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x1001	2152 2ND FLOOR

BUILDING AND SITE DATA

OCCUPANCY	MUR-45	
CONSTRUCTION TYPE	Type V-A Sprinklered NFPA13	
PROPOSED SITE & BUILDING CONSTRUCTI	TON	
SITE AREA	9,744 SF	
BUILDING COVERAGE	7,224 SF	
LANDSCAPE AREA	1,476 SF	
NUMBER OF UNITS	21 TYPE B, 1 TYPE A - TOTAL = 22	
PARKING REQUIRED	19 1-BEDROOM UNITS $X.75 = 11.25$ 3 2-BEDROOM UNITS $X 1.5 = 4.5$ TOTAL = 15.75 (16)	
PARKING PROVIDED	9 STANDARD, 9 COMPACT, 1 ACCESSIBLE - TOTAL = 19)
OPEN SPACE REQUIRED	19 1-BEDROOM UNITS X 100 = 1,900 3 2-BEDROOM UNITS X 130 = 390 TOTAL = 2,290 SQ. FT.	^ 1\
OPEN SPACE PROVIDED PROVIDED	9 STANDARD, 9 COMPACT, 1 ADA - TOTAL = 19	

Project Data: Current Zone: MUR-45' Seismic Design Category: Comp Plan Designation: SA 2 Risk Category: Building Height / Stories: 45'/ 4 Site Class: SEPA Required: Wind Speed / Exposure: 110 mph /B Soil Bearing Capacity: Construction Type: V-A Verify YES Occupancies: R-2/ S-2 Sprinklers Required: YES Fire Alarm Required:

CODE SUMMARY

Shoreline Municipal Code (SMC) Shoreline Comprehensive Plan (SCP) **City of Shoreline Engineering Development Manual** 2012 Department of Ecology Stormwater Management Manual for Western Washington 2015 International Building Code (IBC) with Washington State Amendments ICC/ANSI A117.1-2009 Accessibility Requirements with Washington State Amendments 2015 International Mechanical Code (IMC) with Washington State Amendments 2015 International Fuel Gas Code (IFGC) with Washington State Amendments

2015 International Energy Conservation Code with Washington State Amendments (WSEC) 2015 Uniform Plumbing Code (UPC) with Washington State Amendments 2015 International Fire Code (IFC) with Shoreline and Washington State Amendments

PROJECT TEAM

OWNER: **DESIGN** ARCHITECT: DESIGNER: Dale Sweeney Architect TP HOMES, LLC 5936 NE 3RD CT 5715 143rd Place SE Bellevue, WA 98006 **RENTON, WA 98059** (425) 282-7082 TPHOMELLC@YAHOO.COM CONTACT: VINH QUANG 206-430-273 425-260-8969

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Dale Sweeney dale.design3d@gmail.com

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TIMOTHY COLLINS TIMOTHY@COLLINSPD.COM LANDCAPE:

Archsoft Consultants **George Braslaw** Architect / Landscape Architect AIA, CSI

Gbraslaw@archsoft.net (425) 820-0840

STRUCTURAL:

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360-754-9339 Michael Szramek, PE SE SURVEYOR

PBG, LLC 5130 S. 166TH LANE **SEATAC, WA 98188** (206) 446-1292 EMAIL: PBG.ENGR@YAHOO.COM CONTACT: HAN PHAN, P.E.

TOUMA ENGINEERS & LAND SURVEYORS, PLLC 225 SW 41ST STREET RENTON WA 98057 (425) 251-0665

TOUMAENGINEERING@GMAIL.COM CONTACT: DAN TOUMA, PLS mike@mc2-inc.com

MECHANICAL, ELECTRICAL and PLUMBING:

Robison Engineering Inc. 19401 40th Avenue W, Suite 302 Lynnwood, WA 98036 T 206.364.3343 C 206.601-9564 http://www.robisonengineering.com

Mechanical (primary contact)

jobrien@robisonengineering.com

dphillips@robisonengineering.com

Electrical
Salvador Escalona sescalona@robisonengineering.com

PARCEL INFORMATION

Parcel Numbers for the project is: 370590-0032

LEGAL DESCRIPTION THE NORTH 121 FEET OF TRACT 6 OF JERSEY SUMMER HOMES, AS PER PLAT RECORDED IN VOLUME 21 OF PLATS, PAGE 96, RECORDS OF KING COUNTY,

EXCEPT THE EAST 64.5 FEET THEROF;

SITUATE IN THE CITY OF SHORELINE, COUNTY OF KING, STATE

PROJECT DESCRIPTION

CONSTRUCTION OF A NEW 22 UNIT APARTMENT BUILDING WITH PARKING ON THE AT GRADE LEVEL

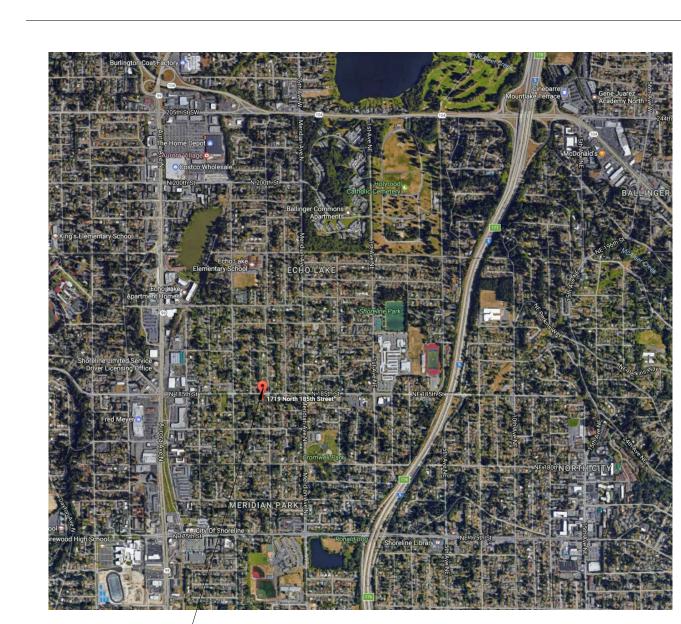
JOB ADDRESS

2152 N 185th STREET, SHORELINE, WA 98133

THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGEMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090.



VINCINITY MAP



PROJECT LOCATION

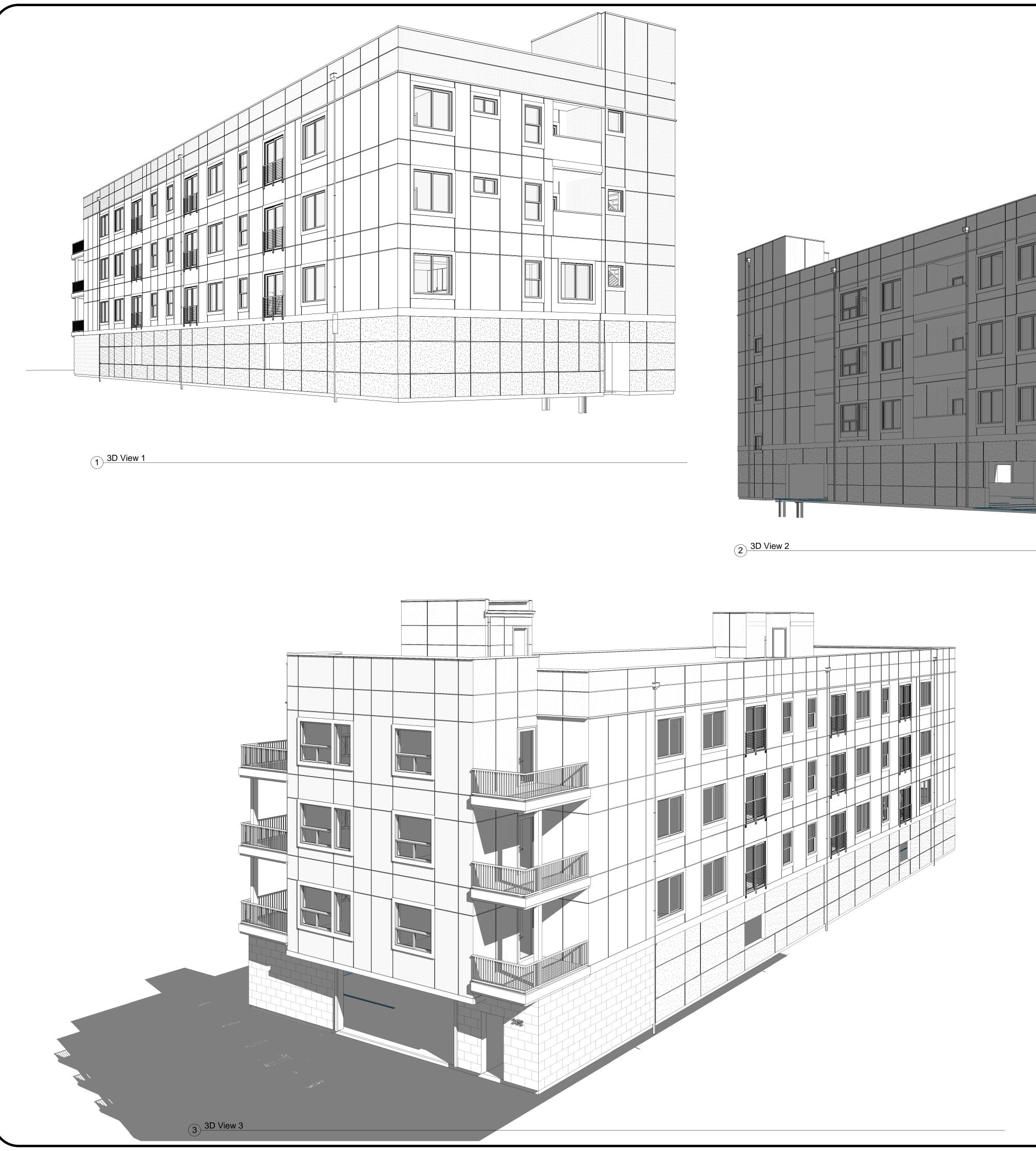
HOME 22 TS. 2152

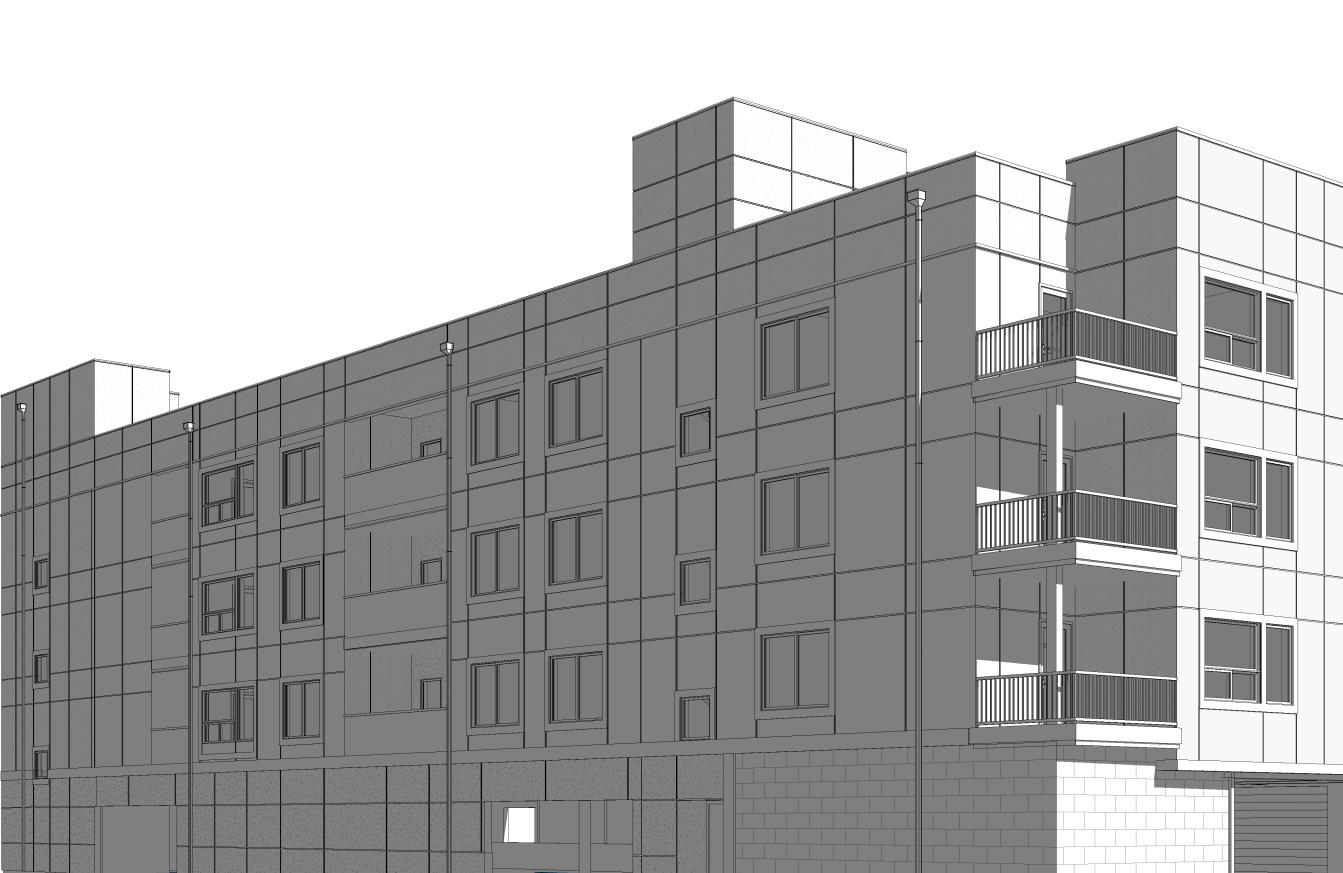
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COVER

SHEET NO.

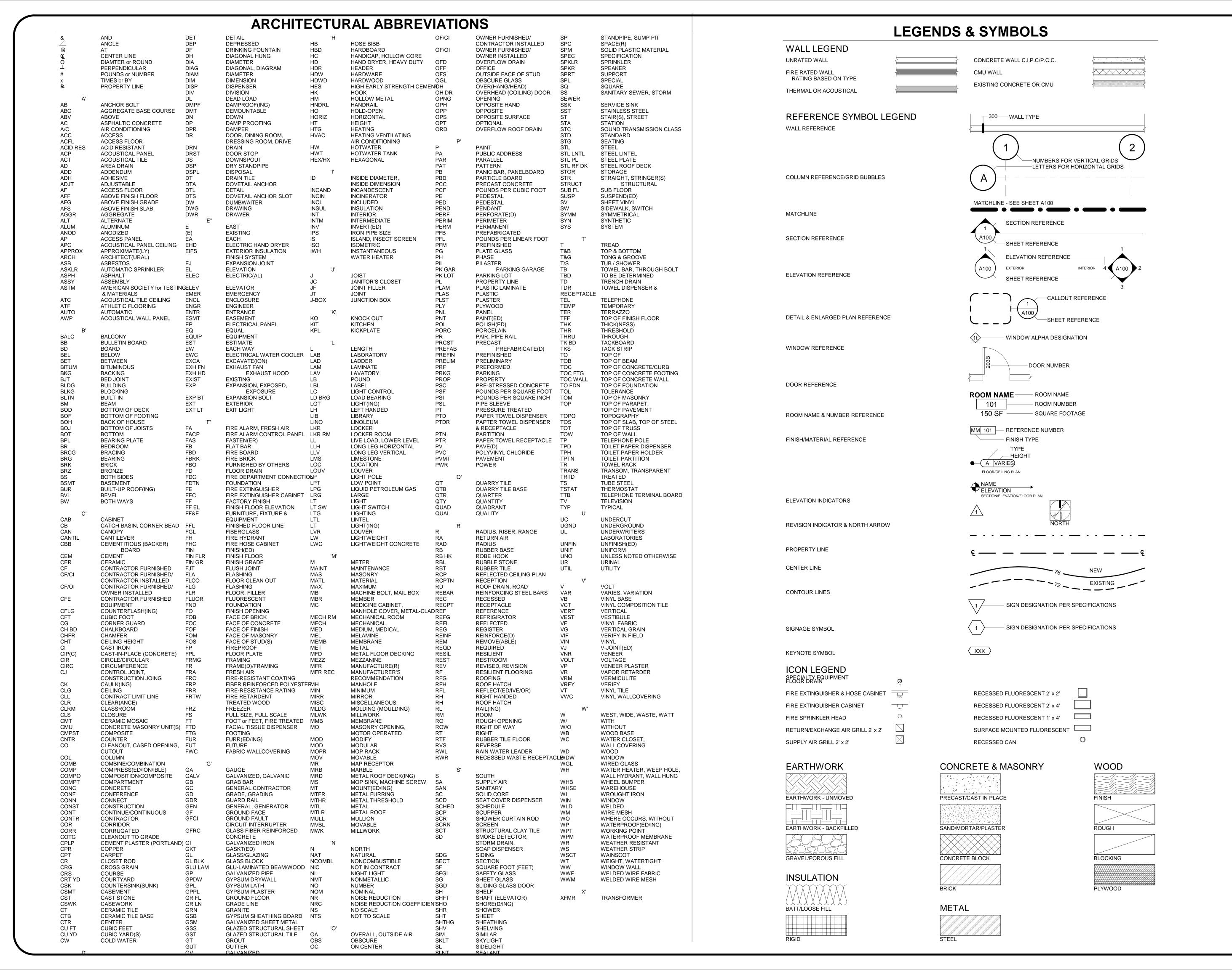




TP HOME 22 UNIT APTS.
2152
TP Home LLC
2152 N 185TH ST.



SHEET NO.



20

Abbreviations / Symb Material Legends

PRINT DATE: 2/15/2021 12:46:12 PM SHEET NO.

I. ALL CONSTRUCTION SHALL COMPLY WITH THE 2015 INTERNATIONAL BUILDING CODES, 2015 U.P.C., THE 2015 W.S.E.C., THE (2017) N.E.C. WITH WASHINGTON STATE AMENDMENTS TO ALL. ALONG WITH THE 2015 I.B.C. WASHINGTON STATE HAS ADOPTED THE ICC/ANSI A I 17. I(-2009) ACCESSIBILITY CODE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE BUILDING AND SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.

3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS AND WORKERS AT ALL TIMES.

4. ALL OPERATIONS CONDUCTED ON THE PREMISES SHALL NOT BE OBJECTIONABLE BEYOND THE PROPERTY BOUNDARY LINES BY REASON OF NOISE, STEAM, ODOR, FUMES, GASES, SMOKE, VIBRATION, HAZARD, OR OTHER

5. ALL DEBRIS SHALL BE REMOVED FROM THE PREMISES AND ALL AREAS SHALL BE LEFT IN A "BROOM-CLEAN" CONDITION AT ALL TIMES.

6. THE CONTRACTOR SHALL SECURE SUCH PERMITS AS REQUIRED BY THE LOCAL FIRE DEPARTMENT PRIOR TO BUILDING OCCUPATION.

7. ALL EXTERIOR BUILDING SIGNAGE SHALL BE UNDER SEPARATE PERMIT.

8. THE CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, DETAILS, ETC., AND NOTIFY THE Designer OF ANY AND ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AS ADEQUATE FOR THE PROPER COMPLETION OF THE WORK DETAILED HEREIN.

9. EXISTING DETAILS, ELEVATIONS, AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF CONDITIONS OR DETAILS DIFFER FROM THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE Designer IMMEDIATELY SO THAT APPROPRIATE MODIFICATIONS CAN BE MADE BEFORE

IO. THERE SHALL BE NO DEVIATIONS WHATSOEVER FROM THE CONTRACT DOCUMENTS WITHOUT THE Designer's WRITTEN APPROVAL THEREOF. THE CONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD THE Designer HARMLESS FOR ANY CLAIMS ARISING AS A RESULT OF UNAPPROVED CHANGES.

II. THE APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY ANY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS, ON THE PREMISES AT ALL TIMES WHICH ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.

I 2. SEE STRUCTURAL GENERAL NOTES REGARDING: LUMBER, NAILING, CONCRETE, REINFORCING, AND STRUCTURAL STEEL.

13. ALL ITEMS MARKED "N.I.C." (NOT IN CONTRACT) OR "O.F.O.I." (OWNER FURNISHED, OWNER INSTALLED) ARE TO BE CONSIDERED AS NOT PART OF THIS CONTRACT UNLESS OTHERWISE NOTED.

14. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. THE CONTRACTOR SHALL NOTIFY THE Designer IMMEDIATELY OF ANY AND ALL DISCREPANCIES.

15. ALL DIMENSIONS ARE TO CENTERLINE OF COLUMN, FACE OF STUD, OR FACE OF CMU UNLESS OTHERWISE

I 6.WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

17. ALL WORK SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST RECOMMENDATION OR

18. FIRE EXTINGUISHERS: VERIFY REQUIREMENTS AND LOCATIONS WITH FIRE MARSHALL.

I 9. EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.

EXCEPTION: THIS REQUIREMENT SHALL NOT APPLY TO THE MAIN EXTERIOR EXIT DOORS IF THERE IS A READILY VISIBLE, DURABLE SIGN MOUNTED ON OR ADJACENT TO THE DOOR WHICH STATES "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS". THE SIGN SHALL BE IN LETTERS NOT LESS THAN I INCH HIGH ON A CONTRASTING BACKGROUND. THE LOCKING DEVICE MUST BE A TYPE THAT WILL BE READILY DISTINGUISHABLE AS LOCKED.

20. EXIT DOORS, EXIT LIGHTS, AND FIRE EXTINGUISHER LOCATIONS SHALL NOT BE CONCEALED OR OBSTRUCTED BY ANY DECORATIVE MATERIAL, DECOR OR FURNISHINGS.

21. MINIMUM FLAME SPREAD CLASSIFICATION OF INTERIOR FINISHES SHALL BE PER TABLE 42-B OF THE I.F.C.

22. ALLGLASS AND GLAZING SHALL COMPLY WITH CHAPTER 24 OF THE I.B.C. AND THE U.S. PRODUCT SAFETY COMMISSION: SAFETY STANDARD FOR ARCHITECTURAL GLAZING MATERIALS (42 FR 1426; 16 CFR PART 1201)

23. INSTALL THE ASSIGNED BUILDING NUMBER ON THE STRUCTURE THAT IS CLEARLY VISIBLE FROM THE STREET. NUMBERS SHALL CLEARLY CONTRAST WITH THEIR BACKGROUND IN COLOR. IFC 505. 24. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR INSTRUCTIONS REGARDING GRADING AND TRENCHING PRIOR TO CONTINUATION OF WORK SHOULD ANY UNUSUAL SUBSURFACE CONDITIONS BECOME APPARENT

25. WATER HEATER SIZES AND LOCATIONS SHALL BE PROVIDED BY THE PLUMBING SUB-CONTRACTOR. SAID UNITS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF ASHRAE 90-75 AND SHALL BE VENTED TO THE

26. LATHING, PLASTER, AND GYPSUM WALL BOARD SYSTEM SHALL CONFORM TO CHAPTER 23 OF

27. ALL FOUNDATION AND FOOTINGS ARE TO REST ON UNDISTURBED EARTH AND AS NOTED IN THE STRUCTURAL GENERAL NOTES. IF CONTRARY CONDITIONS OCCUR, NOTIFY THE ARCHITECT.

28. FINISH FLOOR, TOP OF CONCRETE SLAB, DATUM = +0.00'.

DURING GRADING FOR FOUNDATION CONSTRUCTION.

29. ALL WOOD MEMBERS IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED

30. REFLECTED CEILING PLANS ARE FOR THE GENERAL INFORMATION OF THE CONTRACTOR. EXACT LOCATIONS OF LIGHTING FIXTURES AND CEILING MATERIALS SHOULD BE VERIFIED PRIOR TO INSTALLATION. 31. PROVIDE SEISMIC BRACING FOR SUSPENDED ACOUSTICAL CEILING @ 12' OC BOTH WAYS PER I.B.C.

STANDARDS 25-2. 32. EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS, AND ROOF AND OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH WALLS, FLOORS, AND DOORS, AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER-STRIPPED TO LIMIT AIR LEAKAGE AND ELIMINATE WATER PENETRATION.

33. ALL TEARS AND JOINTS IN BATT INSULATIONS TO BE SEALED WITH TAPE.

34. PLUMBING, ELECTRICAL, AND H.V.A.C. SYSTEMS ARE BIDDER-DESIGNED AND COVERED UNDER SEPARATE PERMIT. CONTRACTOR SHALL SUBMIT BIDDER-DESIGN DRAWINGS TO Designer FOR REVIEW PRIOR TO 35. ALL GENERAL NOTES HEREIN APPLY TO ALL DRAWING SHEETS IN THEIR ENTIRETY AS IF FULLY REPRINTED ON EACH SHEET. ALL GENERAL NOTES APPLY TO ALL SECTIONS OF THE WORK HEREIN DEPICTED FOR THIS PROJECT. NO ALLOWANCE WILL BE MADE FOR THE GENERAL CONTRACTOR'S (OR THEIR SUBCONTRACTOR'S) FAILURE TO READ THESE NOTES AND APPLY THEM TO ALL PORTIONS OF THE WORK DETAILED HEREIN. 36. EXACT LOCATIONS, DIMENSIONS AND UTILITY REQUIREMENTS OF ALL EQUIPMENT SHOWN SHALL BE AS INDICATED ON DRAWINGS PROVIDED BY OTHERS. INFORM THE Designer IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS ENCOUNTERED.

37. INSTALLATION OF FIXTURES AND CASEWORK INDICATED HEREIN SHALL NOT, IN ANY WAY, CONFLICT WITH THE REQUIREMENTS OF THE I.B.C. OR OTHER SUCH BUILDING CODES OR STANDARDS THAT MIGHT APPLY.

38. SINKS INDICATED IN THESE DRAWINGS ARE FOR GENERAL INFORMATION AND HEALTH DEPARTMENT INFORMATION. FINAL LOCATION OF ALL PLUMBING FIXTURES SHALL BE PER APPROVED PLUMBING PLANS FROM THE LOCAL BUILDING OFFICIAL.

39. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL BE RESPONSIBLE FOR REVIEWING AND COORDINATING SUBMITTAL DOCUMENTS PREPARED BY OTHERS, INCLUDING PHASED AND DEFERRED SUBMITTAL ITEMS, FOR COMPATIBILITY WITH THE DESIGN OF THE BUILDING.

UNDER SEPARATE PERMITS

Submittal documents for any deferred submittal items shall be submitted to the architect or engineer of record for review and written approval of general conformance with the design, intent and code requirements of the building. The following information will be provided as deferred submittals:

ELECTRICAL FIRE SPRINKLER FIRE ALARM FIRE DETECTION/NOTIFICATION 12. FIRE SUPPRESSION UNDERGROUND FIRE LINE STANDPIPES

MEMBRANE AND THROUGH

PENETRATION FIRE STOPS

PRE-FABRICATED METAL-PLATE CONNECTED WOOD TRUSSES SHEARWALL HOLDOWN SYSYTEM

SUSPENDED CEILING SYSTEMS INCL. SEISMIC **EXTERIOR AND INTERIOR SIGNAGE** 13. 14. **EMERGENCY POWER GENERATOR/BATTERY** UNDERGROUND FIRE SERVICE MAIN EMERGENCY RESPONDER RADIO SYSTEM (DAS)

IF REQUIRED.

FIRE PROTECTION COATING FOR STRUCTURAL STEEL FRAMING

EMERGENCY LIGHTING.

I. INSTALL ILLUMINATED EMERGENCY LIGHTING THROUGHOUT THE BUILDING IN COMPLIANCE WITH IBC 1006

2. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN I FOOT-CANDLE (I I LUX) AT THE WALKING SURFACE LEVEL.

3. THE POWER SUPPLY FOR MEANS OF EGRESS ILLUMINATION SHALL NORMALLY BE PROVIDED BY THE PREMISES' ELECTRICAL SUPPLY. IN THE EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE THE FOLLOWING AREAS:

-- CORRIDORS, EXIT ENCLOSURES AND EXIT PASSAGEWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS. -- EXTERIOR EGRESS COMPONENTS AT OTHER THAN THE LEVEL OF EXIT DISCHARGE UNTIL EXIT DISCHARGE IS ACCOMPLISHED FOR BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS. -- INTERIOR EXIT DISCHARGE ELEMENTS, AS PERMITTED IN

SECTION 1024.1, IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS. --EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1008.1.5,

FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO

HAVE TWO OR MORE EXITS. 4. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR. THE INSTALLATION OF THE EMERGENCY

POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION

5. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF I FOOT-CANDLE (I I LUX) AND A MINIMUM AT ANY POINT OF O. I FOOT-CANDLE (I LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOT-CANDLE (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOT-CANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF

FIRE CODE NOTES

40 TO I SHALL NOT BE EXCEEDED.

SECTION 905.4

I .AN AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE INSTALLED THROUGHOUT THE BUILDING. THE SYSTEM SHALL INCLUDE THE FOLLOWING MINIMUM FEATURES:

A. THE SYSTEM SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH **NFPA 13** WITH DRY PIPES IN 'NON-HEATED' SPACES. PLANS AND HYDRAULIC CALCULATIONS SHALL BE REVIEWED, APPROVED AND STAMPED BY A REGISTERED FIRE PROTECTION ENGINEER VERIFYING COMPLIANCE. B. INSTALL A REMOTE SHUT-OFF VALVE (PIV) AND FIRE DEPARTMENT CONNECTION (FDC). THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 90 FEET OF A FIRE HYDRANT. C. ALL SHUT-OFF VALVES, WATER FLOW AND PRESSURE SWITCHES SHALL BE ELECTRONICALLY SUPERVISED BY A FIRE ALARM PANEL IN ACCORDANCE WITH NFPA 72. SIGNALS FROM THE PANEL SHALL BE TRANSMITTED DIRECTLY TO AN APPROVED MONITORING STATION. D. INSTALL APPROVED ADA HORN/STROBES IN ACCORDANCE WITH CITY STANDARDS THROUGHOUT THE BUILDING IN COMPLIANCE WITH (SHORELINE) ADMINISTRATIVE CODE. A FLOOR PLAN SHALL BE SUBMITTED TO THE FIRE DEPARTMENT FOR REVIEW PRIOR TO INSTALLATION. E. INSTALL A REMOTE ANNUNCIATOR AND ZONE MAP AT A LOCATION APPROVED BY THE FIRE . PROVIDY NĚPA 72 MODŘESSABYE FÎRE ALARM ŠYSTEM

2. EMERGENCY RESPONDER RADIO SIGNAL STRENGTH MUST BE 95DBS IN 95% OF EACH FLOOR OF THE BUILDING AND 99% IN ELEVATORS.

4. INSTALL AN AUTOMATIC FIRE ALARM SYSTEM IN COMPLIANCE WITH LOCAL CODES. THE SYSTEM SHALL CONSIST OF THE FOLLOWING MINIMUM FEATURES:

. INSTALL A CLASS I STANDPIPE SYSTEM THROUGHOUT THE BUILDING IN COMPLIANCE WITH IFC

A. SMOKE DETECTORS SHALL BE INSTALLED WITHIN REQUIRED ONE (I) HOUR FIRE RESISTIVE EXIT CORRIDORS AND PUBLIC ASSEMBLY ROOMS.

B. MANUAL PULL STATIONS SHALL BE INSTALLED AT EVERY EXIT FROM EVERY LEVEL.

5. INSTALL AN EMERGENCY KEY BOX (SUPRA BRAND, FLUSH MOUNTADED) AT A LOCATION APPROVED BY THE FIRE DEPARTMENT. THE BOX SHALL BE ELECTRONICALLY SUPERVISED BY THE FIRE ALARM CONTROL PANEL AND ACTIVATE A SUPERVISORY CONDITION. ALL NECESSARY BUILDING ACCESS AND FIRE PROTECTION KEYS SHALL BE PLACED INTO THE BOX PRIOR TO OCCUPANCY APPROVAL. IFC 506. FIRE ACCESS ROAD, FIRE SERVICE MAINS, WET CHEM (IF NEEDED), UNDERGROUND TANK PULL.

6. IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE, SECTION 606.2, ALL HVAC UNITS OVER 2,000 CFM SHALL BE SHUT DOWN BY THE ACTIVATION OF SMOKE ON THE RETURN SIDE OF THE SYSTEM. UPON ACTIVATION OF THE SMOKE DETECTOR THE FIRE ALARM PANEL SHALL INITIATE A SUPERVISORY CONDITION.

7. IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE, SECTION 3002.4, THE ELEVATOR CAR SHALL BE OF SUCH A SIZE AND ARRANGEMENT TO ACCOMMODATE A 24 INCH BY 84 INCH AMBULANCE STRETCHER IN THE HORIZONTAL OPEN POSITION AND SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL FOR EMERGENCY MEDICAL SERVICES

8. INSTALL THE ASSIGNED BUILDING NUMBER ON THE STRUCTURE THAT IS CLEARLY VISIBLE FROM THE STREET. NUMBERS SHALL CLEARLY CONTRAST WITH THEIR BACKGROUND IN COLOR. IFC 505.1

9. ALL PORTABLE FIRE EXTINGUISHERS TO BE 2A: I OB:C:

IO. INSTALL ILLUMINATED EMERGENCY LIGHTING THROUGHOUT THE BUILDING IN COMPLIANCE WITH IFC 1006.3'ERMITS ARE REQUIRED FROM FIRE MARSHALL'S OFFICE FOR SPRINKLERS AND FIRE ALARMS.

12. SEE IBC DATA CHART THIS SHEET FOR SPRINKLER SYSTEM TYPE(5) REQUIRED. CHARGED SPRINKLER SYTEM.

13. ALARM SYSTEMS AS PER WASHINGTON CODES AND AUDIBLE AND VISUAL TO BE INSTALLED IN UNITS, NFPA 72.

TYPICAL NOTES

I. ALL WORK SHALL CONFORM TO THE 2015 INTERNATIONAL BUILDING CODE, AS AMMENDED BY WASHINGTON STATE, AND ALL OTHER STATE AND LOCAL JURISDICTION RULES AND REGULATIONS IBC SECTIONS WHICH ARE SPECIFICALLY MENTIONED SHALL INCLUDE ALL SUB-SECTIONS, TABLES, FOOTNOTES, EXCEPTIONS, ETC. A COPY OF THE 2015 IBC SHALL BE MAINTAINED ON THE SITE

THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS THIS SET OF WORKING DRAWINGS IS CONSIDERED A "BUILDER SET" AND AT THE OWNER'S REQUEST DOES NOT INCLUDE SPECIFICATIONS. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE AND

COORDINATE SPECIFICATIONS, INCLUDING PRODUCT ELECTION AND INSTALLATION OR ASSEMBLY THESE DRAWINGS AND DESIGN ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT/DESIGNER AND MAY BE REPRODUCED ONLY WITH THE WRITTEN PERMISSION OF THE ARCHITECT/DESIGNER. AUTHORIZED REPRODUCTIONS MUST BEAR THE NAME OF THE ARCHITECT/DESIGNER.

VERIFY ALL DIMENSIONS, DATUMS, AND LEVELS PRIOR TO CONSTRUCTION. DIMENSIONS ARE TO FACE OF STUD, OR TO FACE OF CONCRETE, UNLESS NOTED OTHERWISE.

REPETITIVE FEATURES ARE OFTEN DRAWN (OR NOTED) ONLY ONCE AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN (OR NOTED) IN FULL.

ALL EXPOSED EXTERIOR METAL SHALL BE GALVANIZED STEEL UNLESS NOTED OTHERWISE. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE HYDROGEOLOGIC AND GEOTECHNICAL REPORT AND RECOMMENDATIONS AS PREPARED BY THE GEOTECHNICAL ENGINEER.

INSTALL 2X FIREBLOCKING PER 7 | 7.2 AS FOLLOWS:

IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORIZ. AT INTERVALS NOT EXCEEDING 10 FEET.

AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.

IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.

AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. e. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.

DRAFTSTOPPING:

DRIVEWAY FRONTING THE BUILDING/PROPERTY PER 501.2.

DRAFTSTOPPING PER 717.4.2 AS FOLLOWS: a. NONE REQUIRED WHEN THE SPRINKLER SYSTEM IS INSTALLED IN THE CONCEALED SPACES.

PRE-MANUFACTURED GUARD SYSTEMS SHALL BE DESIGNED AS BIDDER DESIGN/ DEFERRED SUBMITTAL **ADDRESS IDENTIFICATION:**

PROVIDE BUILDING / UNIT NUMBERS OR ADDRESSES IN CONTRAST WITH THEIR BACKGROUND MATERIAL WITH PLACEMENT TO BE IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROADWAY/

PROVIDE PROVIDE SECURITY FROM CRIMINAL ACTIVITY PER 420.6 AND AS FOLLOWS:

ENTRANCE DOOR SHALL BE A 1-3/8" THICK SOLID FLUSH SOLID CORE WOOD DOOR.

PROVIDE NON-SHATTERING GLAZING IN PRIMARY ENTRANCE DOOR

PRIMARY ENTRANCE DOOR SHALL BE SELF-CLOSING, SELF-LOCKING & EQUIPPED WITH A DEAD LOCKING LATCH BOLT

AREA # HEIGHT CALCULATIONS

CONSTRUCTION TYPE: V-A - SPRINKLED - NFPA I 3

4 STORY OCCUPANCY:

BUILDING HEIGHT:

A-2/R-2/S-2 Mixed Use -Non Separated Occupancies

BUILDING AREAS				
LEVEL	A2	R2	52	TOTAL
IST FLOOR AREA	0	0	6,954	6,954
2ND FLOOR	789	5,927	0	6,716
3RD FLOOR		6,658	0	6,658
4TH FLOOR		6,658	0	6,658
TOTAL	789	19,243	6,954	26,986

ALLOWABLE AREAS - IBC 506

Sprinkled Multi-Story Non-Separated

No Increase

1st Floor-S2 - Allowable = 34,500 Proposed = 6.954 < 34.500 (Ratio = .20)

2nd Floor-A-2 - Allowable = 34,500

Proposed = 6,716 < 34,500 (Ratio = .20)

3rd Floor-R2 - Allowable = 36,000 Proposed = 6,658 < 36,000 (Ratio = .19)

4th Floor-R2 - Allowable = 36,000

Proposed = 6,658 < 36,000 (Ratio = .19)

Total Proposed Building Area = 26,986

Sum of Ratios = .78 < 3

NTHE BUILDING IS REQUIRED TO BE TOTALLY ACCESSIBLE TO THE HANDICAPPED. IBC SEC 1 1/ICC A | 17.1 THE FOLLOWING ITEMS ARE NOTED: THIS IS NOT AN ALL INCLUSIVE LIST. A. ALL FLOOR COVERING SURFACES WHICH ARE PART OF AN ACCESSIBLE ROUTE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. ICC/ANSI 302.1

B. TOILET FLUSH CONTROLS SHALL BE MOUNTED FOR USE FROM THE WIDE SIDE OF THE WATER CLOSET AREA. ICC 604.6. FAUCET CONTROL HANDLES AND FLUSH CONTROLS SHALL HAVE LEVER OR OTHER SHAPE PERMITTING OPERATION BY WRIST OR ARM PRESSURE AND NOT REQUIRING TIGHT GRASPING, PINCHING, OR TWISTING TO OPERATE. ICC 309.4. LAVATORIES SHALL BE MOUNTED TO COMPLY WITH THE FOLLOWING: MINIMUM CLEARANCE OF 29" FROM THE FLOOR TO THE BOTTOM OF THE APRON, AND 27" TO THE BOTTOM OF THE SINK; THE COUNTER OR RIM NO HIGHER THAN 34" FROM THE FLOOR; SINK SHALL BE MAX OF 6 1/2" DEEP; HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED; SHARP OR ABRASIVE SURFACES UNDER LAVATORIES ARE NOT PERMITTED. A CLEAR FLOOR SPACE AT LEAST 30"X48" SHALL BE PROVIDED IN FRONT OF LAVATORIES.

D. THE ACCESSIBLE UNIT TUBS SHALL BE PROVIDED 2 GRAB BARS. ONE GRAB BAR SHALL BE 9" ABOVE B ANTHE RIM OF THE TUB THE OTHER 33"-36" ABOVE THE FLOOR OF THE ROOM.

G. SWITCHES, ENVIRONMENTAL CONTROLS, ETC, SHALL BE LOCATED NOT OVER 48" (FORWARD REACH), 54" (SIDE REACH), AND NOT LESS THAN 36" ABOVE THE FLOOR. NOTE: OBSTRUCTIONS ADJACENT TO THE SWITCHES WILL CHANGE THESE HEIGHT REQUIREMENTS. SEE THE APPROPRIATE CODE SECTION. ELECTRICAL AND COMMUNICATION RECEPTACLES SHALL NOT BE LESS THAN 15" OFF THE FLOOR, MEASURED TO THE BOTTOM OF THE RECEPTACLE. ICC 308.

I. EMERGENCY WARNING SYSTEMS, WARNINGS, AND SIGNAGE SHALL COMPLY WITH IBC 907.9. BOTH AUDIBLE AND VISUAL ALARMS SHALL BE PROVIDED.

J. WHERE PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR AND BE CENTERED 60" ABOVE THE FINISHED FLOOR. MOUNTING LOCATION FOR SUCH SIGNAGE SHALL BE SO THAT AN 18" X 18" CLEAR FLOOR AREA, CENTERED ON THE SIGNAGE, IS PROVIDED BEYOND THE ARC OF THE DOOR. ICC 703.3.1. THE FINISH, COLOR, CHARACTER PROPORTIONS, HEIGHT, RAISED OR BRAILLE CHARACTERS, AND PICTORIAL SYMBOLS SHALL BE AS REQUIRED IN ICC 703.

REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF

ACCESSIBILITY AT THE FOLLOWING LOCATIONS: -ACCESSIBLE PARKING SPACES REQUIRED BY SECTION 1106.1

-ACCESSIBLE PASSENGER LOADING ZONES. -ACCESSIBLE AREAS OF REFUGE, SEE SHEET A5.

-ACCESSIBLE ROOMS WHERE MULTIPLE SINGLE-USER TOILET OR BATHING ROOMS ARE CLUSTERED AT A SINGLE LOCATION.

-ACCESSIBLE ENTRANCES WHERE NOT ALL ENTRANCES ARE ACCESSIBLE. -UNISEX TOILET AND BATHING ROOMS.

DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST LIKE ACCESSIBLE ELEMENT SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS. THESE DIRECTIONAL SIGNS SHALL INCLUDE THE

INTERNATIONAL SYMBOL OF ACCESSIBILITY: -INACCESSIBLE BUILDING ENTRANCES.

-INACCESSIBLE PUBLIC TOILETS AND BATHING FACILITIES. -ELEVATORS NOT SERVING AN ACCESSIBLE ROUTE.

-AT EACH SEPARATE-SEX TOILET AND BATHING ROOM INDICATING THE LOCATION OF THE NEAREST UNISEX TOILET OR BATHING ROOM WHERE PROVIDED IN ACCORDANCE WITH SECTION 1109.2.1. -AT EXITS AND ELEVATORS SERVING A REQUIRED ACCESSIBLE SPACE, BUT NOT PROVIDING AN APPROVED ACCESSIBLE MEANS OF EGRESS, SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 1007.7.

SIGNAGE INDICATING SPECIAL ACCESSIBILITY PROVISIONS SHALL BE PROVIDED AS SHOWN: -EACH ASSEMBLY AREA PROVIDINING AN ASSISTIVE LISTENING SYSTEM. -AT EACH DOOR TO AN EGRESS STAIRWAY, EXIT PASSAGEWAY AND EXIT DISCHARGE, SIGNAGE SHALL BE A TACTILE SIGN STATING EXIT PER ICC A117.1, SEE SHEET A8.3.

DRAWING NOTES

1. THESE DRAWINGS ARE PART OF THE CONSTRUCTION DOCUMENTATION SET WHICH ALSO INCLUDE THE PROJECT MANUAL/SPECIFICATION, ARCHITECTURAL FINISHES MANUAL AND ANY OTHER REFERENCES WITHIN THESE DOCUMENTS.

2. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS. PROJECT MANUAL/SPECIFICATION AND THE ARCHITECTURAL FINISHES MANUAL.

3. THE ARCHITECTURAL FINISHES MANUAL CONTAINS HOLIDAY INN EXPRESS AND STAYBRIDGE BRAND STANDARDS PRODUCT SPECIFICATIONS WITH "EXG" OR "EXP" KEY MARKS INDENTIFIED ON THE DRAWINGS. ALL OTHER PRODUCTS ARE SPECIFICED AS FOLLOWS:

a. EXTERIOR PRODUCTS ARE INDICATED ON DRAWING A011. b. BUILDING AND BATHROOM ACCECSSORIES ARE INDICATED ON DRAWING A400.

c. DOOR PRODUCTS ARE INDICATED ON DRAWING A712.

2,290

d. CEILING MISC PRODUCTS ARE NOTED ON THE REFLECTED CEILING LEGEND NOTES. e. ALL OTHER PRODUCT KEY MARK IDENTIFIED ON THE DRAWINGS ARE EITHER SCHEDULED IN THE DRAWING SET OR SPECIFIED IN THE PROJECT MANUAL/SPECIFICATION. f. SEE ALSO MECH AND ELEC DRAWINGS.

c. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING OWNER

PLUMBING CALCS

WATER CLOSETS

MEN

MEN WOMEN

WOMEN

COMMUNITY ROOM OCCUPANT LOAD = 53

FITNESS CENTER OCCUPANT LOAD = 8

TOTAL COMMON AREAS OCC. LOAD = 61

REQUIRED FIXTURES PER IBC CHAPTER 29

PROVIDED

PROVIDED

REQUIRED

REQUIRED

DRINKING FOUNTAINS REQUIRED -

4. ALL ITEMS INDICATED IN THE CONSTRUCTION DOCUMENTS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE OWNER /INTERCONTINENTAL HOTELS GROUP.

a. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY THE SCOPE OF OWNER /INTERCONTINENTAL HOTELS GROUP FURNISHED OR FURNISHED AND INSTALLED ITEMS. b. IF THE OWNER IS FURNISHING ONLY, THE CONTRACTOR SHALL INSTALL THOSE ITEMS.

/INTERCONTINENTAL HOTELS GROUP ALL DELIVERY AND INSTALLATION ACTIVITIES.

COMMON RECREATIONAL AREAS

REQUIRED AREA: $1 \text{ BEDROOM UNITS} - 19 \times 100 = 1,900$ 2 BEDROOM UNITS - 3 X 130 = 390

AREAS PROVIDED: DECKS

UNIT H -

SUBTOTAL

TOTAL AREA REQUIRED

UNIT A -83 X 3 = 249 UNIT B - $67 \times 3 = 201$ UNIT D - $95 \times 3 = 285$ UNIT F/FA - $58 \times 3 = 174$

COMMUNITY ROOM = 789 FITNESS ROOM = 391 MENS RR = 52 WOMENS RR

 $54 \times 2 = 108$

1,017

1,288

TOTAL COMMON

TOTAL DECK AREAS

REC. AREA = 2,305

2 70 S 0 ξS

, H

NOTES

PRINT DATE: 2/15/2021 12:46:12 PM

Project Sur	e Forms	for Commercial Bu	ildings including B2	R3, & R4 over 3 stories and all R1	PROJ-SUN Revised Oct 20		
	Project		2152 N 185th Street		Date 3/1/2019		
PROJ-SUM form		No. 1 A.L.L.	2152 N 185th Street		For Building Department Use		
shall be provided as	Project (Shoreline, WA 98133	3	1		
a cover sheet for all compliance form	Project (Owner or Rep:			1		
submittals. Project Title shall match project plans title block.	Jurisdict	ion:	City of Shoreline				
Project Descript	tion	New Construction	on and Additions				
Select all that apply to scope of project.		✓ New Build	ding	Building Addition			
Select Addition + Exis	tina	Existing Building	a Retrofit				
or Alteration + Existing the existing building w	g if	Alteration		Change of Occupancy	Change in Space Conditioni		
combined with the add or alteration to demon	dition	Alteration	,	change of eccapancy	onlinge in opace condition		
compliance per Section C502.1 or C503.1.		Historic E	Building				
C502.1 or C503.1.		Building Elemer	nts Scope - Select all	that apply			
		☐ All		✓ Building Envelope	Mechanical Systems		
		Service H	lot Water Systems	Lighting Systems	Electrical Systems		
		All Comm	nercial	Group R - R2, R3, & R4 over 3 stories and all R1	Mixed Use		
Occupancy Type		Mixed Use - Building is greater than three stories above grade and it has both Commercial and Group R occupancies. Mixed Occupancy - Building is three stories or less above grade and it has both Commercial and Group R2, R3 or R4 occupancies. Select All Commercial to document compliance for the commercial					
		areas of the b	puilding. The residenti	al spaces shall comply with the WS	SEC Residential Provisions.		
		Select all that a	oply to the scope of p	roject			
		☑ Fully Con	ditioned	Semi-heated ²	Refrigerated Spaces		
Space Condition	ning	☐ Low Energy Space Category ³			(Warehouse and/or Walk-in		
Categories	O	Eligible Low Ene	ergy Spaces				
		Unconditi	oned	Low energy heating/cooling	gcapacity		
		☐ Wireless equipmer		Greenhouse ⁴	Equipment building		
Floor Area and		Floors Above	Buildina Gro	ss Conditioned Floor Area	Project Gross Conditioned Floor Ar		
Stories		Grade			,		
		Complian	ace Method 1 General	Compliance M	Inthod 2 - Total Building Parformance		
General Compliance		© Compliance Method 1 - General Compliance Method 2 - Total Building Performance *Compliance Method 1 - Projects shall demonstrate compliance with all applicable mandatory and prescriptive requirements of this code. Refer to C401.2, Item 1 for more information. Compliance forms to include with a Prescriptive submittal: All applicable ENV, LTG, and MECH.					
Path		results from a applicable mai Compliance fo	whole building energy ndatory provisions in t rms to include with a	v model per Section C407 and sha his Code. Refer to Section C401.2	nance (TBP) shall include a summary Il demonstrate compliance with all 2, Item 2 for more information. CHK, LTG-EXT, LTG-CHK, and all		

Note 1 - Refrigerated Spaces - They shall comply with the envelope and refrigeration equipment requirements in Section C410. Warehouse coolers and freezers shall also comply with the envelope requirements in C402. C410 takes precedent for overlapping requirements. Note 2 - Semi-heated Spaces - If heated with equipment other than electric resistance may take an exemption for wall insulation. All other Note 2 - Semi-neated Spaces - If neated with equipment other than electric resistance may take an exemption for wan insulation. All other envelope assemblies shall comply with the thermal envelope provisions.

Note 3 - Exemptions For Low Energy Spaces - Low Energy spaces are exempt from all provisions in WSEC Section C402 Building Envelope, however all other applicable provisions in the Code do apply including lighting, mechanical, service water heating, etc.

Note 4 - Eligible Space Conditioning For Low Energy Greenhouses - Greenhouses are defined as spaces that maintain a specialized sunlit environment that is used exclusively for cultivation, protection and maintenance of plants. Cooling with outside air and/or evaporative cooling, and any form of heating equipment, are allowed under the Low Energy Greenhouse category. Greenhouses with cooling equipment that requires a condensing unit are NOT eligible.

	for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1		Revised Oct 201
General Info Projec	t Title: 2152 N 185th Street	Date	3/1/2019
C406 Additional	Building level efficiency options:	Current Scope	Previous Project
Efficiency Package	C406.8 Enhanced envelope performance		
Options Summary	C406.9 Reduced air infiltration		
A minimum of two Options are required for new construction.			
and change in space conditioning or occupancy	Building area level efficiency options		
projects.	C406.2 More efficient HVAC equipment	~	
Select all Options included in the current project scope. Also select Options complied with under previous projects (shell and core, other tenant	C406.6 Dedicated outside air systems (DOAS)		
	C406.7 Reduced energy use in service water heating		
spaces in building, etc) Buildings with multiple tenant	C406.3 Reduced lighting power	✓	
spaces may comply with	C406.4 Enhanced digital lighting controls		
different options (mix & match).	C406 Comments:	•	•
Options are required for all space conditioning categories			
Include discipline specific information for C406 options in ENV-SUM, LTG-SUM and			
Refer to SBCC website for official interpretations regarding C406 provisions.			

Project Info Project	s for Commerci	al Buildings including R2, R3, & R4 over 3 stories and 2152 N 185th Street		Date	Revised Oct 2017 03/01/2019		
Comp	any Name:	2.02.14 10001 011661		For Building Depa			
Provide contact Comp	any Address:						
information for	ant Name:						
respond to inquiries	ant Phone:						
provided. Applicant Email:							
Project Description		✓ New Building Addition	Alteration	nn \square	No Envelope Scope		
Project Description							
Envelope Project Scope Select all that apply.		All Commercial Group R - Commercial	Mixed L	Jse - Commercial	+ Group R		
Select ан тас арру.		Semi-heated Refrigerated Cooler	Refriger	ated Freezer] Equipment Building		
Envelope Description	าท						
Provide brief description of th							
relevant supporting documen							
If project includes multiple Ta	rget Insulation						
Allowance areas, and/or is de	emonstrating						
compliance as an Addition + Alteration + Existing, or	Existing,						
Addition + Alteration + Existi provide a brief summary of th							
provide a brief Suffilliary Of th	е арргоасті ю						
Air Barrier Testing		✓ Air barrier testing per Section C402.5.1.2 incl	uded in proje	ect scope			
Air barrier testing is required		Additional Efficiency Package Option - C406.9 Reduced Air Infiltration					
construction projects. Testing criteria is 0.40 cfm/ft ² under test pressure of 0.3 inch w.g.		Additional Efficiency Fackage Option - C400.9 Reduced Air Infiliation					
To comply with C406.9, dem		Testing not required. Explanation:					
measured air leakage of build	ding envelope						
Compliance Docum	entation S	Scope and Method					
Scope of This Calcu	lation	✓ New Building ☐ Addition	Alteration	on 🔲	No Envelope Scope		
Target Insulation A	llowance	Fully Conditioned - Commercial, Group R, Mi	ixed Use				
Sets the title and calculation		Semi-heated Refrigerated Cooler Refrigerated Freezer					
compliance forms. Selection to enable forms.	required	If project includes more than one Target Insulation Allowance area, and/or if project includes					
		addition and alteration areas complying independently, for each area complete an ENV-SUM form					
		Rows 16-46 and either an ENV-PRESCRIPTIVE demonstrating compliance via component performance via component via c	100	IV-UA + ENV-SH	GC forms if		
		asmonatating compilation via component perior					
Envelope Complian Selection required to enable		Prescriptive	formance				
Component Perform		Change of Occupancy (C503.2) / Conditionin	ıg (C505) - 1	0% higher UA alli	owed		
Calculation Adjusts		Additional Efficiency Package Option - C406.	,				
,		Addition stand alone Addition + Existi	-				
Additions		Fenestration and Skylight Area Calculation. Enter to					
Additions Addition stand alone - Co			INF VV. IT PASI		,		
Additions Addition stand alone - Cofenestration and skylight ar 30% and/or SSR exceeds s	eas as EXISTIN 5%, refer to C50	IG. Enter total addition envelope assembly areas as 12.2.1 and C502.2.2 for prescriptive compliance alter			onent performance,		
Additions Addition stand alone - Cofenestration and skylight ar 30% and/or SSR exceeds scomplete ENV-UA per instr	eas as EXISTIN 5%, refer to C50 uctions for addi	IG. Enter total addition envelope assembly areas as a 2.2.1 and C502.2.2 for prescriptive compliance alteration stand alone projects.			oonent performance,		
Additions Addition stand alone - Co fenestration and skylight ar 30% and/or SSR exceeds s complete ENV-UA per instr Addition + existing - Com	eas as EXISTIN 5%, refer to C50 uctions for addi	IG. Enter total addition envelope assembly areas as a l2.2.1 and C502.2.2 for prescriptive compliance alternation stand alone projects. Der instructions for addition + existing projects.	natives. If co	mplying via comp			
Additions Addition stand alone - Cother fenestration and skylight at 30% and/or SSR exceeds complete ENV-UA per instraction + existing - Com	eas as EXISTIN 5%, refer to C50 uctions for addi plete ENV-UA p	IG. Enter total addition envelope assembly areas as a 2.2.1 and C502.2.2 for prescriptive compliance alteration stand alone projects.	natives. If co	mplying via comp	reased by alteration		
Additions Addition stand alone - Co fenestration and skylight ar 30% and/or SSR exceeds s complete ENV-UA per instr Addition + existing - Com	eas as EXISTIN 5%, refer to C50 uctions for addi plete ENV-UA p	IG. Enter total addition envelope assembly areas as a 2.2.1 and C502.2.2 for prescriptive compliance alternation stand alone projects. Per instructions for addition + existing projects. Replacement windows only, or resulting	Total b	mplying via comp			

Envelope Summary, p	q. 2				ENV-SUM			
2015 WSEC Compliance Forms for Commercial	Buildings including F	R2, R3, & R4 over 3 s	stories and all R1		Revised Oct 2017			
Project Title: 2152 N 185th Street				Date	03/01/2019			
Vertical Fenestration and Skylight Area Calculation		Total Vertical Fenestration Area (rough opening)	NET Exterior Above Grade Wall Area	Total Skylight Area (rough opening)	NET Exterior Roof Area			
Prescriptive Path - Enter envelope sf values directly into this section of ENV-SUM for	New	2,793	13,561	0	6,857			
vertical fenestration, skylights, net walls and roof. For Additions and Alterations, refer to	Existing	0	0	0	0			
these sections in ENV-SUM for further instructions.	Total	2,793	13,561	0	6,857			
Component Performance - When this Envelope Compliance Path is selected, write- protection of this section is enabled. Enter envelope st values for all assemblies into the ENV-UA form. Envelope information from ENV-UA will auto-fill into this section of ENV-		Vertical Fenestration-to- Wall Ratio (WWR)	17.1%	Skylight-to-Roof Ratio (SRR)				
Vertical Fenestration Area Compliance	VERTICAL FENESTRATION AREA COMPLIES WITH MAXIMUM ALLOWANCE							
Skylight Area Compliance	NO SKYLIGHT PROPOSED. COMPILIES WITH MAXIMUM ALLOWANCE.							
Vertical Fenestration	High performance fenestration U-factors and SHGC per C402.4.1.3							
Alternates	Dedicated outdoor air system per C402.4.1.4 and C403.6							
Show locations of qualifying daylight zone (DLZ) areas and ft ² on project plans.	In buildings ≥ 3 stories, 25% or more of NET floor area is in DLZ per C402.4.1.1 ☐ In buildings < 3 stories, 50% or more of CONDITIONED floor area is within DLZ per C402.							
For Daylight Zone Area Calculations - a) Sidelight areas include primary +	Daylight Zone Calculations							
secondary daylight zone areas. b) Include overlapping toplight and sidelight daylight zone areas under Toplight.	, ,	estration Alternate alculations Required	Sidelight Daylight Zone Area	Toplight Daylight Zone Area	Percent Daylight Zone Area			
c) Net floor area definition in Chapter 2.								
Spaces in Single Story Building Requiring Skylights	List all enclosed sp. types required to co	aces that exceed 2,5 omply with this provis	:00 ft², have ceiling h ion. Indicate apertui	neight greater than 15 re with "AP" prefix (Al	5 ft, and are space P 1.1%)			
In these spaces a minimum of 50% of the floor area shall be within a skylight daylight	Space	Space Area (ft ²)	DLZ Area (ft²)	SRR or Aperture	Exception			
zone (DLZ). Refer to C402.4.2 for								
requirements. SRR = Skylight to roof ratio								
Envelope Exemptions								
Low Energy and Semi-heated	heated spaces hea	ated by systems othe		he thermal envelope , ance are exempt fror				
Spaces	provision only per C402.1.1.1. Complete Low Energy and Semi-Heated Spaces table in MECH-SUM to verify eligibility based on installed peak heating and cooling capacity per sf.							
Equipment Buildings			Wall Insulation R-Value	Roof Insulation R-Value	Overall Average U-Factor			
Equipment buildings are exempt from the thermal envelope provisions per C402.1.2.	Equipment Bui	lding Envelope	- 4 N 2000/55070	10 10 production (CC)	- 0 00000454			
The following shall be met to be eligible:			Electronic equipn	nent power (watts/sf)				
h.:: -	Heating system output capacity (Btu/hr)							
building size ≤ 500 sf, average wall/roof U- factor ≤ U-0.20, electronic equipment load ≥			nealing system ou	ipui capacity (Biu/fir)				

Pro		VSEC Compliance Forms for Commercial Buildings inclu-	52 N 185th St			Date	Revised Oct 20 ⁻¹
_	<u> </u>	et Insulation Allowance				For Building	Department Use
		Fully Conditioned Space - Commercial, Group R,	Mixed Use				
Fe	ene	estration Area as % gross above-grade wall area	17.1%	Max. Target:	30.0%		
Sl	kyl	ight Area as % gross roof area	0.0%	Max. Target:	5.0%		
V	ert	ical Fenestration Alternates:		None Selec	ted on ENV-SUM	User Note	
pe	r Tal	ptive compliance of envelope assemblies may be accon bles C402.1.4 and C402.4. A single project may comply ompliance method taken for each assembly in spaces pr	via R-values f				
B	uil	ding Component	R-Value Met	hod for Prescri	iptive Compliance	201 100 201000	or/F-Factor Method for scriptive Compliance
_		8 co - F co		CONTRACTOR ACTION AND ACTION AND	% Area of Metal	1163	Scriptive Compilance
		Provide plan/detail # of assembly and description	Cavity Ins. R-Value	Ins. (CI) R-Value ¹	Penetrations in Cl ²	Assembly U-Factor	U-Factor Source ³
		(1/A901) R38 insulation above deck	71 7 41 41 4	11 14144	2.	0.027	WSEC Table C402.1.4
	Deck	(2/A901) R38 insulation above deck				0.027	WSEC Table C402.1.4
	4						
	Itl Bld ⁴						
Roofs	tr Mtl						
Œ	Joist/Rftr						
	Attic/Oth						
	Attic						
	Steel						
	St						
2	Bld.						
ade1	Mŧ						
Walls - Above Grade 15	th5	(10/A911) R21 INT framing				0.054	WSEC Table A103.3.1(5
Abov	Wood/Oth ⁵						
s - /	Νo						
		(A2/A900) Concrete Wall, R13 Metal Framing @ 24"				0.100	See Calculation
Opaque	S	OC (B/A900) Concrete Wall, R12.5 w/ 1" metal clip at 24"					
ops	Σ	OC Hor. And 16" OC Vert				0.092	WSEC Table A103.3.7.1(
	∋r ⁷					-	
	Transfer						
10	-						
Walls ¹⁵	Steel						
m	-						
Group F	Mass						
g	-						
S		(A2/A900) Concrete Wall, R13 Metal Framing @ 24" OC				0.100	See Calculation
Grade Walls	Comm	(B/A900) Concrete Wall, R12.5 w/ 1" metal clip at 24"				0.092	WSEC Table A103.3.7.1
rade	0	OC Hor. And 16" OC Vert				0.092	VV SEC TABLE A 103.3.7.11
W G	ш						
Below	Group R						
		(2/A900) R30 Concrete Slab				0.031	WSEC Table C402.1.4
	Mass	(2/1000) NOU CONCIETE STAD				0.031	vv 3EO Table 0402.1.4
Floors	ш						
Ξ	Framed ⁸	(1/A900) R30 Wood Joist				0.029	WSEC Table C402.1.4
	ا ۾ ا		I			I	

				-		+
Pr	escriptive Path, pg. 2				NV-PF	RESCRIPTIVE
	WSEC Compliance Forms for Commercial Buildings includ			ries and all R1		Revised Oct 2017
		2 N 185th St	reet		Date	03/01/2019
Fen	estration Area as % gross above-grade wall area	17.1%	Max. Target:	30.0%	For Building [Department Use
Sky	rlight Area as % gross roof area	0.0%	Max. Target:	5.0%		
	tical fenestration or skylight area exceeds maximum allowe omponent Performance and provide ENV-UA and ENV-SH		.1, then the pro	oject must comply		
Bui	lding Component		R-Value Metho	500 500000	500 NO NOON	or/F-Factor Method for criptive Compliance
		Perim. Ins.	Full Slab CI	olidiloc		
17	Provide plan/detail # of assembly and description (1/A911) R10 Vertical Slab-On-Grade	R-Value	R-Value		F-Factor	F-Factor Source ¹⁰
de ⁹	(1/A911) R10 Vertical Slab-On-Grade				0.540	WSEC Table A106.1
-gra						
Slab-on-grade ⁹						
Sla						
	'	lns.			Assembly	U.F
	Provide ID from door schedule and description	R-Value			U-Factor	U-Factor Source ¹¹
Drs.	(55/A104) HM Door				0.370	WSEC Table A107.1(1)
Opaque Doors						
Opaq						
	 	Solar He	at Gain Coeffic	cient (SHGC)	U-Factor fo	or Prescriptive Compliance
		Projection	Orientation	,		
	Dravida ID frama vijadavi sahadida and dasarintian	Factor (PF) if applicable ¹²	(N or SEW) ¹³	Assembly SHGC ¹⁴	Assembly U-Factor	U-Factor Source ¹⁴
Τ-	(0/A104) (Siding Door	паррпсавіе	OLVV)	0.40	0.30	A104
Non-Matal	(A, B, C, D, E, F/A104)			0.40	0.30	A104
2	(11/A104) Swing Door			0.40	0.30	A104
Fenestration						
sues						
Vertical Fenestration						
Vertica						
Š						
ontry						
' ∓	; L				20. 0	
	ath a slab-on-grade or exposed floor, this floor shall be the	rmally broken	from the surro	unding floor area	with the same	amount of insulation as requ
Skylights						
Mis	scellaneous - Refrigerated Spaces					
	Provide plan/detail # of assembly and description	Ins. R-Value			Assembly U-Factor	U-Factor Source
7 ×		i i vaiue			U-i acitii	200 000 000 000 000
Freezer Floor ¹⁷						
	Provide ID from window schedule and description	Cooler / Freezer	Double Pane Glass	Triple Pane Glass	Inert Gas Filled	Heat Reflective Treated Glass
Ž						
ig ^{16,17}						
Glazing 16,17						
Glazin						
	[

GENERAL INFORMATION

BUILDING ENVELOPE DATA

WSEC TABLE C402.1.3 , C402.1.4, C402.4

WALLS ABOVE GRADE - WOOD FRAMED

ROOFS - INSULATION ABOVE DECK

FLOORS - WOOD JOIST FRAMED

OPAQUE DOORS - NON-SWING

Referenced Standard

PRESCRIPTION PATH

WALLS BELOW GRADE

OPAQUE DOORS - SWING

FLOORS - MASS

FENESTRATION

WSEC 2015

R-Value

R-38

R-10 CI

R-21

Required

Note 1 - Insulation that is continuous except for fasteners may be entered here if the cross-sectional area of metal penetration through otherwise continuous insulation is less than 0.12%.

Note 2 - Alternate prescriptive continuous insulation R-values per Table C402.1.4, Footnote F may be used if the cross sectional area of metal penetrations exceeds 0.04% but is less than 0.12%. Calculations are required to use these alternate R-values. Note 3 - Opaque assembly U-factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1. Specify the

table number or calculation page number. Note 4 - Thermal spacer blocking and liner system are required for prescriptive R-Value compliance in metal building roof assemblies. Note thermal

spacer thickness and R-value in roof assembly description. Note 5 - Intermediate framing is required for prescriptive R-Value compliance in wood-framed wall assemblies.

Note 6 - Proposed CMU mass walls in non-Group R that meet Table C402.1.4 Footnote C requirements can enter the target prescriptive

U-value of 0.104. Note 7 - Mass transfer slab edges must be covered with an assembly having an overall U-factor of 0.2.

Note 8 - Refer to Table C402.1.3, Footnote E for prescriptive R-Value requirement for steel floor joist assemblies. Note 9 - Prescriptive slab-on-grade insulation shall extend from top of slab to minimum length per an approved method as defined in C402.2.6. Note 10 - Slab-on-grade F-Factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1. Note 11 - Opaque door U-factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1. A door is defined as

opaque if less than 50% of the door area has glazing.

Note 12 - Refer to Equation C4-6 Projection Factor Calculation. **Note 13** - N = Oriented within 45 degrees of true north, SEW = All other orientations. Note 14 - Fenestration assembly U-Factor and SHGC shall be the manufacturer's NFRC product rating, which includes the glazing and frame, or

shall be the default value per Section C303.1.3. Note 15 - List all above-grade Group R mass walls and steel frame walls in Group R Walls section. List commercial above grade walls and all other Group R above grade walls in Opaque Walls - Above Grade. Note 16 - Refrigerated Coolers - All cooler roof, wall and door assemblies shall comply with the prescriptive R-values or U-factors per C410. Enter proposed information under the most similar assembly type. Slab edge insulation for slab-on-grade floors shall comply with C402. Floors that

separate a cooler from a non-cooler space (unconditioned and conditioned) shall be insulated per C402. Vertical fenestration (not within

cooler doors) shall comply with the prescriptive R-values or U-factors per C402. Enter only the opaque portion of refrigerated space doors. Windows within doors and reach-in display case doors shall comply with C410 prescriptive requirements. Note 17 - Refrigerated Freezers - All freezer roof, wall and door assemblies shall comply with the prescriptive R-values or U-factors per C410. Enter proposed information under the most similar assembly type. Freezer floor insulation shall comply with C410. Insulation is required under the entire freezer floor. If the freezer floor assembly rests on top of a standard floor, the vertical edge of the freezer floor shall be entered as and comply with the requirements for a freezer wall. If freezer floor insulation is installed as integral to or applied underneath a slab-on-grade or exposed floor, this floor shall be thermally broken from the surrounding floor area with the same amount of insulation as required for a freezer floor. Enter proposed thermal break information in the Freezer Floor section and note it as In-Floor Thermal Break. Enter only the opaque

U-Factor Calculations

Wall (Above Grade)

Element	Source	R-Value
Airfilm, Exterior Surface	WSEC Table A101.5	0.17
0.78 in Sheating	WSEC Table A101.5	2.
R34.3 Rigid Insulation w/ 0.08-0.12%		
metal penetrations	WSEC Table C402.1.3	24.6
0.78 in Sheating	WSEC Table A101.5	2.
Airfilm, Internal Horizontal Surface Heat		
up	WSEC Table A101.5	0.6
	Total R-Value	29.5
	Assembly U-Factor	0.034

Wall (Below Grade)

Element	Source	R-Value
8" Concrete Wall	WSEC Table A101.5	0.5
Air Cavity (unventilated), other	WSEC Table A101.5	0.91
R-13 Metal Framing @ 24" OC	WSEC Table A103.3.6.2	7.2
5/8" Gypsum Board	WSEC Table A101.5	0.56
Airfilm, Internal Verical Surface	WSEC Table A101.5	0.68
	Total R-Value	9.85
	Assembly U-Factor	0.102

Climate Zone 4C

.36

SHGC

Required Designed Required Designed

U-Value

0.37

0.30 .28

NA

0.37

N/A

Designed

R-38

R-10 CI

R-21

R- 19 + R8.5 CI R- 19 + R10 CI

Comments

UNHEATED PARKING

WEATHERSHIELD SIGNATURE SERIES

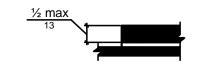
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TP HOME 22 | APTS. 2152 | TP Home LLC | 2152 N 185TH ST.

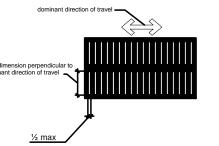
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or backing or no cushion or pad. Carpet tile shall have a level loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exdposed edges of carpet shall be fastened to floor surfaces and shall have a trim on the entire length of the exposed edge. Carpet edge



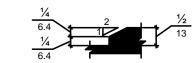
1/2" (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3, and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction



303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be

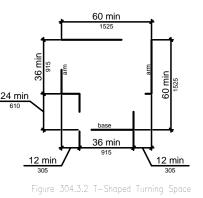


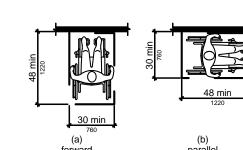
303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm)

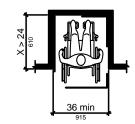


304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

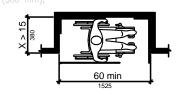
304.3.2 T—Shaped Space. The turning space shall be a T—shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.







305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds



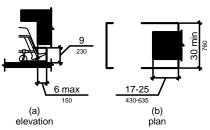
306 Knee and Toe Clearance

above the finish floor or ground shall be considered toe clearance and shall comply with 306.2. 306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance. 306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

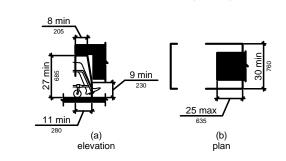


306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above

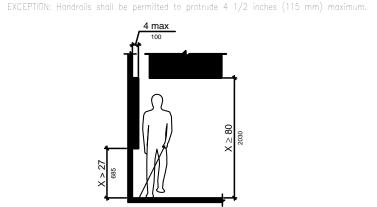
306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor each 6 inches (150 mm) in height.



306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

Figure 306.3 Knee Clearance

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.



307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030

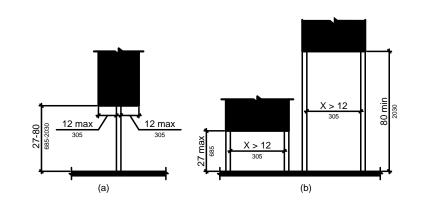
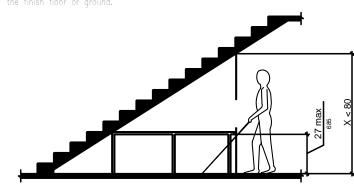


Figure 307.3 Post-Mounted Protruding Objects

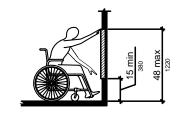
307.4 Vertical Clearance, Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above

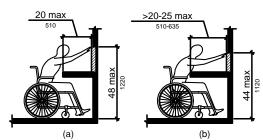


308 Reach Ranges		
Children's Reach Ranges		
Forward or Side Reach	High (maximum)	Low (minimum)
Ages 3 and 4	36 in (915 mm)	20 in (510 mm)
Ages 5 through 8	40 in (1015 mm)	18 in (455 mm)
Ages 9 through 12	44 in (1120 mm)	16 in (405 mm)

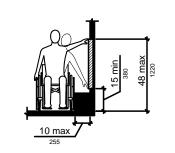
308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum



obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach



308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.



308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm)

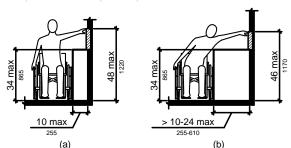


Figure 308.3.2 Obstructed High Side Reach

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided. 309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308. 309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N)

CHAPTER 4: ACCESSIBLE ROUTES

surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable

Advisory 402.2 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be 403 Walking Surfaces

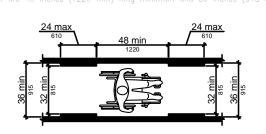
403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403. 403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302. 403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

be decreased by work area equipment provided that the decrease is essential to the function of the work 403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to

be 36 inches (915 mm) minimum. EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by seaments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.



403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum

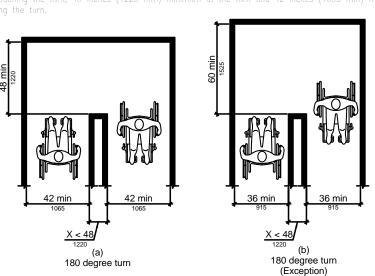


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear width lower than 34 inches (865 mm) above the finish floor or around. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

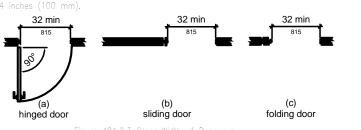
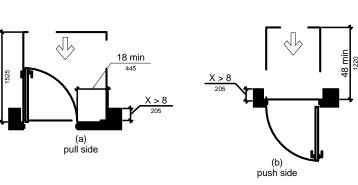
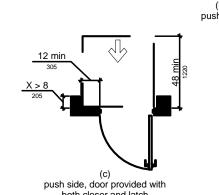


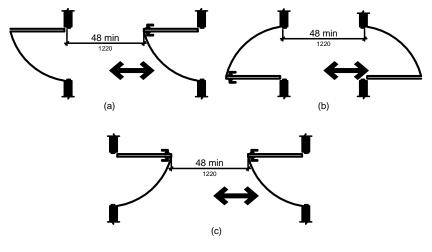
Figure 404.2.3 Clear Width of Doorways 404.2.4 Maneuverina Clearances, Minimum maneuverina clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular





404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of



404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and

404 2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a

These forces do not apply to the force required to retract latch bolts or disengage other

devices that hold the door or gate in a closed position. 404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. not exceed 80 dB, measured at the annunciator.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

404.3 Automatic and Power—Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition)

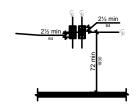
404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an 408.2.2 Hall Signals. Hall signals shall comply with 407.2.2. accessible means of egress shall comply with 404.2.4. 404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and

turnstiles shall not be part of an accessible route.

07.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic. EXCEPTION: Existing conditions don't have to comply

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension. 407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in—car signals are provided, they shall be visible from the floor area adjacent to the hall call

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width. mm) minimum measured along the vertical centerline of the element. Signals shall be visible from



407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star

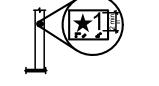
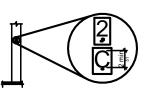


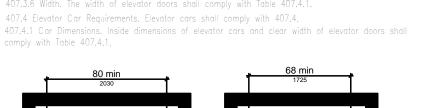
Figure 407.2.3.1 Floor Designations on Jambs of Elevator Hoistway Entrances 407.2.3.2 Car Designations. Destination—oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately bellow the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2



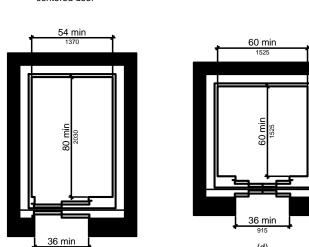
opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor. 407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum. 407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is

T = D/(1.5 ft/s) or T = D/(455 mm/s) = 5 seconds minimum where T equals the total time inseconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.



side (off-centered) door



any door location Figure 407.4.1 Elevator Car Dimensions

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoistway landing shall be 1 1/4 inch (32 mm) maximum. 407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically

bring and maintain the car at floor landings within a tolerance of 1/2 inch ($1\overline{3}$ mm) under rated

407.4.6 Elevator Car Controls. Where provided, elevator car controls shall comply with 407.4.6 and 407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. 407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm)

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3. 407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000

408 Limited-Use/Limited-Application Elevators (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger

elevators as classified by ASME A17.1. Flevator operation shall be automatic.

408.2.1 Call Buttons. Elevator call buttons and keypods shall comply with 407.2.1.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1. 408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3. 408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall

ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards"

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm)

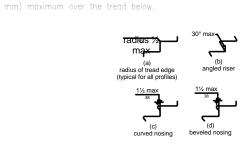
minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. Elevator cars shall comply with 408.4.

answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following

centerline of its hoistway door. 407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds



504.3 Open Risers. Open risers are not permitted.

Figure 504.5 Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505. 504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to

504.1 General. Stairs that are part of the means of egress is required to comply with 504

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13)

mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge

curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend $1 \frac{1}{2}$ inches (38

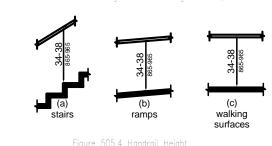
uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm)

complying with 405, and required at stairs complying with 504 shall comply with 505. Advisory 505.1 General. Handrails are required on ramp runs with a rise greater than 6 inches (150 mm) (see 405.8) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6).

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps. 505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights

Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with

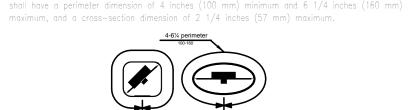
505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.



505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1

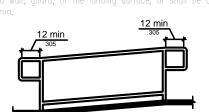


Figure 505.5 Handrail Clearance Figure 505.6 Horizontal Projections Below Gripping Surface not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface. 505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.



505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of 505.9 Fittings. Handrails shall not rotate within their fittings.

direction of stair flights and ramp runs in accordance with 505.10. 505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions



505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to



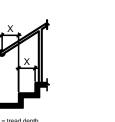
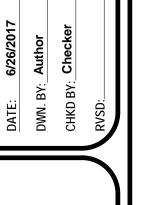


Figure 505.10.2 Top Handrail Extension at Stairs Figure 505.10.3 Bottom Handrail Extension at Stairs 505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be

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603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room. 603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be 603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for

any fixture. Doors shall be permitted to swing into the required turning space 603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground. 603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604 Water Closets and Toilet Compartments 604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to



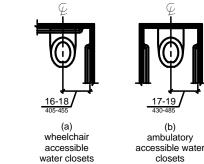
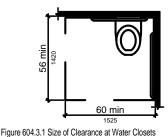


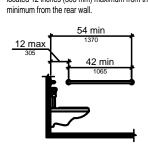
Figure 604.2 Water Closet Location 604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured $\,$



604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall. 604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm)



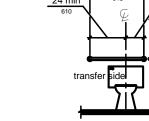


Figure 604.5.1 Side Wall Grab Bar at Water Closets

Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water 604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

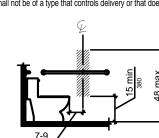


Figure 604.7 Dispenser Outlet Location

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

606 Lavatories and Sinks

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided. 606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground. 606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.2 Clearance. Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A layatory complying with 606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

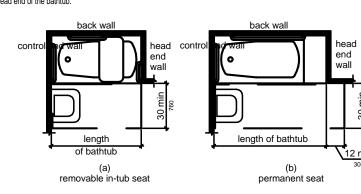
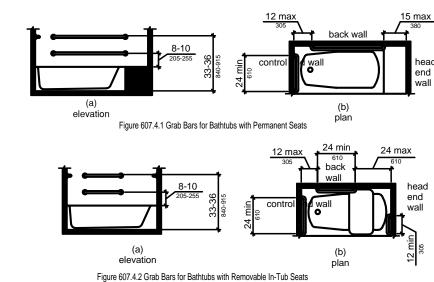


Figure 607.2 Clearance for Bathtubs

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610. 607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2. 607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be 607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control

607.4.1.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

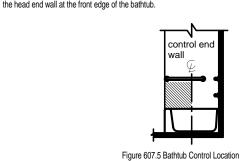


607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall 607.4.2.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on

on the control end wall at the front edge of the bathtub.



607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4. 607.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120°F (49°C) maximum.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the

608 Shower Compartments

608.2 Size and Clearances for Shower Compartments. Shower compartments shall have sizes and clearances complying with 608.2.

608.2.2 Standard Roll-In Type Shower Compartments. Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment. 608.2.2.1 Clearance. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.

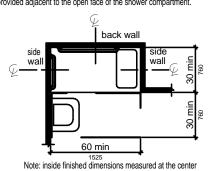
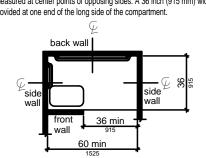


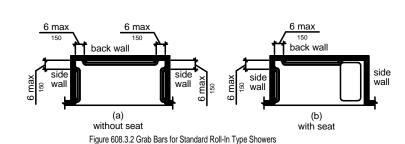
Figure 608.2.2 Standard Roll-In Type Shower Compartment Size and Clearance 608.2.3 Alternate Roll-In Type Shower Compartments. Alternate roll-in type shower compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.

points of opposing sides



Note: inside finished dimensions measured at the center points of opposing sides Figure 608.2.3 Alternate Roll-In Type Shower Compartment Size and Clearance

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.



608.3.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

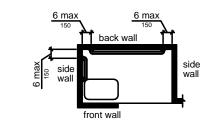


Figure 608.3.3 Grab Bars for Alternate Roll-In Type Showers 608 4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in transient lodging guest rooms with mobility features complying with 806.2. Seats shall comply with 610. 608.5 Controls. Controls, faucets, and shower spray units shall comply with 309.4. 608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor

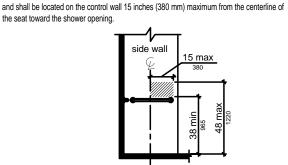
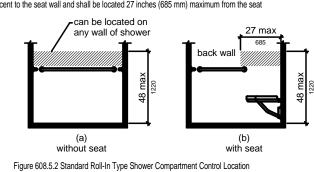


Figure 608.5.1 Transfer Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat



608.5.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall

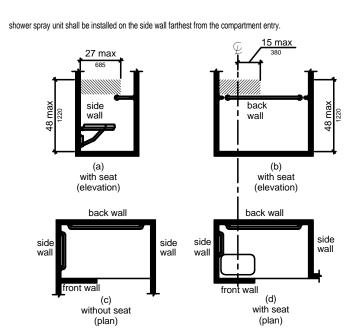


Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds 1/2 inch (13 mm) high maximum shall be beveled, rounded, or vertical. 608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls,

faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars

609.1 General. Grab bars in toilet facilities and bathing facilities shall comply with 609. 609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum. 609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

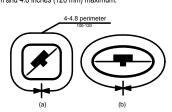
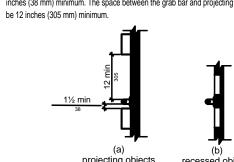


Figure 609.2.2 Grab Bar Non-Circular Cross Section

609.3 Spacing. The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above shall



projecting objects recessed objects Figure 609.3 Spacing of Grab Bars 609 4 Position of Grab Bars, Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

609.6 Fittings. Grab bars shall not rotate within their fittings. 609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space. 609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure

610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the

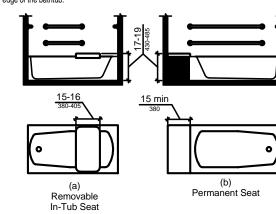


Figure 610.2 Bathtub Seats

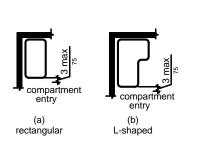


Figure 610.3 Extent of Seat 610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartmen it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

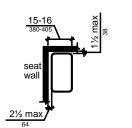
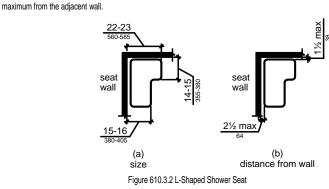


Figure 610.3.1 Rectangular Shower Seat 610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm)



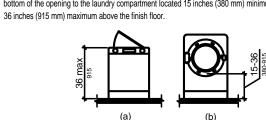
610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22

inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall. 610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

611 Washing Machines and Clothes Dryers 611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the

611.3 Operable Parts. Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and



top loading Figure 611.4 Height of Laundry Compartment Opening

612 Saunas and Steam Rooms 612.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with 903. Doors shall not swing into the clear floor space required by 903.2. 612.3 Turning Space. A turning space complying with 304 shall be provided within saunas and

CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES

702 Fire Alarm Systems 702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4. 703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms. 703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I". 703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be

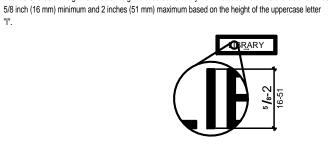


Figure 703.2.5 Height of Raised Characters

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the

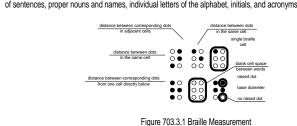
703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated

703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word



703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8 inch (9.5 mm) minimum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements.



Figure 703.3.2 Position of Braille

703.4 Installation Height and Location. Signs with tactile characters shall comply with 703.4. 703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

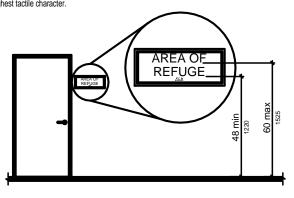
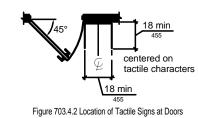


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position



703.5 Visual Characters. Visual characters shall comply with 703.5. 703.5.1 Finish and Contrast. Characters and their background shall have a non-glare fini shall contrast with their background with either light characters on a dark background or dark characters

on a light background. 703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms. 703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase

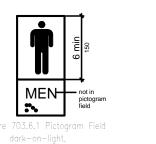
letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I". 703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".

703.5.6 Height From Finish Floor or Ground. Visual characters shall be 40 inches (1015 mm) minimum above the finish floor or ground. 703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30

703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height. 703.6 Pictograms. Pictograms shall comply with 703.6.

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.



703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field. 703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7. 703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark

background or a dark symbol on a light background.

704.1 General. Public telephones shall comply with 704. 704.2 Wheelchair Accessible Telephones. Wheelchair accessible telephones shall comply with 704.2. 704.2.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

The clear floor or ground space shall not be obstructed by bases, enclosures, or seats. Advisory 704.2.1 Clear Floor or Ground Space. Because clear floor and ground space is required to be unobstructed, telephones, enclosures and related telephone book storage cannot encroach on the required clear floor or ground space and must comply with the provisions for protruding objects. (See Section 307).

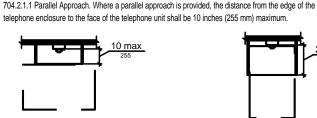


Figure 704.2.1.1 Parallel Approach to Telephone

Figure 704.2.1.2 Forward Approach to Telephone

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5 ELECTRICAL MOUNTING HEIGHT1 1/4" = 1'-0"

FIG. 308.3.1

6 REACH RANGES

1/4" = 1'-0"

UNOBSTRUCTED HIGH FORWARD REACH UNOBSTRUCTED FORWARD REACH FIG 308.2.2 FIG 308.2.1 >10"-24" MAX* 10" MAX 10" MAX ** IN TYPE B UNITS WITHIN KITCHENS AND BATHROOMS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLE OUTLETS ARE PERMITTED TO BE LOCATED OVER CABINETS WITH COUNTERTOPS 36" OBSTRUCTED HIGH SIDE MAX. IN HEIGHT AND **UNOBSTRUCTED HIGH SIDE** 25-1/2" MAX. IN DEPTH PER SEC. 1004.9 EXCEPTION 10.

FIG 308.3.2

30" MIN. CLEAR

1. AT LEAST 5% OF SEATING AND STANDING SPACES AT FIXED OR BUILT-IN TABLES, COUNTERS, AND WORKSURFACES, SHALL BE ACCESSIBLE BUT NOT LESS THAN ONE AND SHALL BE DISTRIBUTED THROUGHOUT THE SPACE PER IBC SEC. 1109.10.

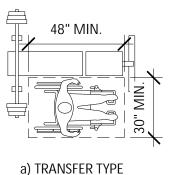
2. WHERE DINING SURFACES FOR THE CONSUMPTION OF FOOD AND DRINK ARE PROVIDED, AT LEAST 5% BUT NOT LESS THAN ONE, OF THE DINING SURFACES FOR THE SEATING AND STANDING SPACES SHALL BE ACCESSIBLE AND BE DISTRIBUTED THROUGHOUT THE FACILITY PER IBC SEC.

1108.2.9.1. - PROVIDE KNEE AND TOE CLEARANCE

BREAKFAST SEATING IBC SEC. 1109.10

CLEAR FLOOR SPACE AT EXCERCISE EQUIPMENT

ADA (2010) SEC. 1004



PER ADA (2010) SECTIONS 236 & 1004, AT LEAST ONE TYPE OF EACH EXERCISE MACHINE AND EQUIPMENT SHALL HAVE A CLEAR FLOOR SPACE COMPLYING WITH 305 POSITIONED FOR TRANSFER OR FOR USE BY AN INDIVIDUAL SEATED IN A WHEELCHAIR. CLEAR FLOOR OR GROUND SPACES REQUIRED AT EXERCISE MACHINES AND EQUIPMENT SHALL BE PERMITTED TO

COMMUNICATION. SYSTEM SHALL PROVIDE BOTH AUDIBLE AND VISUAL SIGNALS. UNITS SHALL INCLUDE A TELEPHONE JACK CAPABLE OF SUPPORTING VOICE AND TTY COMMUNICATION WITH THE CALLBOX/INTERCOM SYSTEM.

POST OR WALL MOUNTED COMMON-USE

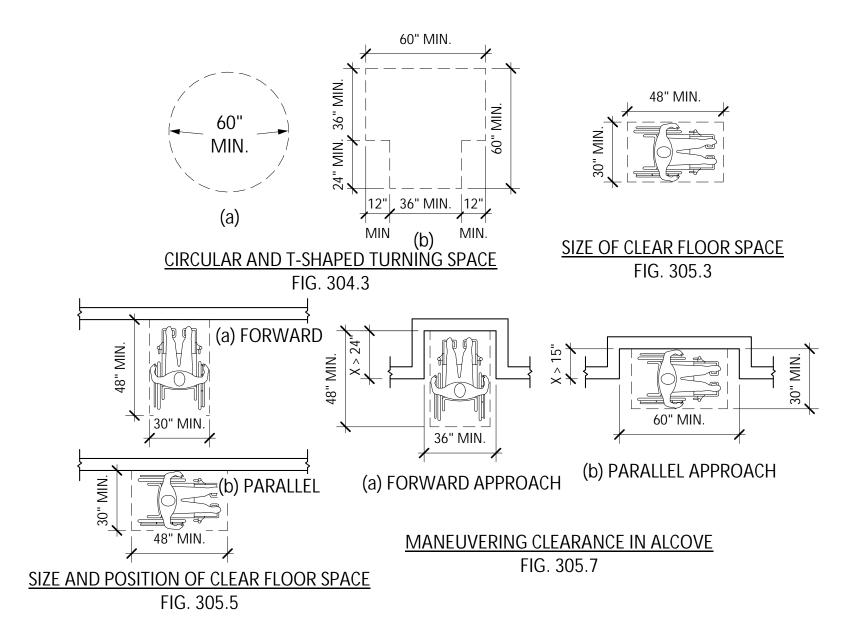
COMMUNICATION SYSTEM (DOOR ENTRY

- DOOR ENTRY SYSTEM SHALL INCLUDE THE

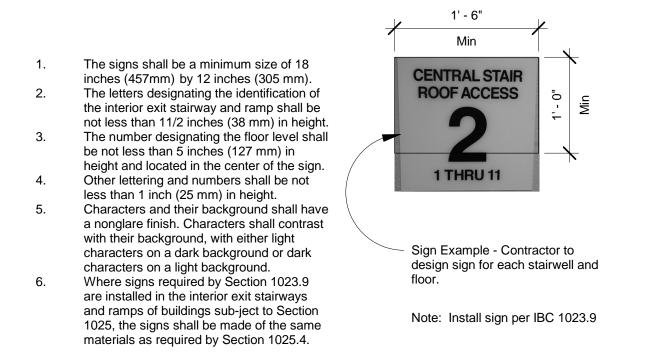
CAPABILITY TO SUPPORT VOICE AND TTY

COMMON-USE COMMUNICATION SYSTEM ADA (2010) SEC. 230 & ICC A117.1-2009 SEC 1005.6

(3.) COMMON ACCESSIBLE ELEMENTS2 ·/ 1/4" = 1'-0"



3 CLEAR FLOOR OR GROUND SPACE 1/4" = 1'-0"



4 Stair Floor Level Sign1 1" = 1'-0"

ADDITIONAL BARRIER FREE NOTES

A. ALL FLOOR COVERING SURFACES WHICH ARE PART OF AN ACCESSIBLE ROUTE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. ICC/ANSI 302.1

B. TOILET FLUSH CONTROLS SHALL BE MOUNTED FOR USE FROM THE WIDE SIDE OF THE WATER CLOSET AREA. ICC 604.6. FAUCET CONTROL HANDLES AND FLUSH CONTROLS SHALL HAVE LEVER OR OTHER SHAPE PERMITTING OPERATION BY WRIST OR ARM PRESSURE AND NOT REQUIRING TIGHT GRASPING, PINCHING, OR TWISTING TO OPERATE. ICC 309.4. LAVATORIES SHALL BE MOUNTED TO COMPLY WITH THE FOLLOWING: MINIMUM CLEARANCE OF 29" FROM THE FLOOR TO THE BOTTOM OF THE APRON, AND 27" TO THE BOTTOM OF THE SINK; THE COUNTER OR RIM NO HIGHER THAN 34" FROM THE FLOOR; SINK SHALL BE MAX OF 6 1/2" DEEP; HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED; SHARP OR ABRASIVE SURFACES UNDER LAVATORIES ARE NOT PERMITTED. A CLEAR FLOOR SPACE AT LEAST 30"X48" SHALL BE PROVIDED IN FRONT OF LAVATORIES.

C. UNISEX TOILET ROOMS SHALL BE PROVIDED WITH PRIVACY LOCK. IBC 1109.2.1.7

D. THE ACCESSIBLE UNIT TUBS SHALL BE PROVIDED 2 GRAB BARS. ONE GRAB BAR SHALL BE 9" ABOVE B ANTHE RIM OF THE TUB THE OTHER 33"-36" ABOVE THE FLOOR OF THE ROOM.

E. WHERE AN ACCESSIBLE DRINKING FOUNTAIN IS PROVIDED, AT LEAST ONE STANDARD HEIGHT DRINKING FOUNTAIN (39"-42" SPOUT HEIGHT) AND ONE AT THE ACCESSIBLE HEIGHT (MAX 36") SHALL BE PROVIDED. IBC 1109.5.

F. ACCESSIBLE SEATING FOR PEOPLE IN WHEELCHAIRS SHALL HAVE KNEE SPACES AND TOE CLEARANCES PER ICC 306.2 \$ 306.3. CUSTOMER SERVICE COUNTERS SHALL INCLUDE AN ACCESSIBLE PORTION, NOT LASS THAN 36" LONG AND NOT MORE THAN 36" ABOVE THE FINISH FLOOR PER ICC 904.3. COMMON USE SINKS ARE REQUIRED TO BE MOUNTED WITH THE COUNTER OR RIM NO HIGHER THAN 34" ABOVE THE FINISH FLOOR. FAUCETS SHALL HAVE CONTROLS AND OPERATING MECHANISMS OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST PER ICC 309.4.

G. SWITCHES, ENVIRONMENTAL CONTROLS, ETC, SHALL BE LOCATED NOT OVER 48" (FORWARD REACH), 54" (SIDE REACH), AND NOT LESS THAN 36" ABOVE THE FLOOR. NOTE: OBSTRUCTIONS ADJACENT TO THE SWITCHES WILL CHANGE THESE HEIGHT REQUIREMENTS. SEE THE APPROPRIATE CODE SECTION. ELECTRICAL AND COMMUNICATION RECEPTACLES SHALL NOT BE LESS THAN 15" OFF THE FLOOR, MEASURED TO THE BOTTOM OF THE RECEPTACLE. ICC 308.

H. A MINIMUM OF 2 HEARING IMPAIRED ROOMS ARE REQUIRED. SEE IBC 907.3.1.2. EACH HEARING IMPAIRED ROOM SHALL BE PROVIDED A TELEPHONE COMPLYING WITH ICC 704. THE HIGHEST OPERABLE PART OF A TELEPHONE SHALL BE A MAX 54" ABOVE THE FLOOR. VOLUME CONTROLS SHALL BE HEARING AID COMPATIBLE, CAPABLE OF INCREASING VOLUME NOT LESS THAN 12 DECIBLES OR MORE THAN 20 DECIBLES ABOVE NORMAL. THE CORD FROM THE TELEPHONE TO THE HANDSET SHALL NOT BE LESS THAN 29" LONG. ICC 703.2.2,703.2.4,703.3

I. EMERGENCY WARNING SYSTEMS, WARNINGS, AND SIGNAGE SHALL COMPLY WITH IBC 907.9. BOTH AUDIBLE AND VISUAL ALARMS SHALL BE PROVIDED.

J. WHERE PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR AND BE CENTERED 60" ABOVE THE FINISHED FLOOR. MOUNTING LOCATION FOR SUCH SIGNAGE SHALL BE SO THAT AN 18" X 18" CLEAR FLOOR AREA, CENTERED ON THE SIGNAGE, IS PROVIDED BEYOND THE ARC OF THE DOOR. ICC 703.3.1. THE FINISH, COLOR, CHARACTER PROPORTIONS, HEIGHT, RAISED OR BRAILLE CHARACTERS, AND PICTORIAL SYMBOLS SHALL BE AS REQUIRED IN ICC 703.

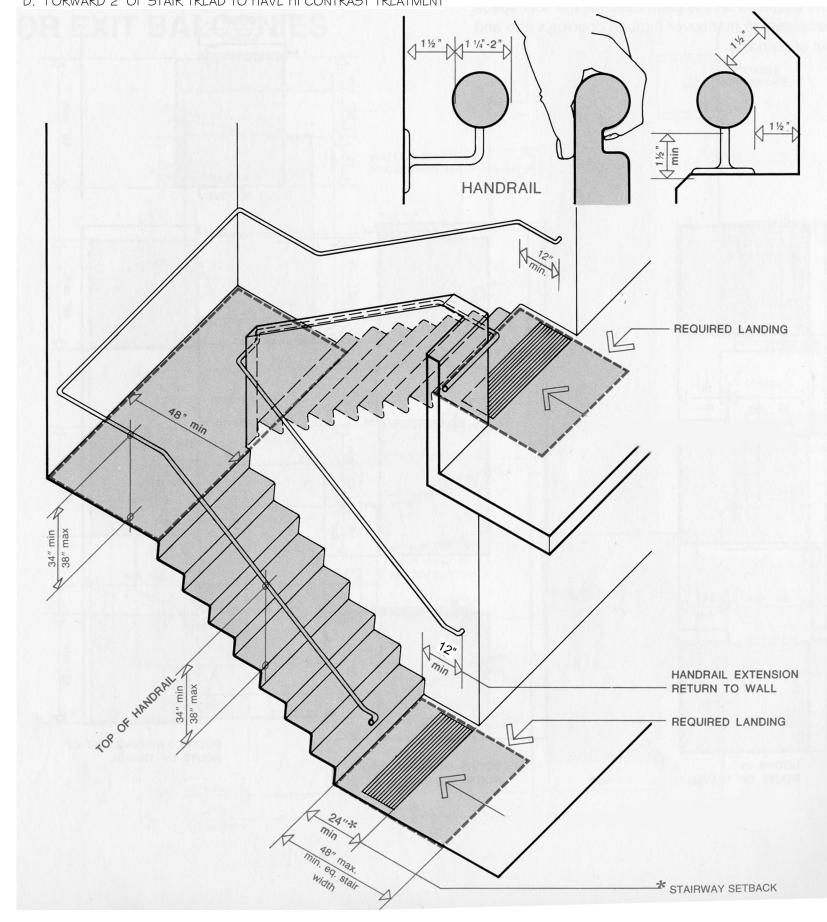
STAIRS:

A. STAIRS SYSTEMS TO COMPLY WITH IBC 1022.6 AND ICC/ANSI A 1 17.1

B. STAIR HANDRAILS AND HANDRAIL EXTENSIONS TO BE ON BOTH SIDES OF STAIRWAYS.

C. OPEN RISERS ARE NOT PERMITTED PER I CC/ANSI 504.3

D. FORWARD 2" OF STAIR TREAD TO HAVE HI CONTRAST TREATMENT



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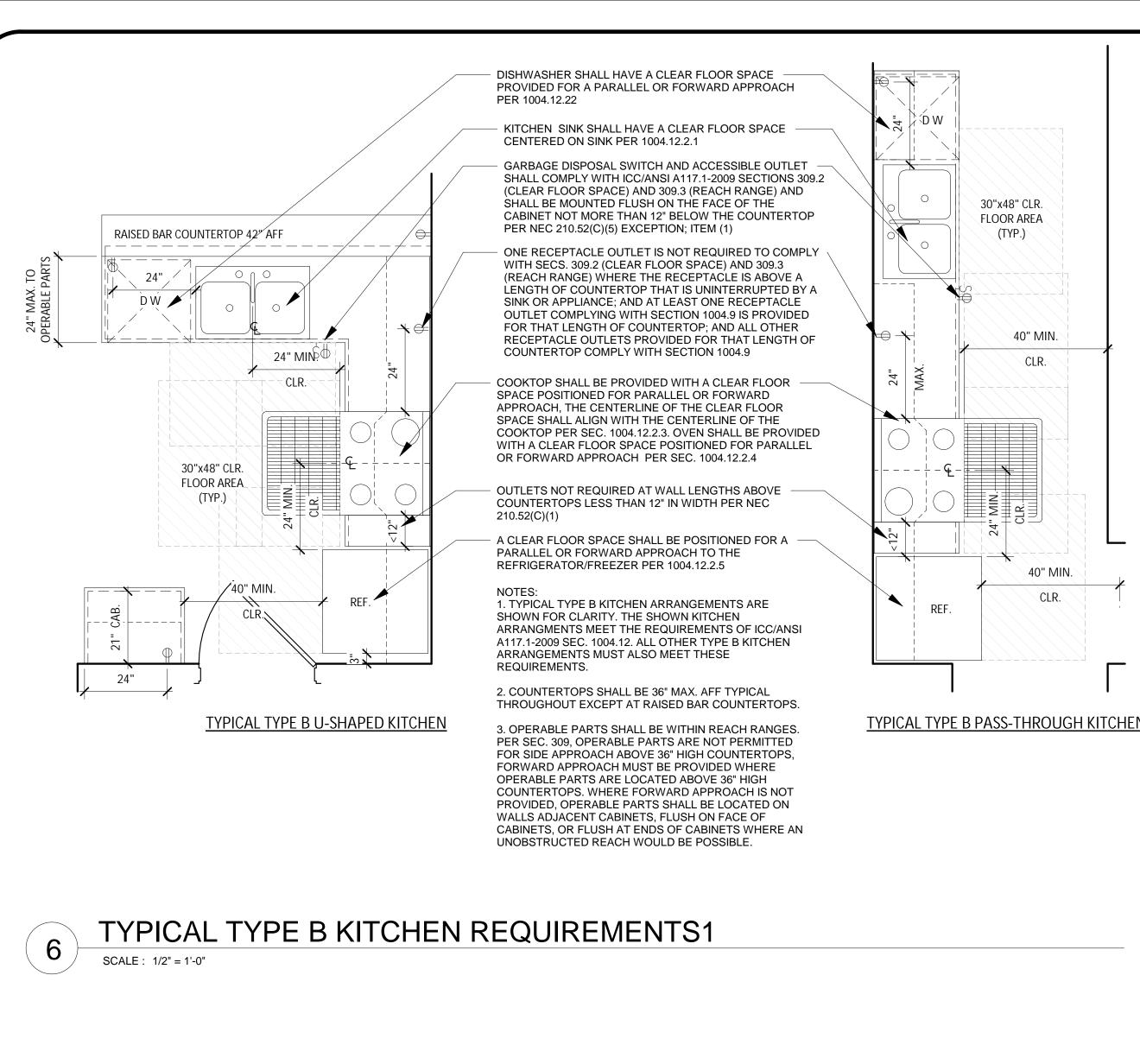
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A CLEARANCE 48" MIN. LENGTH MEASURED PERPENDICULAR

WIDTH SHALL BE PROVIDED IN FRONT OF BATHTUBS PER SEC.

FOR A FORWARD APPROACH TO A WATER CLOSET IN A TYPE B

MEASURED FROM THE WALL BEHIND THE WATER CLOSET. AND

48" MEASURED FROM A POINT 18" FROM THE CENTERLINE OF

INSTALLATION OF GRAB BARS SHALL BE PROVIDED. VANITIES

OR LAVATORIES ON THE WALL BHIND THE WATER CLOSET ARE

POSITIONED FOR A PARALLEL APPROACH, CENTERED ON THE

REAR GRAB BAR PERMITTED TO BE 24" IN LENGTH WHERE

WALL SPACE DOES NOT PERMIT A GRAB BAR 36" MIN. IN

1. *WHEN A WATERCLOSET IS ADJACENT A WALL, THE

CENTERLINE OF TOILET MUST BE LOCATED EXACTLY 18" CLEAR

2. IN EACH TYPE B UNIT, EITHER ALL BATHROOMS MUST MEET

OPTION B REQUIREMENTS- THE OTHER BATHROOM IS EXEMPT

OPTION A REQUIREMENTS OR ONE BATHROOM MUST MEET

FROM ONLY THE CLEAR FLOOR SPACE AND MANUVERING

CLEARANCES. ALL BATHROOMS ARE ASSUMED TO MEET THE

3. TYPICAL TYPE B - OPTION B BATHROOM ARRANGEMENT IS

MEETS THE REQUIREMENTS OF ICC/ANSI A117.1-2009 SEC.

ARRANGEMENTS MUST ALSO MEET THESE REQUIREMENTS.

AFF, MEASURED TO THE HIGHER OF THE FIXTURE RIM OR

5. OPERABLE PARTS SHALL BE WITHIN REACH RANGES. PER

REINFORCING FOR FUTURE INSTALLATION OF GRAB BARS AT

PER SEC. 1004.11.2. GRAB BARS ARE NOT REQUIRED, ONLY

WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS

6. ALL FIXTURES IN ALL UNIT BATHROOMS MUST MEET MINIMUM

1004.11. ALL OTHER TYPE B - OPTION B BATHROOM

4. COUNTERTOPS SHALL BE 34" MAX. AFF TYPICAL IN

GRAB BAR REINFORCING REQUIREMENTS. PROVIDE

REINFORCING FOR GRAB BARS IS REQUIRED.

SHOWN FOR CLARITY. THE SHOWN BATHROOM ARRANGMENT

BATHROOMS. THE FRONT OF THE LAVATORY SHALL BE 34" MAX.

REQUIREMENTS OF OPTION A UNLESS NOTED OTHERWISE ON

A CLEAR FLOOR SPACE COMPLYING WITH SEC. 305.4.

SINK, SHALL BE PROVIDED PER SEC. 1004.11.3.2.1.1

PERMITTED TO OVERLAP THE CLEARANCE.

LENGTH PER SEC. 604.5.2 EXCEPTION 2

TO THE WALL PER SEC. 1004.11.3.1.2.

THE WATER CLOSET ON THE SIDE DESIGNATED FOR FUTURE

BATHROOM PER SEC. 1004.11.3.1.2.2, A CLEARANCE 66" MIN.

FROM THE CONTROL END OF THE BATHTUB, AND 30" MIN.

1004.11.3.2.3.1.

48" MIN.

* 18" | 15" MIN

48" MIN.

48" MIN.

24" MIN. CLR

C

DISHWASHER SHALL HAVE A CLEAR FLOOR SPACE PROVIDED - 4" Max. Protrusion of Countertop, Provide end RAISED BAR COUNTERTOP 42" AFF 36" MIN. 30"x48" CLR. FLOOR AREA (TYP.) 15" MIN. CLR. 21" CAB. 40" MIN. CLR. 24" MAX. 40" MIN. 1003.12.3.1 EXCEPTION, 1003.12.4.1 EXCEPTION, & 1003.11.5 EXCEPTION. TYPICAL TYPE A U-SHAPED KITCHEN

ADJACENT TO THE DOOR PER 1003.12.5.3 *KITCHEN SINK PER 1003.12.4. SINK SHALL HAVE A CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH. EXPOSED WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED TO PROTECT AGAINST CONTACT PER 1003.12.4. FAUCETS SHALL BE WITHIN THE REACH RANGES SPECIFIED IN SEC. 308. FAUCETS SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST PER SEC. 309.4. THE FRONT OF THE SINK SHALL BE 34" MAX. ABOVE THE FLOOR MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE PER SEC. 1003.12.4.2. SEE CABINETRY NOTES.

*PROVIDE 30" MIN. WIDE WORK SURFACE PER SEC. 1003.12.3. WORKSURFACE SHALL HAVE A CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH PER SEC. 1003.12.3.1. THE WORKSURFACE SHALL BE 34" MAX. ABOVE THE FLOOR PER SEC. 1003.12.3.2. SEE CABINETRY NOTES.

RANGE HOOD CONTROL SWITCH LOCATED WITHIN THE REACH RANGES OF

OUTLETS NOT REQUIRED AT WALL LENGTHS ABOVE COUNTERTOPS LESS THÀM 12" IN WIDTH PER NÈC 210.52(C)(1)

THE LOCATION OF CONTROLS SHALL NOT REQUIRE REACHING ACROSS BURNERS PER 1003.12.5.5.4.

BOTTOM-HINGED DOOR OVENS SHALL HAVE ADJACENT COUNTERTOP TO ONE SIDE OF DOOR PER 1003.12.6.5

RANGE HOOD CONTROL SWITCH LOCATED WITHIN THE REACH RANGES OF SEC. 308

*PROVIDE 30" MIN. WIDE WORK SURFACE PER SEC. 1003.12.3. -WORKSURFACE SHALL HAVE A CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH PER SEC. 1003.12.3.1. THE WORKSURFACE SHALL BE 34" MAX. ABOVE THE FLOOR PER SEC. 1003.12.3.2. SEE CABINETRY NOTES.

REFRIGERATOR/FREEZER SHALL HAVE AT LEAST 50% OF SHELVES (INCLUDING BOTTOM OF FREEZER) 54" MAX A.F.F. A CLEAR FLOOR SPACE POSITIONED FOR PARALLEL APPROACH SHALL BE PROVIDED. THE CENTERLINE OF THE CLEAR FLOOR SPACE SHALL BE OFFSET 24" MAX FROM CENTER OF APPLIANCE PER SEC. 1003.12.6.6

*TYPE A UNIT CABINETRY NOTES: CABINETRY SHALL BE PERMITTED UNDER SINKS AND WORK SURFACES IN TYPE A UNITS PROVIDED THE CABINETRY CAN BE REMOVED WITHOUT REMOVAL OR REPLACEMENT OF THE WORK SURFACE. THE FINISH FLOOR EXTENDS UNDER THE CABINETRY AND THE WALLS BEHIND THE SURROUNDING CABINETRY ARE FINISHED, PER SECS.

1. TYPICAL TYPE A KITCHEN ARRANGEMENTS ARE SHOWN FOR CLARITY. THE SHOWN KITCHEN ARRANGMENTS MEET THE REQUIREMENTS OF ICC/ANSI A117.1-2009 SEC. 1003.12. ALL OTHER TYPE A KITCHEN ARRANGEMENTS MUST ALSO MEET THESE REQUIREMENTS.

2. COUNTERTOPS SHALL BE 34" MAX. AFF TYPICAL THROUGHOUT EXCEPT AT RAISED BAR COUNTERTOPS. AT SINKS, THE FRONT OF THE SINK SHALL BE 34" MAX. AFF, MEASURED TO THE HIGHER OF THE RIM OR

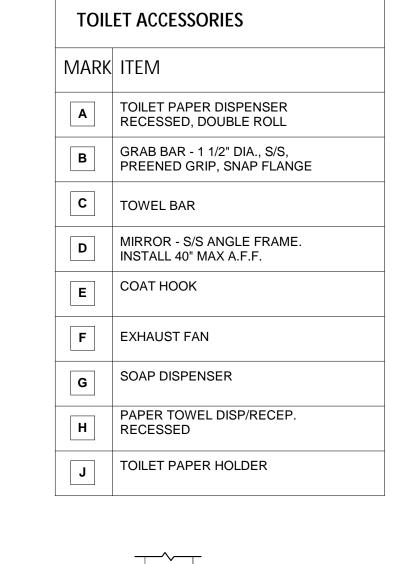
3. OPERABLE PARTS ABOVE COUNTERTOPS SHALL BE WITHIN REACH RANGES. PROVIDE FURRING AT BACKSPLASH PER DETAILS 4/A006 AND 5/A006 TO MEET REACH RANGES USING STANDARD 24" DEPTH BASE

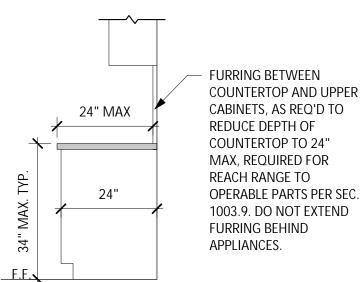
TYPICAL TYPE A KITCHEN REQUIREMENTS1

D W 30"x48" CLR. FLOOR AREA (TYP.)

TYPICAL TYPE A PASS-THROUGH KITCHEN

1. PROVIDE WOOD BLOCKING IN THE PARTITION WALLS AS REQ'D TO MOUNT THE ACCESSORIES SHOWN. INSTALL ACOUSTIC BATT INSUL. BEHIND ALL RECESSED OR SEMI-RECESSED ACCESSORIES. 2. PROVIDE SURFACE MOUNT ACCESSORIES AT FIRE-RATED WALL ASSEMBLIES. SURFACE MOUNTED ACCESSORIES SHALL MEET THE REQUIREMENTS FOR PROTRUDING OBJECTS. REF DETAIL 6/A004.





TYPE A AND COMMON

AREA KITCHEN CABINETS

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

BATHTUB PER SEC. 1003.11.8. 60" MIN. CLR. TURNING CIRCLE, WHERE CIRCLE EXTENDS BELOW COUNTERTOP, PROVIDE COUNTERTOP SUPPORT

PANEL PER DETAIL 7/A805. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE PER SEC. 1003.11.7.3.

30" X 48" CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH CENTERED ON LAVATORY

*LAVATORY PER SEC. 1003.11.5. A CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH WITH KNEE AND TOE CLEARANCE COMPLYING WITH SECTIONS 305.3 AND 306 SHALL BE PROVIDED. THE FRONT OF LAVATORY SHALL BE 34" AFF MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURCACE. FAUCETS SHALL COMPLY WITH SEC. 606.4. EXPOSED WATER SUPPLY AND DRAIN PIPES UNDER THE LAVATORIES SHALL BE INSULATED PER SEC. 606.6

DOOR APPROACH CLEARANCE, LATCH APPROACH PULL SIDE SHOWN

1. WATER CLOSETS MUST BE LOCATED ADJACENT A WALL IN TYPE A BATHROOMS.

2. TYPICAL TYPE A UNIT BATHROOM ARRANGEMENT IS SHOWN FOR CLARITY. THE SHOWN BATHROOM ARRANGMENT MEETS THE REQUIREMENTS OF ICC/ANSI A117.1-2009 SEC. 1003.11. ALL OTHER TYPE A BATHROOM ARRANGEMENTS MUST ALSO MEET THESE REQUIREMENTS.

3. COUNTERTOPS SHALL BE 34" MAX. AFF TYPICAL IN BATHROOMS. THE FRONT OF THE LAVATORY SHALL BE 34" MAX. AFF, MEASURED TO THE HIGHER OF THE FIXTURE RIM OR COUNTER SURFACE.

4. OPERABLE PARTS SHALL BE WITHIN REACH RANGES. PER SEC. 309.

5. ALL FIXTURES IN ALL UNIT BATHROOMS MUST MEET MINIMUM GRAB BAR REINFORCING REQUIREMENTS. PROVIDE REINFORCING FOR FUTURE INSTALLATION OF GRAB BARS AT WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS PER SEC. 1003.11.4. GRAB BARS ARE NOT REQUIRED, ONLY REINFORCING FOR GRAB BARS IS REQUIRED.

6. *CABINETRY SHALL BE PERMITTED UNDER SINKS AND WORK SURFACES IN TYPE A UNITS PROVIDED THE CABINETRY CAN BE REMOVED WITHOUT REMOVAL OR REPLACEMENT OF THE WORK SURFACE, THE FINISH FLOOR EXTENDS UNDER THE CABINETRY AND THE WALLS BEHIND THE SURROUNDING CABINETRY ARE FINISHED, PER SECS. 1003.12.3.1 EXCEPTION, 1003.12.4.1 EXCEPTION, & 1003.11.5

TYP. CLEARANCE REQUIREMENTS AT

32" MIN. CLR.

36" MAX. TO

24" MIN.

30" MIN.

15" MIN. *18" MIN. 15 3/4" 48" 31 3/4" MIN. 48" MIN.

1. *WHEN A WATERCLOSET IS ADJACENT A WALL, THE CENTERLINE OF TOILET MUST BE LOCATED EXACTLY 18" CLEAR TO THE WALL PER SEC. 1004.11.3.1.2.

2. IN EACH TYPE B UNIT, EITHER ALL BATHROOMS MUST MEET OPTION A REQUIREMENTS OR ONE BATHROOM MUST MEET OPTION B REQUIREMENTS- THE OTHER BATHROOM IS EXEMPT FROM ONLY THE CLEAR FLOOR SPACE AND MANUVERING CLEARANCES. ALL BATHROOMS ARE ASSUMED TO MEET THE REQUIREMENTS OF OPTION A UNLESS NOTED OTHERWISE ON THE UNIT PLANS.

3. TYPICAL TYPE B - OPTION A BATHROOM ARRANGEMENT IS SHOWN FOR CLARITY. THE SHOWN BATHROOM ARRANGMENT MEETS THE REQUIREMENTS OF ICC/ANSI A117.1-2009 SEC. 1004.11. ALL OTHER TYPE B - OPTION A BATHROOM ARRANGEMENTS MUST ALSO MEET THESE REQUIREMENTS.

4. COUNTERTOPS SHALL BE 34" MAX. AFF TYPICAL IN BATHROOMS. THE FRONT OF THE LAVATORY SHALL BE 34" MAX. AFF, MEASURED TO THE HIGHER OF THE FIXTURE RIM OR COUNTER SURFACE.

5. OPERABLE PARTS SHALL BE WITHIN REACH RANGES.

6. ALL FIXTURES IN ALL UNIT BATHROOMS MUST MEET MINIMUM GRAB BAR REINFORCING REQUIREMENTS. PROVIDE REINFORCING FOR FUTURE INSTALLATION OF GRAB BARS AT WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS PER SEC. 1004.11.2. GRAB BARS ARE NOT REQUIRED, ONLY REINFORCING FOR GRAB BARS IS REQUIRED.

A CLEARANCE 60" MIN. LENGTH AND 48" MIN. WIDTH SHALL BE PROVIDED IN FRONT OF BATHTUBS WITH A FORWARD APPROACH. A WATER CLOSET SHALL BE PERMITTED IN THE CLEARANCE AT THE CONTROL END OF THE BATHTUB PER SEC. 1004.11.3.1.3.2. VANITIES OR LAVATORIES ON THE WALL BEHIND THE WATER CLOSET ARE PERMITTED TO OVERLAP THE CLEARANCE PER SEC. 1004.11.3.1.2.1.

A CLEAR FLOOR SPACE COMPLYING WITH SEC. 305.3, POSITIONED FOR A PARALLEL APPROACH, SHALL BE PROVIDED. THE CLEAR FLOOR SPACE SHALL BE CENTERED ON THE LAVATORY PER. SEC. 1004.11.3.1.1

DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE FOR ANY FIXTURE EXCEPT WHERE A CLEAR FLOOR SPACE IS PROVIDED WITHIN THE ROOM BEYOND THE ARC OF THE DOOR SWING PER SEC. 1004.11.1.1 EXCEPTION.

TYP. CLEARANCE REQUIREMENTS AT TYPE B UNIT BATHROOM - OPTION A

TYP. CLEARANCE REQUIREMENTS AT TYPE B UNIT BATHROOM - OPTION B SCALE: 1/2" = 1'-0"

COUNTER SURFACE.

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

| c |--

TYPE A UNIT BATHROOM

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

CLEAR

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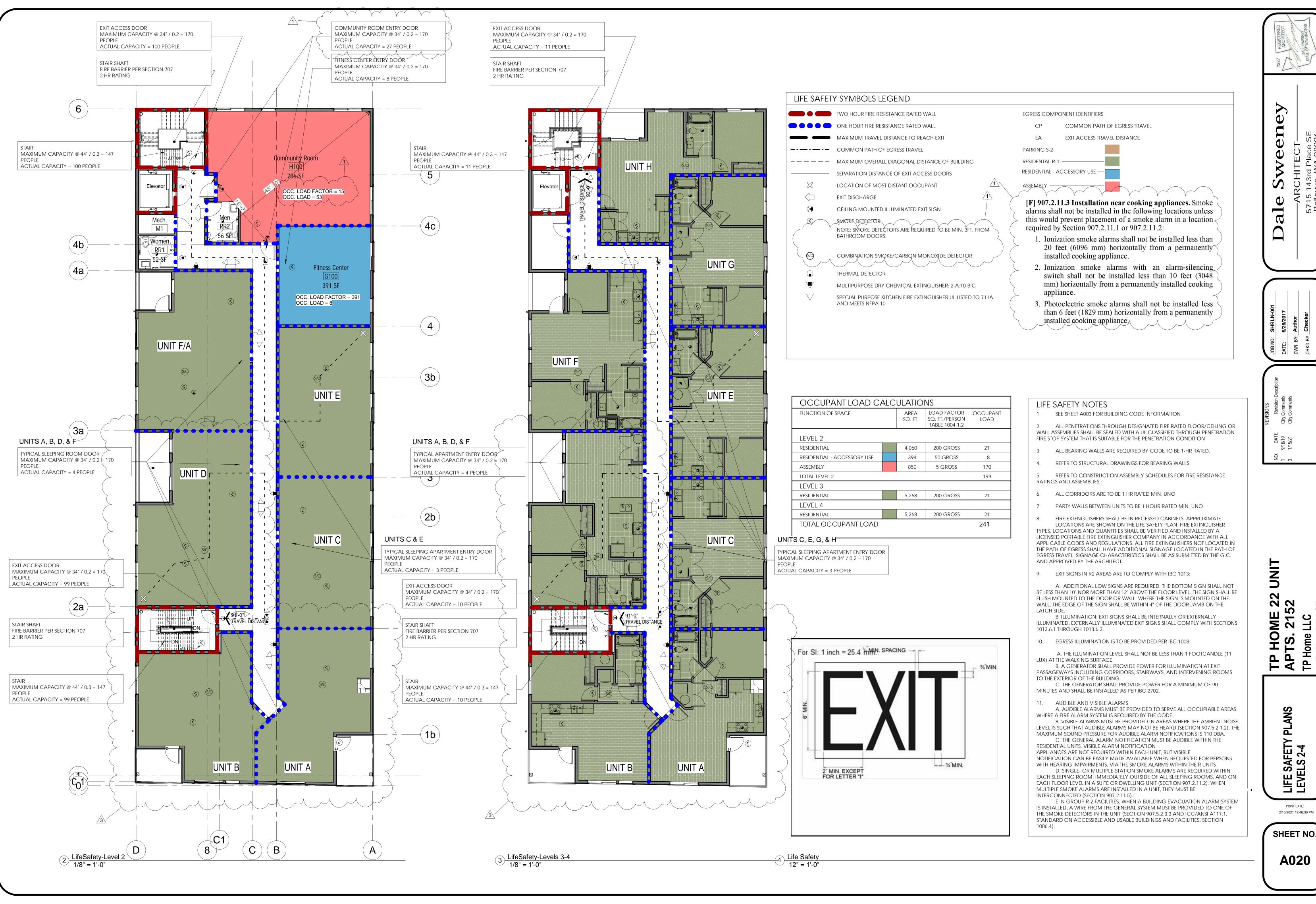
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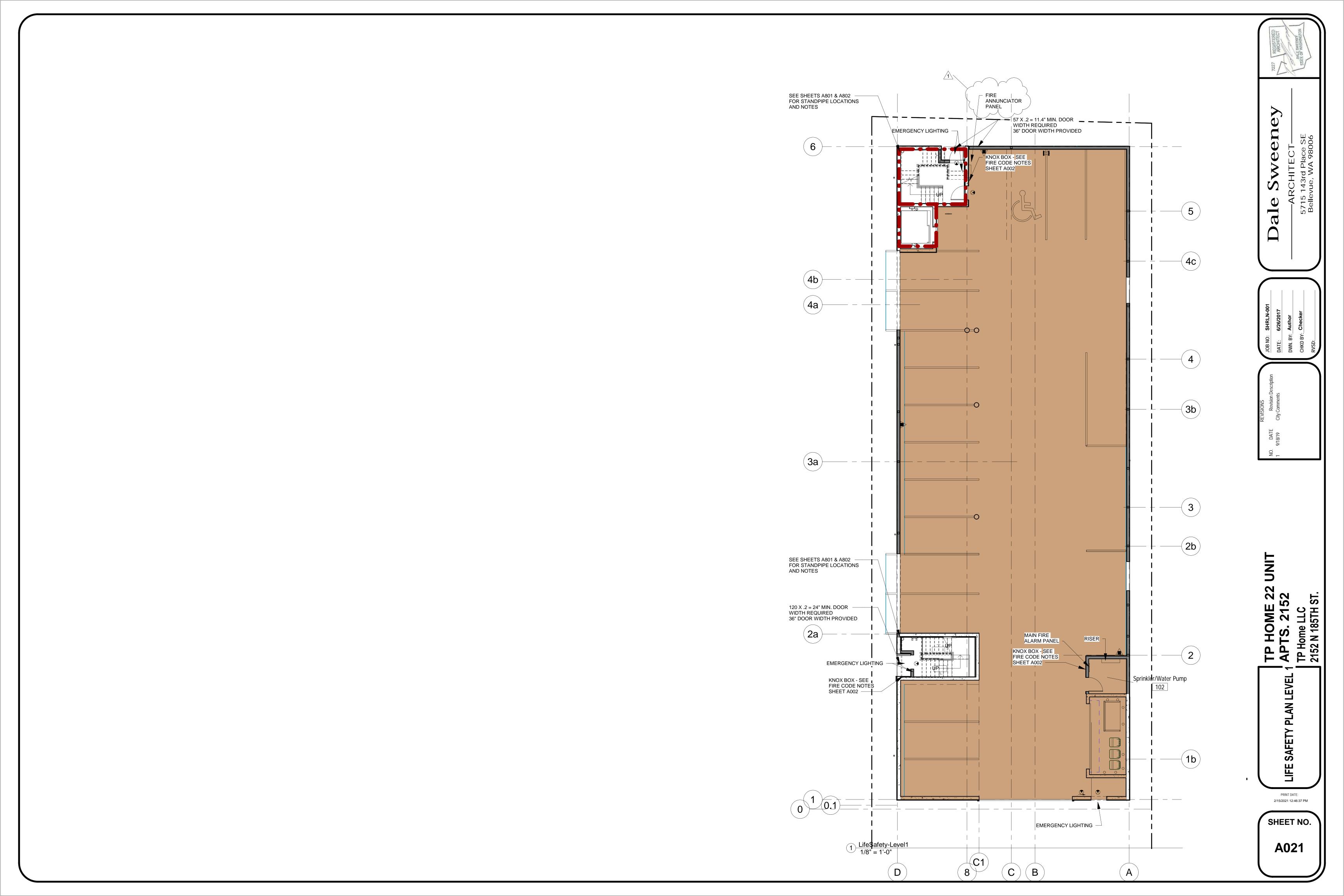
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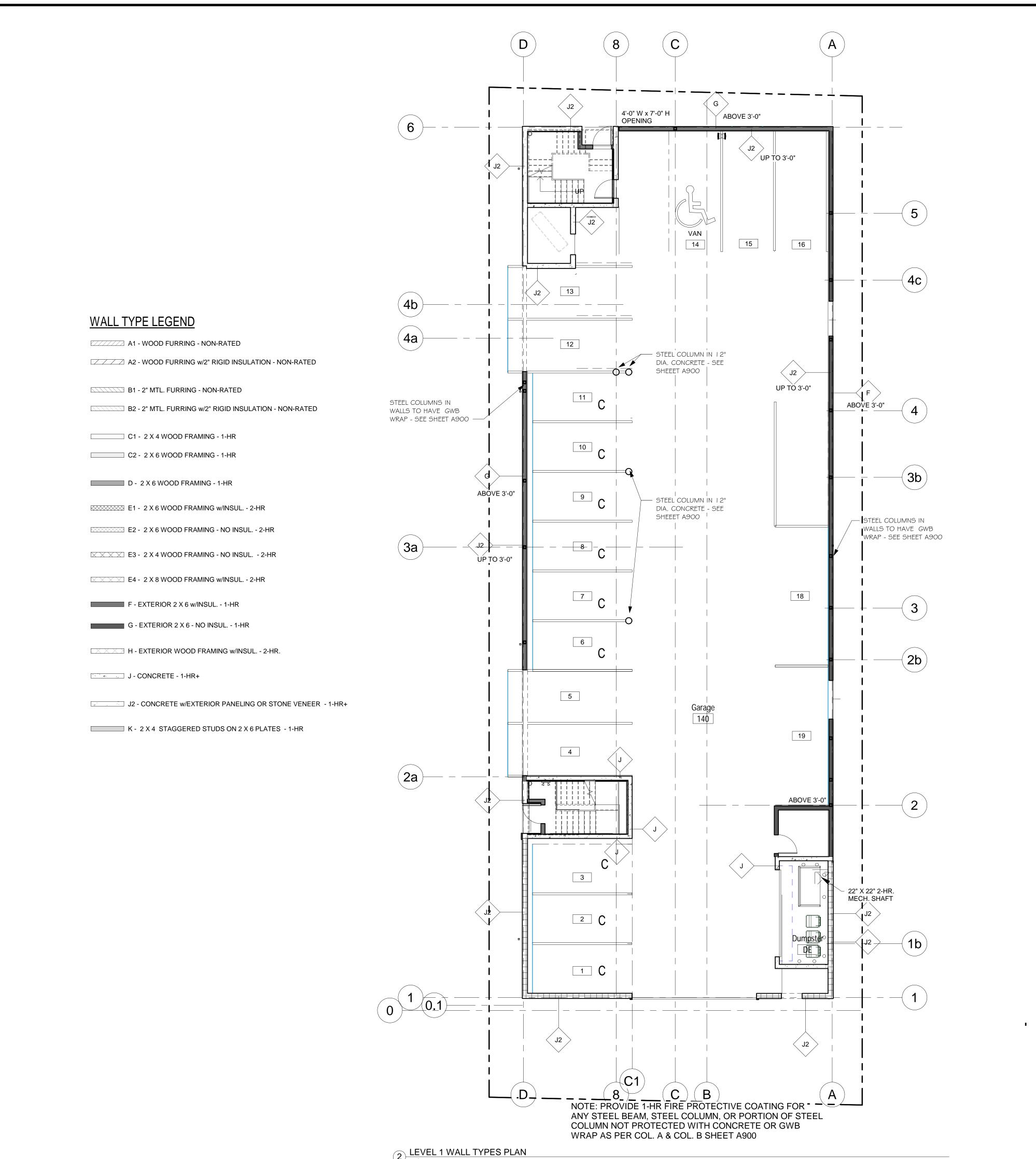
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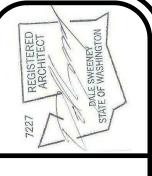


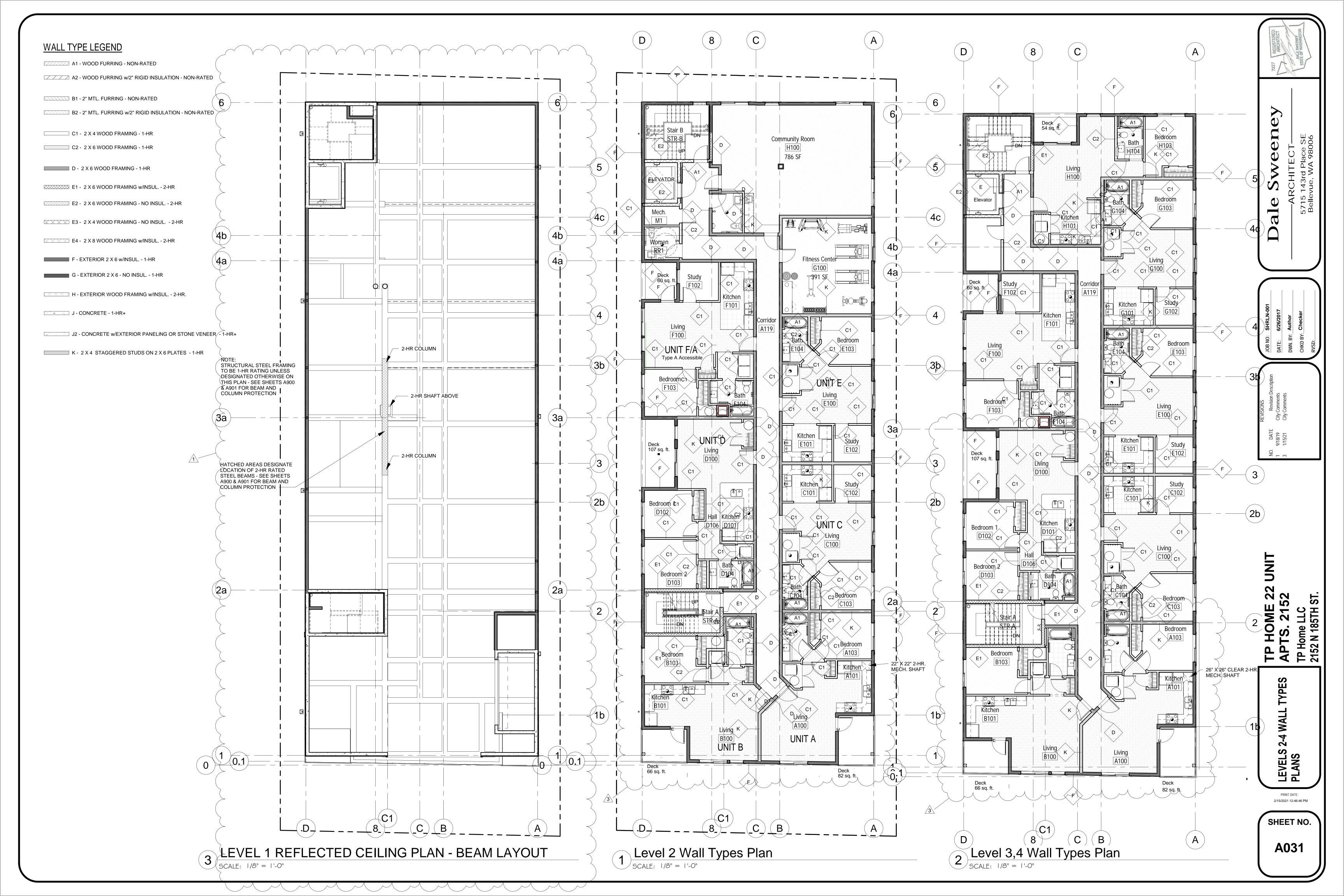


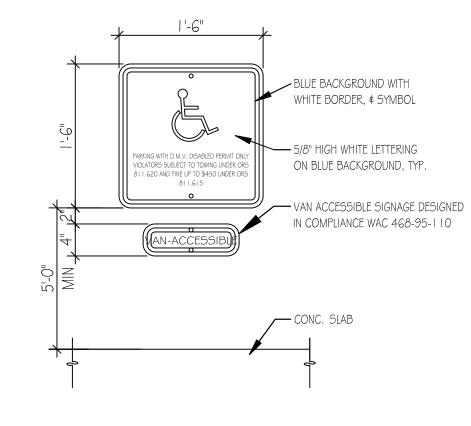
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TP Home LLC 2152 N 185TH ST. **TYPES PLAN**

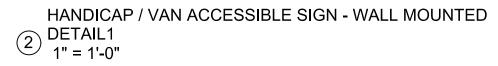
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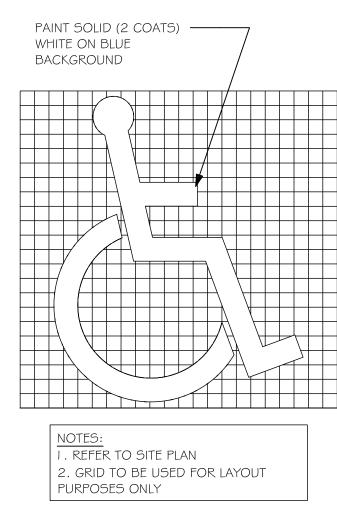
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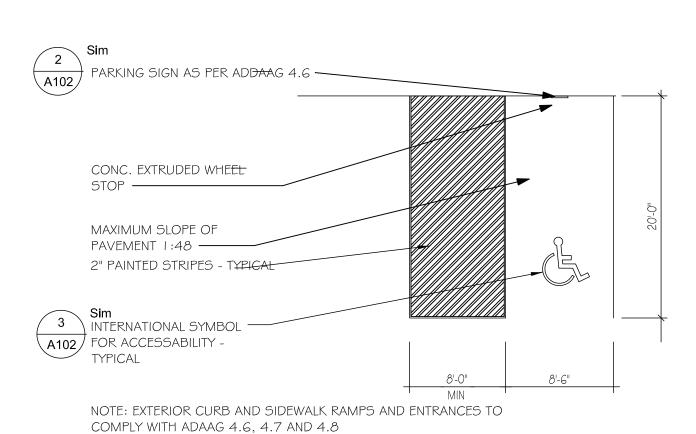






4 HANDICAP PARKING 1/8" = 1'-0"

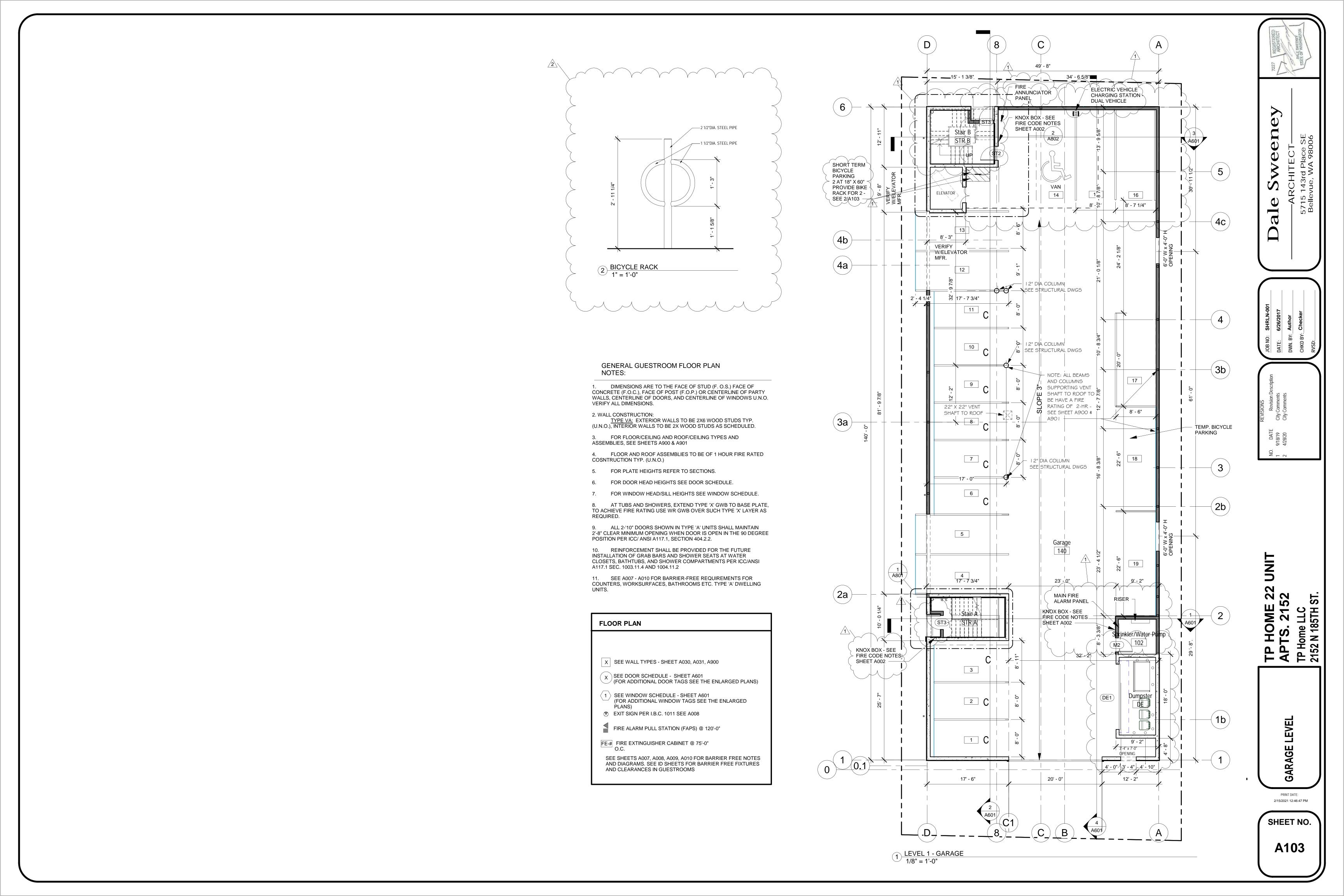
3 HANDICAP SYMBOL1 3/4" = 1'-0"

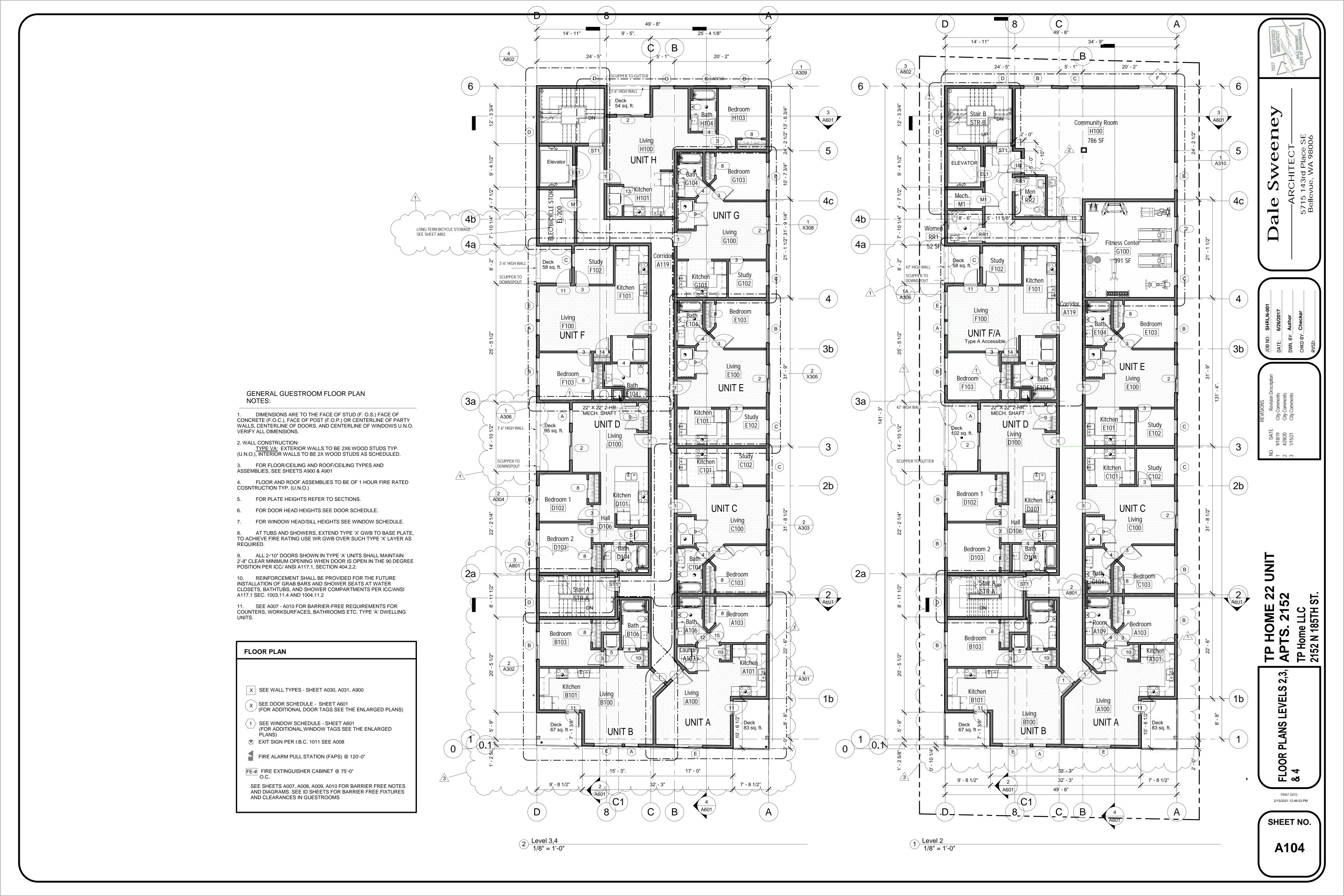


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ROOF PLAN NOTES

1. GENERAL CONTRACTOR TO INSTALL AND SEAL ROOF PENETRATIONS, CURBS AND SLEEPERS.

2. HVAC VENDOR TO PROVIDE ROOF CURBS AND VENDOR IS RESPONSIBLE FOR PROVISION/ COORDINATION OF ROOF PENETRATIONS REQUIRED FOR EQUIPMENT INSTALLATION.

3. FLASH PLUMBING VENT AND ELECTRICAL PIPES, SEE SHEET A901. SEE MECH. AND ELEC. DWGS. FOR LOCATIONS.

4. COORDINATE SIZE AND LOCATION OF SATELLITE DISH PROVIDED BY AV CONTRACTOR. COORDINATE LOADS AND REACTIONS WITH JOIST MANUFACTURER. GC TO PROVIDE SUPPORT LEGS/BLOCKING.

5. NEW ROOF MEMBRANE TO BE INSTALLED BY MANUFACTURER APPROVED LICENSED ROOFING CONTRACTOR. REFER TO DETAILS AS INDICATED ON THIS AND OTHER SHEETS.

6. GC TO PROVIDE POWER AND BLOCKING FOR ALL BUILDING SIGNAGE. COORDINATE WITH SIGN VENDOR.

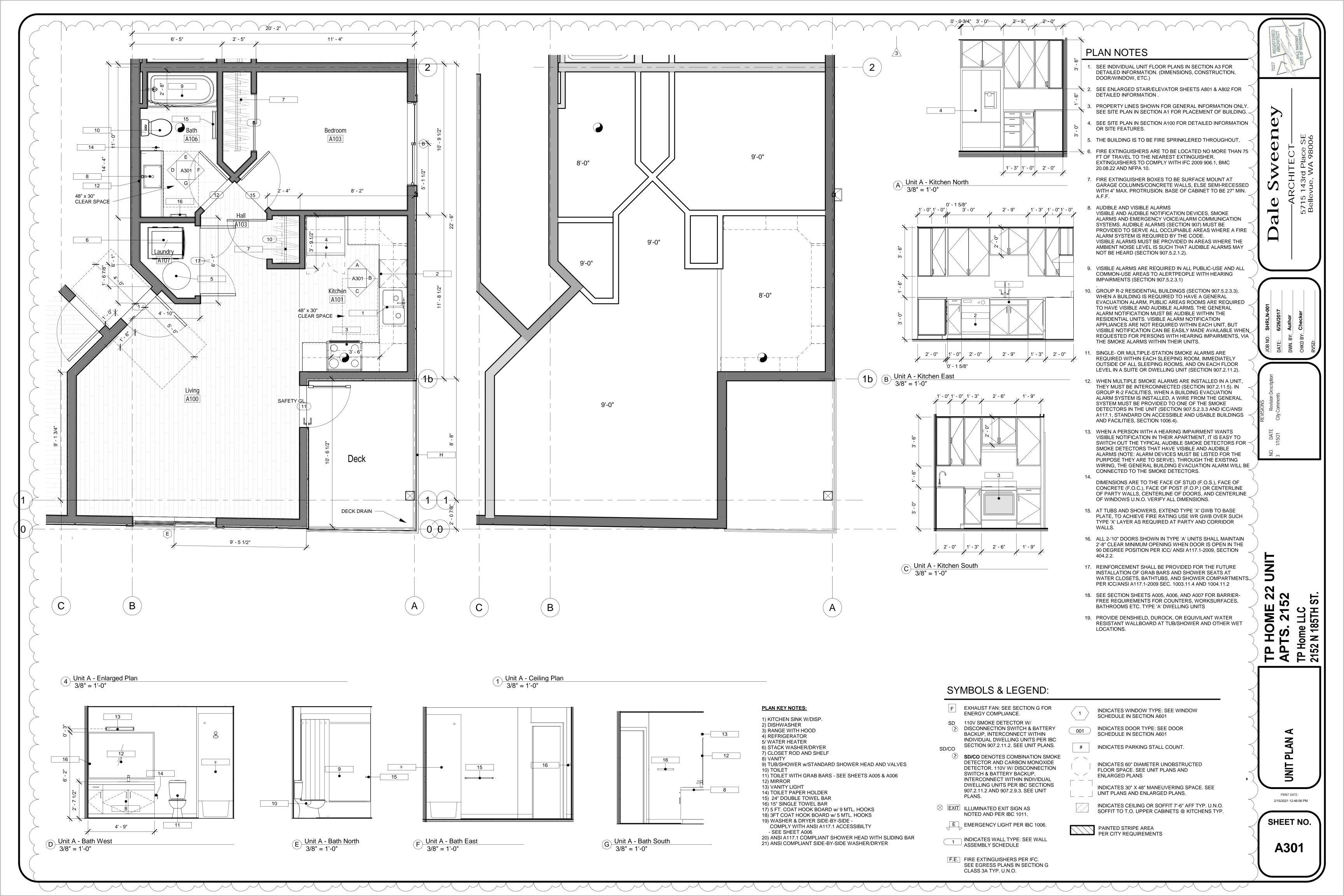
7. SEE SHEETS A901 & A904 FOR ROOF DETAILS.

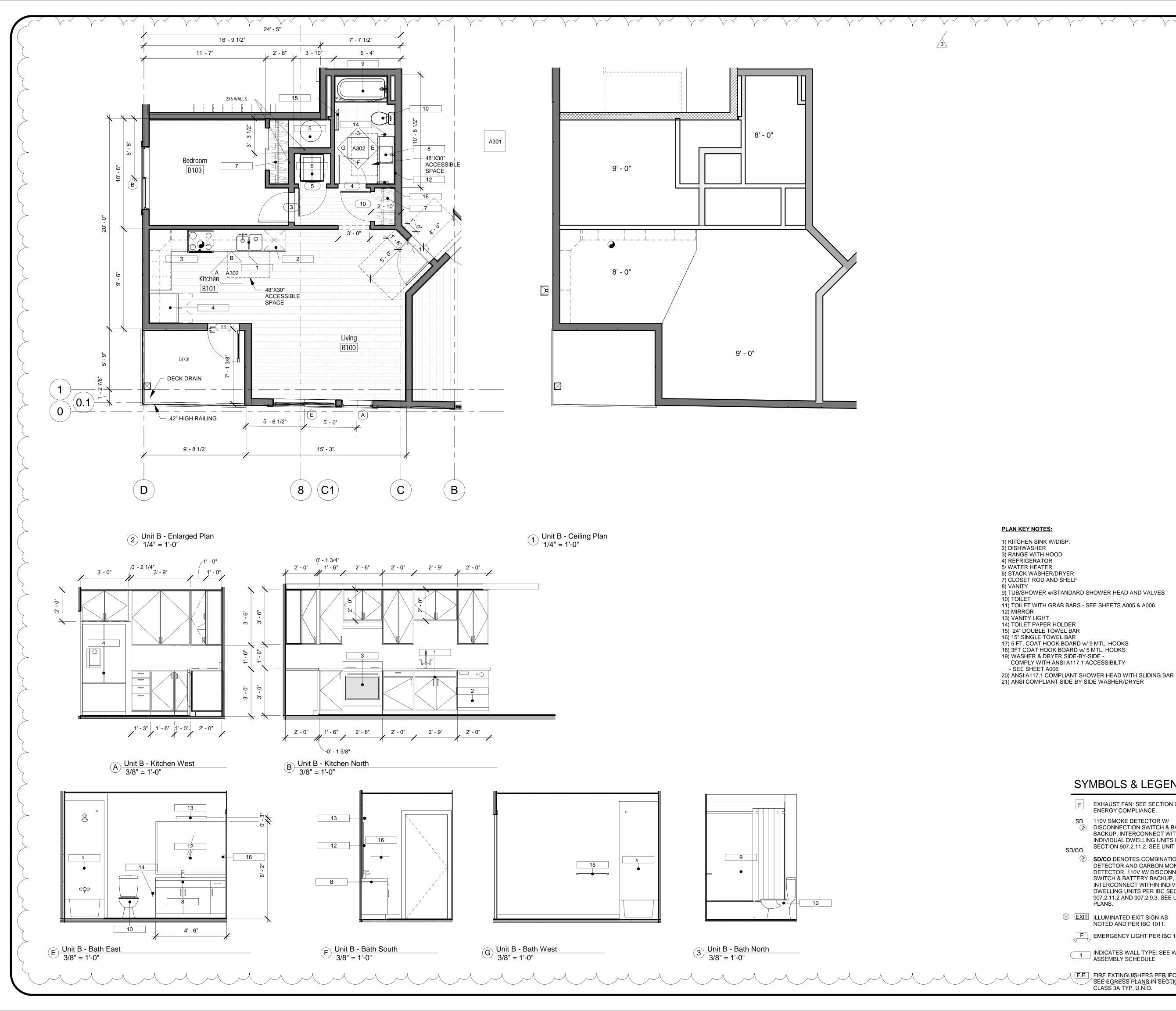
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ROOF PLAN

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SHEET NO.





DETAILED INFORMATION .

- 1. SEE INDIVIDUAL UNIT FLOOR PLANS IN SECTION A3 FOR DETAILED INFORMATION. (DIMENSIONS, CONSTRUCTION, DOOR/WINDOW, ETC.)
- 2. SEE ENLARGED STAIR/ELEVATOR SHEETS A801 & A802 FOR
- 3. PROPERTY LINES SHOWN FOR GENERAL INFORMATION ONLY
- SEE SITE PLAN IN SECTION A1 FOR PLACEMENT OF BUILDING. 4. SEE SITE PLAN IN SECTION A100 FOR DETAILED INFORMATION
- OR SITE FEATURES.
- 5. THE BUILDING IS TO BE FIRE SPRINKLERED THROUGHOUT,
- 6. FIRE EXTINGUISHERS ARE TO BE LOCATED NO MORE THAN 78 FT OF TRAVEL TO THE NEAREST EXTINGUISHER. EXTINGUISHERS TO COMPLY WITH IFC 2009 906.1, BMC 20.08.22 AND NFPA 10.
- 7. FIRE EXTINGUISHER BOXES TO BE SURFACE MOUNT AT GARAGE COLUMNS/CONCRETE WALLS, ELSE SEMI-RECESSED WITH 4" MAX. PROTRUSION. BASE OF CABINET TO BE 27" MIN.
- 8. AUDIBLE AND VISIBLE ALARMS
- VISIBLE AND AUDIBLE NOTIFICATION DEVICES, SMOKE ALARMS AND EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS. AUDIBLE ALARMS (SECTION 907) MUST BE PROVIDED TO SERVE ALL OCCUPIABLE AREAS WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE CODE. VISIBLE ALARMS MUST BE PROVIDED IN AREAS WHERE THE AMBIENT NOISE LEVEL IS SUCH THAT AUDIBLE ALARMS MAY NOT BE HEARD (SECTION 907.5.2.1.2).
- 9. VISIBLE ALARMS ARE REQUIRED IN ALL PUBLIC-USE AND ALL COMMON-USE AREAS TO ALERTPEOPLE WITH HEARING IMPAIRMENTS (SECTION 907.5.2.3.1)
- 10. GROUP R-2 RESIDENTIAL BUILDINGS (SECTION 907.5.2.3.3). WHEN A BUILDING IS REQUIRED TO HAVE A GENERAL EVACUATION ALARM. PUBLIC AREAS ROOMS ARE REQUIRED/ TO HAVE VISIBLE AND AUDIBLE ALARMS. THE GENERAL ALARM NOTIFICATION MUST BE AUDIBLE WITHIN THE RESIDENTIAL UNITS. VISIBLE ALARM NOTIFICATION APPLIANCES ARE NOT REQUIRED WITHIN EACH UNIT, BUT VISIBLE NOTIFICATION CAN BE EASILY MADE AVAILABLE WHEN REQUESTED FOR PERSONS WITH HEARING IMPAIRMENTS, VIA THE SMOKE ALARMS WITHIN THEIR UNITS.
- 11. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS ARE REQUIRED WITHIN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF ALL SLEEPING ROOMS, AND ON EACH FLOOR LEVEL IN A SUITE OR DWELLING UNIT (SECTION 907.2.11.2).
- 12. WHEN MULTIPLE SMOKE ALARMS ARE INSTALLED IN A UNIT, THEY MUST BE INTERCONNECTED (SECTION 907.2.11.5). IN GROUP R-2 FACILITIES, WHEN A BUILDING EVACUATION ALARM SYSTEM IS INSTALLED, A WIRE FROM THE GENERAL SYSTEM MUST BE PROVIDED TO ONE OF THE SMOKE DETECTORS IN THE UNIT (SECTION 907.5.2.3.3 AND ICC/ANSI A117.1, STANDARD ON ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, SECTION 1006.4).
- 13. WHEN A PERSON WITH A HEARING IMPAIRMENT WANTS VISIBLE NOTIFICATION IN THEIR APARTMENT, IT IS EASY TO SWITCH OUT THE TYPICAL AUDIBLE SMOKE DETECTORS FOR SMOKE DETECTORS THAT HAVE VISIBLE AND AUDIBLE ALARMS (NOTE: ALARM DEVICES MUST BE LISTED FOR THE PURPOSÈ THEY ARE TO SERVE). THROUGH THE EXISTING WIRING, THE GENERAL BUILDING EVACUATION ALARM WILL BE CONNECTED TO THE SMOKE DETECTORS.
- DIMENSIONS ARE TO THE FACE OF STUD (F.O.S.), FACE OF CONCRETE (F.O.C.), FACE OF POST (F.O.P.) OR CENTERLINE OF PARTY WALLS, CENTERLINE OF DOORS, AND CENTERLINE OF WINDOWS U.N.O. VERIFY ALL DIMENSIONS.
- 15. AT TUBS AND SHOWERS, EXTEND TYPE 'X' GWB TO BASE PLATE, TO ACHIEVE FIRE RATING USE WR GWB OVER SUCH TYPE 'X' LAYER AS REQUIRED AT PARTY AND CORRIDOR
- WALLS. 16. ALL 2-'10" DOORS SHOWN IN TYPE 'A' UNITS SHALL MAINTAIN 2'-8" CLEAR MINIMUM OPENING WHEN DOOR IS OPEN IN THE 90 DEGREE POSITION PER ICC/ ANSI A117.1-2009, SECTION
- 17. REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS PER ICC/ANSI A117.1-2009 SEC. 1003.11.4 AND 1004.11.2
- 18. SEE SECTION SHEETS A005, A006, AND A007 FOR BARRIER-FREE REQUIREMENTS FOR COUNTERS, WORKSURFACES, BATHROOMS ETC. TYPE 'A' DWELLING UNITS
- 19. PROVIDE DENSHIELD, DUROCK, OR EQUIVILANT WATER RESISTANT WALLBOARD AT TUB/SHOWER AND OTHER WET LOCATIONS.

SYMBOLS & LEGEND:

- EXHAUST FAN: SEE SECTION G FOR ENERGY COMPLIANCE.
- 110V SMOKE DETECTOR W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC SECTION 907.2.11.2. SEE UNIT PLANS. SD/CO
 - **SD/CO** DENOTES COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR. 110V W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC SECTIONS 907.2.11.2 AND 907.2.9.3. SEE UNIT
- NOTED AND PER IBC 1011.

 - EMERGENCY LIGHT PER IBC 1006.
 - INDICATES WALL TYPE: SEE WALL ASSEMBLY SCHEDULE
- F.E. FIRE EXTINGUISHERS PER IFC. SEE EGRESS PLANS IN SECTION G CLASS 3A TYP. U.N.O.

INDICATES WINDOW TYPE: SEE WINDOW SCHEDULE IN SECTION A601

INDICATES DOOR TYPE: SEE DOOR SCHEDULE IN SECTION A601

INDICATES 60" DIAMETER UNOBSTRUCTED FLOOR SPACE. SEE UNIT PLANS AND

INDICATES PARKING STALL COUNT.

ENLARGED PLANS INDICATES 30" X 48" MANEUVERING SPACE. SEE

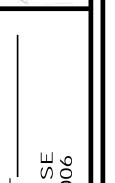
UNIT PLANS AND ENLARGED PLANS. INDICATES CEILING OR SOFFIT 7'-6" AFF TYP. U.N.O.

PAINTED STRIPE AREA

PER CITY REQUIREMENTS

SOFFIT TO T.O. UPPER CABINETS @ KITCHENS TYP. SHEET NO.

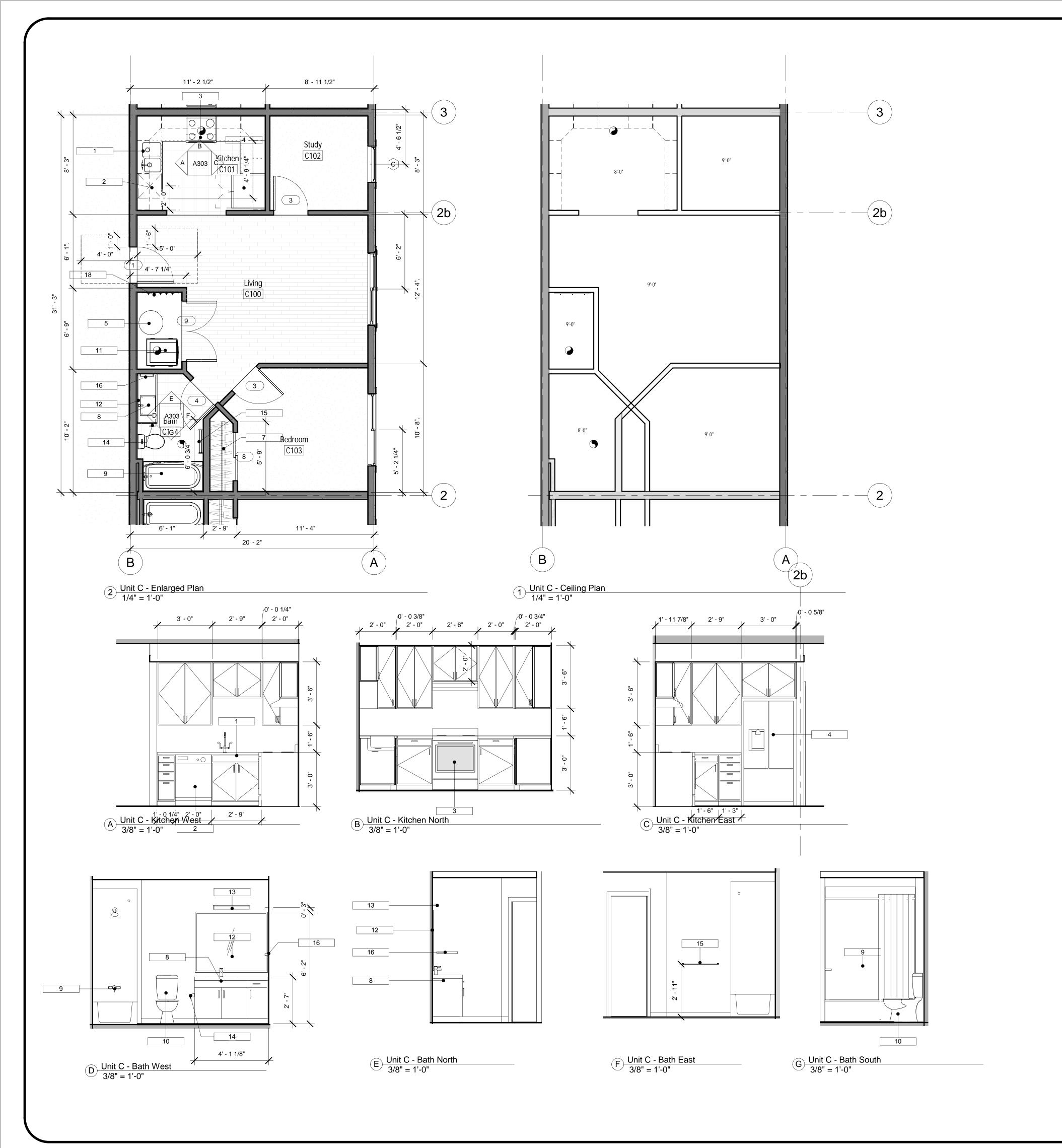
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- 1. SEE INDIVIDUAL UNIT FLOOR PLANS IN SECTION A3 FOR DETAILED INFORMATION. (DIMENSIONS, CONSTRUCTION, DOOR/WINDOW, ETC.)
- 2. SEE ENLARGED STAIR/ELEVATOR SHEETS A801 & A802 FOR DETAILED INFORMATION .
- 3. PROPERTY LINES SHOWN FOR GENERAL INFORMATION ONLY. SEE SITE PLAN IN SECTION A1 FOR PLACEMENT OF BUILDING.
- 4. SEE SITE PLAN IN SECTION A100 FOR DETAILED INFORMATION OR SITE FEATURES.
- 5. THE BUILDING IS TO BE FIRE SPRINKLERED THROUGHOUT,
- 6. FIRE EXTINGUISHERS ARE TO BE LOCATED NO MORE THAN 75 FT OF TRAVEL TO THE NEAREST EXTINGUISHER. EXTINGUISHERS TO COMPLY WITH IFC 2009 906.1, BMC 20.08.22 AND NFPA 10.
- 7. FIRE EXTINGUISHER BOXES TO BE SURFACE MOUNT AT GARAGE COLUMNS/CONCRETE WALLS, ELSE SEMI-RECESSED WITH 4" MAX. PROTRUSION. BASE OF CABINET TO BE 27" MIN.
- 8. AUDIBLE AND VISIBLE ALARMS VISIBLE AND AUDIBLE NOTIFICATION DEVICES, SMOKE ALARMS AND EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS. AUDIBLE ALARMS (SECTION 907) MUST BE PROVIDED TO SERVE ALL OCCUPIABLE AREAS WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE CODE. VISIBLE ALARMS MUST BE PROVIDED IN AREAS WHERE THE AMBIENT NOISE LEVEL IS SUCH THAT AUDIBLE ALARMS MAY NOT BE HEARD (SECTION 907.5.2.1.2).
- 9. VISIBLE ALARMS ARE REQUIRED IN ALL PUBLIC-USE AND ALL COMMON-USE AREAS TO ALERTPEOPLE WITH HEARING IMPAIRMENTS (SECTION 907.5.2.3.1)
- 10. GROUP R-2 RESIDENTIAL BUILDINGS (SECTION 907.5.2.3.3). WHEN A BUILDING IS REQUIRED TO HAVE A GENERAL EVACUATION ALARM, PUBLIC AREAS ROOMS ARE REQUIRED TO HAVE VISIBLE AND AUDIBLE ALARMS. THE GENERAL ALARM NOTIFICATION MUST BE AUDIBLE WITHIN THE RESIDENTIAL UNITS. VISIBLE ALARM NOTIFICATION APPLIANCES ARE NOT REQUIRED WITHIN EACH UNIT, BUT VISIBLE NOTIFICATION CAN BE EASILY MADE AVAILABLE WHEN REQUESTED FOR PERSONS WITH HEARING IMPAIRMENTS, VIA THE SMOKE ALARMS WITHIN THEIR UNITS.
- 11. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS ARE REQUIRED WITHIN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF ALL SLEEPING ROOMS, AND ON EACH FLOOR LEVEL IN A SUITE OR DWELLING UNIT (SECTION 907.2.11.2).
- 12. WHEN MULTIPLE SMOKE ALARMS ARE INSTALLED IN A UNIT, THEY MUST BE INTERCONNECTED (SECTION 907.2.11.5). IN GROUP R-2 FACILITIES, WHEN A BUILDING EVACUATION ALARM SYSTEM IS INSTALLED, A WIRE FROM THE GENERAL SYSTEM MUST BE PROVIDED TO ONE OF THE SMOKE DETECTORS IN THE UNIT (SECTION 907.5.2.3.3 AND ICC/ANSI A117.1, STANDARD ON ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, SECTION 1006.4).
- 13. WHEN A PERSON WITH A HEARING IMPAIRMENT WANTS VISIBLE NOTIFICATION IN THEIR APARTMENT, IT IS EASY TO SWITCH OUT THE TYPICAL AUDIBLE SMOKE DETECTORS FOR SMOKE DETECTORS THAT HAVE VISIBLE AND AUDIBLE ALARMS (NOTE: ALARM DEVICES MUST BE LISTED FOR THE PURPOSE THEY ARE TO SERVE). THROUGH THE EXISTING WIRING, THE GENERAL BUILDING EVACUATION ALARM WILL BE CONNECTED TO THE SMOKE DETECTORS.
- DIMENSIONS ARE TO THE FACE OF STUD (F.O.S.), FACE OF CONCRETE (F.O.C.), FACE OF POST (F.O.P.) OR CENTERLINE OF PARTY WALLS, CENTERLINE OF DOORS, AND CENTERLINE OF WINDOWS U.N.O. VERIFY ALL DIMENSIONS.
- 15. AT TUBS AND SHOWERS, EXTEND TYPE 'X' GWB TO BASE PLATE, TO ACHIEVE FIRE RATING USE WR GWB OVER SUCH TYPE 'X' LAYER AS REQUIRED AT PARTY AND CORRIDOR WALLS.
- 9) TUB/SHOWER w/STANDARD SHOWER HEAD AND VALVES 16. ALL 2-'10" DOORS SHOWN IN TYPE 'A' UNITS SHALL MAINTAIN 2'-8" CLEAR MINIMUM OPENING WHEN DOOR IS OPEN IN THE 90 DEGREE POSITION PER ICC/ ANSI A117.1-2009, SECTION 404.2.2.
 - 17. REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS PER ICC/ANSI A117.1-2009 SEC. 1003.11.4 AND 1004.11.2
 - 18. SEE SECTION SHEETS A005, A006, AND A007 FOR BARRIER-FREE REQUIREMENTS FOR COUNTERS, WORKSURFACES, BATHROOMS ETC. TYPE 'A' DWELLING UNITS
 - 19. PROVIDE DENSHIELD, DUROCK, OR EQUIVILANT WATER RESISTANT WALLBOARD AT TUB/SHOWER AND OTHER WET LOCATIONS.

SYMBOLS & LEGEND:

20) ANSI A117.1 COMPLIANT SHOWER HEAD WITH SLIDING BAR

11) TOILET WITH GRAB BARS - SEE SHEETS A005 & A006

17) 5 FT. COAT HOOK BOARD w/ 9 MTL. HOOKS

18) 3FT COAT HOOK BOARD w/ 5 MTL. HOOKS

COMPLY WITH ANSI A117.1 ACCESSIBILTY

21) ANSI COMPLIANT SIDE-BY-SIDE WASHER/DRYER

19) WASHER & DRYER SIDE-BY-SIDE -

F EXHAUST FAN: SEE SECTION G FOR

PLAN KEY NOTES:

2) DISHWASHER 3) RANGE WITH HOOD

4) REFRIGERATOR

5/ WATER HEATER

8) VANITY

12) MIRROR

13) VANITY LIGHT

1) KITCHEN SINK W/DISP.

6) STACK WASHER/DRYER

7) CLOSET ROD AND SHELF

14) TOILET PAPER HOLDER

16) 15" SINGLE TOWEL BAR

- SEE SHEET A006

15) 24" DOUBLE TOWEL BAR

- ENERGY COMPLIANCE. SD 110V SMOKE DETECTOR W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC SECTION 907.2.11.2. SEE UNIT PLANS.
 - **SD/CO** DENOTES COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR. 110V W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC SECTIONS 907.2.11.2 AND 907.2.9.3. SEE UNIT
- NOTED AND PER IBC 1011. E EMERGENCY LIGHT PER IBC 1006.
- 1 INDICATES WALL TYPE: SEE WALL ASSEMBLY SCHEDULE
- F.E. FIRE EXTINGUISHERS PER IFC. SEE EGRESS PLANS IN SECTION G CLASS 3A TYP. U.N.O.

- INDICATES WINDOW TYPE: SEE WINDOW SCHEDULE IN SECTION A601
- INDICATES DOOR TYPE: SEE DOOR 001 SCHEDULE IN SECTION A601
- INDICATES PARKING STALL COUNT. INDICATES 60" DIAMETER UNOBSTRUCTED FLOOR SPACE. SEE UNIT PLANS AND
- **ENLARGED PLANS**
- INDICATES 30" X 48" MANEUVERING SPACE. SEE UNIT PLANS AND ENLARGED PLANS.
- INDICATES CEILING OR SOFFIT 7'-6" AFF TYP. U.N.O.
- SOFFIT TO T.O. UPPER CABINETS @ KITCHENS TYP.



UNIT PLAN C REVERSED)

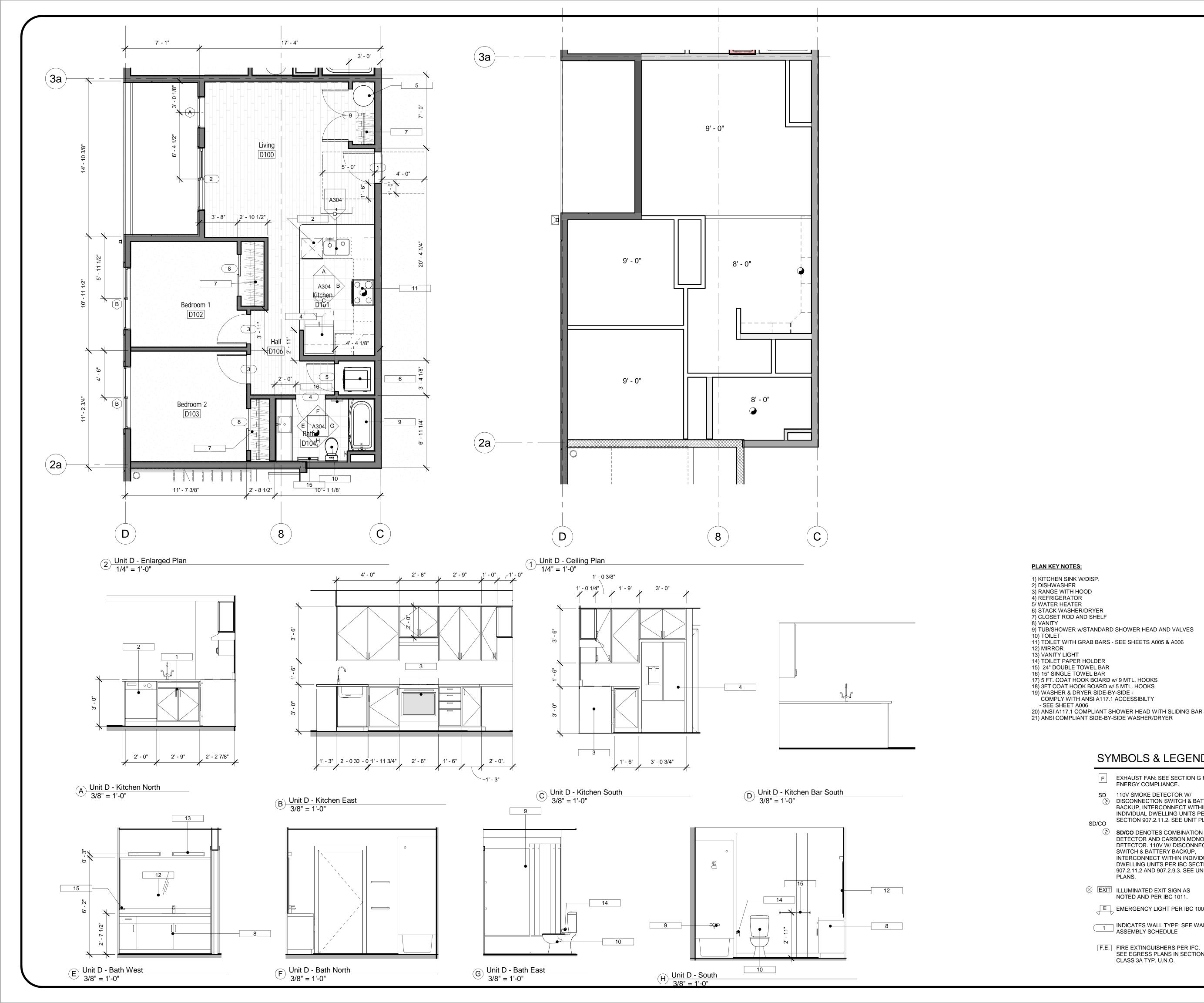
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- 1. SEE INDIVIDUAL UNIT FLOOR PLANS IN SECTION A3 FOR DETAILED INFORMATION. (DIMENSIONS, CONSTRUCTION, DOOR/WINDOW, ETC.)
- 2. SEE ENLARGED STAIR/ELEVATOR SHEETS A801 & A802 FOR DETAILED INFORMATION .
- 3. PROPERTY LINES SHOWN FOR GENERAL INFORMATION ONLY.
- 4. SEE SITE PLAN IN SECTION A100 FOR DETAILED INFORMATION OR SITE FEATURES.
- 5. THE BUILDING IS TO BE FIRE SPRINKLERED THROUGHOUT,

SEE SITE PLAN IN SECTION A1 FOR PLACEMENT OF BUILDING.

- 6. FIRE EXTINGUISHERS ARE TO BE LOCATED NO MORE THAN 75 FT OF TRAVEL TO THE NEAREST EXTINGUISHER. EXTINGUISHERS TO COMPLY WITH IFC 2009 906.1, BMC 20.08.22 AND NFPA 10.
- 7. FIRE EXTINGUISHER BOXES TO BE SURFACE MOUNT AT GARAGE COLUMNS/CONCRETE WALLS, ELSE SEMI-RECESSED WITH 4" MAX. PROTRUSION. BASE OF CABINET TO BE 27" MIN.
- 8. AUDIBLE AND VISIBLE ALARMS VISIBLE AND AUDIBLE NOTIFICATION DEVICES, SMOKE ALARMS AND EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS. AUDIBLE ALARMS (SECTION 907) MUST BE PROVIDED TO SERVE ALL OCCUPIABLE AREAS WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE CODE. VISIBLE ALARMS MUST BE PROVIDED IN AREAS WHERE THE AMBIENT NOISE LEVEL IS SUCH THAT AUDIBLE ALARMS MAY NOT BE HEARD (SECTION 907.5.2.1.2).
- 9. VISIBLE ALARMS ARE REQUIRED IN ALL PUBLIC-USE AND ALL COMMON-USE AREAS TO ALERTPEOPLE WITH HEARING IMPAIRMENTS (SECTION 907.5.2.3.1)
- 10. GROUP R-2 RESIDENTIAL BUILDINGS (SECTION 907.5.2.3.3) WHEN A BUILDING IS REQUIRED TO HAVE A GENERAL EVACUATION ALARM, PUBLIC AREAS ROOMS ARE REQUIRED TO HAVE VISIBLE AND AUDIBLE ALARMS. THE GENERAL ALARM NOTIFICATION MUST BE AUDIBLE WITHIN THE RESIDENTIAL UNITS. VISIBLE ALARM NOTIFICATION APPLIANCES ARE NOT REQUIRED WITHIN EACH UNIT, BUT VISIBLE NOTIFICATION CAN BE EASILY MADE AVAILABLE WHEN REQUESTED FOR PERSONS WITH HEARING IMPAIRMENTS, VIA THE SMOKE ALARMS WITHIN THEIR UNITS.
- 11. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS ARE REQUIRED WITHIN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF ALL SLEEPING ROOMS, AND ON EACH FLOOR LEVEL IN A SUITE OR DWELLING UNIT (SECTION 907.2.11.2).
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- 13. WHEN A PERSON WITH A HEARING IMPAIRMENT WANTS VISIBLE NOTIFICATION IN THEIR APARTMENT, IT IS EASY TO SWITCH OUT THE TYPICAL AUDIBLE SMOKE DETECTORS FOR SMOKE DETECTORS THAT HAVE VISIBLE AND AUDIBLE ALARMS (NOTE: ALARM DEVICES MUST BE LISTED FOR THE PURPOSÈ THEY ARE TO SERVE). THROUGH THE EXISTING WIRING, THE GENERAL BUILDING EVACUATION ALARM WILL BE CONNECTED TO THE SMOKE DETECTORS.
- DIMENSIONS ARE TO THE FACE OF STUD (F.O.S.), FACE OF CONCRETE (F.O.C.), FACE OF POST (F.O.P.) OR CENTERLINE OF PARTY WALLS, CENTERLINE OF DOORS, AND CENTERLINE OF WINDOWS U.N.O. VERIFY ALL DIMENSIONS.
- 15. AT TUBS AND SHOWERS, EXTEND TYPE 'X' GWB TO BASE PLATE, TO ACHIEVE FIRE RATING USE WR GWB OVER SUCH TYPE 'X' LAYER AS REQUIRED AT PARTY AND CORRIDOR
- 16. ALL 2-'10" DOORS SHOWN IN TYPE 'A' UNITS SHALL MAINTAIN 2'-8" CLEAR MINIMUM OPENING WHEN DOOR IS OPEN IN THE 90 DEGREE POSITION PER ICC/ ANSI A117.1-2009, SECTION
- 17. REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS
- PER ICC/ANSI A117.1-2009 SEC. 1003.11.4 AND 1004.11.2 18. SEE SECTION SHEETS A005, A006, AND A007 FOR BARRIER-FREE REQUIREMENTS FOR COUNTERS, WORKSURFACES,
- BATHROOMS ETC. TYPE 'A' DWELLING UNITS 19. PROVIDE DENSHIELD, DUROCK, OR EQUIVILANT WATER RESISTANT WALLBOARD AT TUB/SHOWER AND OTHER WET

SYMBOLS & LEGEND:

F EXHAUST FAN: SEE SECTION G FOR ENERGY COMPLIANCE.

COMPLY WITH ANSI A117.1 ACCESSIBILTY

SD/CO

- SEE SHEET A006

SD 110V SMOKE DETECTOR W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC

SECTION 907.2.11.2. SEE UNIT PLANS. **SD/CO** DENOTES COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR. 110V W/ DISCONNECTION SWITCH & BATTERY BACKUP, INTERCONNECT WITHIN INDIVIDUAL DWELLING UNITS PER IBC SECTIONS 907.2.11.2 AND 907.2.9.3. SEE UNIT

PLANS.

E EMERGENCY LIGHT PER IBC 1006.

→ ASSEMBLY SCHEDULE

NOTED AND PER IBC 1011.

☐ INDICATES WALL TYPE: SEE WALL

F.E. FIRE EXTINGUISHERS PER IFC. SEE EGRESS PLANS IN SECTION G CLASS 3A TYP. U.N.O.

INDICATES WINDOW TYPE: SEE WINDOW SCHEDULE IN SECTION A601

SCHEDULE IN SECTION A601

INDICATES DOOR TYPE: SEE DOOR

INDICATES PARKING STALL COUNT. INDICATES 60" DIAMETER UNOBSTRUCTED

001

FLOOR SPACE. SEE UNIT PLANS AND ENLARGED PLANS INDICATES 30" X 48" MANEUVERING SPACE. SEE

UNIT PLANS AND ENLARGED PLANS. INDICATES CEILING OR SOFFIT 7'-6" AFF TYP. U.N.O.

SOFFIT TO T.O. UPPER CABINETS @ KITCHENS TYP.

PAINTED STRIPE AREA PER CITY REQUIREMENTS

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OR SITE FEATURES.

- 1. SEE INDIVIDUAL UNIT FLOOR PLANS IN SECTION A3 FOR DETAILED INFORMATION. (DIMENSIONS, CONSTRUCTION, DOOR/WINDOW, ETC.)
- 2. SEE ENLARGED STAIR/ELEVATOR SHEETS A801 & A802 FOR DETAILED INFORMATION.
- 3. PROPERTY LINES SHOWN FOR GENERAL INFORMATION ONLY. SEE SITE PLAN IN SECTION A1 FOR PLACEMENT OF BUILDING.
- 4. SEE SITE PLAN IN SECTION A100 FOR DETAILED INFORMATION
- 5. THE BUILDING IS TO BE FIRE SPRINKLERED THROUGHOUT,
- 6. FIRE EXTINGUISHERS ARE TO BE LOCATED NO MORE THAN 75 FT OF TRAVEL TO THE NEAREST EXTINGUISHER. EXTINGUISHERS TO COMPLY WITH IFC 2009 906.1, BMC 20.08.22 AND NFPA 10.

(1)

- 7. FIRE EXTINGUISHER BOXES TO BE SURFACE MOUNT AT GARAGE COLUMNS/CONCRETE WALLS, ELSE SEMI-RECESSED WITH 4" MAX. PROTRUSION. BASE OF CABINET TO BE 27" MIN.
- 8. AUDIBLE AND VISIBLE ALARMS
- VISIBLE AND AUDIBLE NOTIFICATION DEVICES, SMOKE ALARMS AND EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS. AUDIBLE ALARMS (SECTION 907) MUST BE PROVIDED TO SERVE ALL OCCUPIABLE AREAS WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE CODE. VISIBLE ALARMS MUST BE PROVIDED IN AREAS WHERE THE AMBIENT NOISE LEVEL IS SUCH THAT AUDIBLE ALARMS MAY NOT BE HEARD (SECTION 907.5.2.1.2).
- 9. VISIBLE ALARMS ARE REQUIRED IN ALL PUBLIC-USE AND ALL COMMON-USE AREAS TO ALERTPEOPLE WITH HEARING IMPAIRMENTS (SECTION 907.5.2.3.1)
- 10. GROUP R-2 RESIDENTIAL BUILDINGS (SECTION 907.5.2.3.3). WHEN A BUILDING IS REQUIRED TO HAVE A GENERAL EVACUATION ALARM, PUBLIC AREAS ROOMS ARE REQUIRED TO HAVE VISIBLE AND AUDIBLE ALARMS. THE GENERAL ALARM NOTIFICATION MUST BE AUDIBLE WITHIN THE RESIDENTIAL UNITS. VISIBLE ALARM NOTIFICATION APPLIANCES ARE NOT REQUIRED WITHIN EACH UNIT, BUT VISIBLE NOTIFICATION CAN BE EASILY MADE AVAILABLE WHEN REQUESTED FOR PERSONS WITH HEARING IMPAIRMENTS, VIA THE SMOKE ALARMS WITHIN THEIR UNITS.
- 11. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS ARE REQUIRED WITHIN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF ALL SLEEPING ROOMS, AND ON EACH FLOOR LEVEL IN A SUITE OR DWELLING UNIT (SECTION 907.2.11.2).
- 12. WHEN MULTIPLE SMOKE ALARMS ARE INSTALLED IN A UNIT, THEY MUST BE INTERCONNECTED (SECTION 907.2.11.5). IN GROUP R-2 FACILITIES, WHEN A BUILDING EVACUATION ALARM SYSTEM IS INSTALLED, A WIRE FROM THE GENERAL SYSTEM MUST BE PROVIDED TO ONE OF THE SMOKE DETECTORS IN THE UNIT (SECTION 907.5.2.3.3 AND ICC/ANSI A117.1, STANDARD ON ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, SECTION 1006.4).
- 13. WHEN A PERSON WITH A HEARING IMPAIRMENT WANTS VISIBLE NOTIFICATION IN THEIR APARTMENT, IT IS EASY TO SWITCH OUT THE TYPICAL AUDIBLE SMOKE DETECTORS FOR SMOKE DETECTORS THAT HAVE VISIBLE AND AUDIBLE ALARMS (NOTE: ALARM DEVICES MUST BE LISTED FOR THE PURPOSE THEY ARE TO SERVE). THROUGH THE EXISTING WIRING, THE GENERAL BUILDING EVACUATION ALARM WILL BE CONNECTED TO THE SMOKE DETECTORS.
 - DIMENSIONS ARE TO THE FACE OF STUD (F.O.S.), FACE OF CONCRETE (F.O.C.), FACE OF POST (F.O.P.) OR CENTERLINE OF PARTY WALLS, CENTERLINE OF DOORS, AND CENTERLINE OF WINDOWS U.N.O. VERIFY ALL DIMENSIONS.
- 15. AT TUBS AND SHOWERS, EXTEND TYPE 'X' GWB TO BASE PLATE, TO ACHIEVE FIRE RATING USE WR GWB OVER SUCH TYPE 'X' LAYER AS REQUIRED AT PARTY AND CORRIDOR
- 16. ALL 2-'10" DOORS SHOWN IN TYPE 'A' UNITS SHALL MAINTAIN 2'-8" CLEAR MINIMUM OPENING WHEN DOOR IS OPEN IN THE
- 90 DEGREE POSITION PER ICC/ ANSI A117.1-2009, SECTION REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT

WATER CLOSETS, BATHTUBS, AND SHOWER COMPARTMENTS

- PER ICC/ANSI A117.1-2009 SEC. 1003.11.4 AND 1004.11.2 18. SEE SECTION SHEETS A005, A006, AND A007 FOR BARRIER-FREE REQUIREMENTS FOR COUNTERS, WORKSURFACES, BATHROOMS ETC. TYPE 'A' DWELLING UNITS
- 19. PROVIDE DENSHIELD, DUROCK, OR EQUIVILANT WATER RESISTANT WALLBOARD AT TUB/SHOWER AND OTHER WET LOCATIONS.

- DISCONNECTION SWITCH & BATTERY
- **SD/CO** DENOTES COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR. 110V W/ DISCONNECTION
- INDICATES WINDOW TYPE: SEE WINDOW SCHEDULE IN SECTION A601
- INDICATES DOOR TYPE: SEE DOOR 001 SCHEDULE IN SECTION A601
- INDICATES PARKING STALL COUNT.
- FLOOR SPACE. SEE UNIT PLANS AND ENLARGED PLANS INDICATES 30" X 48" MANEUVERING SPACE. SEE

INDICATES 60" DIAMETER UNOBSTRUCTED

- UNIT PLANS AND ENLARGED PLANS.
- INDICATES CEILING OR SOFFIT 7'-6" AFF TYP. U.N.O. SOFFIT TO T.O. UPPER CABINETS @ KITCHENS TYP.



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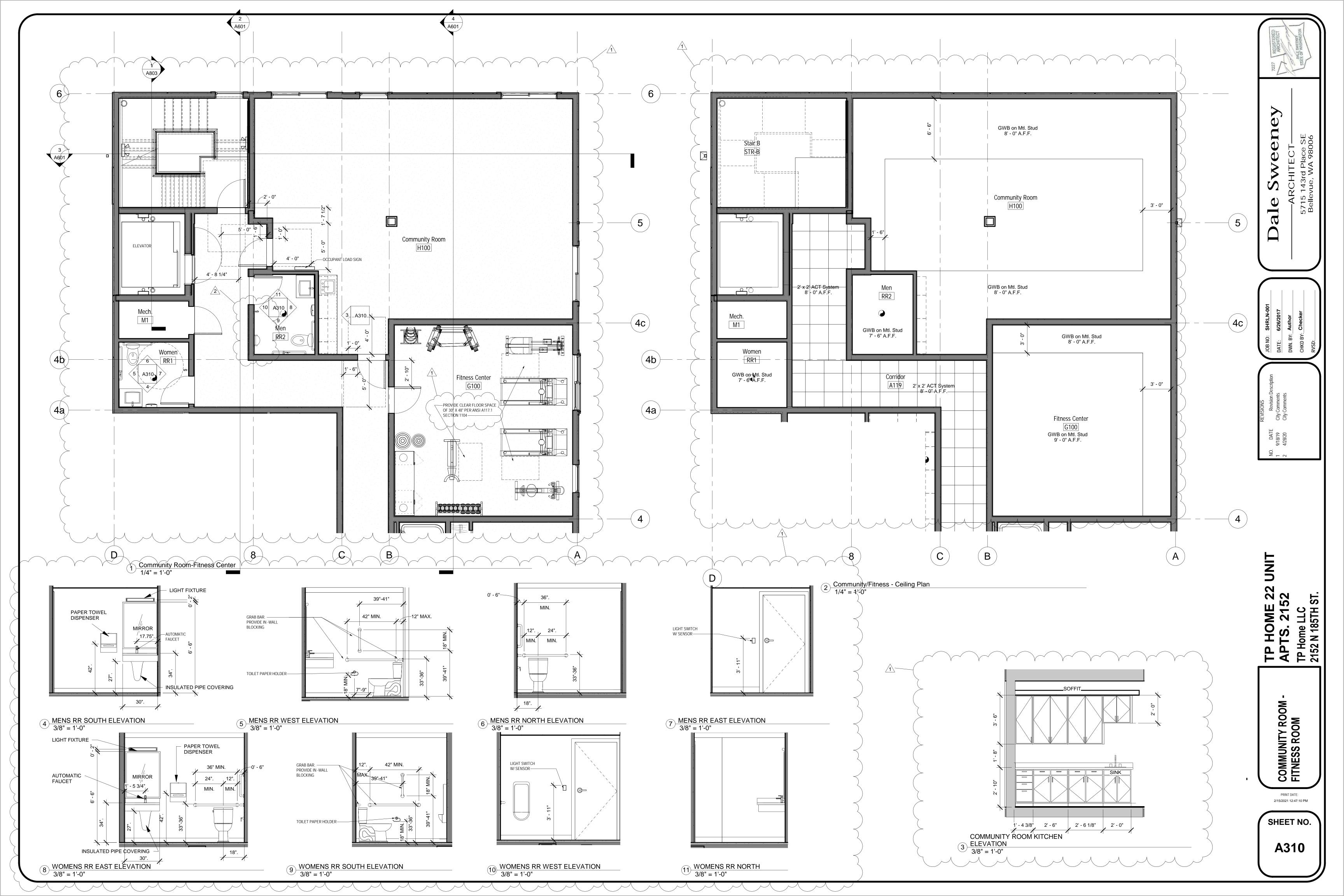
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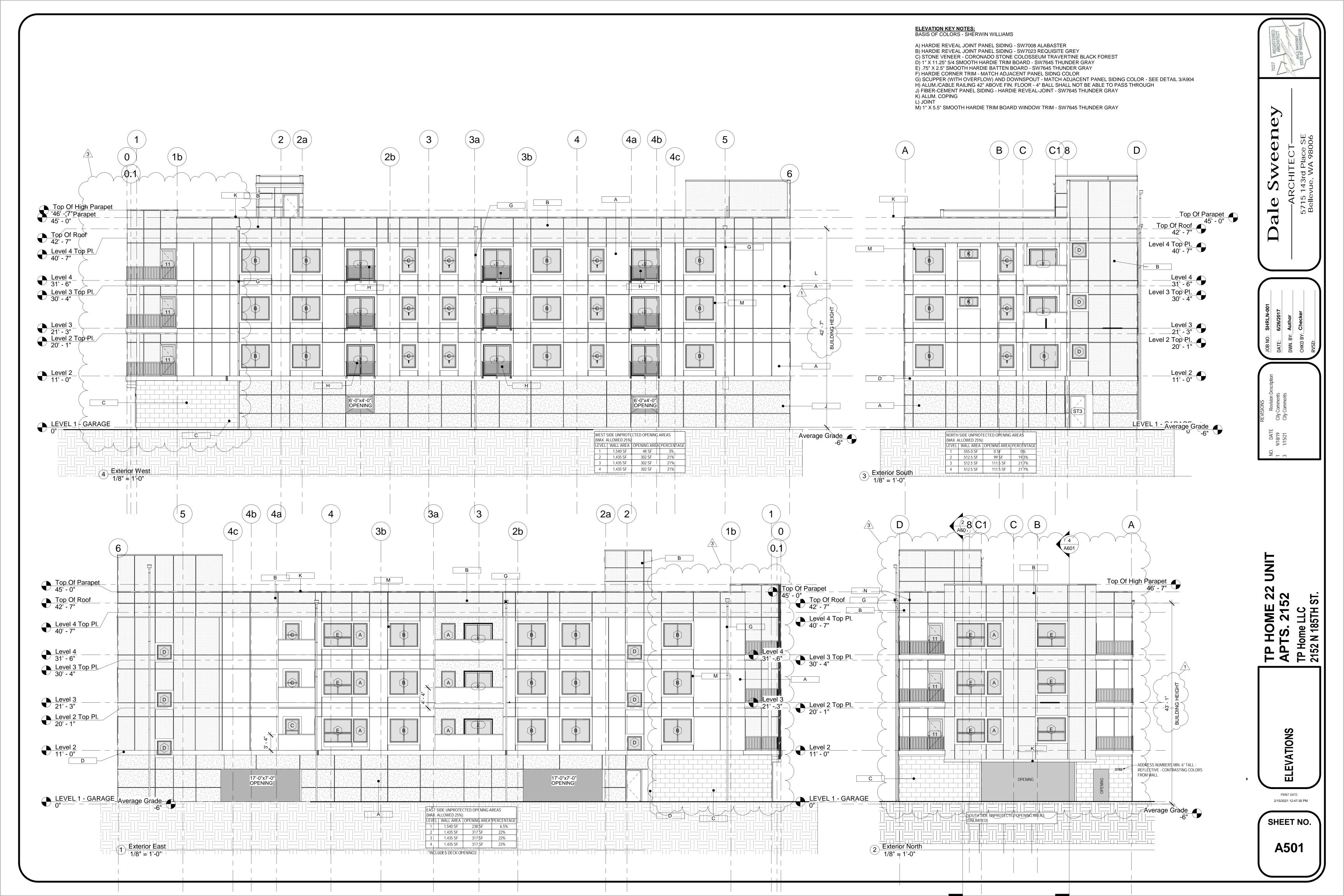
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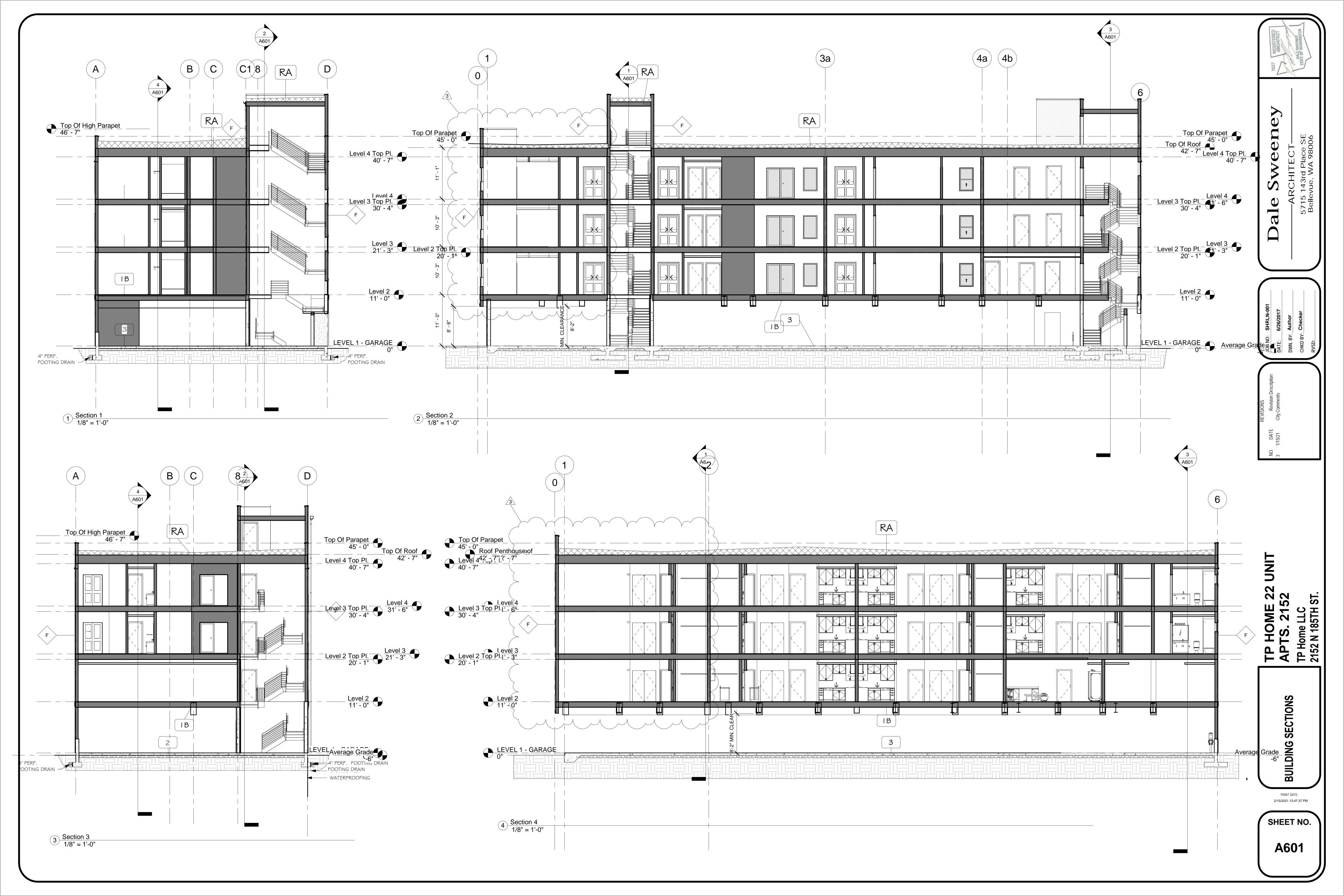
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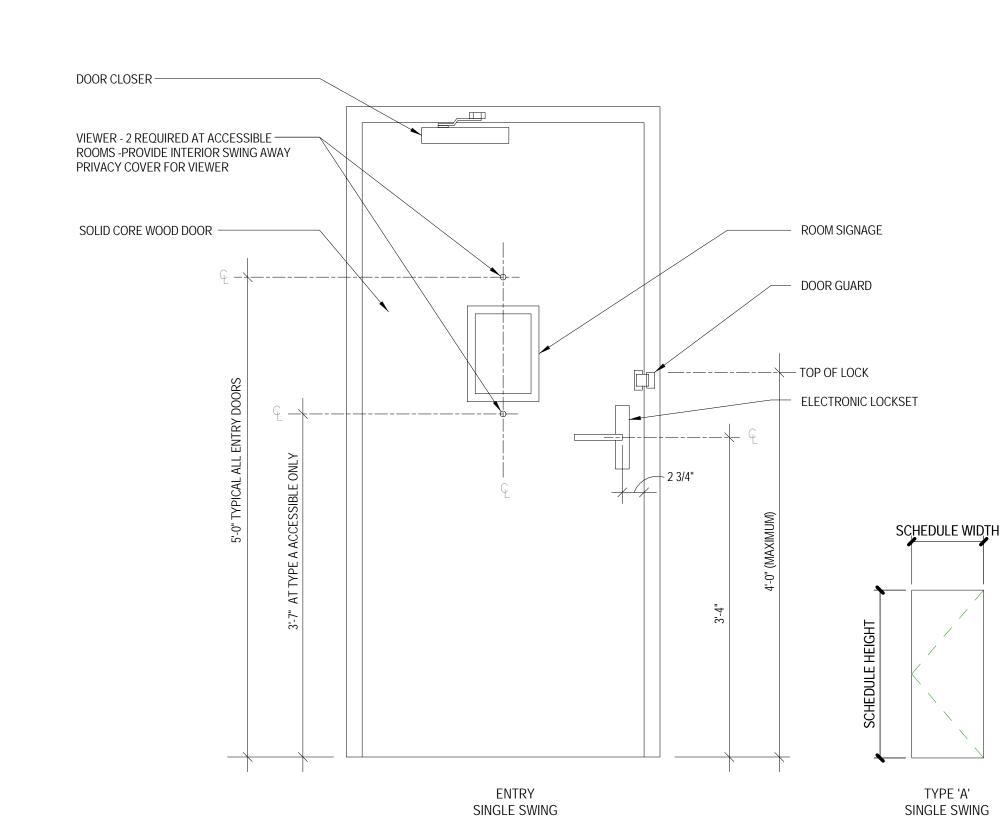
TYPICAL DOOR NOTES:

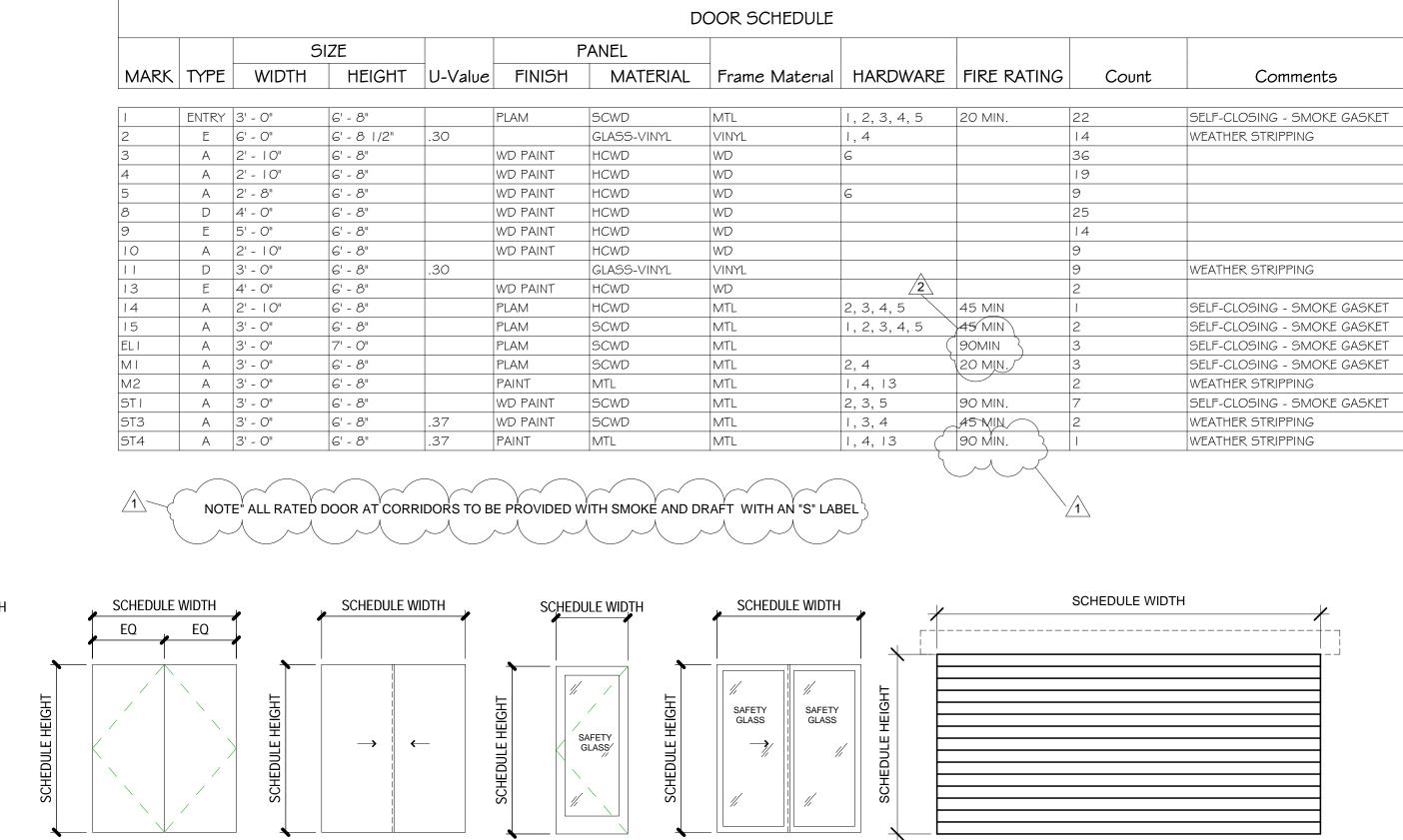
- 1. SEE ARCHITECTURAL FLOOR PLANS FOR DOORS LOCATIONS AND DESIGNATIONS.
- 2. INTERIOR UNIT DOORS ARE CALLED OUT ON THE UNIT PLANS, AND THE NOMINAL WIDTH IS SHOWN. DOOR HEIGHTS TO BE 6'-8" TYP. (U.N.O.).
- 3. DOOR SWINGS PER PLANS
- 4. EXTERIOR DOORS MUST BE OPERABLE AT A MAXIMUM 8.5 POUNDS PRESSURE. INTERIOR DOORS MUST BE OPERABLE AT A MAXIMUM 5 POUNDS PRESSURE. ALL DOORS MUST BE OPERABLE BY WRIST OR ARM
- 5. SEE PLANS FOR DOOR HANDS.

A117.1 REQUIREMENTS

- 6. FINISH DOOR HARDWARE PER OWNER'S SPECIFICATIONS,
- 7. PROVIDE SAFETY GLAZING PER GENERAL NOTES IN SHEET A003.
- 8. ALL DOOR HARDWARE MUST COMPLY WITH ALL ANSI
- 9. EXIT DOORS GENERAL, OPERATION, LOCK/LATCH/HARDWARE SHALL BE IN CONFORMANCE WITH ALL SECTIONS OF IBC SEC. 1008 AND 1018.1. AND SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT. EXIT HARDWARE TO THE UNITS ARE TO ALLOW A SINGLE TURN OF THE KNOB (OR LEVER) TO DISENGAGE ANY SINGLE CYLINDER DEAD BOLTS CONTEMPLATED, FOR BARRIER FREE EXIT DOORS, ALSO SEE BARRIER FREE NOTES IN SHEET A007 - A010
- 10. ALL DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING HARDWARE SHALL ON DOORS REQUIRED TO BE ACCESSIBLE BY IBC CHAPTER 11 SHALL COMPLY WITH IBC SECTION 1008.1.9 AND NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING TWISTING OF THE WRIST TO OPERATE. SEE FIGURE 1008.1.9.1 THIS SHEET.
- 11. THERE SHALL NOT BE PROJECTIONS INTO THE CLEAR WIDTH LOWER THAN 34 INCHES ABOVE THE FLOOR OR GROUND. PROJECTIONS INTO THE WIDTH BETWEEN 34 AND 80 INCHES ABOVE THE FLOOR OR GROUND SHALL NOT EXCEED 4" PER IBC SECTION 1008.1.1.1.
- 12. GUESTROOM ENTRY DOORS SHALL HAVE A MINIMUM STC RATING OF 30.
- 13. ALL FIRE RATED DOORS SHALL BE EQUIPPED WITH AN ACTIVE LATCH BOLT (INTREGAL WITH HARDWARE) THAT WILL SECURE THE DOOR WHEN CLOSED PER IBC
- 14. ALL DOORS SHALL BE EQUIPPED WITH LEVER TYPE ACTIVATING HARDWARE .PER ICC A117.1 EXCEPT WHERE PANIC HARDWARE IS PROVIDED.
- 15. GASKETS AT ALL FIRE RATED DOORS SHALL MEET THE REQUIREMENTS OF IBC 716.5.3.1 AND THE REQUIREMENTS FOR SMOKE AND DRAFT CONTROL DOOR ASSEMBLY TESTED IN ACCORDANCE WITH UL 1784. THE AIR LEAKAGE RATE OF THE DOOR ASSEMBLY SHALL NOT EXCEED 3.0 CUBIC FEET PER MINUTE PER SQUARE FOOT OF DOOR OPENING AT 0.10 INCH OF WATER FOR BOTH THE ANMIENT TEMPERATURE AND ELEVATED TEMPERATURE TESTS. LOUVERS ARE PROHIBITED. INSTALLATION OF SMOKDE DOORS SHALL BE IN ACCORDANCE WITH NFPA 105.

DOOR HARDWARE





1 DOOR TYPES 1/4" = 1'-0"

DOOR HARDWARE GROUPS AND FINISHES

Hardware finishes and base metals shall be listed below, unless otherwise indicated.

Satin stainless steel (US32D) and satin chromium plated (US26D) finishes and base metals, unless otherwise indicated.

1.	Exterior Hinges	US32D on stainless steel.
2.	Interior Hinges	US26D on steel.
3.	Flush Bolts	US26D on brass or bronze.
4.	Locks -	US32D on stainless steel.
5.	Exit Devices	33 Series Sprayed Aluminum-689.
6.	Exit Devices -	99 Series Sprayed Aluminum-689.
7.	Pulls, Push Plates/Bars	US32D on stainless steel.
8.	Closers	Sprayed aluminum.
9.	Overhead Stops/Holders	US26D on brass or bronze.
10.	Kickplate	US32D on stainless steel.
11.	Door Edge Guards	US32D on stainless steel.
12.	Stops, Holders	US26D on brass or bronze.
13.	Thresholds	Mill on aluminum.
14.	Miscellaneous	US26D on brass or bronze.

Hardware on aluminum doors shall match finish of doors and frame. US32 and US32D Solid 18-8 chromium-nickel, 300 Series, "Austenitic", non-magnetic. a. Straight chrome-irons (magnetic) are not acceptable, except as hinge pins. b.Items showing magnetic properties will be rejected.

c.For items not available in US32 or US32D provide US26 or US26D.

Door Hardware Groups.

TYPE 1 - Apartment Entrance door.

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Lockset/Function: Electronic mortise lockset with throw deadbolt/ dead-locking latchbolt on interior

Privacy Door Latch: Cannot be used to keep door ajar; Can be legally installed on fire rated openings. Closer: Parallel arm closer with appropriate mounting and cover. Hardware. 1 Reqd. Stop: Wall Stop, 1 Reqd.

Gaskets: Smoke, 1 set of double gasket system for single leaf door. Accessories: Swing door guard, Door Viewer: Standard (160 degree) door viewer, UL Listed Glass Lens with manufacturer provided privacy cap, 1 each per door; for ADA Room 2 each per door. - All finishes to be US32D/ US26D.

Bottom Seal: Door bottom Seal - See ID10.20 for specification. Threshold: Stone or PVC.

TYPE 2 - Bedroom/Study/Bathroom hinged door.

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Lockset/Function: Privacy, Bathroom or Bedroom Function ANSI F76, with privacy push button. Inside button locks outside lever. Stop: Floor or Wall Stop, 1 Regd. Door Silencers: 3 door silencers.

TYPE 3- Fitness room door/Community Room Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Lockset/Function: Electronic mortise lockset with free access on interior room side.

Closer: Parallel arm closer with appropriate mounting and cover. 1 Regd. Stop: Floor Stop, 1 Read. Gaskets: Door Seal. Bottom Seal: Door bottom Seal - Threshold: Stone or PVC.

TYPE 4 - Single Swing Clost/Laundry

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches.

TYPE 5 - Double Swing Clost/Laundry Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches.

TYPE 6 - Deck Door Swing

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches.

Closer: Parallel arm closer with appropriate mounting and cover. 1 Reqd. Gaskets: Weatherstripping, 1 set for single leaf door.

Door sweep: Neoprene with ½-inch sweep at door bottom with 1¼-inch aluminum extrusion Threshold: Aluminum 5-inch saddle, ½-inch high. Overhead Drip: 2-1/2-inch projection by full width of frame with clear anodized aluminum finish.

TYPE 7 - Stair entry door.

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches.

Pull: 1 Pull Plate. Lockset/Function: Passage Function ANSI F75, free access both sides. Exit Device: Rim type Exit device.

Closer: Parallel arm closer with appropriate mounting and cover. 1 Regd. Stop: Wall Stop, 1 Regd. Gaskets: Fire, 1 set for single leaf door.

TYPE 8 - Stair exterior exit door, PANIC HARDWARE REQ.

Gaskets: Weatherstripping, 1 set for single leaf door.

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Lockset/Function: ANSI 02.

Closer: Parallel arm closer with appropriate mounting and cover. 1 Regd. Stop: Floor Stop or Overhead Stop, 1 Regd.

Door sweep: Neoprene with ½-inch sweep at door bottom with 1¼-inch aluminum extrusion Threshold: Aluminum 5-inch saddle, ½-inch high. Overhead Drip: 2-1/2-inch projection by full width of frame with clear anodized aluminum finish. Comments: .

TYPE 9 - Corridor/ Elevator Doors.

Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Exit Device: Rim type Fire Rated Exit device with surface mounted top latch bolts, 2 Regd. Closer: Concealed door closer. 2 Regd. Door Hold Open Device: Wall mounted manual push release and automatic release in the

event of fire alarm. Stop: Wall Stop, 2 Reqd.

Gaskets: Smoke, 1 set of double gasket system for single leaf door. Comments: Magnetic hold open connected to fire alarm.

TYPE 10 - Electrical/Mechanical Closet PANIC HARDWARE REQUIRED AT ÉLECTRICAL Hinges: Construction, type and quantity as specified. Qty 3 per leaf 4-1/2 by 4-1/2-inches. Lockset/Function: Electronic mortise lockset. Exit Device: Rim type Exit device.

Closer: Parallel arm closer, 1 Reqd. Stop: Overhead stop, 1 Regd. Door Edge Bolts: Door edge flush bolts, top on bottom.

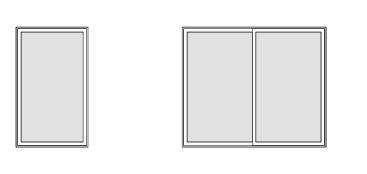
WINDOW SCHEDULE2										
MARK	Width	Height	Operation	Frame	U-Value	SHGC	COUNT	COMMENTS	Material	Туре
		T=: 0::								
4	3' - 0"	5' - 0"	FIXED		.30	.40	9		Vinyl	36" x 72"
В	6' - 0"	5' - 0"	SLIDER		.30	.40	28		Vinyl	72" x 60"
C	3' - 0"	5' - 0"	SINGLE HUNG		.30	.40	15		Vinyl	36" x 60"
)	3' - 0"	3' - 0"	FIXED		.30	.40	9		Vinyl	36" x 36"
Ē	6' - 0"	5' - 0"	воттом		.30	.40	9		Vinyl	72" x 72"
			SLIDER							

.30 .40

TYPE D

SINGLE SWING WA

GLASS LITE

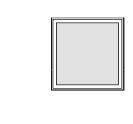


TYPE B

PAIR SWING

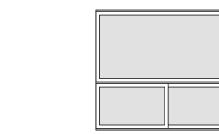
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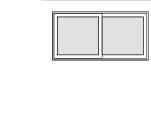




TYPE E

PATIO SLIDER





TYPE F

ROLL-UP

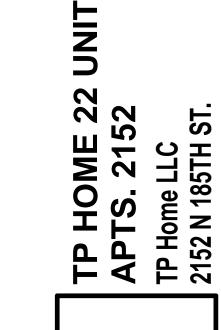
1015.8 Window openings. Windows in Group R-2 and R-3 buildings including dwelling units, where the top of the sill of an operable window opening is located less than 36 inches above the finished floor and more than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, shall comply with one of the following:

TYPE C

BI-PASS

2' - 0" | SLIDER

- 1. Operable windows where the top of the sill of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F2006.
- 2. Operable windows where the openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened posi-
- 3. Operable windows where the openings are provided with window fall prevention devices that comply with ASTM F2090.
- 4. Operable windows that are provided with window opening control devices that comply with Section

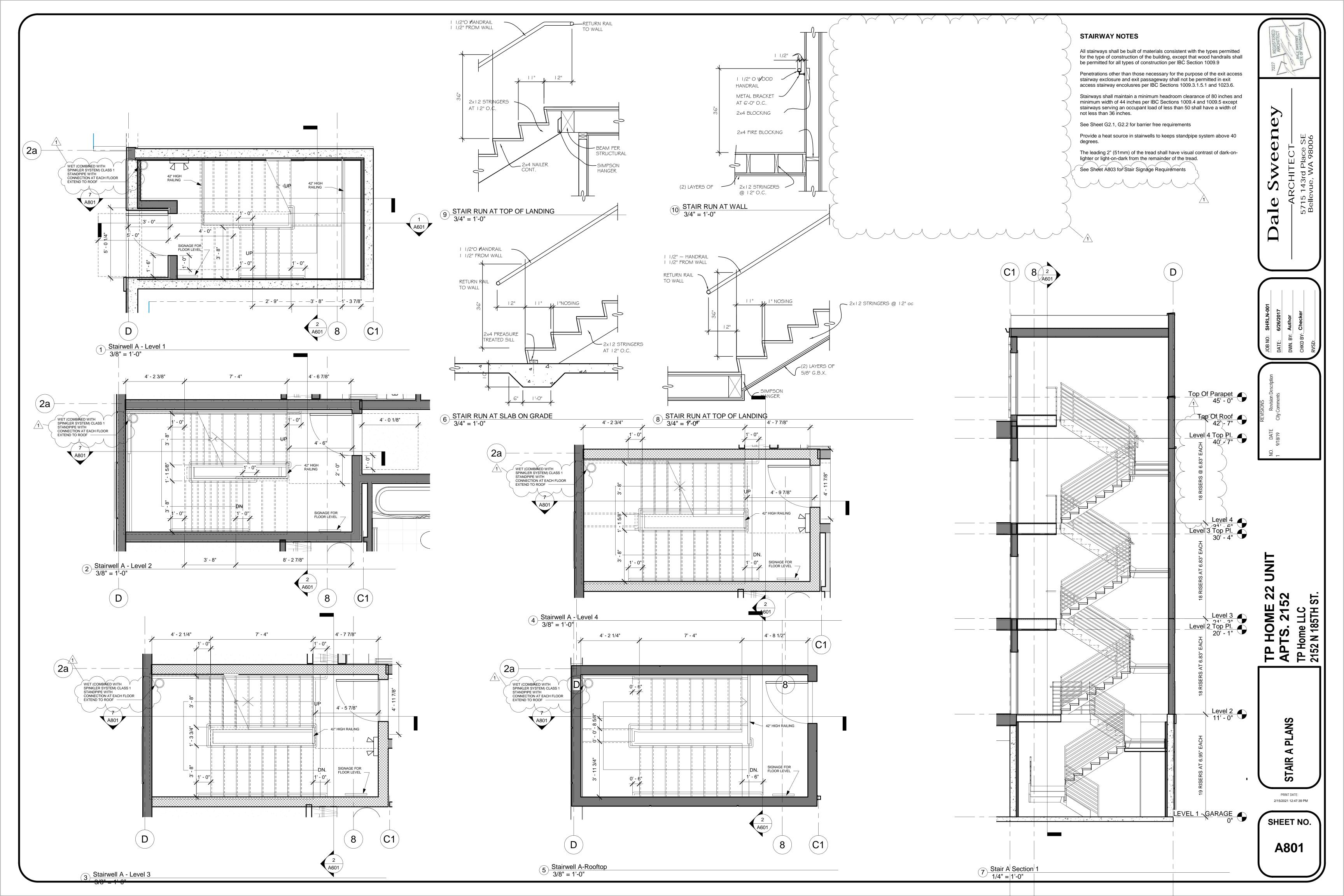


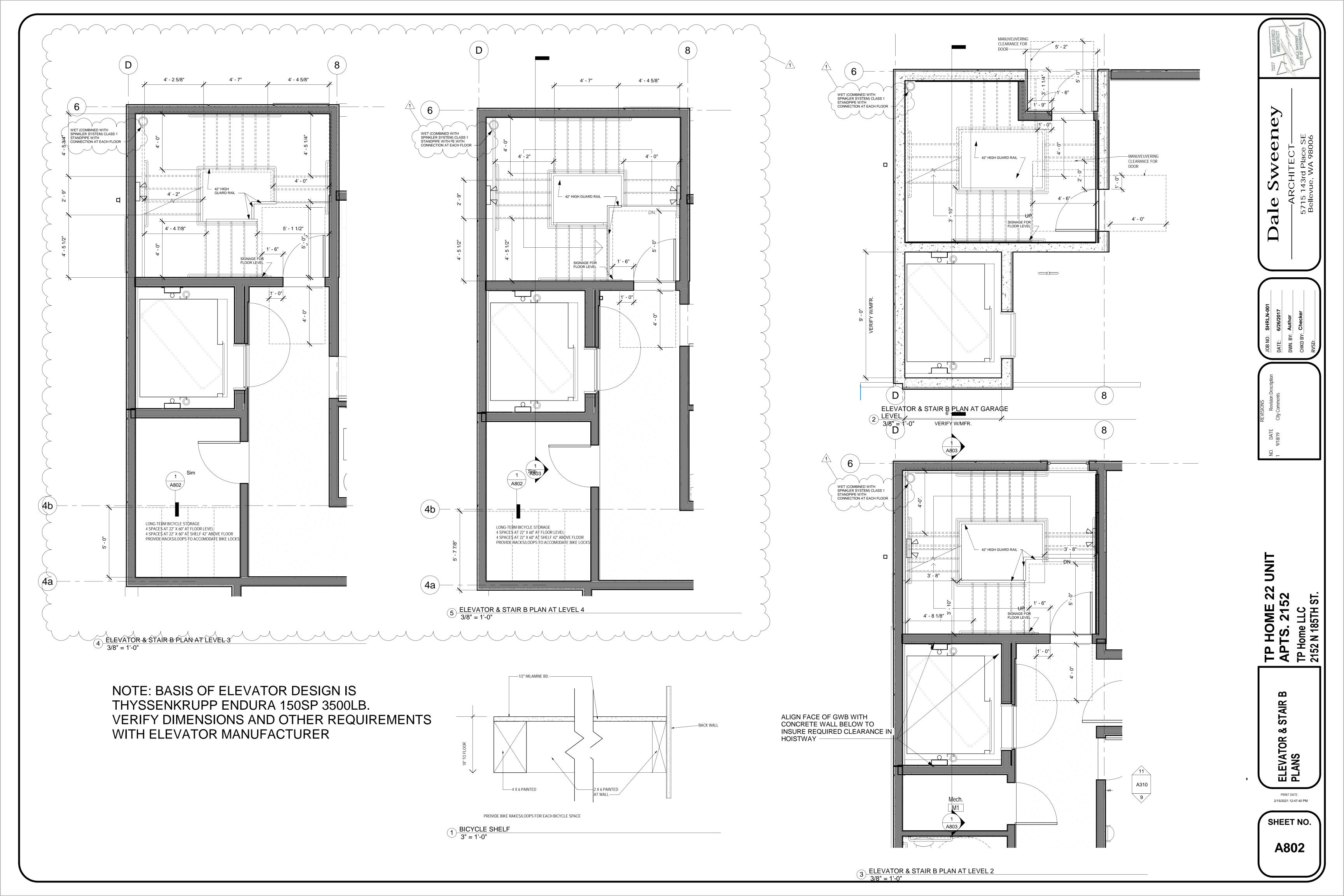
SCHEDULES

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ELEVATOR DOOR JAMB TYP.

ELEVATOR DOOR JAMB PROVIDED BY INSTALLER
FINISH AS SCHEDULED
SHAFT WALL PER PLAN

ELEVATOR CALL BUTTON OPENING AS REQUIRED

MY MANUFACTURER

ELEVATOR DOOR HEADER

ELEVATOR DOOR JAMB - PLAN VIEW

8 Elevator Opening Details
1 1/2" = 1'-0"

GENERAL ELEVATOR NOTES:

ALL ELEVATORS SHALL COMPLY WITH THE EMERGENCY OPERATION AND SIGNALING DEVICE REQUIREMENTS OF SECTION 2.27 OF ASME A I 7. I . STANDBY POWER SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS 2702 AND 3003.

- I. ELEVATOR ENCLOSURE SHALL BE SHAFT ENCLOSURES COMPLYING WITH ICC SECTION 707.
- 2. OPENINGS IN HOISTWAY ENCLOSURES SHALL BE PROTECTED AS REQUIRED IN CHAPTER 7.

 A. HARDWARE ON OPENING PROTECTIVES SHALL BE OF AN APPROVED TYPE INSTALLED AS TESTED, EXCEPT THAT APPROVED INTERLOCKS, MECHANICAL LOCKS AND ELECTRIC CONTACTS, DOOR AND GATE ELECTRIC CONTACTS AND DOOR-OPERATING MECHANISMS SHALL BE EXEMPT FROM THE FIRE TEST REQUIREMENTS.
- 3. AN APPROVED PICTORIAL SIGN OF A STANDARDIZED DESIGN SHALL BE POSTED ADJACENT TO EACH ELEVATOR CALL STATION ON ALL FLOORS INSTRUCTING OCCUPANTS TO USE THE EXIT STAIRWAYS AND NOT TO USE THE ELEVATORS IN CASE OF FIRE. THE SIGN SHALL READ: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS. THE EMERGENCY SIGN SHALL NOT BE REQUIRED FOR ELEVATORS THAT ARE PART OF AN ACCESSIBLE MEANS OF EGRESS COMPLYING WITH IBC SECTION 1009.4.
- 4. WHERE ELEVATORS ARE PROVIDED IN BUILDINGS FOUR OR MORE STORIES ABOVE GRADE PLANE OR FOUR OR MORE STORIES BELOW GRADE PLANE, AT LEAST ONE ELEVATOR SHALL BE PROVIDED FOR FIRE DEPARTMENT EMERGENCY ACCESS TO ALL FLOORS. THE ELEVATOR CAR SHALL BE OF SUCH A SIZE AND ARRANGEMENT TO ACCOMMODATE A 24-INCH BY 84-INCH AMBULANCE STRETCHER IN THE HORIZONTAL, OPEN POSITION AND SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL FOR EMERGENCY MEDICAL SERVICES (STAR OF LIFE). THE SYMBOL SHALL NOT BE LESS THAN 3 INCHES HIGH AND SHALL BE PLACED WIDE ON BOTH SIDES OF THE HOIST WAY DOOR FRAME.
- 5. PROVIDE TWO-WAY COMMUNICATION SYSTEM IN ACCORDANCE WITH WAC 1009.8.1 SEE REFERENCE BELOW

 6. THE MACHINE ROOM VENTILATION OR AIR CONDITIONING SHALL BE CONNECTED TO THE STANDBY POWER SOURCE.
- 7. ELEVATORS SHALL BE PROVIDED WITH PHASE I EMERGENCY RECALL OPERATION AND PHASE II EMERGENCY IN-CAR OPERATION IN ACCORDANCE WITH ASME A | 7. |.
- 7. ALL ELEVATORS SHALL BE EQUIPPED TO OPERATE WITH A STANDARD FIRE SERVICE ELEVATOR KEY IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE PER IBC SECTION 3003.3.

ELEVATOR USED TO ACCOMODATE STRETCHER

IBC 3002.

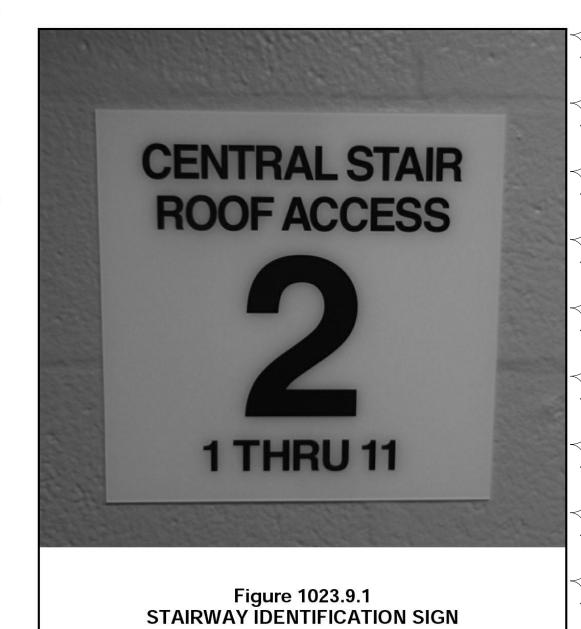
Where elevators are provided in buildings four or more stories above, or four or more stories below, grade plane, not fewer than one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

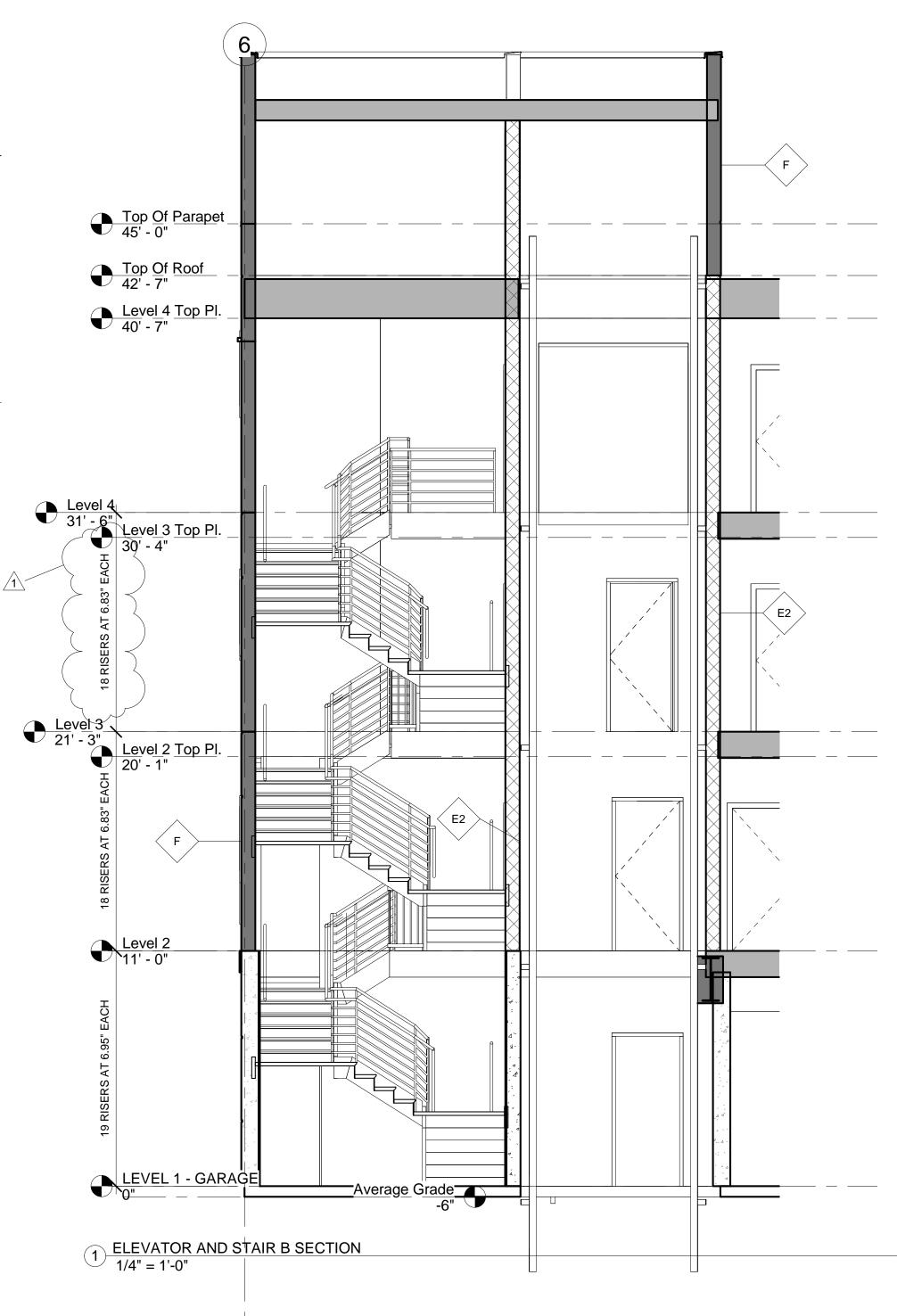
1009.8.1 System requirements. Two-way

communication systems shall provide communication between each required location and the *fire command center* or a central control point location *approved* by the fire department. Where the central control point is not a *constantly attended location*, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location. The two-way communication system shall include both audible and visible signals. The two-way communication system shall have a battery backup or an approved alternate source of power that is capable of 90 minutes use upon failure of the normal power source.

STAIR SIGNAGE REQUIREMENTS:

1023.9 Stairway identification signs. A sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom of the interior exit stairway and ramp and the identification of the stairway or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. In addition to the stairway identification sign, a floor-level sign in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the *interior exit stairway* and *ramp* into the *corridor* to identify the floor level.



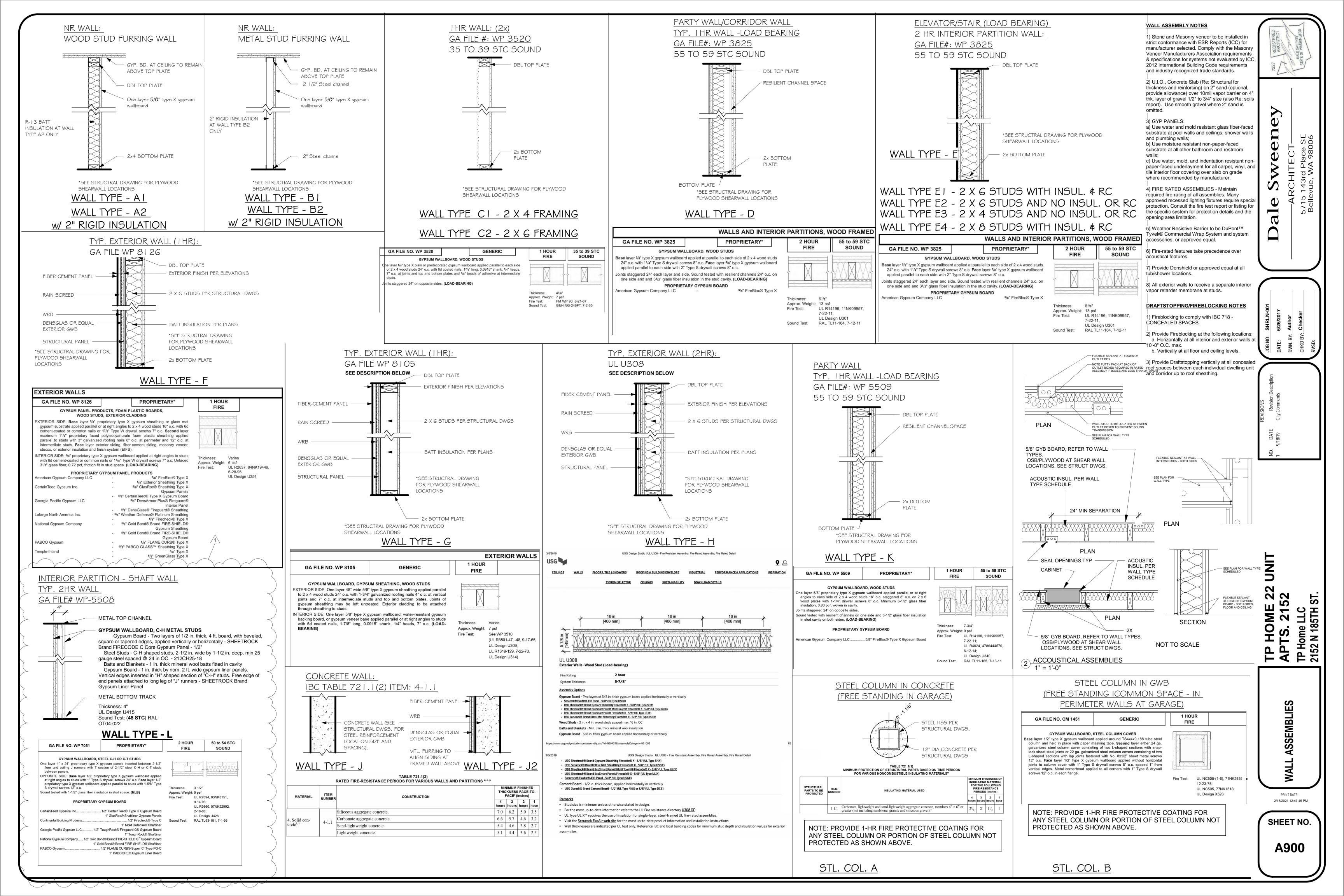


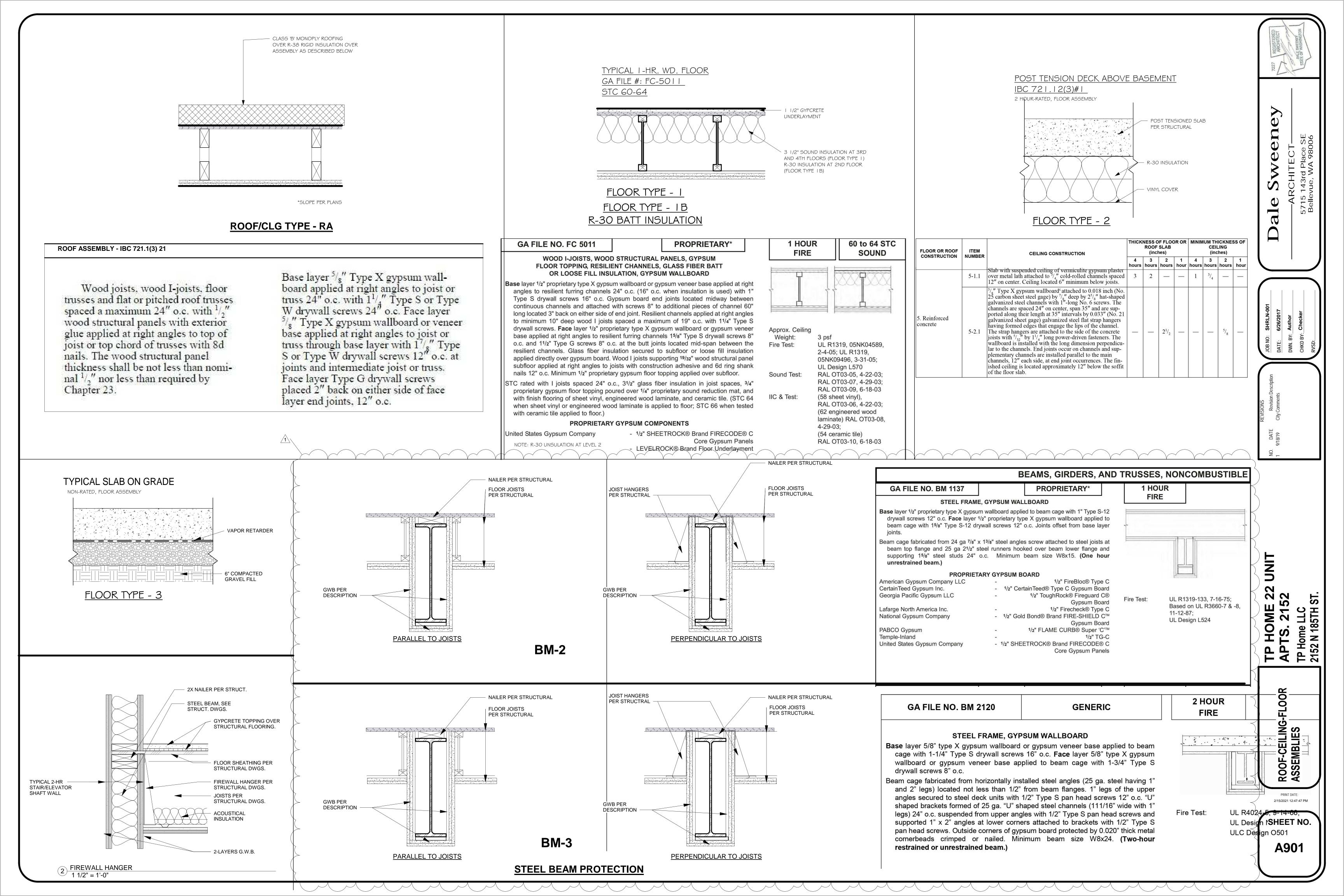
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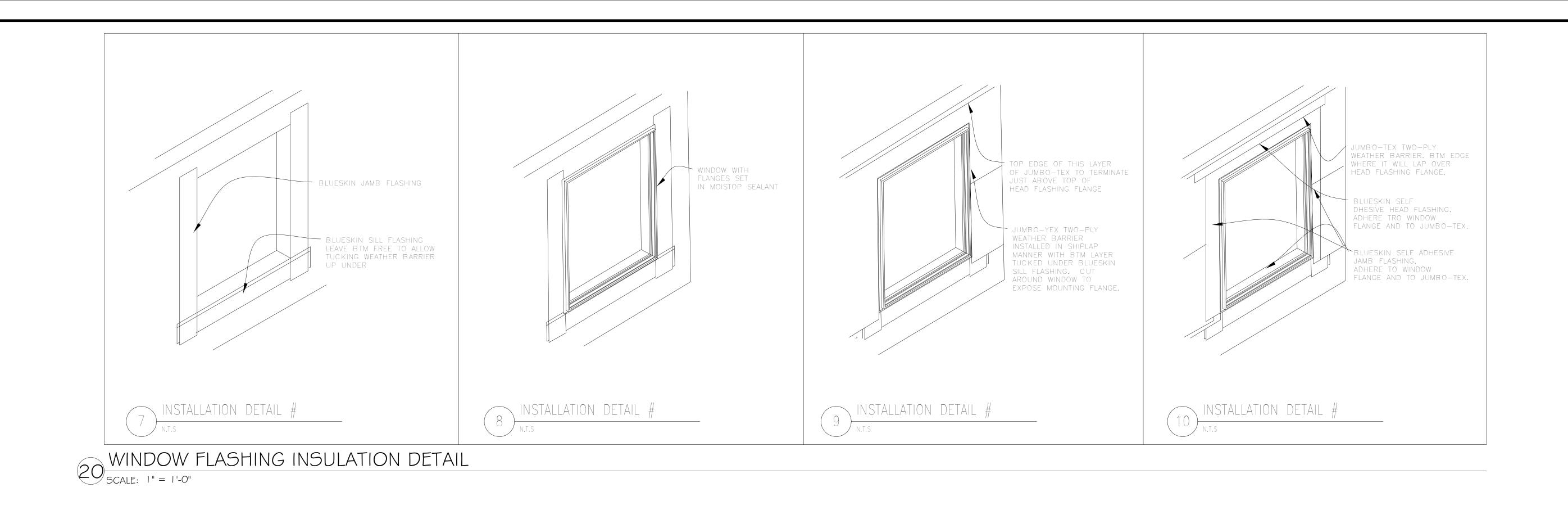
> ELEVATOR & STAIR B SECTION

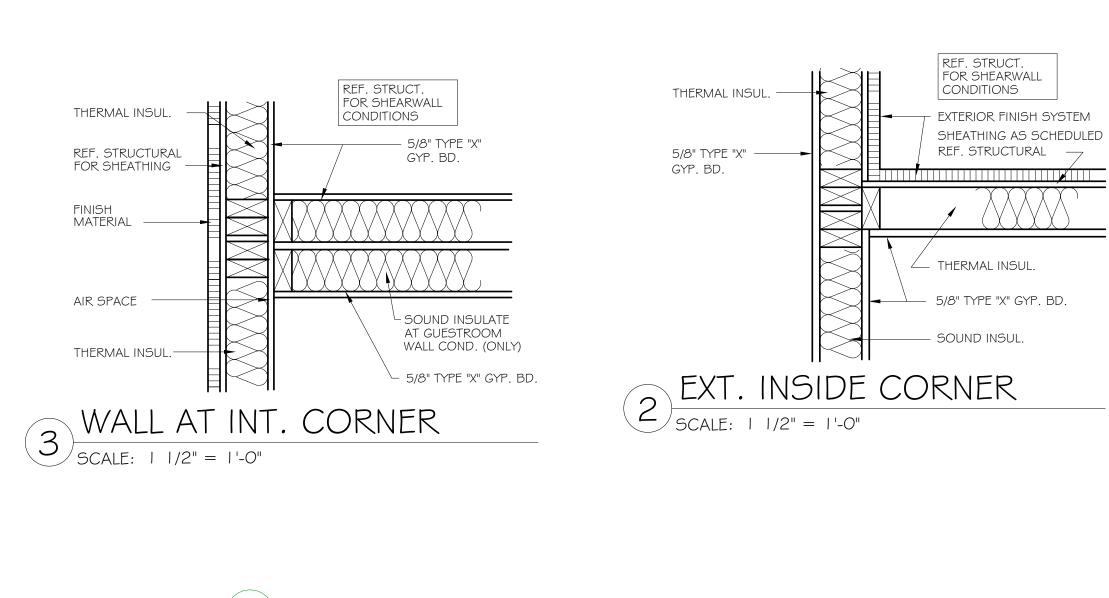
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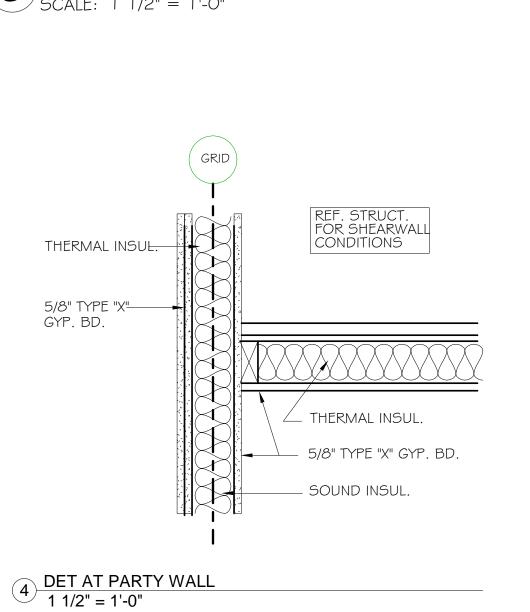
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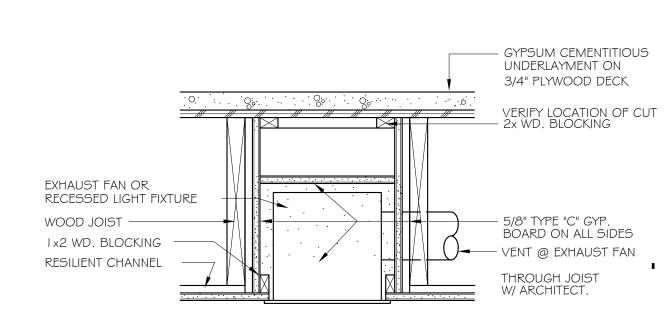












ENCL. AROUND REC. LIGHT FIXT.

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

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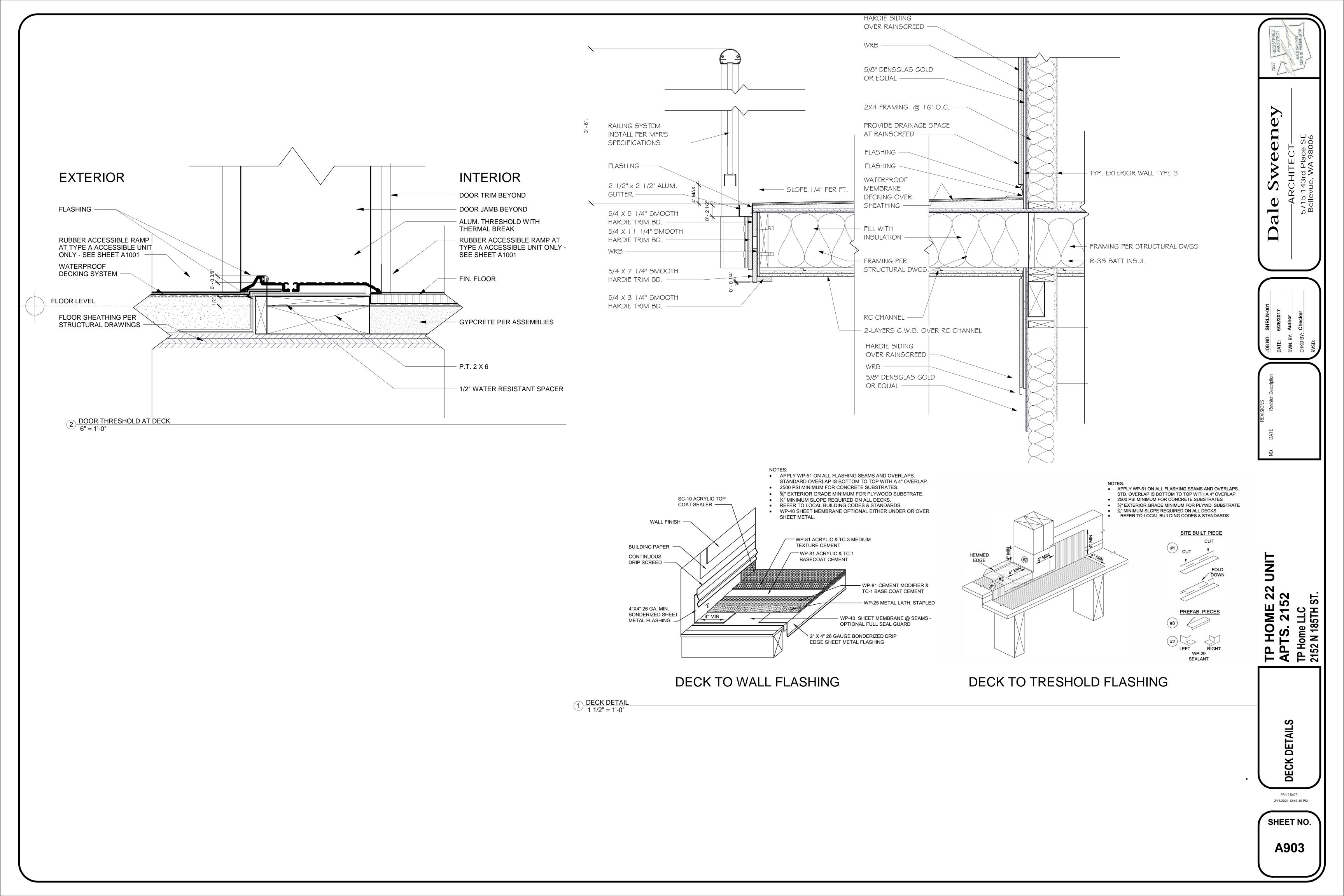
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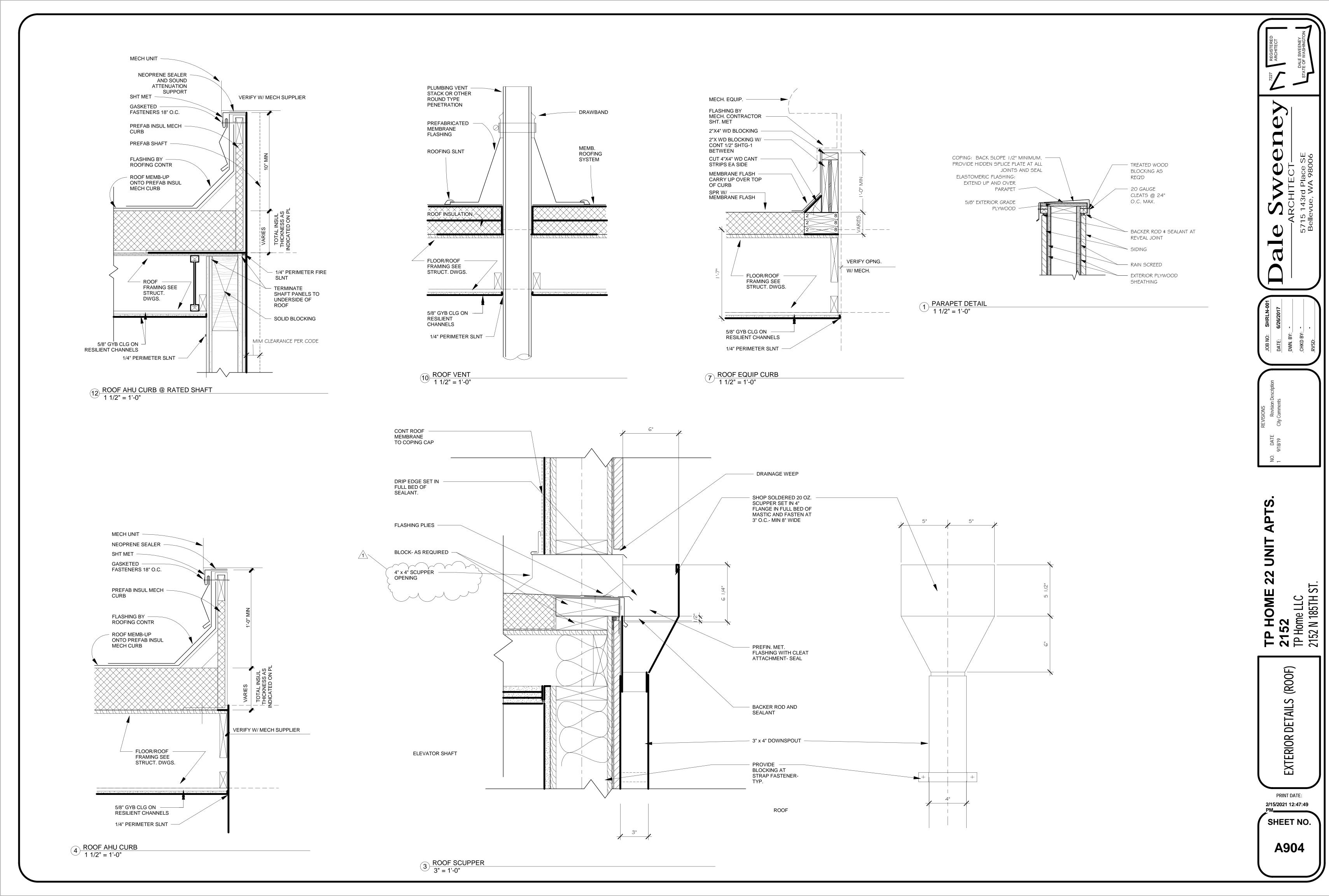
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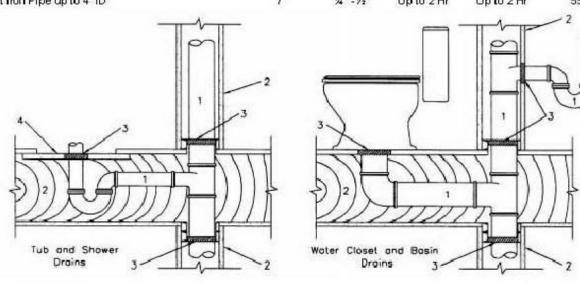
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TP HOME 22 UNIT APTS. 2152
TP Home LLC 2152 N 185TH ST.





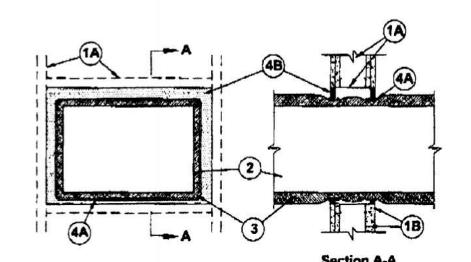


System Design Instructions

1. Penetrating Item: Centered or offset in hole, see table above. Elbows, Tee's and couplings can penetrate the fireston system 2. Floor/Ceiling or Wall Fire Separations:

- a) 1 and 2 hour rated ASTM E-119 or CAN/ULC S101 metal or wood framed gypsum wall board (GWB) floor/ceiling/wall assemblies with or without concrete topping.
- 1 or 2 hour rated metal or wood framed gypsum wallboard wall assemblies. Wood framed floor/ceiling assemblies:
- 1 Hour Assembly with minimum nominal 10" depth wood floor joists. 2 Hour Assembly with minimum nominal 10" depth wood floor joists.
- d) Concrete floor assemblies minimum 41/2" (114mm) depth provided the penetrating item is contained within a fire rated wall assembly.
- 3. Firestop System Component 1: PFP Partners Firestop 4800DW* or 3600EX* fully filling the annular space to the full depth of the membrane. Fill all header and sill plates contained within the wall assembly to a 1" (25mm) depth. On 0" to 1/4" (6mm) annular spaces a 3/8" (10mm) diameter fillet bead must be place around the penetrating item on the surface of the GWB assembly. 4. Firestop System Component 2: One layer of 5/8" Type "X" gypsum wallboard filler material securely
- fastened with drywall screws on 4" (100 mm) centers to reduce tub drain hole sizes up to 12" x 16" (300 x 400mm). Caulk a 3/8" (10mm) bead around perimeter edges of GWB insert after installation.

*WH Labeled Component



System No. W-L-7028 F Rating - 1 and 2 Hr (See Item 1) T Rating — 0 Hr

- Wall Assembly The 1 or 2 hr fire-rated gypsum wallboard/ stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs Wall framing shall consist of min 3-5/8 in. wide steel channel studs spaced max 24 in. OC. Additional 3-5/8 in. wide steel studs shall be used to completely frame the opening.
- B. Wallboard, Gypsum* 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Designs in the UL Fire Resistance Directory. Max area of opening is 362 sq in. with a max dimension of 22-5/8 in.
- The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. 2. Steel Duct - Nom 18 by 12 in. (or smaller) No. 24 gauge (or heavier) steel duct to be installed within the framed opening. Steel duct to be rigidly supported on both sides of the wall assembly.
- 3. Batt and Blankets* Max 1-1/2 in. thick glass fiber batt or blanket (min 3/4 pcf) jacketed on the outside with a foilscrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the batt or blanket, the batt or blanket may be compressed such that the annular space within the firestop system shall be min 1/2 in, to max 2 in.
- See Batts and Blankets (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. 4. Firestop System — The firestop system shall consist of the following:
- A. Fill, Vold or Cavity Material" Wrap Strip Nom 1/4 in. thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in, wide strips. Single layer of wrap strip wrapped around the through penetrant with the ends butted and held in place by means of two layers of foil tape. Wrap strip installed such that 1-1/4 in. of the wrap strip extends into the wall. One set of wrap strips to be installed on each side of the wall. Specified Technologies Inc. — SpecSeal RED Wrap Strip
- B. Fill, Void or Cavity Material* Sealant Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of the wall. A min 1/4 in, bead of fill material shall be applied at the wrap strip/ insulated throughpenetrant interface on both sides of the wall.

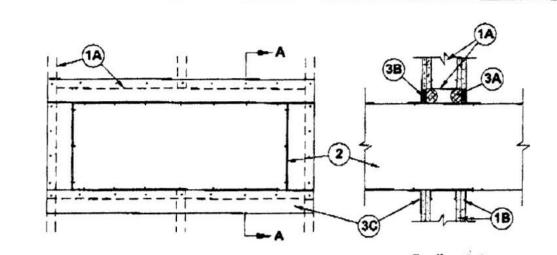
Specified Technologies Inc. — SpecSeal Series 100 Sealant *Bearing the UL Classification Marking

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Model

FF-50

FOD-3252



System No. W-L-7025

1. Wall Assembly -- The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

F Ratings - 1 and 2 Hr (See Item 1)

T Rating - 0 Hr

- A. Studs Wall framing shall consist of min 3-5/8 in. wide steel channel studs spaced max 24 in. OC. Additional 3-5/8 in. wide steel studs shall be used to completely frame the opening.
- B. Wallboard, Gypsum* --- 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 1357-1/2 sq in. with max dimensions of 45-1/4 in.
- The hourly F Rating of the firestop system is equal to the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
- 2. Steel Duct Nom 42 by 28 in. (or smaller) No. 24 gauge (or heavier) steel duct to be installed within the opening. The space between the steel duct and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Steel duct to be rigidly supported on both sides of the wall assembly.
- 3. Firestop System The firestop system shall consist of the following: A. Packing Material - (Optional) - Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction-fit into annular space for 2 hr rated wall assemblies only. Packing material to be recessed from
- both surfaces if wall to accommodate the required thickness of fill material (Item 3B). B. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At the point contact location between duct and wallboard, a min 1/4 in. diam bead of sealant shall be applied at the wallboard/steel duct interface on both surfaces of the wall assembly. Specified Technologies Inc. -- SpecSeal Series 100 Sealant
- C. Retaining Angles Min No. 16 gauge galv steel angles sized to lap steel duct a min of 2 in. and lap wall surfaces a min 1 in. Angles attached to steel duct on both sides of wall with min No. 10 by 1/2 in. long steel sheet metal screws spaced a max of 1 in. from each end of steel duct and spaced a max 6 in. OC.

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Created or Revised: 01/01/00

Specified Technologies, Inc., Somerville, NJ (800) 992-1180

Opening Size

8" x 9"

Firefighter Size

7 3/8"x 8 3/8"

Dimension A Dimension B

7 1/2"

9 1/2

12 1/2"

15 1/2"

14 1/2"

2 1/8" 16 1/2"

3 3/4"

3 3/4"

2 1/8"

2 1/8"

2 1/8"

2 1/8"

2 1/8"

1. JOISTS

5. FAN

10. GRILLE

CHANNELS

BRACKETS

6 CEILING TILES

7. 3/4" X 3/4" ANGLE

8. CEILING DAMPER

9. SCREWS MIN 6" OC. SPACING

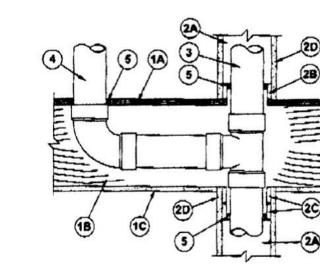
4. NUT & BOLT

*Bearing the UL Classification Marking

FIREFIGHTER CROSS-REFERENCE

Fan Model

EB-45, EB-50, EB-55, B-60



- Floor-Celling Assembly The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the ratings of the floor-ceiling and wall assemblies. The general construction
- features of the floor-ceiling assembly are summarized below:

 A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening hole-sawed in flooring shall be 1 in. larger than diam of branch ploing
- B. Wood Joists* Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.

 Wallboard, Gypsum* — Nom 4 ft. wide by 5/8 in. thick, attached as described in the individual Floor-Ceiling Design.
- Chase Wall The through-penetrant (Item 3) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/ gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: Studs - Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
- B. Sole Plate Nom 2 by 6 in, or parallel 2 by 4 in, lumber plates, tightly butted. Diam of opening cut in sole plate shall be 1/2 in, larger than diam of through penetrant (Item 3)

 Top Plate — The double top plate shall consist of two nom 2 by 6 in, or two sets of parallel 2 by 4 in, lumber plates, tightly
- butted. Diam of opening cut in double top plate shall be 1/2 in. larger than diam of through penetrant (Item 3).

 Wallboard, Gypsum" Thickness, type, number of layers and fasteners shall be as specified in individual Wall or Partition
- 3. Through Penetrant One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. The annular space within the opening shall be a min 0 in. (point contact) to a max 1/2 in. The following types and sizes of nonmetallic pipes
- A. Polyvinyl Chloride (PVC) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

 Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process
- or supply) or vented (drain, waste or vent) plping system.

 C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core ABS pipe for
- use in closed (process or supply) or vented (drain, waste or vent) piping system.

 4. Branch Piping (Optional) One nonmetallic pipe connected to through penetrant (Item 3) within concealed space above celling and centered within opening in flooring. The following types and sizes of nonmetallic pipes may be used:

 A. Polyvinyl Chloride (PVC) Pipe — Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed
- (process or supply) or vented (drain, waste or vent) piping system.

 Chlorinated Polyvinyl Chloride (CPVC) Pipe -- Nom 4 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process
- or supply) or vented (drain, waste or vent) piping system.

 Acrytonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

 Fill, Vold or Cavity Material* — Sealant — Min 3/4 in. thickness of fill material applied within annular space around perimeter of
- through penetrant (Item 3), flush with top surface of sole plate and flush with bottom surface of double top plate. Min 3/4 in. thickness of fill material applied within annular space around branch piping (Item 4), flush with top surface of flooring. At point contact locations within the chase wall assembly, apply min 1/4 in. diam bead of fill material at nonmetallic pipe/ wood plate interface on top and bottom surface of chase wall assembly.

 Specified Technologies Inc. — SpecSeal 100, 101, 102 or 105 Sealant

 Bearing the UL Classification Marking

&MIFAB

Internet address: www.mifab.com

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MPFR-DW

INSULATED FIRE RATED ACCESS DOOR WITH DRYWALL BEAD

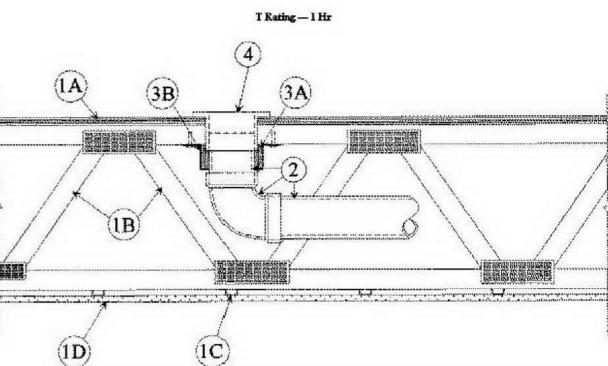
Canada Toll Free: 1-800-387-3880

FOD-3307

hrough-penetration Fires top Systems

November 26, 1997

F Rating - 1 Hr



1. Floor-Ceiling Assembly — The fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner's pecified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory The general construction details of the floor-ceiling assembly are summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of humber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening is 5 in. B. Wood Joists - Nom 2 by 10 in. humber joists spaced 16 in OC with nom 1 by 3 in. humber bridging and with ends firestopped. As an alternate to humber joists, nom 10 in. deep (or deeper) hunber, steel or combination hunber and steel joists, trusses or Structural Wood Members * with bridging as required with ends firestopped.

C. Furring Channels — Resilient galv steel furing installed perpendicular to wood joists (Item 1B) between wallboard (Item ID) and wood joists as required in the individual Floor-Ceiling Design. D. **Gypsum Board*** — Nom 4 ft wide by 5/8 in thick as specified in the individual Floor-Ceiling Design. Wallboard secured to wood joists as specified in the individual Floor-Ceiling Design.

2. Drain Piping — Nom 4 in. diam (or smaller) Schedule 40 polyvinyl chloride (PVC) or acrylonitile butadiene styrene (ABS) drain piping and fittings. Diamof circular opening hole through flooring (Item 1A) to be max 1/2 in. larger than outside diam of pipe. Short length of pipe with 90 degree elbow fitting cemented into bottom socket of closet flange (Item

3. Firestop System — The firestop system shall consist of the following:

A. Fill, Void or Cavity Materials* — Wrap Strip — Nom 1/4 in thick interescent material faced on both sides with a plastic film, supplied in 1-1/2 in, wide strips. Nom 1-1/2 in, wode strips tightlywrapped around nonmetallic pipe with the edges butted against the underside of flooring and around the entire perimeter of the hole-sawed opening. Two layers of wrap strip are required. Each layer of wrap strip to be installed with butted seam, butted seams in successive layers staggered or aligned.

Wrap strip layer(s) temporarily held in position using abunimum foil tape.

SPECIFIED TECHNOLOGIES INC - SpecSeal RED Strip

B. Steel Collar — Collar fabricated from coils of precut 0.016 in. thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be nom 1-1/2 in. deep with min four 1 in. wide by 2 in. long anchor tabs for securement to top surface of flooring. Retainer tabs, 3/4 in. wide tapering down to 1/4 in. wide and located opposite the anchor tabs, are folded 90 degrees toward through-penetrant surface to maintain the annular space around the through-penetrant and to retain the wrap strips. Steel collar wrapped around wrap strips and through-penetrant with a 1 in, wide overlap along its perimeter joint and secured together by means of a min 1/2 in. wide by 0.028 in. thick stainless steel hose clamp at mid-height of the steel collar. As an alternate to the steel hose clamp, the steel collar can be secured together by means of three No. 8 by 3/8 in. long steel sheet metal screws. Anchor tabs of collar bent outwards and secured to top surface of flooring or underside of floor using min 3/4 in. long steel wood screws in conjunction with 1/4 in., by 1-1/4 in. diam steel fender washers.

4. Closet Flange — PVC or ABS closet stub sized to accommodate drain pipe. Closet flange installed in hole-sawed opening in flooring system with flange secured to top of flooring with steel screws.

5. Water Closet — (Not Shown) — Floor mounted vitreous china water closet.

Fire Fighter EXHAUST FAN WITH CEILING RADIATION DAMPER The "Firefighter" is the simple solution for fire rated ceilings, that requires a maximum of 3 hours fire resistance. The "Firefighter" radiation damper and fan housing combination features the lowest height assembly in the industry. The REVERSOMATIC Ceiling fan, with built-in Fire Radiation Damper, offers the best protection against flame penetration and radiant heat. All REVERSOMATIC "Firefighter" fans are factory-assembled as one complete unit to guarantee proper installation and consistent workmanship. Now specify the perfect combination REVERSOMATIC ceiling exhaust fans with Built-in FIREFIGHTER dampers. Normal operation REVERSOMATIC fans perform their job of removing specified quantities of air quietly and efficiently. The Firefighter ceiling damper is normally in the open position out of the air stream. In case of fire, the fusible link separate, and a non-asbestos ceramic blanket closes off all air movement throughout the fan. Reversomatic Exhaust Fan . Firefighter Radiation Damper, Fits inside CROSS REFERENCE CHART Fan Housing 3. Ceiling Grille, Fits over Firefighter Damper FANIW X11 EB50, EB60, EB70 8" x 9" EB-80, EB-100 8" x 9" QB-80, -100, -120, -150, -200 10" x 10" FF-100 OCF-95, QCF-110, QCF-125, QB-130 10" x 10" 10" x 10" 11-1/4" CFS 150, CFS 250 12" x 12" CFS 350 12" x 12" QCF-200, QCF-300 18" x 10" 12-1/2" Rated for UL 555C 13.5" x 13.5"

FF-225

Ceiling assemblies

up tp 3 hours

CF-375, CF-425

QCF-400

QCF-1000

FF-1300 OCF-1300, OCF-1600 38" x 14" 16-1/2"

FF-500 QCF-500,QCF-600, QCF-800

13.5" x 13.5"

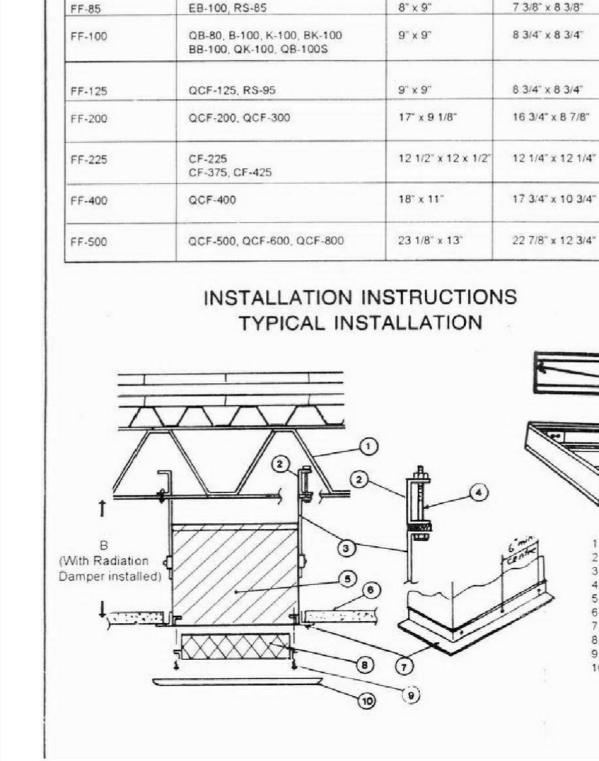
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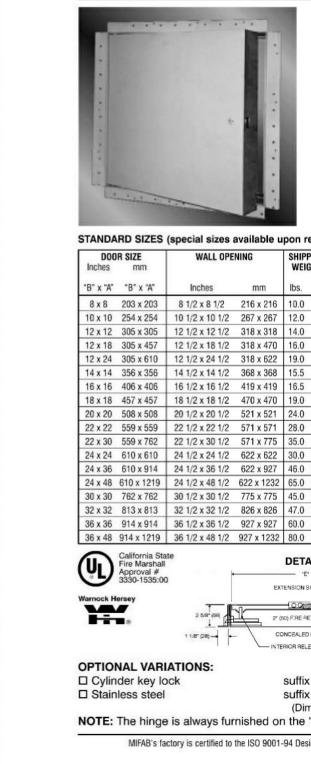
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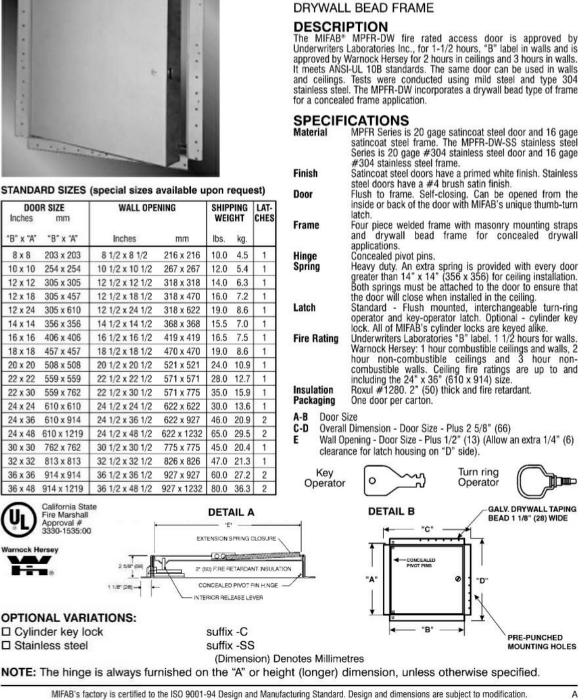
32" x 14"

14-1/2"

16-1/2"







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Toll Free: 1-800-465-2736

STOP FIR

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*Bearing the UL Classification Mark

Installation Instructions **CP 642 Dimensions** CP 642 Collar/plastic pipes **Firestop Collar** Pipe outside Collar outside Collar No. of dia. (in.) dia. (in.) Height (in.) hooks and Product description fasteners Galvanized sheet steel containing sections of intumescent CP 642-160/6" material (designed to expand when exposed to fire) for CP 642-200/8" firestopping large combustible pipes CP 642-250/10" **Product features** · Ready-to-use collar, no construction required, therefore ICBO Evaluation Service, Inc. Report No. 5071 Listing No. 4485-1200:105 fast installation time California State Fire Marshal Adjustable/moveable fastening tabs Report No. MEA 113-96-M City of New York Tested in accordance with UL 1479 ASTM E 814

3. Close collar

Notice about approvals

· In highly corrosive surroundings

· With unapproved anchors/fasteners

Keep out of the reach of children

Read the Material Safety Data Sheet

The hooks must be positioned as symmetrically as possible. The required

• Store only in the original packaging in a location protected from moisture

DIN 4102

collar is to be installed.

Application of firestop system

Installation instructions for CP 642

vide smoke and gas tight seal

. Clean the plastic pipes. Expansion of the intumescent material during a

fire acts to close the plastic pipe. Very dirty pipes with, for example,

Seal the opening. Gaps must be closed with FS-ONE. The approved

around the plastic pipe and lock the closure with firm pressure until

4. Attach fastening hooks. The fastening hooks can be attached to various

5. Fastening the CP 642 firestop collar. Only when fastened properly can

b. Drill holes with a Hilti rotary hammer drill (i.e. TE 5) or, depending on

d. For maintenance reasons, a penetration seal could be permanently

marked with an identification plate. In such a case mark the

base material, fasten using Hilti power actuated tool (e.g. DXA 40). c. To secure the CP 642 firestop collar, use Hilti anchors/fasteners.

identification plate and fasten it in a visible position next to the seal

Saving Lives through innovation & education • Hilti Firestop Guide 2001 • Hilti U.S.: 1-800-879-8000 / www.us.hilti.com

points on the metal housing. This allows the fastening points to be made

methods vary and are given in the specific UL system.

to suit the space available in each case.

a. Mark the fastening points.

CP 642 protect against fire passing through.

Hilti. Outperform. Outlast.

Hilti, Inc. (U.S.) 1-800-879-8000 • www.us.hilti.com • en español 1-800-879-5000 • Hilti Firestop Systems Guide 2007

3. Close the CP 642 firestop collar. Place the CP 642 firestop collar

number of fastening hooks is indicated on the packaging.

remains of mortar, may lead to a delay in this closing action. Soiled plastic

pipes should, therefore, be cleaned in the area where the CP 642 firestop

When making a pipe seal using Hilti CP 642 Intumescent Firestop

Collar, please refer to the UL directory or Hilli Firestop Manual for restric-

tions as to opening size, type and thickness of wall or floor, maximum pipe

 PVC, CPVC, ABS, FRPP, PVDF pipes For use with · Concrete, masonry, wood floor assemblies and gypsum walls Wall and floor assemblies rated up to 4 hours

> Types of installation Wall: two collars, one on each side Floor: one collar on underside (bottom) Examples Waste water pipes

· Fresh water pipes 5. Fasten collar and identification System advantages/Customer benefits plate. (If required) Snap connection for quick and easy closure without use of a too Adjustable position tabs for convenient fastening

CP 642

Firestop Collar

Product description

Areas of application

Ready to use out of the package

Vented or closed pipe

firestopping large combustible pipes

· Galvanized sheet steel containing sections of intumescent

material (designed to expand when exposed to fire) for

Sealing of penetrations for combustible pipes from 6" to 20"

Internationally tested and approved

BS 476

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CP 642 Firestop Collar*

CP 642 Firestop Collar 1 CP 642-160,6" 00236709 1 CP 642-200/8" 00310084 CP 642 Firestop Collar CP 642 Firestop Collar 1 CP 642-250/10" 00310085 * incl. fastening hooks

10 CP 642 hook 00236711 Fastening hook

Product description

Product features

Asbestos free

and Coatings

Top-of-wall joints

HVAC penetrations

Metal pipes

Cable bundles

For use with

concrete deck

Areas of application

Halogen and solvent free

Simple to use and apply

(ASTM E 1966 & UL 2079)

Meets Class I W-rating requirements

Sealing construction/expansion joints

· Wall and floor assemblies rated up to 4 hours

product label for safe usage and health information.

Resistance Directory or Hilti Firestop Systems Guide

Instructions below are general guidelines — always

refer to the applicable drawing in the UL Fire

· Good adhesion without use of a primer

· Smoke, fume, water, weather and UV resistant

Elastomeric Firestop Sealant

movement in fire-rated joint applications and pipe penetrations

· Excellent movement capability, meets 500 cycle requirements

Meets LEED™ requirements for indoor environmental quality credit

· Various base materials such as masonry, concrete, metal, glass, etc.

. Where a gypsum wall assembly meets the underside of a metal or

· Sealing expansion joints to impede the passage of fire, smoke and

Sealing HVAC penetrations through fire-rated assemblies

Installation instructions for CP 601S

4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints

· A silicone based firestop sealant that provides maximum

Before handling, read Material Safety DataSheet and
 Clean the opening. Surfaces to which CP 601S will

be applied should be cleaned of loose debris, dirt,

oil, wax and grease. The surface should be

2. Insert fill of mineral wool (or backer as required)

4. Smooth firestop sealant with a trowel before the

skin forms. Once cured, CP 601S can only be

Application of firestop

3. Apply firestop over backer.

Not to be painted 77°F (5°C to 25°C)

CP 601S Technical Data

arface burning characteristics Flame spread: 0 STM E84-96) Smoke development: 30

nd transmission classification 50 (Relates to specific construction)

-forming time

nperature resistance

Approx 1.25 g/cm²

40°F to 104°F (5°C to 40°C)

Approx. 25% -40°F to 320°F (-40°C to 160°C)

MEA 101-99-M, Vol. IV • UL 2079 • ASTM E

ASTM E 1966
 ASTM C 920

5. For maintenance reasons, a penetration seal can be

fastened in a visible position next to the seal.

· At room temperature the cured silicone sealant is

resistant for a short time to diluted (15%) acids and

lyes/alkalis as well as most commercially available

cleaning agents and disinfectants (except those

· Concentrated acids and lyes/alkalis destroy silicone

Solvents and mineral oils cause cured silicone to swell. Consequently, proper functioning of the

sealant should be checked after exposure to a

solvent or mineral oil. Please contact your local sales

epresentative or the nearest Hilti center if special

requirements for chemical resistance have to be met.

Chemical resistance

containing lodine).

rubber over time.

permanently marked with an identification plate and

Not for use In areas immersed in water Store only in the original packaging in a location protected from moisture at a temperature of 40°F to

Observe expiration date on packaging

Hilti. Outperform. Outlast.

High Performance

· Contains no halogen, solvents or asbestos

· Single component systems available

Product description

up to 4 hours fire rating

High fire rating properties

Water based, easy to clean

Product features

Can be painted

and Coatings

Cable bundles

For use with

HVAC penetrations

Areas of application

Steel, copper and EMT pipes

Closed or vented plastic pipes

fire rated construction

product label for safe usage and health information.

Instructions below are general guidelines — always

1. Clean the opening. Surfaces to which FS-ONE will be

moisture, frost and wax. Structures supporting

2. Install the prescribed backfilling material type and

3. Application of firestop sealant: Apply FS-ONE to the required depth in order to obtain the desired fire rating. Make sure FS-ONE contacts all surfaces to provide standard caulking gun, foll pack gun, bulk loader and

bulk gun. With FS-ONE buckets, Graco type sealant

depth to obtain the desired rating (if required). Lear

with local building and electrical standards.

Application of firestop sealant

sufficient depth for applying FS-ONE.

proper selection).

refer to the applicable drawing in the UL Fire

for complete installation information

Insulated steel and copper pipes

Intumescent Firestop Sealant

 Intumescent (expands when exposed to fire) firestop sealant that helps protect combustible and non-combustible penetrations for

Smoke, gas and water resistant after material has cured

Protects most typical firestop penetration applications

Hilti, Inc. (U.S.) 1-800-879-8000 • www.us.hilti.com • en español 1-800-879-5000 • Hilti Firestop Systems Guide 2007

Product Information Self-Leveling Firestop Sealant

be permanently marked with an identification plate.

resistant for a short time to diluted (15%) acids and

In such a case, mark the identification plate and

tasten it in a visible position next to the seal.

· At room temperature the cured silicone sealant is

Chemical resistance

Saving Lives through innovation & education | Hilti Firestop Guide 2005–2006 | 1-800-879-8000 | www.us.hilti.com

Product description · Self-leveling, single-component, silicone-based firestop sealant for use with through-penetrations as well as construction joints in

2. Insert backing

Product features · Self-leveling-requires no tooling Excellent elongation/compression properties · Resistant to smoke and water

 Smoke, fumes and water resistant · Meets Class I W-rating requirements Meets LEED™ requirements for indoor environmental quality credit

Meets 500 cycle requirements (ASTM E 1966 & UL 2079)

4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings Areas of application Sealing construction/expansion joints

 Metal pipes Cable bundles Sealing multiple penetrations in small or large openings

· Concrete floors rated up to 3-hours

For use with

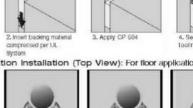
Examples · Penetrations for metal pipes between floor levels Construction joints and expansion joints in floors

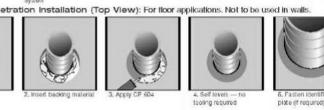
Installation instructions for CP 604 Application of firestop Before handling, read Material Safety DataSheet and
 2. Insert fill of mineral wool (or backer as required). product label for safe usage and health information. 3. Apply firestop over backer. Instructions below are general guidelines — always
 Allow firestop sealant to level. Once cured, CP 604 refer to the applicable drawing in the UL Fire can only be removed mechanically. Resistance Directory or Hilti Firestop Systems Guide 5. For maintenance reasons, a penetration seal could

for complete installation information 1. Clean the opening. Surfaces to which CP 604 will be applied should be cleaned of loose debris, dirt, oil, wax and grease. The surface should be moisture and frost free.

int installation: For floor applications. Not to be used in walls

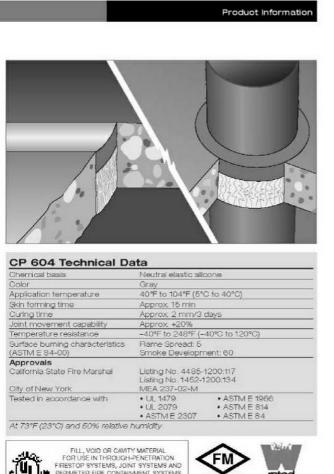






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Hilti, Inc. (U.S.) 1-800-879-8000 • www.us.hilti.com • en español 1-800-879-5000 • Hilti Firestop Systems Guide 2007



lyes/alkalis as well as commercially available

containing lodine).

rubber over time.

Not for use

In areas immersed in water

(5°C) to 77°F (25°C)

Not to be painted

cleaning agents and disinfectants (except those

Solvents and mineral oils cause cured silicone to

swell. Consequently, proper functioning of the

sealant should be checked after exposure to a

solvent or mineral oil. Please contact your local

sales representative or the nearest Hilli Center if

Store only in the original packaging in a location

Observe expiration date on packaging

protected from moisture at a temperature of 40°F

Hilti Firestop

Saving Lives through innovation

ecial requirements for chemical resistance have to

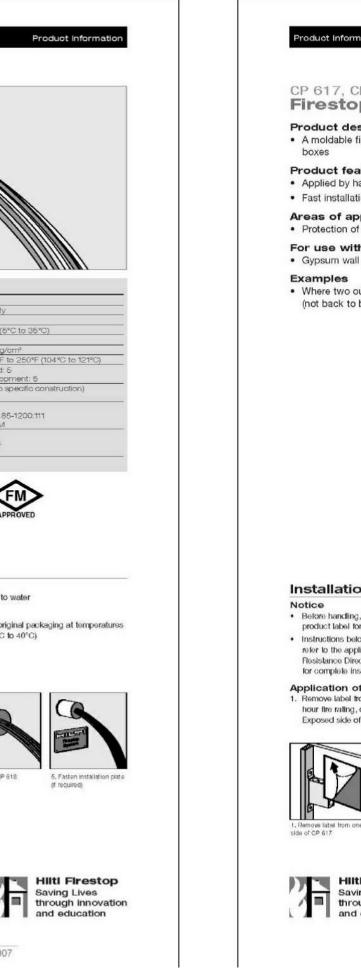
Concentrated acids and Iyes/alkalis destroy silicone

www.us.hilti.com

5. Fasten identification

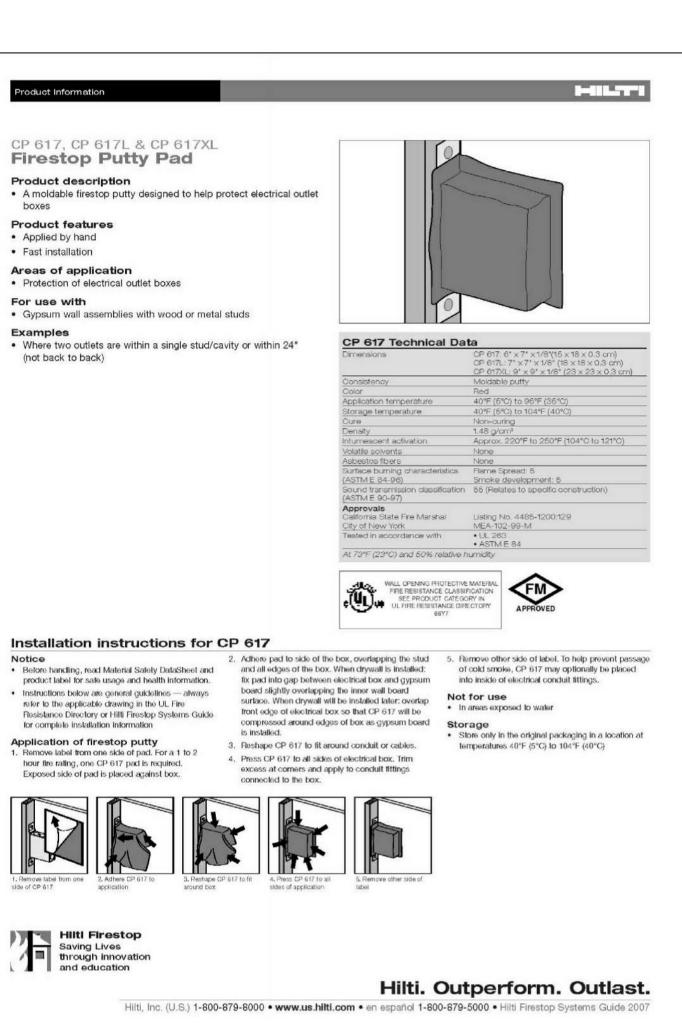
ordering information see page:

Product Information **Firestop Putty Stick** Product description · An intumescent, non-hardening, firestop putty for cable and pipe penetrations Product features Contains no volatile solvents or asbestos Easy to re-penetrate Areas of application Single or bundled cables Non-combustible pipe Blank openings Reusable · Easy to add or subtract cables CP 618 Technical Data Fast installation For use with plication temperature 40°F to 95°F (5°C to 35°C) · Concrete, masonry and gypsum wall assemblies Wall and floor assemblies rated up to 3 hours Examples VI E84-96) Smoke development: 5 d transmission dassification 49 (Relates to specific construction Where telecommunication and data lines penetrate gypsum wall assemblies . Where steel conduit and EMT penetrate concrete and block wall assemblies Where blank openings exist in concrete and block wall assemblies 73°F (23°C) and 50% relative humidity Installation instructions for CP 618 3. Install CP 618 Firestop Putty to the required depth, Not for use Before handling, read Material Safety DataSheet and making sure that the putty contacts all surfaces to
• In areas exposed to water provide the greatest adhesion. product label for safe usage and health information. Instructions below are general guidelines — always
 4. Smooth CP 618 putty. · Store only in the original packaging at temperatures refer to the applicable drawing in the UL Fire For maintenance reasons, a penetration seal can be 40°F to 104°F (5°C to 40°C) Resistance Directory or Hilti Firestop Systems Guide permanently marked with an identification plate and for complete installation information fastened in a visible position next to the seal. 6. Re-installation (not shown): Remove and re-install 1. Clean the opening: Surfaces to which CP 618 will be applied should be cleaned of loose debris, dirt, oil, moisture, frost and wax, Application of firestop putty 2. Install the prescribed backing material, if required.



Hilti Firestop







Hilti. Outperform. Outlast.

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STOP

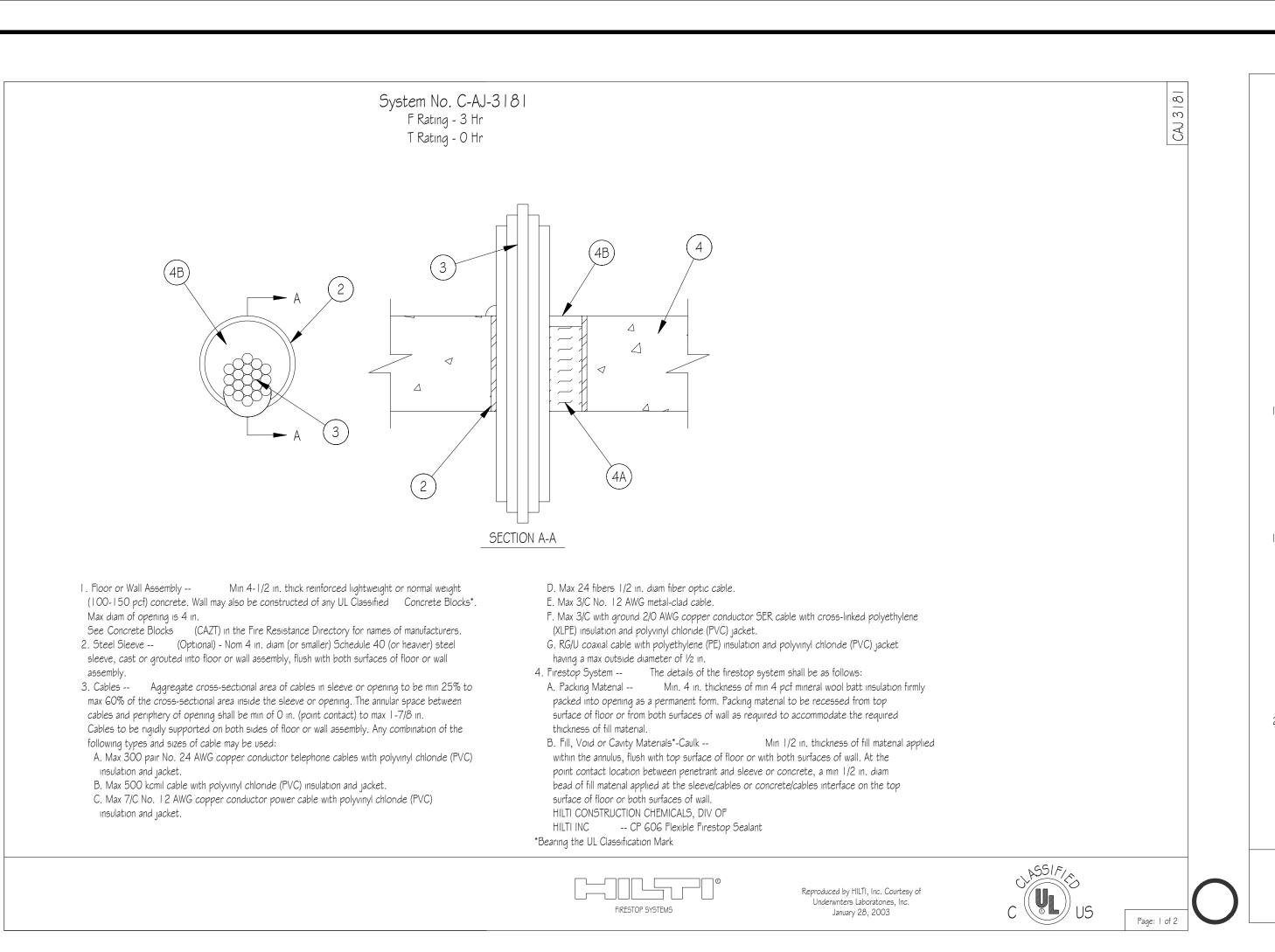
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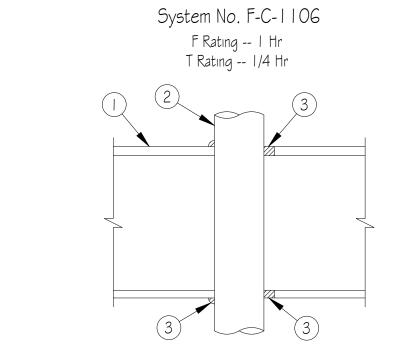
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Product Information





1. Floor-Ceiling Assembly — The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).

B. Wood Joists* — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.

C. Gypsum Board* — Min 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).

I A. Chase Wall — (Optional, Not Shown) — The through penetrants (Item 2) may be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm), 2 by 8 in. (51 by 203 mm) or double nom 2 by 4 in. (51 by 102 mm)

B. Sole Plate — Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber plates or double nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted together. Circular opening to be centered in sole plate. Sole plate to be min 1 in. (25mm) wider than diam of opening. Max diam of opening in sole plate is 5 in. (140 mm).

C. Top Plate — The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber plates or double nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted together. Circular opening to be centered in top plate. Top plate to be min 1 in. (25mm) wider than diam of opening. Max diam of opening in top plate is 5-1/2 in. (140 mm).

D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design. 2. Through Penetrants — One metallic pipe, conduit or tubing, to be installed concentrically or eccentrically within the opening. The diam of the opening shall be I in larger than the nom diam of the penetrant. The annular space between the pipe, conduit or tubing and the periphery of opening shall be min 0 in. (point contact) to max 7/8 in. . (22 mm). Pipe, conduit or to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Copper Tube — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube. B. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

C. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

D. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.

E. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or steel conduit.

3. Fill, Void or Cavity Materials*-Sealant — Min 3/4 in. (19 mm) thickness of sealant applied within the annulus flush with the top surface of the floor or sole plate and min 5/8 in. (16 mm) thickness of sealant applied within the annulus flush with the bottom surface of gypsum board or lower top plate. A min 1/2 in. (13 mm) diameter bead of sealant applied at the penetrant/subflooring or sole plate interface and the penetrant/gypsum board or top plate interface at point contact locations.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Flexible Firestop Sealant, FS-One Sealant. *Bearing the UL Classification Mark

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Page: 1 of 2

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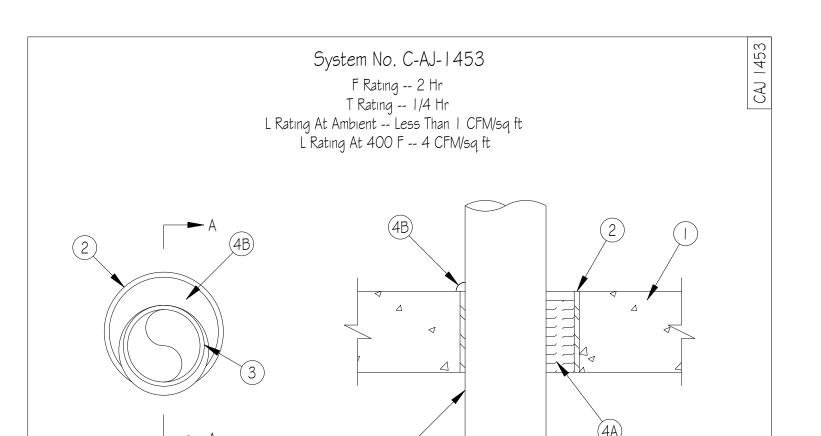
HOME TS. 215

52 52

DETAIL

SYSTEM

SEALANT



. Floor or Wall Assembly -- Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 31-7/8 in. See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

SECTION A-A

2. Metallic Sleeve -- (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with

3. Through Penetrants -- One metallic pipe, conduit or tubing to be installed concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The annular space between pipe conduit or tubing and the periphery of the opening shall be min 0 in. (point contact) to max 1-7/8 in. The following types of pipe, conduit or tubing may be used:

A. Steel Pipe -- Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe -- Nom 30 in, diam (or smaller) cast or ductile iron pipe.

C. Conduit -- Nom 6 in. diam (or smaller) rigid steel conduit. D. Conduit -- Nom 4 in. diam (or smaller) steel electrical metallic conduit.

E. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing. F. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

4. Firestop System -- The firestop system shall consist of the following: A. Packing Material -- Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into the opening as a permanent form. Packing material to be recessed from the top surface of the floor to accommodate the required thickness of fill material.

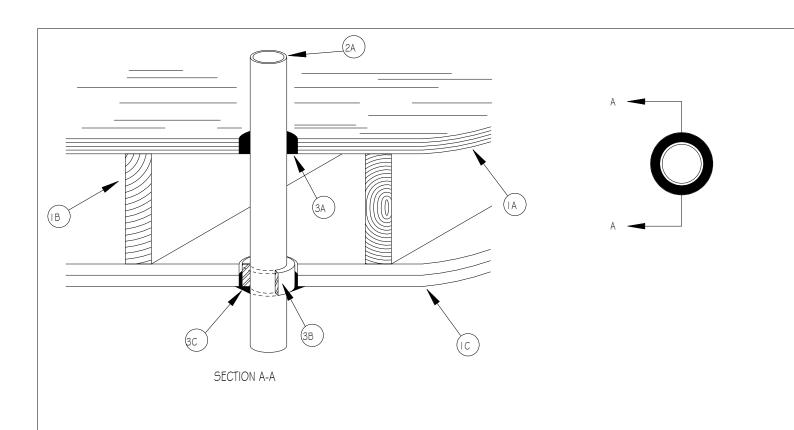
B. Fill, Void or Cavity Materials* Sealant -- Min 1/2 in. thickness of fill material applied within the annulus, flush with top surface of floor. At point contact, a min 1/4 in. diameter bead of fill material shall be applied at the pipe/sleeve interface on the top surface of the floor or both surfaces of

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 606 Flexible Firestop Sealant *Bearing the UL Classification Mark



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. F<u>loor-ceiling assembly - UL L500 Serie</u>s Design I A. Min. 3/4 in. lumber or plywood subfloor with a

max. 3 in. diameter penetrant opening. IB. Nominal 2x10 in. lumber joists or trusses

(wood or steel).

I C. One layer of gypsum wallboard capable of providing a 1 hr. rating or two layers of gypsum wallboard capable of providing a 2 hr. rating.

. P<u>enetrant</u> 2A. Max. 2 in. rigid nonmetallic conduit, ABS, PVC, or CPVC piping as an open (vented)

or closed system. Annular space - 5/8 in. nominal at ceiling and

floor surface.

Grace Dwg #

3. Firestopping - FlameSafe FS 1900 Series Sealant. FlameSafe FSWS 100 Wrap Strip. 3A. At floor surface, apply FS 1900 3/4 in. deep

3B. At ceiling surface wrap one layer of FSWS 100 around penetrant secured with masking tape and ınto annulus protruding 1/4 in. below ceiling surface.

ınto annular space and add a 3/8 ın. crown.

3C. At ceiling surface, apply FS 1900 sealant 5/8 in. deep into annular space and add a 3/8 in. crown.

Notes

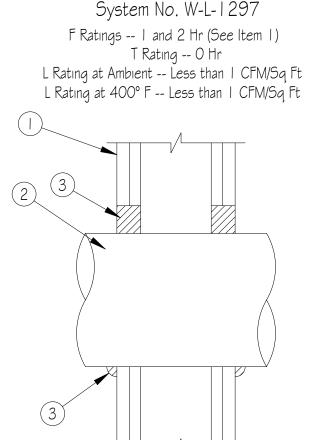
I . This system drawing is provided to aid in the installation and selection of the UL listed design. The user shall refer back to the UL listed design for complete required for submittal and approval purposes.

2. System design evaluated to the UL 1479 (ASTM E814) Fire Tests of Through-Penetration Firestops.

3. Please refer to the UL Fire Resistance Directory for components requiring UL classification.

GR	ACE Construct	W.R. Grace \$ Co Conn G2 Whittemore Ave ———— Cambridge, MA 02140			
restop As	sembly	Project:	Phone: 800-334-8796		
oduct:	FlameSafe FSWS 100 Wrap Strip FlameSafe FS 1900 Series Sealant	Installer:	Fax: 617-498-4419 E-mail: info@flamesafe.com		
Rating:	I ∉ 2 HOUR	Approval:	The information here is based on testing performed by nationally recognized testing laboratones, but we do not warrant the results		
L System:	FC2084	Date:	to be obtained. Please read all statements, recommendations or suggestions in conjunction with our Conditions of Sale which		
race Dwg	# FC2084	Rev.# 000	apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would infringe any		

2-206



. Wall Assembly -- The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction

A. Studs -- Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm)

lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. B. Gypsum Board* -- Nom 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the Fire Resistance

Directory. Max diam of opening is 32 in. (813 mm). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. 2. Through Penetrant -- One metallic pipe, conduit or tubing installed concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tube to be rigidly supported on both sides of wall assembly. The annular space between the pipe, conduit or tube and periphery of the opening shall be min 0 in (0 mm, point contact) to max 2 in. (5 l mm) in 2 hr fire rated walls and min 0 in (0 mm, point contact) to max 1 in. (25 mm) in 1 hr fire rated walls. The following types and sizes of metallic

pipes, conduit or tube may be used:

A. Steel Pipe -- Nom 30 in. (762 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe. B. Iron Pipe -- Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit -- Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or 6 in. diam steel conduit.

D. Copper Tube -- Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tube.

E. Copper Pipe -- Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. 3. Fill, Void or Cavity Material*-Sealant -- Min 5/8 in. (16 mm) or 1-1/4 in. (32 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall, for 1 hr and 2 hr fire rated wall assemblies, respectively. A min 1/2 in. (13 mm) diam bead of fill material shall be applied at the

pipe/wall interface at the point contact location. HILTI CONSTRUCTION CHEMCIALS, DIV OF HILTI INC -- CP606 Flexible Firestop Sealant *Bearing the UL Classification Mark

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