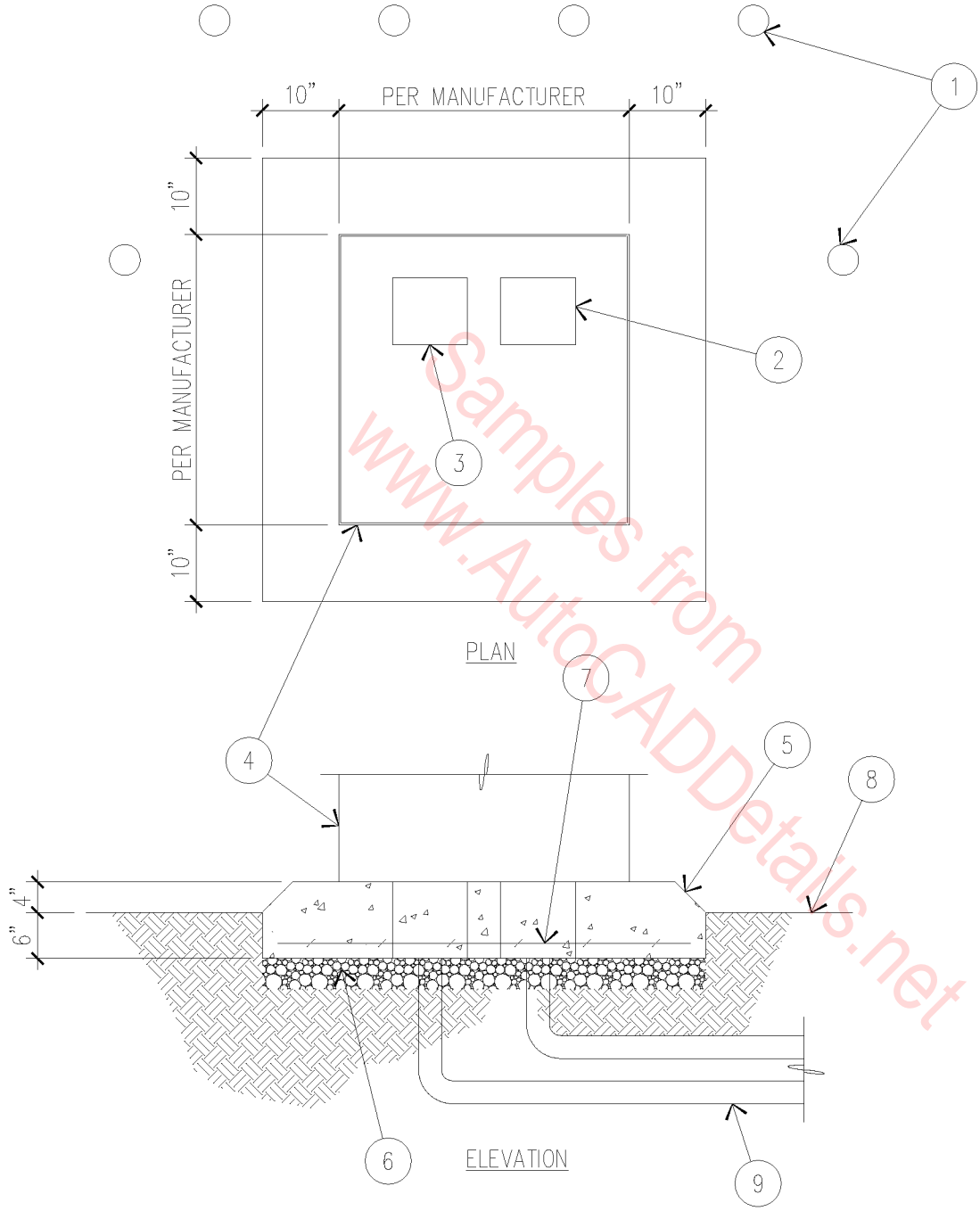


1. CONCRETE FILLED PIPE BOLLARD.
2. SIZE PER EQUIPMENT MANUFACTURER.
3. SECONDARY COMPARTMENT – SIZE PER EQUIPMENT MANUFACTURER.
4. TRANSFORMER ENCLOSURE.
5. CONCRETE PAD WITH 45° BEVEL.
6. GRAVEL COMPACTED SUB-BASE.
7. 6" X 6" WELDED WIRE FABRIC (W2.9 X W2.9).
8. FINISH GRADE.
9. CONDUIT – SIZE AND FEEDER SIZE PER UTILITY COMPANY.

TRANSFORMER PAD

1/2" = 1'-0"

16A-3002



1. CONCRETE FILLED PIPE BOLLARD.
2. SIZE PER EQUIPMENT MANUFACTURER.
3. SECONDARY COMPARTMENT – SIZE PER EQUIPMENT MANUFACTURER.
4. TRANSFORMER ENCLOSURE.
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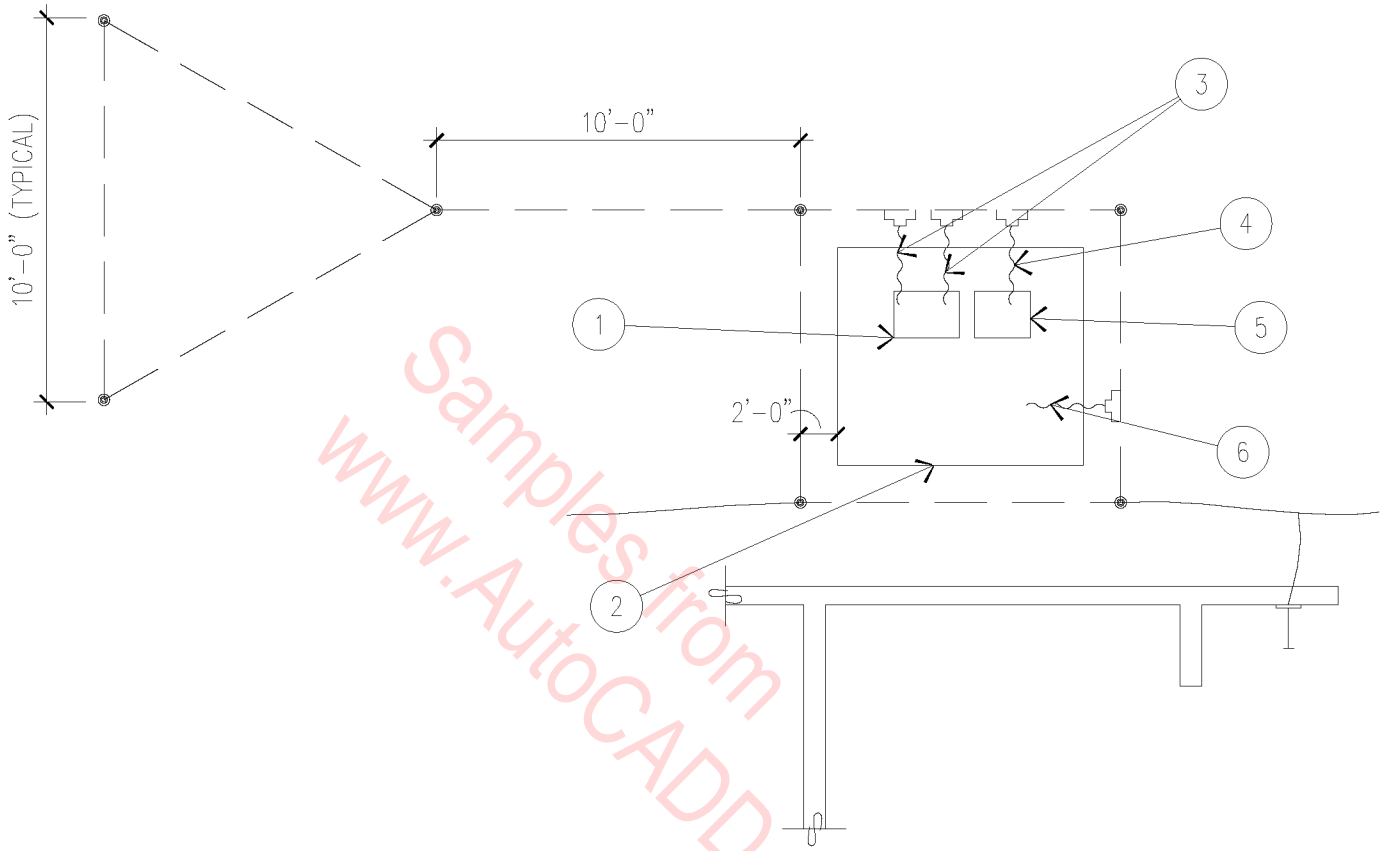
8. FINISH GRADE.
9. CONDUIT – SIZE AND FEEDER SIZE PER UTILITY COMPANY.

TRANSFORMER PAD

1/2" = 1'-0"

16A-3002

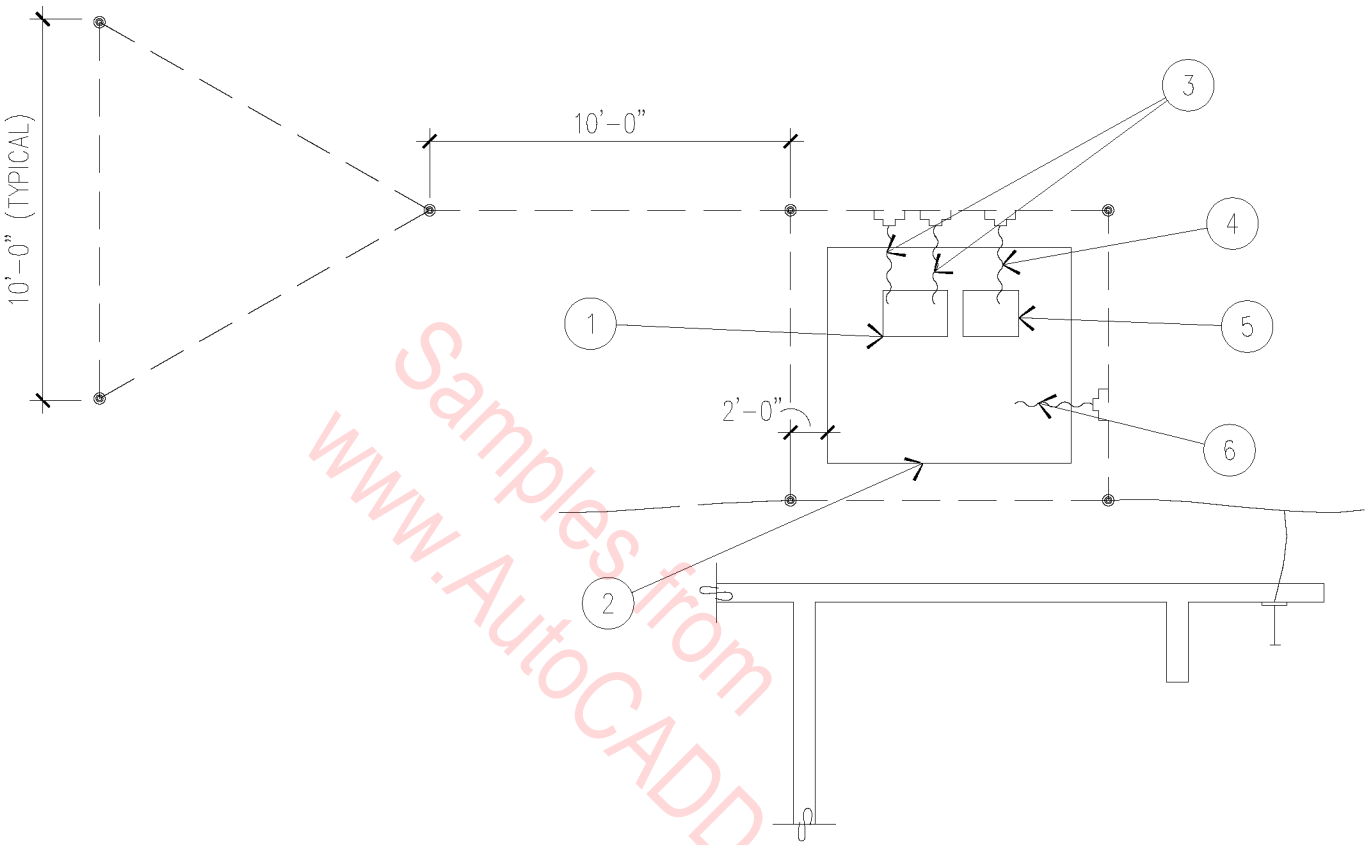


1. SECONDARY COMPARTMENT ENTRY.
2. TRANSFORMER PAD.
3. (1) #1/0 AWG COPPER CONNECT TO TRANSFORMER NEUTRAL.
4. (1) #2 AWG COPPER CONNECT TO PRIMARY DUCT GROUND.
5. PRIMARY COMPARTMENT ENTRY.
6. #4 AWG COPPER BOND TO ENCLOSURE.

GROUNDING AT THE PAD MOUNTED TRANSFORMER

N.T.S.

16A-3003



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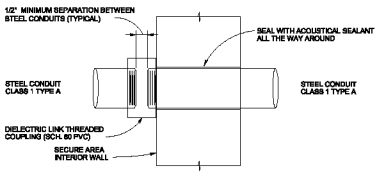
3. (1) #1/0 AWG COPPER CONNECT TO TRANSFORMER NEUTRAL.
4. (1) #2 AWG COPPER CONNECT TO PRIMARY DUCT GROUND.
5. PRIMARY COMPARTMENT ENTRY.
6. #4 AWG COPPER BOND TO ENCLOSURE.

GROUNDING AT THE PAD MOUNTED TRANSFORMER

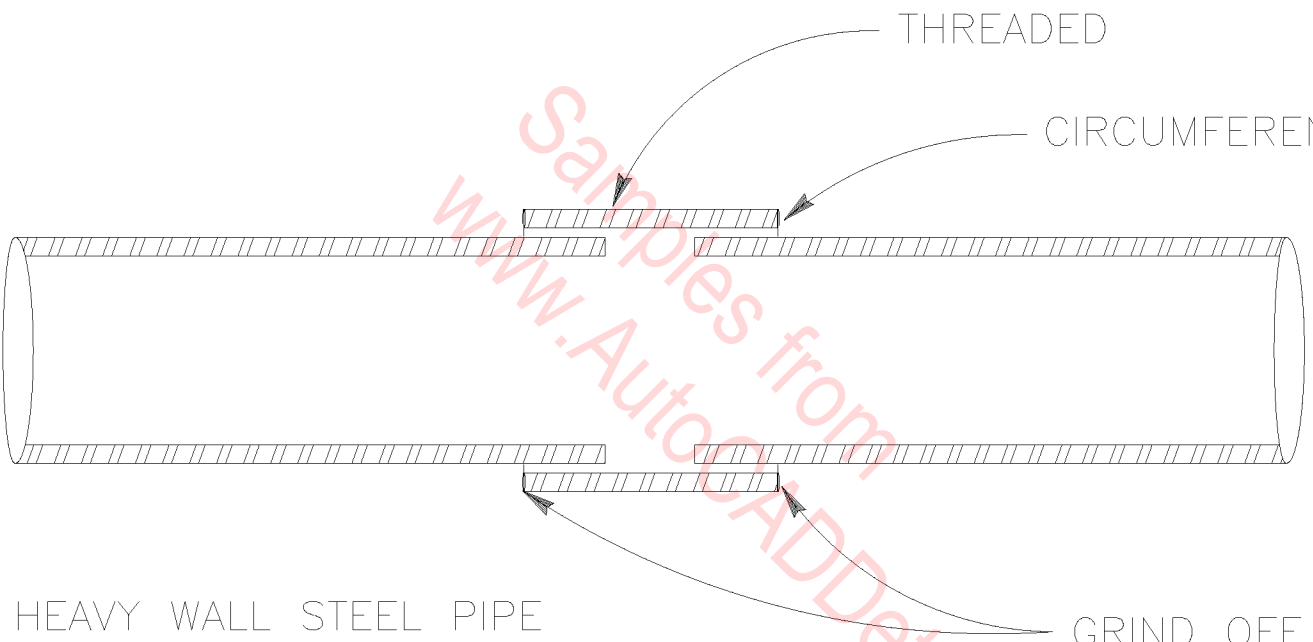
N.T.S.

16A-3003



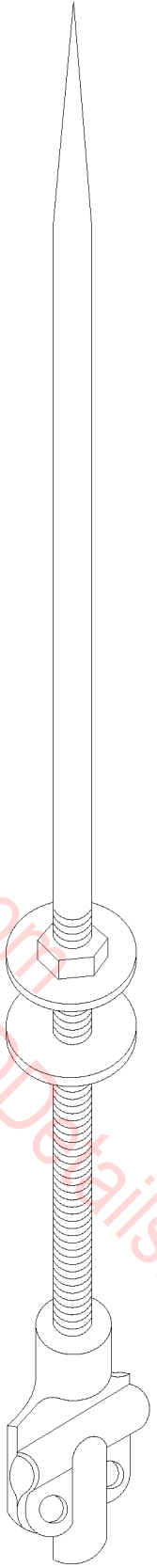
SECURE AREA PENETRATION

N.T.S.



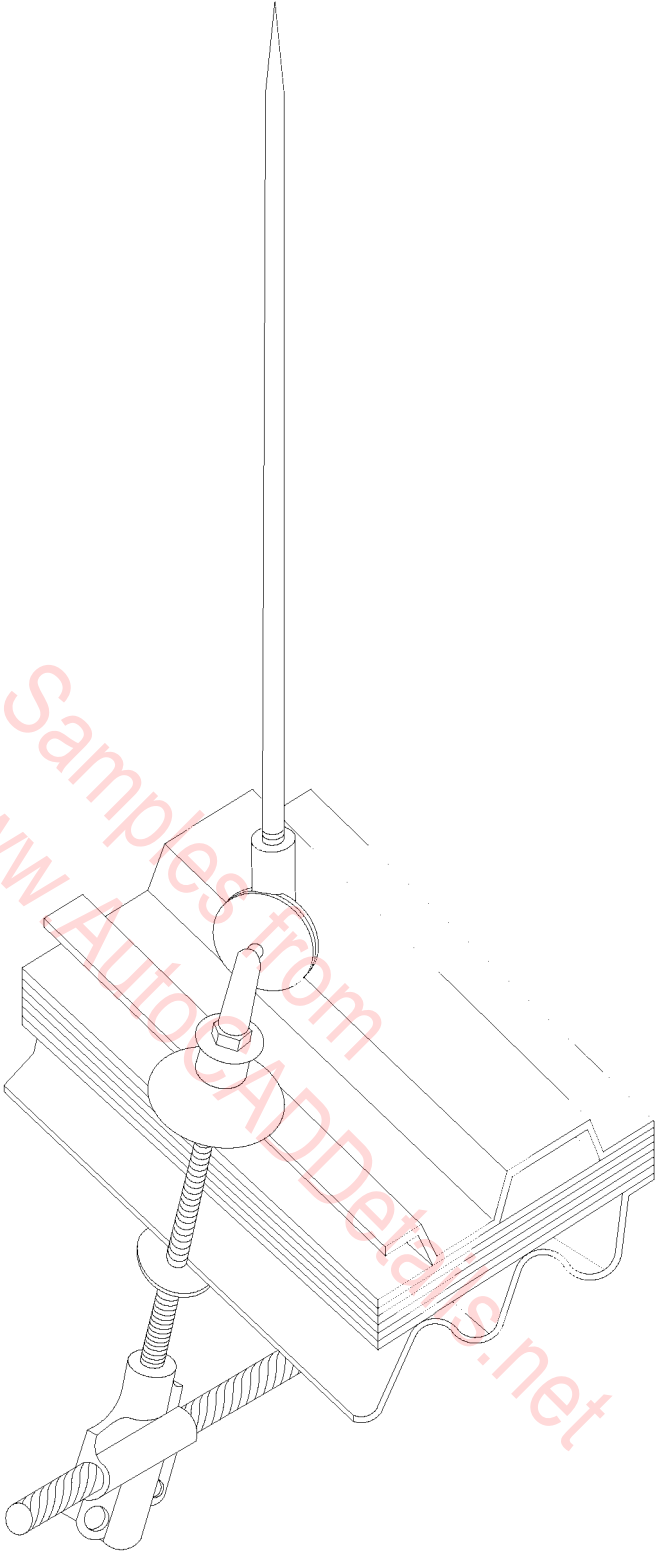
WELDED CONDUIT COUPLING

N.T.S.



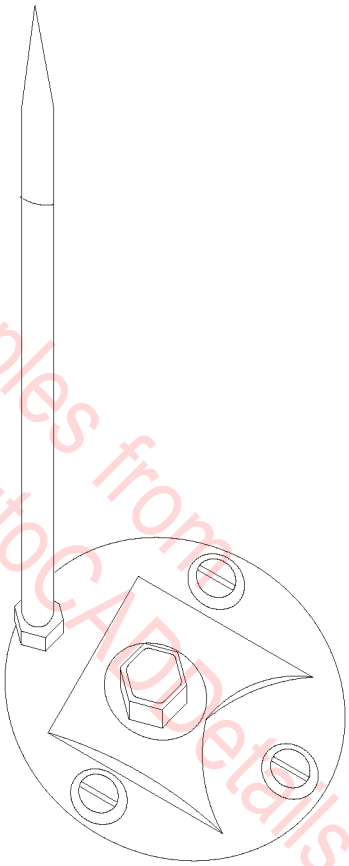
HORIZONTAL ROOF AIR TERMINAL

N.T.S.



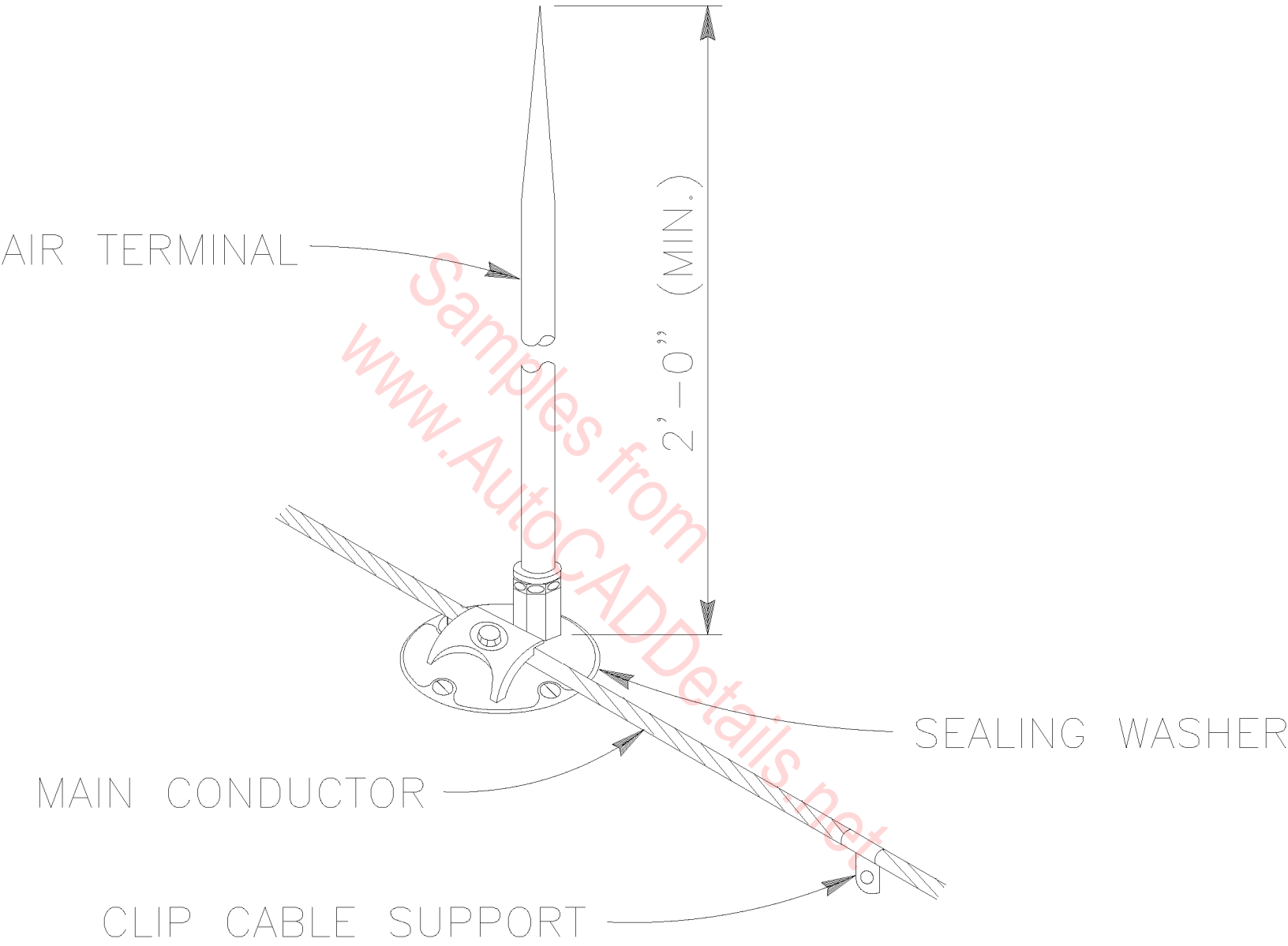
SLOPED ROOF AIR TERMINAL

N.T.S.



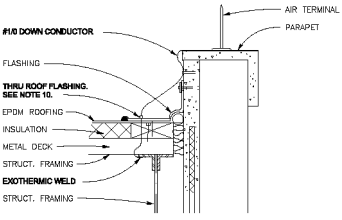
AIR TERMINAL & FLAT SURFACE MOUNTING BASE ASSEMBLED

N.T.S.



AIR TERMINAL

N.T.S.

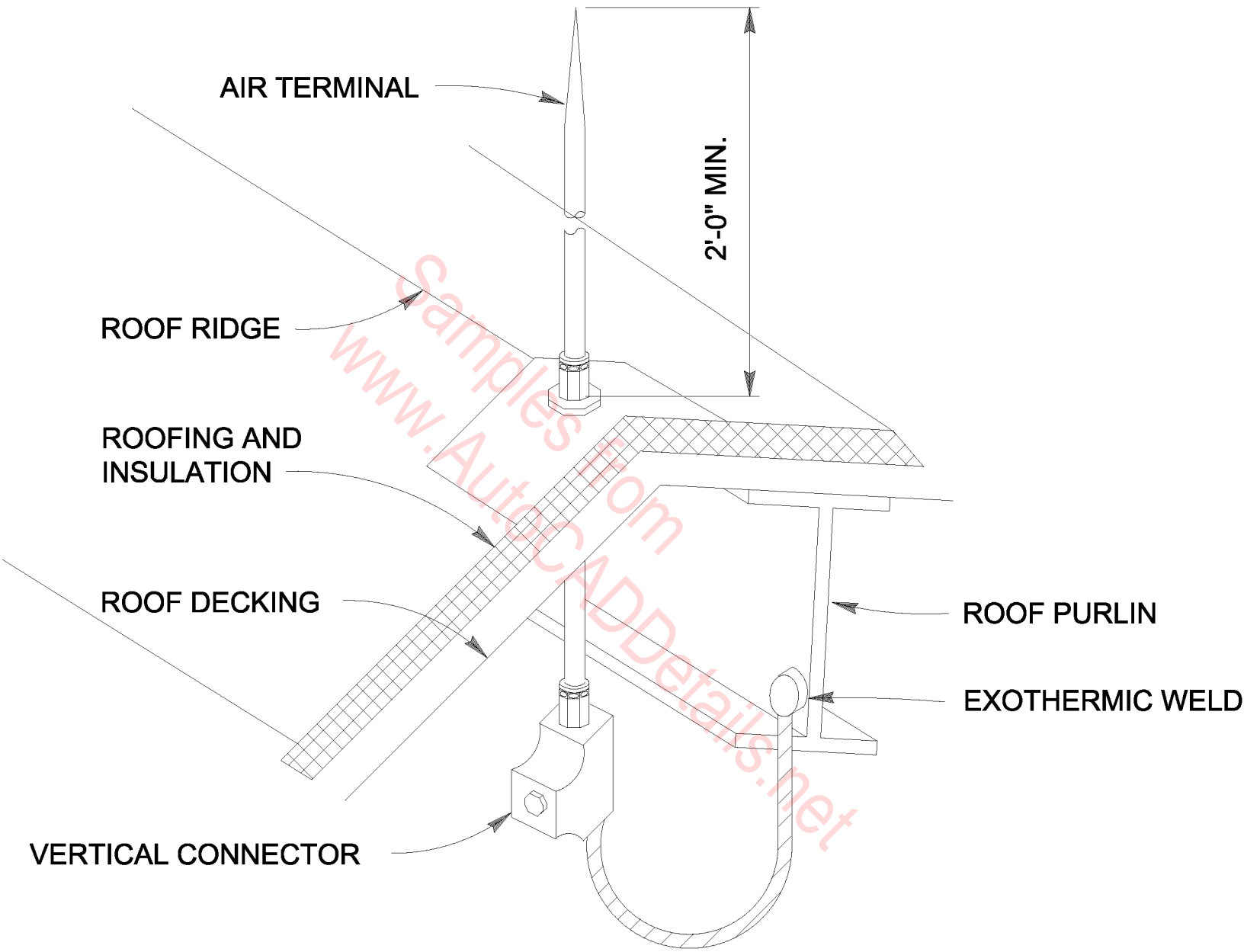


AIR TERMINAL DETAIL

N.T.S.

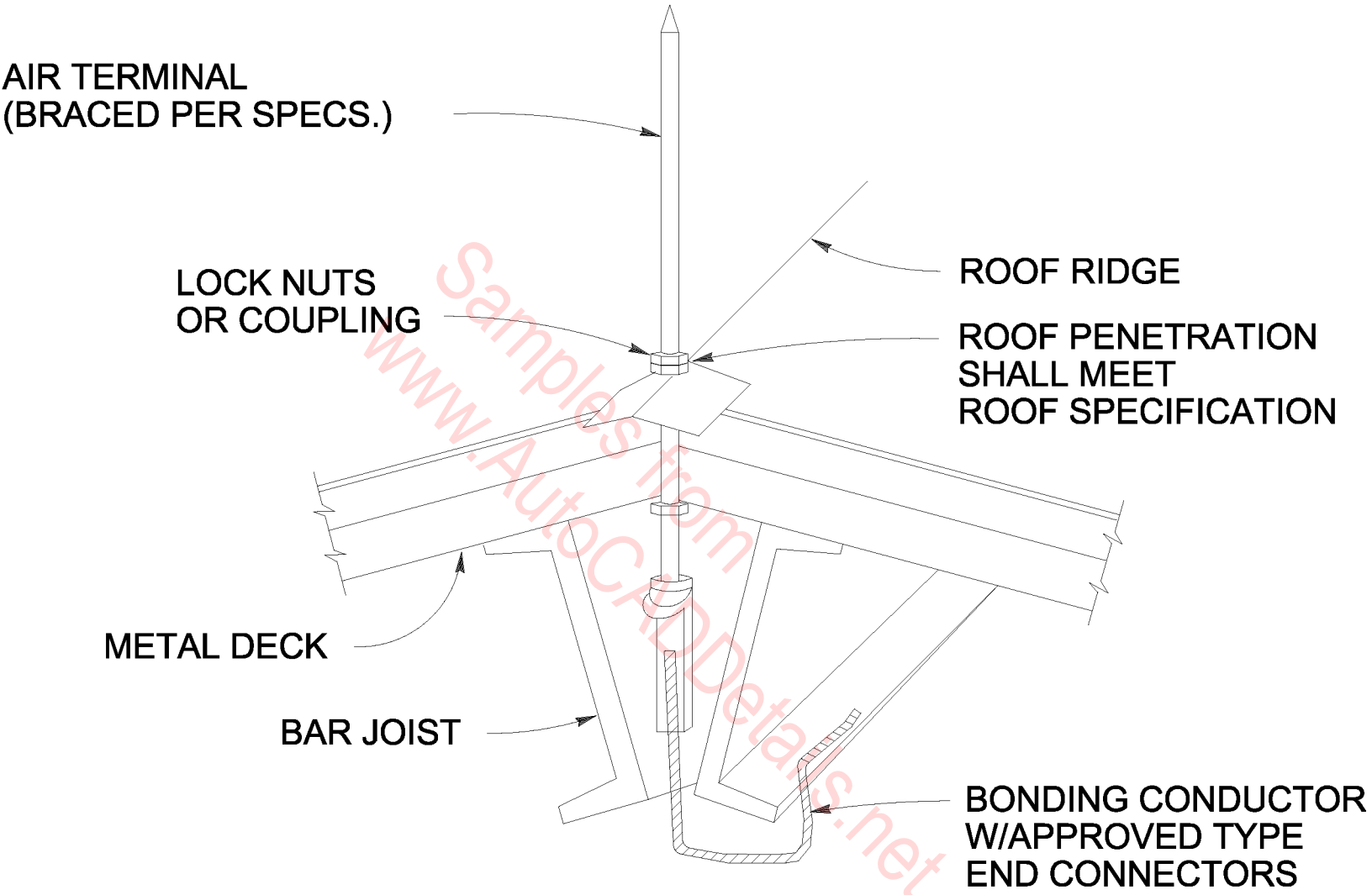
NOTES:

1. SEE PLATE E-___ FOR LEGEND.
2. SEE S-PLATES FOR EXACT SIZE AND LOCATION OF STRUCTURAL FOOTINGS.
3. STRUCTURAL FRAMEWORK SHALL BE MADE ELECTRICALLY CONTINUOUS BY WELDING.
4. ALL SPLICES BELOW GRADE SHALL BE THE EXOTHERMIC WELD TYPE.
5. AIR TERMINALS SHALL EXTEND NO LESS THAN 24 INCHES ABOVE THE ROOF PARAPET.
6. CONNECT AIR TERMINAL TO THE STRUCTURAL STEEL FRAMING WITH CONDUCTOR ROUTED THROUGH THE ROOF AS DETAILED EXCEPT WELD TO HORIZONTAL MEMBER.
7. CONNECT AIR TERMINAL TO THE TOP OF THE STRUCTURAL STEEL COLUMN WITH CONDUCTOR ROUTED THROUGH THE ROOF AS DETAILED
8. GROUND RODS SHALL BE CONNECTED TO THE BOTTOM OF THE STRUCTURAL STEEL COLUMN WITH No. 1/0 AWG BARE COPPER CONDUCTOR AS DETAILED.
9. ALL METAL EQUIPMENT ON THE ROOF SHALL BE BONDED TO THE LIGHTNING PROTECTION SYSTEM.
10. THRU ROOF FLASHING SHALL BE COPPER WITH 8 INCH ROUND BASE AND VERTICAL TUBE WITH NEOPRENE SEAL. FLASHING SHALL BE THE PRODUCT OF THE MANUFACTURER OF THE LIGHTNING PROTECTION SYSTEM. A MEMBRANE FLASHING SHALL BE PROVIDED OVER THE THRU ROOF FLASHING.



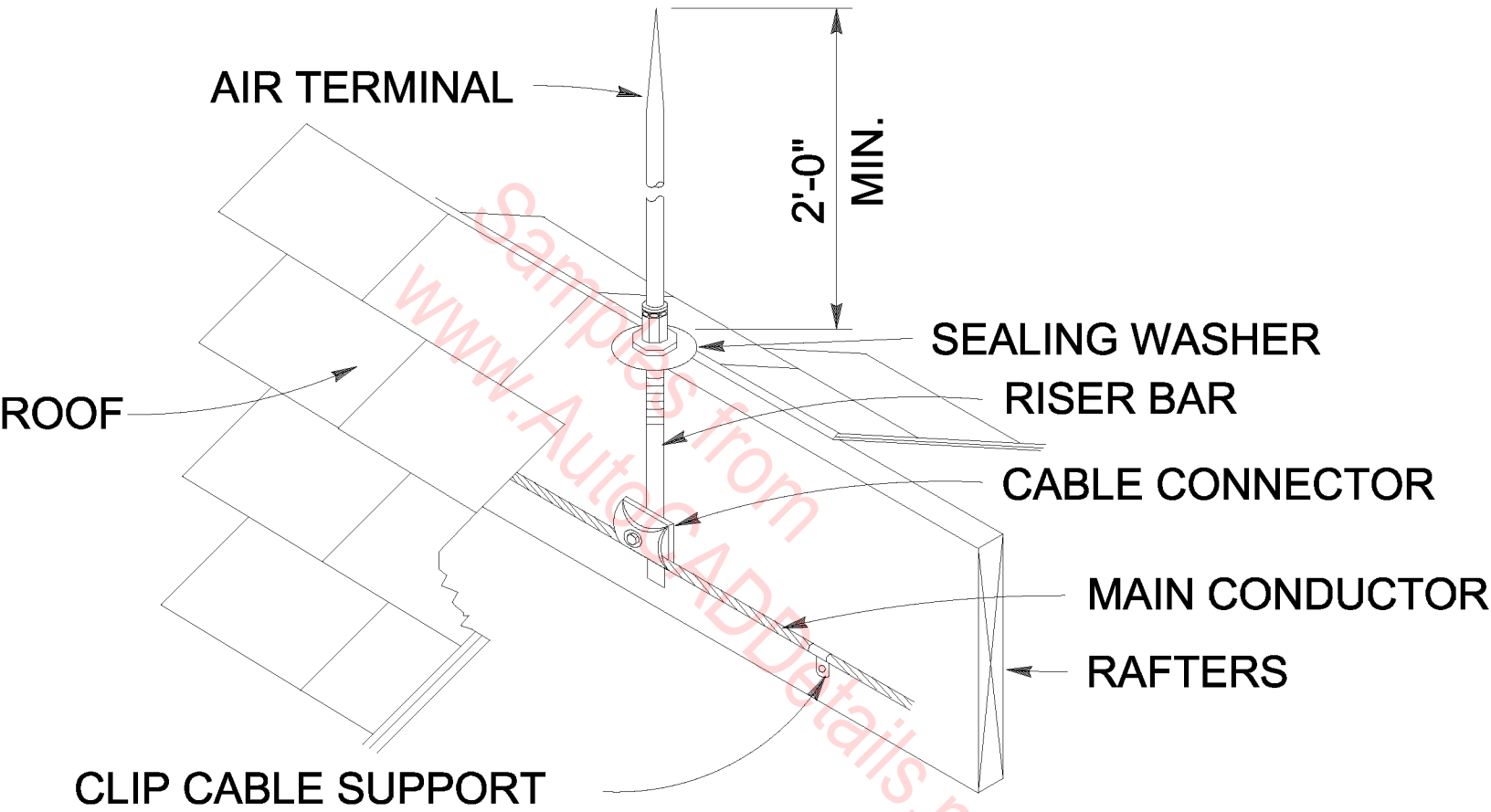
AIR TERMINAL

N.T.S.



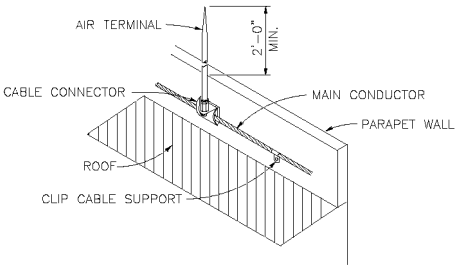
TYPICAL MOUNTING OF TERMINALS ON ROOF RIDGE

N.T.S.

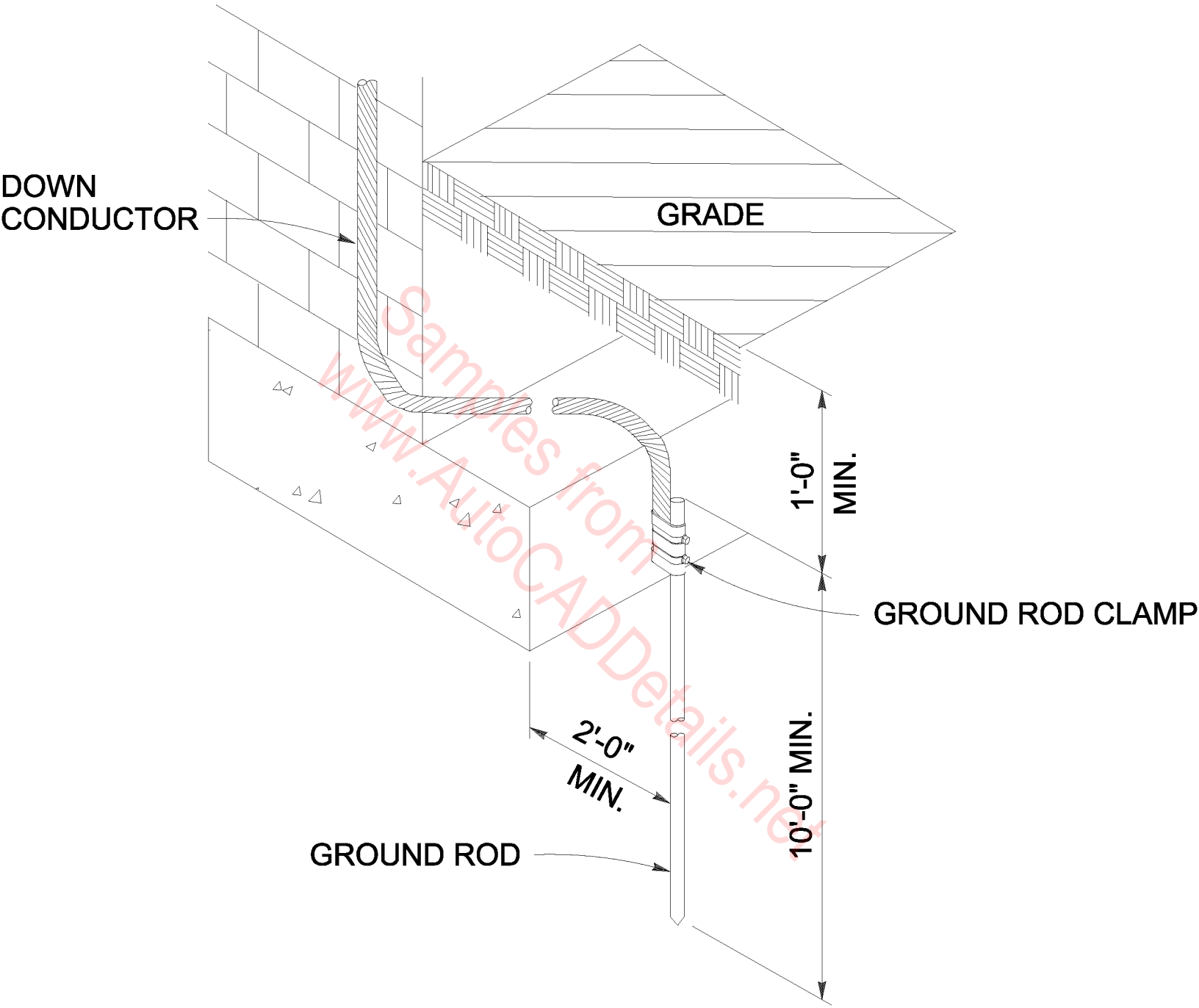


AIR TERMINAL

N.T.S.



AIR TERMINAL
N.T.S.

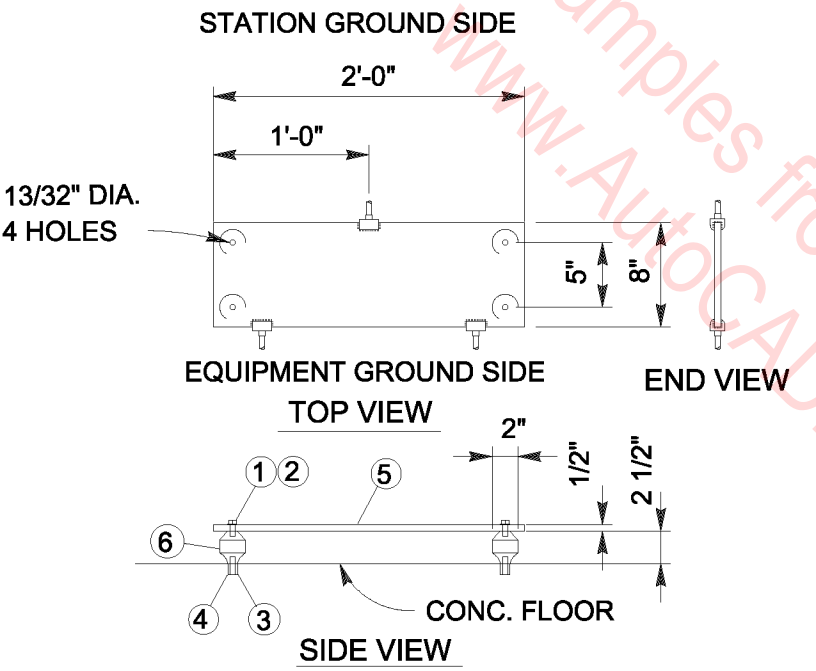


GROUNDING DETAIL

N.T.S.

NOTES:

1. CABLES WILL BE EXOTHERMICALLY WELDED TO THE COPPER PLATE.
2. MINIMUM DIMENSIONS BETWEEN EXOTHERMIC WELDS ARE:
   1 3/4" FOR 4/0 AND SMALLER



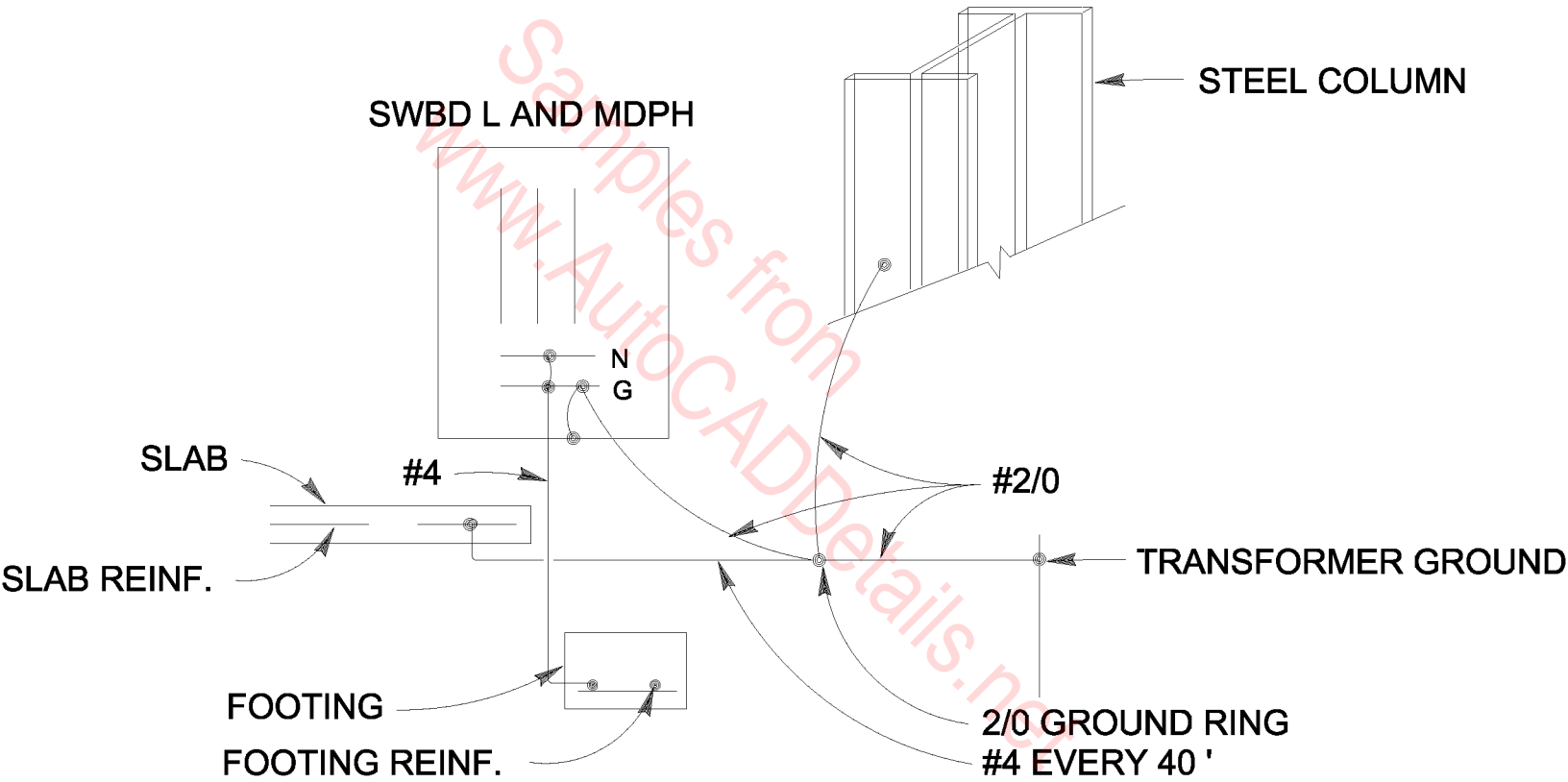
1. SCREW, CAP, HEX, BRASS, 3/8"-16 X 7/8" LG
2. LOCKWASHER, INTL. T, BRZ, 3/8"
3. STUD, CONT. THD, STL, 3/8"-16 X 1 1/2" LG
4. SHIELD, EXP, 3/8" BOLT, SELF DRILL
5. PLATE, SHEET, COPPER, 24"X 8"X 1/2"
6. INSULATOR, STANDOFF, POLYESTER 2 1/2" LG, 2" DIA 3/8"-16 X 5/8" TAPS, PORTER

GROUNDING PLATE DETAIL

N.T.S.

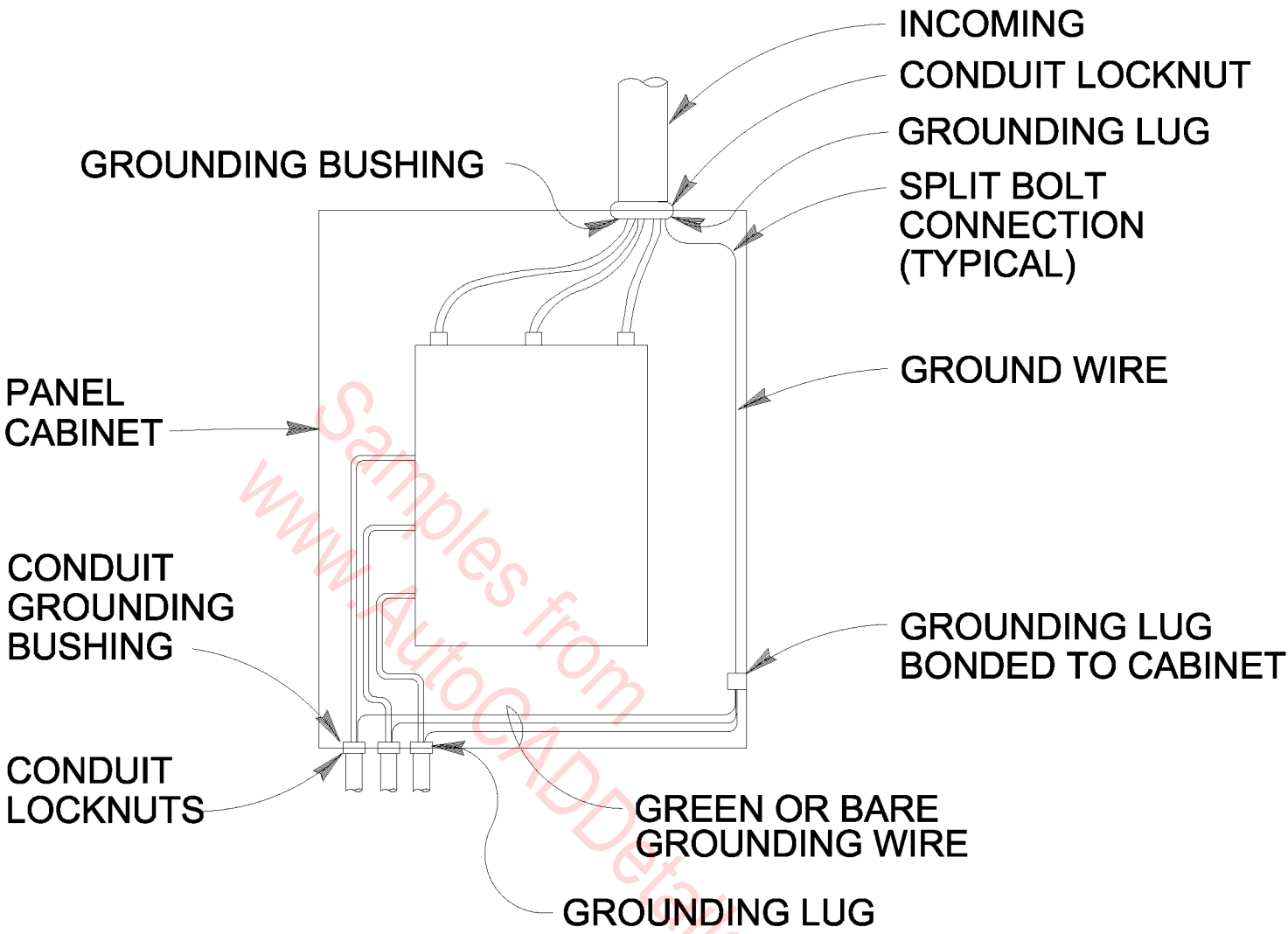
NOTE:

GROUND ALL COLUMNS
TO GROUND RING.



SYSTEM GROUND DETAIL

N.T.S.

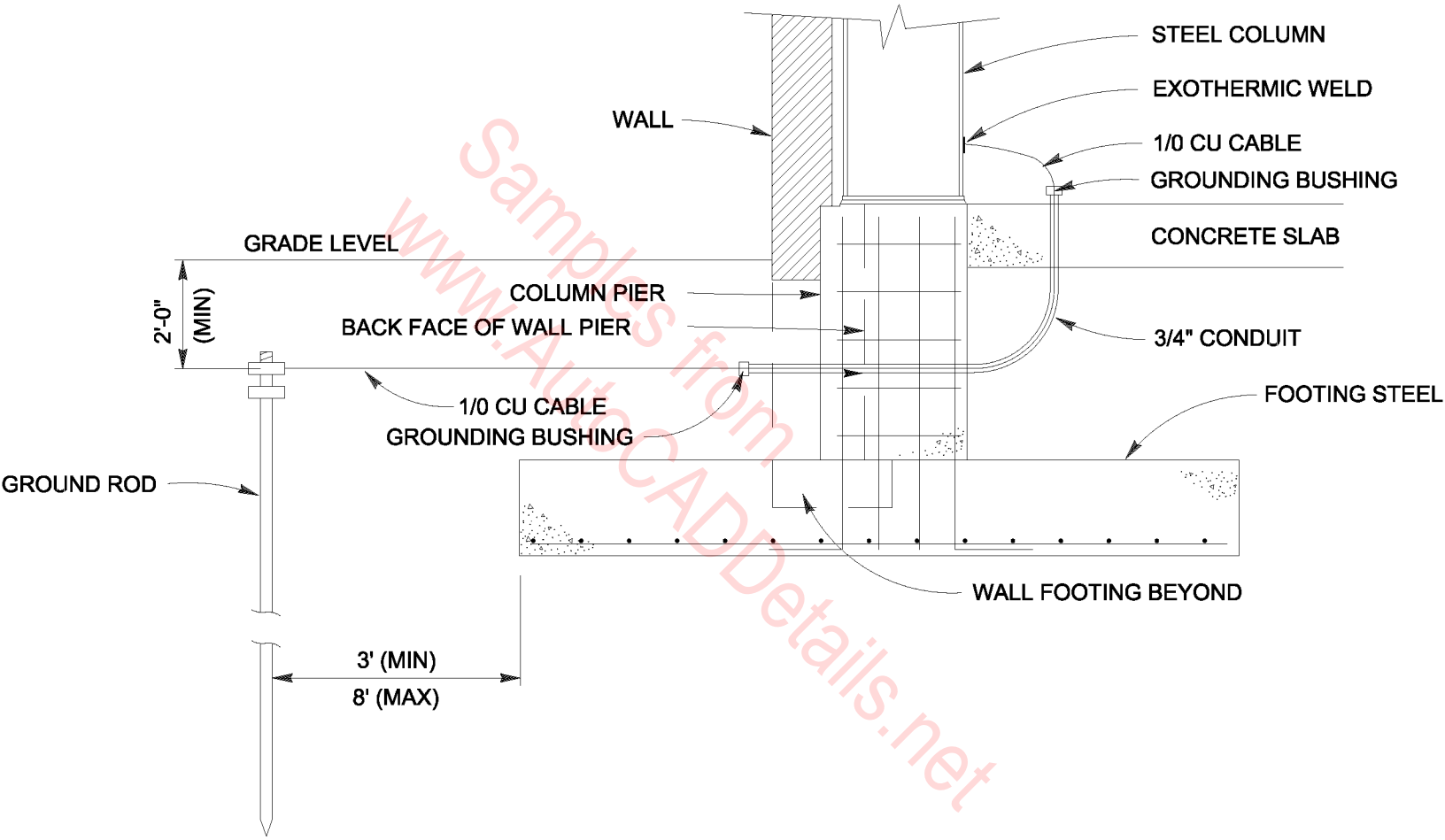


NOTES:

1. ALL WIRES TO BE NEATLY LACED.
2. AT THE POINT OF ATTACHMENT OF THE GROUNDING LUG TO THE CABINET, THE SURFACES SHALL BE SCRAPED FREE OF PAINT AND THOROUGHLY CLEANED TO INSURE PROPER BONDING.
3. NEUTRAL CONDUCTOR NOT SHOWN FOR CLARITY.

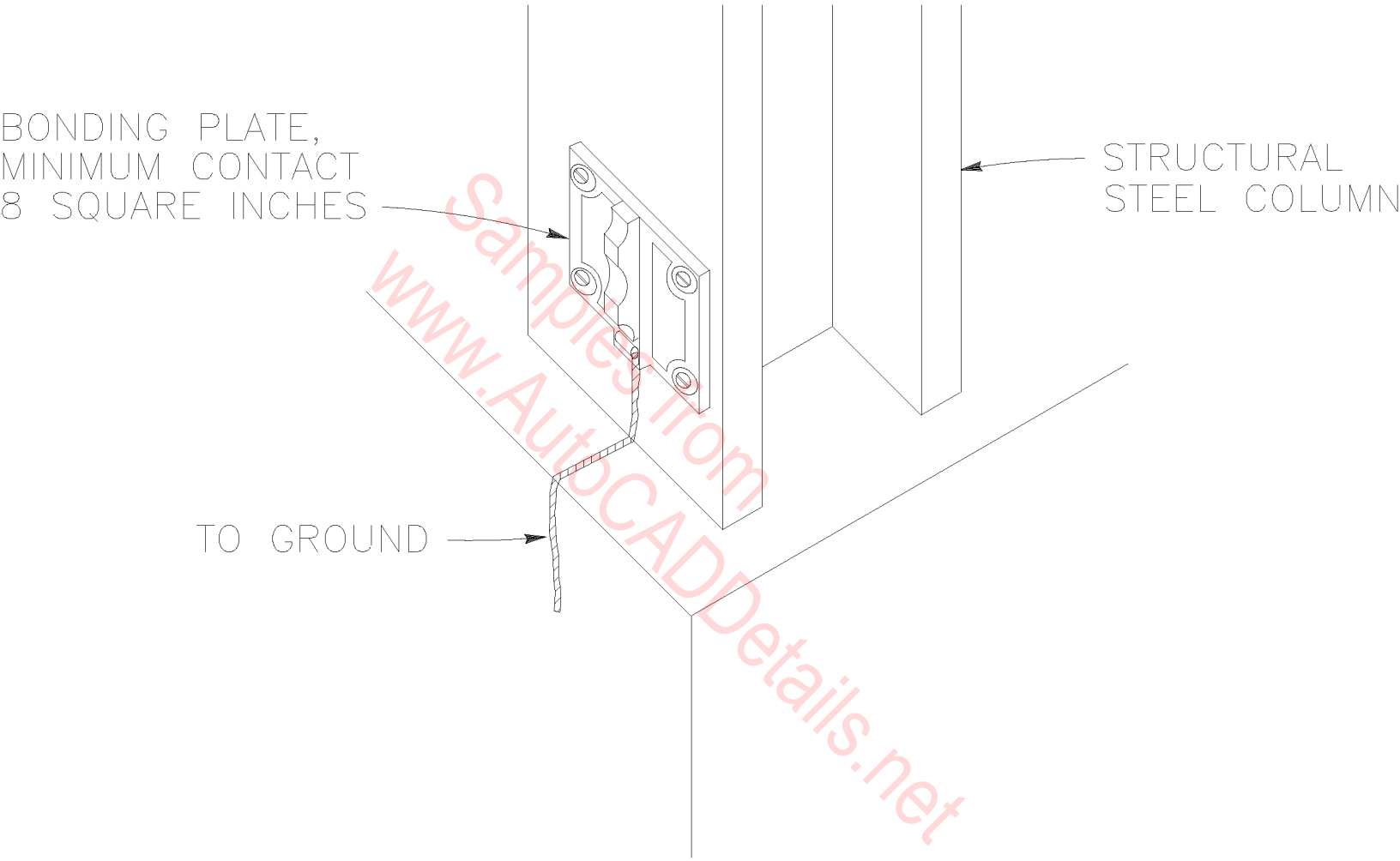
TYPICAL PANEL GROUNDING

N.T.S.



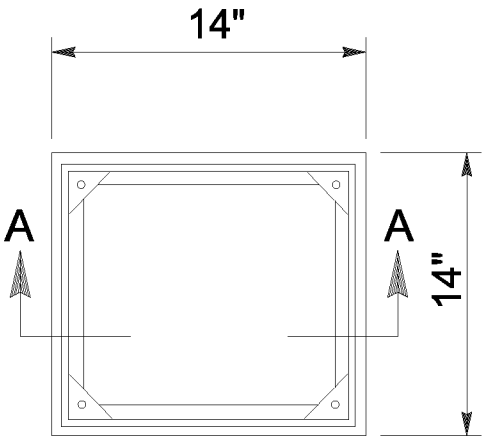
COLUMN GROUNDING DETAIL

N.T.S.

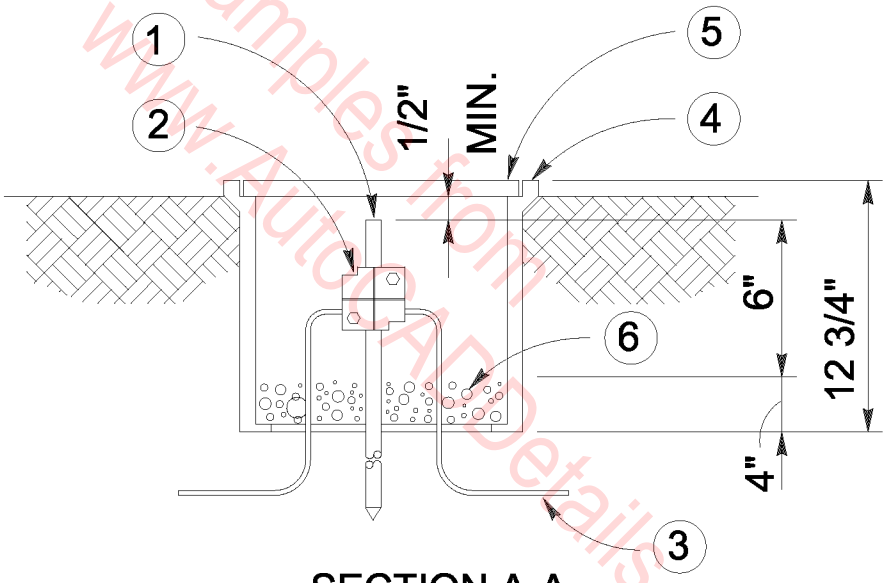


BONDING PLATE DETAIL

N.T.S.



TOP VIEW (COVER REMOVED)



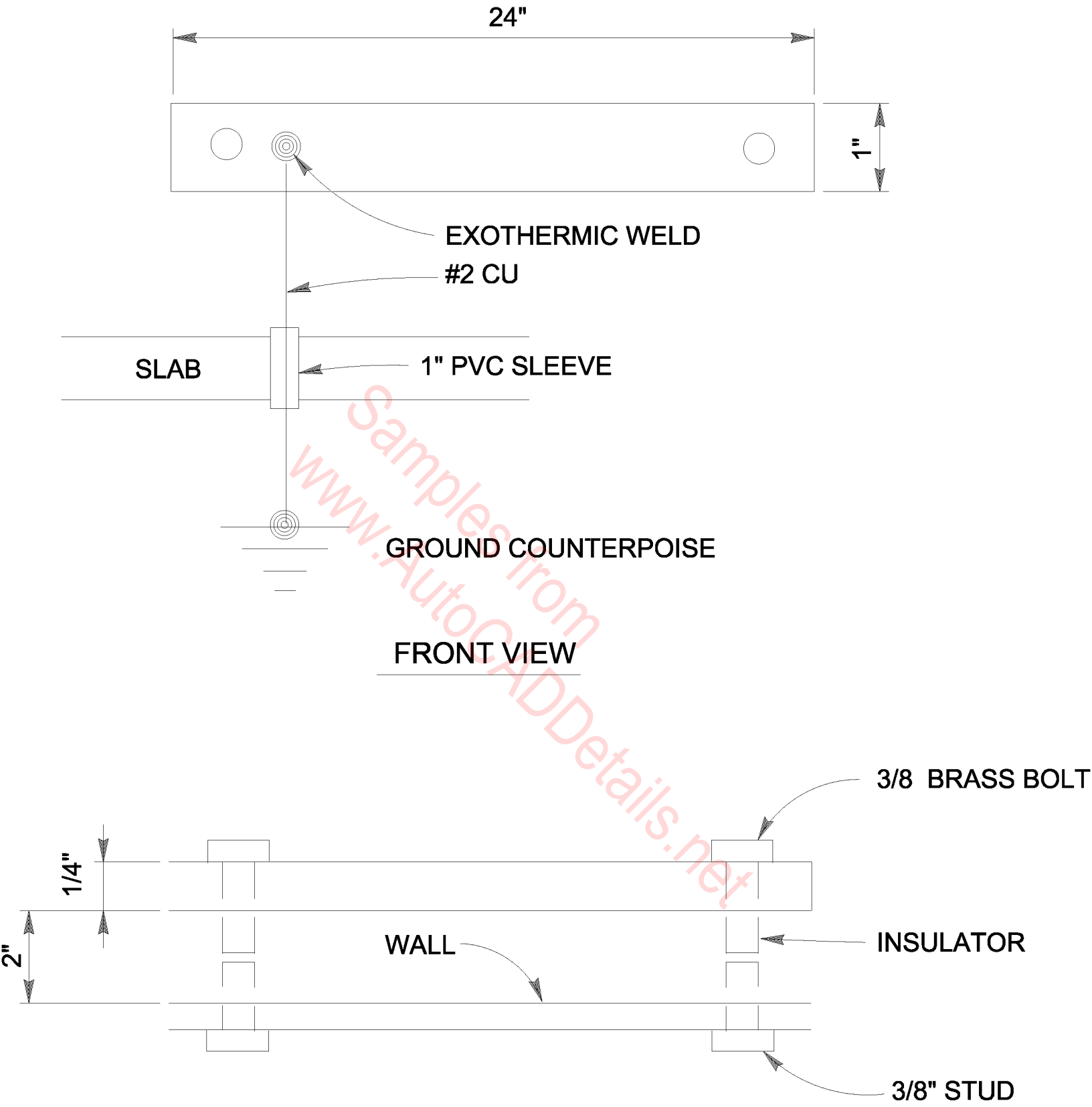
SECTION A-A

MATERIAL LIST

1. GROUND ROD
2. GROUND CLAMP
3. GROUNDING CONDUCTOR #1/0 COPPER
4. POLYMER CONCRETE FIBERGLASS REINFORCED BOX
5. COVER FOR ABOVE BOX
6. GRAVEL OR CRUSHED STONE

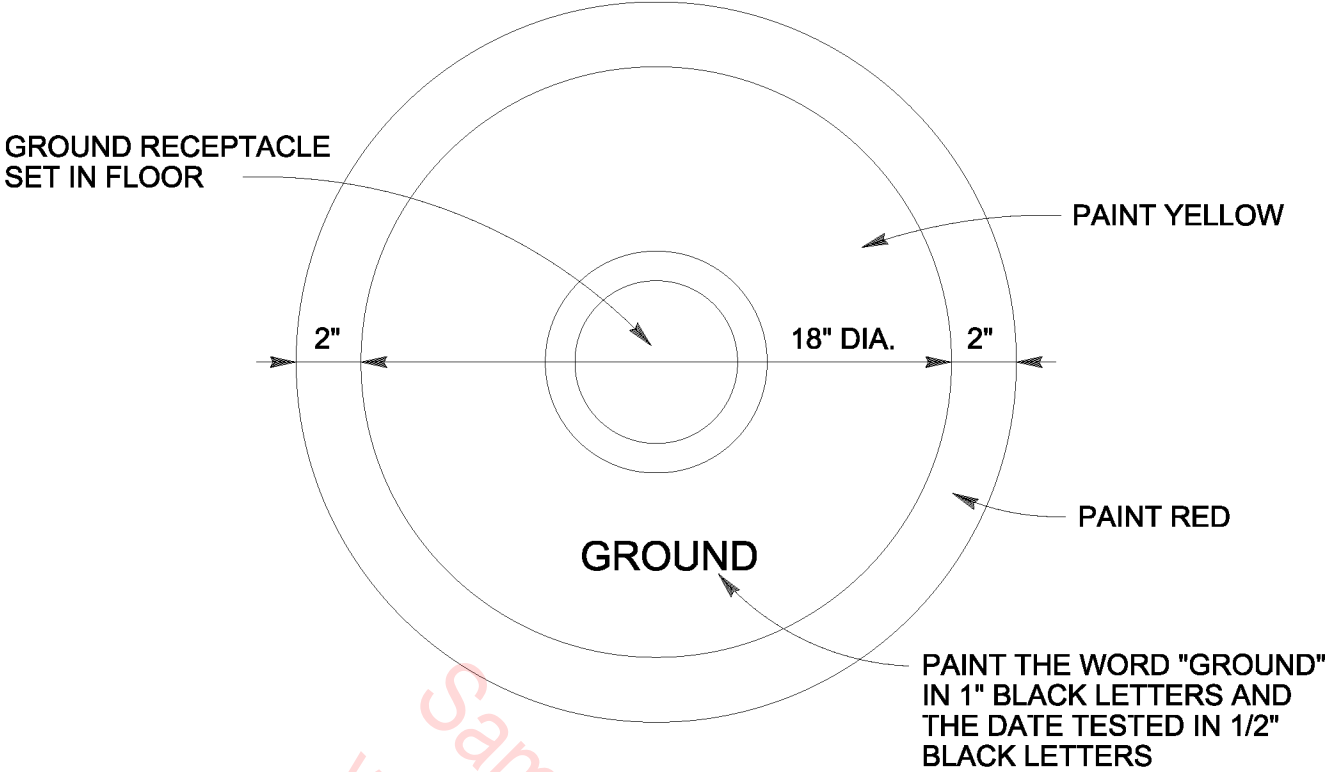
GROUND ROD INSTALLATION DETAIL

N.T.S.

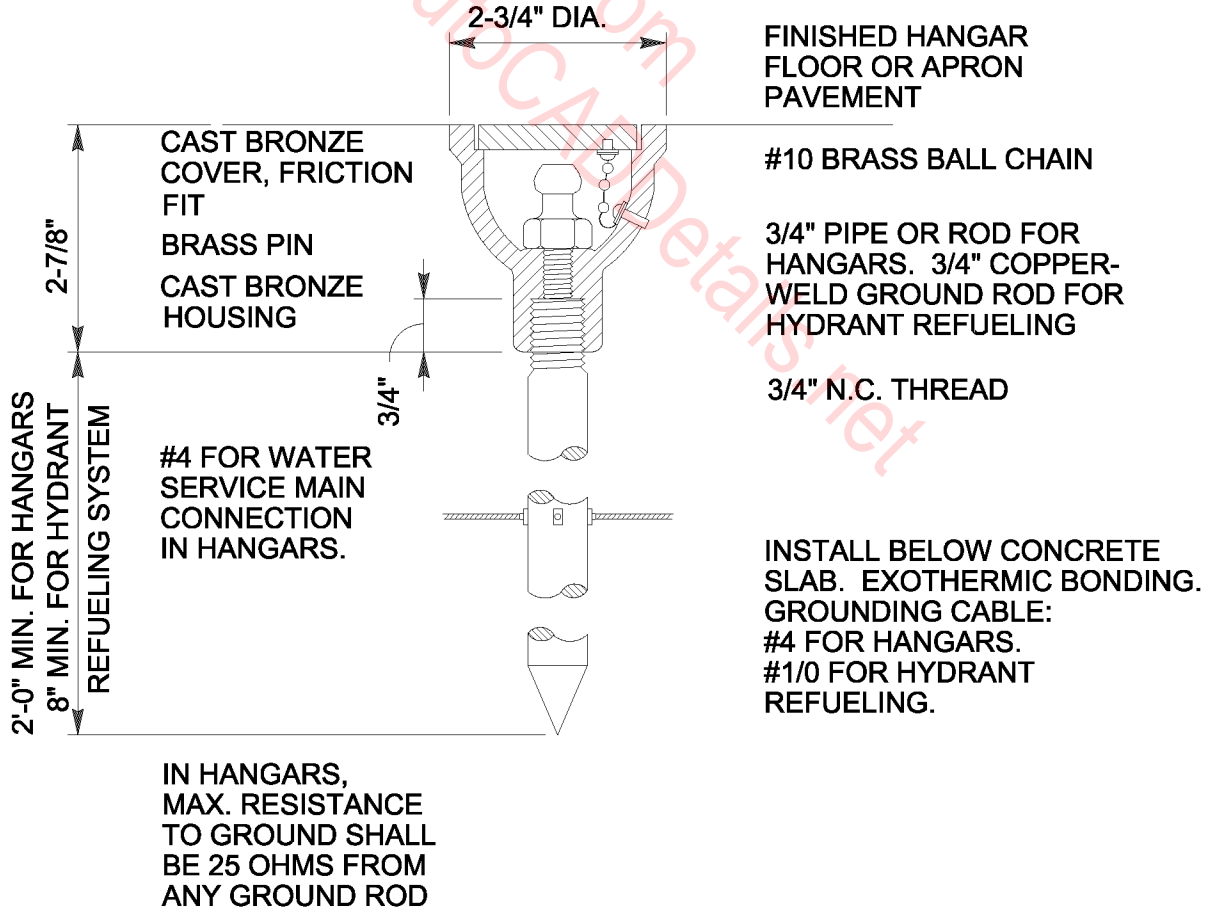


GROUND BAR DETAIL

N.T.S.



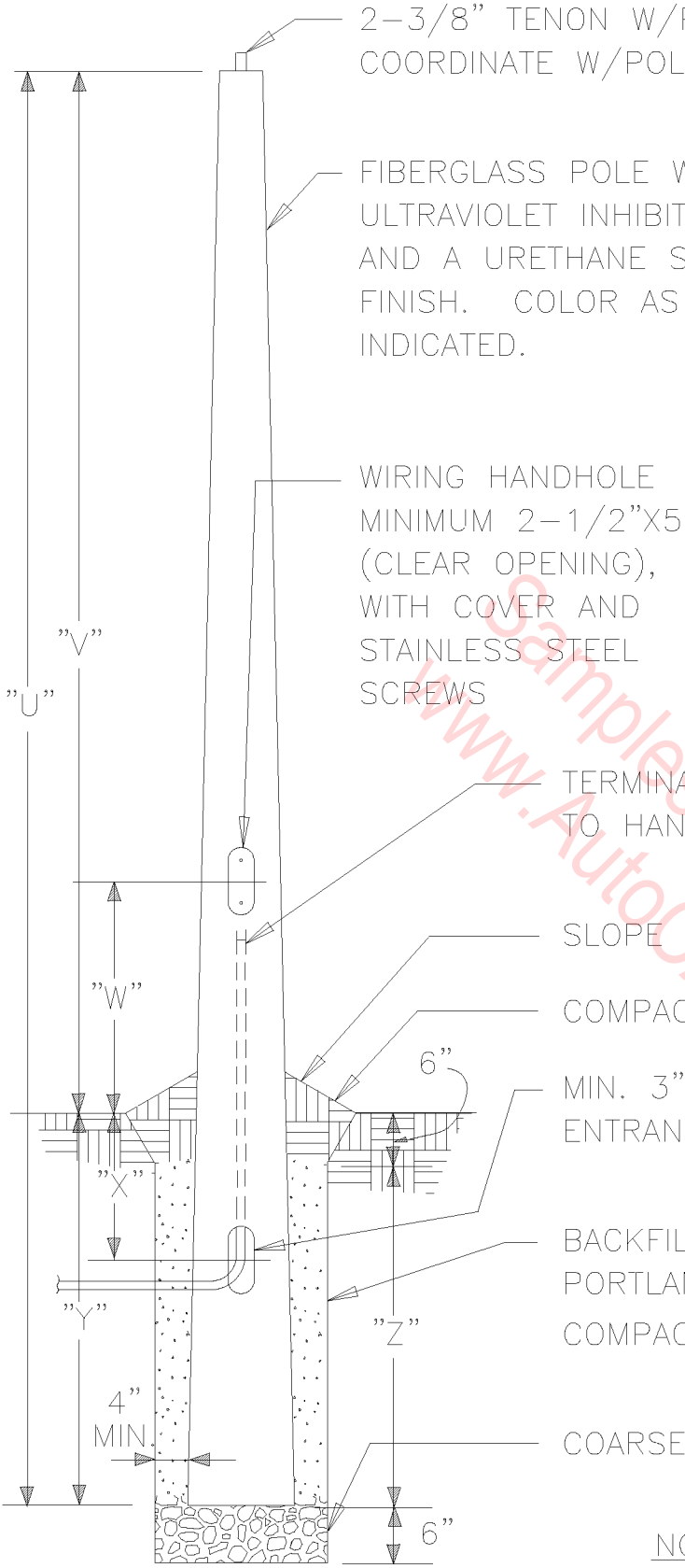
PLAN



ELEVATION

STATIC GROUNDING RECEPTACLE DETAIL

N.T.S.

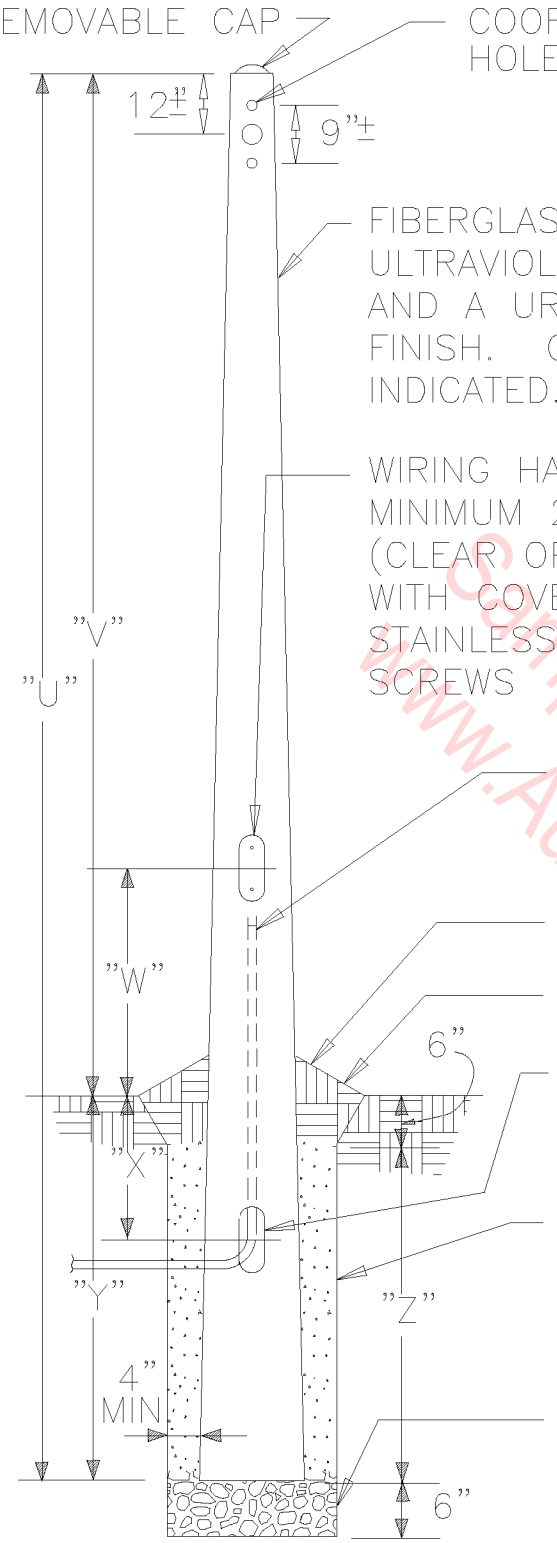


POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL–20 A	14	10	2	2	4	3.5
XL–20 B	20	16	2	2	4	3.5
XL–20 C	25	20	2	2	5	4.5
XL–20 D	30	25	2	2	5	4.5
XL–20 E	35	30	2	2	5	4.5
XL–20 F	40	33	2	2	7	6.5
XL–20 G	45	38	2	2	7	6.5

NOTES 1. PROVIDE ANTI–ROTATIONAL DEVICE ON EACH POLE.
2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.

FIBERGLASS POLE
DIRECT SET TENON MOUNT

STYLE
XL–20



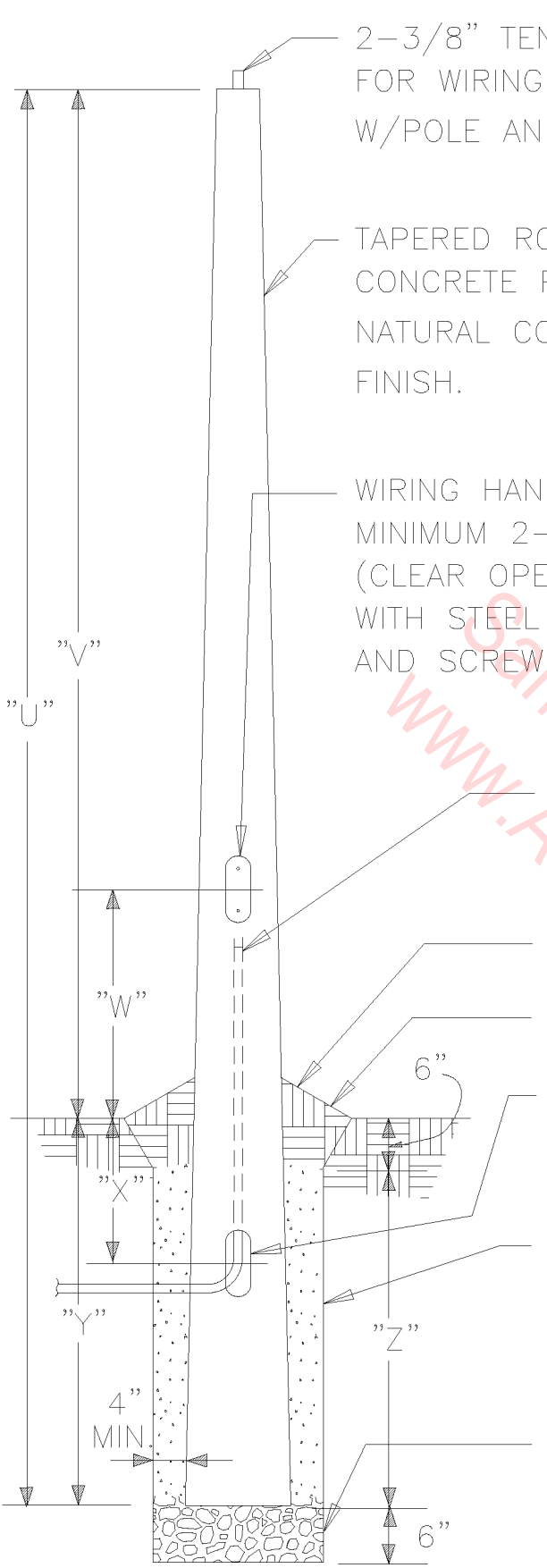
POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL-21 A	14	10	2	2	4	3.5
XL-21 B	20	16	2	2	4	3.5
XL-21 C	25	20	2	2	5	4.5
XL-21 D	30	25	2	2	5	4.5
XL-21 E	35	30	2	2	5	4.5
XL-21 F	40	33	2	2	7	6.5
XL-21 G	45	38	2	2	7	6.5

NOTES: 1. PROVIDE ANTI-ROTATIONAL DEVICE ON EACH POLE.

2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.

FIBERGLASS POLE
DIRECT SET MAST ARM MOUNT

STYLE
XL-21



POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL-22 A	14	10	2	2	4	3.5
XL-22 B	20	16	2	2	4	3.5
XL-22 C	25	20	2	2	5	4.5
XL-22 D	30	25	2	2	5	4.5
XL-22 E	35	30	2	2	5	4.5
XL-22 F	40	33	2	2	7	6.5
XL-22 G	45	38	2	2	7	6.5

TERMINATE CONDUITS INTERNALLY, ADJACENT TO HANDHOLE

SLOPE TO SURROUNDING FINISHED GRADE

COMPACTED CLAY BACKFILL

MIN. 3"X 5" CONDUIT OR CABLE ENTRANCE - 2 EACH AT 180°.

BACKFILL FINE CRUSHED STONE AND PORTLAND CEMENT (8-1) DRY MIX COMPACTED IN ONE FOOT MAX. LIFTS

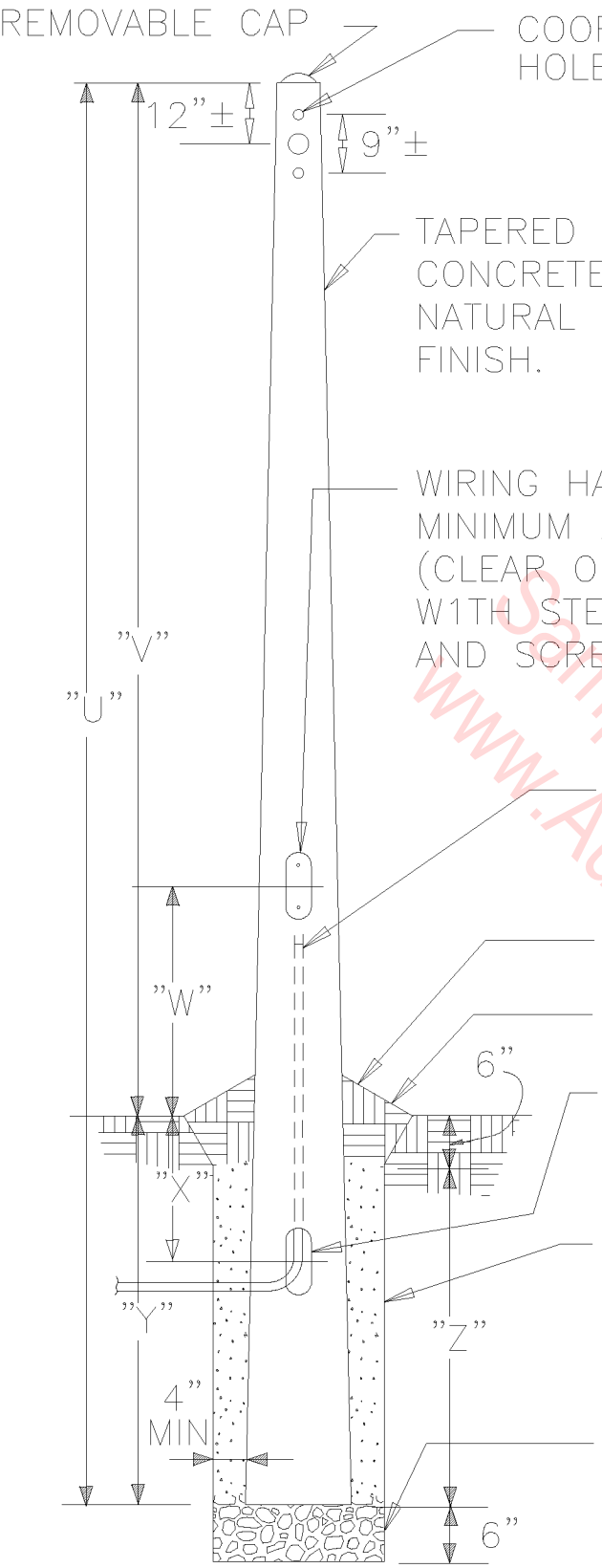
COARSE GRAVEL SETTING BED

NOTES: 1. PROVIDE ANTI-ROTATIONAL DEVICE ON EACH POLE.

2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.

CONCRETE POLE
DIRECT SET TENON MOUNT

STYLE
XL-22



POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL-23 A	14	10	2	2	4	3.5
XL-23 B	20	16	2	2	4	3.5
XL-23 C	25	20	2	2	5	4.5
XL-23 D	30	25	2	2	5	4.5
XL-23 E	35	30	2	2	5	4.5
XL-23 F	40	33	2	2	7	6.5
XL-23 G	45	38	2	2	7	6.5

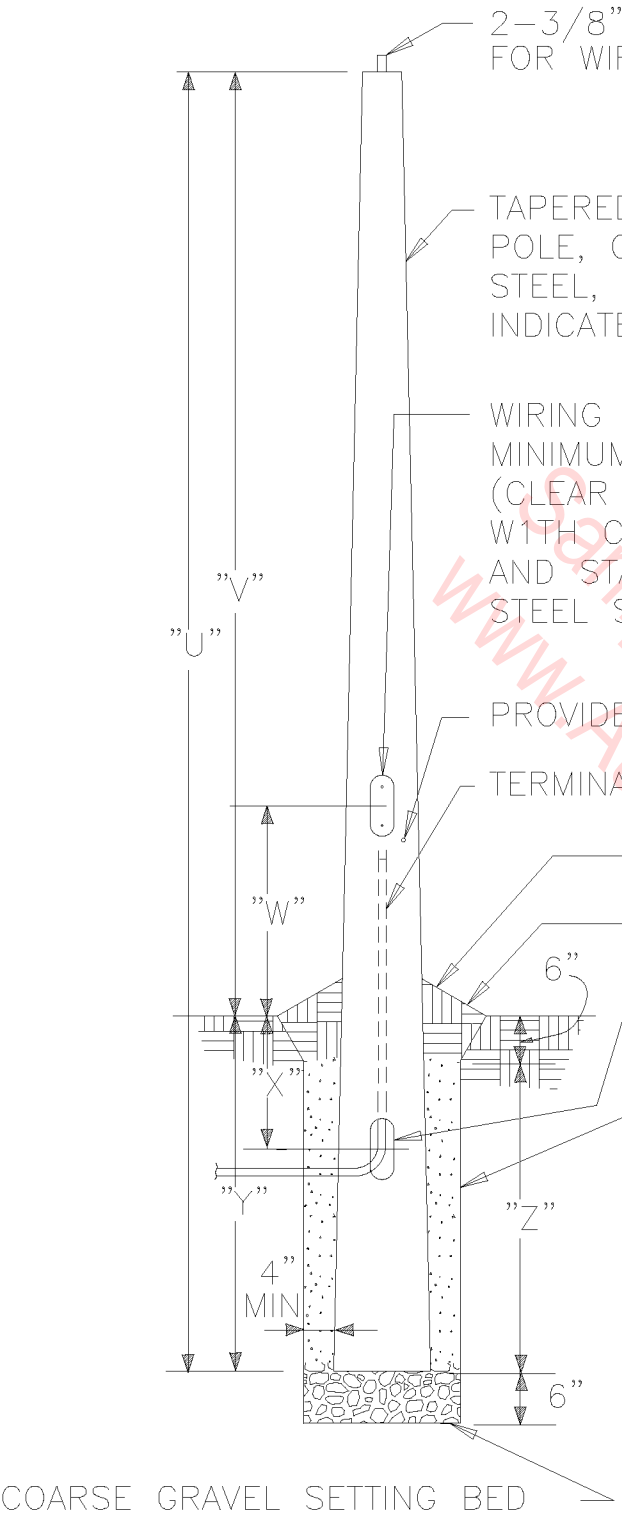
NOTES: 1. PROVIDE ANTI-ROTATIONAL DEVICE ON EACH POLE.

2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.

CONCRETE POLE

DIRECT SET MAST ARM MOUNT

STYLE XL-23

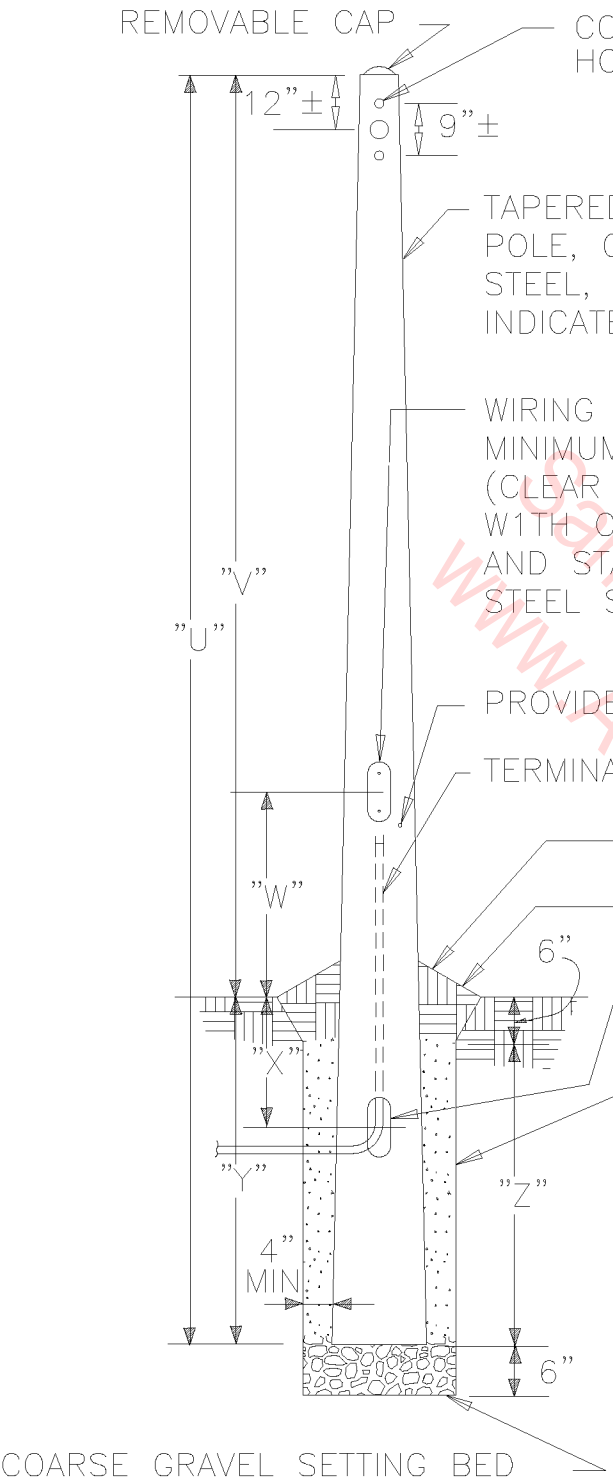


POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL–24 A	14	10	2	2	4	3.5
XL–24 B	20	16	2	2	4	3.5
XL–24 C	25	20	2	2	5	4.5
XL–24 D	30	25	2	2	5	4.5
XL–24 E	35	30	2	2	5	4.5
XL–24 F	40	33	2	2	7	6.5
XL–24 G	45	38	2	2	7	6.5

NOTES: 1. PROVIDE ANTI–ROTATIONAL DEVICE ON EACH POLE.
2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.
3. PROVIDE POLE VIBRATION DAMPER ON INTERIOR OF ALL POLES 20 FT. AND LONGER.
4. SECTIONAL WELDABLE POLES OF EQUAL STRENGTH ARE ACCEPTABLE.

STEEL POLE
DIRECT SET TENON MOUNT

STYLE XL–24



COORDINATE WIRING HOLE AND BOLT HOLES W/MAST ARM PROVIDED.

TAPERED STEEL POLE, GALVANIZED STEEL, EXCEPT AS INDICATED.

WIRING HANDHOLE MINIMUM 2-1/2"X5" (CLEAR OPENING), W1TH COVER AND AND STAINLESS STEEL SCREWS

PROVIDE INTERNAL GROUNDING LUG.

TERMINATE CONDUITS INTERNALLY, ADJACENT TO HANDHOLE

SLOPE TO SURROUNDING FINISHED GRADE

COMPACTED CLAY BACKFILL

MIN. 3"X 5" CONDUIT OR CABLE ENTRANCE - 2 EACH AT 180°.

BACKFILL FINE CRUSHED STONE AND PORTLAND CEMENT (8-1) DRY MIX COMPACTED IN ONE FOOT MAX. LIFTS

POLE TYPE	DIMENSIONS (FT.)					
	"U"	"V"	"W"	"X"	"Y"	"Z"
XL-25 A	14	10	2	2	4	3.5
XL-25 B	20	16	2	2	4	3.5
XL-25 C	25	20	2	2	5	4.5
XL-25 D	30	25	2	2	5	4.5
XL-25 E	35	30	2	2	5	4.5
XL-25 F	40	33	2	2	7	6.5
XL-25 G	45	38	2	2	7	6.5

NOTES:
1. PROVIDE ANTI-ROTATIONAL DEVICE ON EACH POLE.
2. COORDINATE TOTAL EPA. WITH POLE SPECIFICATIONS.
3. PROVIDE POLE VIBRATION DAMPER ON INTERIOR OF ALL POLES 20 FT. AND LONGER.
4. SECTIONAL WELDABLE POLES OF EQUAL STRENGTH ARE ACCEPTABLE.

STEEL POLE
DIRECT SET MAST ARM MOUNT

STYLE XL-25