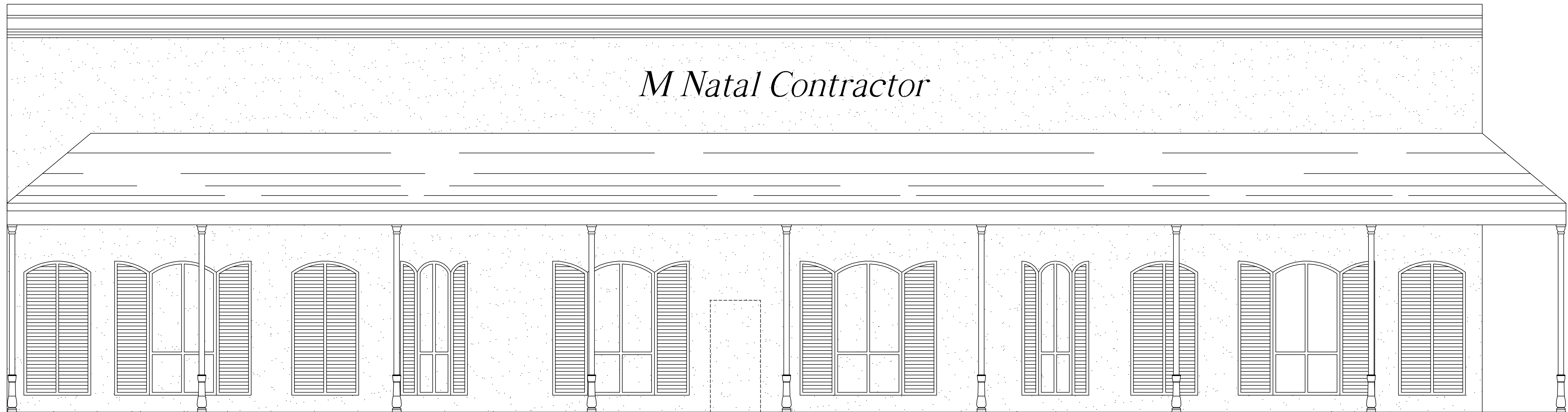


# M Natal Contractor



M NATAL CONTRACTOR  
394 VOTERS ROAD  
SLIDELL, LA.

DATE: 7-16-08  
JOB NO. 1956

## INTERNATIONAL BUILDING CODE 2006 REQUIREMENTS

OCCUPANCY CLASSIFICATION:  
BUSINESS, GROUP B. (SEC 304.1)  
WAREHOUSE STORAGE, GROUP S-2 (SEC 311.3)

OCCUPANT LOAD: (TBL 1004.1.1)  
BUSINESS AREAS = 100 GROSS s.f. / OCCUPANT  
WAREHOUSE AREAS = 500 GROSS s.f. / OCCUPANT  
240 S.F. OFFICE = 2.4 OCCUPANTS  
19,760 s.f. WAREHOUSE = 39.52 OCCUPANTS  
20,000 s.f. GROSS BUILDING  
TOTAL OF 42 OCCUPANTS

EXIT ACCESS REQUIREMENTS: (SEC 1016)  
1 EXIT REQUIRED FOR LESS THAN 49 OCCUPANTS IN BUSINESS OCCUPANCY (2 EXITS PROVIDED)  
EXIT ACCESS TRAVEL DISTANCE = 200' UNSPRINKLED  
2 EXITS REQUIRED FOR OCCUPANTS IN STORAGE OCCUPANCY (2 EXITS PROVIDED)  
EXIT ACCESS TRAVEL DISTANCE = 200' UNSPRINKLED

ALLOWABLE HEIGHT AND BLDG. AREA: (TBL 503)  
B = 23,000 s.f. / 4 STORY ALLOWED, THIS PROJECT 1 STORY / 240 s.f.  
S-2 = 26,000 s.f. / 4 STORY ALLOWED, THIS PROJECT 1 STORY 19,760

CONSTRUCTION CLASSIFICATION: (SEC 602.2)  
TYPE II B

FIRE RESISTANCE RATING REQUIREMENTS FOR BLDG. ELEMENTS: (TBL 601)  
STRUCTURAL FRAME = 0 HRS.  
BEARING WALLS (INTERIOR AND EXTERIOR) = 0 HRS.  
NON-BEARING WALLS = 0 HRS.  
FLOOR CONSTRUCTION = 0 HRS.  
ROOF CONSTRUCTION = 0 HRS.

FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS: (TBL 602)  
EXTERIOR WALLS WITH 10' <= X <= 30' FIRE SEPARATION DISTANCE = 0 HR.

FIRE ALARM SYSTEM REQUIREMENTS: (SEC 907)  
THIS BLDG. DOES NOT REQUIRE A FIRE ALARM SYSTEM IN ACCORDANCE WITH SEC 907.2.2

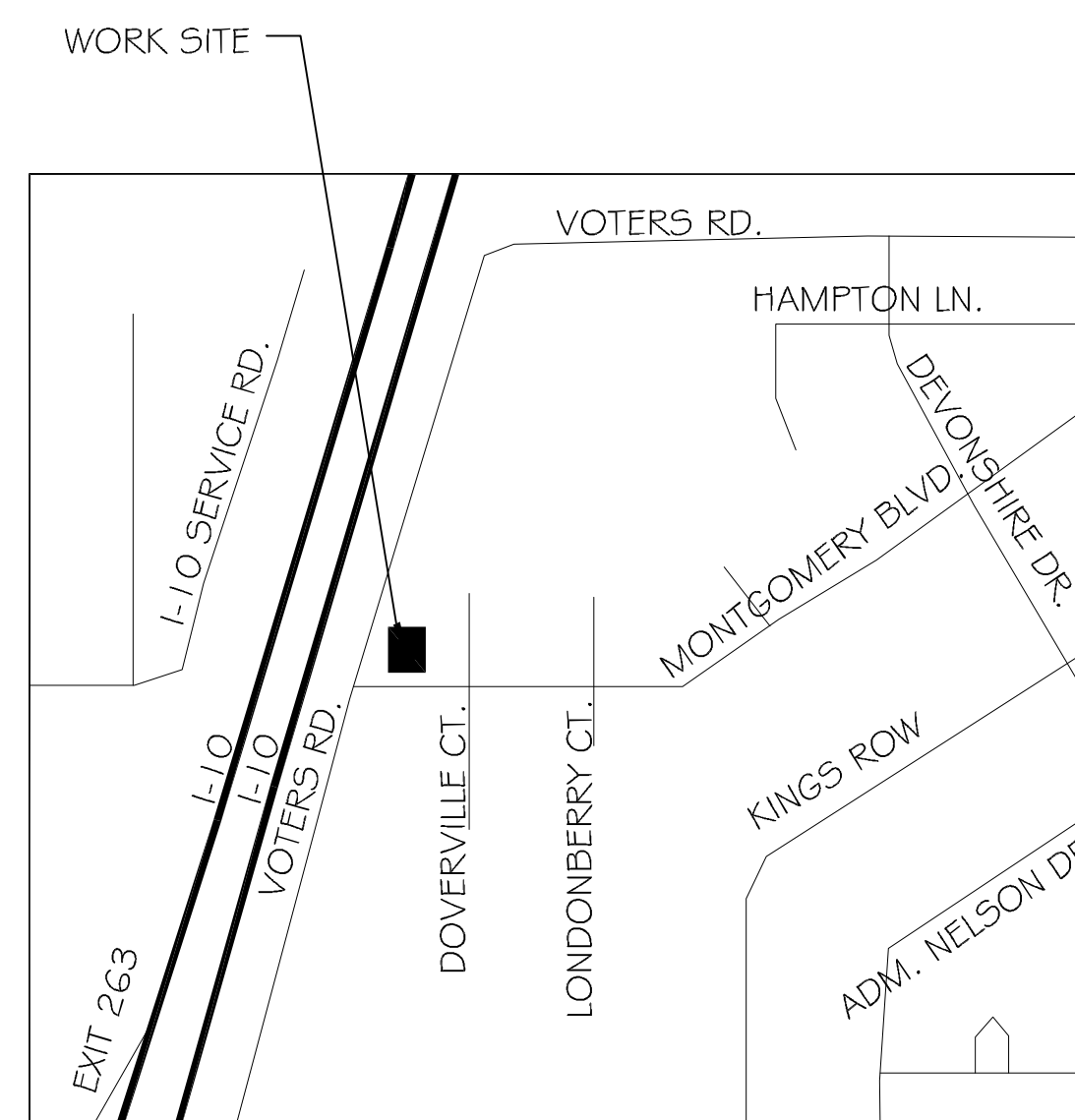
FIRE PROTECTION SYSTEM REQUIREMENTS: (SEC 903)  
THIS BLDG. DOES NOT REQUIRE A FIRE PROTECTION SYSTEM IN ACCORDANCE WITH SEC 903.2.9  
GROUP S-2 WAREHOUSE SHALL BE USED FOR STORAGE OF CLASS 1 COMMODITIES

CONSTRUCTION DOCUMENTS: (SEC 1603)  
THIS BLDG. SHALL BE DESIGNED IN ACCORDANCE WITH IBC SECTION 1609 AS A FULLY ENCLOSED BLDG. USING THE FOLLOWING INFORMATION:  
BASIC WIND SPEED (3 SECOND GUSTS) = 130 MPH (FIG 1609)  
IMPORTANCE FACTOR: CATEGORY III BLDG., IE = 1.00, IS = 1.0, IW = 1.00  
(TBL 1604.5) EXPOSURE B, DETERMINATION OF WIND LOADS SHALL BE IN ACCORDANCE WITH IBC SEC 1609.4 LIVE LOADS TBL 1607.1 OFFICE BUILDINGS CORRIDORS ABOVE FIRST FLOOR = 80PSF  
FILE AND COMPUTER ROOMS SHALL BE DESIGNED FOR HEAVIER LOADS BASED ON ANTICIPATED OCCUPANCY = -  
LOBBIES AND FIRST-FLOOR CORRIDORS = 100PSF  
OFFICES = 50 PSF  
GROUND SNOW LOADS = 5 PSF (FIG. 1608.2)  
BASED ON THE SURVEY OF THIS PROPERTY BY J.V. BURKES & ASSOCIATES, INC.  
THIS PROPERTY IS NOT IN A SPECIAL FLOOD HAZARD AREA.  
F.I.R.M. COMMUNITY MAP NO. 225205 0415 C; DATE 4/2/1991  
FLOOD ZONE: C; BASE FLOOD ELEVATION: N/A

## STREET VIEW ELEVATION M NATAL CONTRACTORS 394 VOTERS ROAD SLIDELL, LOUISIANA

SQUARE FEET TOTAL  
BUILDING SPACE TOTAL : 17,450 S.F.  
AREA OF RENOVATION : 4,400 S.F.

ZONED M-2



VICINITY MAP  
N.T.S.

## DETAILED BUILDING REQUIREMENTS (MAIN WIND FORCE RESISTING COMPONENTS)

- THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND STRUCTURES SHALL BE IN ACCORDANCE WITH EITHER THE AISC LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC-LRFD), AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS DESIGN (AISC-ASD) OR AISC SPECIFICATION FOR THE DESIGN OF STEEL HOLLOW STRUCTURAL SECTIONS (AISC-HSS). WIND LOAD DESIGN OF 130 MPH.
- ROOF COVERING HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN IBC SECTION 1507
- 7/16" THICK STRUCTURAL WOOD PANELS AND ATTACHMENT HARDWARE SHALL BE PROVIDED FOR BUILDING OCCUPANCY THE PANELS SHALL BE NUMBERED FOR EACH GLAZED OPENING AND SHALL BE STORED ON SITE PERMANENTLY (IBC 1609.1.4, EXCEPTION)

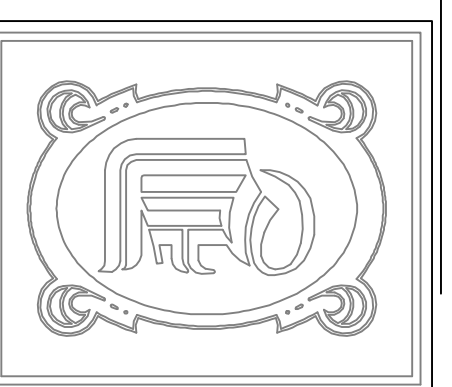
CONTRACTOR NOTE:  
EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-FORCE-RESISTING COMPONENT OF THIS BUILDING SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF THE WORK ON THAT COMPONENT. (IBC 1706.3)

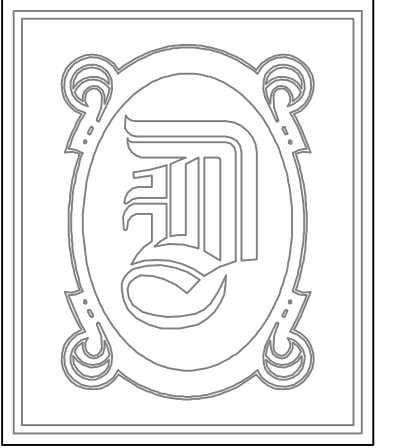
BUILDING USE DESCRIPTION:  
THIS BUILDING SHALL BE USED FOR NORMAL BUSINESS USE.

## INDEX OF DRAWINGS

DWG#	DRAWING NAME	REVISED
C-1	SITE PLAN	
A-1	FLOOR PLAN	
A-2	EXTERIOR ELEVATIONS	
A-3	REFLECTED CEILING PLAN	
H-1	HANDICAP DETAILS	
H-2	HANDICAP DETAILS	
E-1	POWER PLAN	
E-2	LIGHTING PLAN	
M-1	VENTILATION & ZONE 1 MECHANICAL PLAN	
M-2	ZONES 2 & 3 MECHANICAL PLAN	
P-1	PLUMBING PLAN	

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ARCHITECTURE  
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EXPERT WITNESS

OFFICE RENOVATION / ADDITION

M NATAL CONTRACTORS, INC.  
394 VOTERS ROAD  
SLIDELL, LA

FLOOR PLAN

REV:

SCALE: AS NOTED

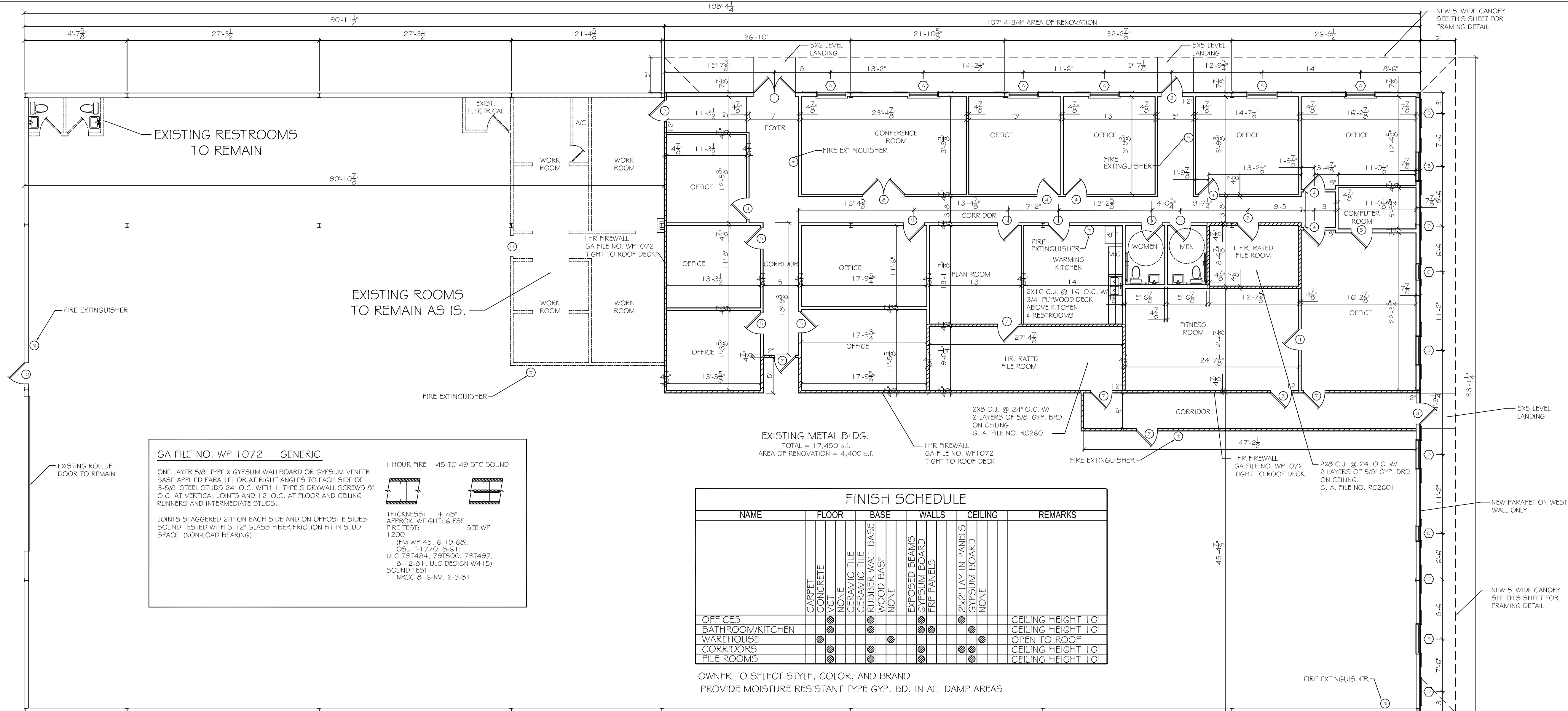
JOB#: 1956

DATE: 07-16-08

SHEET 3

A-1

OF 12



**GA FILE NO. WP 1072 GENERIC**

ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD OR GYPSUM VENEER. BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF 3-5/8" STEEL STUDS 24" O.C. WITH 1" TYPE S DRYWALL SCREWS 8" O.C. AT VERTICAL JOINTS AND 12" O.C. AT FLOOR AND CEILING RUNNERS AND INTERMEDIATE STUDS.

JOINTS STAGGERED 24" ON EACH SIDE AND ON OPPOSITE SIDES. SOUND TESTED WITH 3-1/2" GLASS FIBER FRICTION FIT IN STUD SPACE. (NON-LOAD BEARING)

THICKNESS: 4-7/8" APPROX. WEIGHT: 6 P5F FIRE TEST: 1200 (FM WP-45, 6-19-65); OSU T-1770, 8-61; ULC 79T484, 79T500, 79T497, 8-12-81, ULC DESIGN W415) SOUND TEST: NRCC 816-NV, 2-3-81

1 HOUR FIRE 45 TO 49 STC SOUND

**FINISH SCHEDULE**

NAME	FLOOR	BASE	WALLS	CEILING	REMARKS
OFFICES					CEILING HEIGHT 10'
BATHROOM/KITCHEN					CEILING HEIGHT 10'
WAREHOUSE					OPEN TO ROOF
CORRIDORS					CEILING HEIGHT 10'
FILE ROOMS					CEILING HEIGHT 10'

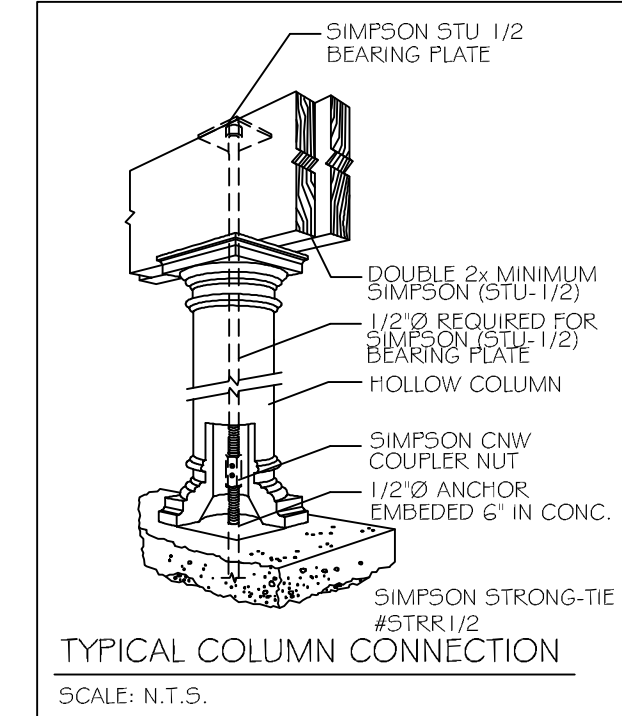
OWNER TO SELECT STYLE, COLOR, AND BRAND  
PROVIDE MOISTURE RESISTANT TYPE GYP. BD. IN ALL DAMP AREAS

**THERMAL COMPONENT CRITERIA (U-FACTOR AND R-VALUE)**

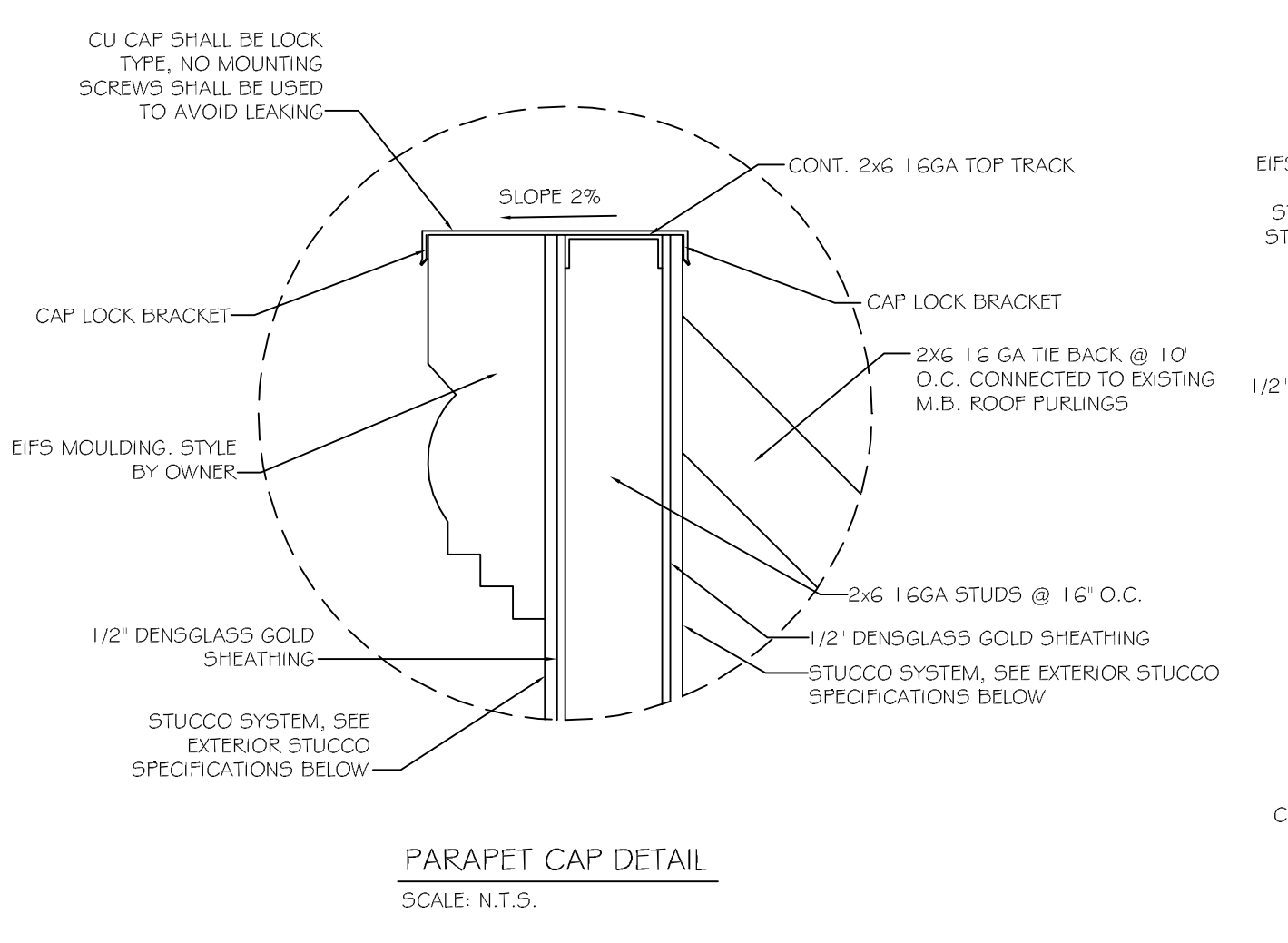
MAX. GLAZING U-FACTOR	CEILING	WALLS	FLOORS	BASEMENT WALLS	CRAWL SPACE WALLS
.75	R-26	R-13	R-11	R-5	R-5

**WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS**

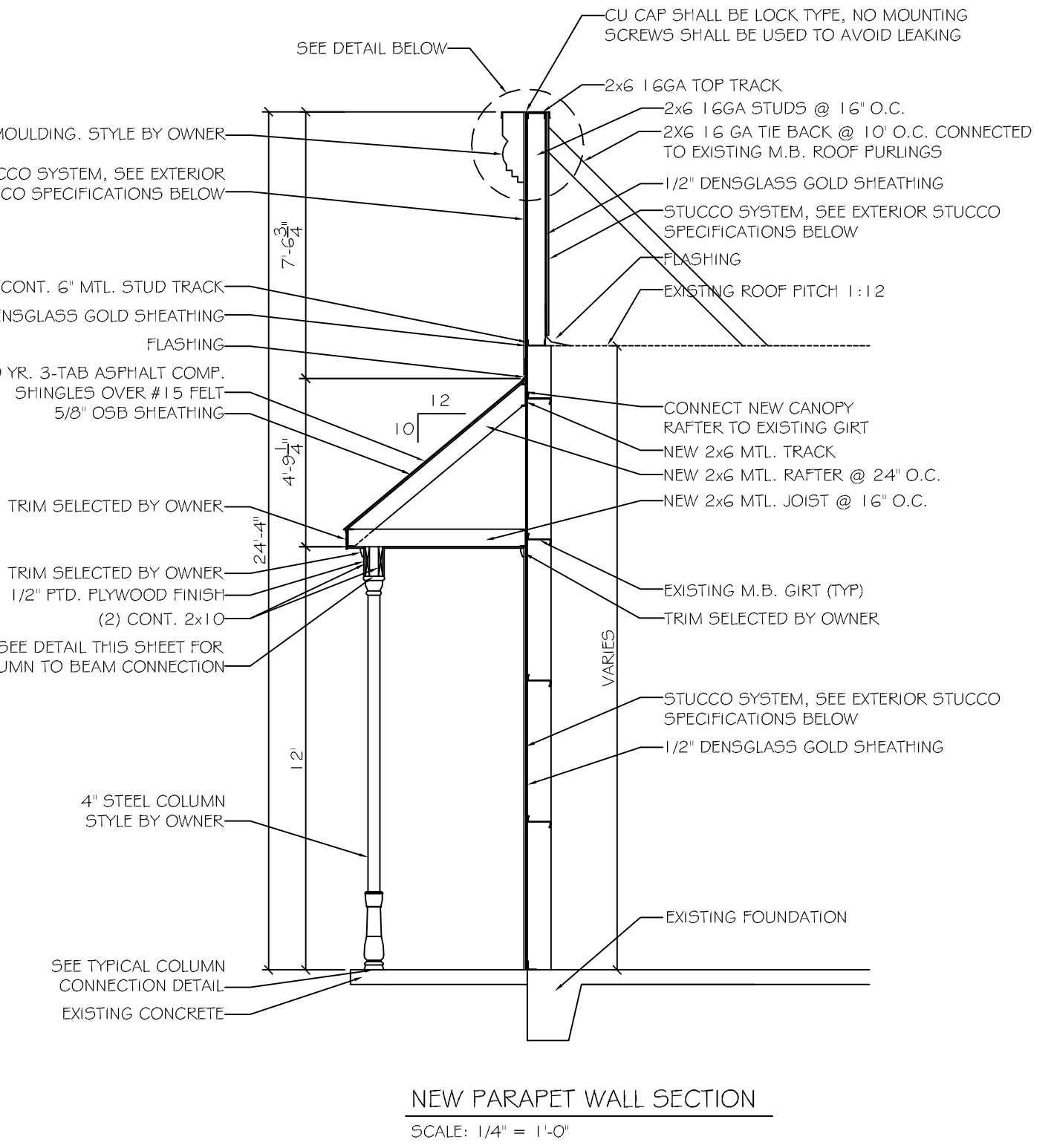
FASTENER TYPE	PANEL SPAN ≤ 4 FOOT	4 FOOT PANEL SPAN ≤ 6 FOOT	6 FOOT PANEL SPAN ≤ 8 FOOT
2-1/2" #6 WOOD SCREWS	16"	12"	9"
2-1/2" #8 WOOD SCREWS	16"	16"	12"



- GENERAL NOTES**
- INSULATION AND INSULATION ASSEMBLIES SHALL MEET THE REQUIREMENTS OF SECTION 719.
  - A. CONCEALED INSULATION SHALL HAVE A FLAME SPREAD OF 0-25 AND SMOKE DEVELOPED INDEX OF 0-450, EXCEPT THAT IN COMBUSTIBLE (WOOD FRAME) CONSTRUCTION.
  - B. FACING SHALL COMPLY WITH IBC 2006.
  - PROVIDE 5x5 LANDINGS, LEVEL WITH FINISHED FLOOR, OUTSIDE EXTERIOR DOORS. THRESHOLDS SHALL BE NOT MORE THAN 1/2" IN HEIGHT AND SHALL BE BEVELED IF MORE THAN 1/4".
  - DIMENSIONS ARE TO CENTERLINE, FACE OF STUDS, CENTER OF COLUMNS, OR FACE OF VENEER.
  - CONTRACTOR TO VERIFY ALL SITE CONDITIONS, BUILDING LOCATIONS, AND DIMENSIONS PRIOR TO CONSTRUCTION.
  - MATERIALS SHALL BE NEW AND U.L. LISTED.
  - NO WORK SHALL BE CONCEALED UNTIL APPROVED BY LOCAL INSPECTORS.
  - CONSTRUCTION SHALL COMPLY WITH ALL PARISH, STATE, AND LOCAL CODES.
  - CONTRACTOR TO GUARANTEE WORK FOR ONE YEAR.
  - CONTRACTOR SHALL FURNISH WATER AND POWER FROM EXISTING SOURCES.
  - EXTERIOR CAULKING SHALL BE DOW CORNING 790 SILICONE, INSTALL IN ACCORDANCE WITH MANUFACTURER RECOMMENDATION WITH ARCHITECT'S SELECT COLOR. INTERIOR CAULKING TO BE EQUAL TO DAF PAINTABLE LATEX WITH SILICONE.
  - PAINT GRADE TO SHALL BE SHERWIN WILLIAMS OR EQUIVALENT. ALL WORK TO RECEIVE 3 COATS. COLOR SELECTION BY OWNER.
  - PROVIDE CLEANUP ON A REGULAR BASIS. NO TRASH STORED IN BUILDING.
  - ALL BATT INSULATION SHALL HAVE A CLASS 'A' (0-25) FLAME SPREAD IN COMPLIANCE WITH APPLICABLE CODE.
  - USE 6" STUDS, OR 4" STAGGERED STUDS AT ALL PLUMBING WALLS.
  - PROVIDE GALVANIZED METAL PAN WITH DRAIN AT WATER HEATER LOCATION.
  - ALL CORNERS SHALL BE PROPERLY BRACED FOR WIND LOADS. A 48" SHEATHING SHALL BE PROVIDED EVERY 20 FEET OF WALL LENGTH.
  - FLOORING SHALL BE NON-SLIP.
  - INTERIOR LOCKS ON DOORS IN MEANS OF EGRESS SHALL NOT REQUIRE THE USE OF A KEY, SPECIAL KNOWLEDGE, OR SPECIAL DEVICE TO OPEN IN THE DIRECTION OF EGRESS. ALL DOORS SHALL HAVE LEVER TYPE HANDLES.
  - INTERIOR WALLS AND CEILINGS SHALL HAVE A FLAME SPREAD OF 0-200 AND A SMOKE DEVELOPMENT RATING OF 0-450.
  - ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES COVERING THE TYPE OF WORK BEING PERFORMED.
  - PROVIDE PORTABLE FIRE EXTINGUISHERS IN ACCORDANCE WITH NFPA 101. SEE APPENDIX 'E' OF NFPA 101 FOR DISTRIBUTION OF EXTINGUISHERS.
  - ALL FIRE WALLS SHALL EXTEND TIGHT TO ROOF SHEATHING, AND BE SEALED WITH AN APPROVED FIRE CAULK.
  - ALL ELECTRICAL, MECHANICAL, AND PLUMBING MATERIALS PENETRATING FIRE WALLS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM E141.)
  - SERVICE COUNTER SHALL HAVE A HCP ACCESSIBLE WRITING SURFACE, MAX. 36" FROM F.F. (ADAAG MANUAL 1998, PG 135)



- EXTERIOR STUCCO SPECIFICATIONS:**
- COMPLY WITH ASTM C-941 AND C-482. PROVIDE 3/4" OVERALL THICKNESS ON SELF-FURRING DIAMOND MESH GALVANIZED METAL LATH; 3-4 lb. PER SQ. YARD, ON 'TYVEK' STUCCO WRAP. ATTACH LATH AT 'DIMPLES' ONLY, WITH NON-CORROSIVE SCREWS.
  - METAL LATH AND ALL ACCESSORIES TO BE EQUAL TO 'AMICO', TO INCLUDE CORNER BEADS, CASING BEADS, BASE SCREWS, AND CONTROL JOINTS, ALL INSTALLED WITH NON-CORROSIVE SCREWS. ALL ACCESSORIES TO BE ZINC. ALL CORNERS TO BE MITERED.
  - STUCCO TO BE INSTALLED IN THREE COATS: SCRATCH, BROWN, AND FINISH. FINISH COAT TO BE ORIENTAL STUCCO WITH SAND FLOAT FINISH BY U.S. GYPSUM.
  - COMPLY WITH MFR. AND INDUSTRY RECOMMENDATIONS. INSTALL LATH IN ACCORDANCE WITH ASTM C-1063.
  - SUBMIT DATA / CUT SHEETS FOR ALL ITEMS IF REQUIRED.



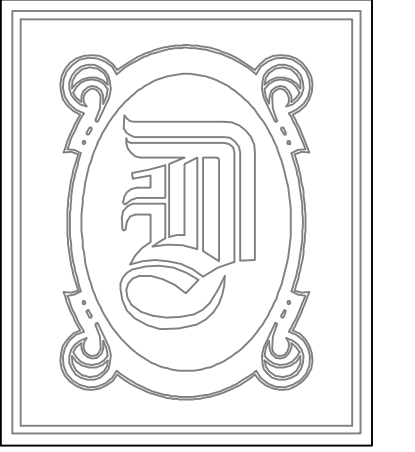
**WINDOW SCHEDULE**

WINDOW	TYPE	FRAME	GLASS	LITES	ACCESSORIES	REMARKS
A 40x60	FALSE	ALUMINUM	W/SG	1	ARCHED TOP	SEE ELEVATIONS
B 40x60	FALSE	ALUMINUM	W/SG	1	FALSE OPENING W/ STUCCO FINISH	
C 20x60	FALSE	ALUMINUM	W/SG	1	FALSE OPENING W/ STUCCO FINISH	
D 40x60	FALSE	ALUMINUM	W/SG	1	SHUTTERS ONLY	

**DOOR & HARDWARE SCHEDULE**

DOOR	TYPE	FRAME	HINGE	LOCK	ACCESSORIES	REMARKS
DOOR - EXTERIOR	SOLID WOOD	HOLLOW METAL	STEEL	CASED OPENING	STAINLESS STEEL	
1 30x60	FR	30x60	30x60	30x60	30x60	W/ TRANSOM, STYLE BY OWNER
2 30x60	FR	30x60	30x60	30x60	30x60	W/ TRANSOM, STYLE BY OWNER
3 30x60	FR	30x60	30x60	30x60	30x60	EXISTING DOOR
DOOR - INTERIOR	SOLID WOOD	HOLLOW METAL	STEEL	CASED OPENING	STAINLESS STEEL	
4 30x60	FR	30x60	30x60	30x60	30x60	EXISTING DOOR
5 30x60	FR	30x60	30x60	30x60	30x60	4.5 MINUTE RATED
6 30x60	FR	30x60	30x60	30x60	30x60	EXISTING DOOR
7 30x60	FR	30x60	30x60	30x60	30x60	4.5 MINUTE RATED
8 30x60	FR	30x60	30x60	30x60	30x60	EXISTING DOOR
9 N/A						
10 30x60						
11 30x60						

- DOOR & HARDWARE NOTES:**
- ALL GLAZING TO BE LAMINATED SAFETY GLASS.
  - DOOR HINGES TO BE STANLEY FULL MORTISE STANDARD WEIGHT, BALL BEARING HINGES, STAINLESS STEEL WITH DARK BRONZE FINISH. EXTERIOR & MATCHING DARK BRONZE FINISH ON STANDARD STEEL @ INTERIOR.
  - PROVIDE LEVER HANDLE ADA APPROVED LOCKSETS WITH MATCHING DARK BRONZE FINISH, TO BE SELECTED BY OWNER.
  - COORDINATE KEYING SCHEDULE WITH OWNER.
  - DOOR STOPS TO BE EQUAL TO IVES No. 436 OR 437, AS REQUIRED IN MATCHING DARK BRONZE FINISH.
  - WEATHER-STRIP & THRESHOLD FINISH TO COMPLEMENT OTHER HARDWARE.
  - DOOR & FRAME APPEARANCE TO BE DETERMINED BY OWNER.



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ADDITION

M NATAL  
CONTRACTORS, INC.  
394 VOTERS ROAD  
SLIDELL, LA

EXTERIOR  
ELEVATIONS

REV:

SCALE:

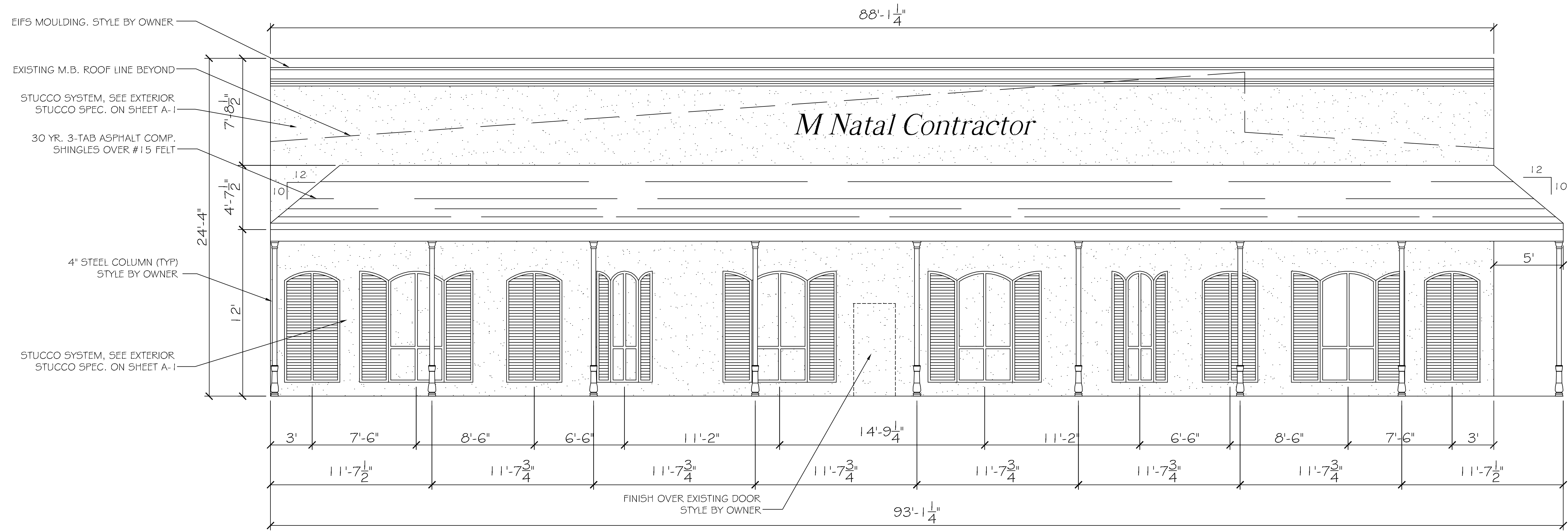
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DATE: 5-30-08

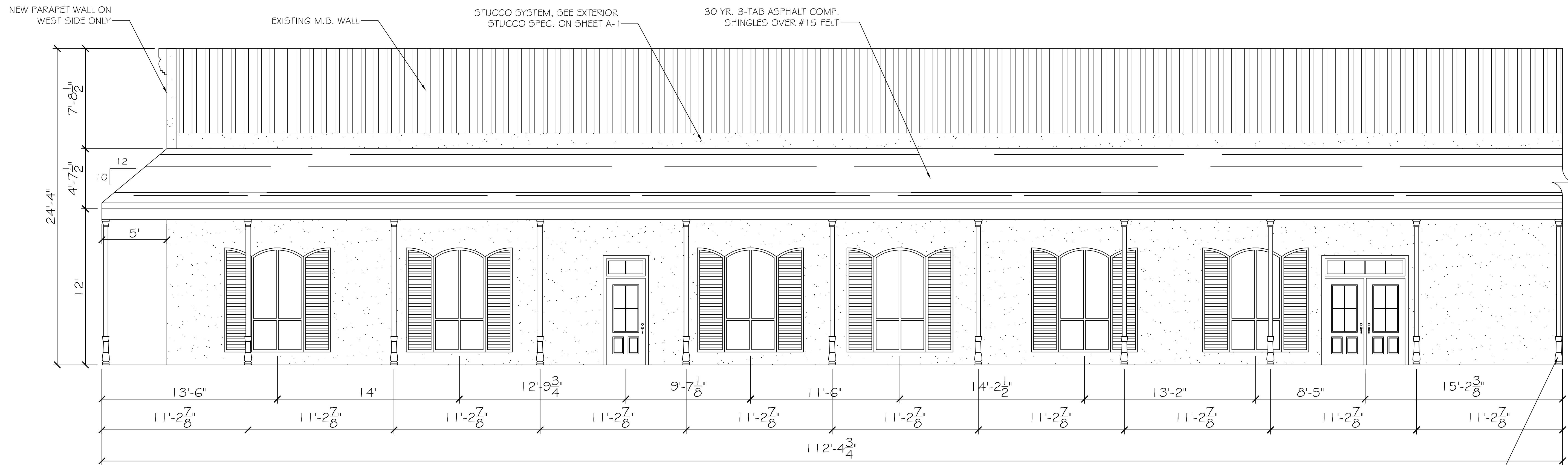
SHEET 4

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OF 12

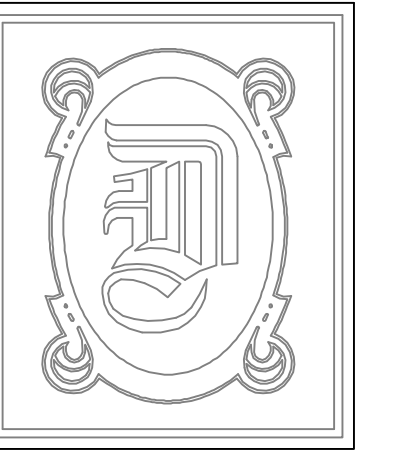


WEST ELEVATION  
SCALE: 1/4" = 1'-0"



PARTIAL SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"

4" STEEL COLUMN (TYP)  
STYLE BY OWNER



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RENOVATION/  
ADDITION

M NATAL  
CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

REFLECTED  
CEILING  
PLAN

REV:

SCALE: AS NOTED

JOB#: 1956

DATE: 07-16-08

SHEET 5

A-3

OF 12



REFLECTED CEILING PLAN   
SCALE: 1/8" = 1'-0"

**4.6 PARKING AND PASSENGER LOADING ZONES.**

4.6.1 MINIMUM NUMBER. PARKING SPACES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.6.2 THROUGH 4.6.4. PASSENGER LOADING ZONES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.6.5 AND 4.6.6.

4.6.2 LOCATION. ACCESSIBLE PARKING SPACES SERVING A PARTICULAR BUILDING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE ENTRANCE. THAT DO NOT SERVE A PARTICULAR BUILDING, ACCESSIBLE ROUTES OF TRAVEL TO AN ACCESSIBLE ENTRANCE OF THE BUILDING, ACCESSIBLE ENTRANCES WITH ADJACENT PARKING, ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AND LOCATED CLOSEST TO THE ACCESSIBLE ENTRANCES.

4.6.3 PARKING SPACES. PARKING SPACES FOR DISABLED PEOPLE SHALL BE AT LEAST 30' (9.14m) WIDE AND SHALL HAVE AN ADJACENT ACCESSIBLE SIDE OF AT LEAST 50' (15.24m) WIDE MINIMUM PARKING ACCESSIBLE SPACES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE AND SHALL COMPLY WITH 4.3. TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESSIBLE SIDE. PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE CLEAR WIDTH OF AN ACCESSIBLE CIRCULATION ROUTE. PARKING SPACES AND ACCESSIBLE SPACES SHALL BE LEVEL WITH SURFACE. SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS.

EXCEPTION: IF ACCESSIBLE PARKING SPACES FOR VANS DESIGNED FOR HANDICAPPED PERSONS ARE PROVIDED, EACH SPACE SHALL HAVE AN ADJACENT ACCESSIBLE SIDE AT LEAST 50' (15.24m) WIDE COMPLYING WITH 4.3, GROUND AND FLOOR SURFACES.

4.6.4 SIGNAGE. ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED FOR THE DISABLED BY A SIGN SHOWING THE SYMBOL OF ACCESSIBILITY (SEE FIG. 3.0) SIGN SIGNS SHALL NOT BE OBLSCURED BY A VEHICLE PARKED IN THE SPACE.

4.6.5 PASSENGER LOADING ZONES. PASSENGER LOADING ZONES SHALL PROVIDE AN ACCESSIBLE ASILE AT LEAST 60' (18.29m) WIDE AND 20' (6.09m) LONG ADJACENT AND PARALLEL TO THE VEHICLE PULL-UP SPACE (SEE FIG. 10). IF THERE ARE CURBS BETWEEN THE ACCESSIBLE ASILE AND THE VEHICLE PULL-UP SPACE, THEN A CURB RAMP COMPLYING WITH 4.7 SHALL BE PROVIDED. VEHICLE STANDING SPACES AND ACCESSIBLE SPACES SHALL BE LEVEL WITH SURFACE. SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS.

4.6.6 VERTICAL CLEARANCE. PASSENGER LOADING ZONES SHALL PROVIDE AN ACCESSIBLE ASILE AT LEAST 60' (18.29m) WIDE AND 20' (6.09m) LONG ADJACENT AND PARALLEL TO THE VEHICLE PULL-UP SPACE (SEE FIG. 10). IF THERE ARE CURBS BETWEEN THE ACCESSIBLE ASILE AND THE VEHICLE PULL-UP SPACE, THEN A CURB RAMP COMPLYING WITH 4.7 SHALL BE PROVIDED. VEHICLE STANDING SPACES AND ACCESSIBLE SPACES SHALL BE LEVEL WITH SURFACE. SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS.

**4.7 CURB RAMPS.**

4.7.1 LOCATION. CURB RAMPS COMPLYING WITH 4.7 SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES A CURB.

4.7.2 SLOPE. SLOPES OF CURB RAMPS SHALL COMPLY WITH 4.8.2. THE SLOPE SHALL BE MEASURED AS SHOWN IN FIG. 1.1. TRANSITIONS FROM RAMPS TO WALKWAYS, CUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF OBSTRUCTIONS. WALKWAYS, CUTTERS, OR STREETS ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:50.

4.7.3 WIDTH. THE MINIMUM WIDTH OF A CURB RAMP SHALL BE 36", EXCLUSIVE OF FLARED SIDES.

4.7.4 SURFACE. SURFACES OF CURB RAMPS SHALL COMPLY WITH 4.5.

4.7.5 SIDES OF CURB RAMPS. IF A CURB RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS OR GUARDRAILS, THEN IT SHALL HAVE FLARED SIDES. THE MAXIMUM SLOPE OF THE FLARE SHALL BE 1:10 (9.1%) (SEE FIG. 1.2). CURB RAMPS WITH RETURNED CURBS MAY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP (SEE FIG. 1.2).

4.7.6 BUILT-UP CURB RAMPS. BUILT-UP CURB RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PROJECT INTO VEHICULAR TRAFFIC LANES (SEE FIG. 1.3).

4.7.7 WARNING TEXTURES. (RESERVED AND RESERVED).

4.7.8 OBSTRUCTIONS. CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.

4.7.9 LOCATION AT MARKED CROSSINGS. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.

4.7.10 DIAGONAL CURB RAMPS. IF DIAGONAL OR CORNER-TYPE CURB RAMPS HAVE RETURNED CURBS OR OTHER WELLS DEFINED EDGES, SUCH EDGES SHALL BE PARALLEL TO THE DIRECTION OF PEDESTRIAN FLOW. THE BOTTOM OF DIAGONAL CURB RAMPS ARE PROVIDED AT MARKED CROSSINGS. THE 48" (1219mm) CLEARANCE BETWEEN THE CURB AND THE ROADWAY CURB RAMPS HAVE FLARED SIDES. THEY SHALL ALSO HAVE AT LEAST A 24" (610mm) LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSINGS.

4.7.11 ISLANDS. ANY RAISED ISLANDS IN CROSSING SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 48" (1219mm) LONG.

**4.8 RAMPS.**

4.8.1 GENERAL. ANY PART OF AN ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 SHALL BE CONSIDERED A RAMP AND SHALL COMPLY WITH 4.8.

4.8.2 SLOPE & RISE. THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION SHALL BE 1:12. THE MAXIMUM RISE FOR ANY RAMP SHALL BE 60" (1524mm) FOR CURB RAMPS AND RAMPS TO ACCESSIBLE ENTRANCES, AND 48" (1219mm) FOR RAMPS TO EXISTING BUILDINGS OR FACILITIES MAY HAVE SLOPES AND RISE AS SHOWN IN TABLE 2.

2. IF SPACE LIMITATIONS PROHIBIT THE USE OF A 1:12 SLOPE OR LESS (SEE 4.1.6).

4.8.3 CLEAR WIDTHS. THE MINIMUM CLEAR WIDTH OF A RAMP SHALL BE 36" (915mm).

4.8.4 LANDINGS. RAMPS SHALL HAVE LEVEL LANDINGS AT THE BOTTOM AND TOP OF EACH RUN. LANDINGS SHALL HAVE THE FOLLOWING FEATURES:  
 (1) THE LANDING LENGTH SHALL BE AT LEAST AS WIDE AS THE RAMP RUN LEADING TO IT.  
 (2) THE LANDING LENGTH SHALL BE A MINIMUM OF 60" (1524mm) CLEAR.  
 (3) IF RAMPS CHANGE DIRECTION AT LANDINGS, THE MINIMUM LANDING SIZE SHALL BE 60" BY 60" (1524mm BY 1524mm).  
 (4) IF A DOORWAY IS LOCATED AT A LANDING, THEN THE AREA IN FRONT OF THE DOORWAY SHALL COMPLY WITH 4.1.3.6.

4.8.5 HANDRAILS. IF A RAMP RUN HAS A RISE GREATER THAN 6" (250mm) OR A HORIZONTAL PROJECTION GREATER THAN 17" (430mm), HANDRAILS SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. HANDRAILS SHALL COMPLY WITH 4.1.9 AND SHALL HAVE THE FOLLOWING FEATURES:  
 (1) HANDRAILS SHALL BE PROVIDED ALONG BOTH SIDES OF RAMP SEGMENTS. THE INSIDE HANDRAIL ON SWITCHBACK OR DOGLEG RAMPS SHALL ALWAYS BE CONTINUOUS.  
 (2) IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 1' (300mm) BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE.  
 (3) THE CLEAR SPACE BETWEEN THE HANDRAIL AND THE WALL SHALL BE 1-1/2" (38mm).  
 (4) GRIPPING SURFACES SHALL BE CONTINUOUS.  
 (5) TOP OF HANDRAIL GRIPPING SURFACES SHALL BE MOUNTED BETWEEN 34" (863mm) AND 4' (1219mm) ABOVE RAMP SURFACES.  
 (6) ENDS OF HANDRAILS SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR, WALL, OR POST.  
 (7) HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

4.8.6 CROSS SLOPE & SURFACES. THE CROSS SLOPE OF RAMP SURFACES SHALL BE NO GREATER THAN 1:50. RAMP SURFACES SHALL COMPLY WITH 4.5.

4.8.7 EDGE PROTECTION. RAMPS AND LANDINGS WITH DROP-OFFS SHALL HAVE CURBS, WALLS, RAILINGS, OR PROTECTIVE SURFACES THAT PREVENT PEOPLE FROM SLIPPING OFF THE RAMP. CURBS SHALL BE A MINIMUM OF 2" (50mm) HIGH (SEE FIG. 17).

4.8.8 OUTDOOR CONDITIONS. OUTDOOR RAMPS AND THEIR APPROACHES SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

**4.9 STAIRS.**

4.9.1 MINIMUM NUMBER. STAIRS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.9.

4.9.2 TREADS & RISERS. ON ANY GIVEN FLIGHT OF STAIRS, ALL STAIRS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD WIDTHS. STAIR TREADS SHALL BE NO LESS THAN 11" (280mm) WIDE, MEASURABLE FROM RISER TO RISER (SEE FIG. 1.9). OPEN RISERS ARE NOT PERMITTED ON ACCESSIBLE ROUTES.

4.9.3 NOSINGS. THE UNDERSIDES OF NOSINGS SHALL NOT BE ABUPT. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE NO GREATER THAN 1/2" (12.7mm). RISERS SHALL BE SLOPED OR UNDERSCORED. THE NOSING SHALL HAVE AN ANGLE NOT LESS THAN 90 DEGREES FROM THE HORIZONTAL. NOSING SHALL PROJECT NO MORE THAN 1-1/2" (38mm) (SEE FIG. 19).

4.9.4 HANDRAILS. STAIRWAYS SHALL HAVE HANDRAILS AT BOTH SIDES OF ALL STAIRS. HANDRAILS SHALL COMPLY WITH 4.2.6 AND SHALL HAVE THE FOLLOWING FEATURES:  
 (1) HANDRAILS SHALL BE CONTINUOUS ALONG BOTH SIDES OF STAIRS. THE INSIDE HANDRAIL OR SWITCHBACK OR DOGLEG STAIRS SHALL ALWAYS BE CONTINUOUS (SEE FIG. 19B & 19C).  
 (2) IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 1' (300mm) PLUS THE WIDTH OF ONE TREAD BEYOND THE BOTTOM RISER. AT THE TOP, THE EXTENSION SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE. AT THE BOTTOM, THE HANDRAIL BOTTOM CONTINUATION TO 36" (915mm) CLEARANCE OF THE WIDTH OF ONE TREAD FROM THE BOTTOM RISER. THE BOTTOM CONTINUATION SHALL BE HORIZONTAL (SEE FIG. 19C) & 60". HANDRAIL EXTENSIONS SHALL COMPLY WITH 4.4.  
 (3) THE CLEAR SPACE BETWEEN HANDRAILS AND WALLS SHALL BE 1-1/2" (38mm).  
 (4) GRIPPING SURFACES SHALL BE UNINTERRUPTED BY NAIL HEADS, OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.  
 (5) TOP OF HANDRAIL GRIPPING SURFACE SHALL BE MOUNTED BETWEEN 34" (863mm) AND 4' (1219mm) ABOVE STAIR NOSINGS.  
 (6) ENDS OF HANDRAILS SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR, WALL, OR POST.  
 (7) HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

4.9.5 TACTILE WARNINGS AT STAIRS. (RESERVED & RESERVED).

4.9.6 OUTDOOR CONDITIONS. OUTDOOR STAIRS AND THEIR APPROACHES SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

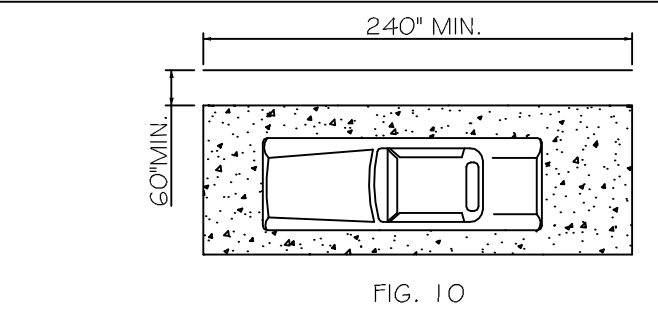


FIG. 10 ACCESSIBLE AISLE AT PASSENGER LOADING ZONES N.T.S.

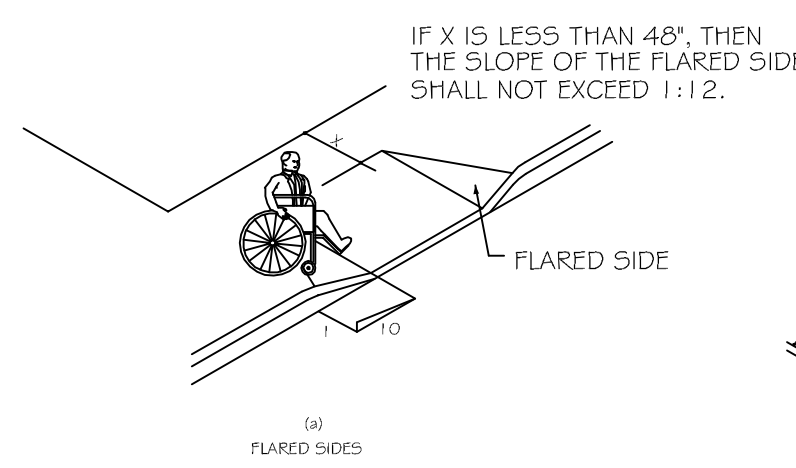


FIG. 12 SIDES OF CURB RAMPS N.T.S.



FIG. 13 BUILT-UP CURB RAMP N.T.S.

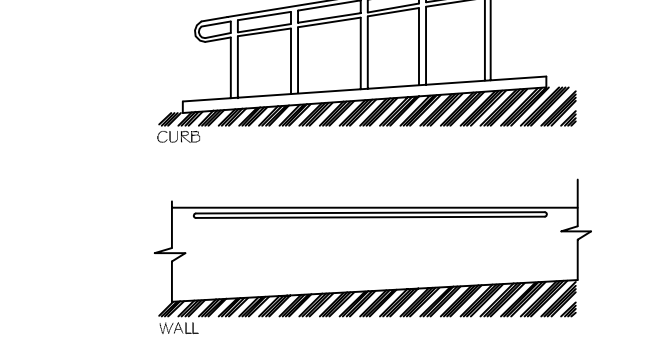


FIG. 14 EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS N.T.S.

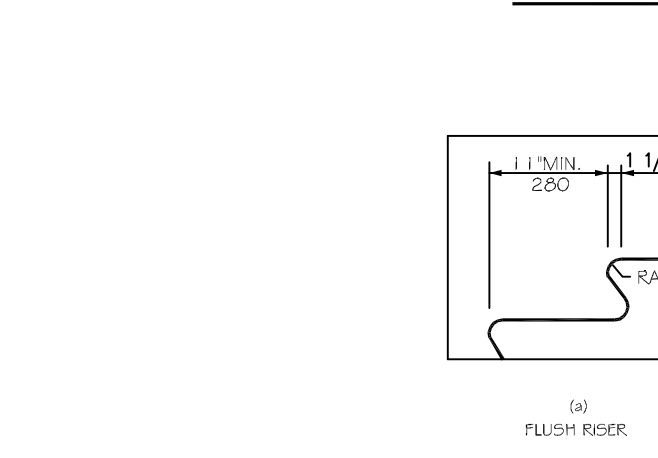


FIG. 15 USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS N.T.S.

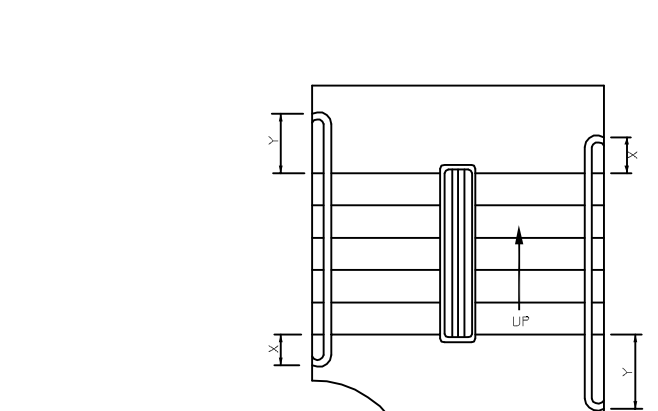


FIG. 16 MINIMUM DIMENSION OF ELEVATOR CARS N.T.S.

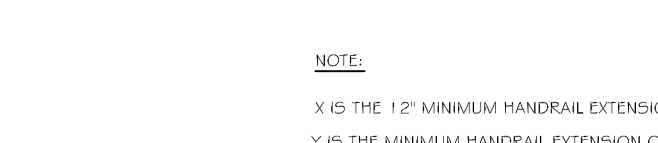


FIG. 17 STAIR HANDRAILS N.T.S.



FIG. 18 CAR CONTROLS N.T.S.



FIG. 19 CAR CONTROLS N.T.S.

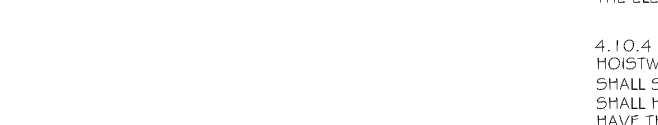


FIG. 20 CAR CONTROLS N.T.S.



FIG. 21 CAR CONTROLS N.T.S.

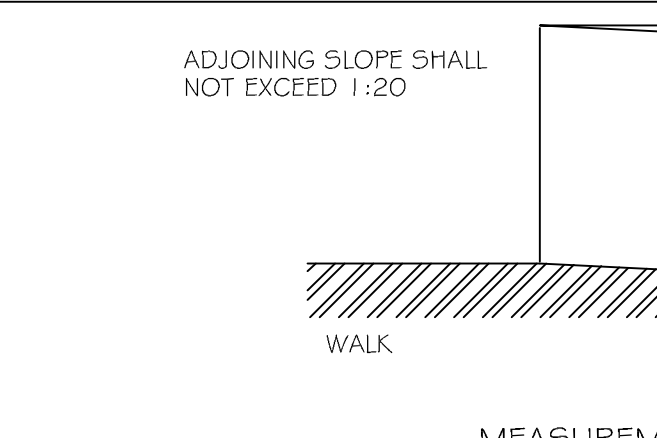


FIG. 11 MEASUREMENT OF CURB RAMP SLOPES N.T.S.

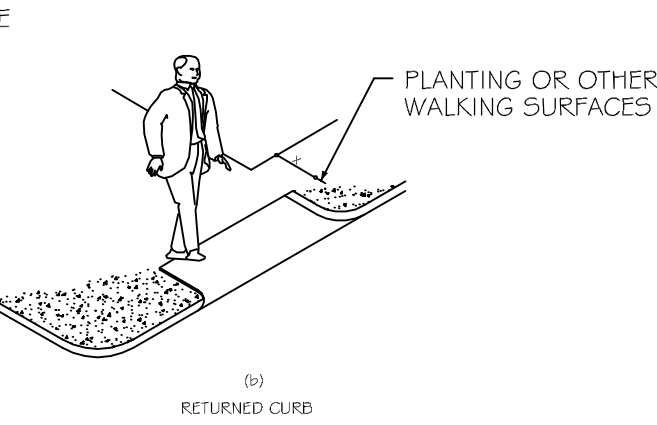


FIG. 12 SIDES OF CURB RAMPS N.T.S.



FIG. 13 BUILT-UP CURB RAMP N.T.S.

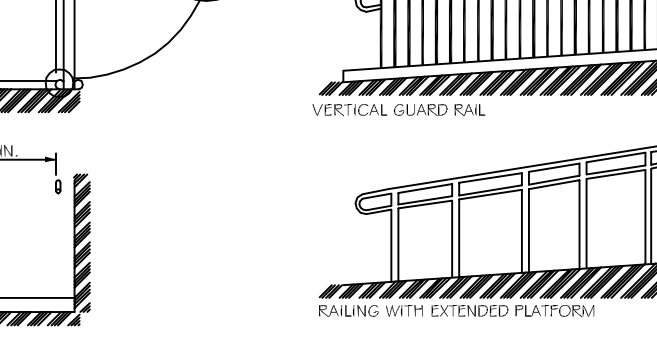


FIG. 14 EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS N.T.S.

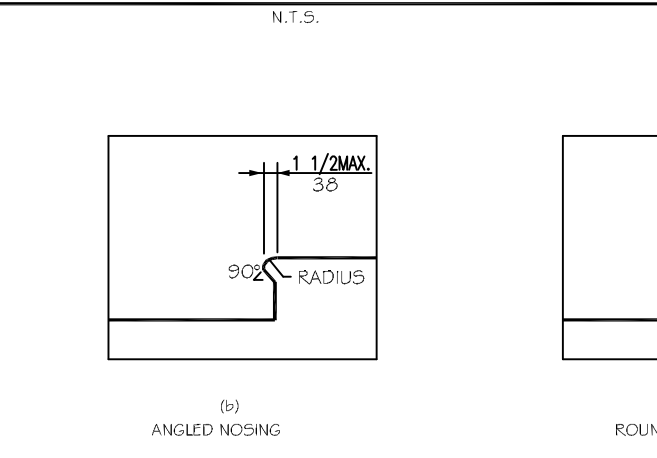


FIG. 15 USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS N.T.S.

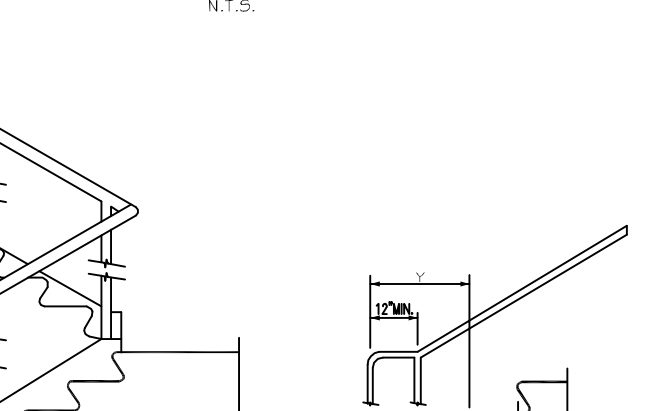


FIG. 16 MINIMUM DIMENSION OF ELEVATOR CARS N.T.S.



FIG. 17 STAIR HANDRAILS N.T.S.



FIG. 18 CAR CONTROLS N.T.S.

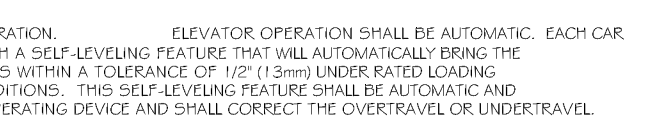


FIG. 19 CAR CONTROLS N.T.S.

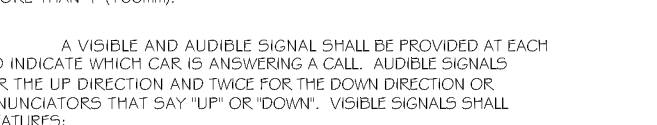


FIG. 20 CAR CONTROLS N.T.S.

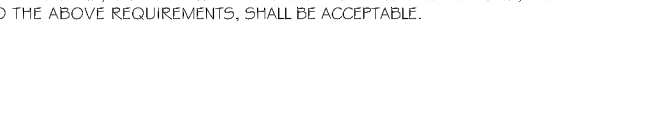


FIG. 21 CAR CONTROLS N.T.S.

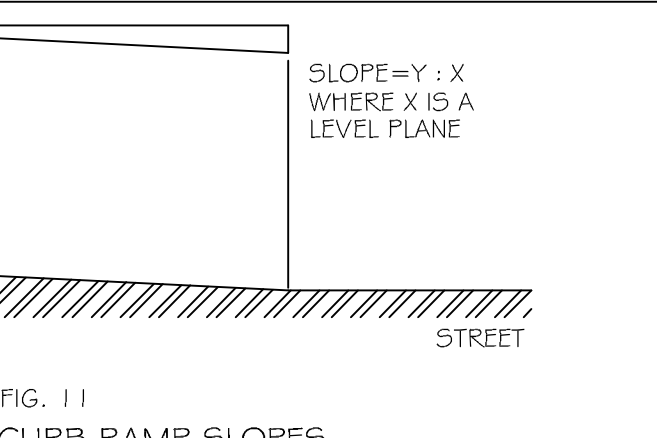


FIG. 11 MEASUREMENT OF CURB RAMP SLOPES N.T.S.

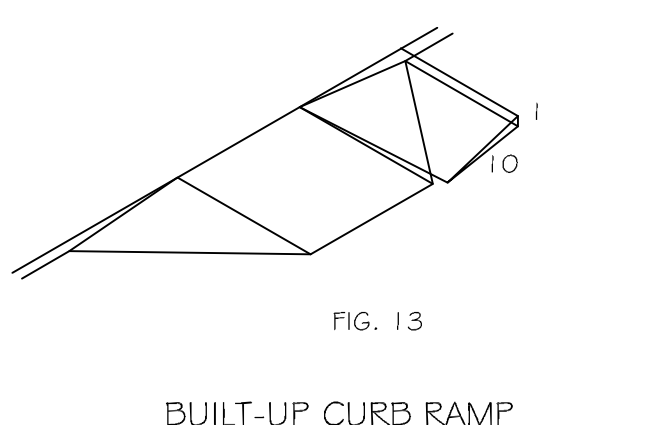


FIG. 12 SIDES OF CURB RAMPS N.T.S.



FIG. 13 BUILT-UP CURB RAMP N.T.S.

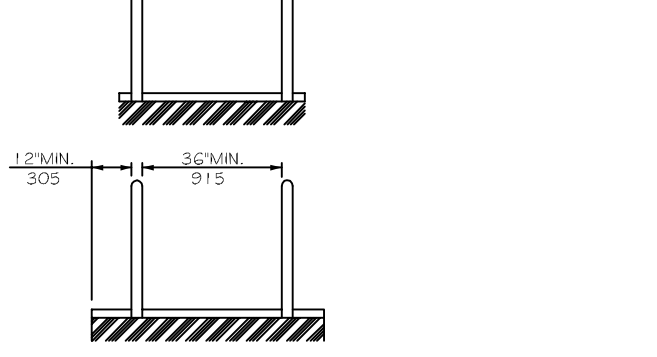


FIG. 14 EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS N.T.S.



FIG. 15 USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS N.T.S.



FIG. 16 MINIMUM DIMENSION OF ELEVATOR CARS N.T.S.



FIG. 17 STAIR HANDRAILS N.T.S.

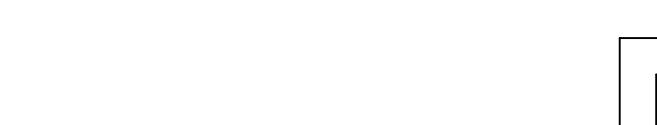


FIG. 18 CAR CONTROLS N.T.S.



FIG. 19 CAR CONTROLS N.T.S.



FIG. 20 CAR CONTROLS N.T.S.



FIG. 21 CAR CONTROLS N.T.S.

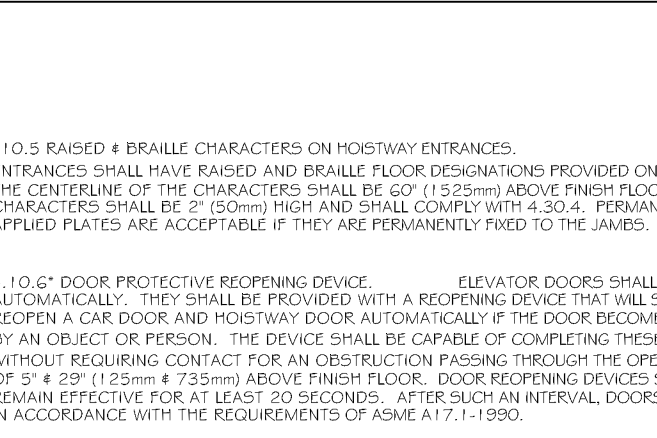


FIG. 11 MEASUREMENT OF CURB RAMP SLOPES N.T.S.

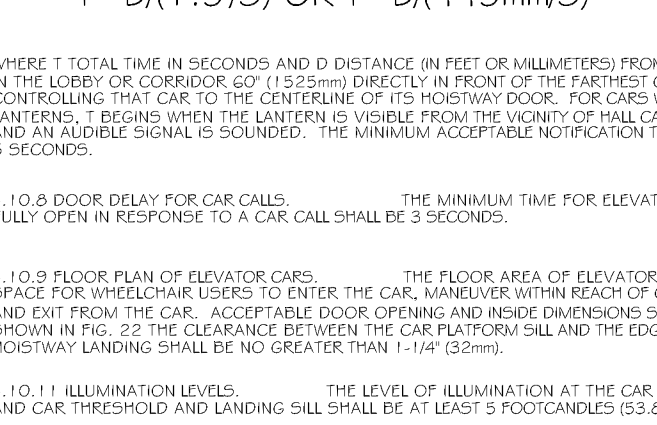


FIG. 12 SIDES OF CURB RAMPS N.T.S.

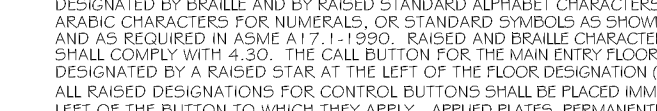


FIG. 13 BUILT-UP CURB RAMP N.T.S.

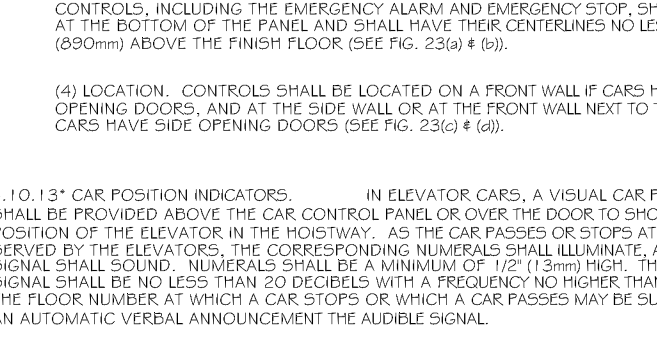


FIG. 14 EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS N.T.S.

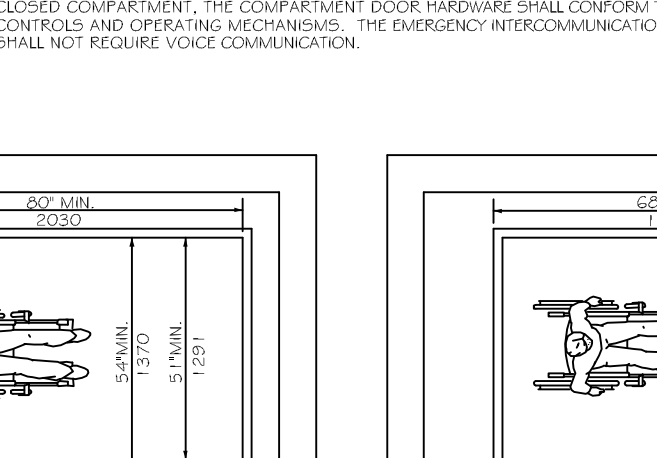


FIG. 15 USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS N.T.S.

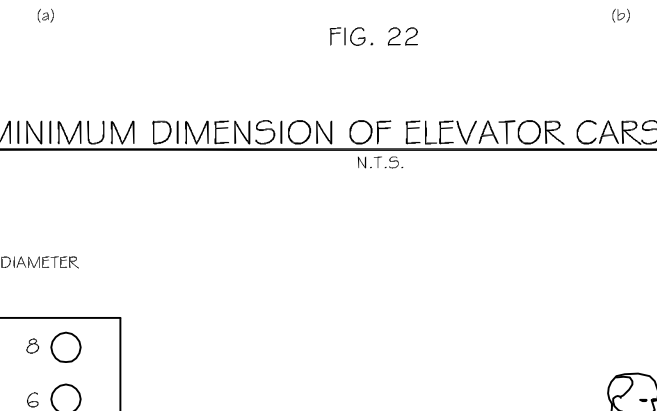


FIG. 16 MINIMUM DIMENSION OF ELEVATOR CARS N.T.S.



FIG. 17 STAIR HANDRAILS N.T.S.

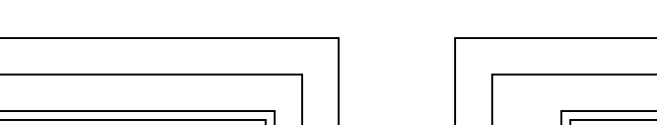


FIG. 18 CAR CONTROLS N.T.S.

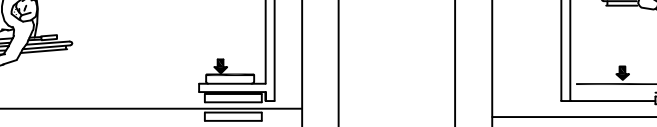


FIG. 19 CAR CONTROLS N.T.S.



FIG. 20 CAR CONTROLS N.T.S.



FIG. 21 CAR CONTROLS N.T.S.

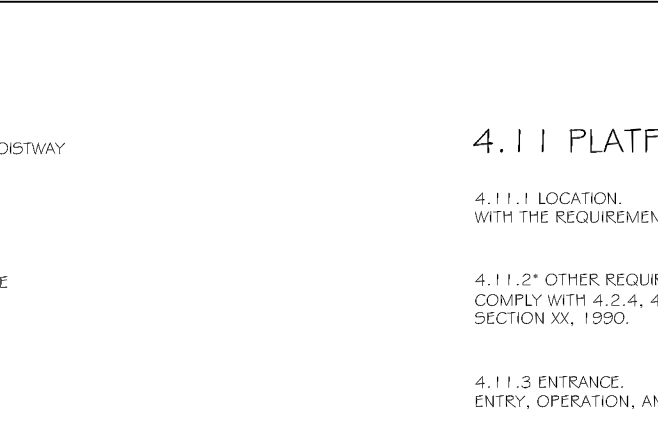


FIG. 11 MEASUREMENT OF CURB RAMP SLOPES N.T.S.

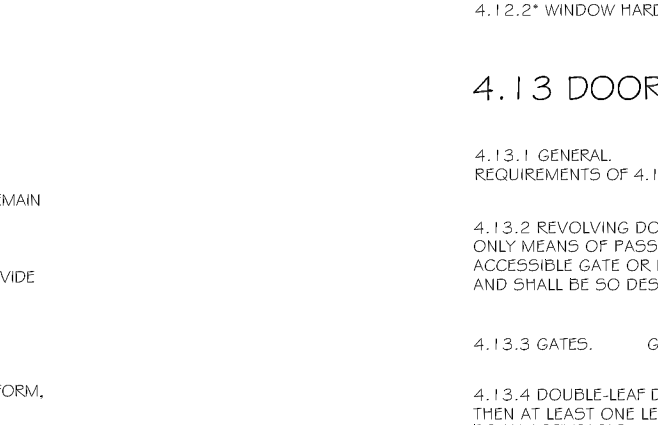


FIG. 12 SIDES OF CURB RAMPS N.T.S.



FIG. 13 BUILT-UP CURB RAMP N.T.S.

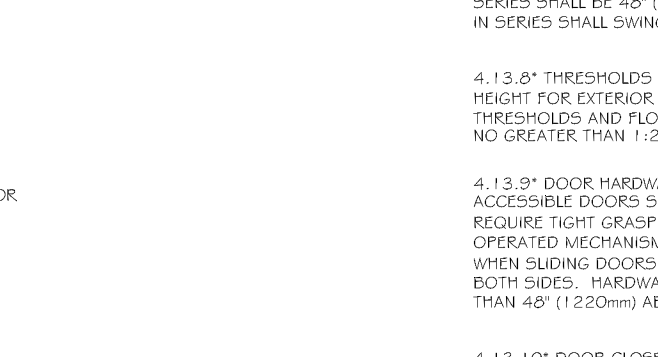


FIG. 14 EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS N.T.S.

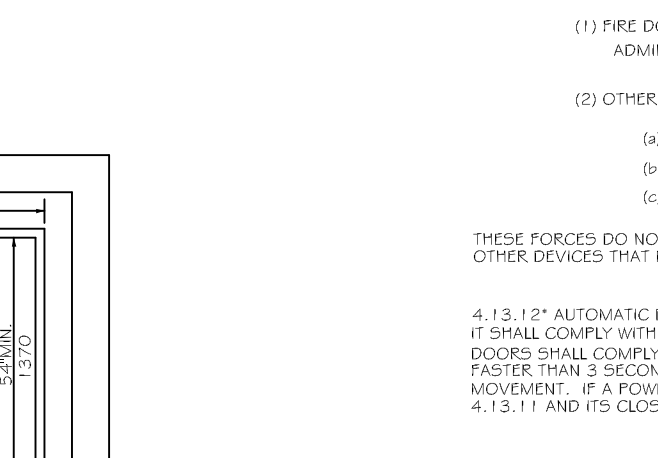


FIG. 15 USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS N.T.S.

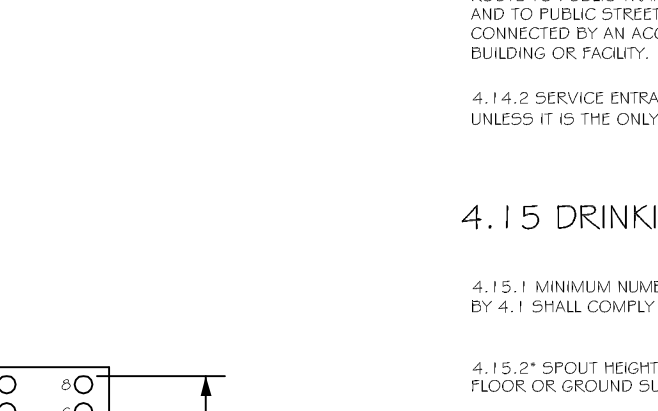


FIG. 16 MINIMUM DIMENSION OF ELEVATOR CARS N.T.S.



FIG. 17 STAIR HANDRAILS N.T.S.



FIG. 18 CAR CONTROLS N.T.S.



FIG. 19 CAR CONTROLS N.T.S.



FIG. 20 CAR CONTROLS N.T.S.



FIG. 21 CAR CONTROLS N.T.S.

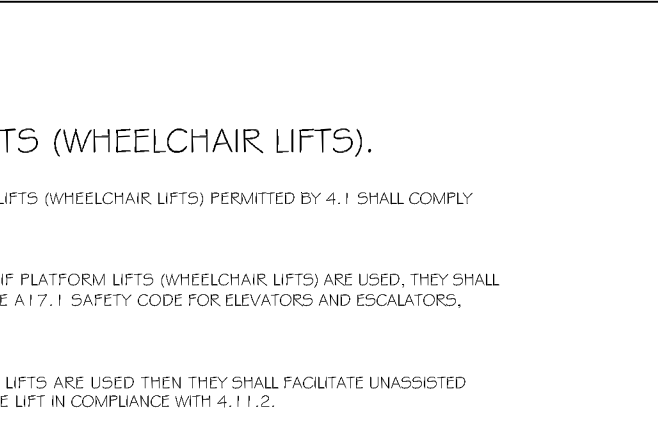


FIG. 11 MEASUREMENT OF CURB RAMP SLOPES N.T.S.

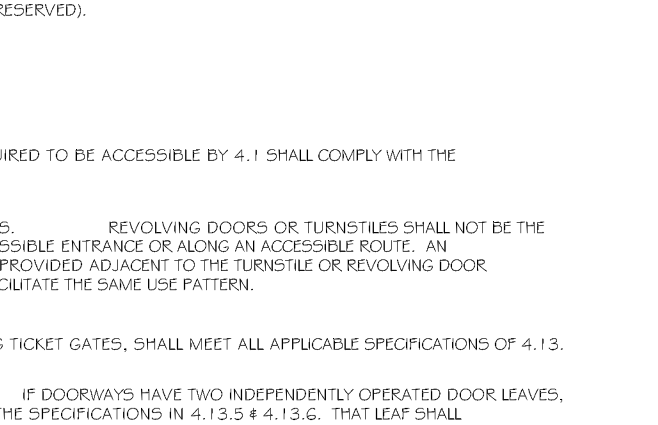


FIG. 12 SIDES OF CURB RAMPS N.T.S.

#### 4.1.6 WATER CLOSETS.

- 4.1.6.1 GENERAL ACCESSIBLE WATER CLOSETS SHALL COMPLY WITH 4.1.6.
- 4.1.6.2 CLEAR FLOOR SPACE CLEAR FLOOR SPACE FOR WATER CLOSETS NOT IN STALLS SHALL COMPLY WITH 4.1.6. CLEAR FLOOR SPACE MAY BE ARRANGED TO ALLOW EITHER A LEFT-HANDED OR RIGHT-HANDED APPROACH.
- 4.1.6.3 HEIGHT THE HEIGHT OF WATER CLOSETS SHALL BE 17" TO 19" (430mm TO 485mm), MEASURED TO THE TOP OF THE TOILET SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION (SEE FIG. 31).
- 4.1.6.4 GRAB BARS GRAB BARS FOR WATER CLOSETS NOT LOCATED IN STALL SHALL COMPLY WITH 4.2.6 AND FIG. 31.
- 4.1.6.5 FLUSH CONTROLS FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC AND SHALL COMPLY WITH 4.27.4. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS NO MORE THAN 44" (1120mm) ABOVE THE FLOOR.
- 4.1.6.6 DISPENSERS TOILET PAPER DISPENSERS SHALL BE INSTALLED WITHIN REACH, AS SHOWN IN FIG. 31. DISPENSERS THAT CONTROL DELIVER, OR THAT DO NOT RETURN CONTROLED FAPER FLOW, SHALL NOT BE USED.

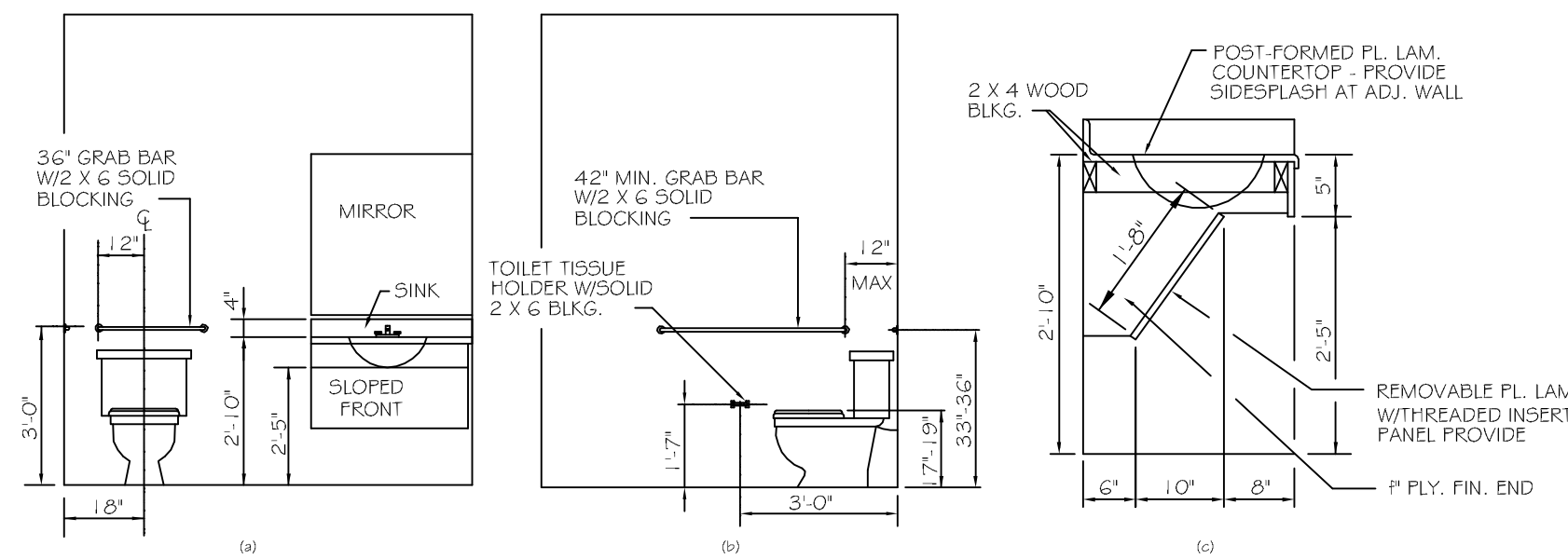


FIG. 31 LAVATORY & WATER CLOSET CLEARANCES  
N.T.S.

#### 4.1.7 TOILET STALLS.

- 4.1.7.1 LOCATION ACCESSIBLE TOILET STALLS SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL MEET THE REQUIREMENTS OF 4.1.7.
- 4.1.7.2 WATER CLOSETS WATER CLOSETS IN ACCESSIBLE STALLS SHALL COMPLY WITH 4.1.6.
- 4.1.7.3 SIZE AND ARRANGEMENT THE SIZE AND ARRANGEMENT OF STANDARD TOILET STALL SHALL COMPLY WITH 4.1.7. STANDARD TOILET STALLS WITH A MINIMUM WIDTH OF 52" (1320mm) SHALL HAVE WALL-MOUNTED WATER CLOSETS. IF THE DEPTH OF A STANDARD TOILET STALL IS INCREASED AT LEAST 3" (75mm), THEN A FLOOR-MOUNTED WATER CLOSET MAY BE USED. ARRANGEMENTS SHOWN FOR STANDARD TOILET STALLS MAY BE REVERSED TO ALLOW EITHER A LEFT- OR RIGHT-HANDED APPROACH. ADDITIONAL STALLS SHALL COMPLY IN CONFORMANCE WITH 4.23.4.

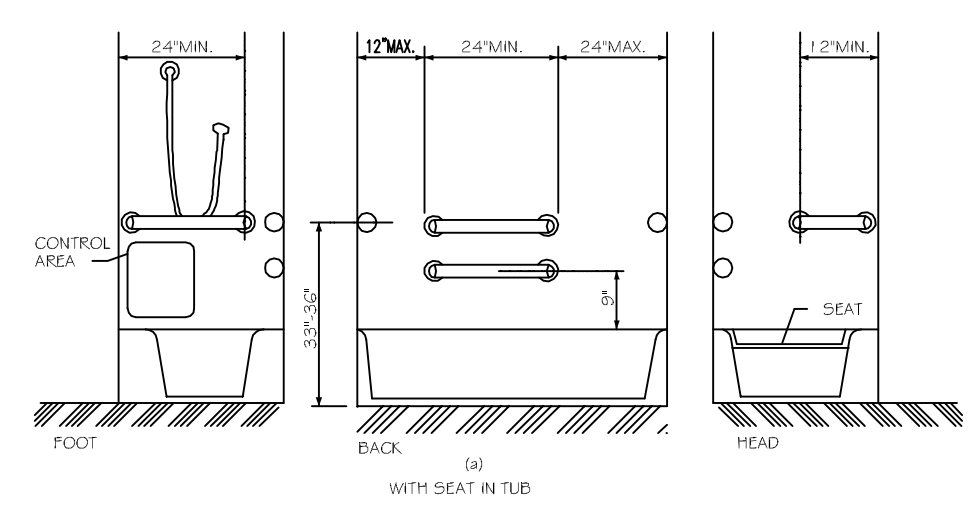


FIG. 32 TOILET STALLS  
N.T.S.

- 4.1.7.4 TOE CLEARANCES IN STANDARD STALLS, THE FRONT PARTITION AND AT LEAST ONE SIDE PARTITION SHALL PROVIDE A TOE CLEARANCE OF AT LEAST 9" (230mm) ABOVE THE FLOOR. IF THE DEPTH OF THE STALL IS GREATER THAN 60" (1525mm), THEN THE TOE CLEARANCE IS NOT REQUIRED.
- 4.1.7.5 DOORS TOILET STALL DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 4.13. IF TOILET STALL APPROACH IS FROM THE LATCH SIDE OF THE STALL DOOR, CLEARANCE BETWEEN THE DOOR-SIDE OF THE STALL AND ANY OBSTRUCTION MAY BE REDUCED TO A MINIMUM OF 42" (1065mm).
- 4.1.7.6 GRAB BARS GRAB BARS MAY BE MOUNTED WITH ANY DESIRED METHOD AS LONG AS THEY HAVE A GRIPPING SURFACE AT THE LOCATIONS SHOWN IN FIG. 31 AND DO NOT OBSTRUCT THE REQUIRED CLEAR FLOOR AREA. GRAB BARS SHALL COMPLY WITH 4.2.6.

#### 4.1.8 URINALS.

- 4.1.8.1 GENERAL ACCESSIBLE URINALS SHALL COMPLY WITH 4.1.8.
- 4.1.8.2 HEIGHT URINALS SHALL BE STALL-TYPE OR WALL-HUNG WITH AN ELONGATED RIM AT A MAXIMUM OF 17" (430mm) ABOVE THE FINISH FLOOR.
- 4.1.8.3 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE 30" BY 48" (760mm BY 1220mm) SHALL BE PROVIDED IN FRONT OF URINALS TO ALLOW FORWARD APPROACH. THIS CLEAR SPACE SHALL ADJOIN OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.2.4. URINALS SHALL NOT EXTEND BEYOND THE FRONT EDGE OF THE URINAL RIM AND PROVIDE WITH 22" (555mm) CLEARANCE BETWEEN THEM.
- 4.1.8.4 FLUSH CONTROLS FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC, AND SHALL COMPLY WITH 4.27.4, AND SHALL BE MOUNTED NO MORE THAN 44" (1120mm) ABOVE THE FINISH FLOOR.

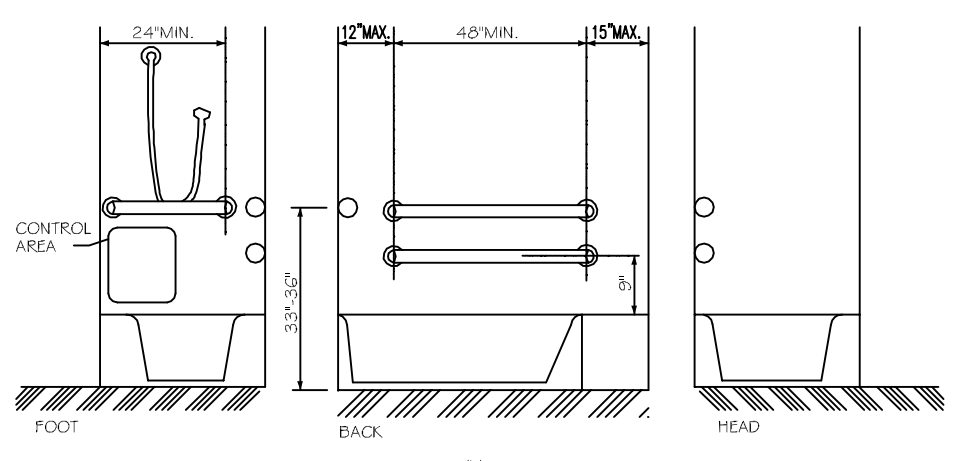


FIG. 34 GRAB BARS AT BATHTUBS  
N.T.S.

#### 4.1.9 LAVATORIES & MIRRORS.

- 4.1.9.1 GENERAL THE REQUIREMENTS OF 4.1.9 SHALL APPLY TO LAVATORIES, VANITIES, AND SINKS IN LAVATORIES.
- 4.1.9.2 HEIGHT & CLEARANCES LAVATORIES SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO HIGHER THAN 48" (1220mm) ABOVE THE FINISH FLOOR. PROVIDE A CLEARANCE OF AT LEAST 29" (735mm) ABOVE THE FINISH FLOOR TO THE BOTTOM OF THE APRON (SEE FIG. 31).
- 4.1.9.3 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE 30" BY 48" (760mm BY 1220mm) COMPLYING WITH 4.2.4 SHALL BE PROVIDED IN FRONT OF A LAVATORY TO ALLOW FORWARD APPROACH. SUCH CLEAR FLOOR SPACE SHALL ADJOIN OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL EXTEND A MAXIMUM OF 19" (485mm) UNDERNEATH THE LAVATORY.
- 4.1.9.4 EXPOSED PIPES & SURFACES HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
- 4.1.9.5 FAUCETS FAUCETS SHALL COMPLY WITH 4.27.4. LEVER-OPERATED, PUSH-TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. IF SELF-CLOSING VALVES ARE USED, THE FAUCET SHALL REMAIN OPEN AT LEAST 10 SECONDS.
- 4.1.9.6 MIRRORS MIRRORS SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE NO HIGHER THAN 40" (1015mm) ABOVE THE FINISH FLOOR (SEE FIG. 31).

#### 4.2.0 BATHTUBS.

- 4.2.0.1 GENERAL ACCESSIBLE BATHTUBS SHALL COMPLY WITH 4.2.0.
- 4.2.0.2 FLOOR SPACE CLEAR FLOOR SPACE IN FRONT OF BATHTUBS SHALL COMPLY WITH 4.2.0.
- 4.2.0.3 SEAT AN IN-TUB SEAT OR A SEAT AT THE HEAD END OF THE TUB SHALL BE PROVIDED AS SHOWN IN FIG. 34. THE STRUCTURAL STRENGTH OF SEATS AND THEIR ATTACHMENTS SHALL COMPLY WITH 4.26.3. SEATS SHALL BE MOUNTED SECURELY AND SHALL NOT SLIP DURING USE.
- 4.2.0.4 GRAB BARS GRAB BARS COMPLYING WITH 4.2.6 SHALL BE PROVIDED AS SHOWN IN FIG. 34.
- 4.2.0.5 CONTROLS FAUCETS AND OTHER CONTROLS COMPLYING WITH 4.27.4 SHALL BE LOCATED AS SHOWN IN FIG. 34.
- 4.2.0.6 SHOWER UNIT A SHOWER SPRAY UNIT WITH A HOSE AT LEAST 60" (1525mm) LONG THAT CAN BE USED BOTH AS A FIXED SHOWER HEAD AND AS A HAND-HELD SHOWER SHALL BE PROVIDED.
- 4.2.0.7 BATHTUB ENCLOSURES IF PROVIDED, ENCLOSURES FOR BATHTUBS SHALL NOT OBSTRUCT CONTROLS OR TRANSFER FROM WHEELCHAIRS ONTO BATHTUB SEATS OR INTO TUBS. ENCLOSURES ON BATHTUBS SHALL NOT HAVE TRACKS MOUNTED ON THEIR BARS.

#### 4.2.1 SHOWER STALLS.

- 4.2.1.1 GENERAL ACCESSIBLE SHOWER STALLS SHALL COMPLY WITH 4.2.1.
- 4.2.1.2 CLEARANCE EXCEPT AS SPECIFIED IN 9.1.2, SHOWER STALL SIZE AND CLEAR FLOOR SPACE SHALL COMPLY WITH FIG. 34(a) OR (b). THE SHOWER STALL IN FIG. 34(a) SHALL BE 36" BY 36" (915mm BY 915mm). THE SHOWER STALL IN FIG. 34(b) WILL FIT INTO THE SPACE REQUIRED FOR A BATHTUB.
- 4.2.1.3 SEAT A SEAT SHALL BE PROVIDED IN SHOWER STALLS 30" BY 36" (915mm BY 915mm). THE SEAT SHALL BE MOUNTED 17" TO 19" (430mm TO 485mm) FROM THE BATHROOM FLOOR AND SHALL EXTEND THE FULL DEPTH OF THE STALL. IN A 30" BY 36" SHOWER STALL, THE SEAT SHALL BE ON THE WALL OPPOSITE THE CONTROLS. WHERE A FIXED SEAT IS PROVIDED AS A 30" BY 60" MINIMUM SHOWER STALL, IT SHALL BE MOUNTED ON THE WALL ADJACENT TO THE CONTROLS. THE STRUCTURAL STRENGTH OF SEATS AND THEIR ATTACHMENTS SHALL COMPLY WITH 4.26.3.
- 4.2.1.4 GRAB BARS GRAB BARS COMPLYING WITH 4.2.6 SHALL BE PROVIDED AS SHOWN IN FIG. 34.
- 4.2.1.5 CONTROLS FAUCETS AND OTHER CONTROLS COMPLYING WITH 4.27.4 SHALL BE LOCATED AS SHOWN IN FIG. 34 IN SHOWER STALLS 30" BY 36" (915mm BY 915mm). ALL CONTROLS, FAUCETS, AND THE SHOWER UNIT SHALL BE MOUNTED ON THE SIDE WALL OPPOSITE THE SEAT.
- 4.2.1.6 SHOWER UNIT A SHOWER SPRAY UNIT WITH A HOSE AT LEAST 60" (1525mm) LONG THAT CAN BE USED AS A FIXED SHOWER HEAD OR AS A HAND-HELD SHOWER SHALL BE PROVIDED. EXCEPT IN UNMONITORED FACILITIES WHERE VANDALISM IS A CONSIDERATION, A FIXED SHOWER HEAD MOUNTED AT 48" (1220mm) ABOVE THE SHOWER FLOOR MAY BE USED IN LIEU OF A HAND-HELD SHOWER HEAD.
- 4.2.1.7 CURBS IF PROVIDED, CURBS IN SHOWER STALLS 30" BY 36" (915mm BY 915mm) SHALL BE NO HIGHER THAN 1 1/2" (38mm). SHOWER STALLS THAT ARE 30" BY 60" (760mm BY 1525mm) SHALL NOT HAVE CURBS.
- 4.2.1.8 SHOWER ENCLOSURES IF PROVIDED, ENCLOSURES FOR SHOWER STALLS SHALL NOT OBSTRUCT CONTROLS OR OBSTRUCT TRANSFER FROM WHEELCHAIRS ONTO SHOWER SEATS.

#### 4.2.2 TOILET ROOMS.

- 4.2.2.1 MINIMUM NUMBER TOILET FACILITIES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.2. ACCESSIBLE TOILET ROOMS SHALL BE ON AN ACCESSIBLE ROUTE.
- 4.2.2.2 DOORS ALL DOORS TO ACCESSIBLE TOILET ROOMS SHALL COMPLY WITH 4.13. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE REQUIRED FOR ANY FIXTURE.
- 4.2.2.3 CLEAR FLOOR SPACE THE ACCESSIBLE FIXTURES AND CONTROLS REQUIRED IN 4.22.4, 4.23.5, 4.23.6, 4.23.7, AND 4.23.7 SHALL BE ON AN ACCESSIBLE ROUTE. AN UNOBSTRUCTED TURNING SPACE COMPLYING WITH 4.2.3 SHALL BE PROVIDED WITHIN AN ACCESSIBLE TOILET ROOM. THE CLEAR FLOOR SPACE AT FIXTURES AND CONTROLS, THE ACCESSIBLE ROUTE, AND THE TURNING SPACE MAY OVERLAP.
- EXCEPTION: IN TOILET ROOMS WITH ONLY ONE WATER CLOSET, ONE LAVATORY, A CLEAR FLOOR SPACE OF 30" BY 60" (915mm BY 1525mm) MAY BE USED IN LIEU OF THE UNOBSTRUCTED TURNING SPACE.
- 4.2.2.4 WATER CLOSETS IF TOILET STALLS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.7 ITS WATER CLOSET SHALL COMPLY WITH 4.1.6. IF WATER CLOSETS ARE NOT IN STALLS, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.6.
- 4.2.2.5 URINALS IF URINALS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.8.
- 4.2.2.6 LAVATORIES AND MIRRORS IF LAVATORIES AND MIRRORS ARE PROVIDED, THEN AT LEAST ONE OF EACH SHALL COMPLY WITH 4.1.9.
- 4.2.2.7 CONTROLS AND DISPENSERS IF CONTROLS, DISPENSERS, RECEPTACLES, OR OTHER EQUIPMENT IS PROVIDED, THEN AT LEAST ONE OF EACH SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.27.

#### 4.2.3 BATHROOM, BATHING FACILITIES, AND SHOWER ROOMS.

- 4.2.3.1 MINIMUM NUMBER BATHROOMS, BATHING FACILITIES, OR SHOWER ROOMS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.3 AND SHALL BE ON AN ACCESSIBLE ROUTE, FOR ADAPTABLE BATHROOMS IN ACCESSIBLE DWELLING UNITS, SEE 4.34.5.
- 4.2.3.2 DOORS DOORS TO ACCESSIBLE BATHROOMS SHALL COMPLY WITH 4.13. DOORS SHALL NOT SWING INTO THE FLOOR SPACE REQUIRED FOR ANY FIXTURE.
- 4.2.3.3 CLEAR FLOOR SPACE THE ACCESSIBLE FIXTURES AND CONTROLS REQUIRED IN 4.23.4, 4.23.5, 4.23.6, 4.23.7, 4.23.8, AND 4.23.9 SHALL BE ON AN ACCESSIBLE ROUTE. AN UNOBSTRUCTED TURNING SPACE COMPLYING WITH 4.2.3 SHALL BE PROVIDED WITHIN AN ACCESSIBLE BATHROOM. THE CLEAR FLOOR SPACES AT FIXTURES AND CONTROLS, THE ACCESSIBLE ROUTE, AND THE TURNING SPACE MAY OVERLAP.
- EXCEPTION: IN BATHROOMS WITH ONLY ONE WATER CLOSET, ONE LAVATORY, AND ONE BATHTUB OR SHOWER A CLEAR FLOOR SPACE OF 30" BY 60" (760mm BY 1525mm) MAY BE USED IN LIEU OF THE UNOBSTRUCTED TURNING SPACE.
- 4.2.3.4 WATER CLOSETS IF TOILET STALLS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.7 ITS WATER CLOSET SHALL COMPLY WITH 4.1.6. IF WATER CLOSETS ARE NOT IN STALLS, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.6.
- 4.2.3.5 URINALS IF URINALS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.8.
- 4.2.3.6 LAVATORIES AND MIRRORS IF LAVATORIES AND MIRRORS ARE PROVIDED, THEN AT LEAST ONE OF EACH SHALL COMPLY WITH 4.1.9.
- 4.2.3.7 CONTROLS AND DISPENSERS IF CONTROLS, DISPENSERS, RECEPTACLES, OR OTHER EQUIPMENT IS PROVIDED, THEN AT LEAST ONE OF EACH SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.27.
- 4.2.3.8 BATHING AND SHOWER FACILITIES IF TUBS, OR SHOWERS ARE PROVIDED, THEN AT LEAST ONE ACCESSIBLE TUB THAT COMPLIES WITH 4.2.0 OR AT LEAST ONE ACCESSIBLE SHOWER THAT COMPLIES WITH 4.2.1 SHALL BE PROVIDED.
- 4.2.3.9 MEDICINE CABINETS IF MEDICINE CABINETS ARE PROVIDED, AT LEAST ONE SHALL BE LOCATED WITH A USABLE SHELF NO HIGHER THAN 44" (1120mm) ABOVE THE FLOOR SPACE. THE FLOOR SPACE SHALL COMPLY WITH 4.2.4.
- 4.2.4 SINKS SINKS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.24. SINKS IN KITCHENS OF ACCESSIBLE DWELLING UNITS SHALL COMPLY WITH 4.34.5.
- 4.2.4.1 GENERAL SINKS SHALL BE MOUNTED WITH THE COUNTER OR RIM NO HIGHER THAN 34" (865mm) FROM THE FINISHED FLOOR (SEE FIG. 31).
- 4.2.4.2 HEIGHT SINKS SHALL BE MOUNTED WITH A CLEARANCE THAT IS AT LEAST 27" (685mm) HIGH, 30" (760mm) WIDE, AND 19" (485mm) DEEP SHALL BE PROVIDED UNDERNEATH THE SINK.
- 4.2.4.3 DEPTH EACH SINK SHALL BE A MAXIMUM OF 6-1/2" (165mm) DEEP.

- 4.2.5 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE AT LEAST 30" BY 48" (760mm BY 1220mm) COMPLYING WITH 4.2.4 SHALL BE PROVIDED IN FRONT OF A SINK TO ALLOW FORWARD APPROACH. THE CLEAR FLOOR SPACE SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL EXTEND A MAXIMUM OF 19" (485mm) UNDERNEATH THE SINK.
- 4.2.5.6 EXPOSED PIPES AND SURFACES HOT WATER AND DRAIN PIPES EXPOSED UNDER SINKS SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER SINKS.
- 4.2.5.7 FAUCETS FAUCETS SHALL COMPLY WITH 4.27.4. LEVER-OPERATED, PUSH-TYPE, TOUCH-TYPE, OR ELECTRONICALLY CONTROLLED MECHANISMS ARE ACCEPTABLE DESIGNS.

#### 4.2.5 STORAGE.

- 4.2.5.1 GENERAL FIXED STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS, AND DRAWERS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.25.
- 4.2.5.2 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE AT LEAST 30" BY 48" (760mm BY 1220mm) COMPLYING WITH 4.2.4 THAT ALLOWS EITHER A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT ACCESSIBLE STORAGE FACILITIES.
- 4.2.5.3 HEIGHT ACCESSIBLE STORAGE SPACES SHALL BE WITHIN AT LEAST ONE OF THE REACH RANGES SPECIFIED IN 4.2.5.1 AND 4.2.6. CLOTTED ROOFS SHALL BE A MAXIMUM OF 54" (1370mm) FROM THE FLOOR.
- 4.2.5.4 HARDWARE HARDWARE FOR ACCESSIBLE STORAGE FACILITIES SHALL COMPLY WITH 4.27.4. TOUCH LATCHES AND U-SHAPED FULLS ARE ACCEPTABLE.

#### 4.2.6 HANDRAILS, GRAB BARS, AND TUB AND SHOWER SEATS.

- 4.2.6.1 GENERAL ALL HANDRAILS, GRAB BARS, AND TUB AND SHOWER SEATS REQUIRED TO BE ACCESSIBLE BY 4.1, 4.2.6, OR 4.3 SHALL COMPLY WITH 4.2.6.
- 4.2.6.2 SIZE AND SPACING OF GRAB BARS AND HANDRAILS THE DIAMETER OR WIDTH OF THE GRIPPING SURFACE OF A HANDRAIL OR GRAB BAR SHALL BE 1 1/4" TO 1 1/2" (32mm TO 38mm) OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. IF HANDRAILS OR GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BAR SHALL BE 1 1/2" (38mm). HANDRAILS MAY BE LOCATED IN A RECESS IF THE RECESS IS A MAXIMUM OF 3" (75mm) DEEP AND EXTENDS NO LESS THAN 18" (455mm) ABOVE THE TOP OF THE RAIL.
- 4.2.6.3 STRUCTURAL STRENGTH THE STRUCTURAL STRENGTH OF GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL MEET THE FOLLOWING SPECIFICATIONS:
  - (1) BENDING STRESS IN A GRAB BAR OR SEAT BY THE APPLICATION OF 250LB (111.2kg) SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
  - (2) SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF 250LB (111.2kg) SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT. IF THE CONNECTION BETWEEN THE GRAB BAR OR SEAT AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESSES SHALL BE TOTALLED FOR THE COVERED SHEAR STRESS WHICH SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS.
  - (3) SHEAR FORCE INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF 250LB (111.2kg) SHALL BE NO LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE, WHICHEVER IS THE SMALLER ALLOWABLE LOAD.
  - (4) TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF 250LB (111.2kg) SHALL BE NO LESS THAN THE ALLOWABLE WITHSTAND AND SUPPORTING STRUCTURE.
- (5) GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

#### 4.2.7 CONTROLS AND OPERATING MECHANISMS.

- 4.2.7.1 GENERAL CONTROLS AND OPERATING MECHANISMS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.27.
- 4.2.7.2 CLEAR FLOOR SPACE CLEAR FLOOR SPACE COMPLYING WITH 4.2.4 THAT ALLOWS A FORWARD OR A PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT CONTROLS, DISPENSERS, RECEPTACLES, AND OTHER OPERABLE DEVICES.
- 4.2.7.3 HEIGHT THE HIGHEST OPERABLE PART OF ALL CONTROLS, DISPENSERS, RECEPTACLES, AND OTHER OPERABLE EQUIPMENT SHALL BE PLACED WITHIN AT LEAST ONE OF THE REACH RANGES SPECIFIED IN 4.2.5.1 AND 4.2.6. EXCEPT WHERE THE USE OF PROTRUDING DEVICES, INDICATES OTHERWISE ELECTRICAL AND COMMUNICATIONS SYSTEM RECEPTACLES ON WALLS SHALL BE MOUNTED NO LESS THAN 15" (380mm) ABOVE THE FLOOR.
- 4.2.7.4 OPERATION CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PUNCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF (22.2N).

#### 4.2.8 ALARMS.

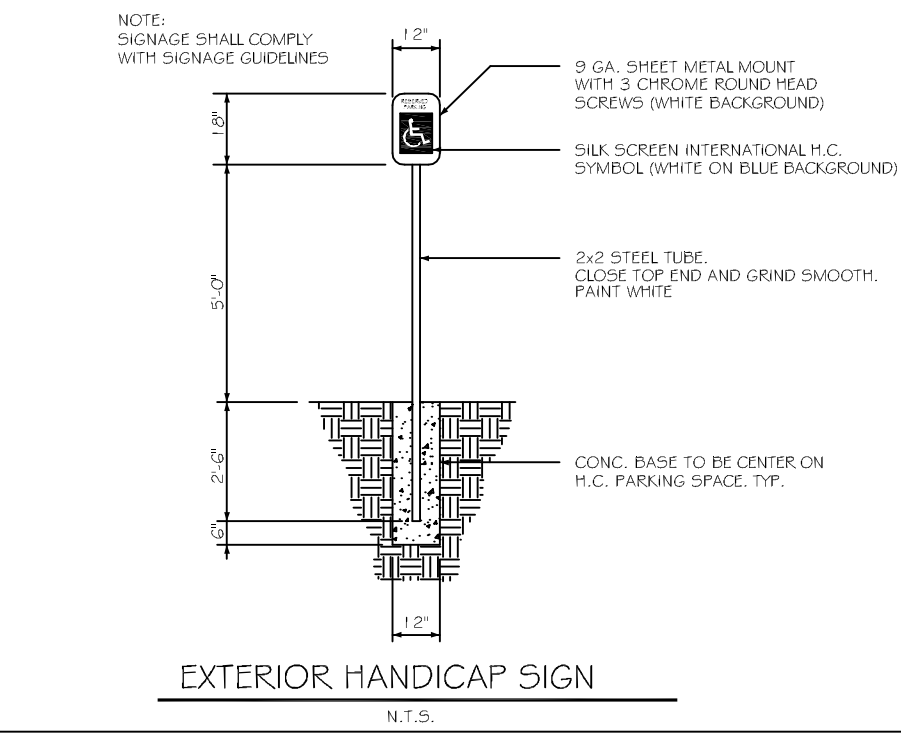
- 4.2.8.1 GENERAL ALARM SYSTEMS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.8.
- 4.2.8.2 AUDIBLE ALARMS IF PROVIDED, AUDIBLE EMERGENCY ALARMS SHALL PRODUCE A SOUND THAT EXCEEDS THE PREVAILING EQUIVALENT SOUND LEVEL IN THE ROOM OR SPACE BY AT LEAST 15 DECIBELS OR EXCEEDS THE PREVAILING SOUND LEVEL BY 5 DECIBELS, WHICHEVER IS LOUDER. SOUND LEVELS FOR ALARM SIGNALS SHALL NOT EXCEED 120 DECIBELS.
- 4.2.8.3 VISUAL ALARMS IF PROVIDED, ELECTRICALLY POWERED INTERNALLY ILLUMINATED FLASHING LIGHT SIGNALS SHALL FLASH AS A VISUAL EMERGENCY ALARM IN CONJUNCTION WITH AUDIBLE EMERGENCY ALARMS. IF FLASHING FREQUENCY OF VISUAL ALARM DEVICES SHALL BE LESS THAN 50% OF EACH SIGNALS FLASHING FREQUENCY. VISUAL ALARMS SHALL BE INSTALLED ON THE SAME SYSTEM AS THE AUDIBLE EMERGENCY SIGNALS.
- EXCEPTIONS:
  - (1) VISUAL ALARM DEVICES THAT ARE MOUNTED ADJACENT TO EMERGENCY EXIT SIGNS MAY BE USED IN LIEU OF FLASHING EXIT SIGNS.
  - (2) SPECIALIZED SYSTEMS UTILIZING ADVANCED TECHNOLOGY MAY BE SUBSTITUTED FOR THE VISUAL SYSTEMS SPECIFIED ABOVE IF EQUIVALENT PROVIDED IF APPROVED HANDICAPPED USERS OF THE BUILDING OR FACILITY.
- 4.2.8.4 ALIQUANT ALARMS ACCESSIBLE SLEEPING ACCOMMODATIONS SHALL HAVE A VISUAL ALARM CONNECTED TO THE BUILDING EMERGENCY ALARM OR SHALL HAVE A STANDARD 170VOLT ELECTRICAL RECEPTACLE INTO WHICH SUCH AN ALARM COULD BE CONNECTED. RESTRICTIONS FOR USE OF THE ALIQUANT ALARM OR CONNECTION SHALL BE PROVIDED.

#### 4.2.9 TACTILE WARNINGS.

- 4.2.9.1 GENERAL TACTILE WARNINGS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.9.
- 4.2.9.2 TACTILE WARNINGS ON WALKING SURFACES (RESERVED).
- 4.2.9.3 TACTILE WARNINGS ON DOORS TO HAZARDOUS AREAS (RESERVED).
- 4.2.9.4 TACTILE WARNINGS AT STAIRS (RESERVED).
- 4.2.9.5 TACTILE WARNINGS AT HAZARDOUS VEHICULAR AREAS (RESERVED).
- 4.2.9.6 TACTILE WARNINGS AT RECREATING POOLS (RESERVED).
- 4.2.9.7 STANDARDIZATION TACTILE SURFACES FOR TACTILE DOOR WARNINGS SHALL BE STANDARD WITHIN A BUILDING, FACILITY, SITE, OR COMPLEX OF BUILDINGS.

#### 4.3.0 SIGNAGE.

- 4.3.0.1 GENERAL SIGNAGE REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.0.
- 4.3.0.2 CHARACTER PROPORTION LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO BETWEEN 3:5 AND 1:1 AND A STROKE WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10.
- 4.3.0.3 COLOR CONTRAST CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND OR LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
- 4.3.0.4 RAISED OR INDENTED CHARACTERS OR SYMBOLS LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SAND-SERIF CHARACTERS. RAISED CHARACTERS OR SYMBOLS SHALL BE AT LEAST 5/8" (16mm) HIGH, BUT NO HIGHER THAN 2" (50mm). INDENTED CHARACTERS OR SYMBOLS SHALL HAVE A STROKE WIDTH OF AT LEAST 1/4" (6mm). SYMBOLS OR PICTOGRAPHS ON SIGNS SHALL BE RAISED OR INDENTED 1/32" MINIMUM.
- 4.3.0.5 SYMBOLS OF ACCESSIBILITY ACCESSIBLE FACILITIES REQUIRED TO BE IDENTIFIED BY 4.1 SHALL USE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. THE SYMBOL SHALL BE DISPLAYED AS SHOWN IN FIG. 45.
- 4.3.0.6 MOUNTING LOCATION AND HEIGHT INTERIOR SIGNAGE SHALL BE LOCATED AROUND THE DOOR ON THE LATCH SIDE AND SHALL BE MOUNTED AT A HEIGHT OF 54" AND 66" (1370mm AND 1675mm) ABOVE THE FINISHED FLOOR.



EXTERIOR HANDICAP SIGN  
N.T.S.

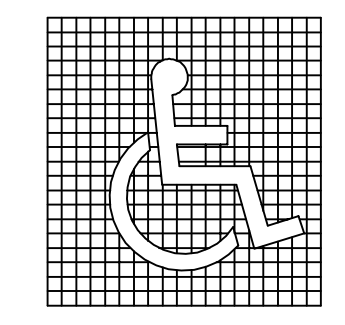


FIG. 43 DISPLAY CONDITIONS

FIG. 43

#### INTERNATIONAL SYMBOL OF ACCESSIBILITY

N.T.S.

#### 4.3.1 TELEPHONES.

- 4.3.1.1 GENERAL PUBLIC TELEPHONES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.1.
- 4.3.1.2 CLEAR FLOOR OR GROUND SPACE A CLEAR FLOOR OR GROUND SPACE AT LEAST 30" BY 48" (760mm BY 1220mm) THAT ALLOWS EITHER A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT TELEPHONES. THE CLEAR FLOOR OR GROUND SPACE SHALL COMPLY WITH 4.2.4. BASKS, ENCLOSURES, AND FIXED SEATS SHALL NOT IMPERE APPROACHES TO TELEPHONES BY PEOPLE WHO USE WHEELCHAIRS.
- 4.3.1.3 MOUNTING HEIGHT THE HIGHEST OPERABLE PART OF THE TELEPHONE SHALL BE WITHIN THE REACH RANGES SPECIFIED IN 4.2.5 OR 4.2.6.
- 4.3.1.4 PROTRUDING DEVICES TELEPHONES SHALL COMPLY WITH 4.4.
- 4.3.1.5 EQUIPMENT FOR HEARING IMPAIRED PEOPLE TELEPHONES SHALL BE EQUIPPED WITH A RECEIVER THAT GENERATES A MAGNETIC FIELD IN THE AREA OF THE RECEIVER CAP. VOLUME CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH 4.1.2.
- 4.3.1.6 CONTROLS TELEPHONES SHALL HAVE PUSHBUTTON CONTROLS WHERE SERVICE FOR SUCH EQUIPMENT IS AVAILABLE.
- 4.3.1.7 TELEPHONE BOOKS TELEPHONE BOOKS, IF PROVIDED, SHALL BE LOCATED IN A POSITION THAT COMPLIES WITH THE REACH RANGES SPECIFIED IN 4.2.5 AND 4.2.6.
- 4.3.1.8 CORD LENGTH THE CORD FROM THE TELEPHONE TO THE HANDESET SHALL BE AT LEAST 28".

#### 4.3.2 SEATING, TABLES, AND WORK SURFACES.

- 4.3.2.1 MINIMUM NUMBER FIXED OR BUILT IN SEATING, TABLES, OR WORK SURFACES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.2.
- 4.3.2.2 SEATING IF SEATING SPACES FOR PEOPLE IN WHEELCHAIRS ARE PROVIDED AT TABLES, COUNTERS, OR WORK SURFACES, CLEAR FLOOR SPACE COMPLYING WITH 4.2.4 SHALL BE PROVIDED. SUCH CLEAR FLOOR SPACE SHALL NOT OVERLAP KNEE SPACE (SEE FIG. 46).
- 4.3.2.3 KNEE CLEARANCES IF SEATING FOR PEOPLE IN WHEELCHAIRS IS PROVIDED AT TABLES, COUNTERS, AND WORK SURFACES, KNEE SPACES AT LEAST 27" (685mm) HIGH, 30" (760mm) WIDE AND 19" (485mm) DEEP SHALL BE PROVIDED.
- 4.3.2.4 HEIGHT OF WORK SURFACES THE TOPS OF TABLES AND WORK SURFACES SHALL BE FROM 28" TO 34" (710mm TO 865mm) FROM THE FLOOR OR GROUND.

#### 4.3.3 ASSEMBLY AREAS.

- 4.3.3.1 MINIMUM NUMBER ASSEMBLY AND ASSOCIATED AREAS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.3.
- 4.3.3.2 SIZE OF WHEELCHAIR LOCATIONS EACH WHEELCHAIR LOCATION SHALL PROVIDE MINIMUM CLEAR GROUND OR FLOOR SPACES AS SHOWN IN FIG. 46.
- 4.3.3.3 PLACEMENT OF WHEELCHAIR LOCATIONS WHEELCHAIR AREAS SHALL BE AN INTEGRAL PART OF ANY FIXED SEATING PLAN AND SHALL BE DISPERSED THROUGHOUT THE SEATING AREA. THEY SHALL ADJOIN AN ACCESSIBLE ROUTE THAT ALSO SERVES AS A MEANS OF EGRESS IN CASE OF EMERGENCY AND SHALL BE LOCATED TO PROVIDE LINES OF SIGHT COMPARABLE TO THOSE FOR ALL VIEWING AREAS. EXCEPTION: ACCESSIBLE VIEWING POSITIONS MAY BE CLUSTERED FOR BLEACHERS, BALCONIES, AND OTHER AREAS HAVING SIGHT LINES THAT REQUIRE SECTIONS OF GREATER THAN 5 PERCENT. EQUIVALENT ACCESSIBLE VIEWING POSITIONS MAY BE LOCATED ON LEVELS HAVING ACCESSIBLE EGRESSES.
- 4.3.3.4 SURFACES THE GROUND OR FLOOR AT WHEELCHAIR LOCATIONS SHALL BE LEVEL AND COMPLY WITH 4.5.
- 4.3.3.5 ACCESS TO PERFORMING AREAS AN ACCESSIBLE ROUTE SHALL CONNECT WHEELCHAIR SEATING LOCATIONS WITH PERFORMING AREAS, INCLUDING STAGES, ARENA FLOORS, DRESSING ROOMS, LOCKER ROOMS, AND OTHER SPACES USED BY PERFORMERS.
- 4.3.3.6 PLACEMENT OF LISTENING SYSTEMS IF THE LISTENING SYSTEM PROVIDED SERVES INDIVIDUAL SEATS, THEN EACH SEAT SHALL BE LOCATED WITHIN A 50" (1270mm) VIEWING DISTANCE STAGE OR PLAYING AREA AND SHALL HAVE A COMPLETE VIEW OF THE STAGE OR PLAYING AREA.
- 4.3.3.7 TYPES OF LISTENING SYSTEMS AUDIO LOOPS AND RADIO FREQUENCY SYSTEMS ARE TWO ACCEPTABLE TYPES OF LISTENING SYSTEMS.

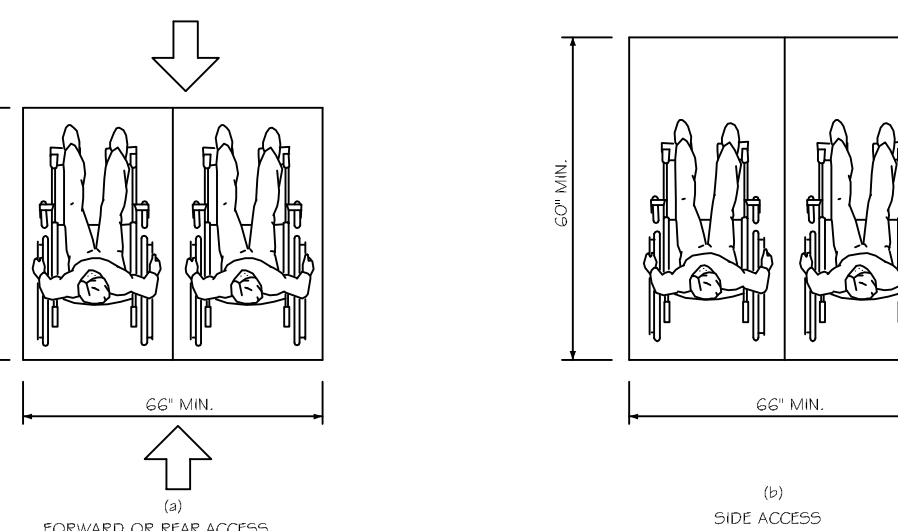
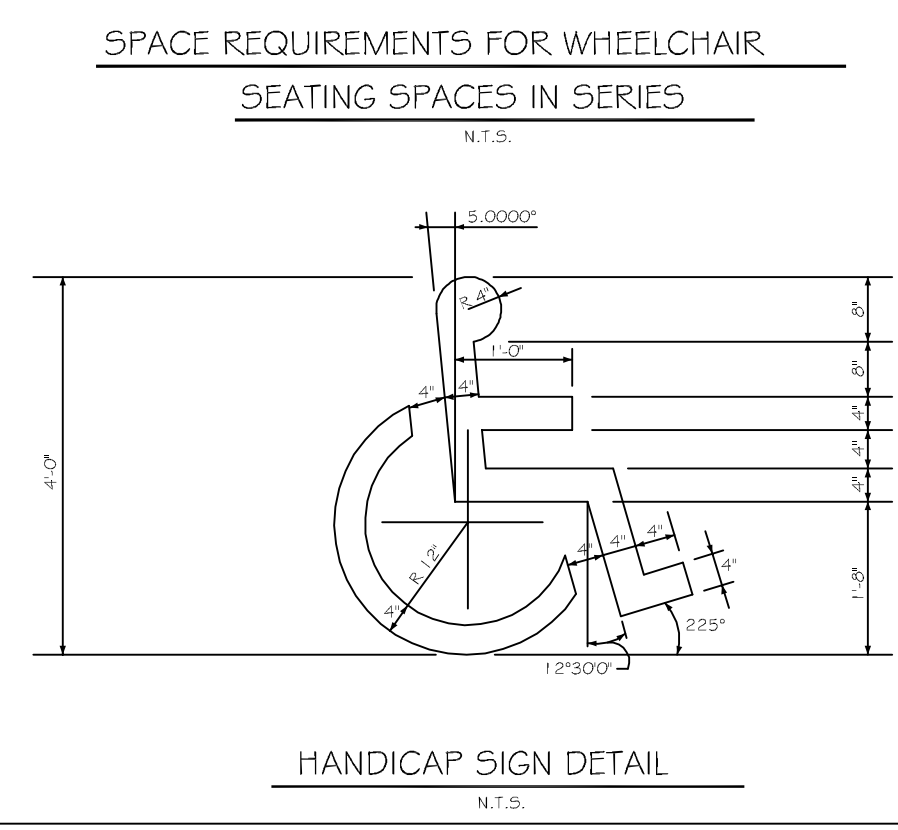
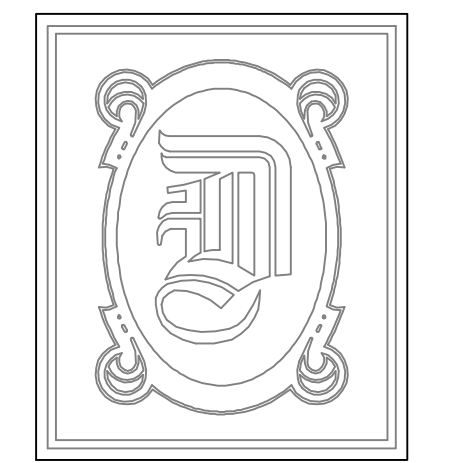


FIG. 46 SEATING SPACES IN SERIES  
N.T.S.



HANDICAP SIGN DETAIL  
N.T.S.



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ARCHITECTURE

ENGINEERING

STUDIES

PLANNING

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EXPERT WITNESS

OFFICE RENOVATION/ ADDITION

M NATAL CONTRACTORS, INC.

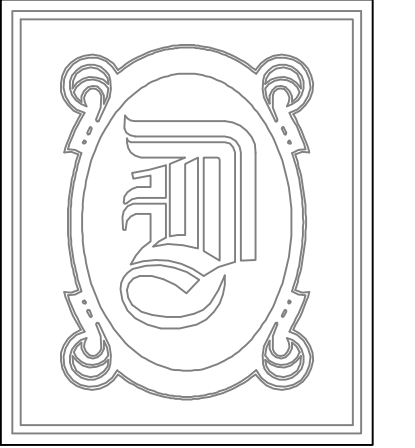
394 VOTERS RD.  
SLIDELL, LA

HANDICAP DETAILS

REV:

SCALE: AS NOTED

JOB#: 1956



**DAMMON ENGINEERING, INC.**

CHIEF ENGINEER  
EMMETT DAMMON, P.E.

CHIEF ARCHITECT  
ROBERT WILTSE

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ADDITION

M NATAL CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

POWER PLAN

REV:

SCALE: AS NOTED

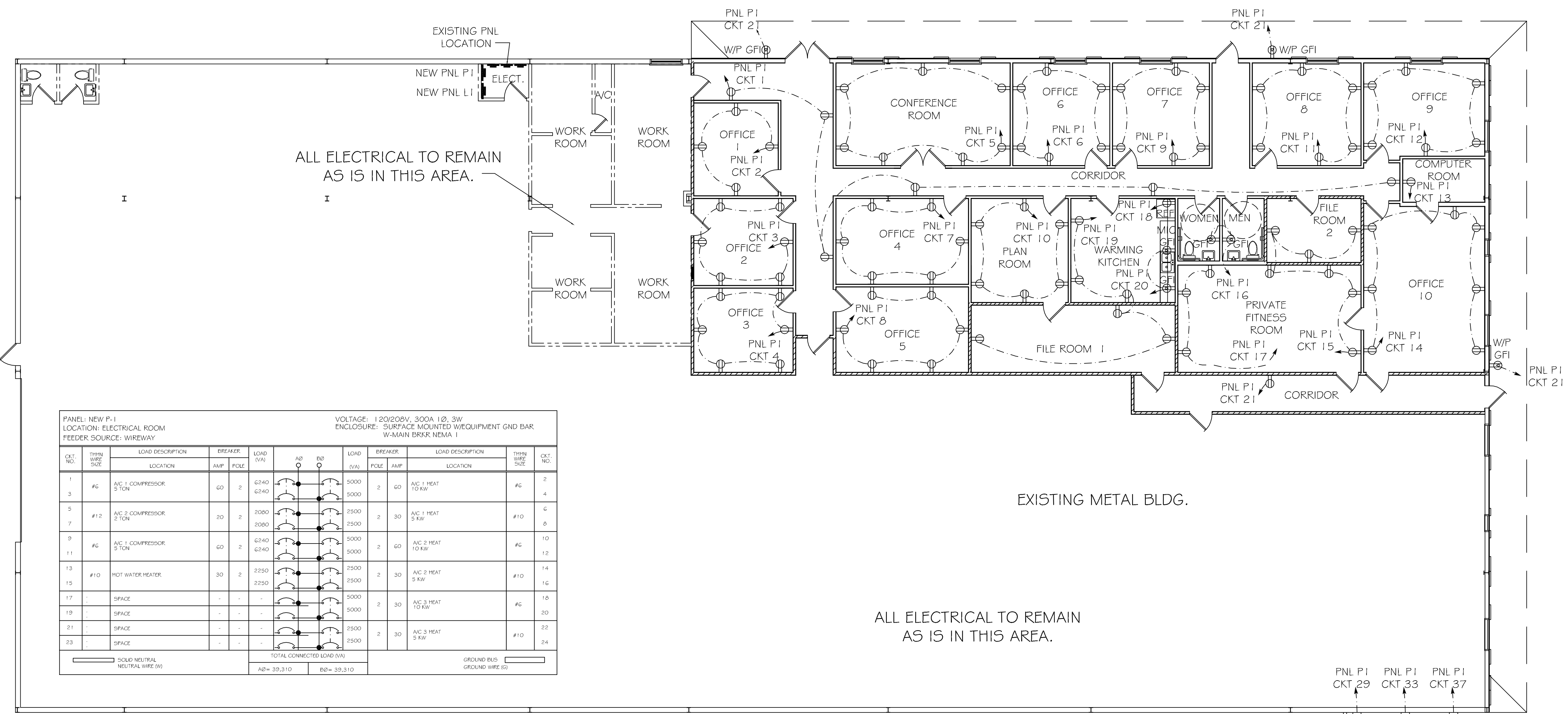
JOB#: 1956

DATE: 07-16-08

SHEET 8

E-1

OF 12

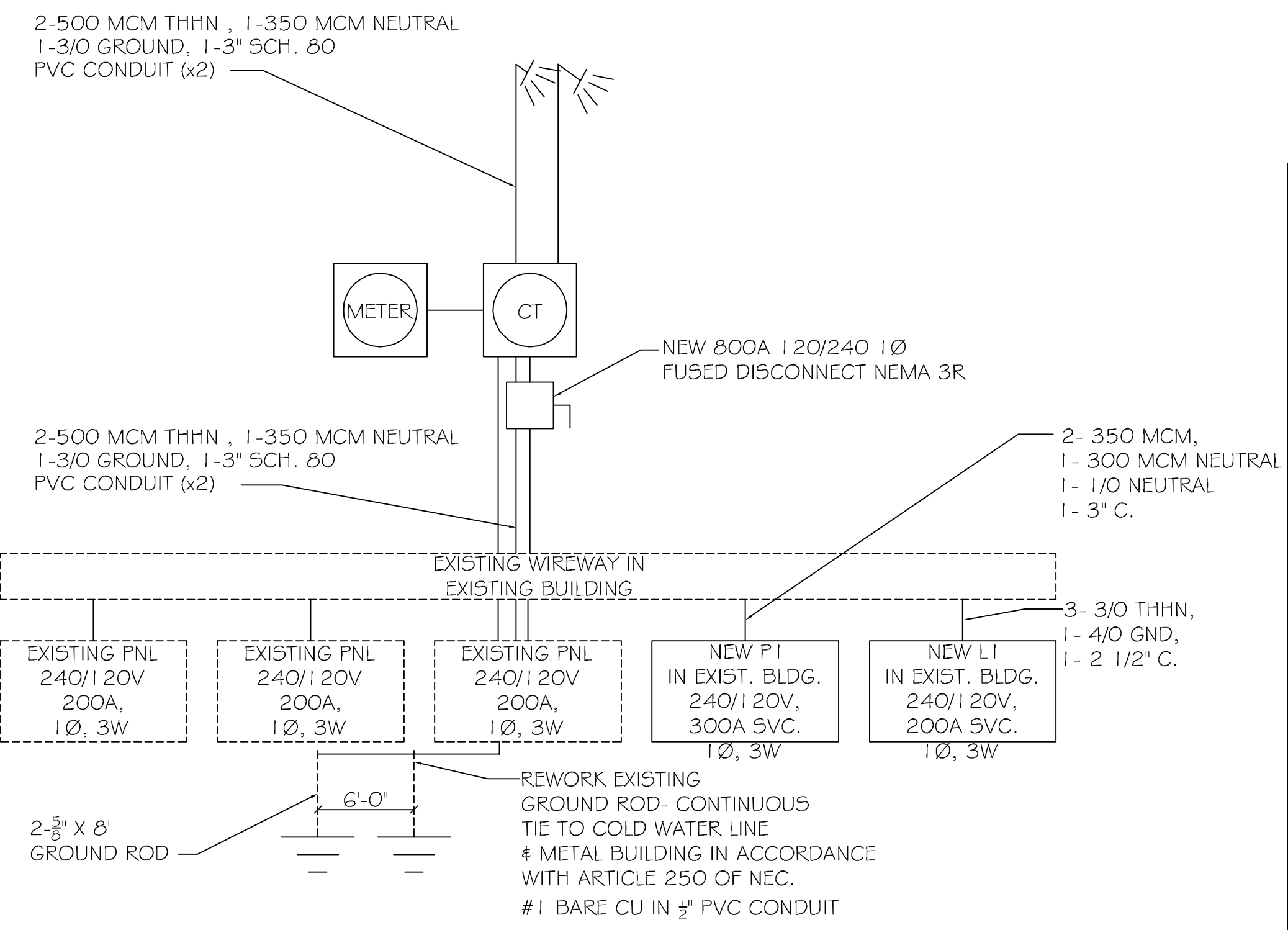


PANEL: NEW P-1  
LOCATION: ELECTRICAL ROOM  
FEEDER SOURCE: WIREWAY

VOLTAGE: 120/208V, 300A 1Ø, 3W  
ENCLOSURE: SURFACE MOUNTED W/EQUIPMENT GND BAR  
W-MAIN BRKR NEMA 1

CKT. NO.	THIN WIRE SIZE	LOAD DESCRIPTION	BREAKER	LOAD (VA)	AD	BD	LOAD (VA)	BREAKER	LOAD DESCRIPTION	THIN WIRE SIZE	CKT. NO.
1	#6	A/C 1 COMPRESSOR 5 TON	60 2	6240			3000	2	A/C 1 HEAT 10 KW	#6	2
3	#6	A/C 2 COMPRESSOR 5 TON	60 2	6240			3000	2	A/C 2 HEAT 10 KW	#6	4
5	#12	A/C 3 COMPRESSOR 5 TON	20 2	2080			2500	2	A/C 3 HEAT 10 KW	#10	6
7	#6	A/C 1 COMPRESSOR 5 TON	60 2	6240			3000	2	A/C 1 HEAT 10 KW	#6	8
9	#6	A/C 2 COMPRESSOR 5 TON	60 2	6240			3000	2	A/C 2 HEAT 10 KW	#6	10
11	#6	A/C 3 COMPRESSOR 5 TON	60 2	6240			3000	2	A/C 3 HEAT 10 KW	#6	12
13	#10	HOT WATER HEATER	30 2	2250			2500	2	A/C 2 HEAT 5 KW	#10	14
15	#10	HOT WATER HEATER	30 2	2250			2500	2	A/C 2 HEAT 5 KW	#10	16
17	-	SPACE	-	-			5000	2	A/C 3 HEAT 10 KW	#6	18
19	-	SPACE	-	-			5000	2	A/C 3 HEAT 10 KW	#6	20
21	-	SPACE	-	-			2500	2	A/C 3 HEAT 5 KW	#10	22
23	-	SPACE	-	-			2500	2	A/C 3 HEAT 5 KW	#10	24
				TOTAL CONNECTED LOAD (VA)							
				AD= 39,310		BD= 39,310					

POWER PLAN  
SCALE: 1/8" = 1'-0"



ELECTRICAL ONE LINE DIAGRAM  
N.T.S.

PANEL: NEW L1  
LOCATION: ELECTRICAL ROOM  
FEEDER SOURCE: WIREWAY

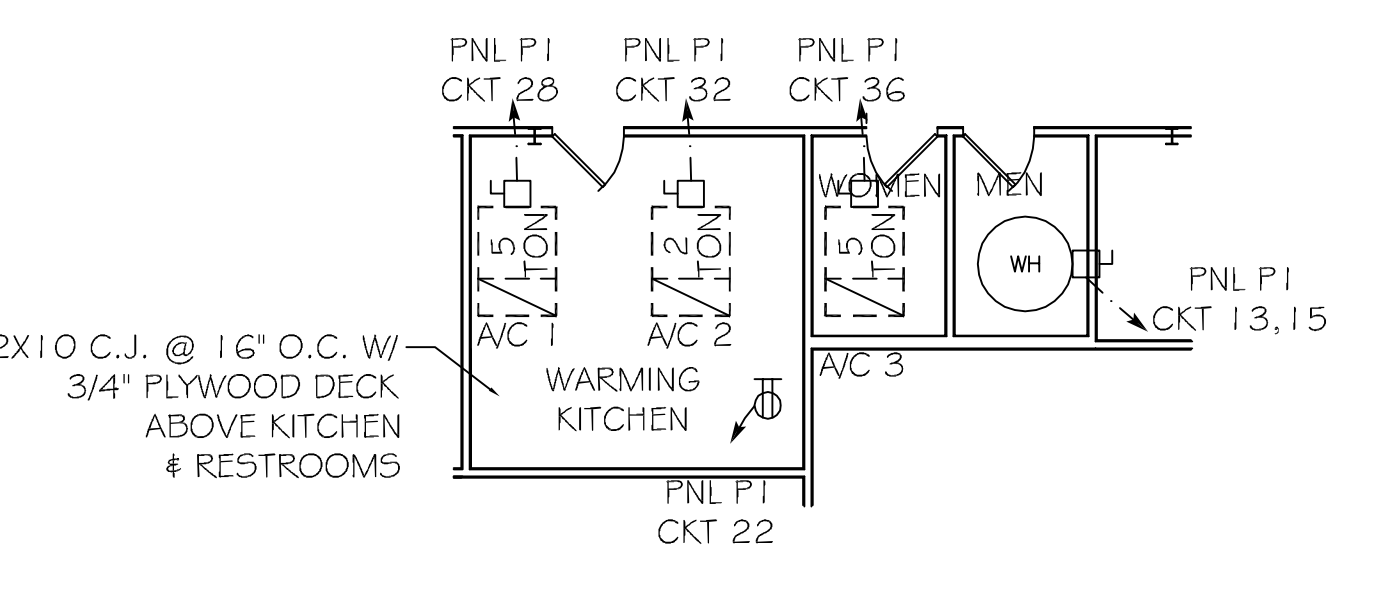
VOLTAGE: 120/208V, 200A 1Ø, 3W  
ENCLOSURE: SURFACE MOUNTED W/EQUIPMENT GND BAR

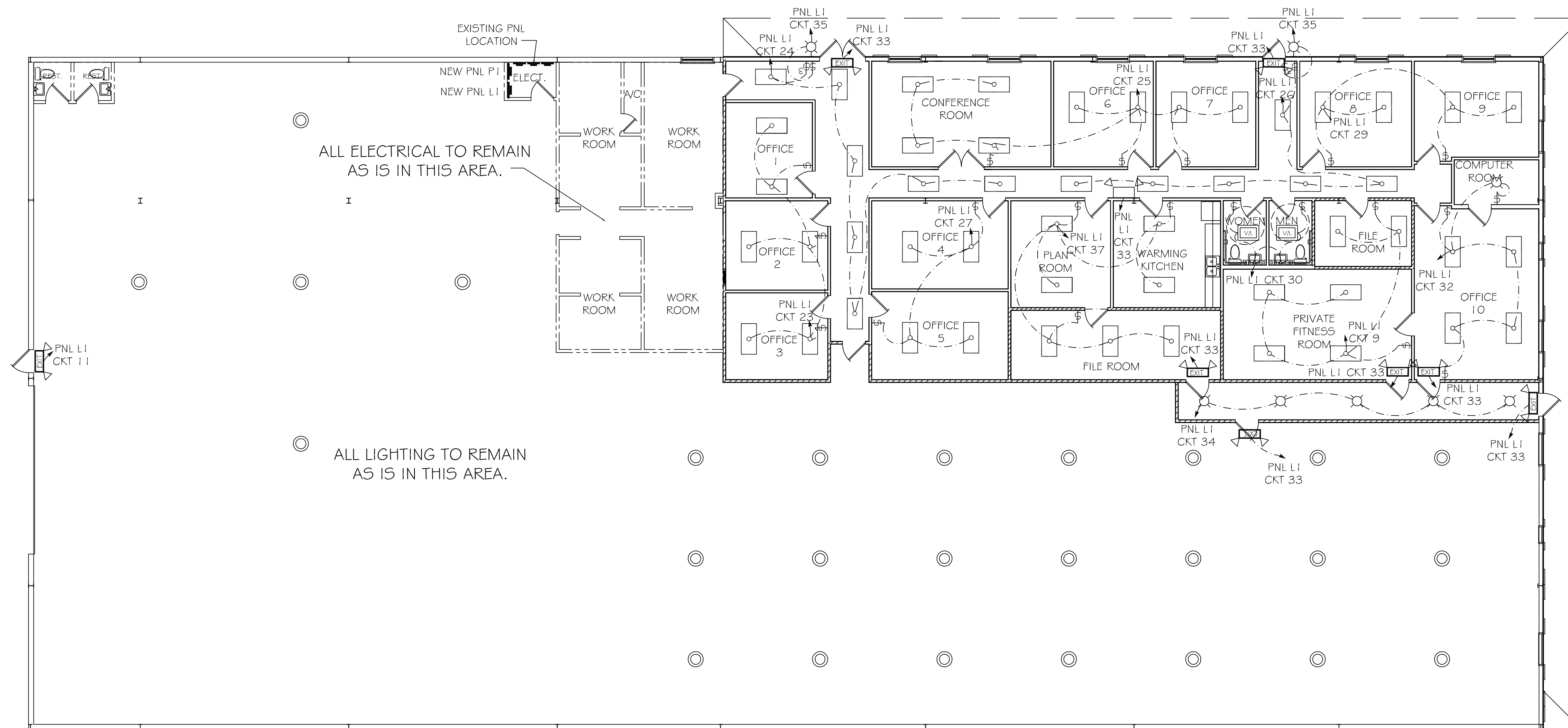
CKT. NO.	THIN WIRE SIZE	LOAD DESCRIPTION	BREAKER	LOAD (VA)	AD	BD	LOAD (VA)	BREAKER	LOAD DESCRIPTION	THIN WIRE SIZE	CKT. NO.
1	2 #12	CORRIDOR RECEPTACLES	20 1	1000			1000	1	OFFICE 1 RECEPTACLES	2 #12	2
3	2 #12	OFFICE 2 RECEPTACLES	20 1	800			1200	1	OFFICE 3 RECEPTACLES	2 #12	4
5	2 #12	CONFERENCE ROOM RECEPTACLES	20 1	1200			1400	1	OFFICE 6 RECEPTACLES	2 #12	6
7	2 #12	OFFICE 4 RECEPTACLES	20 1	1200			1200	1	OFFICE 5 RECEPTACLES	2 #12	8
9	2 #12	OFFICE 7 RECEPTACLES	20 1	800			1200	1	PLAN ROOM RECEPTACLES	2 #12	10
11	2 #12	OFFICE 8 RECEPTACLES	20 1	800			800	1	OFFICE 9 RECEPTACLES	2 #12	12
13	2 #12	COMPUTER ROOM	20 1	600			400	1	OFFICE 10 RECEPTACLES	2 #12	14
15	2 #12	FITNESS ROOM RECEPTACLES	20 1	1200			200	1	RESTROOMS GFI RECEPTACLE	2 #12	16
17	2 #12	FITNESS ROOM RECEPTACLES	20 1	1500			1000	1	REFRIGERATOR	2 #12	18
19	2 #12	KITCHEN RECEPTACLES	20 1	1000			1200	1	KITCHEN RECEPTACLES GR	2 #12	20
21	2 #12	EXTERIOR WEATHERPROOF GFI RECEPTACLES	20 1	640			1000	1	A/C RECEPTACLE	2 #12	22
23	2 #12	OFFICE 1, 2, 3 LIGHTS	20 1	1000			1000	1	CORRIDOR LIGHTS	2 #12	24
25	2 #12	CONFERENCE ROOM LIGHTS OFFICE 4 & 5 LIGHTS	20 1	1000			1000	1	CORRIDOR LIGHTS	2 #12	26
27	2 #12	OFFICE 4 & 5 LIGHTS	20 1	640			-	1	SPARE	2 #12	28
29	2 #12	OFFICE 6 & 7 LIGHTS	20 1	1000			1000	1	RESTROOM LIGHTS	2 #12	30
31	2 #12	FITNESS, FILE ROOM LIGHTS	20 1	1000			1000	1	COMPUTER/OFFICE 10 LIGHTS	2 #12	32
33	2 #12	EXIT/ EMERGENCY LIGHTS	20 1	300			1000	1	SOUTH CORRIDOR LIGHTS	2 #12	34
35	2 #12	EXTERIOR LIGHTS	20 1	120			1000	1	SPARE	2 #12	36
37	2 #12	KITCHEN/PLAN ROOM FILE ROOM LIGHTS	20 1	1600			1000	1	SPARE	2 #12	38
39	-	SPACE	-	-			-	-	SPACE	2 #12	40
41	-	SPACE	-	-			-	-	SPACE	2 #12	42
				TOTAL CONNECTED LOAD (VA)							
				AD= 19,640		BD= 15,720					

LEGEND

- - 2 X 4 FLUORESCENT FIXTURE
- - BROADWAY LIGHT
- - CEILING MOUNTED FIXTURE
- - EXTERIOR WALL SCONCE FIXTURE W/ 90 MINUTE BACKUP
- - VENT/ LIGHT
- - EXIT/ EMERGENCY LIGHT W/ 90 MIN. BATTERY BACKUP
- - EMERGENCY LIGHT W/ 90 MIN. BATTERY BACKUP
- - 1 HR. RATED WALL
- ⊞ - SWITCH
- ⊞ - 3 WAY SWITCH
- ⊞ - DUPLX RECEPTACLE
- ⊞ - GFI RECEPTACLE
- ⊞ - WEATHERPROOF GFI RECEPTACLE
- ⊞ - QUAD RECEPTACLE
- ⊞ - DISCONNECT SWITCH
- ⊞ - POWER, LIGHTING PANEL
- ⊞ - JUNCTION BOX
- ⊞ - THERMOSTAT
- ⊞ - 220 OUTLET
- ⊞ - SMOKE DETECTOR
- ⊞ - CABLE TV OUTLET
- ⊞ - PHONE
- ⊞ - HOT WATER HEATER WITH DISCONNECT

PARTIAL POWER PLAN  
SCALE: 1/8" = 1'-0"

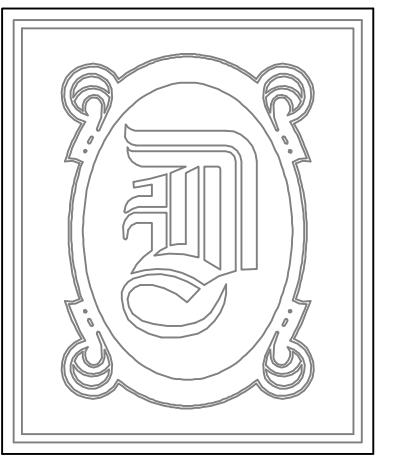




**LIGHTING PLAN**  
SCALE: 1/8" = 1'-0"

**ELECTRICAL NOTES**

1. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE GOVERNING ELECTRICAL CODE AND ALL OTHER INSPECTION DEPARTMENTS HAVING JURISDICTION. OBTAIN CERTIFICATES OR APPROVAL WHERE REQUIRED.
2. ALL MATERIALS FURNISHED SHALL BE NEW AND SHALL BE U.L. LISTED.
3. THE DRAWINGS INDICATE SIZE AND GENERAL LOCATION OF WORK. SCALE DIMENSIONS SHALL NOT BE USED. THE EXACT LOCATION AND LOCATIONS OF ALL LIGHTING FIXTURES, RECEPTACLES AND TELEPHONE OUTLETS, ETC. SHALL BE DETERMINED BY ACTUAL CONDITIONS IN THE FIELD.
4. PRIOR TO BIDDING, CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND WITH OTHER CONTRACTORS WHOSE WORK MAY AFFECT THIS INSTALLATION.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE INCOMING ELECTRICAL SERVICE WITH UTILITY COMPANY AND INCLUDE IN HIS BID ALL CHARGES AND FEES INCURRED IN MODIFICATIONS.
7. WHERE MORE THAN ONE SWITCH OCCURS IN THE SAME LOCATION, THEY SHALL BE INSTALLED IN A GANG TYPE BOX UNDER ONE COVER PLATE.
8. ELECTRICAL CONTRACTOR SHALL COORDINATE THE TELEPHONE INSTALLATION WITH THE TELEPHONE COMPANY AND THE GENERAL CONTRACTOR.
9. ELECTRICAL CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILINGS, PARTITIONS, WALLS, ETC. AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS. IF ANY WORK IS INSTALLED AND IT LATER DEVELOPS THAT SUCH DETAILS OR DESIGN CANNOT BE FOLLOWED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL MAKE SUCH CHANGES IN THE WORK AS DIRECTED BY THE ARCHITECT.
10. PERFORM TESTS REQUIRED BY THE OWNER OR THE ENGINEER IN CONNECTION WITH THE OPERATION OF THE ELECTRICAL SYSTEM IN THE BUILDING.
11. ALL TESTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST STANDARD OF THE IEEE AND THE NATIONAL ELECTRICAL CODE.
12. MINIMUM CONDUCTOR SIZE SHALL BE #12, 600V INSULATION. MINIMUM SIZE CONDUIT SHALL BE 3/4" EMT FOR INTERIOR USE, AND 3/4" RIGID ALUMINUM FOR EXTERIOR USE. USE TYPE NMC CABLE COPPER FOR LIGHTS AND RECEPTACLE CIRCUITS. EXTERIOR FITTINGS SHALL BE CAST BOXES AND COVERS. INTERIOR FITTINGS SHALL BE CAST WHERE EXPOSED ON WALLS. STAMPED BOXES MAY BE USED ABOVE CEILINGS IN AIR CONDITIONED SPACES. MC MAY BE USED FOR LIGHTING WHIPS.
13. CONTRACTOR SHALL INSTALL WIRING AND OTHER CIRCUIT COMPONENTS TO MATCH EQUIPMENT ACTUALLY INSTALLED.
14. INSTALL GROUND FAULT RECEPTACLES AT RECEPTACLE LOCATIONS WITHIN 5 FEET OF SINKS OR LAVATORIES, AND AT EXTERIOR LOCATIONS. EXTERIOR RECEPTACLES SHALL ALSO BE WATERPROOF.
15. BONDING AND GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 70:230-63, NFPA 250-23, 250-71 AND 250-72.
16. GROUND NEUTRAL IN ACCORDANCE WITH NFPA 70:250-23b.
17. FUSES SHALL BE ITT CLASS K5, 250 VOLT, 200000 AMP INTERRUPTING CAP.
18. PROVIDE SERVICES OF A FIRE/ SMOKE DETECTION AND ALARM COMPANY TO DESIGN AND INSTALL ALARM SYSTEM TO MEET REQUIREMENTS OF THE STATE FIRE MARSHAL.
19. EXTERIOR LIGHTING SHALL BE SHADED OR INWARDLY DIRECTED IN SUCH A MANNER THAT NO DIRECT LIGHTING OR GLARE IS CAST BEYOND THE PROPERTY LINE. THE INTENSITY OF SUCH LIGHTING SHALL NOT EXCEED ONE FOOT CANDLE AS MEASURED AT THE ABUTTING PROPERTY LINE.
20. ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE PARTITIONS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14).
21. TYPES EX1450, EX165N, EX185N, EZ185NZ, EX18XN, EX205N, EX205B, EX205BV, EX205NZ, EZ235N, EX235NZ, EX25DO, EX32DN, EX32DNZ, EZ32XN, EX44TN, EX44TNZ, EZ40TN, EX74TN, EX18CN, EX18CNG, EZ20CH, EZ20CHG, EZ20CN, NON-METALLIC BOXES. FOR USE IN FIRE RESISTANCE WALLS CONSTRUCTED IN WOOD OR NONBEARING STEEL STUDS AND GYPSUM WALLBOARD WITH 2 HOURS OR LESS CLASSIFICATION PERIODS. CLEARANCE BETWEEN BOXES AND CUTOUPS SHALL NOT EXCEED 1/8 INCH. THE AREA OF OPENINGS FOR BOXES SHALL NOT AGGREGATE MORE THAN 100 SQUARE INCHES OF WALL OR PARTITION AREA WITH NO OPENING EXCEEDING 22.0 SQUARE INCHES. OUTLET BOXES ON OPPOSITE STUDS OF WALL OR PARTITION SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES.
22. CONTRACTOR SHALL BALANCE ALL PANELS.



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OFFICE RENOVATION/  
ADDITION

M NATAL CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

LIGHTING PLAN

REV:

SCALE: AS NOTED

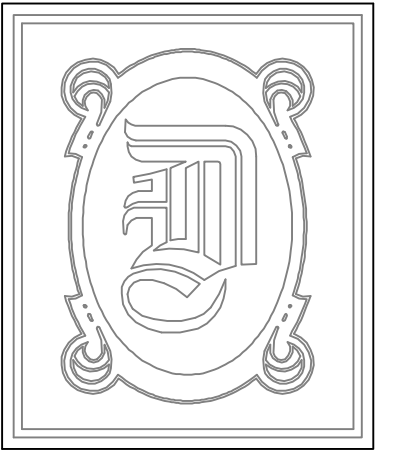
JOB#: 1956

DATE: 07-16-08

SHEET 9

E-2

OF 12



**DAMMON ENGINEERING, INC.**

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**OFFICE RENOVATION/ ADDITION**

M NATAL CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

**VENTILATION & ZONE I MECHANICAL PLAN**

REV:

SCALE: AS NOTED

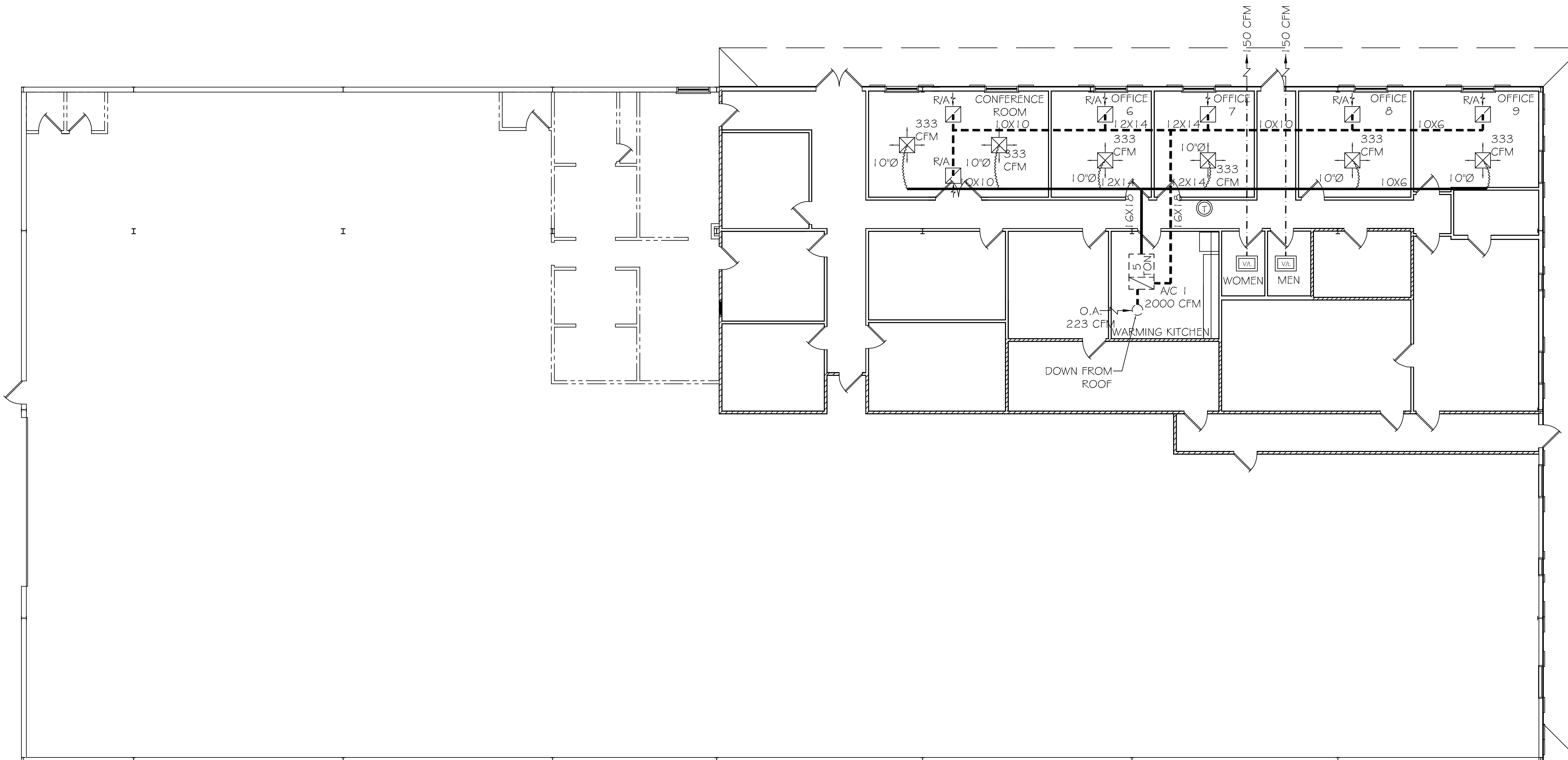
JOB#: 1956

DATE: 07-16-08

SHEET 10

**M-1**

OF 12



**EXHAUST FAN SCHEDULE**

LOC	CFM	VOLTAGE	TYPE	MANF.
TOILETS	150	120	VENT/LIGHT	BROAN

**ZONE I MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**FRESH AIR REQUIREMENTS PER A/C TABLE 403.3**

ROOM NAME	SQUARE FEET	O.A.	ZONE	HEAT (KW)	ELECTRICAL			COMMENTS
					VOLTAGE	MCA	CKT BRKR	
CORRIDOR	640	27	3	1.5	208V, 1Ø	-	-	
OFFICE 1	141	20	3	1.5	208V, 1Ø	-	-	
OFFICE 2	155	21	3	1.5	208V, 1Ø	-	-	
OFFICE 3	150	21	3	1.5	208V, 1Ø	-	-	
CONFERENCE	323	322	1	1.5	208V, 1Ø	-	-	
OFFICE 4	205	29	3	1.5	208V, 1Ø	-	-	
OFFICE 5	204	29	3	1.5	208V, 1Ø	-	-	
OFFICE 6	179	25	1	1.5	208V, 1Ø	-	-	
OFFICE 7	179	25	1	1.5	208V, 1Ø	-	-	
PLAN	181	25	3	1.5	208V, 1Ø	-	-	
FILE 1	247	35	3	1.5	208V, 1Ø	-	-	
KITCHEN	195	29	3	1.5	208V, 1Ø	-	-	
MENS REST.	47	75	2	1.5	208V, 1Ø	-	-	
WOMENS REST.	47	75	2	1.5	208V, 1Ø	-	-	
FILE 2	108	15	2	1.5	208V, 1Ø	-	-	
FITNESS	354	50	2	1.5	208V, 1Ø	-	-	
OFFICE 8	201	28	1	1.5	208V, 1Ø	-	-	
OFFICE 9	205	29	1	1.5	208V, 1Ø	-	-	
CLOSET	64	9	2	1.5	208V, 1Ø	-	-	
OFFICE 10	364	51	2	1.5	208V, 1Ø	-	-	

145EER, R410A REFRIGERANT HEAT PUMP

**MECHANICAL NOTES:**

- CONCEALED DUCTWORK TO BE UL-181, CLASS 1 FIBERGLASS DUCTBOARD. DUCTS SHALL BE SIZED TO LIMIT MAIN DUCTS TO 1000 FPM AND SECONDARY DUCTS TO 600 FPM. INSULATE DUCTWORK TO R-8. TO BE INSTALLED PER SMACNA STANDARDS.
- EXPOSED DUCTWORK TO BE GALVANIZED SHEET METAL PER SMACNA STANDARDS. INSULATE DUCTWORK TO R-8.
- ROUND FLEXIBLE DUCT TO BE UL-181, CLASS 1, AIR DUCT MATERIALS.
- DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- IN ALL SYSTEMS OVER 2000 CFM AND LESS THAN 15000 CFM, SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72E IN THE RETURN AIR DUCT DOWNSTREAM OF THE AIR HANDLING UNIT, AND ALL FILTERS TO AUTOMATICALLY STOP THE FAN.
- PROVIDE U.L. LISTED 125°F FIRESTAT IN RETURN AIR OF EACH SYSTEM UNDER 2000 CFM TO SHUT DOWN THE FAN IN THE EVENT OF A FIRE.
- PROVIDE U.L. RATED FIRE DAMPERS WHERE REQUIRED AT ALL DUCT PENETRATIONS OF FIRE-RATED ASSEMBLIES AND WHERE REQUIRED BY CODE, INCLUDING OUTSIDE AIR INTAKES.
- CONDENSATE DRAINS TO BE PVC PIPE RUN TO PLUMBERS P-TRAP WITHIN FIVE FEET OF AIR HANDLING UNITS.
- ALL AIR HANDLING SYSTEMS TO BE BALANCED TO ASSURE PROPER AIR FLOWS PER PLANS.
- ALL THERMOSTATS TO BE AUTOMATIC CHANGEOVER WITH HEAT SWITCH.
- EXHAUST FAN TO BE BROAN MODEL NO. 100 CF OR EQUAL. FAN SHALL BE CONTROLLED BY A SWITCH ON THE WALL IN THE SAME LOCATION AS LIGHT SWITCH(ES). PROVIDE BACK DRAFT DAMPER.
- PROVIDE AND INSTALL WATERPROOF GRILLE VENT IN PROPER ROOF LOCATION FOR PLUMBING FIXTURE EXHAUST.
- ALL SUPPLY AIR VENTS SHALL BE EQUIPPED WITH AIR CONTROL DAMPERS.
- LOCATE OUTDOOR UNITS AS SHOWN ON ARCHITECTURAL DRAWINGS.
- REFRIGERANT LINES SHALL BE SIZED BY UNIT MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- FRESH AIR SHALL BE SUPPLIED TO EACH AIR HANDLER THROUGH EXTERIOR WALL. DUCT SHALL BE SUPPLIED WITH A CONTROL DAMPER.
- INSTALL FIRE DAMPER WHERE S.A. AND R.A. DUCTS PENETRATE 1 HOUR RATED CEILINGS.
- ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE WALLS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14.
- REFRIGERANT LINES SHALL BE 3/4" TYPE L HARD COPPER.
- DRAWN DIAGRAMMATICALLY.

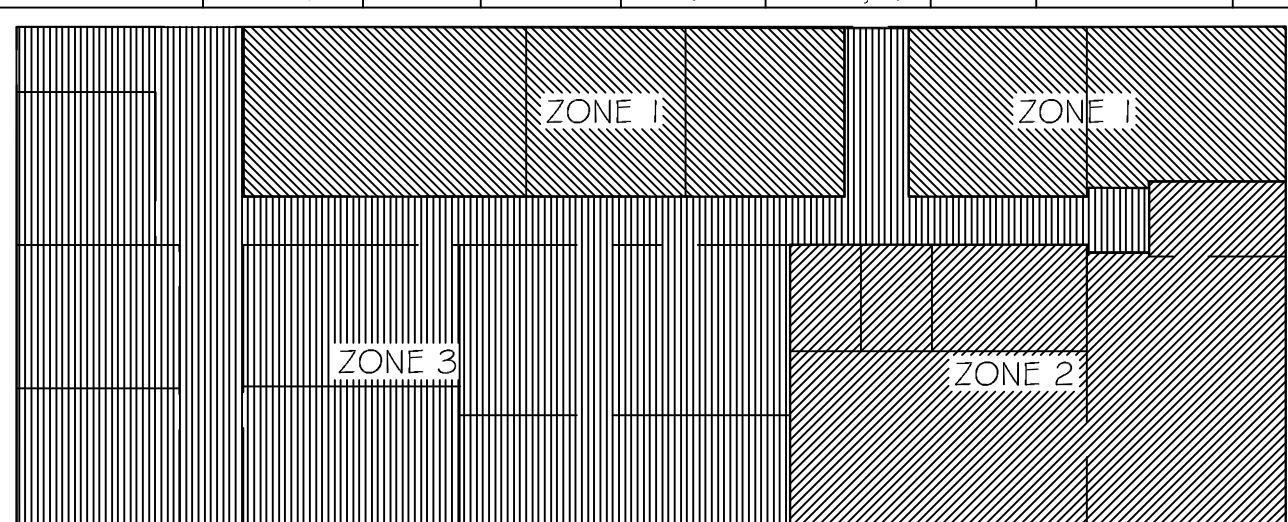
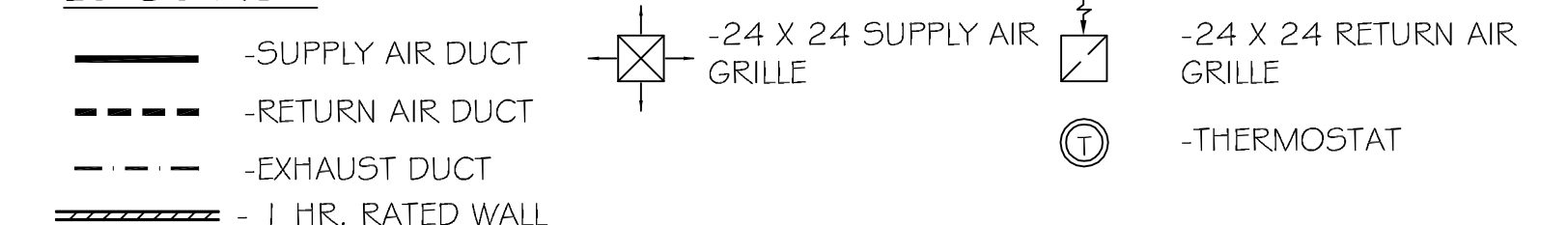
**NOTES**

- REFER TO STRUCTURAL DRAWINGS TO COORDINATE LOCATION(S) & MOUNTING OF MECHANICAL EQUIPMENT.
- FLEXIBLE DUCTWORK LENGTH NOT TO EXCEED 10'-0".
- REFER TO REFLECTED CEILING PLAN FOR FINAL GRILLE AND DIFFUSER LOCATION(S) AND COORDINATE AS REQUIRED.
- FINAL LOCATION OF TEMPERATURE CONTROLS TO BE COORDINATED WITH OWNER AT JOB SITE.
- PROVIDE AND INSTALL SMOKE DETECTORS, AS APPROVED BY LOCAL AHJ'S, IN RETURN AIR AND SUPPLY AIR DUCT OF AIR HANDLING UNITS (AHU-1, 2 & 3). PLACE NEAR R/A AND S/A OPENING OF AHU AND PROVIDE WITH ACCESS PANEL. WIRING BY ELECTRICAL CONTRACTOR.

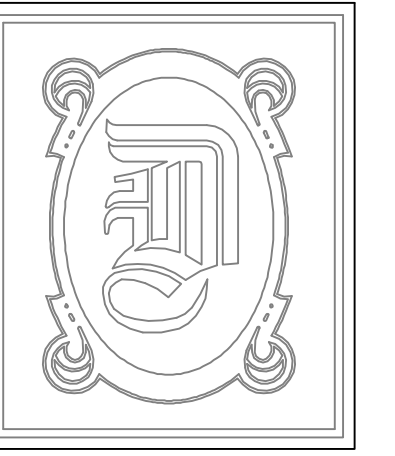
**NOTE:**

FRESH AIR INTAKES ARE REQUIRED TO HAVE MOTORIZED OR GRAVITY DAMPERS TO SHUT OFF WHEN SYSTEM IS NOT RUNNING. ALL THERMOSTATS MUST BE PROGRAMMABLE. SEE SECTIONS 502.4.4 OR 503.2.4.3 2006 INTERNATIONAL ENERGY CODE.

**LEGEND**



**MECHANICAL KEY PLAN**



**DAMMON  
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**OFFICE  
RENOVATION/  
ADDITION**

M NATAL  
CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

**ZONES 2 & 3  
MECHANICAL  
PLAN**

REV:

SCALE: AS NOTED

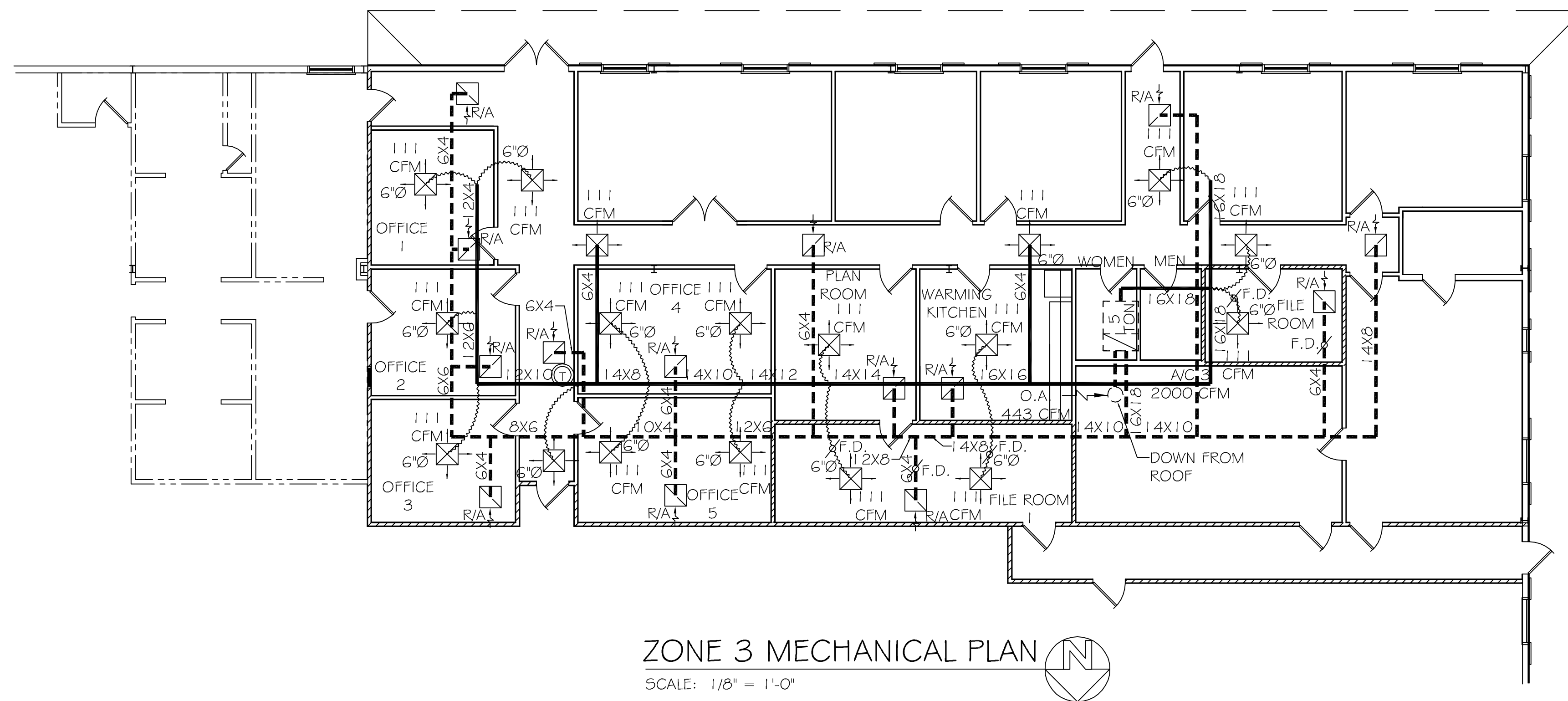
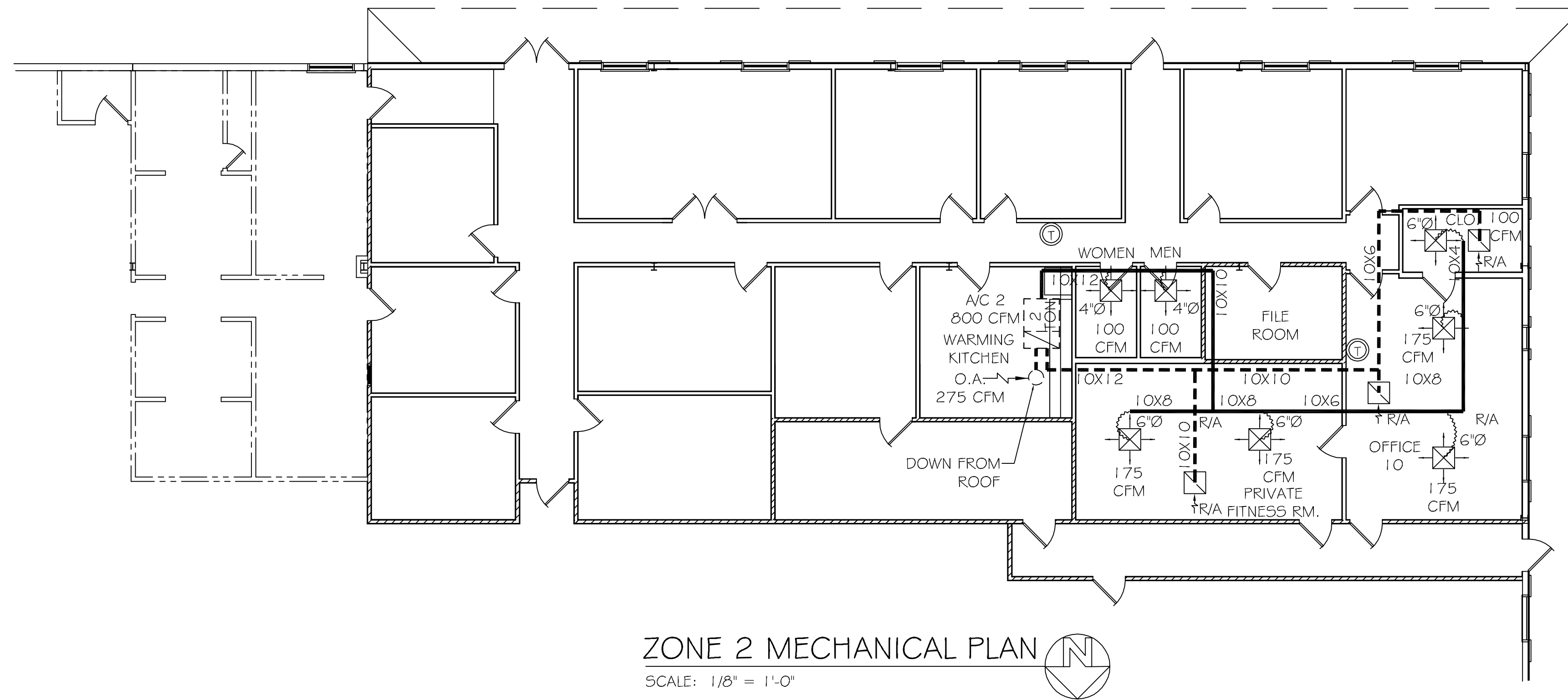
JOB#: 1956

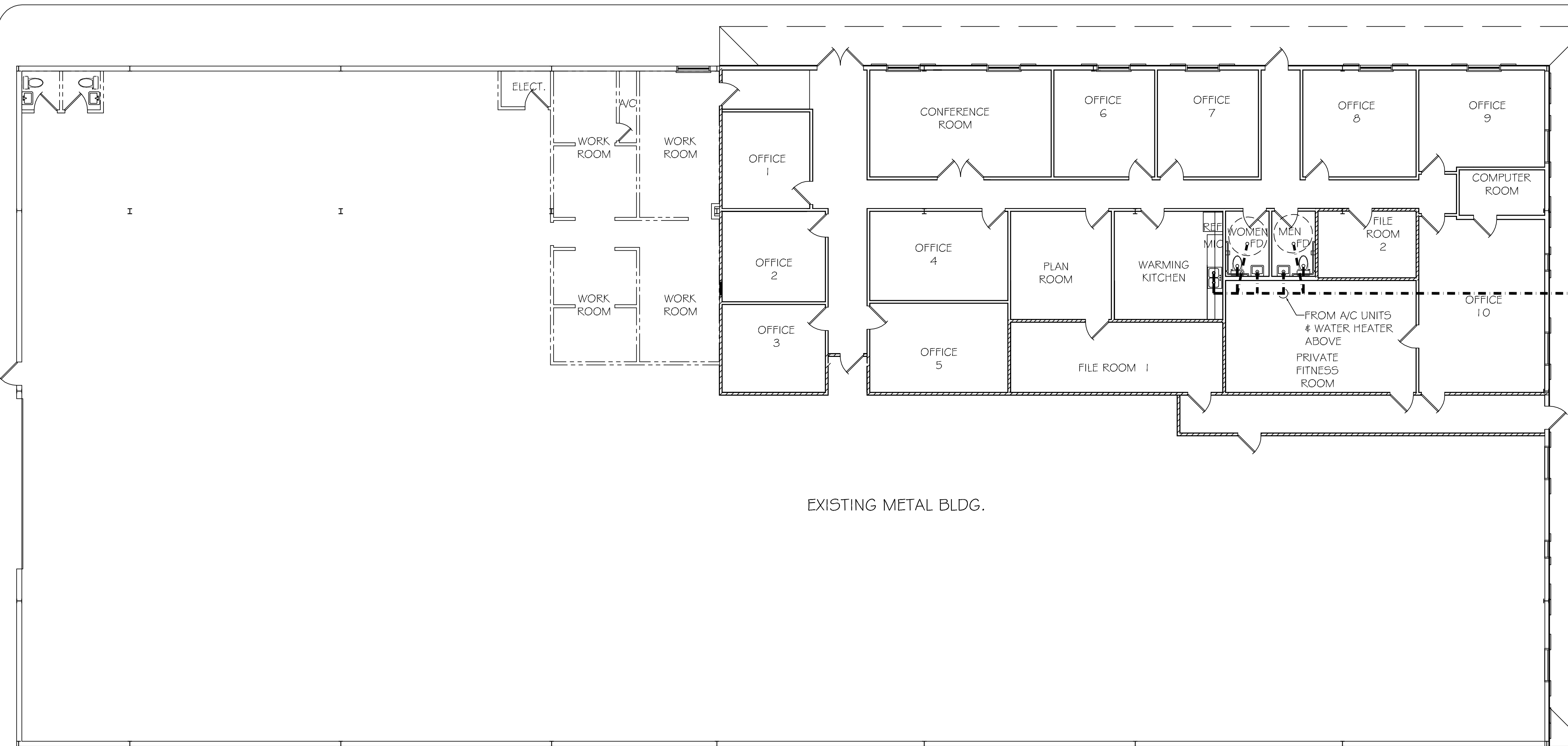
DATE: 07-16-08

SHEET 11

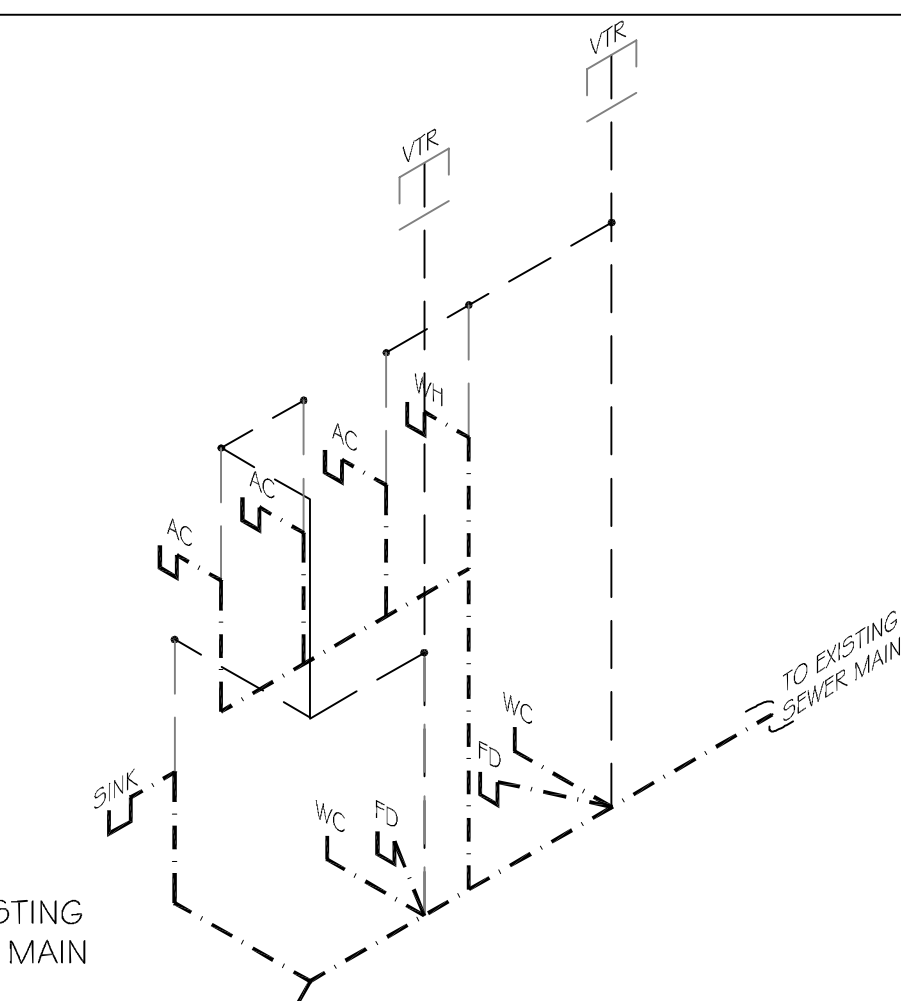
**M-2**

OF 12





EXISTING METAL BLDG.



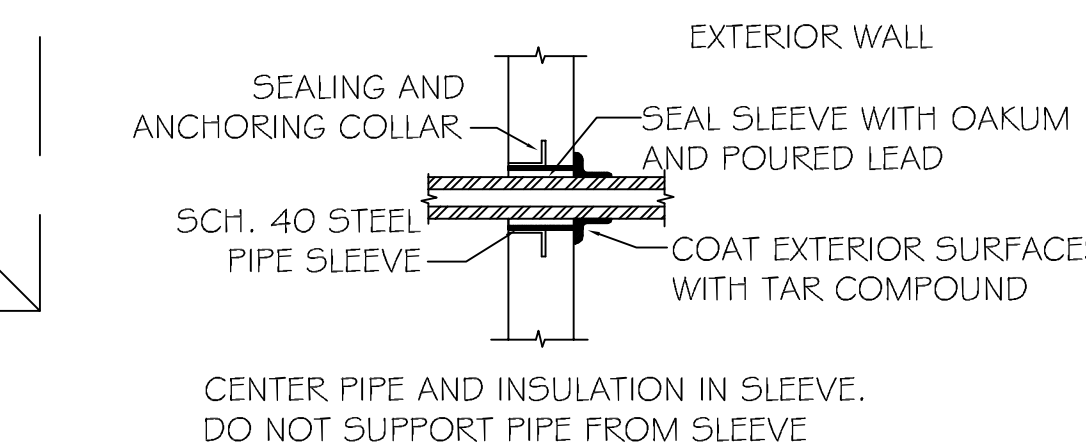
**PLUMBING RISER DIAGRAM**

N. T. S.

**NOTES:**

1. INSULATE PIPING FOR HANDICAP FIXTURE.
2. PROVIDE CHAIR CARRIER FOR WALL HUNG FIXTURE.
3. H.C. - HANDICAP FIXTURE
4. INSTALL CONTINUOUS DRIP ON ALL FLOOR DRAINS.

MARK	DESCRIPTION	TYPE	ROUGH-IN SIZES				NOTES
			WASTE	VENT	CW	HW	
WC	H.C. WATER CLOSET	VALVE	4"	4"	4"	-	3
LAV	H.C. LAVATORY	WALL HUNG	2"	2"	1/2"	1/2"	1, 2, 3
F.D.	FLOOR DRAIN	-	2"	2"	-	-	4
HS	HAND SINK	-	2"	2"	1/2"	1/2"	-
WH	WATER HEATER DRAIN	-	2"	2"	-	-	-



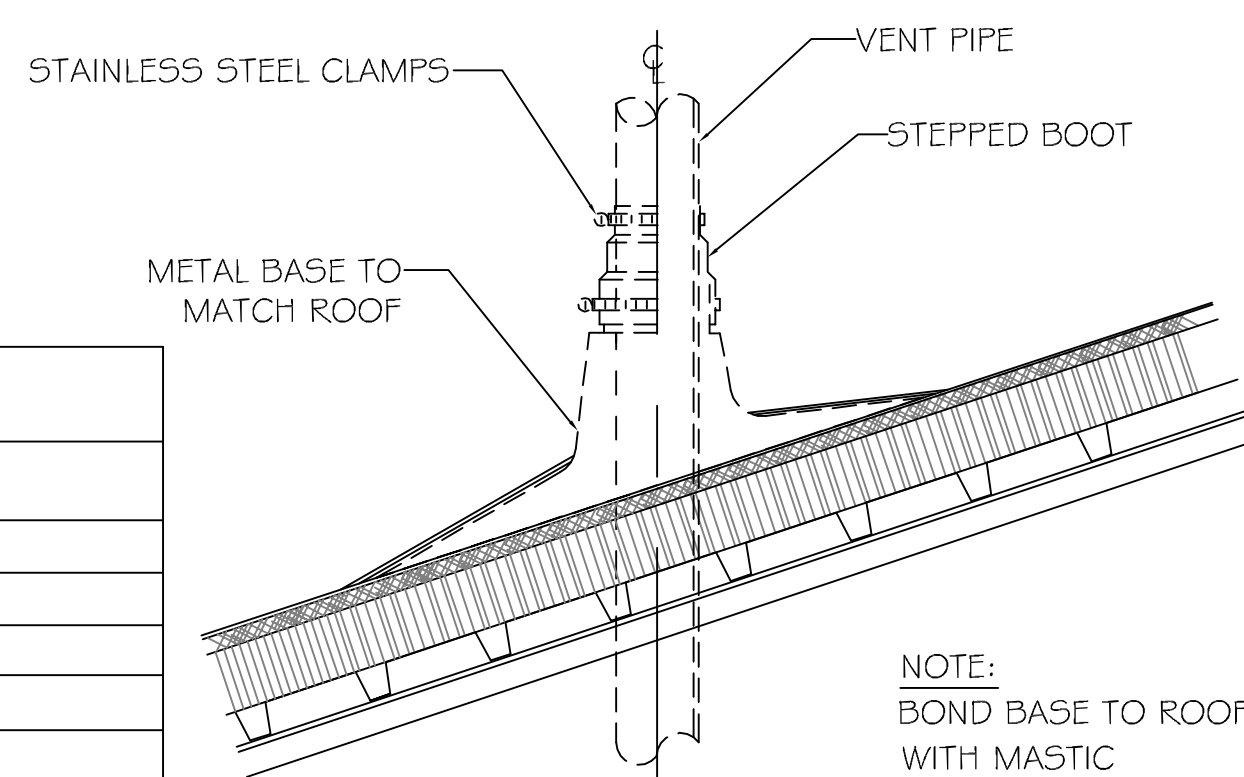
**EXTERIOR WALL SLEEVE DETAIL**  
N.T.S.

**PLUMBING NOTES**

1. PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE OPERATING SYSTEM. THE SYSTEM SHALL INCLUDE HOT AND COLD WATER PIPING, SEWER AND VENT PIPING. INSULATION, WATER HEATER, HANGERS, VALVES, SUPPORTS WITHOUT ANY RESTRICTIONS TO COLUMN. CUT AND PATCH AS REQUIRED TO INSTALL PIPES.
2. ALL WORK AND MATERIAL SHALL CONFORM STRICTLY TO THE LATEST LOCAL, CITY, PARISH, STATE AND NATIONAL GOVERNING CODES.
3. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING UTILITY LOCATIONS, ELEVATIONS AND SIZES PRIOR TO COMMENCING ANY WORK. CONTRACTOR SHALL PAY NECESSARY FEES FOR THE UTILITIES CONNECTIONS.
4. CONTRACTOR IS RESPONSIBLE TO VERIFY THE EXISTING INVERTS AND SET NEW INVERTS OF SEWERAGE AND DRAINAGE PIPES.
5. SEWERAGE LINES 3-INCH AND SMALLER SHALL BE SLOPED 1/8" PER FOOT AND LINE 4-INCH AND LARGER SHALL BE 1/4" PER FOOT.
6. TEST ALL PIPING AT REQUIRED PRESSURE.
7. ALL PLUMBING SHALL BE CLOSELY COORDINATED WITH STRUCTURAL SYSTEM, MECHANICAL SYSTEM AND ELECTRICAL TO INSURE NO TRADES WILL CONFLICT WITH EACH OTHER.
8. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DOORS, WINDOWS, WALLS, FIXTURES, ETC.
9. ALL WATER MAINS AND PIPING NOT SHOWN FOR CLARITY, ALL LOCATIONS FIELD VERIFIED.
10. DOMESTIC HOT AND COLD WATER PIPING AND FITTINGS UNDER SLAB SHALL BE ASTM B88 COPPER WATER TUBE, TYPE K 50FT ANNEALED. NO JOINTS SHALL BE ALLOWED UNDER THE SLAB.

11. DOMESTIC WATER PIPING AND FITTINGS ABOVE THE SLAB SHALL BE ASTM B88 COPPER WATER TUBE, TYPE L. HARD DRAWN WITH COPPER PRESSURE TYPE FITTINGS, ANSI B1.6.22. THE JOINTS SHALL BE SOLDERED TYPING USING ASTM B32, ALLOY GRADE 95A (95-5) SOLDER.
12. SOIL, WASTE, VENT PIPING AND FITTINGS ABOVE THE SLAB SHALL BE SERVICE WEIGHT CAST IRON PIPE WITH BELL AND SPICOT ENDS AND ONE PIECE NEOPRENE INSERT TYPE GASKET. USE PVC SCHEDULE 40 OR ABS DWV PIPES AND FITTINGS WHERE PERMITTED BY CODE.
13. ALL WATER PIPING AND FITTINGS ABOVE THE FLOOR SHALL BE INSULATED WITH 1/2" THICK FIBERGLASS INSULATION AND JACKET.
14. ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE PARTITIONS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14.).
15. ALL PLUMBING LINES SHOWN ARE DIAGRAMMATICALLY.
16. PROVIDE P-TRAP WITH TRAP PRIMER IN RESTROOMS.

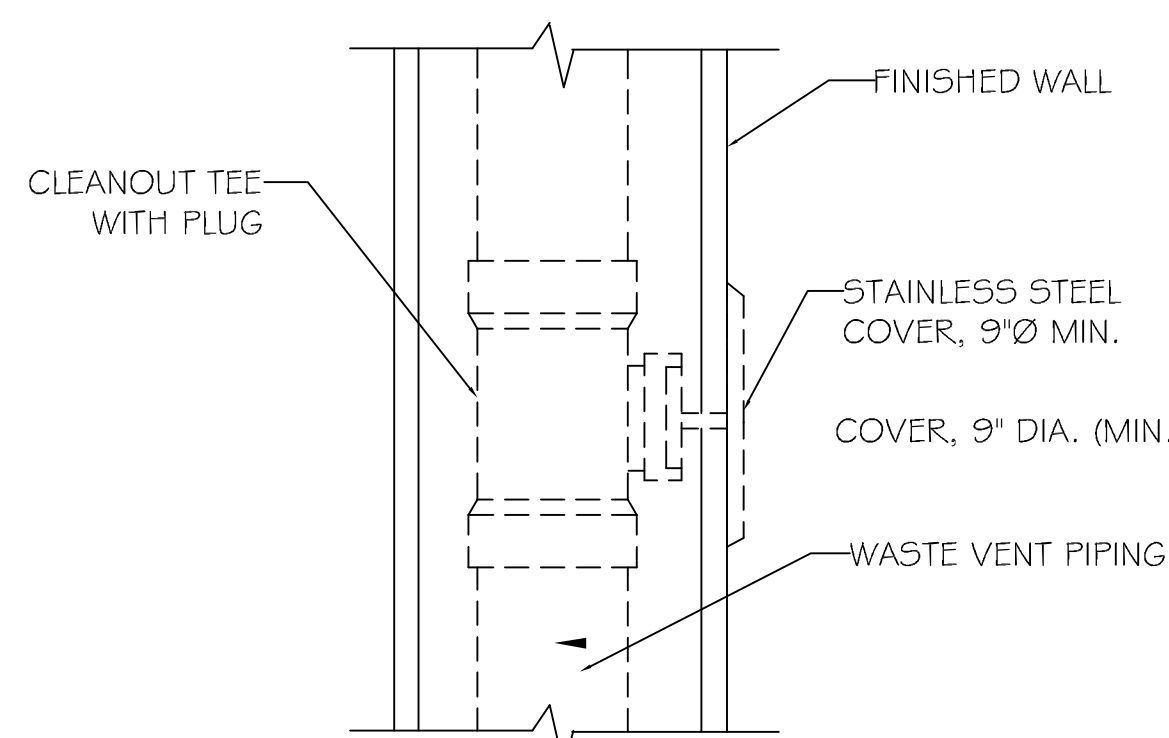
TYP. PLUMBING ABBREVIATIONS			
SYM	DESCRIPTION	SYM	DESCRIPTION
AHU	AIR CONDITIONING UNIT	MS	MOP SINK
DW	DISHWASHER	S-1	1 COMP. SINK
FD	FLOOR DRAIN	S-2	2 COMP. SINK
F5	FLOOR SINK	S-3	3 COMP. SINK
HB	HOSE BIB	S-4	4 COMP. SINK
HD	HUB DRAIN	UR	URINAL
WH	HOT WATER HEATER	WC	WATER CLOSET
L-1	LAVATORY		
L-2	LAVATORY, HANDICAP		



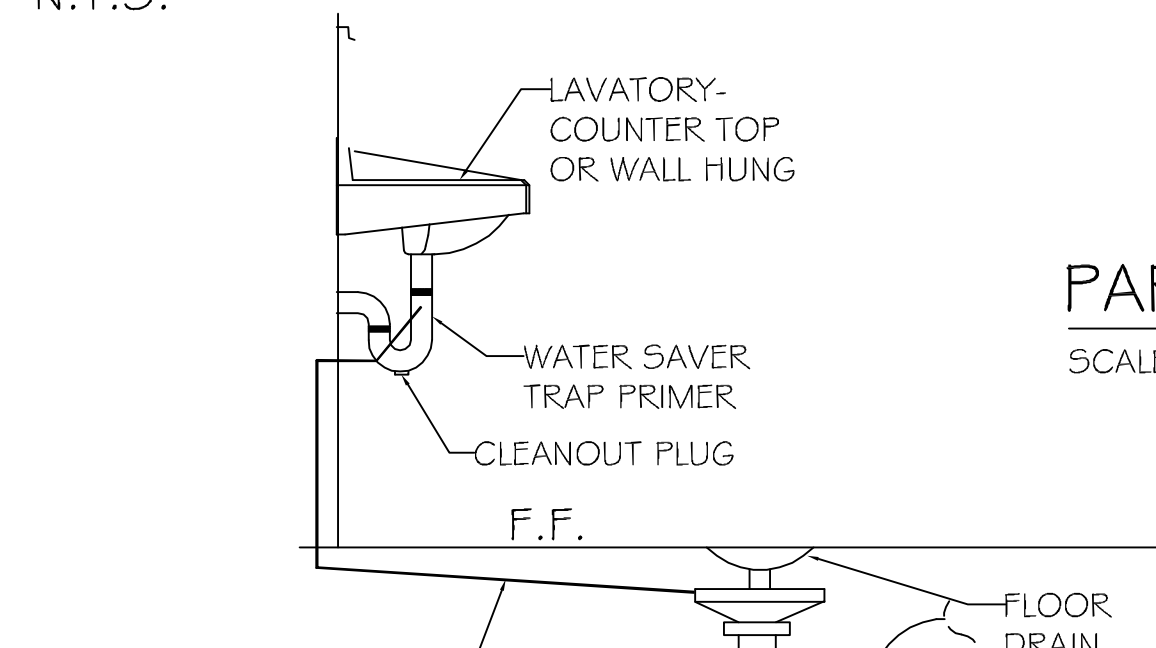
**VENT THRU ROOF DETAIL**  
N.T.S.

**PLUMBING PLAN**

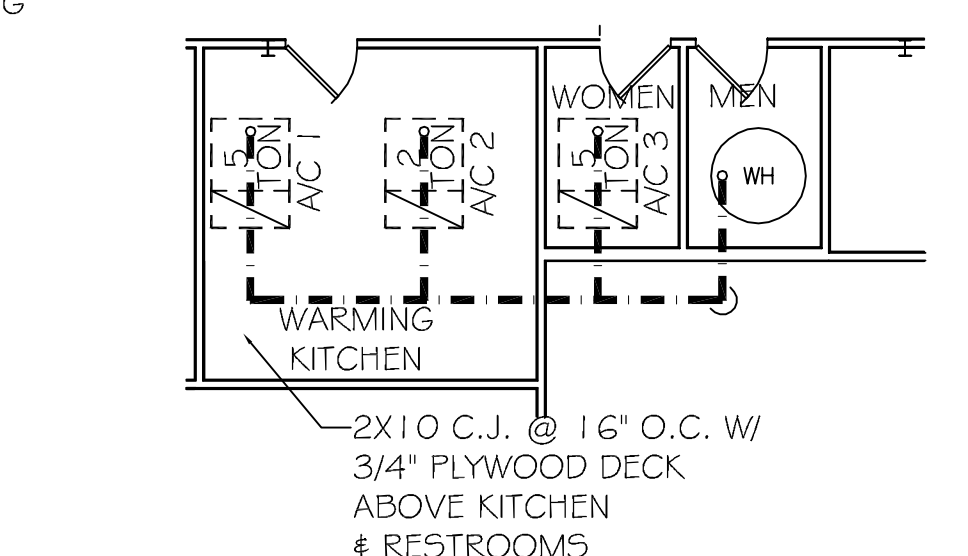
SCALE: 1/8" = 1'-0"



**WALL CLEANOUT DETAIL**  
N.T.S.

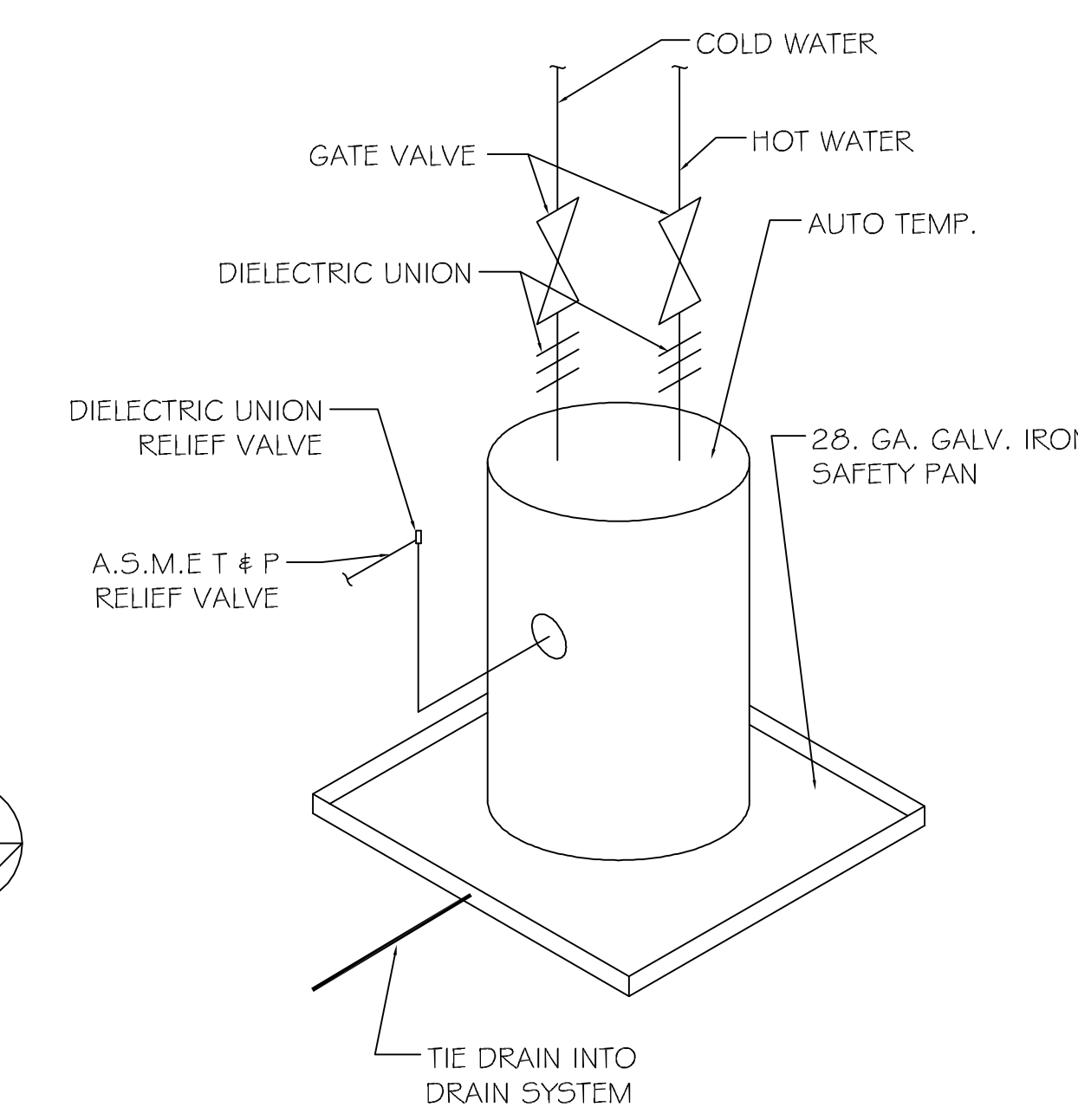


**FLOOR DRAIN DETAIL**

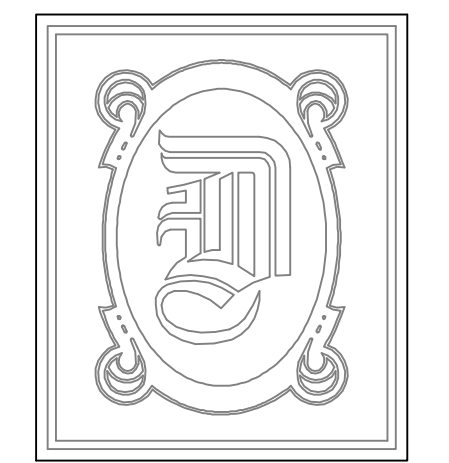


**PARTIAL PLUMBING PLAN**

SCALE: 1/8" = 1'-0"



**TYPICAL WATER HEATER**  
SCALE: N.T.S.



**DAMMON ENGINEERING, INC.**

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- ARCHITECTURE
- ENGINEERING
- STUDIES
- PLANNING
- INVESTIGATION
- EXPERT WITNESS

**OFFICE RENOVATION/ ADDITION**

M NATAL  
CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

**PLUMBING PLAN**

REV:

SCALE: AS NOTED

JOB#: 1956

DATE: 07-16-08

SHEET 12

P-1

OF 12